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ANNUAL OPERATIONS AND MAINTENANCE STATUS REPORT FOR AIR SPARGING AND SOIL VAPOR EXTRACTION SYSTEM AT 103RD STREET AND A AVENUE JET FUEL TRANSFER PIPELINE NAS CECIL FIELD FL

12/1/2002

CH2MHILL CONSTRUCTORS INC

Annual Operations and Maintenance Status Report

Air Sparging and Soil Vapor Extraction System
103rd Street and "A" Avenue Jet Fuel Transfer Pipeline

June 1, 2001 – May 31, 2002

Naval Air Station Cecil Field
Jacksonville, Florida

Contract No. N62467-98-D-0995
Contract Task Order No. 0062

Submitted to:

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Acronyms

AS	air sparging
AST	aboveground storage tank
bls	below land surface
CCI	CH2M HILL Constructors, Inc.
cfm	cubic feet per minute
CTO	Contract Task Order
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GAC	granular activated carbon
GCTLs	groundwater cleanup target levels
J.A. Jones	J.A. Jones Environmental Services, Inc.
LNAPL	Light Non-Aqueous Phase Liquids
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
O&M	Operation and Maintenance
psi	pounds per square inch
RAP	Remedial Action Plan
scfm	standard cubic feet per minute
SVE	soil vapor extraction
SVOC	semi-volatile organic compound
TRPH	total recoverable pertoleum hydrocarbon
TtNUS	Tetra Tech NUS
VOCs	volatile organic compounds

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) with J.A. Jones Environmental Services (J.A. Jones) has been contracted by the Department of the Navy, Southern Division Naval Facilities Engineering Command (NAVFAC), to provide operation and maintenance (O&M) services at 103rd Street and "A" Avenue Jet Fuel Transfer Pipeline (103rd Street and "A" Avenue), Naval Air Station (NAS) Cecil Field, Jacksonville, Florida, under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0029. The purpose of this Annual O&M Report is to provide a summary of activities performed at the site during the period of June 1, 2001, to May 31, 2002. The Florida Department of Environmental Protection (FDEP) Annual Status Report Summary form is provided in Appendix A.

1.1 Objective

The objective of the remedial action at 103rd Street and "A" Avenue is to reduce the concentrations of petroleum contaminants in the groundwater and unsaturated soils to Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs) and Soil Cleanup Target Levels (SCTLs), as specified in Tables I and II of Chapter 62-777, Florida Administrative Code (FAC). Air sparging (AS) and soil vapor extraction (SVE) are the two technologies currently utilized to achieve this objective.

1.2 Site History

The 103rd Street and "A" Avenue site is located approximately ¼-mile east of the "A" Avenue gate to NAS Cecil Field. An 8-inch diameter, steel jet fuel transfer pipeline was completed in 1952 to transfer jet fuel from NAS Jacksonville to NAS Cecil Field. A small leak (1/8-inch diameter) was discovered in July 1997 in the pipeline located beneath the eastbound lane of 103rd Street. In July 1997, Bechtel Environmental, Inc. removed approximately 900 cubic yards of petroleum-contaminated soil that had resulted from the leak. The pipeline is currently de-fueled and inactive (Tetra Tech NUS [TtNUS], 1999).

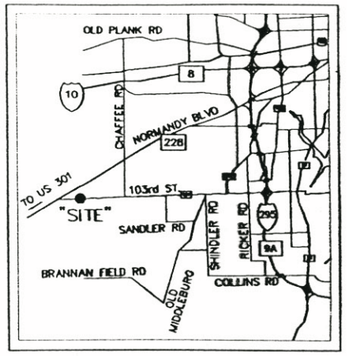
Site assessment activities were performed by TtNUS from 1998 to 1999 to delineate the extent of the light non-aqueous phase liquid (LNAPL), and soil and groundwater contamination at the site and a Remedial Action Plan (RAP) was submitted in August 1999. The RAP specified air sparging and soil vapor extraction as the chosen remedial alternatives to address the soil and groundwater contamination at the site (TtNUS, 1999). The RAP-specified remediation system was constructed by CCI/J.A. Jones during the period of March to May 2000 and start-up was completed on May 23, 2000. The system has been operated and maintained by CCI/J.A. Jones Environmental Services, Inc. (J.A. Jones) since start-up.

1.3 Remediation System/Technology Description

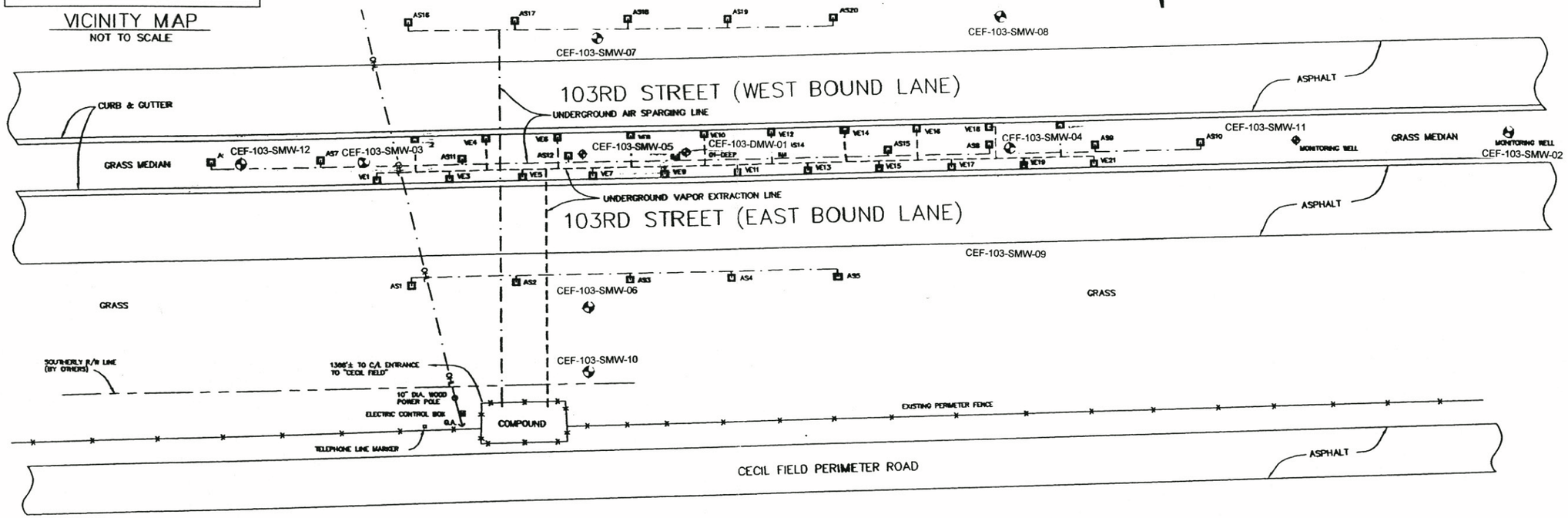
Air sparging is a method of expediting the transfer of saturated zone volatile organic compounds (VOCs) from the groundwater table to the vadose zone, where an SVE system

can complete the VOC removal process. Hydrocarbon-free air is injected into air sparge wells, which are screened within the groundwater contaminant plume. As the injected air passes upward through the VOC laden groundwater and soil, VOCs are partitioned to the passing air and migrate to the vadose zone. The SVE wells, which are located in the vadose zone above the sparge area, apply a vacuum such that the sparge air is captured and removed from the subsurface. The 103rd Street and "A" Avenue AS system consists of 20 air sparge wells, labeled as AS-1 through AS-20 that are screened from 22 to 25 feet below land surface (feet bls), a rotary screw-type compressor, a receiver tank, and associated piping and instrumentation. The AS system is designed for each air sparge well to operate at an airflow rate of 10 to 12 cubic feet per minute (cfm) at a maximum pressure of 12 pounds per square inch (psi). The locations of the air sparge wells are shown on Figure 1-1.

SVE is performed by applying a negative pressure, or vacuum, to SVE wells placed in the vadose zone. The actual removal is accomplished by lowering the relative pressure in the soil mass below the equilibrium pressure of the contaminant using a vacuum blower. The contaminant in the soil will volatilize and then be removed via the SVE wells. The SVE system at the 103rd Street and "A" Avenue site consists of 21 vertical vapor extraction wells, VE-1 through VE-21; a positive displacement type vacuum blower; a moisture separator equipped with a transfer pump and storage tank; and associated piping and instrumentation. The extracted vapors are treated by two 1,000-pound granular activated carbon (GAC) units placed in series prior to being discharged to the atmosphere. The SVE system is designed for each vapor extraction well to operate at an airflow rate of 16 to 17 cfm and at a vacuum pressure of 4 inches of mercury (Hg) at the wellhead. The locations of the SVE wells are shown on Figure 1-1.



VICINITY MAP
NOT TO SCALE



NOTES

1.) THE SPECIFIC PURPOSE OF THIS SURVEY IS TO GRAPHICALLY ILLUSTRATE THE LOCATION OF EXISTING WELLS AND IMPROVEMENTS ON SUBJECT SITE.

2.) THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

3.) NORTH ARROW SHOWN HEREON IS BASED ON COORDINATES FURNISHED BY THE CLIENT.

4.) UNDERGROUND LINES SHOWN HEREON ARE AS PER CONTRACTOR AND WERE NOT VERIFIED BY THIS FIRM.

5.) REMEDIATION STRUCTURES NOTED AS FIELD MARKED BY OTHERS.

6.) THIS MAP IS NOT TO BE CONSTRUED AS A BOUNDARY SURVEY.

7.) THIS MAP DOES NOT DETERMINE OR REFLECT OWNERSHIP OF LOCATIONS.

LEGEND

AIR SPARGING WELL □ ASP 36" X 36" CONCRETE WITH A 24" X 24" METAL COVER

UNDERGROUND AIR SPARGING LINE — · — — · — —

VAPOR EXTRACTION WELL □ VE21 36" X 36" CONCRETE WITH A 24" X 24" METAL COVER

UNDERGROUND VAPOR EXTRACTION LINE — — — — — — — —

FENCE —×——×—

OVERHEAD LINE — · —OHL— · —

G.A. = GUY ANCHOR

Figure 1-1
Air Sparging/SVE Groundwater Monitoring Well Location Map
103rd Street and A Avenue
Jet Fuel Transfer Pipeline
NAS Cecil Field
Jacksonville, Florida

CH2MHILL

A042001005ATL\Cecil Field 101.fh8

2.0 System Performance Monitoring

O&M checks of the system were performed weekly during the monitoring period. During an O&M check, a preventative maintenance checklist (based upon manufacturers' recommendations) is completed, and any required maintenance activity is performed. All meters and gauges at the system are read and recorded during the O&M check. Well vault gauges and meters are read on a monthly basis.

2.1 Operational Efficiencies

Air Sparging System		
	Period	**To Date**
Hours of Possible Operation	8,760	17,712
Hours of Actual Operation	6,573	12,295
Percent Hours of Operation	75.0	69.4
Soil Vapor Extraction System		
Hours of Possible Operation	8,760	17,712
Hours of Actual Operation	6,368	13,823
Percent Hours of Operation	72.7	78.0

2.2 Summary of Maintenance and System Downtime

2.2.1 Air Sparging System

During the period of June 1, 2001, to May 31, 2002, the AS system ran a total of 273.9 days out of a possible 365 days, resulting in 2,187 hours of downtime. The AS system downtime is detailed as follows:

- Down for total of 583 hours due to power interruptions.
- Down for a total of 480 hours for air compressor high temperature alarm. Reset alarm and restarted system. This was caused by a problem with the cooling fan as explained below.
- Down for total of 467 hours for high level in the SVE moisture separator water storage tank. This was the result of water being drawn into the SVE wells during rain events. After each occurrence, the water in the storage tank was removed for proper disposal and the system restarted. The AS system stops airflow to the injection wells when the SVE system does not operate.
- Down for a total of 412 hours due to blown fuses and motor starter overload tripping on the cooling fan circuit. The electric motor was removed and checked electrically. The motor checked out and was reinstalled. Blown fuses were replaced. The cooling fan has operated without high temperature alarm or blown fuses since.

- Manually shut down for total of 87 hours for the quarterly groundwater sampling events.
- Down for total of 80 hours to replace the SVE moisture separator storage tank.
- Down for total of 72 hours for defective SVE moisture separator storage tank level switch. The switch was replaced and the system restarted.
- Manually shut down for total of 6 hours for routine maintenance.

2.2.2 SVE System

During the period of June 1, 2001, to May 31, 2002, the SVE system ran a total of 265.3 days out of a possible 365 days, resulting in 2,392 hours of downtime. The SVE system downtime is detailed as follows:

- Down for total of 1,789 hours for high level in the moisture separator water storage tank. This was the result of water being drawn into the SVE wells during rain events. After each occurrence, the water in the storage tank was removed for proper disposal and the system was restarted.
- Down for total of 358 hours due to power interruption.
- Manually shut down for total of 87 hours for the quarterly groundwater sampling events.
- Down for total of 80 hours to replace the 550-gallon SVE moisture separator storage tank with a 2,100-gallon tank.
- Down for total of 72 hours for defective SVE moisture separator storage tank level switch. The switch was replaced and the system restarted.
- Manually shut down for total of 6 hours for routine maintenance.

The 550-gallon moisture separator storage tank was replaced with a 2,100-gallon tank during the first quarter of 2002. The larger tank has significantly reduced downtime. The system downtime due to the storage tank high level was 12 hours total during the second quarter of 2002 as compared to 1,777 hours total during the previous three quarters of the monitoring period.

2.3 Pressure/Flow Rate Monitoring

2.3.1 Air Sparge System

During the June 1, 2001, to May 31, 2002, monitoring period, pressure was measured at each AS wellhead on a monthly basis. The data are provided in Table 2-1.

The wellhead pressures for the AS wells averaged 9.7 psi during the monitoring period, compared to the design pressure of 9 psi.

2.3.2 Vapor Extraction System

During the monitoring period, vacuum pressure and flow rate were measured at each vapor extraction wellhead on a monthly basis for the period of June 1, 2001 to May 31, 2002. The data from the flow and vacuum pressure measurement events are provided on Table 2-2.

During normal operation, the wellhead vacuum pressures for the vapor extraction wells averaged 20.2 inches of water column, compared to the design vacuum pressure of 54 inches of water column. The actual wellhead vacuum is maintained at a level that is less than the design wellhead vacuum in order to minimize the groundwater/rainwater drawn into the SVE wells due to the shallow water table and low lying topography. The average total flow rate for the SVE system was 602.6 standard cubic feet per minute (scfm) during the monitoring period, compared to the design flow rate of 350 scfm. The airflow rates averaged 28.7 scfm for each extraction well compared to the design extraction flow rate of 16 to 17 scfm per well. The SVE flow rates were increased in an attempt to keep water from collecting in the piping system.

2.4 Water Level Measurements

Depth to water measurements were recorded at selected monitoring wells on a monthly basis during the monitoring period. The results from the water level measurements are provided in Table 2-3.

Light non-aqueous phase liquid (LNAPL) was not noted in any monitoring well during the monitoring period.

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
AS-1	05/26/2000	NR	10
	06/02/2000	NR	11
	06/09/2000	0	9
	06/22/2000	0	0
	07/24/2000	NR	NR
	08/29/2000	NR	0
	10/30/2000	NR	8
	11/27/2000	NR	8
	12/18/2000	NR	8
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	0
	04/30/2001	NR	0
	05/21/2001	NR	9
	07/24/2001	NR	5
	08/29/2001	NR	9
	09/19/2001	NR	10
	10/29/2001	NR	10
	11/27/2001	NR	8
	12/20/2001	NR	10
	01/30/2002	NR	8
	02/25/2002	NR	9
	03/28/2002	NR	9
	04/15/2002	NR	9
	05/20/2002	NR	9
AS-2	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	0
	07/24/2000	NR	NR
	08/29/2000	NR	0
	10/30/2000	NR	8
	11/27/2000	NR	8
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	10
	03/26/2001	NR	0
	04/30/2001	NR	10
	05/21/2001	NR	10
	07/24/2001	NR	5
	08/29/2001	NR	9
	09/19/2001	NR	NR
	10/29/2001	NR	9
	11/27/2001	NR	8
	12/20/2001	NR	11
	01/30/2002	NR	8
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	8
	05/20/2002	NR	8
AS-3	05/26/2000	NR	9
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	10
	07/24/2000	NR	10
	08/29/2000	NR	11
	10/30/2000	NR	11
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	11
	03/26/2001	NR	12
	04/30/2001	NR	11
	05/21/2001	NR	10
	07/24/2001	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	08/29/2001	NR	9
	09/19/2001	NR	12
	10/29/2001	NR	10
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	11
	02/25/2002	NR	11
	03/28/2002	NR	9.5
	04/15/2002	NR	11
	05/20/2002	NR	9
AS-4	05/26/2000	NR	11
	06/02/2000	NR	10
	06/09/2000	0	9
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	11
	10/30/2000	NR	9
	11/27/2000	NR	12
	12/18/2000	NR	10
	01/30/2001	NR	6
	02/26/2001	NR	10
	03/26/2001	NR	12
	04/30/2001	NR	11
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	11
	10/29/2001	NR	11
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	11
	02/25/2002	NR	9
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	9
AS-5	05/26/2000	NR	14
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	11
	07/24/2000	NR	12
	08/29/2000	NR	11
	10/30/2000	NR	8
	11/27/2000	NR	12
	12/18/2000	NR	9
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	14
	04/30/2001	NR	8
	05/21/2001	NR	12
	07/24/2001	NR	10
	08/29/2001	NR	10
	09/19/2001	NR	12
	10/29/2001	NR	10
	11/27/2001	NR	12
	12/20/2001	NR	9
	01/30/2002	NR	12
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	11
	05/20/2002	NR	8
AS-6	05/26/2000	NR	10
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	8
	07/24/2000	NR	13

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	08/29/2000	NR	8
	10/30/2000	NR	9
	11/27/2000	NR	10
	12/18/2000	NR	8
	01/30/2001	NR	10
	02/26/2001	NR	12
	03/26/2001	NR	9
	04/30/2001	NR	10
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	8
	09/19/2001	NR	12
	10/29/2001	NR	9
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	10
AS-7	05/26/2000	NR	9
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	10
	07/24/2000	NR	14
	08/29/2000	NR	8
	10/30/2000	NR	8
	11/27/2000	NR	12
	12/18/2000	NR	10
	01/30/2001	NR	10
	02/26/2001	NR	12
	03/26/2001	NR	10
	04/30/2001	NR	10
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	10
	10/29/2001	NR	9
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	11
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	10
AS-8	05/26/2000	NR	9
	06/02/2000	NR	9
	06/09/2000	0	11
	06/22/2000	0	8
	07/24/2000	NR	10
	08/29/2000	NR	9
	10/30/2000	NR	9
	11/27/2000	NR	12
	12/18/2000	NR	14
	01/30/2001	NR	7
	02/26/2001	NR	12
	03/26/2001	NR	10
	04/30/2001	NR	10
	05/21/2001	NR	8
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	12
	10/29/2001	NR	10
	11/27/2001	NR	9
	12/20/2001	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	9
AS-9	05/26/2000	NR	11
	06/02/2000	NR	10
	06/09/2000	0	10
	06/22/2000	0	8
	07/24/2000	NR	11
	08/29/2000	NR	NR
	10/30/2000	NR	8
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	10
	04/30/2001	NR	9
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	10
	10/29/2001	NR	10
	11/27/2001	NR	8
	12/20/2001	NR	11
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	9
	05/20/2002	NR	9
AS-10	05/26/2000	NR	9
	06/02/2000	NR	9
	06/09/2000	0	12
	06/22/2000	0	8
	07/24/2000	NR	13
	08/29/2000	NR	NR
	10/30/2000	NR	8
	11/27/2000	NR	10
	12/18/2000	NR	14
	01/30/2001	NR	8
	02/26/2001	NR	10
	03/26/2001	NR	14
	04/30/2001	NR	9
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	8
	09/19/2001	NR	10
	10/29/2001	NR	11
	11/27/2001	NR	9
	12/20/2001	NR	11
	01/30/2002	NR	9
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	9
AS-11	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	9
	07/24/2000	NR	11
	08/29/2000	NR	11
	10/30/2000	NR	10
	11/27/2000	NR	12
	12/18/2000	NR	11
	01/30/2001	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	02/26/2001	NR	9
	03/26/2001	NR	10
	04/30/2001	NR	11
	05/21/2001	NR	11
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	12
	10/29/2001	NR	12
	11/27/2001	NR	11
	12/20/2001	NR	11
	01/30/2002	NR	11
	02/25/2002	NR	11
	03/28/2002	NR	10.5
	04/15/2002	NR	10.5
	05/20/2002	NR	11
AS-12	05/26/2000	NR	11
	06/02/2000	NR	7
	06/09/2000	0	10
	06/22/2000	0	9.5
	07/24/2000	NR	12
	08/29/2000	NR	8
	10/30/2000	NR	9
	11/27/2000	NR	12
	12/18/2000	NR	12
	01/30/2001	NR	8
	02/26/2001	NR	11
	03/26/2001	NR	14
	04/30/2001	NR	8
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	13
	10/29/2001	NR	10
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	9.5
	05/20/2002	NR	9
AS-13	05/26/2000	NR	10
	06/02/2000	NR	9
	06/09/2000	0	10
	06/22/2000	0	9
	07/24/2000	NR	10.5
	08/29/2000	NR	8
	10/30/2000	NR	11
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	11
	03/26/2001	NR	8
	04/30/2001	NR	10
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	8
	09/19/2001	NR	9
	10/29/2001	NR	10
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
AS-14	05/26/2000	NR	9
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	8
	07/24/2000	NR	12
	08/29/2000	NR	8
	10/30/2000	NR	10
	11/27/2000	NR	12
	12/18/2000	NR	12
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	12
	04/30/2001	NR	8
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	10
	10/29/2001	NR	10
	11/27/2001	NR	9
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	9.5
	05/20/2002	NR	9
AS-15	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	11
	06/22/2000	0	8.5
	07/24/2000	NR	11
	08/29/2000	NR	15
	10/30/2000	NR	8
	11/27/2000	NR	10
	12/18/2000	NR	8
	01/30/2001	NR	6
	02/26/2001	NR	12
	03/26/2001	NR	14
	04/30/2001	NR	10
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	6
	10/29/2001	NR	10
	11/27/2001	NR	9
	12/20/2001	NR	10
	01/30/2002	NR	8
	02/25/2002	NR	10
	03/28/2002	NR	9
	04/15/2002	NR	9
	05/20/2002	NR	9
	05/26/2000	NR	11
	06/02/2000	NR	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	10
	10/30/2000	NR	10
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	6
	02/26/2001	NR	10
	03/26/2001	NR	10
	04/30/2001	NR	10
	05/21/2001	NR	8
	07/24/2001	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	08/29/2001	NR	10
	09/19/2001	NR	10
	10/29/2001	NR	9
	11/27/2001	NR	10
	12/20/2001	NR	10
	01/30/2002	NR	10
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	10
	05/20/2002	NR	9
AS-17	05/26/2000	NR	9
	06/02/2000	NR	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	10
	10/30/2000	NR	10
	11/27/2000	NR	8
	12/18/2000	NR	10
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	9
	04/30/2001	NR	10
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	8
	09/19/2001	NR	10
	10/29/2001	NR	9
	11/27/2001	NR	10
	12/20/2001	NR	11
	01/30/2002	NR	10
	02/25/2002	NR	11
	03/28/2002	NR	9.5
	04/15/2002	NR	10
	05/20/2002	NR	8
AS-18	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	0
	10/30/2000	NR	10
	11/27/2000	NR	12
	12/18/2000	NR	10
	01/30/2001	NR	7
	02/26/2001	NR	12
	03/26/2001	NR	11
	04/30/2001	NR	12
	05/21/2001	NR	11
	07/24/2001	NR	12
	08/29/2001	NR	9
	09/19/2001	NR	12
	10/29/2001	NR	10
	11/27/2001	NR	12
	12/20/2001	NR	10
	01/30/2002	NR	12
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	11
	05/20/2002	NR	10
AS-19	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	14

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	08/29/2000	NR	8
	10/30/2000	NR	8
	11/27/2000	NR	12
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	8
	03/26/2001	NR	8
	04/30/2001	NR	8
	05/21/2001	NR	8
	07/24/2001	NR	8
	08/29/2001	NR	9
	09/19/2001	NR	8
	10/29/2001	NR	9
	11/27/2001	NR	8
	12/20/2001	NR	10
	01/30/2002	NR	8
	02/25/2002	NR	9
	03/28/2002	NR	8
	04/15/2002	NR	9
	05/20/2002	NR	9
AS-20	05/26/2000	NR	11
	06/02/2000	NR	11
	06/09/2000	0	10
	06/22/2000	0	8
	07/24/2000	NR	12
	08/29/2000	NR	4
	10/30/2000	NR	2
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	0
	03/26/2001	NR	0
	04/30/2001	NR	NR
	05/21/2001	NR	8
	07/24/2001	NR	4
	08/29/2001	NR	10
	09/19/2001	NR	8
	10/29/2001	NR	9
	11/27/2001	NR	9
	12/20/2001	NR	11
	01/30/2002	NR	9
	02/25/2002	NR	10
	03/28/2002	NR	10
	04/15/2002	NR	9.5
	05/20/2002	NR	9

NR = not measured
psi = pounds per square inch
acfm = actual cubic feet per minute

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-1	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	23	16.7
	07/24/2000	25	20.4
	08/29/2000	0	17.2
	10/30/2000	6	12.1
	11/27/2000	16	13.1
	12/18/2000	5	7.6
	01/30/2001	0	0.0
	02/26/2001	40	20.0
	03/26/2001	12	12.0
	04/30/2001	16	26.7
	05/21/2001	18	23.8
	07/24/2001	NM	NM
	08/29/2001	2	32.1
	09/19/2001	0	0.0
	11/27/2001	30	70.2
	12/20/2001	31	28.6
	01/30/2002	37	164.0
	02/25/2002	39	163.6
	03/28/2002	8	71.3
	04/15/2002	28	74.2
	05/20/2002	25	35.4
VEW-2	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	24	11.8
	07/24/2000	8	12.0
	08/29/2000	8	12.0
	10/30/2000	8	26.9
	11/27/2000	2	12.1
	12/18/2000	7	9.3
	01/30/2001	0	0.0
	02/26/2001	41	11.5
	03/26/2001	15	16.9
	04/30/2001	15	20.7
	05/21/2001	23	11.8
	07/24/2001	3	12.1
	08/29/2001	0	0.0
	09/19/2001	2	0.0
	11/27/2001	25	33.3
	12/20/2001	30	16.6
	01/30/2002	26	37.2
	02/25/2002	43	51.5
	03/28/2002	9	38.0
	04/15/2002	27	28.8
	05/20/2002	23	16.7
VEW-3	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	22	37.4
	07/24/2000	26	28.8
	08/29/2000	12	12.0
	10/30/2000	2	12.1
	11/27/2000	2	5.4
	12/18/2000	2	12.1
	01/30/2001	0	15.4
	02/26/2001	40	23.1
	03/26/2001	10	17.0
	04/30/2001	14	16.9
	05/21/2001	18	20.6
	07/24/2001	4	24.2
	08/29/2001	2	12.1
	09/19/2001	0	0.0

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	11/27/2001	30	74.0
	12/20/2001	26	26.3
	01/30/2002	31	40.5
	02/25/2002	42	44.6
	03/28/2002	7	20.9
	04/15/2002	29	28.7
	05/20/2002	27	31.1
VEW-4	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	25	5.3
	07/24/2000	29	33.2
	08/29/2000	12	16.9
	10/30/2000	12	20.8
	11/27/2000	8	14.3
	12/18/2000	6	9.4
	01/30/2001	0	0.0
	02/26/2001	43	11.5
	03/26/2001	20	23.7
	04/30/2001	15	20.7
	05/21/2001	21	11.8
	07/24/2001	5	12.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	31	16.5
	01/30/2002	28	26.2
	02/25/2002	39	28.3
	03/28/2002	10	51.0
	04/15/2002	30	69.3
	05/20/2002	24	23.6
VEW-5	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	23	20.5
	07/24/2000	25	23.6
	08/29/2000	12	12.0
	10/30/2000	0	32.2
	11/27/2000	2	5.4
	12/18/2000	4	7.7
	01/30/2001	0	0.0
	02/26/2001	30	16.6
	03/26/2001	15	16.9
	04/30/2001	14	16.9
	05/21/2001	18	16.8
	07/24/2001	4	17.1
	08/29/2001	1	12.1
	09/19/2001	4	0.0
	11/27/2001	30	52.4
	12/20/2001	28	37.1
	01/30/2002	28	52.5
	02/25/2002	40	0.0
	03/28/2002	8	17.0
	04/15/2002	33	63.9
	05/20/2002	29	16.6
VEW-6	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	22	50.2
	07/24/2000	25	20.4
	08/29/2000	14	20.7
	10/30/2000	12	20.8
	11/27/2000	2	12.1
	12/18/2000	5	9.4
	01/30/2001	0	0.0

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	02/26/2001	38	11.6
	03/26/2001	18	11.9
	04/30/2001	15	20.7
	05/21/2001	22	16.7
	07/24/2001	0	17.2
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	28	16.6
	01/30/2002	32	46.7
	02/25/2002	40	30.6
	03/28/2002	10	26.9
	04/15/2002	30	64.1
	05/20/2002	25	23.6
VEW-7	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	NM	NM
	06/22/2000	23	11.8
	07/24/2000	26	16.6
	08/29/2000	14	12.0
	10/30/2000	0	27.2
	11/27/2000	1	5.4
	12/18/2000	5	13.2
	01/30/2001	0	0.0
	02/26/2001	20	11.9
	03/26/2001	20	20.5
	04/30/2001	14	16.9
	05/21/2001	22	16.7
	07/24/2001	2	12.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	40.6
	12/20/2001	30	23.4
	01/30/2002	27	16.6
	02/25/2002	48	28.0
	03/28/2002	6	29.6
	04/15/2002	31	30.9
	05/20/2002	31	23.4
VEW-8	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	23.6
	06/22/2000	22	16.7
	07/24/2000	24	11.8
	08/29/2000	13	75.7
	10/30/2000	12	20.8
	11/27/2000	3	17.1
	12/18/2000	5	10.8
	01/30/2001	0	0.0
	02/26/2001	35	11.6
	03/26/2001	17	11.9
	04/30/2001	14	16.9
	05/21/2001	20	16.8
	07/24/2001	3	12.1
	08/29/2001	0	0.0
	09/19/2001	2	21.0
	11/27/2001	30	46.8
	12/20/2001	28	23.5
	01/30/2002	29	46.9
	02/25/2002	41	36.5
	03/28/2002	6	20.9
	04/15/2002	28	33.2
	05/20/2002	25	26.4

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-9	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	23.6
	06/22/2000	21	11.8
	07/24/2000	25	11.8
	08/29/2000	5	17.1
	10/30/2000	4	17.1
	11/27/2000	3	7.7
	12/18/2000	4	16.2
	01/30/2001	0	10.9
	02/26/2001	12	12.0
	03/26/2001	20	11.9
	04/30/2001	17	20.6
	05/21/2001	21	16.8
	07/24/2001	6	24.1
	08/29/2001	1	0.0
	09/19/2001	4	38.3
	11/27/2001	30	37.0
	12/20/2001	31	23.4
	01/30/2002	30	58.5
	02/25/2002	40	43.2
	03/28/2002	8	71.3
	04/15/2002	31	42.2
	05/20/2002	26	16.6
VEW-10	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	19.0
	06/22/2000	23	16.7
	07/24/2000	28	11.7
	08/29/2000	11	24.0
	10/30/2000	13	16.9
	11/27/2000	5	17.1
	12/18/2000	5	7.6
	01/30/2001	0	0.0
	02/26/2001	32	11.7
	03/26/2001	20	16.8
	04/30/2001	17	20.6
	05/21/2001	21	11.8
	07/24/2001	4	12.1
	08/29/2001	0	0.0
	09/19/2001	6	0.0
	11/27/2001	30	33.1
	12/20/2001	27	11.8
	01/30/2002	31	26.1
	02/25/2002	41	44.7
	03/28/2002	8	29.5
	04/15/2002	30	62.0
	05/20/2002	27	26.3
VEW-11	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	11.8
	06/22/2000	21	11.8
	07/24/2000	24	16.7
	08/29/2000	14	16.9
	10/30/2000	0	27.2
	11/27/2000	2	9.4
	12/18/2000	4	7.7
	01/30/2001	0	7.7
	02/26/2001	11	12.0
	03/26/2001	20	16.8
	04/30/2001	14	20.7
	05/21/2001	21	16.8
	07/24/2001	4	12.1
	08/29/2001	1	0.0
	09/19/2001	0	17.2

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	11/27/2001	29	37.1
	12/20/2001	31	20.3
	01/30/2002	31	52.3
	02/25/2002	42	43.1
	03/28/2002	8	34.1
	04/15/2002	32	38.7
	05/20/2002	28	45.5
VEW-12	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	14.9
	06/22/2000	22	11.8
	07/24/2000	25	11.8
	08/29/2000	14	12.0
	10/30/2000	10	12.0
	11/27/2000	2	7.7
	12/18/2000	4	5.4
	01/30/2001	0	7.7
	02/26/2001	32	11.7
	03/26/2001	20	16.8
	04/30/2001	16	11.9
	05/21/2001	20	16.8
	07/24/2001	6	12.1
	08/29/2001	0	0.0
	09/19/2001	0	45.5
	11/27/2001	30	33.1
	12/20/2001	30	11.7
	01/30/2002	30	46.8
	02/25/2002	40	40.0
	03/28/2002	8	26.9
	04/15/2002	30	42.2
	05/20/2002	25	20.4
VEW-13	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	7.5
	06/22/2000	22	11.8
	07/24/2000	26	20.4
	08/29/2000	13	12.0
	10/30/2000	0	12.2
	11/27/2000	1	5.4
	12/18/2000	5	10.8
	01/30/2001	0	0.0
	02/26/2001	12	12.0
	03/26/2001	25	20.4
	04/30/2001	12	16.9
	05/21/2001	22	16.7
	07/24/2001	6	12.1
	08/29/2001	1	17.2
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	30	23.4
	01/30/2002	31	52.3
	02/25/2002	40	28.3
	03/28/2002	9	43.4
	04/15/2002	32	26.1
	05/20/2002	25	20.4
VEW-14	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	9.1
	06/22/2000	20	11.9
	07/24/2000	25	16.7
	08/29/2000	14	12.0
	10/30/2000	0	12.2
	11/27/2000	2	9.4
	12/18/2000	4	10.8
	01/30/2001	0	0.0

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	02/26/2001	25	11.8
	03/26/2001	20	20.5
	04/30/2001	14	16.9
	05/21/2001	21	11.8
	07/24/2001	10	12.0
	08/29/2001	0	0.0
	09/19/2001	0	12.2
	11/27/2001	28	33.2
	12/20/2001	29	16.6
	01/30/2002	30	45.3
	02/25/2002	40	25.8
	03/28/2002	9	24.1
	04/15/2002	30	45.3
	05/20/2002	26	26.3
VEW-15	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	16.7
	06/22/2000	24	16.7
	07/24/2000	27	11.8
	08/29/2000	14	20.7
	10/30/2000	0	12.2
	11/27/2000	5	9.4
	12/18/2000	5	7.6
	01/30/2001	0	0.0
	02/26/2001	13	12.0
	03/26/2001	20	26.5
	04/30/2001	16	16.9
	05/21/2001	20	16.8
	07/24/2001	5	12.1
	08/29/2001	0	0.0
	09/19/2001	0	54.4
	11/27/2001	30	33.1
	12/20/2001	29	26.2
	01/30/2002	30	48.3
	02/25/2002	42	51.5
	03/28/2002	11	61.2
	04/15/2002	34	54.6
	05/20/2002	30	23.4
VEW-16	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	20	11.9
	06/22/2000	20	20.5
	07/24/2000	23	23.6
	08/29/2000	13	12.0
	10/30/2000	0	24.3
	11/27/2000	4	15.3
	12/18/2000	2	7.7
	01/30/2001	0	0.0
	02/26/2001	22	16.7
	03/26/2001	18	16.8
	04/30/2001	14	16.9
	05/21/2001	21	11.8
	07/24/2001	3	17.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	29	16.6
	01/30/2002	28	26.2
	02/25/2002	42	25.8
	03/28/2002	8	24.1
	04/15/2002	29	35.2
	05/20/2002	26	16.6

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-17	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	22.4
	06/22/2000	22	13.0
	07/24/2000	26	16.6
	08/29/2000	14	16.9
	10/30/2000	0	12.2
	11/27/2000	0	5.4
	12/18/2000	2	5.4
	01/30/2001	2	0.0
	02/26/2001	0	12.2
	03/26/2001	20	20.5
	04/30/2001	16	16.9
	05/21/2001	21	16.8
	07/24/2001	5	12.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	33	33.0
	12/20/2001	29	16.6
	01/30/2002	29	26.2
	02/25/2002	46	22.9
	03/28/2002	8	17.0
	04/15/2002	33	26.1
	05/20/2002	24	20.4
VEW-18	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	23	23.6
	06/22/2000	23	7.5
	07/24/2000	24	16.7
	08/29/2000	13	16.9
	10/30/2000	0	12.2
	11/27/2000	3	7.7
	12/18/2000	2	13.3
	01/30/2001	0	7.7
	02/26/2001	20	11.9
	03/26/2001	20	16.8
	04/30/2001	14	20.7
	05/21/2001	20	11.9
	07/24/2001	4	12.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	28	16.6
	01/30/2002	30	74.0
	02/25/2002	40	51.7
	03/28/2002	10	74.1
	04/15/2002	31	59.6
	05/20/2002	24	26.4
VEW-19	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	22	15.0
	06/22/2000	21	7.5
	07/24/2000	25	16.7
	08/29/2000	15	11.9
	10/30/2000	0	17.2
	11/27/2000	2	9.4
	12/18/2000	4	7.7

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	01/30/2001	0	0.0
	02/26/2001	15	11.9
	03/26/2001	20	16.8
	04/30/2001	14	16.9
	05/21/2001	21	11.8
	07/24/2001	4	12.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	33.1
	12/20/2001	30	20.3
	01/30/2002	32	23.4
	02/25/2002	44	30.4
	03/28/2002	8	46.6
	04/15/2002	33	58.3
	05/20/2002	24	26.4
VEW-20	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	23	37.4
	06/22/2000	20	11.9
	07/24/2000	23	16.7
	08/29/2000	12	16.9
	10/30/2000	0	21.1
	11/27/2000	3	12.1
	12/18/2000	5	10.8
	01/30/2001	0	10.9
	02/26/2001	18	11.9
	03/26/2001	20	26.5
	04/30/2001	16	20.7
	05/21/2001	21	11.8
	07/24/2001	2	12.1
	08/29/2001	0	0.0
	09/19/2001	0	21.1
	11/27/2001	30	33.1
	12/20/2001	29	23.4
	01/30/2002	31	40.5
	02/25/2002	41	51.6
	03/28/2002	10	34.0
	04/15/2002	32	52.2
	05/20/2002	27	23.5
VEW-21	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	20	11.9
	06/22/2000	20	7.5
	07/24/2000	25	11.8
	08/29/2000	10	12.0
	10/30/2000	0	12.2
	11/27/2000	3	9.4
	12/18/2000	4	15.3
	01/30/2001	0	7.7
	02/26/2001	16	11.9
	03/26/2001	20	16.8
	04/30/2001	15	16.9
	05/21/2001	20	11.9
	07/24/2001	2	12.1
	08/29/2001	0	0.0
	09/19/2001	0	17.2
	11/27/2001	30	33.1

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	12/20/2001	30	16.6
	01/30/2002	27	31.1
	02/25/2002	44	68.0
	03/28/2002	8	0.0
	04/15/2002	32	85.8
	05/20/2002	20	26.5

NM = not measured
in H_2O = inches of water column
scfm = standard cubic feet per minute

TABLE 2-3
Groundwater Monitoring Well - Water Level and LNAPL Data

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	Water Level Elevation (feet)
CEF-103-SMW-01	13.00	08/30/2000	81.85	no LNAPL	4.56	77.29
		09/28/2000		no LNAPL	3.07	78.78
		10/31/2000		no LNAPL	4.19	77.66
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	5.38	76.47
		02/27/2001		no LNAPL	5.10	76.75
		03/27/2001		no LNAPL	3.54	78.31
		04/30/2001		no LNAPL	4.82	77.03
		05/22/2001		no LNAPL	5.57	76.28
		07/24/2001		no LNAPL	2.97	78.88
		08/30/2001		no LNAPL	3.50	78.35
		11/27/2001		no LNAPL	4.56	77.29
		12/20/2001		no LNAPL	3.32	78.53
		02/26/2002		no LNAPL	3.89	77.96
		03/28/2002		no LNAPL	3.70	78.15
		04/15/2002		no LNAPL	3.45	78.40
		05/21/2002		no LNAPL	5.24	76.61
CEF-103-SMW-02	13.25	08/30/2000	82.30	4.99	5.00	77.30
		09/28/2000		no LNAPL	4.05	78.25
		10/31/2000		no LNAPL	5.50	76.80
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.53	75.77
		02/27/2001		no LNAPL	6.89	75.41
		03/27/2001		no LNAPL	4.81	77.49
		04/30/2001		no LNAPL	6.59	75.71
		05/22/2001		no LNAPL	7.56	74.74
		07/24/2001		no LNAPL	4.26	78.04
		08/30/2001		no LNAPL	4.75	77.55
		11/27/2001		no LNAPL	5.80	76.50
		12/20/2001		no LNAPL	4.08	78.22
		02/26/2002		no LNAPL	5.74	76.56
		03/28/2002		no LNAPL	5.14	77.16
		04/15/2002		no LNAPL	4.51	77.79
		05/21/2002		no LNAPL	7.04	75.26
CEF-103-SMW-03	12.60	08/30/2000	82.03	NM	NM	NM
		09/28/2000		no LNAPL	12.60	69.43
		10/31/2000		no LNAPL	12.14	69.89
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	8.67	73.36
		02/27/2001		no LNAPL	9.63	72.40
		03/27/2001		no LNAPL	4.97	77.06
		04/30/2001		NM	NM	NM
		05/22/2001		no LNAPL	10.90	71.13
		07/24/2001		no LNAPL	4.20	77.83
		08/30/2001		no LNAPL	5.03	77.00
		11/27/2001		no LNAPL	8.45	73.58
		12/20/2001		no LNAPL	4.60	77.43
		02/26/2002		no LNAPL	8.76	73.27
		03/28/2002		no LNAPL	4.50	77.53
		04/15/2002		no LNAPL	6.08	75.95
		05/21/2002		no LNAPL	0.00	82.03
CEF-103-SMW-04	12.66	08/30/2000	82.23	NM	NM	NM
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	6.46	75.77
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.75	75.48
		02/27/2001		no LNAPL	7.02	75.21
		03/27/2001		no LNAPL	4.41	77.82
		04/30/2001		no LNAPL	5.88	76.35
		05/22/2001		no LNAPL	8.45	73.78
		07/24/2001		no LNAPL	2.70	79.53
		08/30/2001		no LNAPL	5.24	76.99
		11/27/2001		no LNAPL	6.52	75.71

TABLE 2-3
Groundwater Monitoring Well - Water Level and LNAPL Data

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	Water Level Elevation (feet)
		12/20/2001		no LNAPL	2.30	79.93
		02/26/2002		no LNAPL	10.55	71.68
		03/28/2002		no LNAPL	3.49	78.74
		04/15/2002		no LNAPL	5.71	76.52
		05/21/2002		no LNAPL	9.91	72.32
CEF-103-SMW-05	13.26	08/30/2000	82.37	no LNAPL	5.52	76.85
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	5.87	76.50
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.47	75.90
		02/27/2001		no LNAPL	6.24	76.13
		03/27/2001		no LNAPL	3.98	78.39
		04/30/2001		no LNAPL	4.61	77.76
		05/22/2001		no LNAPL	6.72	75.65
		07/24/2001		no LNAPL	1.70	80.67
		08/30/2001		no LNAPL	4.17	78.20
		11/27/2001		no LNAPL	4.70	77.67
		12/20/2001		no LNAPL	2.81	79.56
		02/26/2002		no LNAPL	4.74	77.63
		03/28/2002		no LNAPL	3.35	79.02
		04/15/2002		no LNAPL	3.95	78.42
		05/21/2002		no LNAPL	7.25	75.12
CEF-103-SMW-06	13.18	08/30/2000	77.33	NM	NM	NM
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	8.26	69.07
		11/27/2000		no LNAPL	0.00	77.33
		12/20/2000		no LNAPL	3.15	74.18
		02/27/2001		no LNAPL	5.23	72.10
		03/27/2001		no LNAPL	0.50	76.83
		04/30/2001		no LNAPL	2.78	74.55
		05/22/2001		no LNAPL	6.59	70.74
		07/24/2001		no LNAPL	0.10	77.23
		08/30/2001		no LNAPL	2.77	74.56
		11/27/2001		no LNAPL	2.10	75.23
		12/20/2001		no LNAPL	0.00	77.33
		02/26/2002		no LNAPL	4.70	72.63
		03/28/2002		no LNAPL	0.00	77.33
		04/15/2002		no LNAPL	2.45	74.88
		05/21/2002		no LNAPL	7.68	69.65
CEF-103-SMW-07	13.29	08/30/2000	79.35	7.62	7.63	71.72
		09/28/2000		no LNAPL	7.91	71.44
		10/31/2000		no LNAPL	8.10	71.25
		11/27/2000		no LNAPL	3.10	76.25
		12/20/2000		no LNAPL	5.60	73.75
		02/27/2001		no LNAPL	6.51	72.84
		03/27/2001		no LNAPL	2.16	77.19
		04/30/2001		no LNAPL	3.12	76.23
		05/22/2001		no LNAPL	7.89	71.46
		07/24/2001		no LNAPL	2.41	76.94
		08/30/2001		no LNAPL	3.51	75.84
		11/27/2001		no LNAPL	4.02	75.33
		12/20/2001		no LNAPL	0.05	79.30
		02/26/2002		no LNAPL	6.10	73.25
		03/28/2002		no LNAPL	2.90	76.45
		04/15/2002		no LNAPL	3.05	76.30
		05/21/2002		no LNAPL	7.90	71.45
CEF-103-SMW-08	18.23	08/30/2000	79.55	no LNAPL	2.53	77.02
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	3.28	76.27
		11/27/2000		no LNAPL	2.95	76.60
		12/20/2000		no LNAPL	4.04	75.51
		02/27/2001		no LNAPL	4.48	75.07
		03/27/2001		no LNAPL	2.22	77.33

TABLE 2-3
Groundwater Monitoring Well - Water Level and LNAPL Data

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	Water Level Elevation (feet)
		04/30/2001		no LNAPL	3.67	75.88
		05/22/2001		no LNAPL	5.70	73.85
		07/24/2001		no LNAPL	2.38	77.17
		08/30/2001		no LNAPL	2.30	77.25
		11/27/2001		no LNAPL	3.45	76.10
		12/20/2001		no LNAPL	2.44	77.11
		02/26/2002		no LNAPL	2.90	76.65
		03/28/2002		no LNAPL	2.75	76.80
		04/15/2002		no LNAPL	2.39	77.16
		05/21/2002		no LNAPL	5.16	74.39
CEF-103-SMW-09	13.24	08/30/2000	79.67	no LNAPL	4.56	75.11
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	4.65	75.02
		11/27/2000		no LNAPL	2.99	76.68
		12/20/2000		no LNAPL	4.55	75.12
		02/27/2001		no LNAPL	5.13	74.54
		03/27/2001		no LNAPL	2.70	76.97
		04/30/2001		no LNAPL	4.68	74.99
		05/22/2001		no LNAPL	7.15	72.52
		07/24/2001		no LNAPL	1.60	78.07
		08/30/2001		no LNAPL	5.43	74.24
		11/27/2001		no LNAPL	4.00	75.67
		12/20/2001		no LNAPL	0.84	78.83
		02/26/2002		no LNAPL	4.90	74.77
		03/28/2002		no LNAPL	2.40	77.27
		04/15/2002		no LNAPL	2.88	76.79
		05/21/2002		no LNAPL	6.95	72.72
CEF-103-SMW-10	11.63	08/30/2000	77.29	NM	NM	NM
		09/28/2000		no LNAPL	0.45	76.84
		10/31/2000		no LNAPL	2.35	74.94
		11/27/2000		no LNAPL	1.05	76.24
		12/20/2000		no LNAPL	2.11	75.18
		02/27/2001		no LNAPL	2.95	74.34
		03/27/2001		no LNAPL	0.50	76.79
		04/30/2001		no LNAPL	3.27	74.02
		05/22/2001		no LNAPL	4.89	72.40
		07/24/2001		no LNAPL	0.00	77.29
		08/30/2001		no LNAPL	1.88	75.41
		11/27/2001		no LNAPL	1.30	75.99
		12/20/2001		no LNAPL	0.55	76.74
		02/26/2002		no LNAPL	1.00	76.29
		03/28/2002		no LNAPL	1.05	76.24
		04/15/2002		no LNAPL	1.02	76.27
		05/21/2002		no LNAPL	4.31	72.98
CEF-103-SMW-11	16.10	08/30/2000	82.48	no LNAPL	5.55	76.93
		09/28/2000		no LNAPL	4.60	77.88
		10/31/2000		no LNAPL	6.06	76.42
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.78	75.70
		02/27/2001		no LNAPL	7.14	75.34
		03/27/2001		no LNAPL	5.02	77.46
		04/30/2001		no LNAPL	NM	NM
		05/22/2001		no LNAPL	7.64	74.84
		07/24/2001		no LNAPL	5.56	76.92
		08/30/2001		no LNAPL	5.17	77.31
		11/27/2001		no LNAPL	6.24	76.24
		12/20/2001		no LNAPL	4.28	78.20
		02/26/2002		no LNAPL	5.82	76.66
		03/28/2002		no LNAPL	5.28	77.20
		04/15/2002		no LNAPL	4.94	77.54
		05/21/2002		no LNAPL	7.69	74.79

TABLE 2-3
Groundwater Monitoring Well - Water Level and LNAPL Data

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	Water Level Elevation (feet)
CEF-103-SMW-12	12.80	08/30/2000	82.04	6.50	6.51	75.53
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	6.51	75.53
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.28	75.76
		02/27/2001		no LNAPL	6.93	75.11
		03/27/2001		no LNAPL	3.84	78.20
		04/30/2001		no LNAPL	5.34	76.70
		05/22/2001		no LNAPL	8.26	73.78
		07/24/2001		no LNAPL	2.94	79.10
		08/30/2001		no LNAPL	4.45	77.59
		11/27/2001		no LNAPL	5.40	76.64
		12/20/2001		no LNAPL	2.77	79.27
		02/26/2002		no LNAPL	5.81	76.23
		03/28/2002		no LNAPL	4.15	77.89
		04/15/2002		no LNAPL	3.63	78.41
		05/21/2002		no LNAPL	8.16	73.88
CEF-103-DMW-01	38.75	08/30/2000	82.40	no LNAPL	6.96	75.44
		09/28/2000		NM	NM	NM
		10/31/2000		no LNAPL	7.06	75.34
		11/27/2000		NM	NM	NM
		12/20/2000		no LNAPL	6.96	75.44
		02/27/2001		no LNAPL	7.92	74.48
		03/27/2001		no LNAPL	5.37	77.03
		04/30/2001		no LNAPL	8.18	74.22
		05/22/2001		no LNAPL	9.62	72.78
		07/24/2001		no LNAPL	4.38	78.02
		08/30/2001		no LNAPL	4.41	77.99
		11/27/2001		no LNAPL	6.50	75.90
		12/20/2001		no LNAPL	5.70	76.70
		02/26/2002		no LNAPL	5.99	76.41
		03/28/2002		no LNAPL	5.86	76.54
		04/15/2002		no LNAPL	5.69	76.71
		05/21/2002		no LNAPL	9.50	72.90

NM = not measured
bgs = below ground surface
Elevation is referenced to National Geodetic Vertical Datum 1929 (NGVD 1929)
Depth to LNAPL measured from top of casing
Depth to water measured from top of casing

3.0 Summary of Sampling and Laboratory Analytical Results

3.1 Vapor Monitoring

GAC units were used to treat the SVE effluent air before discharge to the atmosphere. The GACs were removed on February 8, 2001 because the effluent VOC concentration was less than the FDEP treatment requirement of 13.7 pounds per day. Prior to GAC removal, the GAC influent, mid-fluent and effluent were sampled monthly for analyses by U.S. Environmental Protection Agency (EPA) Method 18, TO-14. After GAC removal, the SVE effluent was sampled monthly for analysis by EPA Method 18, TO-14. Copies of the analytical laboratory reports from the air sampling events are provided in Appendix B, and analytical results are summarized in Tables 3-1, 3-2, and 3-3. The pounds per day loading (air emission) rate summary is provided in Table 3-4.

Based upon an average pounds per day VOC removal rate and an on-stream time of 265.3 days, a total of 0.51 pounds of VOCs were removed from the subsurface during the monitoring period via volatilization. It should be noted that this calculation does not take into account the reductions that were a result of biodegradation of the contaminants in the groundwater.

3.2 Groundwater Monitoring

Monitoring wells CEF-103-SMW-01, CEF-103-SMW-02, CEF-103-SMW-03, CEF-103-SMW-04, CEF-103-SMW-05, CEF-103-SMW-06, CEF-103-SMW-07, CEF-103-SMW-10, and CEF-103-SMW-11 were sampled for VOCs by USEPA Method 8260B, semi-volatile organic compounds by USEPA Method 8310, lead by USEPA Method 6010B, and Total Recoverable Petroleum Hydrocarbons (TRPH) by the FL PRO Method on August 30, 2001, November 27 and 28, 2001, February 26, 2002, and May 21 and 22, 2002. The VOC analysis for the August 30, 2001 sampling event was performed by USEPA Method 8021 instead of USEPA Method 8260B. Monitoring well CEF-103-SMW-11 was re-sampled for VOCs by USEPA Method 8260 on October 10, 2001 to evaluate additional compounds that are not included in the 8021 analysis. Monitoring wells CEF-103-SMW-08, CEF-103-SMW-09, CEF-103-SMW-12, and CEF-103-DMW-01 were only sampled during the annual sampling event performed on May 21 and 22, 2002. The annual sampling event includes 12 shallow monitoring wells (11 to 18 feet bls) and one deep monitoring well (38.75 feet bls). A site map showing the locations of the monitoring wells are shown on Figure 1-1.

The deep monitoring well and all of the shallow monitoring wells except CEF-103-SMW-11 are located within the treatment zone of the AS system and have exhibited significant decreases in contaminant concentrations from the baseline groundwater sampling event performed March 20, 2000, prior to system startup. The contaminant concentrations for these monitoring wells have remained below the FDEP GCTLs for all constituents since September 2000.

Shallow monitoring well CEF-103-SMW-11 is the eastern most monitoring well and is located outside the treatment zone of the AS system. This well has exhibited decreases in contaminant concentrations but as of the February 26, 2002, sampling event, concentrations of 1-2-4-trimethylbenzene (78.9 micrograms per liter [µg/L]), isopropylbenzene (18.4 µg/L), naphthalene (20.7 µg/L), ethylbenzene (39 µg/L), and total xylenes (36.5 µg/L) exceeded the FDEP GCTLs (10 µg/L, 0.8 µg/L, 20 µg/L, 30 µg/L, and 20 µg/L, respectively).

During April 2002, the AS system was extended to include the CEF-103-SMW-11 area by installing 2 AS wells, labeled as AS-21 and AS-22, east and west of CEF-103-SMW-11. The well locations are shown on Figure 1-1. Injection into AS-21 and AS-22 began on May 2, 2002.

The May 21 and 22, 2002, groundwater sampling analytical results for CEF-103-SMW-11 showed that contaminant concentrations have decreased due to the new AS injection wells. All contaminants were below the FDEP GCTL except isopropylbenzene (2.3 µg/L).

Copies of the analytical laboratory reports from the groundwater sampling events are provided in Appendix C, and analytical results are summarized in Table 3-5.

Temperature, pH, conductivity, and dissolved oxygen (DO) measurements were recorded during sampling of the monitoring wells. The results from the field measurements are summarized in Table 3-6.

Table 3-1
SVE System - Pre-Treatment Vapor Analytical Results

Compound (µg/m3)	05/16/2000	05/26/2000	06/02/2000	06/09/2000	06/27/2000	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01
1,1,1-Trichloroethane	<43	<8.6	<8.6	<8.6	<8.6	<5.456	<21.82	<2.728	<3.432	<3.432	<3.432	<3.432
1,1,2,2-Tetrachloroethane	<54	<11	<11	<11	<11	<6.865	<27.46	<3.432	<3.432	<3.432	<3.432	<3.432
1,1,2-Trichloroethane	<43	<8.6	<8.6	<8.6	<8.6	<5.456	<21.82	<2.728	<2.728	<2.728	<2.728	<3.432
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	NA	NA	<7.663	<30.65	<3.831	NA	NA	NA	NA
1,1-Dichloroethane	<32	<6.4	<6.4	<6.4	<6.4	<4.047	<16.19	<2.023	<2.728	<2.728	<2.728	<3.432
1,1-Dichloroethene	<31	<6.3	<6.3	<6.3	<6.3	<3.965	<15.86	<1.982	<2.728	<2.728	NA	NA
1,2,4-Trichlorobenzene	<59	<12	<12	<12	<12	<7.421	<29.68	<3.710	NA	NA	NA	NA
1,2,4-Trimethylbenzene	5100.00	1030.00	1230.00	1230.00	1000.00	<4.915	<19.66	<2.457	NA	NA	NA	NA
1,2-Dibromoethane	<61	<12	<12	<12	<12	<7.684	<30.73	<3.842	NA	NA	NA	NA
1,2-Dichloroethane	<32	<6.4	<6.4	<6.4	<6.4	<4.047	<16.18	<2.023	<2.728	<2.728	<2.728	<3.432
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	<6.012	<24.05	<3.006	<2.728	<2.728	<2.728	<3.432
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	<6.012	<24.05	<3.006	<2.728	<2.728	<2.728	<3.432
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	<6.012	<24.05	<3.006	<2.728	<2.728	<2.728	<3.432
1,2-Dichloropropane	<37	<7.3	<7.3	<7.3	<7.3	<4.621	<18.48	<2.310	<2.728	<2.728	<2.728	<3.432
1,3,5-Trimethylbenzene	1430.00	320.00	396.00	396.00	352.00	<4.915	<19.66	<2.457	NA	NA	NA	NA
2-Chlorotoluene	NA	NA	NA	NA	NA	<5.177	<20.71	<2.588	NA	NA	NA	NA
4-Ethyltoluene	1480.00	368.00	364.00	364.00	282.00	<4.952	<19.81	<2.476	NA	NA	NA	NA
Alpha-Chlorotoluene	NA	NA	NA	NA	NA	<5.668	<22.67	<2.834	NA	NA	NA	NA
Benzene	24.00	4.50	<5.1	<5.1	1.10	<3.194	<12.77	<1.597	NA	NA	<2.728	5.08
Bromoform	NA	NA	NA	NA	NA	<10.33	<41.34	<5.168	NA	NA	NA	NA
Bromomethane	<31	<6.2	<6.2	<6.2	<6.2	<3.883	<15.53	<1.941	<2.728	<2.728	<2.728	<3.432
Bromodichloromethane	NA	NA	NA	NA	NA	<6.699	<26.79	<3.349	<2.728	<2.728	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	<3.113	<12.45	<1.556	NA	NA	NA	NA
Carbon Tetrachloride	<50	<9.9	<9.9	<9.9	<9.9	<6.292	<25.16	<3.146	<2.728	<2.728	<2.728	<3.432
Chlorobenzene	<37	<7.3	<7.3	<7.3	<7.3	<4.603	<18.41	<2.301	<2.728	<2.728	<2.728	<3.432
Chloroethane	<21	<4.2	<4.2	<4.2	<4.2	<2.638	<10.55	<1.319	<2.728	<2.728	<2.728	<3.432
Chloroform	<39	<7.7	<7.7	<7.7	<7.7	<4.883	<19.53	<2.441	<2.728	<2.728	4.47	<3.432
Chloromethane	<16	<3.3	<3.3	<3.3	<3.3	<2.065	<8.260	<1.032	<2.728	<2.728	<2.728	<3.432
cis-1,2-Dichloroethene	<31	<6.3	<6.3	<6.3	<6.3	<3.965	<15.86	<1.982	<2.728	<2.728	<2.728	<3.432
cis-1,3-Dichloropropene	<36	<7.2	<7.2	<7.2	<7.2	<4.539	<18.15	<2.269	<2.728	<2.728	<2.728	<3.432
Dibromochloromethane	NA	NA	NA	NA	NA	<3.524	<14.09	<1.762	<2.728	<2.728	NA	NA
Dichlorodifluoromethane	<39	<7.8	<7.8	<7.8	3.50	<4.945	<19.78	<2.472	NA	NA	NA	NA
Dichlorotetrafluoroethane	NA	NA	NA	NA	NA	<6.991	<27.96	<3.495	NA	NA	NA	NA
Ethylbenzene	1260.00	415.00	348.00	348.00	222.00	269.20	19.10	<2.170	<2.728	<2.728	<2.728	<3.432
Freon 113	1280.00	31.00	<12	<12	47.00	<7.663	<30.65	<3.831	NA	NA	NA	NA
Freon 114	<56	<11	<11	<11	<11	<6.990	<27.96	<3.495	NA	NA	NA	NA
Hexachlorobutadiene	<85	<17	<17	<17	<17	<10.66	<42.66	<5.332	NA	NA	NA	NA
Hexane	NA	NA	NA	NA	NA	<3.524	<14.09	<1.762	NA	NA	NA	NA
m-Dichlorobenzene	<48	<9.6	<9.6	<9.6	<9.6	NA	NA	NA	NA	NA	NA	NA
m,p-Xylene	2840.00	1080.00	967.00	967.00	772.00	998.64	95.52	<2.170	<2.728	4.64	<2.728	10.30
o-Dichlorobenzene	<48	<9.6	<9.6	<9.6	<9.6	NA	NA	NA	NA	NA	NA	NA
p-Dichlorobenzene	<48	<9.6	<9.6	<9.6	<9.6	NA	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	<29	<5.8	<5.8	<5.8	<5.8	<3.605	<14.42	<1.802	<2.728	<2.728	NA	NA
Methylene Chloride	81.40	<5.5	<5.5	<5.5	5.50	<3.474	17.02	<1.737	5.13	<2.728	<2.728	6.66
o-Xylene	207.00	83.20	215.00	215.00	198.00	273.54	39.51	<2.170	<2.728	<2.728	<2.728	5.15
Styrene	<34	<6.8	<6.8	<6.8	<6.8	<4.259	<17.03	<2.129	<2.728	<2.728	<2.728	<3.432
Tetrachloroethene	<54	<11	<11	<11	<11	<6.783	<27.13	<3.391	<2.728	<2.728	<2.728	<3.432
Toluene	55.70	4.90	7.90	7.90	6.00	3.77	715.94	<1.884	<2.728	6.55	<2.728	8.24
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	<3.964	<15.85	<1.982	NA	NA	NA	NA
trans-1,3-Dichloropropene	<36	<7.2	<7.2	<7.2	<7.2	<4.539	<18.15	<2.269	<2.728	<2.728	<2.728	<3.432
trans-1,4-Dichloro-2-butene	NA	NA	NA	NA	NA	<5.112	<20.44	<2.556	NA	NA	NA	NA
Trichloroethene	<42	<8.5	<8.5	<8.5	<8.5	<5.374	<21.49	<2.687	<2.728	<2.728	<2.728	<3.432
Trichlorofluoromethane	<44	<8.9	<8.9	<8.9	<8.9	<5.618	<22.47	<2.809	<2.728	<2.728	<2.728	<3.432
Trichlorotrifluoroethane	NA	NA	NA	NA	NA	<7.663	<30.65	<3.831	NA	NA	NA	NA
Vinyl Chloride	<20	<4.0	<4.0	<4	<4.0	<2.556	<10.22	<1.278	<2.728	<2.728	<2.728	<3.432
Xylenes (total)	3040.00	1160.00	1180.00	1180.00	971.00	1272.18	4.78	<4.341	<2.728	4.64	<2.728	15.10
Total Volatile Organics (mg/m^3)	13.76	3.34	3.53	3.53	2.89	1.55	0.89	0.00	0.01	0.01	0.00	0.04

Notes:
1. Total Volatile Organics = Sum of all detected volatile organic compounds
2. To compute Total VOCs, all non-detectable compounds were assumed to be zero.
3. All samples analyzed by EPA 18, TO-14
4. NA = Not Analyzed

TABLE 3-2
SVE System - Mid-Carbon Vapor Analytical Results

Compound (mg/m^3)	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01
OVA-FID (ppm)	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	<2.728	<2.728	<2.728	<3.432	<2.728	<2.728	<2.728
1,1,2,2-Tetrachloroethane	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432
1,1,2-Trichloroethane	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728
1,1,2-Trichloro-1,2,2-trifluoroethane	<3.831	<3.831	<3.831	NA	NA	NA	NA
1,1-Dichloroethane	<2.023	<2.023	<2.023	<2.728	<2.728	<2.023	<2.023
1,1-Dichloroethene	<1.982	<1.982	<1.982	<2.728	<2.728	NA	NA
1,2,4-Trichlorobenzene	<3.710	<3.710	<3.710	NA	NA	NA	NA
1,2,4-Trimethylbenzene	<2.457	<2.457	<2.457	NA	NA	NA	NA
1,2-Dibromoethane	<3.842	<3.842	<3.842	NA	NA	NA	NA
1,2-Dichloroethane	<2.023	<2.023	<2.023	<2.728	<2.728	<2.023	<2.023
1,2-Dichlorobenzene	<3.006	<3.006	<3.006	<2.728	<2.728	<3.006	<3.006
1,3-Dichlorobenzene	<3.006	<3.006	<3.006	<2.728	<2.728	<3.006	<3.006
1,4-Dichlorobenzene	<3.006	<3.006	<3.006	<2.728	<2.728	<3.006	<3.006
1,2-Dichloropropane	<2.310	<2.310	<2.310	<2.728	<2.728	<2.310	<2.310
1,3,5-Trimethylbenzene	<2.457	<2.457	<2.457	NA	NA	NA	NA
2-Chlorotoluene	<2.588	<2.588	<2.588	NA	NA	NA	NA
4-Ethyltoluene	<2.476	<2.476	<2.476	NA	NA	NA	NA
Alpha-Chlorotoluene	<2.834	<2.834	<2.834	NA	NA	NA	NA
Benzene	<1.597	<1.597	3.83	<2.728	<2.728	<1.597	2.36
Bromoform	<5.168	<5.168	<5.168	NA	NA	NA	NA
Bromomethane	<1.941	<1.941	<1.941	<2.728	<2.728	<1.941	<1.941
Bromodichloromethane	<3.349	<3.349	<3.349	NA	NA	NA	NA
Carbon Disulfide	<1.556	<1.556	<1.556	NA	NA	NA	NA
Carbon Tetrachloride	<3.146	<3.146	<3.146	<2.728	<2.728	<3.146	<3.146
Chlorobenzene	<2.301	<2.301	<2.301	<2.728	<2.728	<2.301	<2.301
Chloroethane	<1.319	<1.319	1.93	<2.728	<2.728	<1.319	<1.319
Chloroform	<2.441	<2.441	<2.441	<2.728	<2.728	3.27	<2.441
Chloromethane	<1.032	1.09	1.12	<2.728	<2.728	<1.032	<1.032
cis-1,2-Dichloroethene	<1.982	<1.982	<1.982	<2.728	<2.728	<1.982	<1.982
cis-1,3-Dichloropropene	<2.269	<2.269	<2.269	<2.728	<2.728	<2.269	<2.269
Dibromochloromethane	<1.762	<1.762	<1.762	NA	NA	NA	NA
Dichlorodifluoromethane	<2.472	<2.472	<2.472	NA	NA	NA	NA
Dichlorotetrafluoroethane	<3.495	<3.495	<3.495	NA	NA	NA	NA
Ethylbenzene	<2.170	9.55	42.99	<2.728	<2.728	<2.170	<2.170
Freon 113	<3.831	<3.831	<3.831	NA	NA	NA	NA
Freon 114	<3.495	<3.495	<3.495	NA	NA	NA	NA
Hexachlorobutadiene	<5.332	<5.332	<5.332	NA	NA	NA	NA
Hexane	<1.762	<1.762	<1.762	NA	NA	NA	NA
m,p-Xylene	<2.170	130.26	277.88	<2.728	<2.728	<2.170	6.51
Methyl Tert Butyl Ether	<1.802	<1.802	<1.802	NA	NA	NA	NA
Methylene Chloride	7.99	<1.737	<1.737	6.55	<2.728	2.74	3.37
o-Xylene	<2.170	104.21	95.52	<2.728	<2.728	<2.170	3.26
Styrene	<2.129	<2.129	<2.129	<2.728	<2.728	<2.129	<2.129
Tetrachloroethene	<3.391	<3.391	<3.391	<2.728	<2.728	<3.391	<3.391
Toluene	<1.884	<1.884	16.58	<2.728	<2.728	4.52	4.52
trans-1,2-Dichloroethene	<1.982	<1.982	<1.982	NA	NA	NA	NA
trans-1,3-Dichloropropene	<2.269	<2.269	<2.269	<2.728	<2.728	<2.269	<2.269
trans-1,4-Dichloro-2-butene	<2.556	<2.556	<2.556	NA	NA	NA	NA
Trichloroethene	<2.687	<2.687	<2.687	<2.728	<2.728	<2.687	<2.687
Trichlorofluoromethane	<2.809	<2.809	<2.809	<2.728	<2.728	<2.809	<2.809
Trichlorotrifluoroethane	<3.831	<3.831	<3.831	NA	NA	NA	NA
Vinyl Chloride	<1.278	<1.278	<1.278	<2.728	<2.728	<1.278	<1.278
Xylenes (total)	<4.341	234.46	369.06	NA	NA	NA	NA
Total Volatile Organics (mg/m^3)	0.01	0.25	0.44	0.01	0.00	0.01	0.02

Notes:
1. Total Volatile Organics = Sum of all detected volatile organic compounds
2. To compute Total VOCs, all non-detectable compounds were assumed to be zero.
3. All samples analyzed by EPA 18, TO-14
4. NA = Not Analyzed

TABLE 3-3
SVE System - Post-Treatment Analytical Results

Compound (mg/m^3)	07/24/00	08/15/00	09/18/00	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01	02/26/01	03/12/01	04/26/01	05/21/01	06/15/01	07/17/01	08/14/01	09/27/01	10/15/01	11/20/01	12/20/01	01/30/02	02/19/02	03/11/02	04/08/02	05/06/02
OVA-FID (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1,2,2-Tetrachloroethane	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<3.432	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1,2-Trichloroethane	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<2.728	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1,2-Trichloro-1,2,2-trifluoroethane	<3.831	<3.831	<3.831	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1-Dichloroethane	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1-Dichloroethene	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2,4-Trichlorobenzene	<3.710	<3.710	<3.710	<3.710	<3.710	<3.710	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2,4-Trimethylbenzene	<2.457	<2.457	<2.457	<2.457	<2.457	<2.457	NA	NA	NA	NA	NA	NA	NA	NA	<60	100.00	110.00	<60	<60	<60	<60	<60	<60	60.00	<60	<60
1,2-Dibromoethane	<3.842	<3.842	<3.842	<3.842	<3.842	<3.842	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2-Dichloroethane	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<2.023	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2-Dichlorobenzene	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,3-Dichlorobenzene	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,4-Dichlorobenzene	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	<3.006	3.19	<3.006	<3.006	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2-Dichloropropane	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<2.310	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,3,5-Trimethylbenzene	<2.457	<2.457	<2.457	<2.457	<2.457	<2.457	NA	NA	NA	NA	NA	NA	NA	NA	<60	120.00	250.00	<60	<60	<60	<60	<60	<60	<60	<60	<60
2-Chlorotoluene	<2.588	<2.588	<2.588	<2.588	<2.588	<2.588	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
4-Ethyltoluene	<2.476	<2.476	<2.476	<2.476	<2.476	<2.476	NA	NA	NA	NA	NA	NA	NA	NA	<60	60.00	100.00	<60	<60	<60	<60	<60	<60	<60	<60	<60
Alpha-Chlorotoluene	<2.834	<2.834	<2.834	<2.834	<2.834	<2.834	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	76.672	38.336	8.626	76.67	38.34	8.63	<1.597	<1.597	2.75	3.83	<1.597	<1.597	<1.597	<1.597	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Bromoform	<5.168	<5.168	<5.168	<5.168	<5.168	<5.168	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Bromomethane	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<1.941	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Bromodichloromethane	<3.349	<3.349	<3.349	<3.349	<3.349	<3.349	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Carbon Disulfide	<1.556	<1.556	<1.556	<1.556	<1.556	<1.556	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Carbon Tetrachloride	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<3.146	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Chlorobenzene	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<2.301	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Chloroethane	<1.319	<1.319	<1.319	<1.319	<1.319	<1.319	<2.301	<1.319	<1.319	<1.319	<1.319	<1.319	<1.319	<1.319	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Chloroform	<2.441	<2.441	<2.441	<2.441	<2.441	<2.441	<2.441	<2.441	6.35	<2.441	<2.441	<2.441	<2.441	<2.441	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Chloromethane	<1.032	1.425	<1.032	<1.032	1.42	<1.032	<1.032	<1.032	1.65	1.32	1.80	1.69	1.07	<1.032	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
cis-1,2-Dichloroethene	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	4.36	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
cis-1,3-Dichloropropene	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dibromochloromethane	<1.762	<1.762	<1.762	<1.762	<1.762	<1.762	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dichlorodifluoromethane	<2.472	<2.472	<2.472	<2.472	<2.472	<2.472	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dichlorotetrafluoroethane	<3.495	<3.495	<3.495	<3.495	<3.495	<3.495	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Ethylbenzene	2.214	7.381	47.761	2.21	7.38	47.76	<2.170	47.76	138.94	169.33	<2.170	3.52	<2.170	<2.170	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Freon 113	<3.831	<3.831	<3.831	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Freon 114	<3.495	<3.495	<3.495	<3.495	<3.495	<3.495	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	<5.332	<5.332	<5.332	<5.332	<5.332	<5.332	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Hexane	<1.762	<1.762	<1.762	<1.762	<1.762	<1.762	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
m,p-Xylene	16.065	18.236	4.342	16.07	18.24	4.34	<2.170	26.49	56.44	91.18	<2.170	17.80	5.64	7.82	<120	<120	130.00	<120	<120	<120	<120	<120	<120	<120	<120	<120
Methyl Tert Butyl Ether	<1.802	<1.802	<1.802	<1.802	<1.802	<1.802	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Methylene Chloride	<1.737	<1.737	<1.737	<1.737	<1.737	<1.737	3.06	<1.737	4.17	3.82	1.98	3.44	1.98	<1.737	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
o-Xylene	9.986	9.118	<2.170	9.99	9.12	<2.170	<2.170	4.34	<2.170	<2.170	<2.170	10.42	3.00	5.64	<60	<60	60.00	<60	<60	<60	<60	<60	<60	<60	<60	<60
Styrene	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<2.129	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Tetrachloroethene	<3.391	<3.391	<3.391	<3.391	<3.391	<3.391	<2.129	<3.391	<3.391	<3.391	<3.391	<3.391	<3.391	8.14	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Toluene	<1.884	<1.884	45.217	<1.884	<1.884	45.22	<1.884	<1.884	60.29	67.83	<1.884	<1.884	<1.884	1.92	<60	<60	<60	<60	<60	50.00	<60	<60	<60	<60	<60	<60
trans-1,2-Dichloroethene	<1.982	<1.982	<1.982	<1.982	<1.982	<1.982	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
trans-1,3-Dichloropropene	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	34.50	<2.269	<2.269	<2.269	<2.269	<2.269	<2.269	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
trans-1,4-Dichloro-2-butene	<2.556	<2.556	<2.556	<2.556	<2.556	<2.556	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Trichloroethene	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	<2.687	15.05	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Trichlorofluoromethane	<2.809	<2.809	<2.809	<2.809	<2.809	<2.809	<2.809	<2.809	2.81	3.32	<2.809	<2.809	<2.809	<2.809	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Trichlorotrifluoroethane	<3.831	<3.831	<3.831	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Vinyl Chloride	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<1.278	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Xylenes (total)	32.741	34.378	5.457	<4.34	<4.34	<4.34	<4.34	60.98	NA	NA	NA	NA	NA	NA	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180
Total Volatile Organics (mg/m^3)	0.105	0.074	0.106	0.10	0.07	0.11	0.00	0.11	0.27	0.34	0.00	0.04	0.01	0.04	0.00	0.28	0.65	0.00	0.00	0.05	0.00	0.00	0.00	0.06	0.00	0.00

Notes:
1. Total Volatile Organics = Sum of all detected volatile organic compounds
2. To compute Total VOCs, all non-detectable compounds were assumed to be zero.
3. All samples analyzed by EPA 18, TO-14
4. NA = Not Analyzed

TABLE 3-4
Mass Loading/Emission Rate

Location	Sample Date	Flow Rate (SCFM)	Total VOC Concentration (mg/m3)	Loading Rate (lbs/day)
Pre-Carbon Unit (influent)	07/24/2000	624.2	1.545	0.0868
	08/15/2000	630.0	0.887	0.0503
	09/18/2000	630.0	0.000	0.0000
	10/18/2000	627.2	0.005	0.0003
	11/13/2000	345.9	0.011	0.0003
	12/11/2000	338.7	0.0045	0.0001
	01/17/2001	111.1	0.0354	0.0004
Mid-Carbon Unit (mid-fluent)	07/24/2000	624.2	0.008	0.0004
	08/15/2000	630.0	0.245	0.0139
	09/18/2000	630.0	0.440	0.0249
	10/18/2000	627.2	0.007	0.0004
	11/13/2000	345.9	0.000	0.0000
	12/11/2000	338.7	0.011	0.0003
	01/17/2001	111.1	0.020	0.0002
Post-Carbon Unit (effluent)	07/24/2000	624.2	0.105	0.0059
	08/15/2000	630.0	0.074	0.0042
	09/18/2000	630.0	0.106	0.0060
	10/18/2000	627.2	0.003	0.0002
	11/13/2000	345.9	0.113	0.0035
	12/11/2000	338.7	0.273	0.0083
	01/17/2001	111.1	0.341	0.0034
	02/26/2001	468.9	0.004	0.0002
	03/12/2001	627.6	0.040	0.0023
	04/26/2001	649.6	0.012	0.0007
	05/21/2001	318.6	0.043	0.0012
	07/17/2001	281.3	0.280	0.0071
	08/14/2001	73.6	0.650	0.0043
	09/27/2001	226.9	0.000	0.0000
	11/20/2001	821.9	0.050	0.0037
	12/20/2001	432.0	0.000	0.0000
	01/30/2002	981.9	0.000	0.0000
	02/19/2002	910.0	0.000	0.0000
	03/11/2002	761.7	0.060	0.0041
	04/08/2002	1021.5	0.000	0.0000
	05/06/2002	515.5	0.000	0.0000

TABLE 3-5
Groundater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-SMW01	03/20/00	<2	1.1	<3	<5	2.9	2.4	<6.5	1.4	<2.5	1.1	1.3	<2.5	2	<2	<6	<6.5	<1	<1	3.5	<1.0	420	0.068
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.89	<1.04	440	ND
	12/20/00	<2	<5.5	<3	<5	0.91	0.57	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	2	<1	470	0.11
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	0.53	<2	<6	<6.5	<1	<1	<2	<1	0.97	0.049
	05/23/01	0	5.5	<3	<5	1.5	2	<6.5	13	<2.5	0.63	5.5	<2.5	0.87	<2	<6	<6.5	<1	<1	2	<1	1	0.1
	08/30/01	<0.5	<1	0.55	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	0.015
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	<0.54	<0.002
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	<0.005
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005
CEF-103-SMW02	03/20/00	<2	<5.5	<3	<5	1.1	1.7	1.9	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	5.2	<6.5	<1	<1	3.7	<1.0	330	0.036
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.69	<1.04	660	0.032
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	0.64	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	1.5	<1	580	0.17
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	0.51	<2	<6	<6.5	<1	<1	<2	<1	0.87	0.015
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.61	<5.5	<2.5	0.96	<2	<6	<6.5	<1	<1	<2	<1	<1	0.1
	08/30/01	<0.5	<1	0.49	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	0.24	0.03
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	<0.52	0.01
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.23	<0.005
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	0.01
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	0.01
CEF-103-SMW03	03/20/00	<2	1.4	3.7	<5	<1.5	<2	52	<13	20	<6.5	<5.5	4.6	<1.5	4.2	12	2.2	<1	<1	17	3.7	1500	0.057
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.89	<1.04	750	0.051
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	0.64	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	1.4	<1	440	<10
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	0.65	<2	<6	<6.5	<1	<1	<2	<1	0.75	0.047
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	1.3	<2	<6	<6.5	<1	<1	<2	<1	<1	0.013
	08/30/01	<0.5	<1	0.48	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	0.132
	11/28/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	0.95	0.122
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	<0.22	0.0222
	05/22/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/22/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CEF-103-SMW04	03/20/00	2.8	<5.5	87	280	<1.5	<2	410	<13	130	<6.5	<5.5	43	<1.5	54	89	40	<1	<1	210	58.2	8600	<0.01
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	1	<5.5	<3	<5	<1.5	<2	0.69	<13	0.72	<6.5	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	4.6	0.013
	08/30/01	<0.5	<1	0.47	0.71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	3.3	0.059
	11/28/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	7.8	<0.002

TABLE 3-5
Groundater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	1.2	1.2	<1	1.2	0.64	<0.005
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.23	<0.23	<1	<0.23	1.5	0.0035
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.23	<0.23	<1	<0.23	1.5	0.0035
CEF-103-SMW05	03/20/00	<2	<5.5	<3	<5	<1.5	5.5	<6.5	<13	130	<6.5	<5.5	<2.5	<1.5	<2	<2	2.1	<1	<1	9.8	3.7	11000	0.025
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	1	0.021
	08/30/01	<0.5	5.1	0.47	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	0.49	0.018
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	0.37	<0.002
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	<0.005
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005
CEF-103-SMW06	03/20/00	<2	<5.5	17	24	<1.5	<2	55	<13	16	<6.5	<5.5	8.7	1.6	8.9	2.2	3.4	<1	<1	22	8.9	660	0.033
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.59	<5.5	<2.5	0.95	<2	<6	<6.5	<1	<1	<2	<1	<1	0.086
	08/30/01	<0.5	<1	0.51	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.22	<0.22	NA	<0.22	<0.51	0.248
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.52	0.068
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.2	<0.24	<1	<0.2	<0.52	0.0101
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.2	<0.24	<1	<0.2	<0.52	0.0101
CEF-103-SMW07	03/20/00	<2	<5.5	<3	2.2	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	1.6	<2	<6	<6.5	<1	<1	<2	<1.0	720	0.013
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.72	<1.04	730	0.086
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	1.1	<1	670	0.17
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	0.53	<2	<6	<6.5	<1	<1	<2	<1	1.3	0.07
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.87	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	<1	0.071
	08/30/01	<0.5	<1	0.44	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	0.049
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	<0.5	0.025
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	0.0038
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	<0.53	0.0106
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	<0.53	0.0106
CEF-103-SMW08	03/20/00	<2	<5.5	<3	2.3	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	<2	<1.0	540	0.042
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3-5
Groundater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	1	<5.5	<2.5	1	<2	<6	<6.5	<1	<1	<2	<1	<1	0.16
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	<0.56	<0.005
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	<0.56	<0.005
CEF-103-SMW09	03/20/00	<2	<5.5	<3	1.1	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	1.2	<2	<6	<6.5	<1	<1	<2	<1.0	700	<0.024
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.78	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	1	0.09
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.34	<1	<0.21	0.28 J	<0.005
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.34	<1	<0.21	0.28 J	<0.005
CEF-103-SMW10	03/20/00	<2	<5.5	<3	2.7	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	<2	<1.0	430	0.052
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.63	<1.04	620	0.24
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	1	<1	390	0.34
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	1	<2	<6	<6.5	<1	<1	<2	<1	0.66	0.05
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	1.1	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	<1	0.065
	08/30/01	<0.5	<1	0.47	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	0.016
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	<0.51	<0.002
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	<0.21	<0.005
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.52	0.0047
	05/22/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.52	0.0047
CEF-103-SMW11	03/20/00	1.9	3.8	51	220	<1.5	<2	250	<13	52	<6.5	<5.5	26	<1.5	28	24	17	<1	<1	96	20.6	3600	0.054
	09/28/00	1.9	<5.5	2.9	12	<1.5	<2	12	<13	4.1	<6.5	<5.5	1.2	<1.5	1.2	<6	1.2	<1	<1	3.7	2.2	7800	0.051
	12/20/00	<2	<5.5	20	10	1.23	0.78	87	<13	22	<6.5	<5.5	8	<1.5	8.3	9.6	5.9	6	5	31	11	15000	0.14
	03/27/01	<1	<5.5	10	14	<1.5	<2	46	<13	11	<6.5	<5.5	5.6	<1.5	5.4	4.1	5.4	3.16	2.17	17	2.74	20	0.032
	05/23/01	1	<5.5	23	29	<1.5	<2	61	<13	14	<6.5	<5.5	11	1	11	4.2	5.8	10.9	7.88	37	18.4	6.4	0.037
	08/30/01	<0.5	<1.0	10	17.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2	0.74	NA	3.6	20	<0.03
	10/10/01	0.32	<40	36	50.5	<70	<70	100	0.56	21	<2.7	<0.39	15	<5	16	5	6	NA	NA	76	NA	NA	NA
	11/27/01	0.42	0.19	44	36	<1	<1	123	<0.56	13	<1	<0.46	18	<2	18	8.3	9.4	12	10	83	19	20	<0.01
	02/26/02	0.32	0.28	39	36.5	<1	<1	78.9	<1	8.4	<1	<1	18.4	<1	17.7	7.9	8.7	19.2	11.9	64.6	20.7	6.2	<0.005
	05/22/02	<1	<1	3.2	0.59 J	<1	<1	0.6 J	<0.56	0.7 J	<1	<0.46	2.3	<2	1.6	2.3	1.6	1.1	1.1	5.4	2.3	1.5	<0.005
	05/22/02	<1	<1	3.2	0.59 J	<1	<1	0.6 J	<0.56	0.7 J	<1	<0.46	2.3	<2	1.6	2.3	1.6	1.1	1.1	5.4	2.3	1.5	<0.005

TABLE 3-5

Groundater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-SMW12	03/20/00	<2	<5.5	<3	2.3	<1.5	<2	4	<13	1.4	<6.5	<5.5	<2.5	3.7	<2	<6	<6.5	<1	<1	6.3	<1.0	700	0.074
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<1	<1	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<1	<1	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.51	<5.5	<2.5	1.2	<2	<6	<6.5	<1	<1	1.1	<1	1.1	0.031
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	0.23	<1	<0.21	<0.21	0.0119
CEF-103-DMW01	03/20/00	<2	<5.5	<3	1.8	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	<2	<1.0	480	<0.01
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	1.3	<5.5	<2.5	1.1	<2	<6	<6.5	<1	<1	<2	<1	<1	<.01
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05/21/02	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	>0.21	<0.005
GCTL		1	40	30	20	70	70	10	0.2	10	2.7	0.5	0.8	5	---	---	---	20	20	20	20	5000	15
NADSC		100	400	300	200	700	700	100	20	100	270	50	8	500	---	---	---	200	200	200	200	50000	150

NOTES:

1. All results in ug/L except FL PRO and lead are in mg/L
2. NA = not analyzed
3. NS = not sampled
4. Shade = concentration is above groundwater cleanup target levels (GCTLs)

TABLE 3-6
Monitoring Well Field Measurements

Well Identification	Date/Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	Temperature (^oC)
CEF-103-SMW-01	03/20/00	6.29	0.915	9.33	23.3
	09/28/00	6.87	0.712	2.25	26.4
	12/20/00	6.50	0.520	1.8	21.6
	03/27/01	7.10	0.730	0.7	20
	05/23/01	5.70	0.485	3.07	22.5
	08/30/01	8.81	0.654	NR	26.8
	11/27/01	8.68	0.535	1.42	24.3
	02/26/02	7.63	0.553	1.61	20.2
	05/21/02	6.77	0.633	1.72	24.4
CEF-103-SMW-02	03/20/00	6.09	0.945	8.81	22.4
	09/28/00	6.46	0.934	2.07	27.3
	12/20/00	6.61	0.720	2.1	22.4
	03/27/01	7.20	0.670	2.5	20
	05/23/01	6.24	0.599	3.66	21.7
	08/30/01	7.31	0.761	NR	27.1
	11/27/01	8.89	0.052	3.15	24.4
	02/26/02	7.78	0.588	1.08	20.8
	05/21/02	6.54	0.621	1.28	24.4
CEF-103-SMW-03	03/20/00	6.40	0.806	9.4	22.6
	09/28/00	5.92	0.665	5.74	26.5
	12/20/00	4.30	0.667	4.42	22.3
	03/27/01	7.10	0.740	6.3	21
	05/23/01	5.60	0.652	5.8	23
	08/30/01	9.54	0.500	NR	26.5
	11/27/01	NR	NR	NR	NR
	02/26/02	8.61	0.371	5.81	20.3
	05/22/02	NR	NR	NR	NR
CEF-103-SMW-04	03/20/00	6.27	0.758	9.19	23.2
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	6.49	0.653	3.59	24.8
	08/30/01	10.65	0.611	NR	27.6
	11/27/01	9.10	0.275	5.17	26.2
	02/26/02	8.31	0.330	6.16	21.8
	05/22/02	6.81	0.507	3.76	24.1
CEF-103-SMW-05	03/20/00	6.57	1.120	8.93	23.1
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	6.86	0.610	2.67	23.8
	08/30/01	9.85	0.581	NR	27.4
	11/27/01	9.71	0.430	4.56	24.8
	02/26/02	8.69	0.459	4.1	20.7
	05/21/02	7.59	0.531	5.4	25.8
CEF-103-SMW-06	03/20/00	5.95	0.750	9.25	20.5
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	3.06	1.620	2.61	21.5
	08/30/01	2.47	0.868	NR	26.1
	11/27/01	3.68	2.290	2.77	23.3
	02/26/02	3.69	0.819	2.82	19.8
	05/22/02	3.27	2.360	2.76	23.3

TABLE 3-6
Monitoring Well Field Measurements

Well Identification	Date/Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	Temperature (^oC)
CEF-103-SMW-07	03/20/00	5.78	0.940	9.63	20.9
	09/28/00	6.88	0.194	3.67	26.2
	12/20/00	6.30	0.210	3.2	20.6
	03/27/01	7.10	0.260	4.2	19
	05/23/01	5.95	0.249	4.73	21.5
	08/30/01	8.10	0.195	NR	26.1
	11/27/01	7.51	0.156	6.64	23.4
	02/26/02	7.44	0.169	3.67	19.5
	05/22/02	6.51	0.250	2.93	23.4
CEF-103-SMW-08	03/20/00	6.23	0.662	9.84	21.8
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	5.98	0.310	0.23	21.3
	08/30/01	NR	NR	NR	NR
	11/27/01	NR	NR	NR	NR
	02/26/02	NR	NR	NR	NR
	05/22/02	6.35	0.367	1.8	24.1
CEF-103-SMW-09	03/20/00	5.72	0.823	8.99	21.3
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	5.50	0.339	1.89	21.8
	08/30/01	NR	NR	NR	NR
	11/27/01	NR	NR	NR	NR
	02/26/02	NR	NR	NR	NR
	05/22/02	5.82	0.391	1.2	23.7
CEF-103-SMW-10	03/20/00	5.43	0.197	9.4	20.7
	09/28/00	5.25	0.350	0.9	25
	12/20/00	4.32	0.380	2.5	19.3
	03/27/01	7.00	0.180	2.5	18
	05/23/01	4.05	0.514	4.63	20.6
	08/30/01	4.94	0.641	NR	24.8
	11/27/01	6.93	0.382	2.92	22.8
	02/26/02	4.66	0.303	1.07	18.5
	05/22/02	4.55	0.709	0.84	22.4
CEF-103-SMW-11	03/20/00	6.33	0.960	9.61	22.6
	09/28/00	6.82	0.816	2	27.3
	12/20/00	6.89	1.070	0.11	22.1
	03/27/01	7.20	1.300	2.2	21
	05/23/01	6.45	0.696	1.63	24.1
	08/30/01	11.41	1.150	NR	27.6
	11/27/01	8.83	0.729	0.66	24.9
	02/26/02	7.83	0.642	0.71	20.9
	05/22/02	6.81	0.537	2.1	23.8
CEF-103-SMW-12	03/20/00	5.72	0.615	9	22.6
	09/28/00	NR	NR	NR	NR
	12/20/00	NR	NR	NR	NR
	03/27/01	NR	NR	NR	NR
	05/23/01	5.71	0.464	4.39	22.3
	08/30/01	NR	NR	NR	NR
	11/27/01	NR	NR	NR	NR
	02/26/02	NR	NR	NR	NR
	05/21/02	6.58	0.569	2.89	24.8

NR = no reading taken

4.0 Conclusions and Recommendations

The deep monitoring well and all of the shallow monitoring wells, except CEF-103-SMW-11, are located within the treatment zone of the AS system. The contaminant concentrations for these monitoring wells have remained below the FDEP GCTLs for all constituents since September 2000.

Shallow monitoring well CEF-103-SMW-11 is the eastern most monitoring well and is located outside the treatment zone of the AS system. This well has exhibited decreases in contaminant concentrations but as of the February 26, 2002, sampling event concentrations of 1-2-4-trimethylbenzene (78.9 µg/L), isopropylbenzene (18.4 µg/L), naphthalene (20.7 µg/L), ethylbenzene (39 µg/L), and total xylenes (36.5 µg/L) exceeded the GCTLs (10 µg/L, 0.8 µg/L, 20 µg/L, 30 µg/L, and 20 µg/L, respectively).

During April 2002, the AS system was extended to include the CEF-103-SMW-11 area by installing two AS wells located east and west of CEF-103-SMW-11. Injection began on May 2, 2002.

The May 22, 2002, groundwater sampling analytical results for CEF-103-SMW-11 showed that contaminant concentrations have decreased due to the new AS injection wells. All contaminants were below the FDEP GCTLs except isopropylbenzene (2.3 µg/L), which exceeded the GCTL (0.8 µg/L) but was below the FDEP Natural Attenuation Default Source Criteria (8 µg/L).

A recommendation by CCI/J.A. Jones to deactivate the SVE system and to partially deactivate the AS system was approved by the FDEP. The approval grants permission to deactivate the SVE system and AS wells AS-1 through AS-5 and AS-11 though AS-20, and to continue to operate the AS wells in the vicinity of CEF-103-SMW-11. A copy of the CCI/J.A. Jones request and the FDEP approval letter are included in Appendix D. The SVE system and the specified AS wells will be deactivated during the next quarter.

Groundwater monitoring will continue on a quarterly basis for monitoring wells CEF-103-SMW-01, CEF-103-SMW-02, CEF-103-SMW-03, CEF-103-SMW-04, CEF-103-SMW-05, CEF-103-SMW-06, CEF-103-SMW-07, CEF-103-SMW-10, and CEF-103-SMW-11. Groundwater monitoring will continue on an annual basis for CEF-103-SMW-08, CEF-103-SMW-09, CEF-103-SMW-12, and deep monitoring well CEF-103-DMW-01. All wells will be sampled for VOCs by USEPA Method 8260B, semi-volatile organic compounds by USEPA Method 8310, lead by USEPA Method 6010B, and TRPH by the FL PRO Method.

When all groundwater contaminant concentrations in monitoring well CEF-103-SMW-11 are below the FDEP GCTLs for two consecutive quarters, the AS system will be discontinued and a Post-Active Remediation Monitoring Plan will be submitted to FDEP for approval.

5.0 References

CH2M HILL Constructors, Inc. February 2000. Work Plan Addendum No. 01, 103rd Street and "A" Avenue Jet Fuel Transfer Pipeline Air Sparge and Soil Vapor Extraction System Installation, Naval Air Station Cecil Field, Jacksonville, Florida.

Tetra Tech NUS, Inc. (TtNUS). August 1999. Remedial Action Plan, "A" Avenue Jet Fuel Transfer Pipeline and 103rd Street, Naval Air Station Cecil Field, Jacksonville, Florida.

Appendix A

FDEP Annual Status Report Form

Active Remediation
Annual Status Report Summary

DEP Form # 62-770.900(5)
Form Title: Active Remediation Annual Status Report Summary
Effective Date: September 23, 1997

Site Name 103rd St & "A" Ave Jet Fuel Transfer Pipelin
Location Former NAS Cecil Field
RAP Approval Date / /
Media Contaminated: ☑ Groundwater ☑ Soil

FDEP Facility ID No. _____
Applicable Dates 6 /1 /1 to 5 /31/2
System Startup Date 5 /23/0

Method of Groundwater Remediation:

☐ Pump-and-Treat
- Design Flow Rate _____ (gpm)
- Actual Flow Rate _____ (gpm)
- Total Vol. Recovered to Date _____ (1000 gal)

☑ In Situ Air Sparging
- Design Air Flow Rate 220 scfm (cfm)
- Actual Air Flow Rate N/A (cfm)
- Estimated Radius of Influence 30 (ft)

☐ Biosparging
- Design Flow Rate _____ (gpm)
- Actual Flow Rate _____ (gpm)

☐ Bioremediation
☐ Other _____

Estimated Total Mass Recovered or Remediated This Period: 0.51 (lbs)
- Mass Removed by Pump-and-Treat _____ (lbs)
- Mass Removed by VES and/or AS 0.51 (lbs)
- Mass Removed by FP Recovery _____ (lbs)
- Other Estimated Mass Removed _____ (lbs)
  (specify method: _____)

Concentration of Total VOAs in Designated Wells at End of:

	This Period	Previous Period
MW-4	0 ppb	3.5 ppb
MW-5	0 ppb	1.1 ppb
MW-6	0 ppb	1.5 ppb
MW-11	12.9 ppb	160 ppb

Method of Soil Remediation:

☑ Vapor Extraction System (VES)
- Design Air Flow Rate 350 scfm (cfm)
- Actual Air Flow Rate 602.6 scfm (cfm)
- Estimated Radius of Influence 15 (ft)
- Air Emissions Treatment
  ☑ Discontinued / date 2 /8 /1 ☐ Ongoing

☐ Soil Bioventing
- Design Air Flow Rate _____ (cfm)
- Actual Air Flow Rate _____ (cfm)

☐ In Situ Bioremediation
☐ Other _____

Free Product Present: ☐ Yes ☑ No
- Volume Recovered to Date _____ (gal)

Estimated Time of Cleanup for Active Remediation: 1,048 (days)
- Estimated time of cleanup based on target level concentration C and on the exponential decay equation, $C_1 = C_0 e^{xt_1}$, where C_1 = present concentration at the most contaminated source well (ppb); C_0 = highest initial concentration of applicable chemical of concern at system startup (ppb); x = decay coefficient; and t_1 = length of time between initial and present concentration (days). A semi-log plot for cleanup times should be provided.

Cleanup Time Predicted in RAP: 730 (days) [explain below, difference between RAP and calculated]

O & M Problems: ☑ Yes ☐ No (if yes, provide explanation below)
- No. of scheduled O & M visits weekly
- Down-time AS: 91, SVE: 100 (days)
- No. of unscheduled O & M visits _____

Description of O & M Problems: Water drawn into SVE wells due to high water table and low topography, problem has been solved.

Short Description of Effectiveness of Cleanup: COC concentrations have decreased below GCTLs in all wells except for isopropylbenzene in CEF-103-SMW-11. CEF-103-SMW-11 was outside of the influence of the treatment system until May 2, 2002. Calculated cleanup time is based on isopropylbenzene in CEF-103-SMW-11.

Recommendations and Proposed Modifications: Continue to operate air sparge system now that the treatment influence has been extended to include the CEF-103-SMW-11 area.

Appendix B

Laboratory Analytical Reports for Air Samples

SEVERN TRENT SERVICES
STL Pensacola

CASE NARRATIVE

STL Order Number: C106513
Project: CH2M Constructors, Inc. (CCI)
CTO-0062, NAS Cecil Field 103rd St.

STL Sample ID	Client Sample ID
062-SVE-E-A-0615-01-13	C106513-1

The above samples were received in good condition at STL Pensacola on June 19, 2001.

Rick Hayes
Senior Project Manager

7/2/01

CCI NAVY RAC PMO
JUL 3 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-06513
Received: 19 JUN 01
Reported: 29 JUN 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CECIL FIELD 103RD MONTHLY
Sampled By: Client
Code: 171510629

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
06513-1	062-SVE-E-A-0615-01-13	06-15-01/14:20

PARAMETER	06513-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	<0.060
Bromodichloromethane, mg/m3	<0.060
Bromoform, mg/m3	<0.060
Bromomethane (Methyl bromide), mg/m3	<0.060
Carbon disulfide, mg/m3	<0.060
Carbon tetrachloride, mg/m3	<0.060
Chlorobenzene, mg/m3	<0.060
Chloroethane, mg/m3	<0.060
Chloroform, mg/m3	<0.060
Chloromethane (Methyl chloride), mg/m3	<0.060
2-Chlorotoluene, mg/m3	<0.060
Dibromochloromethane, mg/m3	<0.060
1,2-Dibromoethane (EDB), mg/m3	<0.060
1,2-Dichlorobenzene, mg/m3	<0.060
1,3-Dichlorobenzene, mg/m3	<0.060
1,4-Dichlorobenzene, mg/m3	<0.060
trans-1,4-Dichloro-2-butene, mg/m3	<0.060
Dichlorodifluoromethane, mg/m3	<0.060
1,1-Dichloroethane, mg/m3	<0.060
1,2-Dichloroethane, mg/m3	<0.060
1,1-Dichloroethene, mg/m3	<0.060
cis-1,2-Dichloroethene, mg/m3	<0.060
trans-1,2-Dichloroethene, mg/m3	<0.060
1,2-Dichloropropane, mg/m3	<0.060
cis-1,3-Dichloropropene, mg/m3	<0.060

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-06513
Received: 19 JUN 01
Reported: 29 JUN 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CECIL FIELD 103RD MONTHLY
Sampled By: Client
Code: 171510629

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
06513-1	062-SVE-E-A-0615-01-13	06-15-01/14:20

PARAMETER	06513-1
trans-1,3-Dichloropropene, mg/m3	<0.060
Dichlorotetrafluoroethane, mg/m3	<0.060
Ethylbenzene, mg/m3	<0.060
Hexane, mg/m3	<0.060
4-Ethyltoluene, mg/m3	<0.060
Hexachlorobutadiene, mg/m3	<0.060
Methylene chloride (Dichloromethane), mg/m3	<0.060
Methyl t-butyl ether (MTBE), mg/m3	<0.060
Styrene, mg/m3	<0.060
1,1,2,2-Tetrachloroethane, mg/m3	<0.060
Tetrachloroethene, mg/m3	<0.060
Toluene, mg/m3	<0.060
1,2,4-Trichlorobenzene, mg/m3	<0.060
1,1,1-Trichloroethane, mg/m3	<0.060
1,1,2-Trichloroethane, mg/m3	<0.060
Trichloroethene, mg/m3	<0.060
Trichlorofluoromethane, mg/m3	<0.060
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	<0.060
1,2,4-Trimethylbenzene, mg/m3	<0.060
1,3,5-Trimethylbenzene, mg/m3	<0.060
Vinyl chloride, mg/m3	<0.060
o-Xylene, mg/m3	<0.060
m&p-Xylene, mg/m3	<0.12
Surrogate - 1,2-Dichloroethane-d4	98 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	103 %

002

SEVERN TRENT SERVICES

STL Pensacola

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Received: 19 JUN 01
Reported: 29 JUN 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CECIL FIELD 103RD MONTHLY
Sampled By: Client
Code: 171510629

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
06513-1	062-SVE-E-A-0615-01-13	06-15-01/14:20

PARAMETER	06513-1
Dilution Factor	1
Analysis Date	06.25.01
Analysis Time	16:54
Batch ID	MAB135
Prep Method	MOD-TO14
Analyst	BDH

003

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-06513
Received: 19 JUN 01
Reported: 29 JUN 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CECIL FIELD 103RD MONTHLY
Sampled By: Client
Code: 17321082

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
06513-2	Method Blank		C106513
06513-3	Lab Control Standard True Value		C106513
06513-4	Lab Control Standard Result		C106513
06513-5	Lab Control Standard % Recovery		C106513
06513-6	LCS Accuracy Control Limit (%R)		C106513

PARAMETER	06513-2	06513-3	06513-4	06513-5	06513-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	<0.030	0.500	0.516	103 %	87-116
Bromodichloromethane, mg/m3	<0.030	---	---	---	---
Bromoform, mg/m3	<0.030	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	<0.030	---	---	---	---
Carbon disulfide, mg/m3	<0.030	---	---	---	---
Carbon tetrachloride, mg/m3	<0.030	---	---	---	---
Chlorobenzene, mg/m3	<0.030	0.500	0.514	103 %	88-111
Chloroethane, mg/m3	<0.030	---	---	---	---
Chloroform, mg/m3	<0.030	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	<0.030	---	---	---	---
2-Chlorotoluene, mg/m3	<0.030	---	---	---	---
Dibromochloromethane, mg/m3	<0.030	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	<0.030	---	---	---	---
1,2-Dichlorobenzene, mg/m3	<0.030	---	---	---	---
1,3-Dichlorobenzene, mg/m3	<0.030	---	---	---	---
1,4-Dichlorobenzene, mg/m3	<0.030	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	<0.030	---	---	---	---

SEVERN TRENT SERVICES

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Client PO. No.: 2916

Contract No.: CT0-0062
Project: CECIL FIELD 103RD MONTHLY
Sampled By: Client
Code: 17321082

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
06513-2	Method Blank		C106513
06513-3	Lab Control Standard True Value		C106513
06513-4	Lab Control Standard Result		C106513
06513-5	Lab Control Standard % Recovery		C106513
06513-6	LCS Accuracy Control Limit (%R)		C106513

PARAMETER	06513-2	06513-3	06513-4	06513-5	06513-6
Dichlorodifluoromethane, mg/m3	<0.030	---	---	---	---
1,1-Dichloroethane, mg/m3	<0.030	---	---	---	---
1,2-Dichloroethane, mg/m3	<0.030	---	---	---	---
1,1-Dichloroethene, mg/m3	<0.030	0.500	0.448	90 %	58-138
cis-1,2-Dichloroethene, mg/m3	<0.030	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	<0.030	---	---	---	---
1,2-Dichloropropane, mg/m3	<0.030	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	<0.030	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	<0.030	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	<0.030	---	---	---	---
Ethylbenzene, mg/m3	<0.030	---	---	---	---
Hexane, mg/m3	<0.030	---	---	---	---
4-Ethyltoluene, mg/m3	<0.030	---	---	---	---
Hexachlorobutadiene, mg/m3	<0.030	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	<0.030	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	<0.030	---	---	---	---
Styrene, mg/m3	<0.030	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	<0.030	---	---	---	---
Tetrachloroethene, mg/m3	<0.030	---	---	---	---
Toluene, mg/m3	<0.030	0.500	0.524	105 %	86-113

SEVERN TRENT SERVICES

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
06513-2	Method Blank		C106513
06513-3	Lab Control Standard True Value		C106513
06513-4	Lab Control Standard Result		C106513
06513-5	Lab Control Standard % Recovery		C106513
06513-6	LCS Accuracy Control Limit (%R)		C106513

PARAMETER	06513-2	06513-3	06513-4	06513-5	06513-6
1,2,4-Trichlorobenzene, mg/m3	<0.030	---	---	---	---
1,1,1-Trichloroethane, mg/m3	<0.030	---	---	---	---
1,1,2-Trichloroethane, mg/m3	<0.030	---	---	---	---
Trichloroethene, mg/m3	<0.030	0.500	0.518	104 %	85-116
Trichlorofluoromethane, mg/m3	<0.030	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	<0.030	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	<0.030	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	<0.030	---	---	---	---
Vinyl chloride, mg/m3	<0.030	---	---	---	---
o-Xylene, mg/m3	<0.030	---	---	---	---
m&p-Xylene, mg/m3	<0.060	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	104 %	0.500	0.516	103 %	61-140
Surrogate - Toluene-d8	102 %	0.500	0.510	102 %	90-119
Surrogate - 4-Bromofluorobenzene	96 %	0.500	0.482	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	06.25.01	---	06.25.01	---	---
Prep Time	12:07	---	12:45	---	---
Analysis Date	06.25.01	---	06.25.01	---	---
Analysis Time	12:07	---	12:45	---	---
Batch ID	MAB135	MAB135	MAB135	MAB135	MAB135
Prep Method	METHOD	---	METHOD	---	---
Analyst	BDH	---	BDH	---	---

Rick Hayes

Rick Hayes, Project Manager (BDH)

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C106513 Date Received: 6-19-01

1. Was there a Chain of Custody? (Yes) No♣
2. Was Chain of Custody properly filled out and relinquished? (Yes) No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No♣ (N/A)
4. Were all samples properly labeled and identified? (Yes) No♣
5. Did samples require splitting or compositing♦? Yes♣ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No♣
7. Were all sample containers received intact? (Yes) No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ (N/A)
9. Is there sufficient volume for analysis requested? Yes No♣ (N/A) *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) Yes No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No♣ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ (N/A)

Airbill Number(s): 7915 8908 2892

Shipped By: Fed Ex

Cooler Number(s): 281, 101, 058, 117

Shipping Charges: N/A

Cooler Weight(s): 23#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

multiple project

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 6-19-01 **Logged By:** PKE **Date:** 6/19/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 : Fax No (770) 604-9282

C106513

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-003

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Jeff Wilmoth CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0615-01-13	SVE Effluent	AIR	06/15/01	14:20	III/C	14 Day	1										Grab	Summa Canister	281
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Scott Sloan
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #7915-8908-2892

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Bill Canelos [signature]	6/18/01	11:00	Federal Express TRK #7915-8908-2892	6/18/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			DOVETTE HOWARD Dovette Howard	6-19-01	0854
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

008

C 106513

PLEASE FOLD THIS SHIPPING DOCUMENT IN HALF AND PLACE IT IN A WAYBILL POUCH AFFIXED TO YOUR SHIPMENT SO THAT THE BAR-CODE PORTION OF THE LABEL CAN BE READ AND SCANNED.
***WARNING: USE ONLY THE PRINTED ORIGINAL LABEL FOR SHIPPING. USING A PHOTOCOPY OF THIS LABEL FOR SHIPPING PURPOSES IS FRAUDULENT AND COULD RESULT IN ADDITIONAL BILLING CHARGES, ALONG WITH THE CANCELLATION OF YOUR FEDEX ACCOUNT NUMBER.

FROM: Bill Canelos (904)777-4812
J.A. Jones Envr. Services, Inc.
6219 Authority Avenue

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

TO: Rick Hayes (850)474-1001
Severn Trent Laboratories
3355 McLemore Drive

Pensacola, FL 32514-

SHIP DATE: 18JUN01
MAN-WGT: 25 LBS

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4999455 **PRIORITY OVERNIGHT** **TUE**
AA

TRK # **7915 8908 2892** FORM 0201 **BFM** Deliver By: 19JUN01

32514-FL-US **XB PNSA**

009

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags **are limited to** X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

STL PENSACOLA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water)

Louisiana Department of Environmental Quality, Environmental Laboratory Accreditation Program, Agency Interest ID 30748 (Environmental - Accreditation Pending)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Drinking Water, Wastewater and Hazardous Waste by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 106513
PROJECT NAME: N.A.S. CECIL FIELD, 103rd Street

RECEIVED: June 19, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0615-01-13	106513-1	062SVE113

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
June 29, 2001

2A
AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 106512 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0625A.D Date Analyzed : 25 Jun 2001
Instrument ID : GC/MS Ins Time Analyzed : 11:30
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
65131	062SVE113\6513-	98	100	103	0	0	0	0
MA135ABK	VBLKMA/ DAILY M	104	102	96	0	0	0	0
MA135LCS	LCS/BATCH #135	103	102	96	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

014

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\MA135LCS.D Vial: 16
Acq On : 25 Jun 2001 12:45 Operator: BDH
Sample : LCS/BATCH #135 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jun 27 16:11:13 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	223.84	250.00	89.54	58 to 138%	[ ]
27)	M	Benzene	258.45	250.00	103.38	87 to 116%	[ ]
28)	M	Trichloroethene	258.79	250.00	103.51	85 to 116%	[ ]
33)	MC	Toluene	261.77	250.00	104.71	86 to 113%	[ ]
39)	MP	Chlorobenzene	256.96	250.00	102.78	88 to 111%	[ ]

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C106513

Lab File ID: MA135ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 6/25/01 Time Analyzed: 12:07

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS	LCS/BATCH #135 LCS 5	MA135LCS.D	12:45
02	062SVE113	062SVE113\6513-1 ST. 5	65131.D	16:54

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C106513

Lab File ID: MA127ABK.D BFB Injection Date: 6/19/01

Instrument ID: MARILYN BFB Injection Time: 8:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:43
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24
07	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM0625A.D	6/25/01	11:30

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 106513

Lab File ID: CM0625AT.D BFB Injection Date: 6/25/01

Instrument ID: MARILYN BFB Injection Time: 11:30

GC Column: CAP Heated Purge: (Y/N) N

M/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.5
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 95	0.0 (0.00)1
174	50.0 - 120.0% of mass 95	62.7
175	4.0 - 9.0% of mass 174	4.3 (6.8)1
176	93.0 - 101.0% of mass 174	61.9 (98.7)1
177	5.0 - 9.0% of mass 176	4.0 (6.5)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
1.	VSTD0250MA	VSTDMA/DAILY CAL	CM0625A.D	6/25/01	11:30
2.	VBLKMA	VBLKMA/DAILY METHOD	MA135ABK.D	6/25/01	12:07
3.	LCS	LCS/BATCH #135 LCS	MA135LCS.D	6/25/01	12:45
4.	062SVE113	062SVE113\6513-1 ST	65131.D	6/25/01	16:54

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Wed Jun 27 16:09:02 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------		
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------		
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------		
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

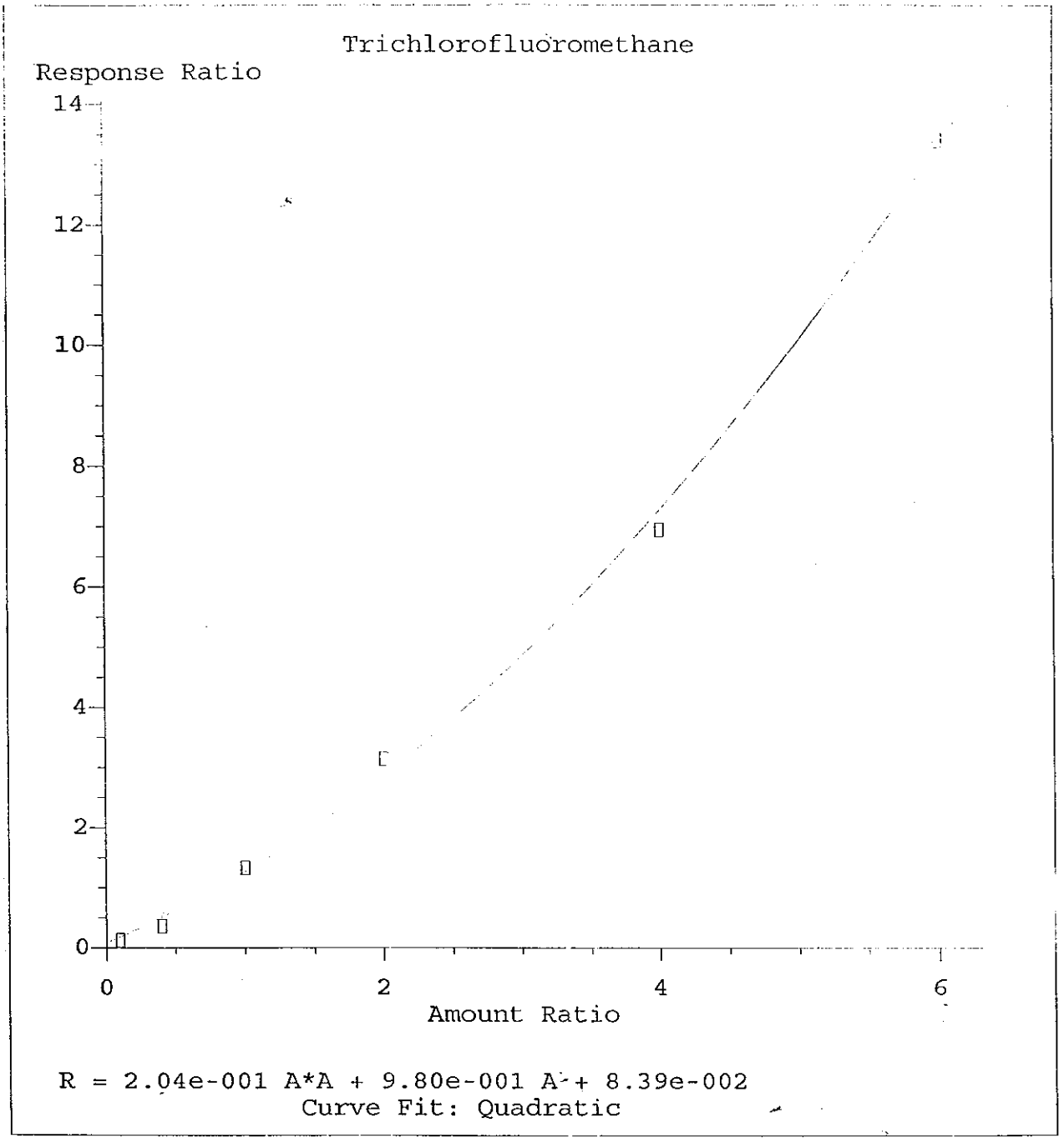
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Wed Jun 27 16:09:02 2001
Response via : Initial Calibration

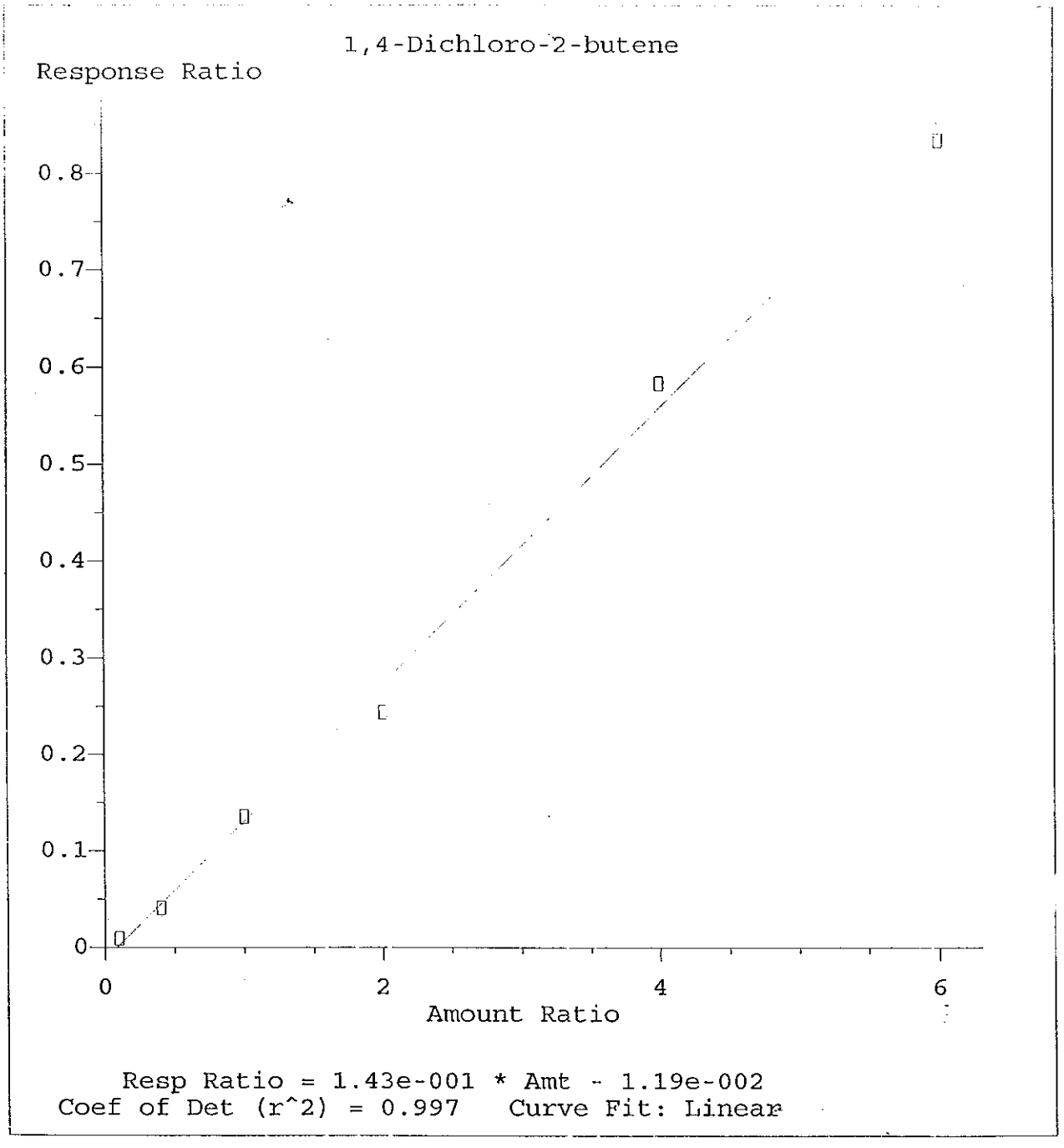
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Wed Jun 27 16:09:02 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Wed Jun 27 16:09:02 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Wed Jun 27 16:11:13 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	111	0.00
2		Dichlorodifluoromethane	5.221	4.690	10.2#	97	0.00
3		Dichlorotetrafluoroethane	1.746	1.604	8.1#	96	0.00
4	P	Chloromethane	1.056	1.168	-10.6#	129	0.00
5	C	Vinyl chloride	0.990	0.996	-0.6#	106	0.00
6		Bromomethane	1.432	1.398	2.4#	107	0.00
7		Chloroethane	0.635	0.640	-0.8	110	0.00
8		Trichlorofluoromethane	1.509	1.237	18.0#	103	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.935	1.3	105	0.00
10	MC	1,1-Dichloroethene	1.112	1.143	-2.8#	112	0.00
11		Iodomethane	0.000	0.000	0.0	134	0.00
12		Methylene chloride	1.996	2.037	-2.1#	110	0.00
13		Carbon disulfide	3.278	3.357	-2.4#	110	0.00
14		methyl-Tert-Butyl Ether	1.416	1.510	-6.6#	113	0.00
15		trans-1,2-Dichloroethene	1.191	1.209	-1.5	110	0.00
16		n-Hexane	1.373	1.311	4.5#	100	0.00
17	P	1,1-Dichloroethane	2.420	2.398	0.9	104	0.00
18		cis-1,2-Dichloroethene	2.017	2.018	-0.0	106	0.00
19	C	Chloroform	2.996	2.975	0.7#	105	0.00
20		Isooctane	4.704	0.000	100.0#	0#	-11.94#
21		1,1,1-Trichloroethane	2.533	2.496	1.5	105	0.00
22		Carbon tetrachloride	2.682	2.642	1.5	105	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.591	-1.5	112	0.00
24		1,2-Dichloroethane	1.735	1.755	-1.2	107	0.00
25		1,2-Dibromoethane	2.008	2.004	0.2	104	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	114	0.00
27	M	Benzene	0.782	0.784	-0.3	108	0.00
28	M	Trichloroethene	0.392	0.386	1.5	105	0.00
29	C	1,2-Dichloropropane	0.356	0.357	-0.3#	107	0.00
30		Bromodichloromethane	0.847	0.838	1.1	106	0.00
31		cis-1,3-Dichloropropene	0.511	0.501	2.0	105	0.00
32	S	Toluene-d8 SURR#2	0.808	0.820	-1.5	114	0.00
33	MC	Toluene	0.475	0.473	0.4#	107	0.00
34		trans-1,3-Dichloropropene	0.411	0.409	0.5	105	0.00
35		1,1,2-Trichloroethane	0.297	0.295	0.7	105	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	112	0.00
37		Tetrachloroethene	0.495	0.484	2.2#	104	0.00
38		Dibromochloromethane	0.696	0.684	1.7	103	0.00
39	MP	Chlorobenzene	0.897	0.892	0.6	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Wed Jun 27 16:11:13 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.362	1.6#	104	0.00
41		m,p-Xylene	0.467	0.467	0.0	106	0.00
42		o-Xylene	0.454	0.442	2.6#	103	0.00
43		Styrene	0.747	0.741	0.8	105	0.00
44	P	Bromoform	0.624	0.596	4.5#	98	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.611	-0.2	103	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.973	2.1#	109	0.00
47		1,4-Dichloro-2-butene	0.123	0.122	0.8	101	0.00
48		4-Ethyltoluene	1.262	1.207	4.4#	107	0.00
49		1,3,5-Trimethylbenzene	0.993	1.053	-6.0#	116	0.00
50		2-Chlorotoluene	1.329	1.339	-0.8	108	0.00
51		1,2,4-Trimethylbenzene	1.043	1.019	2.3#	103	0.00
52		1,3-Dichlorobenzene	0.788	0.770	2.3#	104	0.00
53		1,4-Dichlorobenzene	0.826	0.839	-1.6	107	0.00
54		1,2-Dichlorobenzene	0.719	0.721	-0.3	104	0.00
55		1,2,4-Trichlorobenzene	0.545	0.511	6.2#	99	0.00
56		Napthalene	0.625	0.634	-1.4	103	0.00
57		Hexachlorobutadiene	0.481	0.426	11.4#	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Wed Jun 27 16:11:13 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	111	0.00
2		Dichlorodifluoromethane	250.000	224.566	10.2#	97	0.00
3		Dichlorotetrafluoroethane	250.000	229.652	8.1#	96	0.00
4	P	Chloromethane	250.000	276.618	-10.6#	129	0.00
5	C	Vinyl chloride	250.000	251.562	-0.6#	106	0.00
6		Bromomethane	250.000	244.053	2.4#	107	0.00
7		Chloroethane	250.000	251.897	-0.8	110	0.00
8		Trichlorofluoromethane	250.000	247.396	1.0	103	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	246.801	1.3	105	0.00
10	MC	1,1-Dichloroethene	250.000	257.066	-2.8#	112	0.00
11		Iodomethane	-1.000	0.000	0.0	134	0.00
12		Methylene chloride	250.000	255.121	-2.0#	110	0.00
13		Carbon disulfide	250.000	255.967	-2.4#	110	0.00
14		methyl-Tert-Butyl Ether	250.000	266.554	-6.6#	113	0.00
15		trans-1,2-Dichloroethene	250.000	253.630	-1.5	110	0.00
16		n-Hexane	250.000	238.620	4.6#	100	0.00
17	P	1,1-Dichloroethane	250.000	247.765	0.9	104	0.00
18		cis-1,2-Dichloroethene	250.000	250.133	-0.1	106	0.00
19	C	Chloroform	250.000	248.233	0.7#	105	0.00
20		Isooctane	250.000	0.000	100.0#	0	-11.94#
21		1,1,1-Trichloroethane	250.000	246.361	1.5	105	0.00
22		Carbon tetrachloride	250.000	246.209	1.5	105	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.889	-1.6	112	0.00
24		1,2-Dichloroethane	250.000	252.975	-1.2	107	0.00
25		1,2-Dibromoethane	250.000	249.472	0.2	104	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	114	0.00
27	M	Benzene	250.000	250.753	-0.3	108	0.00
28	M	Trichloroethene	250.000	246.056	1.6	105	0.00
29	C	1,2-Dichloropropane	250.000	250.687	-0.3#	107	0.00
30		Bromodichloromethane	250.000	247.403	1.0	106	0.00
31		cis-1,3-Dichloropropene	250.000	245.250	1.9	105	0.00
32	S	Toluene-d8 SURR#2	250.000	253.607	-1.4	114	0.00
33	MC	Toluene	250.000	248.855	0.5#	107	0.00
34		trans-1,3-Dichloropropene	250.000	248.888	0.4	105	0.00
35		1,1,2-Trichloroethane	250.000	247.948	0.8	105	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	112	0.00
37		Tetrachloroethene	250.000	244.292	2.3#	104	0.00
38		Dibromochloromethane	250.000	245.457	1.8	103	0.00
39	MP	Chlorobenzene	250.000	248.431	0.6	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Wed Jun 27 16:11:13 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	245.403	1.8#	104	0.00
41		m,p-Xylene	500.000	499.684	0.1	106	0.00
42		o-Xylene	250.000	243.563	2.6#	103	0.00
43		Styrene	250.000	247.974	0.8	105	0.00
44	P	Bromoform	250.000	238.686	4.5#	98	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	250.516	-0.2	103	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.695	2.1#	109	0.00
47		1,4-Dichloro-2-butene	250.000	237.476	5.0#	101	0.00
48		4-Ethyltoluene	250.000	239.129	4.3#	107	0.00
49		1,3,5-Trimethylbenzene	250.000	265.221	-6.1#	116	0.00
50		2-Chlorotoluene	250.000	251.866	-0.7	108	0.00
51		1,2,4-Trimethylbenzene	250.000	244.265	2.3#	103	0.00
52		1,3-Dichlorobenzene	250.000	244.309	2.3#	104	0.00
53		1,4-Dichlorobenzene	250.000	253.897	-1.6	107	0.00
54		1,2-Dichlorobenzene	250.000	250.650	-0.3	104	0.00
55		1,2,4-Trichlorobenzene	250.000	234.461	6.2#	99	0.00
56		Napthalene	250.000	253.704	-1.5	103	0.00
57		Hexachlorobutadiene	250.000	221.348	11.5#	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C106513

Lab File ID (Standard): CM0625A.D Date Analyzed: 6/25/01

Instrument ID: MARILYN Time Analyzed: 11:30

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	351471	11.22	1452957	13.16	1086441	20.46
	UPPER LIMIT	702942	11.72	2905914	13.66	2172882	20.96
	LOWER LIMIT	175736	10.72	726479	12.66	543221	19.96
	EPA SAMPLE NO.						
01	VBLKMA	327706	11.25	1333001	13.19	1013399	20.49
02	LCS	329914	11.27	1302335	13.21	996099	20.50
03	062SVE113	280442	11.33	963901	13.25	753499	20.55

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

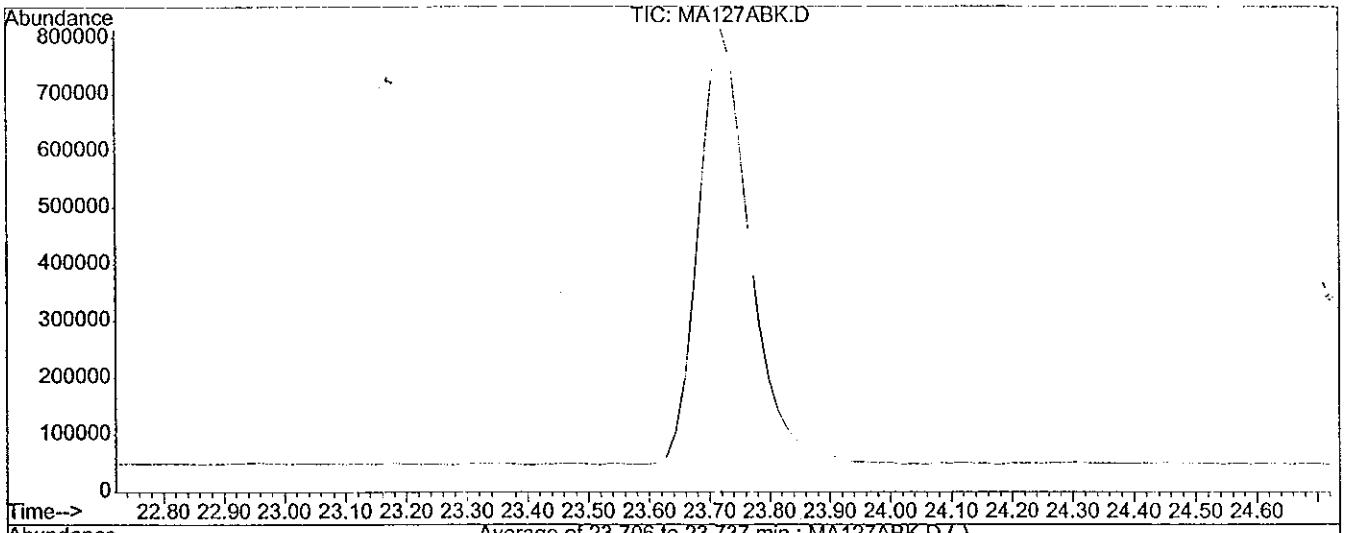
RT LOWER LIMIT = -0.50 minutes of internal standard RT

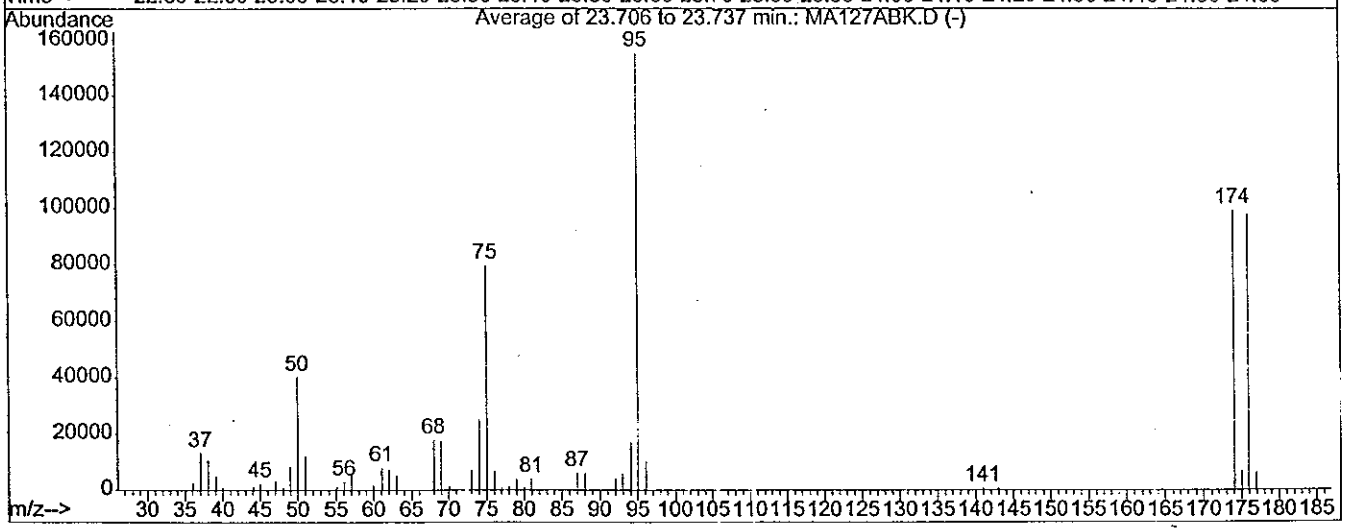
Column to be used to flag values outside QC limit with an asterisk.

* Values outside of contract required QC limits

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 1291 (23.72 min)
Average of 3 scans: 1290,1291,1292 minus background scan 1271 (23.41 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	40411	PASS
75	95	30	60	51.4	79813	PASS
95	95	100	100	100.0	155392	PASS
96	95	5	9	6.6	10199	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	63.8	99165	PASS
175	174	5	9	7.1	7032	PASS
176	174	95	101	98.7	97853	PASS
177	176	5	9	6.6	6444	PASS

Average of 23.706 to 23.737 min.: MA127ABK.D
DAILY METHOD BLANK
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	2775	51.00	12188	73.05	7356	92.05	4148
37.05	13329	55.05	1157	74.05	25459	93.00	5941
38.05	11007	56.05	3114	75.05	79813	94.05	17171
39.05	5165	57.05	5386	76.05	7034	95.05	155392
39.95	1112	59.95	2041	77.05	1290	96.10	10199
44.05	1227	61.05	8169	78.00	1265	140.95	830
45.00	2524	62.05	7638	78.95	3848	142.95	810
47.05	3329	63.05	5316	80.00	1197	174.05	99165
48.00	1205	68.00	17965	80.95	4112	175.05	7032
49.00	8819	69.00	17749	87.00	6268	175.95	97853
50.00	40411	70.05	1541	88.05	6005	176.95	6444

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00	ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00	ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00	ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80	ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.12%			
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36	ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%			
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%			

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00	ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00	ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00	ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80	ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.12%			
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36	ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%			
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%			

Target Compounds

						Qvalue
4) Chloromethane	4.33	50	2018	1.50	ng	# 46
20) Isooctane	11.92	57	16392	2.73	ng	# 7
27) Benzene	12.99	78	967	0.23	ng	# 54

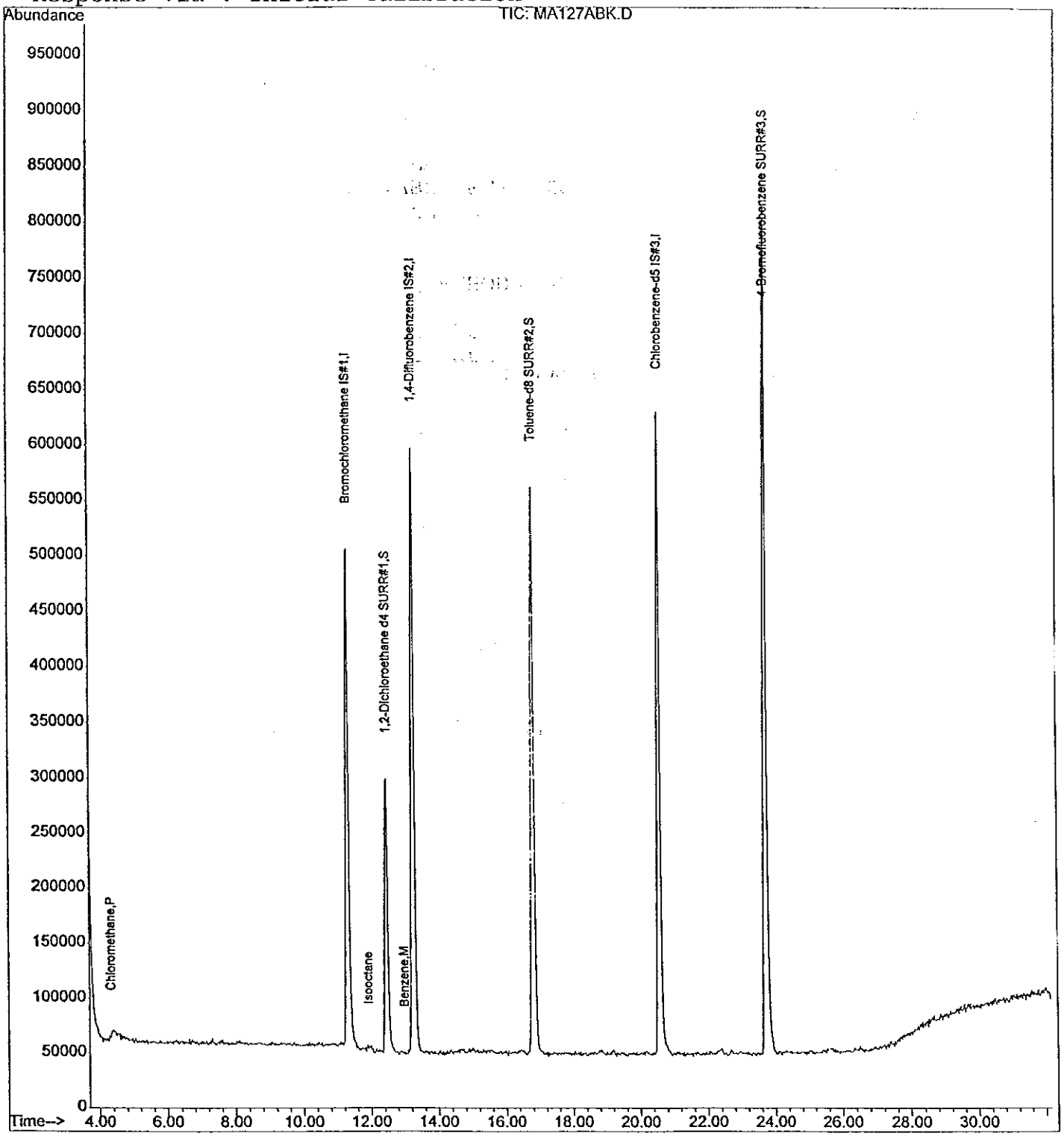
<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:01:25 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BH 6/19

Calibration Files

25	=CMA0025.D	250	=CMA0250.D	1500	=CMA1500.D
1000	=CMA1000.D	100	=CMA0100.D	500	=CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

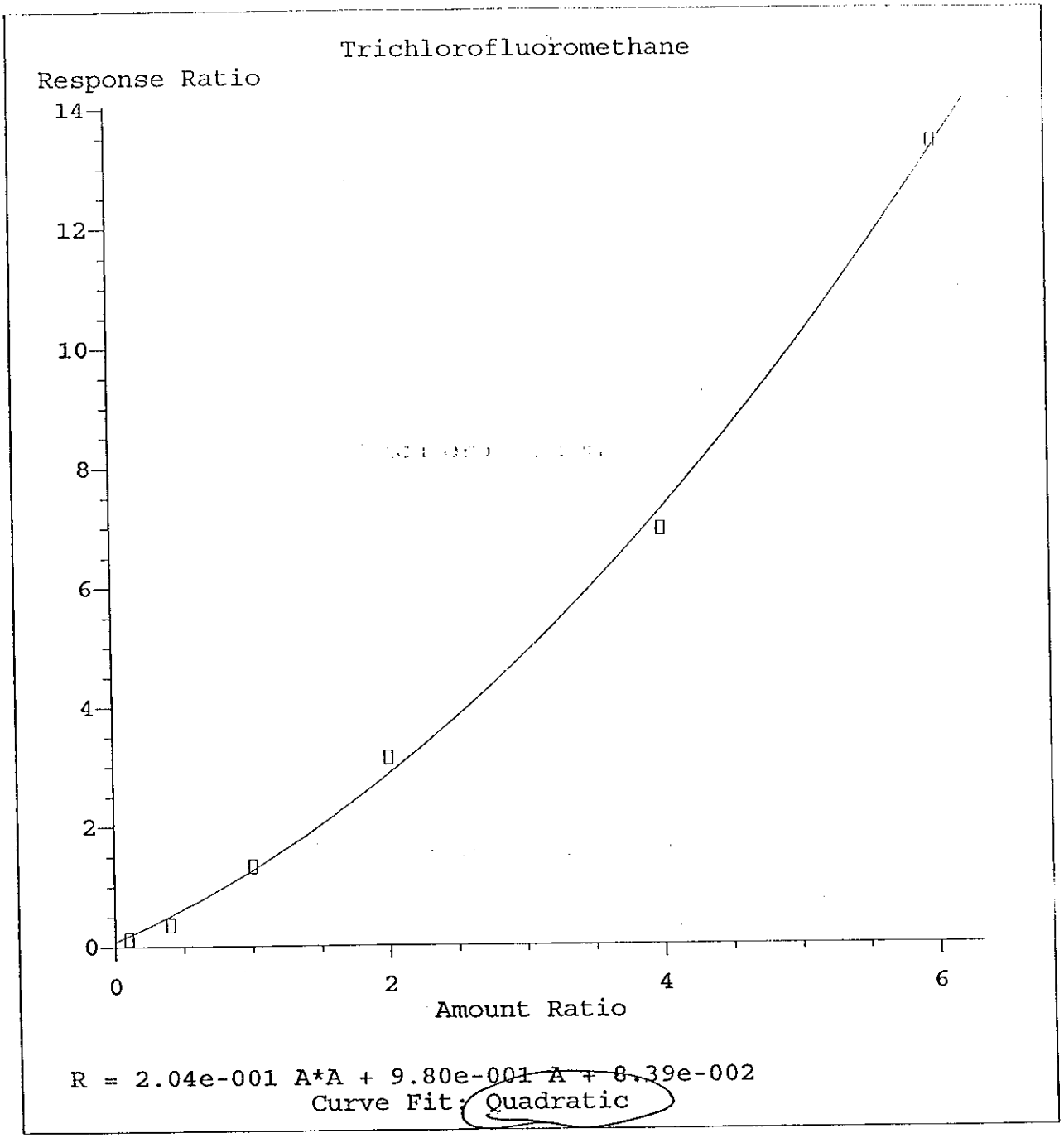
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

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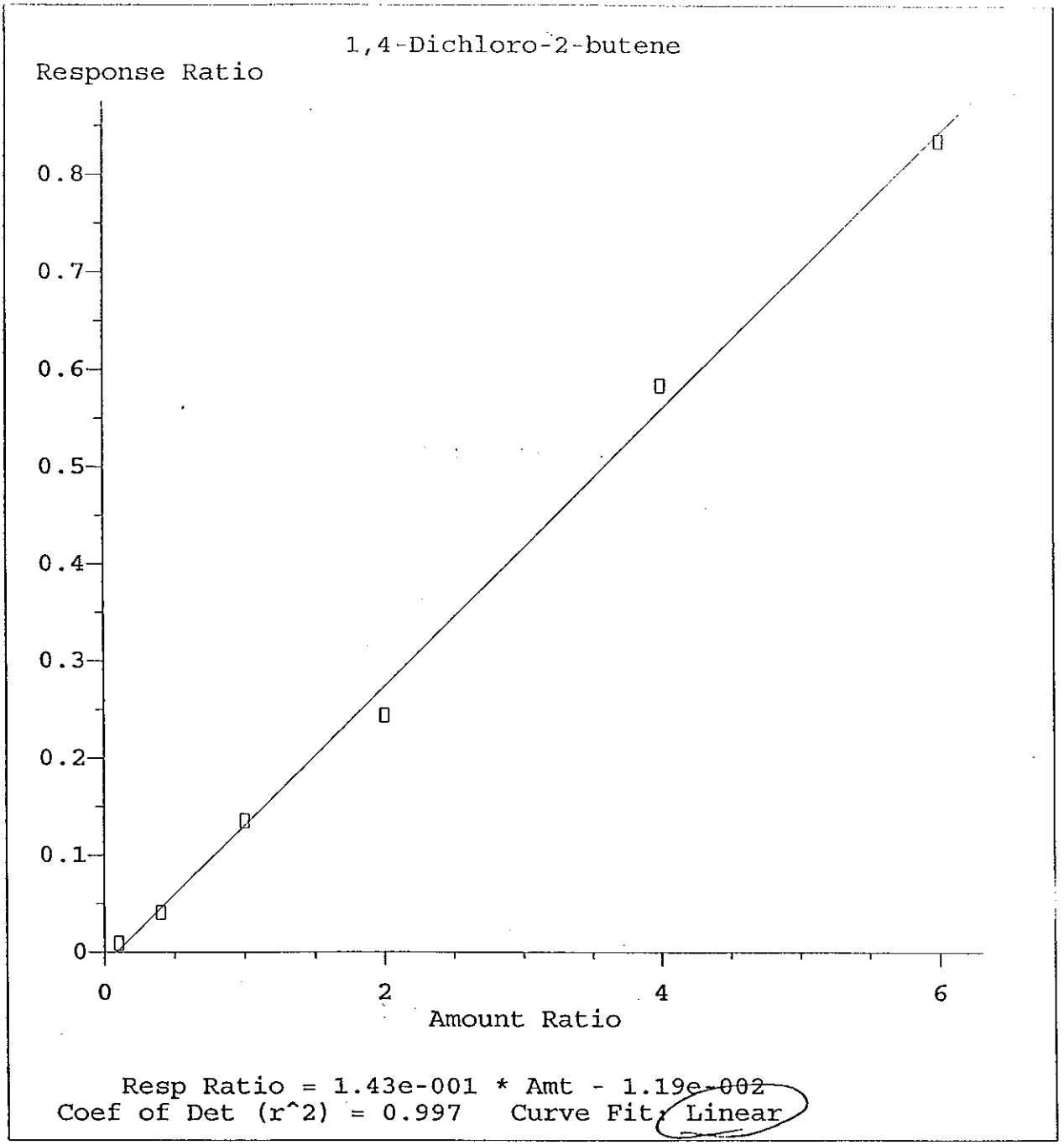
DH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

JH 6/19

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng	0.04 NA%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.62%						
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.76%						
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.04%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng	98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng #	16
4) Chloromethane	4.19	50	42696	34.20	ng #	86
5) Vinyl chloride	4.42	62	30452	26.33	ng #	83
6) Bromomethane	5.24	94	47587	27.70	ng #	86
7) Chloroethane	5.38	64	18304	23.46	ng #	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng	96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng	92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng	84
12) Methylene chloride	7.99	49	64996	25.56	ng #	76
13) Carbon disulfide	8.13	76	102700	25.44	ng	96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng #	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng	90
16) n-Hexane	8.67	57	51599	29.87	ng #	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng #	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng	93
19) Chloroform	10.99	83	94547	25.46	ng #	92
20) Isooctane	11.95	57	185751	26.14	ng	87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng #	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng	96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng #	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng	99
27) Benzene	12.77	78	107643	27.06	ng	98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

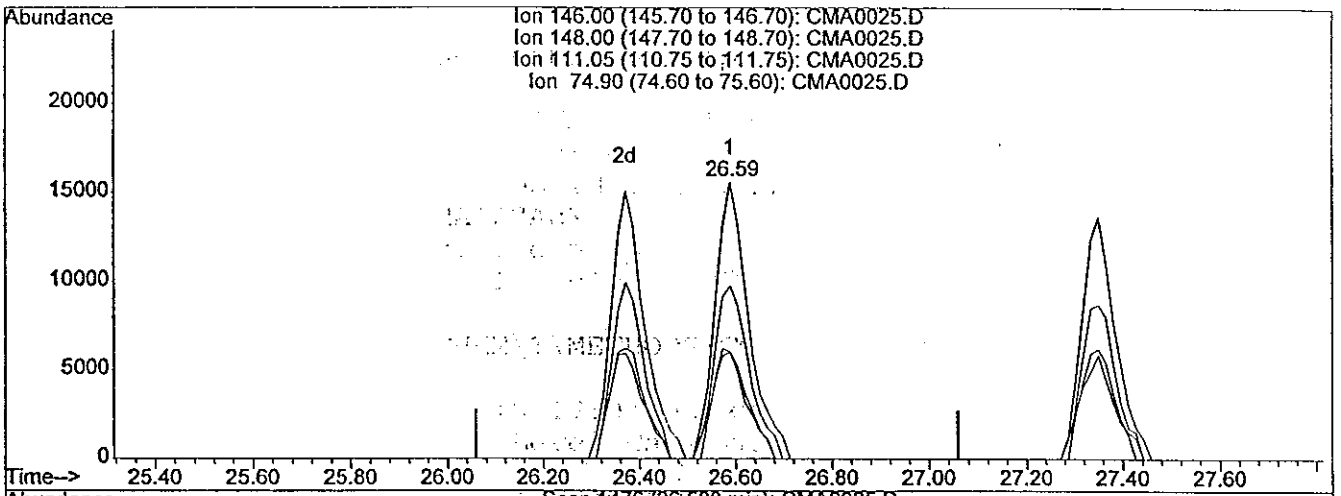
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.37	146	72784m	22.75 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

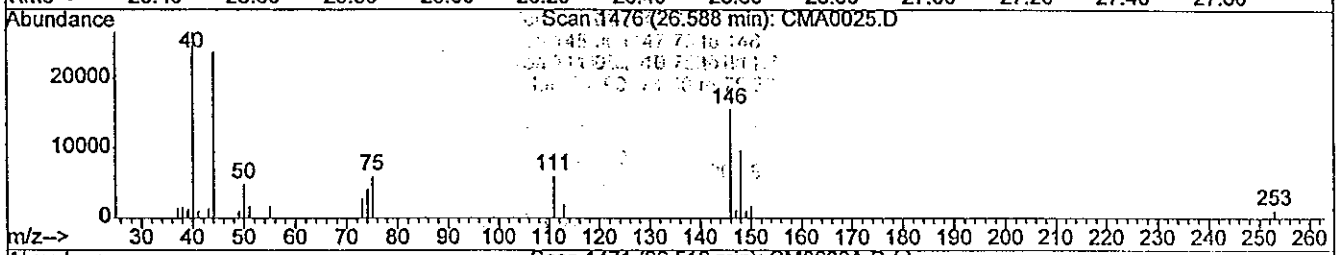
(#) = qualifier out of range (m) = manual integration

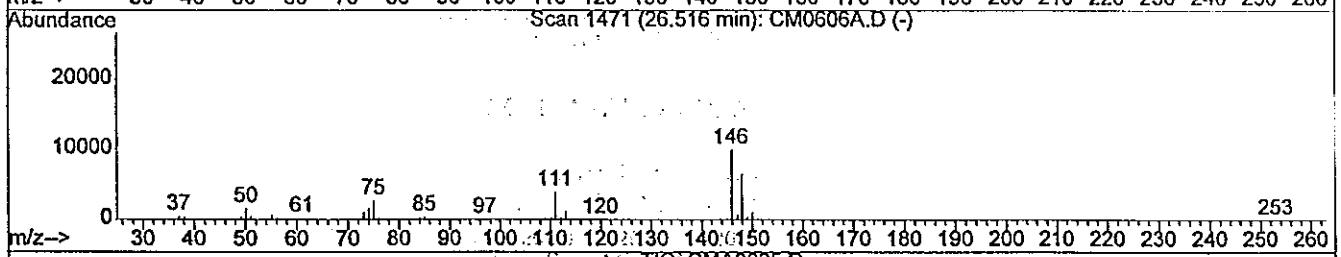
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

before (wrong peak)

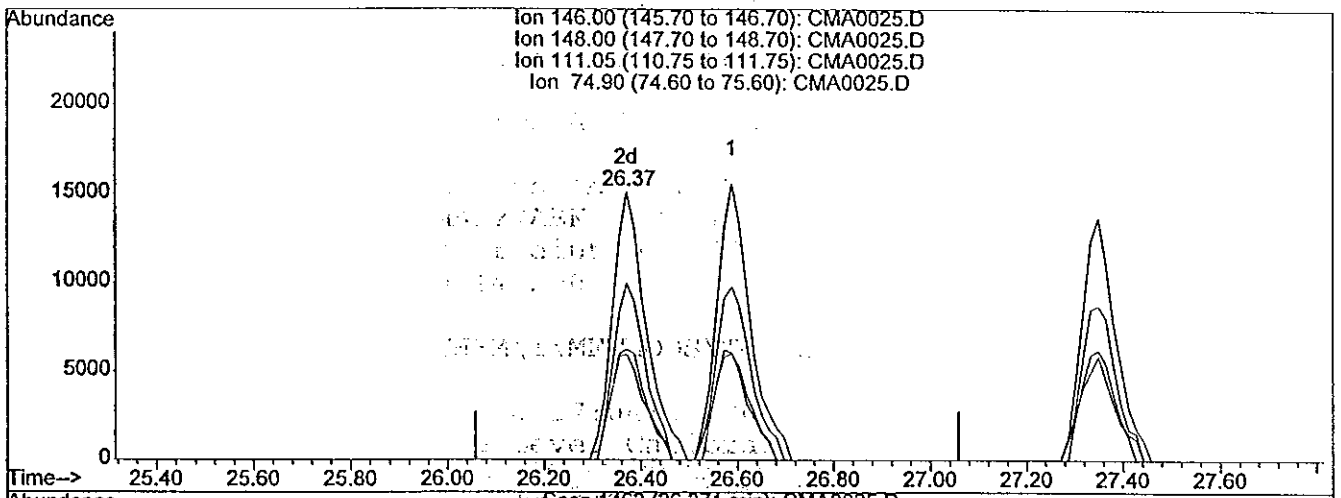
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

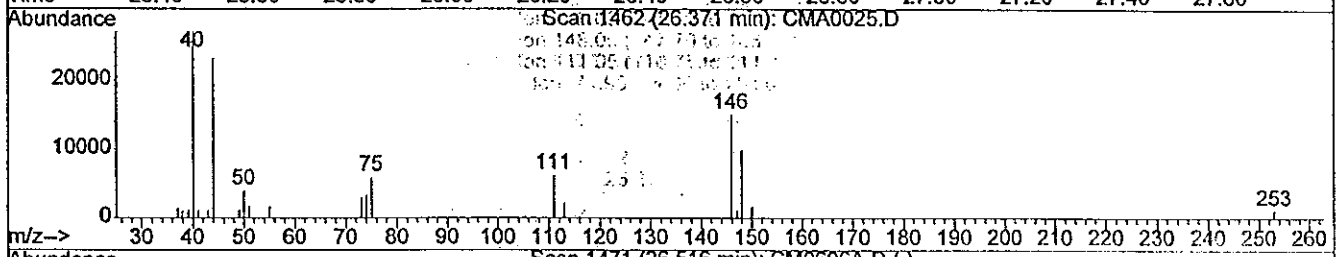
Quantitation Report (Qedit)

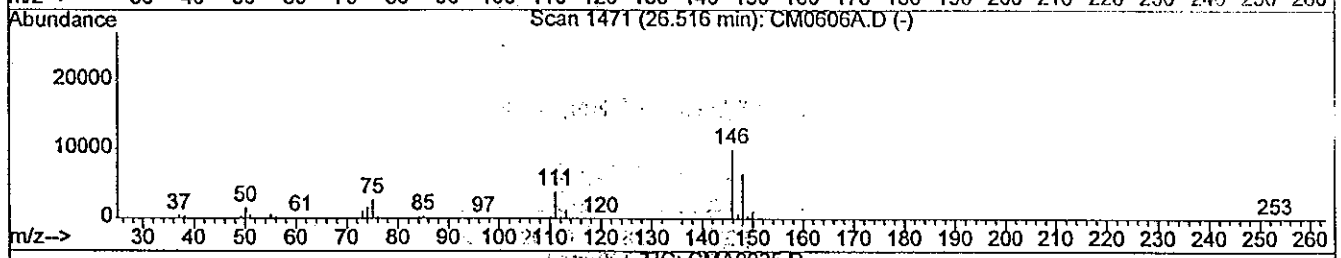
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	68.35
111.05	44.40	41.63
74.90	35.60	42.39

after BDH 6/19

CMA0025.D TO14S.M Tue Jun 19 10:14:25 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00 ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00 ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00 ng	0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54 ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	= 102.62%	
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40 ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	= 99.76%	
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09 ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	= 96.04%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85 ng		98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00 ng	#	16
4) Chloromethane	4.19	50	42696	34.20 ng	#	86
5) Vinyl chloride	4.42	62	30452	26.33 ng	#	83
6) Bromomethane	5.24	94	47587	27.70 ng	#	56
7) Chloroethane	5.38	64	18304	23.46 ng	#	77
8) Trichlorofluoromethane	5.88	101	40773	21.22 ng		96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21 ng		92
10) 1,1-Dichloroethene	7.07	96	33599	24.22 ng		84
12) Methylene chloride	7.99	49	64996	25.56 ng	#	76
13) Carbon disulfide	8.13	76	102700	25.44 ng		96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33 ng	#	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60 ng		90
16) n-Hexane	8.67	57	51599	29.87 ng	#	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78 ng	#	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56 ng		93
19) Chloroform	10.99	83	94547	25.46 ng	#	92
20) Isooctane	11.95	57	185751	26.14 ng		87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15 ng	#	87
22) Carbon tetrachloride	12.41	117	84338	24.92 ng		96
24) 1,2-Dichloroethane	12.69	62	55785	25.57 ng	#	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45 ng		99
27) Benzene	12.77	78	107643	27.06 ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

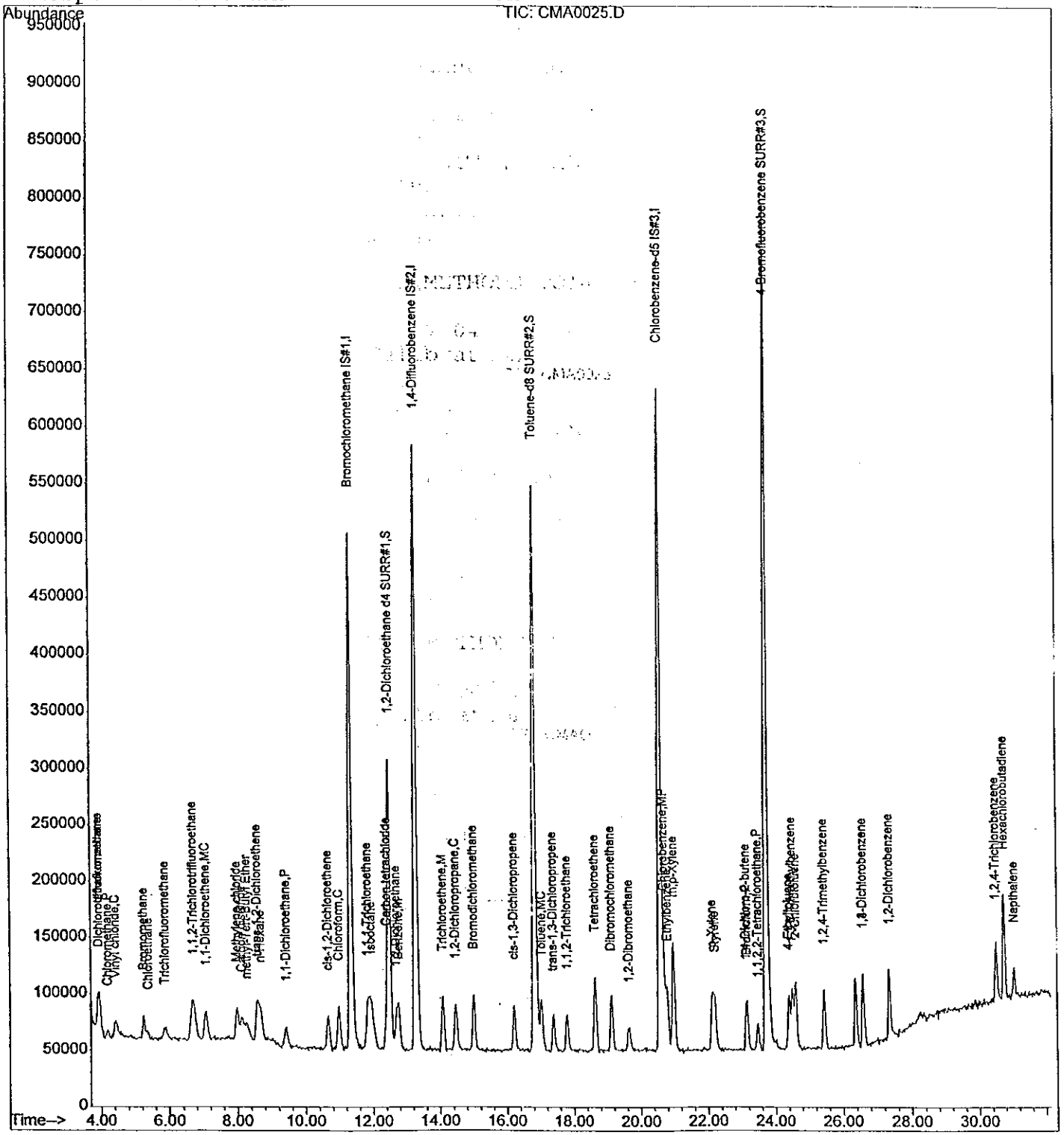
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.59	146	75419	23.58 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng	0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	=	103.28%	
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	=	100.49%	
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	=	98.58%	

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng	#	96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.37	146	276057m	81.98 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

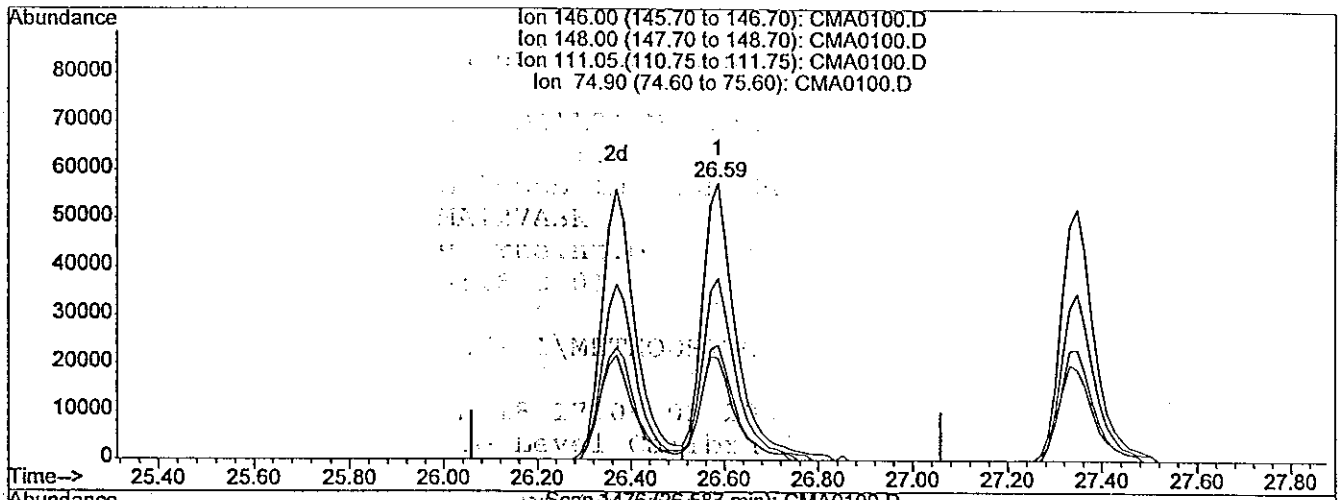
(#) = qualifier out of range (m) = manual integration

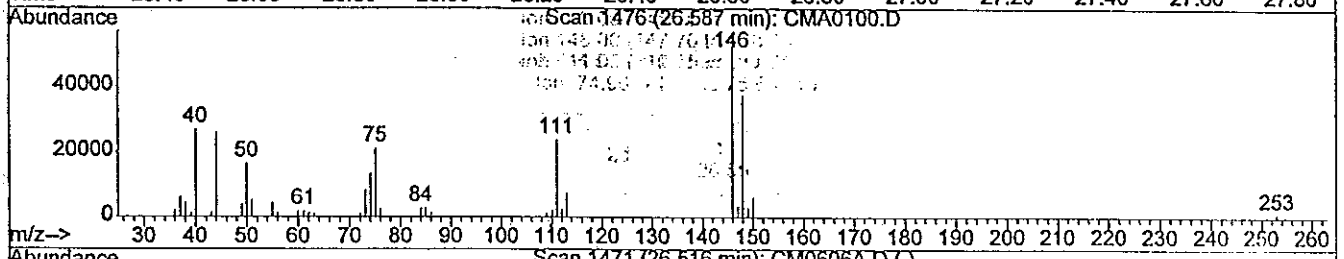
Quantitation Report (Qedit)

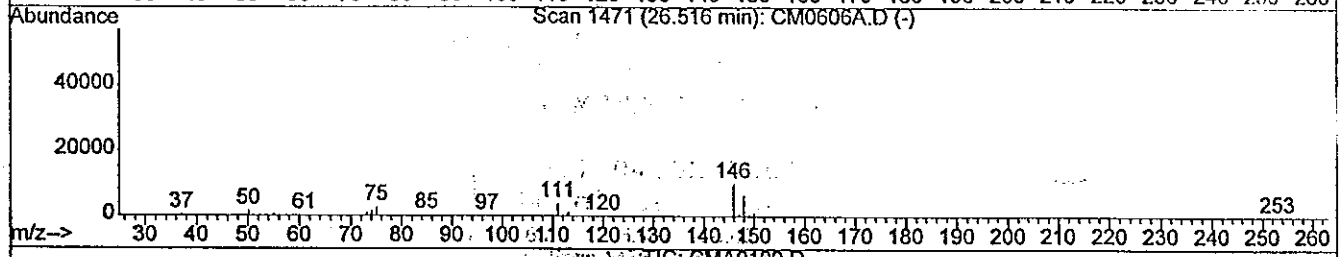
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







Scan 1476 TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

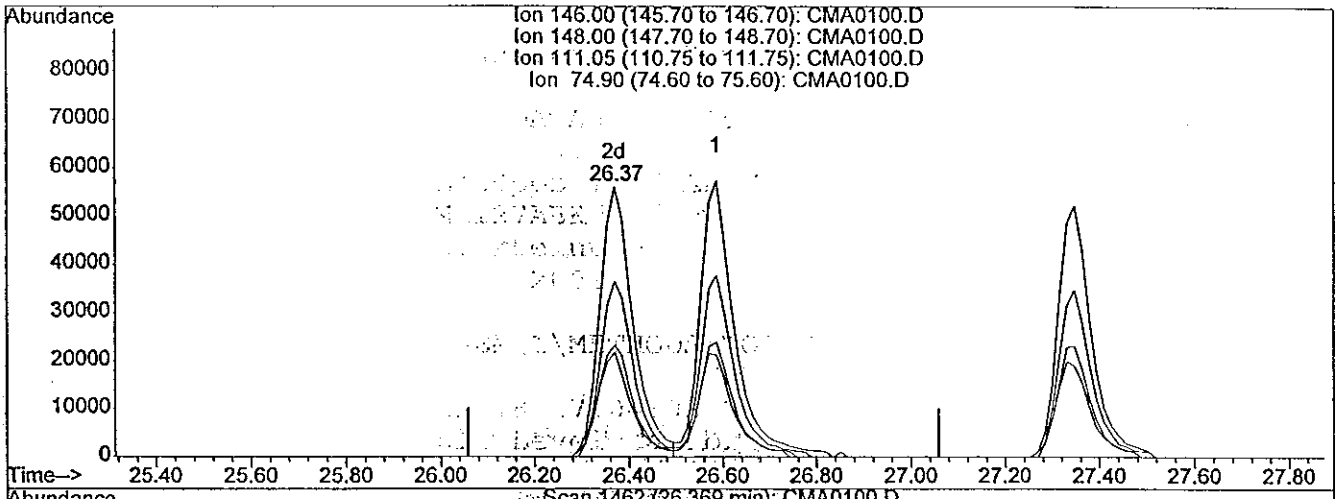
Defaul (wrong peak)

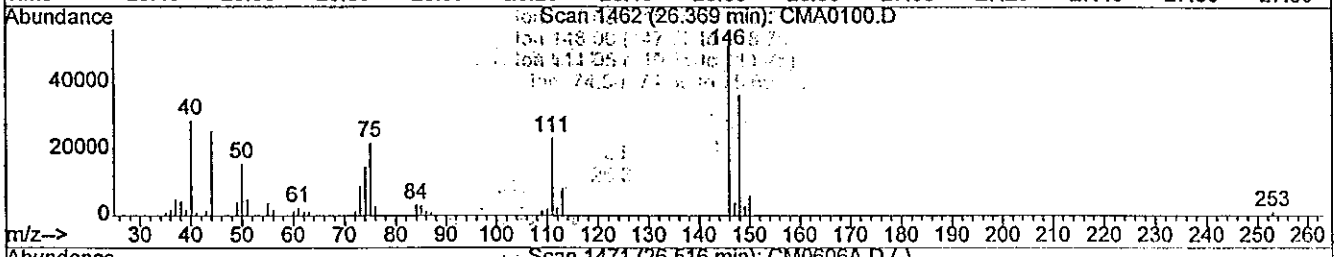
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

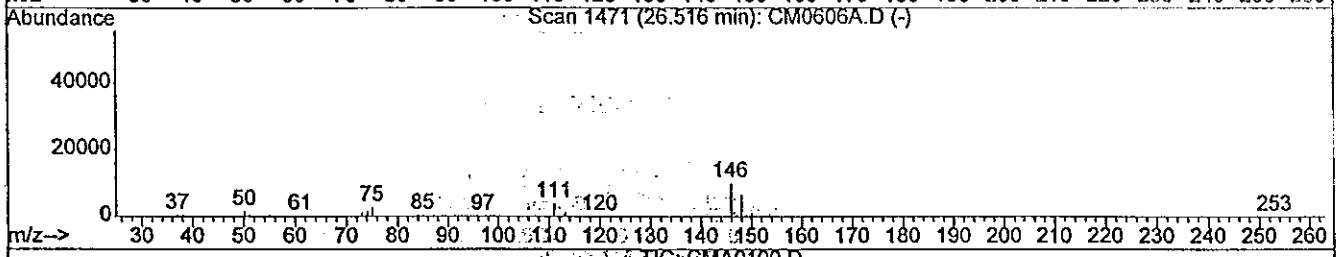
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	69.75
111.05	44.40	44.24
74.90	35.60	40.69

after
BDH 6/19

CMA0100.D TO14S.M Tue Jun 19 10:19:02 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00 ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00 ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00 ng	0.04 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20 ng	0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 103.28%		
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23 ng	0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.49%		
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46 ng	0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.58%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86 ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50 ng	#	18
4) Chloromethane	4.18	50	116261	86.35 ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66 ng	#	95
6) Bromomethane	5.24	94	162276	87.61 ng		96
7) Chloroethane	5.36	64	72541	86.21 ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36 ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45 ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40 ng		91
12) Methylene chloride	7.97	49	236234	86.14 ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90 ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01 ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45 ng		90
16) n-Hexane	8.65	57	158895	85.31 ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63 ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86 ng		93
19) Chloroform	10.98	83	351659	87.81 ng	#	96
20) Isooctane	11.93	57	541485	70.67 ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53 ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53 ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81 ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67 ng		99
27) Benzene	12.75	78	382786	92.03 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

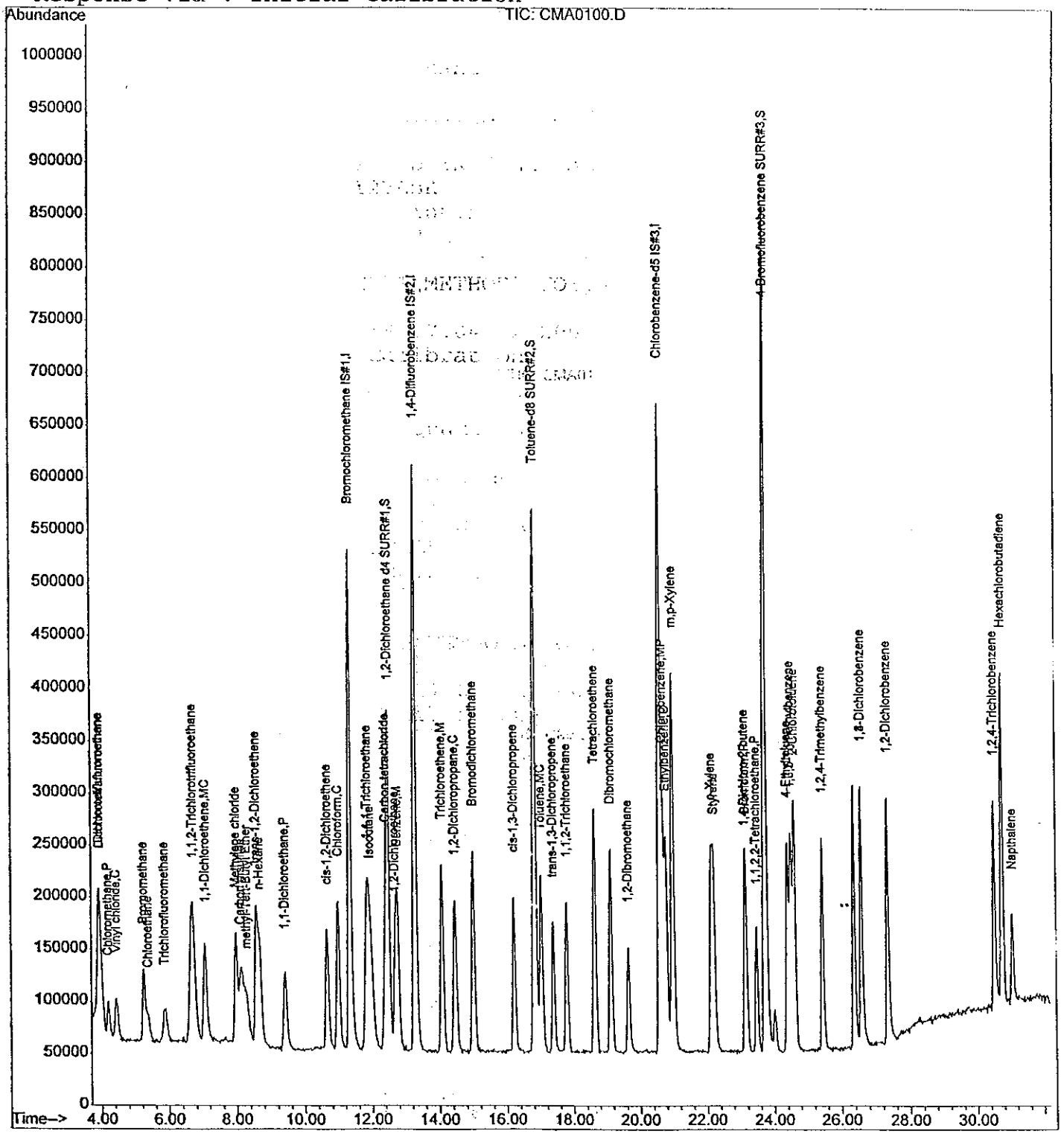
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.59	146	292016	86.72 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		[illegible]
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.12%						
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.77%						
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.82%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng	99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng #	19
4) Chloromethane	4.19	50	318982	237.26	ng	97
5) Vinyl chloride	4.41	62	331551	274.73	ng	97
6) Bromomethane	5.24	94	460160	260.43	ng	96
7) Chloroethane	5.37	64	204687	256.03	ng #	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng	90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng	88
12) Methylene chloride	7.96	49	653027	250.72	ng #	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng #	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng	90
16) n-Hexane	8.67	57	459285	261.36	ng #	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng	98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng	93
19) Chloroform	10.97	83	993772	262.88	ng #	94
20) Isooctane	11.94	57	1581485	256.03	ng	94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng	92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng	97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng	98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng	99
27) Benzene	12.74	78	1052810	266.64	ng	96

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

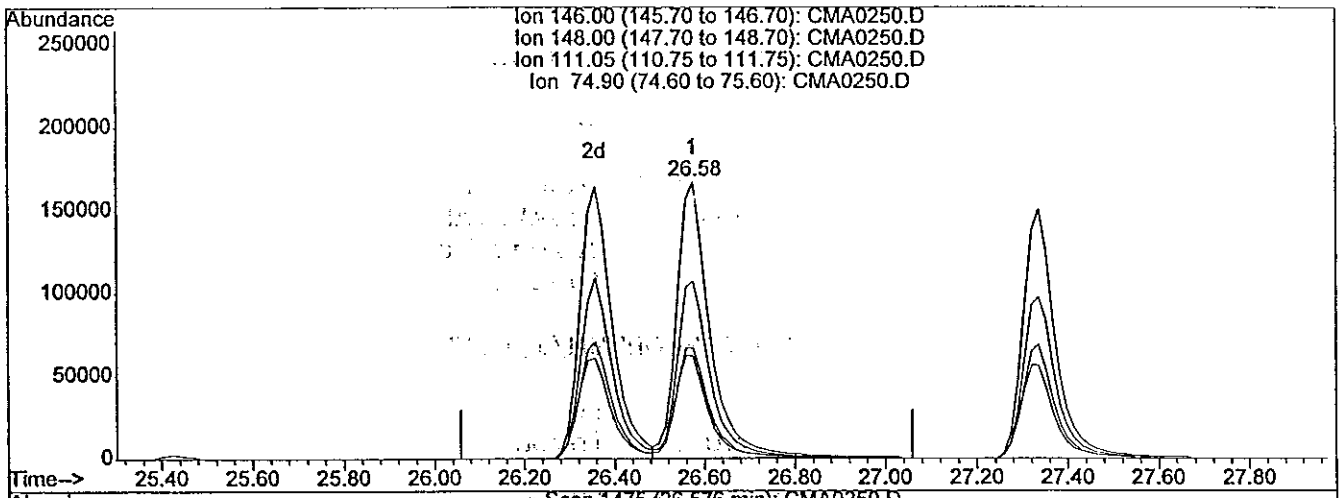
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.36	146	806815m	253.46 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

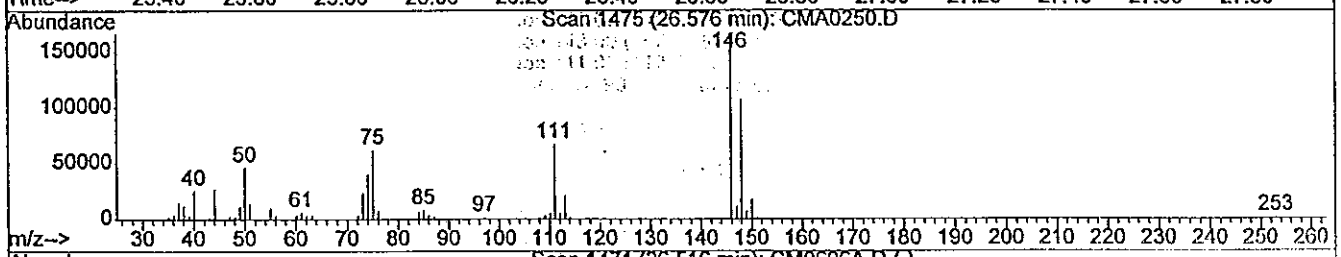
(#) = qualifier out of range (m) = manual integration

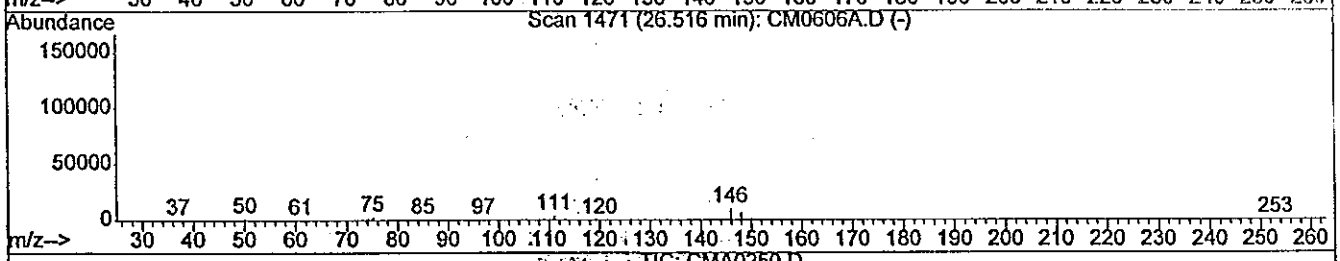
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

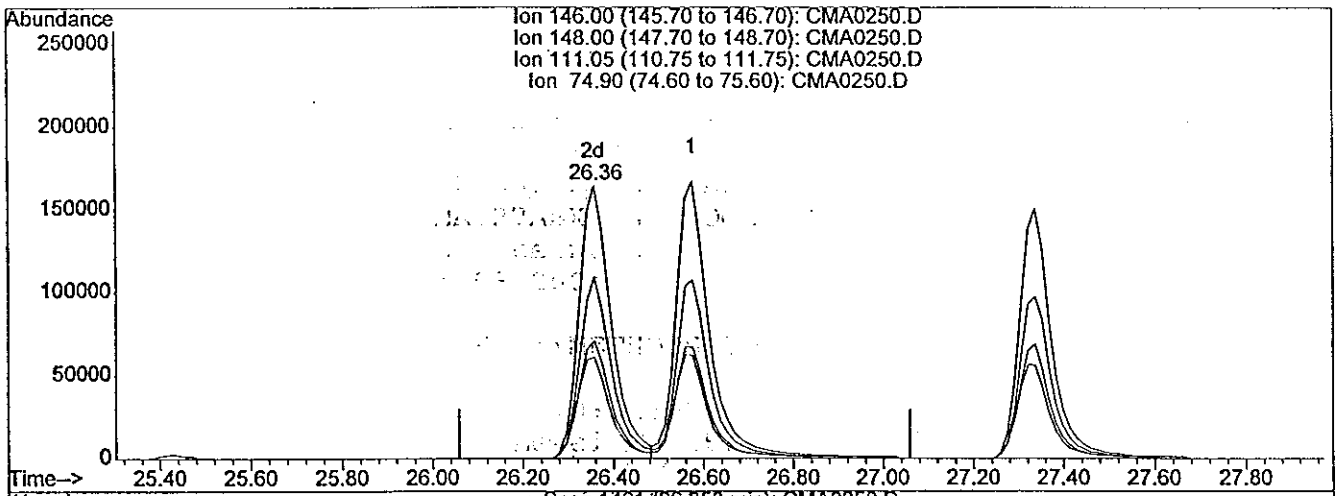
before (wrong peak)

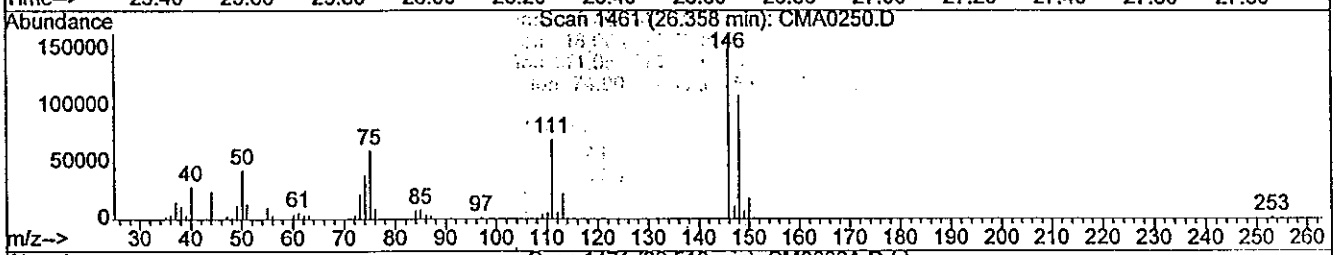
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

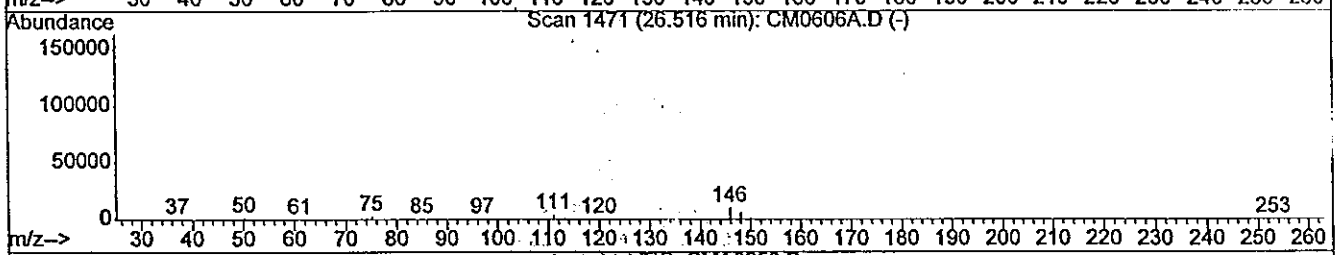
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	70.24
111.05	44.40	44.19
74.90	35.60	41.31

after
BDH
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Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.12%			
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.77%			
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.82%			

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng		99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng	#	19
4) Chloromethane	4.19	50	318982	237.26	ng		97
5) Vinyl chloride	4.41	62	331551	274.73	ng		97
6) Bromomethane	5.24	94	460160	260.43	ng		96
7) Chloroethane	5.37	64	204687	256.03	ng	#	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng		90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng		88
12) Methylene chloride	7.96	49	653027	250.72	ng	#	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng		99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng	#	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng		90
16) n-Hexane	8.67	57	459285	261.36	ng	#	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng		98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng		93
19) Chloroform	10.97	83	993772	262.88	ng	#	94
20) Isooctane	11.94	57	1581485	256.03	ng		94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng		92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng		97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng		98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng		99
27) Benzene	12.74	78	1052810	266.64	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

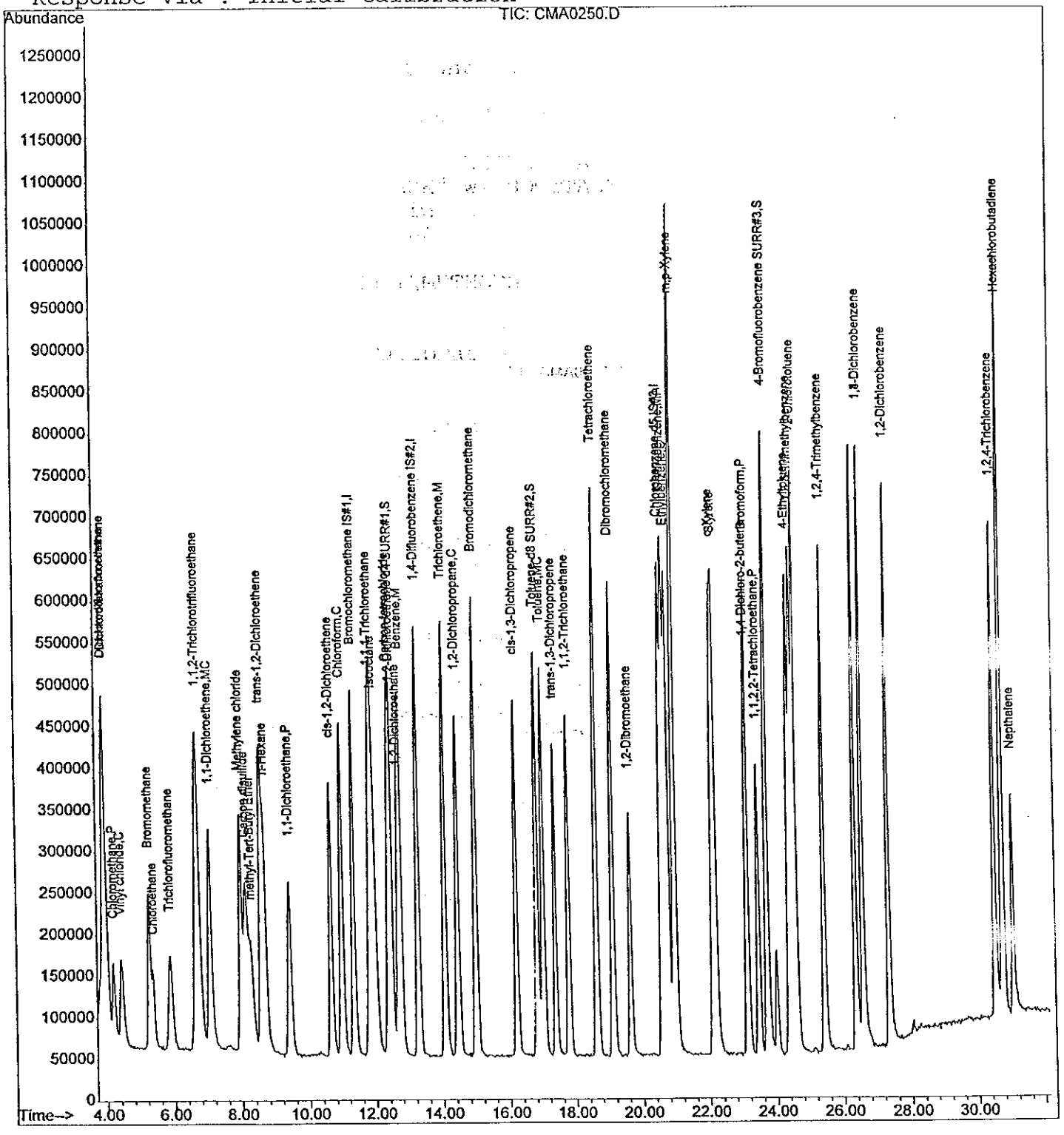
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.58	146	851100	267.37 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00 ng	0.00 NA%
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%					
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%					
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	3358732	542.44 ng		98
3) Dichlorotetrafluoroethane	3.91	135	1136619	541.39 ng	#	19
4) Chloromethane	4.17	50	662899	515.90 ng		99
5) Vinyl chloride	4.39	62	659263	554.27 ng		97
6) Bromomethane	5.23	94	933634	532.70 ng		97
7) Chloroethane	5.35	64	424613	541.17 ng		94
8) Trichlorofluoromethane	5.87	101	991097	530.60 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	1295181	531.93 ng		89
10) 1,1-Dichloroethene	7.05	96	728404	528.63 ng		88
12) Methylene chloride	7.96	49	1283111	517.00 ng	#	85
13) Carbon disulfide	8.10	76	2153648	535.91 ng		99
14) methyl-Tert-Butyl Ether	8.27	73	843804	459.13 ng	#	88
15) trans-1,2-Dichloroethene	8.55	96	782795	527.79 ng		92
16) n-Hexane	8.66	57	851040	501.61 ng	#	1
17) 1,1-Dichloroethane	9.39	63	1599028	537.57 ng		99
18) cis-1,2-Dichloroethene	10.63	61	1332506	529.28 ng		93
19) Chloroform	10.97	83	1971654	527.34 ng	#	95
20) Isooctane	11.94	57	2810081	466.45 ng		95
21) 1,1,1-Trichloroethane	11.84	97	1671909	528.89 ng		93
22) Carbon tetrachloride	12.40	117	1776389	531.17 ng		98
24) 1,2-Dichloroethane	12.67	62	1097708	494.67 ng		98
25) 1,2-Dibromoethane	19.64	107	1272731	488.44 ng		99
27) Benzene	12.74	78	2072242	501.33 ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

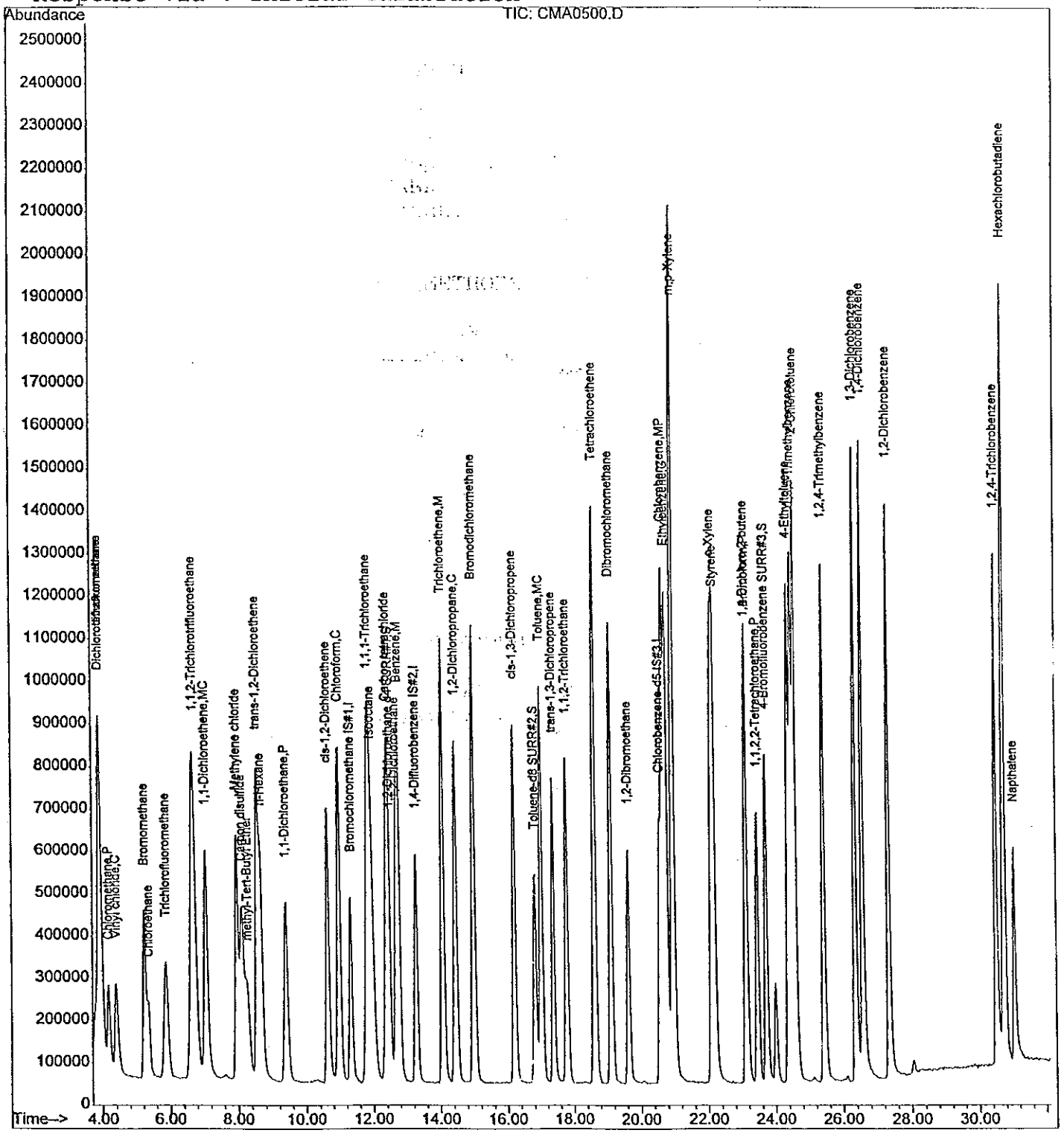
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	1063363	512.26 ng		99
29)	1,2-Dichloropropane	14.45	63	954023	504.13 ng	#	87
30)	Bromodichloromethane	14.99	83	2269706	505.24 ng		98
31)	cis-1,3-Dichloropropene	16.21	75	1366041	499.16 ng	#	79
33)	Toluene	17.01	92	1283724	507.88 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	1088252	484.92 ng	#	78
35)	1,1,2-Trichloroethane	17.79	97	773146	478.40 ng		98
37)	Tetrachloroethene	18.63	164	1021392	519.36 ng		97
38)	Dibromochloromethane	19.11	127	1388391	492.05 ng		99
39)	Chlorobenzene	20.68	112	1857792	519.50 ng		96
40)	Ethylbenzene	20.77	106	763296	518.96 ng		93
41)	m,p-Xylene	20.97	106	1955531	1049.84 ng		95
42)	o-Xylene	22.12	106	946502	520.11 ng		92
43)	Styrene	22.20	104	1563814	520.57 ng		96
44)	Bromoform	23.15	173	1233918	472.98 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	1180553	433.21 ng		98
47)	1,4-Dichloro-2-butene	23.11	75	245321	465.57 ng		92
48)	4-Ethyltoluene	24.39	105	2724532	549.15 ng		93
49)	1,3,5-Trimethylbenzene	24.50	105	2065746	517.93 ng		93
50)	2-Chlorotoluene	24.59	91	2726961	511.72 ng		100
51)	1,2,4-Trimethylbenzene	25.43	105	2187501	522.36 ng		99
52)	1,3-Dichlorobenzene	26.36	146	1637869	502.62 ng		99
53)	1,4-Dichlorobenzene	26.58	146	1723393	517.13 ng		98
54)	1,2-Dichlorobenzene	27.34	146	1509456	515.55 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	1101163	512.29 ng		100
56)	Napthalene	31.05	128	1260364	466.26 ng	#	92
57)	Hexachlorobutadiene	30.74	225	988114	584.20 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	296685	250.00 ng	-0.04 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1210927	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	914720	250.00 ng	0.01 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.44	65	459531	245.62 ng	-0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.25%					
32) Toluene-d8 SURR#2	16.81	98	978789	249.08 ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.63%					
46) 4-Bromofluorobenzene SURR#	23.73	95	926255	254.46 ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.78%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.87	85	6233748	1049.45 ng		98
3) Dichlorotetrafluoroethane	3.89	135	2134530	1064.83 ng	#	22
4) Chloromethane	4.15	50	1224763	1011.29 ng		98
5) Vinyl chloride	4.35	62	1201437	1053.25 ng		98
6) Bromomethane	5.19	94	1744430	1047.88 ng		98
7) Chloroethane	5.32	64	807307	1088.74 ng		95
8) Trichlorofluoromethane	5.83	101	2060376	1201.76 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.64	151	2429552	1057.92 ng		90
10) 1,1-Dichloroethene	7.01	96	1397322	1075.81 ng		91
12) Methylene chloride	7.93	49	2453027	1052.27 ng	#	85
13) Carbon disulfide	8.08	76	4076441	1070.98 ng		100
14) methyl-Tert-Butyl Ether	8.24	73	1803367	1062.77 ng	#	90
15) trans-1,2-Dichloroethene	8.53	96	1472449	1054.23 ng		92
16) n-Hexane	8.62	57	1579011	986.48 ng	#	1
17) 1,1-Dichloroethane	9.37	63	2886545	1023.96 ng		99
18) cis-1,2-Dichloroethene	10.61	61	2499759	1055.54 ng		93
19) Chloroform	10.94	83	3670018	1043.49 ng	#	95
20) Isooctane	11.92	57	5346515	959.54 ng		96
21) 1,1,1-Trichloroethane	11.81	97	3076942	1034.51 ng		93
22) Carbon tetrachloride	12.38	117	3289086	1043.66 ng		97
24) 1,2-Dichloroethane	12.65	62	2148966	1043.28 ng		98
25) 1,2-Dibromoethane	19.63	107	2580322	1073.25 ng		98
27) Benzene	12.72	78	3850696	1026.27 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

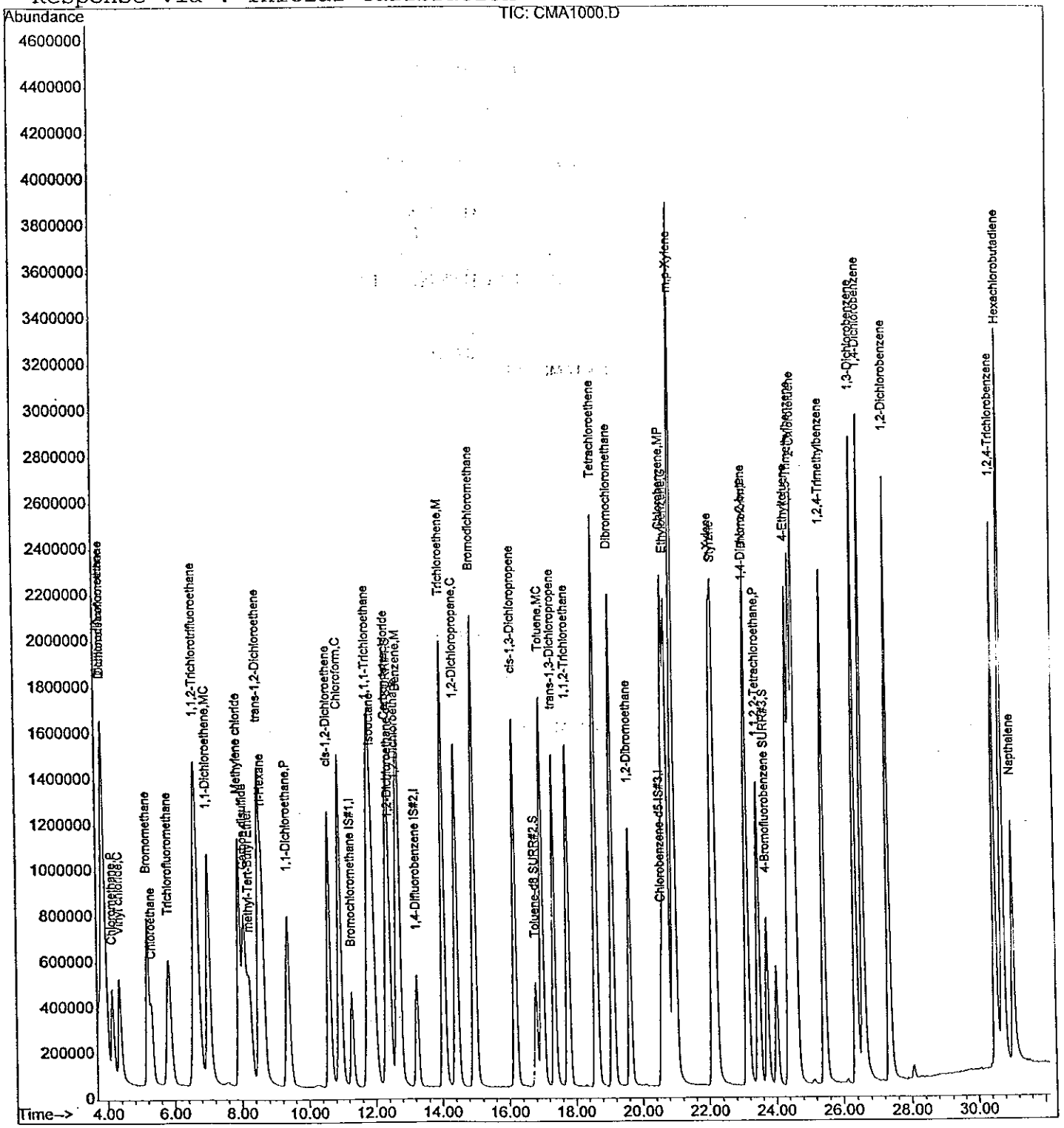
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.04	130	2003048	1064.50 ng		100
29)	1,2-Dichloropropane	14.43	63	1797296	1048.92 ng	#	88
30)	Bromodichloromethane	14.97	83	4319211	1062.49 ng		99
31)	cis-1,3-Dichloropropene	16.19	75	2641211	1071.18 ng	#	80
33)	Toluene	17.01	92	2405121	1050.49 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	2188978	1092.75 ng	#	81
35)	1,1,2-Trichloroethane	17.78	97	1539249	1064.37 ng		98
37)	Tetrachloroethene	18.64	164	1884926	1057.55 ng		97
38)	Dibromochloromethane	19.12	127	2755762	1090.44 ng		99
39)	Chlorobenzene	20.69	112	3456899	1065.66 ng		97
40)	Ethylbenzene	20.78	106	1395946	1043.84 ng		93
41)	m,p-Xylene	20.98	106	3585503	2122.36 ng		94
42)	o-Xylene	22.13	106	1771579	1076.12 ng		94
43)	Styrene	22.21	104	2945131	1084.71 ng		97
44)	Bromoform	23.16	173	2538653	1100.69 ng		100
45)	1,1,2,2-Tetrachloroethane	23.48	83	2423921	1007.79 ng		99
47)	1,4-Dichloro-2-butene	23.13	75	533593	1154.41 ng		92
48)	4-Ethyltoluene	24.40	105	4961557	1097.54 ng		93
49)	1,3,5-Trimethylbenzene	24.51	105	3924783	1094.79 ng		94
50)	2-Chlorotoluene	24.62	91	5084323	1054.07 ng		100
51)	1,2,4-Trimethylbenzene	25.45	105	4026008	1063.11 ng		99
52)	1,3-Dichlorobenzene	26.37	146	3127244	1073.09 ng		98
53)	1,4-Dichlorobenzene	26.59	146	3251439	1081.15 ng		98
54)	1,2-Dichlorobenzene	27.35	146	2827820	1074.36 ng		98
55)	1,2,4-Trichlorobenzene	30.52	180	2190863	1123.03 ng		100
56)	Napthalene	31.06	128	2606085	1102.23 ng	#	93
57)	Hexachlorobutadiene	30.76	225	1763109	1093.12 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	306138	250.00	ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1262696	250.00	ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	947465	250.00	ng	0.02 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	466181	242.37	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.95%						
32) Toluene-d8 SURR#2	16.83	98	1004447	245.59	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%						
46) 4-Bromofluorobenzene SURR#	23.74	95	966825	256.83	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.73%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.91	85	10263276	1642.34	ng		98
3) Dichlorotetrafluoroethane	3.91	135	3431265	1632.62	ng	#	20
4) Chloromethane	4.17	50	1953127	1534.65	ng		98
5) Vinyl chloride	4.38	62	1877069	1567.97	ng		98
6) Bromomethane	5.23	94	2784996	1604.46	ng		99
7) Chloroethane	5.34	64	1305263	1692.51	ng		95
8) Trichlorofluoromethane	5.87	101	4102130	2269.65	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.67	151	3860092	1615.15	ng		88
10) 1,1-Dichloroethene	7.05	96	2207728	1631.54	ng		91
12) Methylene chloride	7.96	49	3779790	1556.14	ng	#	85
13) Carbon disulfide	8.12	76	6296422	1579.16	ng		99
14) methyl-Tert-Butyl Ether	8.27	73	2578069	1478.67	ng	#	90
15) trans-1,2-Dichloroethene	8.57	96	2296356	1580.81	ng		93
16) n-Hexane	8.66	57	2455366	1470.62	ng	#	1
17) 1,1-Dichloroethane	9.41	63	4656037	1587.34	ng		99
18) cis-1,2-Dichloroethene	10.65	61	3891754	1583.57	ng		93
19) Chloroform	10.97	83	5699637	1560.49	ng	#	95
20) Isooctane	11.94	57	8292835	1436.43	ng		96
21) 1,1,1-Trichloroethane	11.84	97	4778200	1546.65	ng		92
22) Carbon tetrachloride	12.42	117	5106078	1560.13	ng		97
24) 1,2-Dichloroethane	12.68	62	3267735	1539.63	ng		98
25) 1,2-Dibromoethane	19.64	107	3834082	1556.31	ng		98
27) Benzene	12.76	78	5993832	1526.98	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

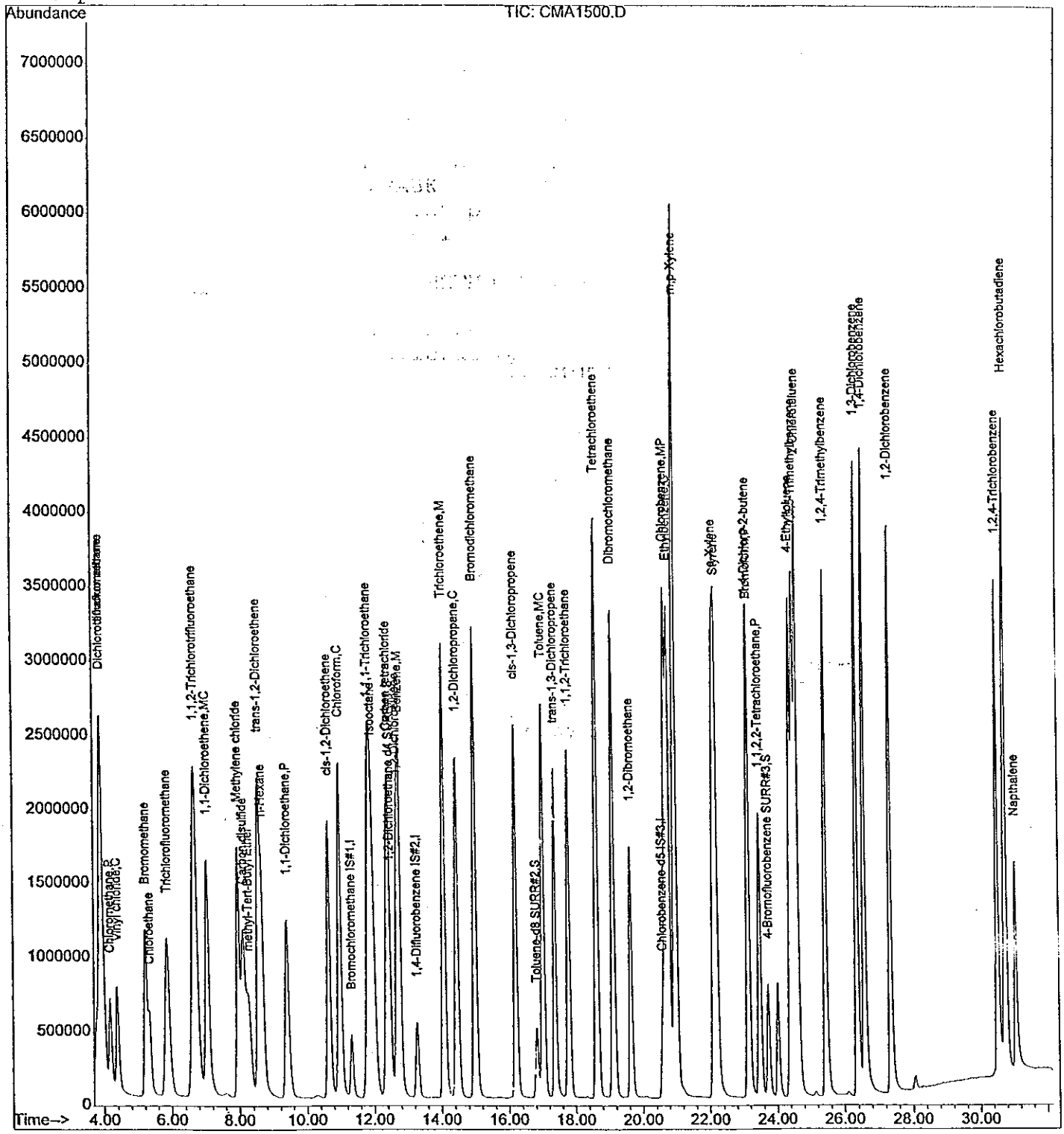
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.08	130	3131271	1590.70 ng		99
29)	1,2-Dichloropropane	14.47	63	2782579	1555.74 ng	#	88
30)	Bromodichloromethane	14.99	83	6626226	1559.37 ng		99
31)	cis-1,3-Dichloropropene	16.21	75	4101408	1597.82 ng	#	81
33)	Toluene	17.03	92	3759602	1574.79 ng		98
34)	trans-1,3-Dichloropropene	17.39	75	3338061	1609.22 ng	#	81
35)	1,1,2-Trichloroethane	17.79	97	2319686	1550.82 ng		98
37)	Tetrachloroethene	18.64	164	2948248	1587.42 ng		97
38)	Dibromochloromethane	19.12	127	4167778	1592.15 ng		98
39)	Chlorobenzene	20.69	112	5396104	1599.79 ng		97
40)	Ethylbenzene	20.79	106	2189347	1581.36 ng		94
41)	m,p-Xylene	20.99	106	5606499	3190.48 ng		94
42)	o-Xylene	22.14	106	2766756	1618.81 ng		95
43)	Styrene	22.21	104	4587667	1631.34 ng		97
44)	Bromoform	23.16	173	3756052	1591.17 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	3545357	1487.44 ng		99
47)	1,4-Dichloro-2-butene	23.13	75	790900	1690.85 ng		93
48)	4-Ethyltoluene	24.40	105	7867372	1667.46 ng		93
49)	1,3,5-Trimethylbenzene	24.51	105	5868544	1553.55 ng		93
50)	2-Chlorotoluene	24.61	91	7794563	1554.96 ng		99
51)	1,2,4-Trimethylbenzene	25.44	105	6231140	1586.16 ng		100
52)	1,3-Dichlorobenzene	26.38	146	4764054	1590.54 ng		99
53)	1,4-Dichlorobenzene	26.59	146	4993562	1604.01 ng		99
54)	1,2-Dichlorobenzene	27.35	146	4254949	1564.99 ng		99
55)	1,2,4-Trichlorobenzene	30.52	180	3092156	1514.04 ng		99
56)	Napthalene	31.06	128	3458113	1440.20 ng	#	94
57)	Hexachlorobutadiene	30.75	225	2415060	1378.37 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:26 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BA 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00 ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87 ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.95%		
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.90%		
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76 ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%		

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.03	96	343674	239.08 ng	91
27) Benzene	12.73	78	1051944	259.40 ng	96
28) Trichloroethene	14.06	130	533841	262.46 ng	99
33) Toluene	17.01	92	641571	260.46 ng	98
39) Chlorobenzene	20.69	112	912178	264.18 ng	94

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Re-name 127

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00 ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00 ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87 ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.95%		
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.90%		
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76 ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%		

Target Compounds

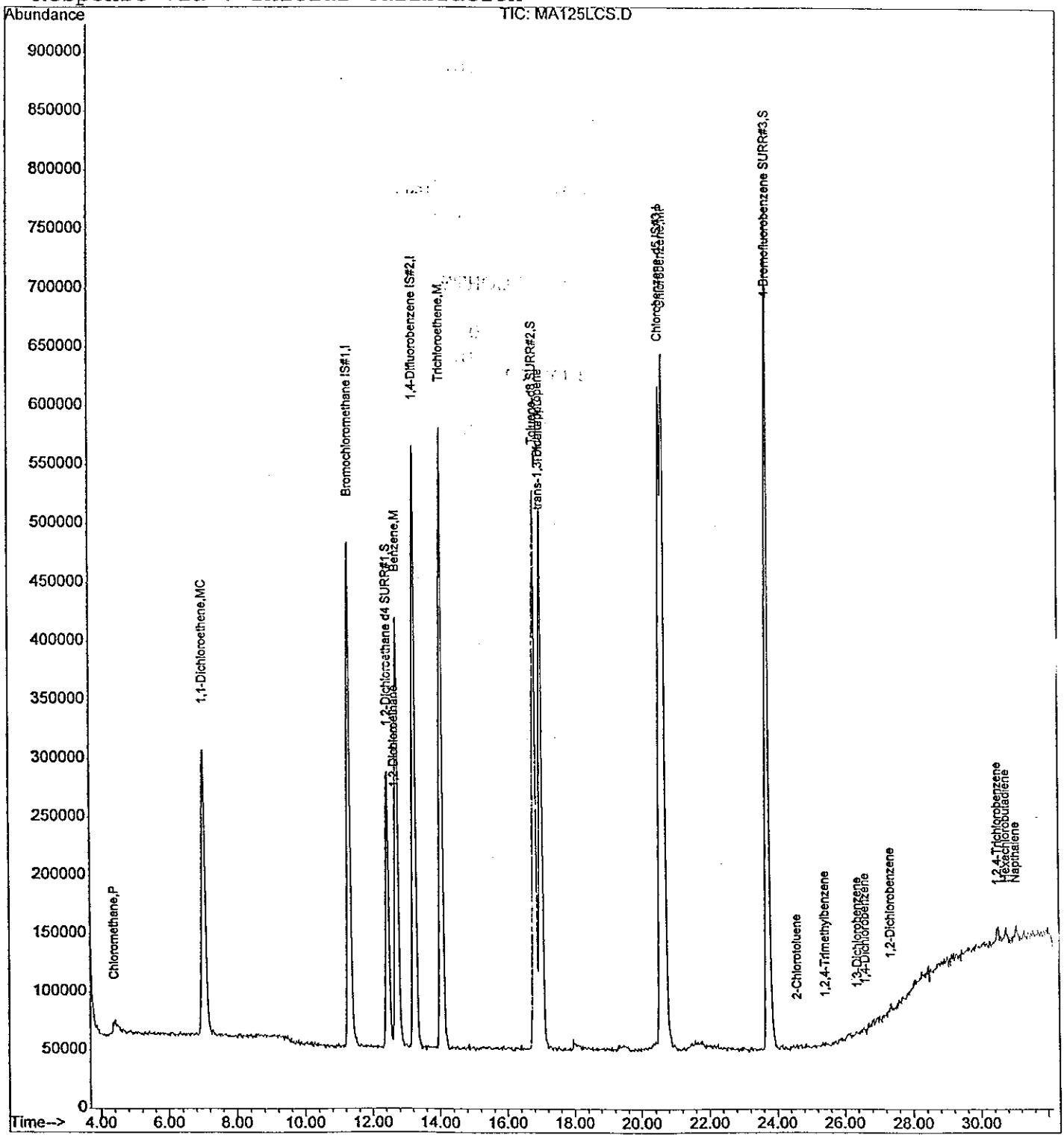
						Qvalue
4) Chloromethane	4.39	50	5312	3.89 ng	#	72
10) 1,1-Dichloroethene	7.03	96	343674	239.08 ng		91
24) 1,2-Dichloroethane	12.68	62	11044	4.92 ng	#	49
27) Benzene	12.73	78	1051944	259.40 ng		96
28) Trichloroethene	14.06	130	533841	262.46 ng		99
33) Toluene	17.01	92	641571	260.46 ng		98
34) trans-1,3-Dichloropropene	16.99	75	5258	2.47 ng	#	1
39) Chlorobenzene	20.69	112	912178	264.18 ng		94
50) 2-Chlorotoluene	24.60	91	7809	1.53 ng	#	47
51) 1,2,4-Trimethylbenzene	25.44	105	2131	0.53 ng	#	31
52) 1,3-Dichlorobenzene	26.39	146	2943	0.97 ng	#	27
53) 1,4-Dichlorobenzene	26.61	146	3434	1.08 ng	#	40
54) 1,2-Dichlorobenzene	27.35	146	1969	0.71 ng	#	1
55) 1,2,4-Trichlorobenzene	30.52	180	26914	12.83 ng	#	46
56) Napthalene	31.06	128	33755	14.04 ng	#	77
57) Hexachlorobutadiene	30.77	225	11408	6.16 ng	#	68

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p

CCV 100

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 14:23:47 2001
Response via : Multiple Level Calibration

passes BH 6/19/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	5.221	5.407	-3.6#	100	0.00
3		Dichlorotetrafluoroethane	1.746	1.861	-6.6#	100	0.00
4	P	Chloromethane	1.056	1.012	4.2#	100	0.00
5	C	Vinyl chloride	0.990	1.052	-6.3#	100	0.00
6		Bromomethane	1.432	1.459	-1.9	100	0.00
7		Chloroethane	0.635	0.649	-2.2#	100	0.00
8		Trichlorofluoromethane	1.509	1.334	11.6#	100	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	2.055	-4.8#	100	0.00
10	MC	1,1-Dichloroethene	1.112	1.138	-2.3#	100	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.63#
12		Methylene chloride	1.996	2.071	-3.8#	100	0.00
13		Carbon disulfide	3.278	3.408	-4.0#	100	0.00
14		methyl-Tert-Butyl Ether	1.416	1.488	-5.1#	100	0.00
15		trans-1,2-Dichloroethene	1.191	1.229	-3.2#	100	0.00
16		n-Hexane	1.373	1.457	-6.1#	100	0.00
17	P	1,1-Dichloroethane	2.420	2.560	-5.8#	100	0.00
18		cis-1,2-Dichloroethene	2.017	2.116	-4.9#	100	0.00
19	C	Chloroform	2.996	3.152	-5.2#	100	0.00
20		Isooctane	4.704	5.016	-6.6#	100	0.00
21		1,1,1-Trichloroethane	2.533	2.659	-5.0#	100	0.00
22		Carbon tetrachloride	2.682	2.801	-4.4#	100	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.578	-0.7	100	0.00
24		1,2-Dichloroethane	1.735	1.835	-5.8#	100	0.00
25		1,2-Dibromoethane	2.008	2.155	-7.3#	100	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	100	0.00
27	M	Benzene	0.782	0.823	-5.2#	100	0.00
28	M	Trichloroethene	0.392	0.417	-6.4#	100	0.00
29	C	1,2-Dichloropropane	0.356	0.378	-6.2#	100	0.00
30		Bromodichloromethane	0.847	0.902	-6.5#	100	0.00
31		cis-1,3-Dichloropropene	0.511	0.541	-5.9#	100	0.00
32	S	Toluene-d8 SURR#2	0.808	0.815	-0.9	100	0.00
33	MC	Toluene	0.475	0.502	-5.7#	100	0.00
34		trans-1,3-Dichloropropene	0.411	0.442	-7.5#	100	0.00
35		1,1,2-Trichloroethane	0.297	0.319	-7.4#	100	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	100	0.00
37		Tetrachloroethene	0.495	0.519	-4.8#	100	0.00
38		Dibromochloromethane	0.696	0.744	-6.9#	100	0.00
39	MP	Chlorobenzene	0.897	0.947	-5.6#	100	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 14:23:47 2001
Response via : Multiple Level Calibration

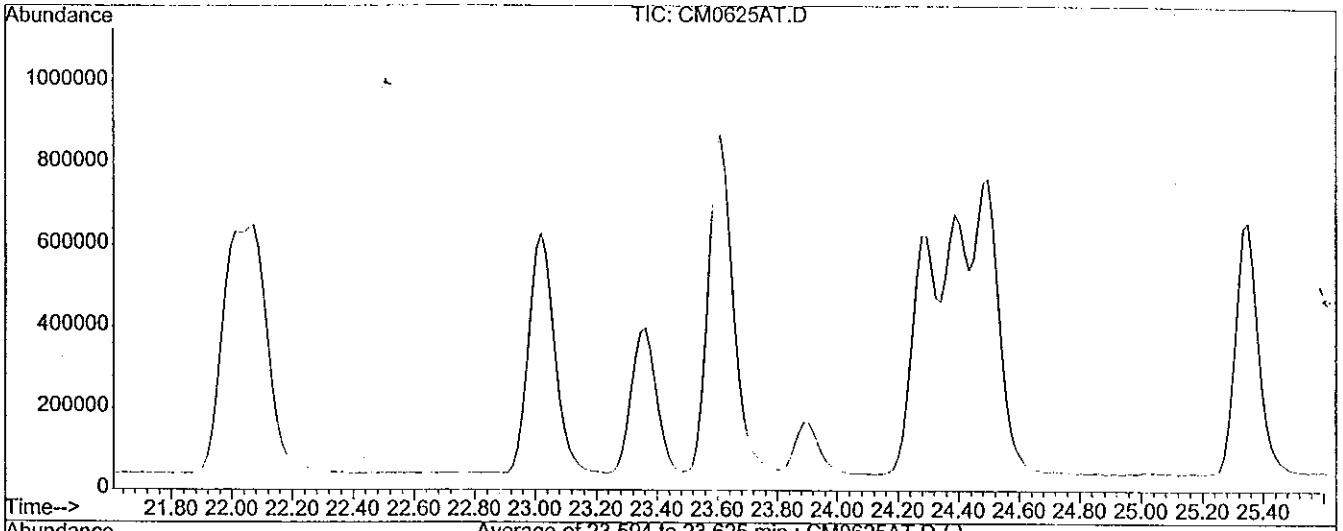
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

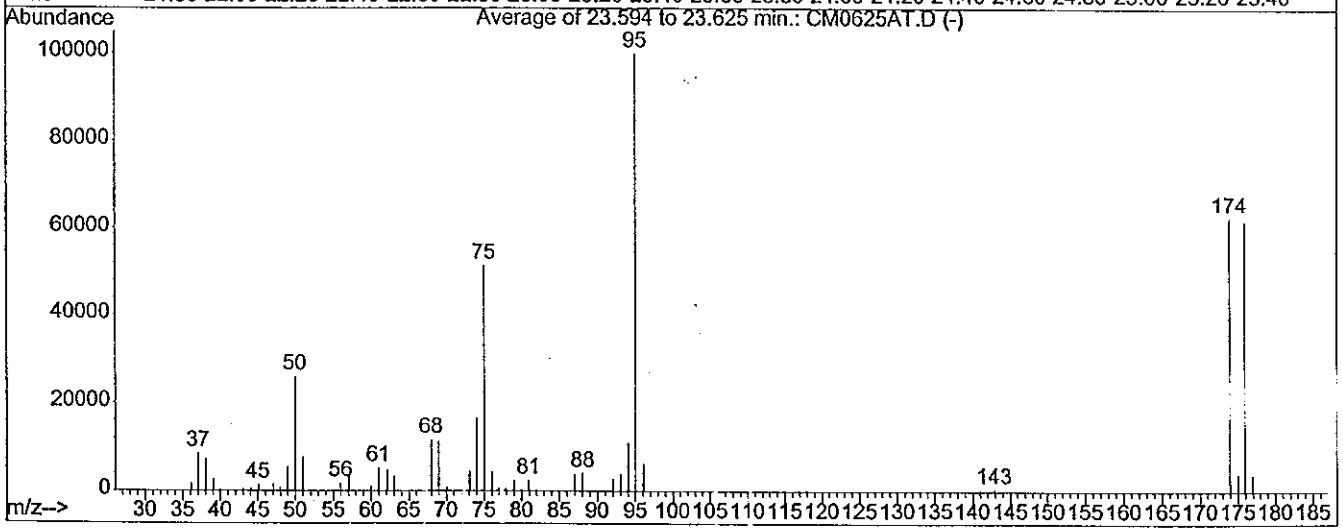
		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.388	-5.4#	100	0.00
41		m,p-Xylene	0.467	0.491	-5.1#	100	0.00
42		o-Xylene	0.454	0.480	-5.7#	100	0.00
43		Styrene	0.747	0.788	-5.5#	100	0.00
44	P	Bromoform	0.624	0.677	-8.5#	100	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.662	-8.5#	100	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.997	-0.3	100	0.00
47		1,4-Dichloro-2-butene	0.123	0.135	-9.8#	100	0.00
48		4-Ethyltoluene	1.262	1.259	0.2	100	0.00
49		1,3,5-Trimethylbenzene	0.993	1.017	-2.4#	100	0.00
50		2-Chlorotoluene	1.329	1.387	-4.4#	100	0.00
51		1,2,4-Trimethylbenzene	1.043	1.103	-5.8#	100	0.00
52		1,3-Dichlorobenzene	0.788	0.829	-5.2#	100	0.00
53		1,4-Dichlorobenzene	0.826	0.874	-5.8#	100	0.00
54		1,2-Dichlorobenzene	0.719	0.773	-7.5#	100	0.00
55		1,2,4-Trichlorobenzene	0.545	0.577	-5.9#	100	0.00
56		Napthalene	0.625	0.687	-9.9#	100	0.00
57		Hexachlorobutadiene	0.481	0.510	-6.0#	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0625A\CM0625AT.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14





Spectrum Information: Average of 23.594 to 23.625 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	26042	PASS
75	95	30	60	51.5	51467	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.3	6317	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.7	62678	PASS
175	174	5	9	6.8	4253	PASS
176	174	95	101	98.7	61850	PASS
177	176	5	9	6.5	4032	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:55 2001
Response via : Multiple Level Calibration

passes BH 6/25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	111	0.00
2		Dichlorodifluoromethane	5.221	4.690	10.2#	97	0.00
3		Dichlorotetrafluoroethane	1.746	1.604	8.1#	96	0.00
4	P	Chloromethane	1.056	1.168	-10.6#	129	0.00
5	C	Vinyl chloride	0.990	0.996	-0.6#	106	0.00
6		Bromomethane	1.432	1.398	2.4#	107	0.00
7		Chloroethane	0.635	0.640	-0.8	110	0.00
8		Trichlorofluoromethane	1.509	1.237	18.0#	103	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.935	1.3	105	0.00
10	MC	1,1-Dichloroethene	1.112	1.143	-2.8#	112	0.00
11		Iodomethane	0.000	0.000	0.0	134	0.00
12		Methylene chloride	1.996	2.037	-2.1#	110	0.00
13		Carbon disulfide	3.278	3.357	-2.4#	110	0.00
14		methyl-Tert-Butyl Ether	1.416	1.510	-6.6#	113	0.00
15		trans-1,2-Dichloroethene	1.191	1.209	-1.5	110	0.00
16		n-Hexane	1.373	1.311	4.5#	100	0.00
17	P	1,1-Dichloroethane	2.420	2.398	0.9	104	0.00
18		cis-1,2-Dichloroethene	2.017	2.018	-0.0	106	0.00
19	C	Chloroform	2.996	2.975	0.7#	105	0.00
20		Isooctane N/A	~~1.704~~	~~0.000~~	~~100.0#~~	~~0#~~	~~-11.94#~~
21		1,1,1-Trichloroethane	2.533	2.496	1.5	105	0.00
22		Carbon tetrachloride	2.682	2.642	1.5	105	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.591	-1.5	112	0.[illegible]
24		1,2-Dichloroethane	1.735	1.755	-1.2	107	0.00
25		1,2-Dibromoethane	2.008	2.004	0.2	104	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	114	0.00
27	M	Benzene	0.782	0.784	-0.3	108	0.00
28	M	Trichloroethene	0.392	0.386	1.5	105	0.00
29	C	1,2-Dichloropropane	0.356	0.357	-0.3#	107	0.00
30		Bromodichloromethane	0.847	0.838	1.1	106	0.00
31		cis-1,3-Dichloropropene	0.511	0.501	2.0	105	0.00
32	S	Toluene-d8 SURR#2	0.808	0.820	-1.5	114	0.00
33	MC	Toluene	0.475	0.473	0.4#	107	0.00
34		trans-1,3-Dichloropropene	0.411	0.409	0.5	105	0.00
35		1,1,2-Trichloroethane	0.297	0.295	0.7	105	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	112	0.00
37		Tetrachloroethene	0.495	0.484	2.2#	104	0.00
38		Dibromochloromethane	0.696	0.684	1.7	103	0.00
39	MP	Chlorobenzene	0.897	0.892	0.6	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:55 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.362	1.6#	104	0.00
41		m,p-Xylene	0.467	0.467	0.0	106	0.00
42		o-Xylene	0.454	0.442	2.6#	103	0.00
43		Styrene	0.747	0.741	0.8	105	0.00
44	P	Bromoform	0.624	0.596	4.5#	98	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.611	-0.2	103	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.973	2.1#	109	0.00
47		1,4-Dichloro-2-butene	0.123	0.122	0.8	101	0.00
48		4-Ethyltoluene	1.262	1.207	4.4#	107	0.00
49		1,3,5-Trimethylbenzene	0.993	1.053	-6.0#	116	0.00
50		2-Chlorotoluene	1.329	1.339	-0.8	108	0.00
51		1,2,4-Trimethylbenzene	1.043	1.019	2.3#	103	0.00
52		1,3-Dichlorobenzene	0.788	0.770	2.3#	104	0.00
53		1,4-Dichlorobenzene	0.826	0.839	-1.6	107	0.00
54		1,2-Dichlorobenzene	0.719	0.721	-0.3	104	0.00
55		1,2,4-Trichlorobenzene	0.545	0.511	6.2#	99	0.00
56		Napthalene	0.625	0.634	-1.4	103	0.00
57		Hexachlorobutadiene	0.481	0.426	11.4#	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	111	0.00
2		Dichlorodifluoromethane	250.000	224.566	10.2#	97	0.00
3		Dichlorotetrafluoroethane	250.000	229.652	8.1#	96	0.00
4	P	Chloromethane	250.000	276.618	-10.6#	129	0.00
5	C	Vinyl chloride	250.000	251.562	-0.6#	106	0.00
6		Bromomethane	250.000	244.053	2.4#	107	0.00
7		Chloroethane	250.000	251.897	-0.8	110	0.00
8		Trichlorofluoromethane	250.000	247.396	1.0	103	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	246.801	1.3	105	0.00
10	MC	1,1-Dichloroethene	250.000	257.066	-2.8#	112	0.00
11		Iodomethane	-1.000	0.000	0.0	134	0.00
12		Methylene chloride	250.000	255.121	-2.0#	110	0.00
13		Carbon disulfide	250.000	255.967	-2.4#	110	0.00
14		methyl-Tert-Butyl Ether	250.000	266.554	-6.6#	113	0.00
15		trans-1,2-Dichloroethene	250.000	253.630	-1.5	110	0.00
16		n-Hexane	250.000	238.620	4.6#	100	0.00
17	P	1,1-Dichloroethane	250.000	247.765	0.9	104	0.00
18		cis-1,2-Dichloroethene	250.000	250.133	-0.1	106	0.00
19	C	Chloroform	250.000	248.233	0.7#	105	0.00
20		Isooctane	250.000	0.000	100.0#	0	-11.94#
21		1,1,1-Trichloroethane	250.000	246.361	1.5	105	0.00
22		Carbon tetrachloride	250.000	246.209	1.5	105	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.889	-1.6	112	0.00
24		1,2-Dichloroethane	250.000	252.975	-1.2	107	0.00
25		1,2-Dibromoethane	250.000	249.472	0.2	104	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	114	0.00
27	M	Benzene	250.000	250.753	-0.3	108	0.00
28	M	Trichloroethene	250.000	246.056	1.6	105	0.00
29	C	1,2-Dichloropropane	250.000	250.687	-0.3#	107	0.00
30		Bromodichloromethane	250.000	247.403	1.0	106	0.00
31		cis-1,3-Dichloropropene	250.000	245.250	1.9	105	0.00
32	S	Toluene-d8 SURR#2	250.000	253.607	-1.4	114	0.00
33	MC	Toluene	250.000	248.855	0.5#	107	0.00
34		trans-1,3-Dichloropropene	250.000	248.888	0.4	105	0.00
35		1,1,2-Trichloroethane	250.000	247.948	0.8	105	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	112	0.00
37		Tetrachloroethene	250.000	244.292	2.3#	104	0.00
38		Dibromochloromethane	250.000	245.457	1.8	103	0.00
39	MP	Chlorobenzene	250.000	248.431	0.6	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	245.403	1.8#	104	0.00
41		m,p-Xylene	500.000	499.684	0.1	106	0.00
42		o-Xylene	250.000	243.563	2.6#	103	0.00
43		Styrene	250.000	247.974	0.8	105	0.00
44	P	Bromoform	250.000	238.686	4.5#	98	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	250.516	-0.2	103	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.695	2.1#	109	0.00
47		1,4-Dichloro-2-butene	250.000	237.476	5.0#	101	0.00
48		4-Ethyltoluene	250.000	239.129	4.3#	107	0.00
49		1,3,5-Trimethylbenzene	250.000	265.221	-6.1#	116	0.00
50		2-Chlorotoluene	250.000	251.866	-0.7	108	0.00
51		1,2,4-Trimethylbenzene	250.000	244.265	2.3#	103	0.00
52		1,3-Dichlorobenzene	250.000	244.309	2.3#	104	0.00
53		1,4-Dichlorobenzene	250.000	253.897	-1.6	107	0.00
54		1,2-Dichlorobenzene	250.000	250.650	-0.3	104	0.00
55		1,2,4-Trichlorobenzene	250.000	234.461	6.2#	99	0.00
56		Napthalene	250.000	253.704	-1.5	103	0.00
57		Hexachlorobutadiene	250.000	221.348	11.5#	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 12:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Jun 24 12:52:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original

passed BH 6/25

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.22	128	351471	250.00	ng	-0.09 NA%
26) 1,4-Difluorobenzene IS#2	13.16	114	1452957	250.00	ng	-0.09 NA%
36) Chlorobenzene-d5 IS#3	20.46	117	1086441	250.00	ng	-0.09 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.37	65	559268	253.89	ng	-0.08
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.56%						
32) Toluene-d8 SURR#2	16.72	98	1191092	253.61	ng	-0.08
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.44%						
46) 4-Bromofluorobenzene SURR#	23.61	95	1057000	244.69	ng	-0.08
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.88%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.85	85	1648334	224.57	ng	99
3) Dichlorotetrafluoroethane	3.86	135	563765	229.65	ng #	20
4) Chloromethane	4.13	50	410685	276.62	ng #	93
5) Vinyl chloride	4.36	62	350066	251.56	ng	97
6) Bromomethane	5.17	94	491228	244.05	ng	95
7) Chloroethane	5.27	64	224956	251.90	ng	96
8) Trichlorofluoromethane	5.79	101	434710	247.40	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.59	151	680108	246.80	ng	93
10) 1,1-Dichloroethene	6.97	96	401775	257.07	ng	89
12) Methylene chloride	7.87	49	715859	255.12	ng #	83
13) Carbon disulfide	8.02	76	1179776	255.97	ng	100
14) methyl-Tert-Butyl Ether	8.16	73	530722	266.55	ng #	88
15) trans-1,2-Dichloroethene	8.47	96	424758	253.63	ng	91
16) n-Hexane	8.57	57	460656	238.62	ng #	1
17) 1,1-Dichloroethane	9.30	63	842916	247.76	ng	98
18) cis-1,2-Dichloroethene	10.54	61	709133	250.13	ng	92
19) Chloroform	10.86	83	1045725	248.23	ng #	93
21) 1,1,1-Trichloroethane	11.73	97	877357	246.36	ng	99
22) Carbon tetrachloride	12.29	117	928517	246.21	ng	97
24) 1,2-Dichloroethane	12.57	62	616884	252.98	ng	99
25) 1,2-Dibromoethane	19.53	107	704366	249.47	ng	99
27) Benzene	12.63	78	1139820	250.75	ng	96
28) Trichloroethene	13.97	130	560982	246.06	ng	98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 12:03 2001 Quant Results File: TO14S.RES

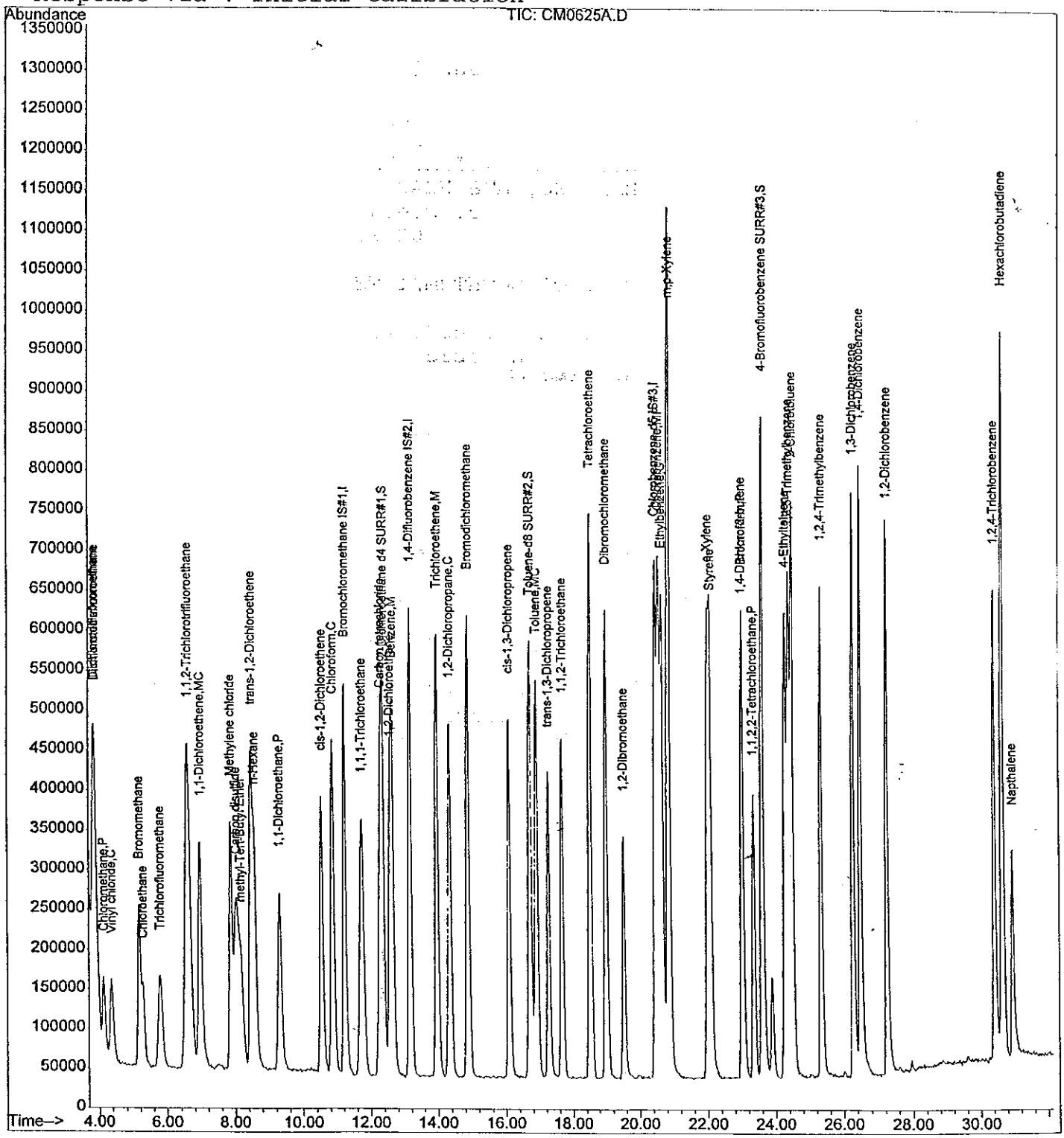
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Jun 24 12:52:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,2-Dichloropropane	14.34	63	518193	250.69 ng	#	86
30)	Bromodichloromethane	14.88	83	1217342	247.40 ng		99
31)	cis-1,3-Dichloropropene	16.10	75	727856	245.25 ng	#	78
33)	Toluene	16.90	92	687094	248.85 ng		96
34)	trans-1,3-Dichloropropene	17.26	75	594468	248.89 ng	#	76
35)	1,1,2-Trichloroethane	17.68	97	427987	247.95 ng		97
37)	Tetrachloroethene	18.52	164	525355	244.29 ng		97
38)	Dibromochloromethane	19.00	127	742649	245.46 ng		100
39)	Chlorobenzene	20.57	112	968888	248.43 ng		95
40)	Ethylbenzene	20.66	106	392838	245.40 ng		90
41)	m,p-Xylene	20.86	106	1014617	499.68 ng		89
42)	o-Xylene	22.01	106	480650	243.56 ng		88
43)	Styrene	22.09	104	804546	247.97 ng		95
44)	Bromoform	23.02	173	647094	238.69 ng		99
45)	1,1,2,2-Tetrachloroethane	23.35	83	663627	250.52 ng		98
47)	1,4-Dichloro-2-butene	23.00	75	132929	237.48 ng		88
48)	4-Ethyltoluene	24.29	105	1311494	239.13 ng		93
49)	1,3,5-Trimethylbenzene	24.39	105	1144563	265.22 ng		95
50)	2-Chlorotoluene	24.49	91	1455187	251.87 ng		97
51)	1,2,4-Trimethylbenzene	25.35	105	1106854	244.27 ng		98
52)	1,3-Dichlorobenzene	26.28	146	836937	244.31 ng		97
53)	1,4-Dichlorobenzene	26.48	146	911540	253.90 ng		[illegible]
54)	1,2-Dichlorobenzene	27.26	146	783245	250.65 ng		[illegible]
55)	1,2,4-Trichlorobenzene	30.41	180	555568	234.46 ng		99
56)	Napthalene	30.95	128	688998	253.70 ng	#	91
57)	Hexachlorobutadiene	30.64	225	462866	221.35 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0625A\CM0625A.D Vial: 14
Acq On : 25 Jun 2001 11:30 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MAB135ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 12:03 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Jun 24 12:52:14 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135ABK.D Vial: 15
Acq On : 25 Jun 2001 12:07 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 14:45 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:57 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BA 6/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.25	128	327706	250.00 ng	0.03 NA%
26) 1,4-Difluorobenzene IS#2	13.19	114	1333001	250.00 ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.49	117	1013399	250.00 ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.40	65	533128	259.57 ng	0.03
Spiked Amount 250.000	Range	61 - 140	Recovery	= 103.83%	
32) Toluene-d8 SURR#2	16.73	98	1102586	255.89 ng	0.02
Spiked Amount 250.000	Range	90 - 109	Recovery	= 102.36%	
46) 4-Bromofluorobenzene SURR#	23.63	95	962493	238.88 ng	0.02
Spiked Amount 250.000	Range	87 - 112	Recovery	= 95.55%	

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135ABK.D Vial: 15
Acq On : 25 Jun 2001 12:07 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 12:46 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:57 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

B H 6/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.25	128	327706	250.00	ng	0.03 NA%
26) 1,4-Difluorobenzene IS#2	13.19	114	1333001	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.49	117	1013399	250.00	ng	0.03 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.40	65	533128	259.57	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.83%						
32) Toluene-d8 SURR#2	16.73	98	1102586	255.89	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.36%						
46) 4-Bromofluorobenzene SURR#	23.63	95	962493	238.88	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.55%						

Target Compounds						Qvalue
51) 1,2,4-Trimethylbenzene	25.37	105	1082	0.26	ng	# 31
55) 1,2,4-Trichlorobenzene	30.43	180	6312	2.86	ng	# 75
56) Napthalene	30.97	128	13141	5.19	ng	# 64

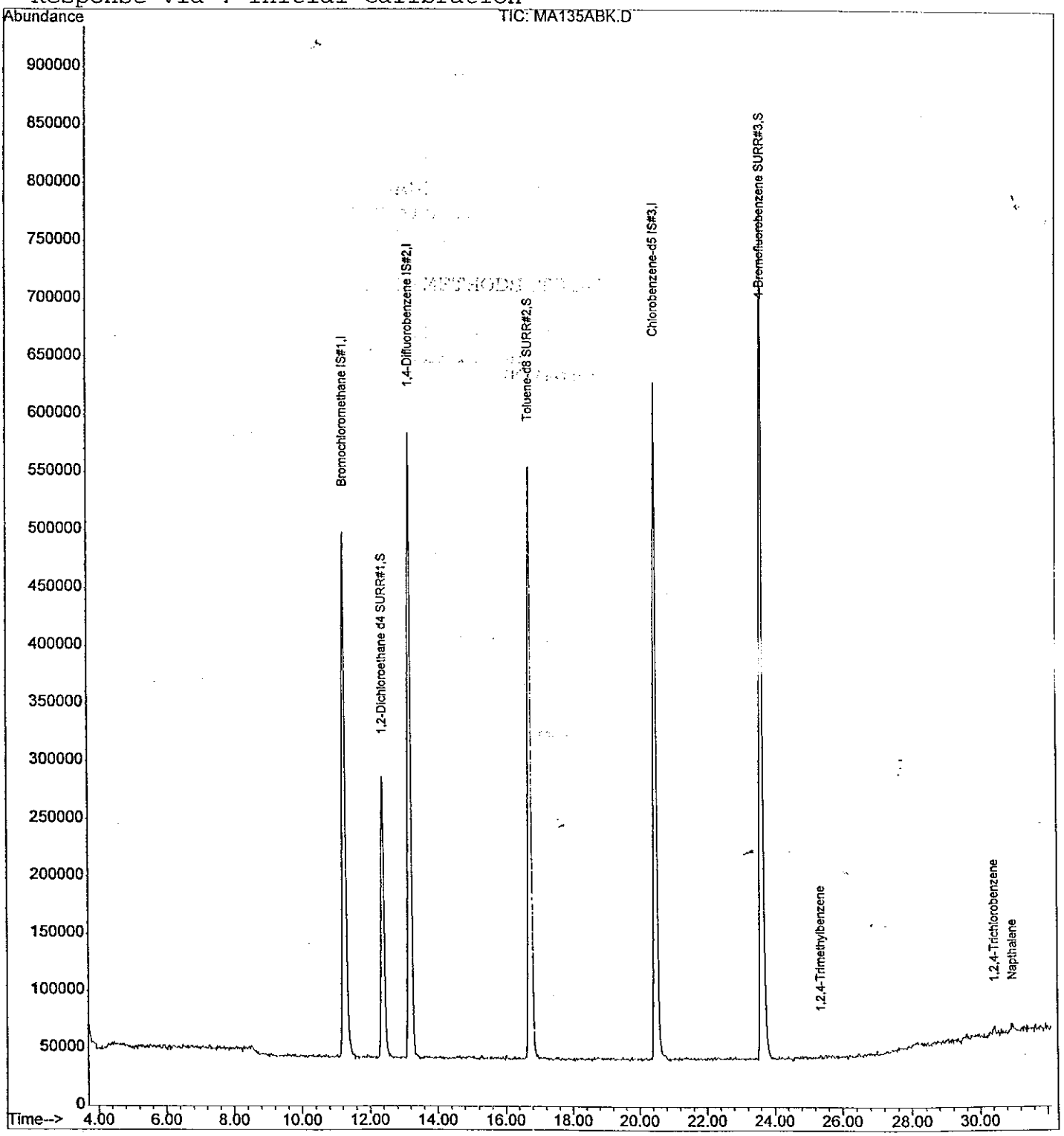
LRL/MB/MSF

(#) = qualifier out of range (m) = manual integration
MA135ABK.D TO14S.M Mon Jun 25 12:46:18 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135ABK.D Vial: 15
Acq On : 25 Jun 2001 12:07 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 12:46 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 25 12:06:57 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135LCS.D Vial: 16
Acq On : 25 Jun 2001 12:45 Operator: BDH
Sample : LCS/BATCH #135 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK 2nd SOURCE ~~FOR CURVE~~ Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 14:46 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6-25-01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	329914	250.00 ng	-0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.21	114	1302335	250.00 ng	-0.06 NA%
36) Chlorobenzene-d5 IS#3	20.50	117	996099	250.00 ng	-0.08 NA%
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.40	65	533354	257.95 ng	-0.08
Spiked Amount 250.000	Range	61 - 140	Recovery	= 103.18%	
32) Toluene-d8 SURR#2	16.75	98	1071693	254.58 ng	-0.08
Spiked Amount 250.000	Range	90 - 109	Recovery	= 101.83%	
46) 4-Bromofluorobenzene SURR#	23.64	95	952974	240.62 ng	-0.08
Spiked Amount 250.000	Range	87 - 112	Recovery	= 96.25%	
Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.00	96	328390	223.84 ng	88
27) Benzene	12.68	78	1053034	258.45 ng	96
28) Trichloroethene	14.00	130	528842	258.79 ng	99
33) Toluene	16.93	92	647830	261.77 ng	96
39) Chlorobenzene	20.60	112	918810	256.96 ng	94

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135LCS.D Vial: 16
Acq On : 25 Jun 2001 12:45 Operator: BDH
Sample : LCS/BATCH #135 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK 2nd SOURCE ~~FOR CURVE~~ Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 13:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

orig · BH 6/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	329914	250.00	ng	-0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.21	114	1302335	250.00	ng	-0.06 NA%
36) Chlorobenzene-d5 IS#3	20.50	117	996099	250.00	ng	-0.08 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.40	65	533354	257.95	ng	-0.08
Spiked Amount 250.000	Range	61 - 140	Recovery	=	103.18%	
32) Toluene-d8 SURR#2	16.75	98	1071693	254.58	ng	-0.08
Spiked Amount 250.000	Range	90 - 109	Recovery	=	101.83%	
46) 4-Bromofluorobenzene SURR#	23.64	95	952974	240.62	ng	-0.08
Spiked Amount 250.000	Range	87 - 112	Recovery	=	96.25%	

Target Compounds

						Qvalue
4) Chloromethane	4.37	50	966	0.69	ng	# 46
10) 1,1-Dichloroethene	7.00	96	328390	223.84	ng	88
14) methyl-Tert-Butyl Ether	8.24	73	7086	3.79	ng	# 52
16) n-Hexane	8.60	57	10531	5.81	ng	# 37
24) 1,2-Dichloroethane	12.68	62	13636	5.96	ng	# 49
25) 1,2-Dibromoethane	19.56	107	12641	4.77	ng	97
27) Benzene	12.68	78	1053034	258.45	ng	96
28) Trichloroethene	14.00	130	528842	258.79	ng	99
33) Toluene	16.93	92	647830	261.77	ng	96
34) trans-1,3-Dichloropropene	17.29	75	1029	0.48	ng	# 1
35) 1,1,2-Trichloroethane	17.69	97	2150	1.39	ng	# 55
38) Dibromochloromethane	19.03	127	4852	1.75	ng	# 82
39) Chlorobenzene	20.60	112	918810	256.96	ng	94
44) Bromoform	23.05	173	19217	7.73	ng	# 81
45) 1,1,2,2-Tetrachloroethane	23.39	83	31624	13.02	ng	# 87
48) 4-Ethyltoluene	24.43	105	8294	1.65	ng	# 46
49) 1,3,5-Trimethylbenzene	24.43	105	8294	2.10	ng	# 30
50) 2-Chlorotoluene	24.63	91	8292	1.57	ng	# 47
51) 1,2,4-Trimethylbenzene	25.38	105	7186	1.73	ng	# 31
52) 1,3-Dichlorobenzene	26.30	146	6047	1.93	ng	# 56
53) 1,4-Dichlorobenzene	26.53	146	7515	2.28	ng	# 45
54) 1,2-Dichlorobenzene	27.27	146	7751	2.71	ng	# 72
55) 1,2,4-Trichlorobenzene	30.44	180	18957	8.73	ng	# 81

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135LCS.D Vial: 16
Acq On : 25 Jun 2001 12:45 Operator: BDH
Sample : LCS/BATCH #135 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 13:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

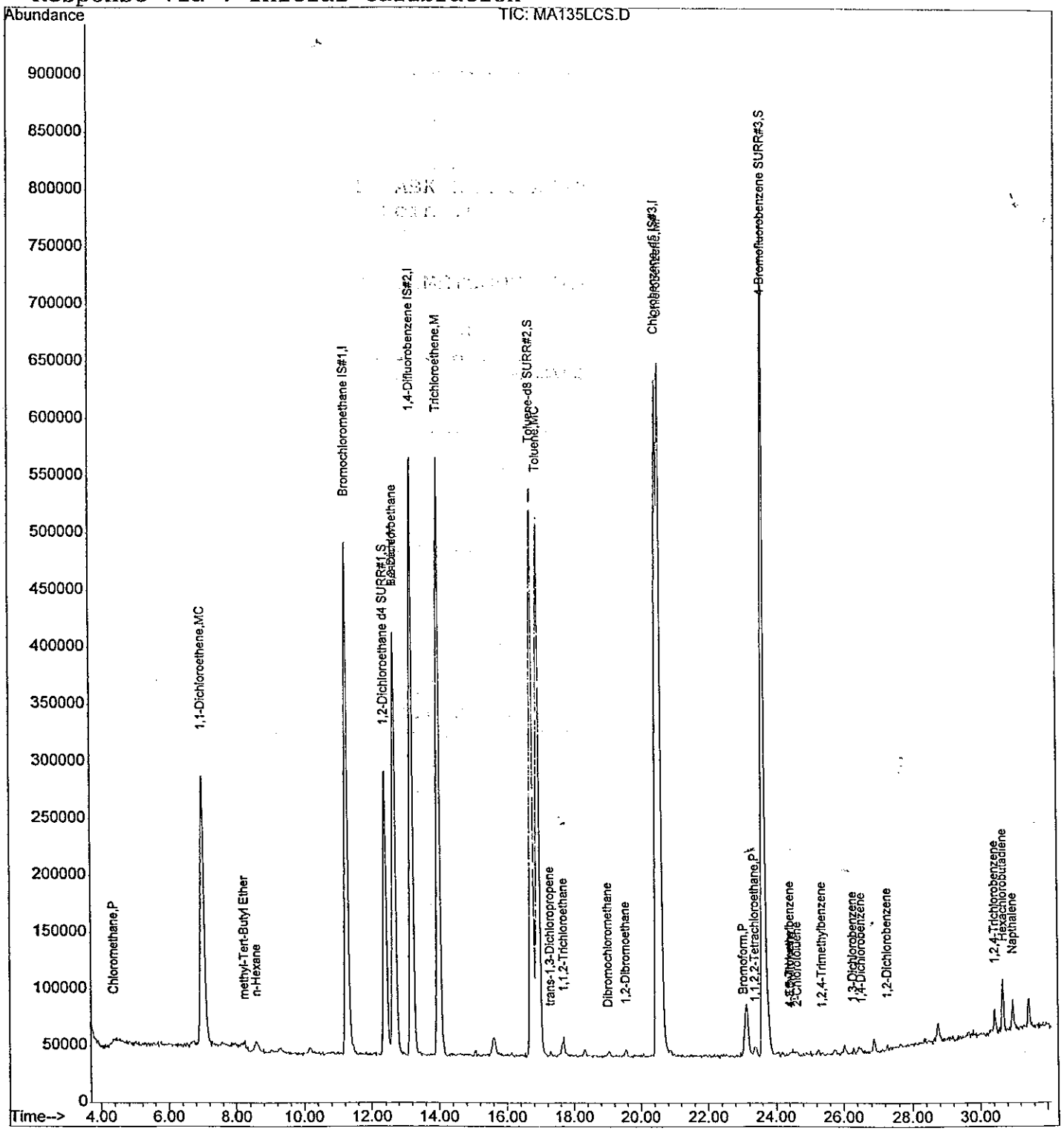
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
56)	Napthalene	30.98	128	59643	23.95	ng	#	81
57)	Hexachlorobutadiene	30.69	225	24402	12.73	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\MA135LCS.D Vial: 16
Acq On : 25 Jun 2001 12:45 Operator: BDH
Sample : LCS/BATCH #135 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA135ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 25 13:17 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\65131.D
Acq On : 25 Jun 2001 16:54
Sample : 062SVE113\6513-1 ST. 500mls
Misc : Pf/Pi=1 MA135ABK
MS Integration Params: rteint.p
Quant Time: Jun 25 17:29 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.004
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	280442	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	963901	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.55	117	753499	250.00 ng	-0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.44	65	428440	243.76 ng	-0.04
Spiked Amount 250.000	Range	61 - 140	Recovery	= 97.50%	
32) Toluene-d8 SURR#2	16.79	98	780002	250.34 ng	-0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	= 100.14%	
46) 4-Bromofluorobenzene SURR#	23.68	95	775090	258.72 ng	-0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	= 103.49%	

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\65131.D
Acq On : 25 Jun 2001 16:54
Sample : 062SVE113\6513-1 ST. 500mls
Misc : Pf/Pi=1 MA135ABK
MS Integration Params: rteint.p
Quant Time: Jun 25 17:26 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	280442	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	963901	250.00 ng	-0.02 NA%
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System Monitoring Compounds					
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Spiked Amount 250.000	Range 61 - 140		Recovery = 97.50%		
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Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%		
46) 4-Bromofluorobenzene SURR#	23.68	95	775090	258.72 ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 103.49%		

Target Compounds					Qvalue
45) 1,1,2,2-Tetrachloroethane	23.50	83	6897	3.75 ng	# 30
48) 4-Ethyltoluene	24.34	105	4134	1.09 ng	# 46
49) 1,3,5-Trimethylbenzene	24.46	105	11185	3.74 ng	# 57
51) 1,2,4-Trimethylbenzene	25.41	105	9285	2.95 ng	# 63

LRL/MR/MDP

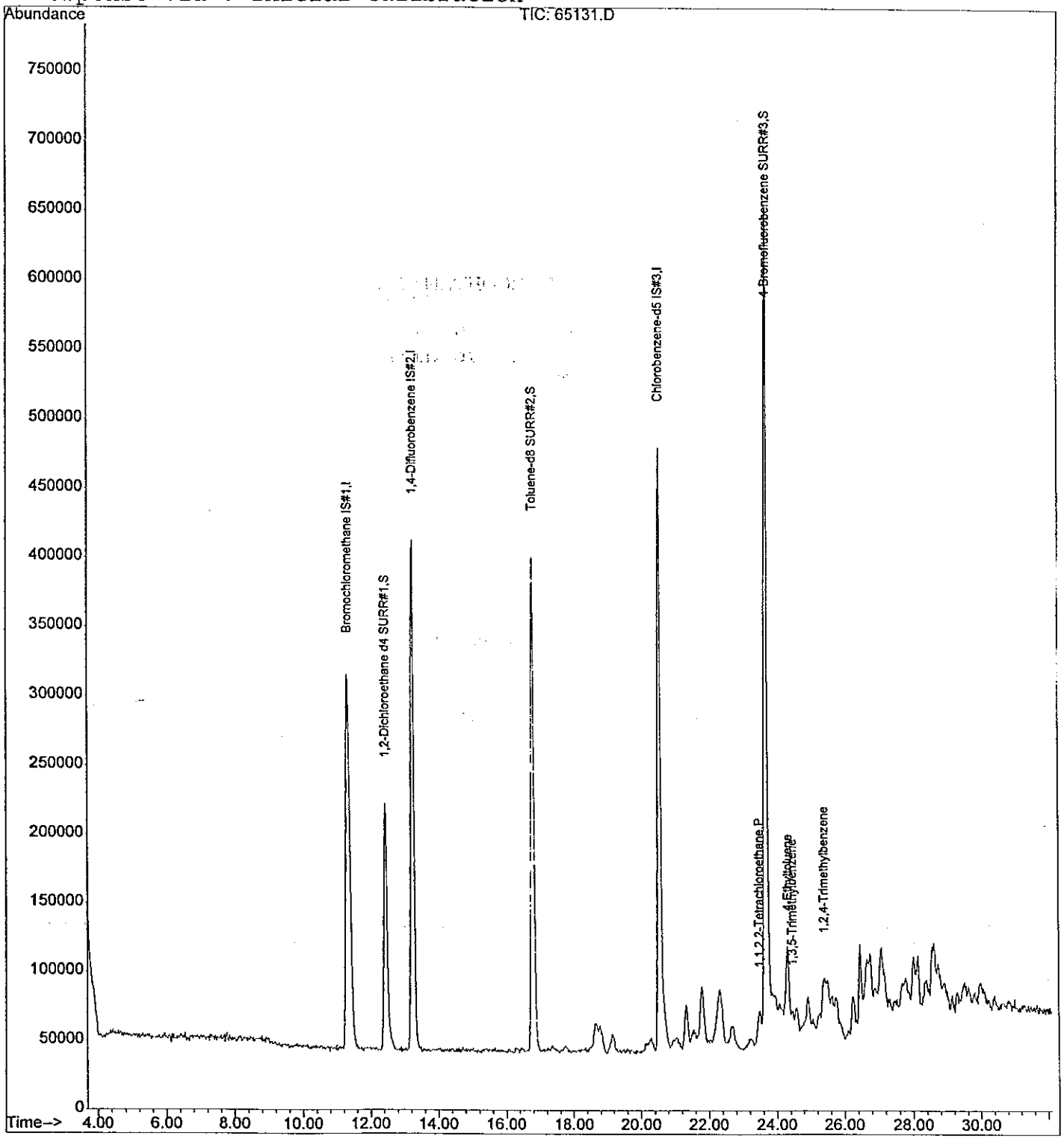
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0625A\65131.D
Acq On : 25 Jun 2001 16:54
Sample : 062SVE113\6513-1 ST. 500mls
Misc : Pf/Pi=1 MA135ABK
MS Integration Params: rteint.p
Quant Time: Jun 25 17:26 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 17:08:54 2001
Response via : Initial Calibration



STL - Pensacola / GCMS Volatiles Run Log

Date 6-19-01 | Instrument ID : Marilyn | Method (TO14.m) 8260A.m/8260W.m | Other: New TO14 curve

Batch MAB127 (1) 2 3 | Batch 1 2 3 | Daily maint.

CS# 8 -MSW- 19 -3 | TO14 8 -MSW- 17 - 1 | AIR-SPK 8 -MSW- 23 - 1 | LCS# 8 -MSW- 23 - 1

BFB 8 -MSW- 19 -3 | 8260 -MSW- - | WATER-SPK -MSW- - | SURR# 8 -MSW- 19 -3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	To14.m	BFM ———	50ng		N	Methanol	From ~~550~~ Blank 95 Ion Area = 988,000	BA	—	1279		—
10:20 ~~08:27~~	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 325	~~1357~~	973	
08:27	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
13:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0025	5ppb		Y N	A(To14)	5ppb ICAL		319	1323	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
10:20	14		CMA0250	50ppb		Y N		50ppb CCV too		315	1279	973	—
10:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
11:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
12:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
14:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
14:57	1		↓ -2	↓		Y N		↓		315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		↓ -5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	X1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		~~BA~~ 6/19/01 shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody [illegible] sample(s) back to the sample storage refrigerator.

STL - Pensacola / GCMS Volatiles Run Log

ate 6-25-01
tch MAB135 (1) 2 3
:# 8 -MSW- 19 -3
B 8 -MSW- 19 -3

Instrument ID : Marilyn
Batch _____ 1 2 3
TO14 8 -MSW- 17 - 1
8260 -MSW- -

Method : TO14.m/8260A.m/8260W.m
AIR-SPK 8 -MSW- 23 - 1
WATER-SPK -MSW- -

Other: _____
Daily maint. _____
LCS# 8 -MSW- 23 - 3
SURR# -MSW- -

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
1:30	14	TO14.m	BFM —	50ng		N	Methanol	95 Ion Area = 1,057,000	BH	—	—	—	—
:30	14		CM 0625A	50ppb		N	CM0625AT W	Daily Calib. Check - tune same file		351	1453	1086	—
2:07	15		MA135A BK	ST.		N	W	Daily Method Blank		328	1333	1013	—
2:45	16		MA135 LCS	50ppb		N	W	Batch # 135 LCS		330	1302	996	—
3:22	1		QC128	ST.		Y N	A(TO14)	500mls qc can check # 128 passes		253	917	716	—
3:56	1		6553-1			Y N				295	1131	873	—
4:34	1		-2			Y N		re-run X10 for C12DCE		293	1078	845	—
5:09	1		-3			Y N				296	1089	851	—
5:46	1		6511-1			Y N				294	1090	876	—
6:20	1		6512-1			Y N				306	1235	954	—
6:54	1		6513-1			Y N				280	964	753	—
7:32	BK ~~21~~ 25		6512-2			Y N				317	1325	992	—
7:21	(26)		6650-10R	X10	✓	Y N		50mls-Bag for C.O. verif		304	1715	921	—
8:49	3		6553-2R	X10	✓	Y N		-CAN for C12DCE only		297	1189	900	—
1:06	1		6648-1	ST		Y N		500mls		257	895	706	—
1:43	1		-2			Y N				275	992	771	—
:	~~X~~ 15	BFBSTL	BLKTUBE	—		Y N	—	MPM Clean-up/Prep	BH	—	—	—	—
:	1-13			—		Y N	—			—	—	—	—
:						Y N							
:						Y N							
:						Y N		BH 6/25/01					
:						Y N							
:						Y N							
:						Y N							

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody ring analysis and relinquished sample(s) back to the sample storage refrigerator.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ # Ampules	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA85600	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short list)	LA84166	Supelco	2500 µg/ml	7/2002 (Most likely)	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014205	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/1000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 (earliest)	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90433	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016359	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89887	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/03 ~~5~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016378	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	2 each	8-VN 2-9
n-Hexane	80110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	80110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/16/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-TO14	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95936	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
OXYGENATES MIX	A018874	RESTEK	2000-10,000	4/18/01	4/18/02	1	8-VN 3-1
Freon 113	A018831	Restek	2000	5/3/01	5/3/02	2	8-VN 3-2
MTBE	A017647	Restek	2000	5/3/01	6/04	2	8-VN 3-3
8260 Kit	Various	Restek	2000	5/3	Various	2	8-VN 3-4
Chloroprene	R1373	Ultra	100 µg/ml	5/4/01	12/2002	4	8-VN 3-5
Acrylonitrile	A015202	Restek	2000	5/4/01	1/02	1	8-VN 3-6
APPIX-Mix B	LA97780	Supelco	2000 µg/ml	5/7/01	5/7/02	4	8-VN 3-7
APPIX-Mix A	LA97779	Supelco	2000/6000 µg/ml	5/9/01	5/9/02	4	8-VN 3-8
Isopropyl Ether	A019529	Restek	2000 µg/ml	5/9	5/04	2	8-VN 3-9
Freon 113	A018830	Restek	2000 µg/ml	5/14	5/14/02	3	8-VN 3-10
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
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							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: Tol4 Calibration Std.
Date: 01-09-01
Analyst: BDH

Standard I.D.: 8 -MSW17-1
Location: GC/MS VOA Freezer # MS018
Solvent: MEOH Lot # V079N35E92

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26	LA90724	9-1-01	2500 µg/ml	250 µl	25 mls	25 µg/ml

Comments: put expiration date of 6-25-01, even though really expires 7-10-01, (neat STD expires 7/1/01)

Sol. Name: Nitrobenzene
Date: 1-10-01
Analyst: GH

Standard I.D.: 8 -MSW17-2
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VNZ-15	044-072	1/6/02	1000	500 µl	5.00 ml	100 µg/ml

Comments:

Sol. Name: BP short list Cal Std.
Date: 1-17-01
Analyst: D

Standard I.D.: 8 -MSW17-3
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VNZ-12	LA-95178	12-2001	5000 µg/ml	250 µl	50 ~~25~~ ml D	25 ~~50~~ µg/ml D

Comments: expires 7-17-01

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: Oxygenates
Date: 3/1/01
Analyst: W/D

Standard I.D.: 8 -MSW 19- 1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-16	B1010025	1/4/03	2000-10,000	45	1.8ml	50/250 ug/ml

Comments: exp. 9/1/01

Sol. Name: IS/Surr
Date: 3-29-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 19- 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-4	A016278	8/03	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN-2-13	A017973	3/04	2500 µg/ml	↓	↓	↓

Comments: Exp 9-29-01

Sol. Name: To14 IS/SURR
Date: 4-2-01
Analyst: BMH

Standard I.D.: 8 -MSW 19- 3
Location: Freezer MS018
Solvent: Methanol
Lot # V03E71

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A017265	11/01	250 ug/ml	500 uls	50 mls	2.5 ppm
7-VN-2-16 (Surr)	A017264	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/7/01

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23. 1
Location: MS018-Freezer
Solvent: MeOH-V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25mls	25ppm

Comments: expires 12/12/01

Sol. Name: IS/SUM
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-4 IS	A016278	8/03	2500	500	10	125ng/ul
8-VN2-13 SUM	A017773	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C107405
Project: CTO-0062, CECIL FIELD DAY – TANK 1

STL SAMPLE ID	CLIENT SAMPLE ID
C107405-1	062-SVE-E-A-0717-01-14

The above sample was received at STL Pensacola's lab in good condition on July 19, 2001.

Volatiles by 8021B

A "U" qualifier next to the sample result indicates the compound was not detected in the sample at or above the laboratory's MDL. The reported value is the laboratory's RL.

Rick Hayes
Senior Project Manager

7/31/01

AUG - 3 2001
CCI NAVY RAC PMO

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-07405
Received: 19 JUL 01
Reported: 31 JUL 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 172410731

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07405-1	062-SVE-E-A-0717-01-14	07-17-01/15:20

PARAMETER	07405-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

002

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-07405
Received: 19 JUL 01
Reported: 31 JUL 01

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Sampled By: Client
Code: 172410731

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07405-1	062-SVE-E-A-0717-01-14	07-17-01/15:20

PARAMETER	07405-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.10
1,3,5-Trimethylbenzene, mg/m3	0.12
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	93 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	111 %

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SEVERN TRENT SERVICES

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07405-1	062-SVE-E-A-0717-01-14	07-17-01/15:20

PARAMETER	07405-1
Dilution Factor	1
Prep Date	07.25.01
Prep Time	15:50
Analysis Date	07.25.01
Analysis Time	16:02
Batch ID	MAB153
Prep Method	MOD-TO14
Analyst	BDH

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Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 172410731

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07405-2	Method Blank	
07405-3	Lab Control Standard True Value	
07405-4	Lab Control Standard Result	
07405-5	Lab Control Standard % Recovery	
07405-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07405-2	07405-3	07405-4	07405-5	07405-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.500	0.504	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.500	0.508	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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Client PO. No.: 2916

Contract No.: CT0-0062
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07405-2	Method Blank	
07405-3	Lab Control Standard True Value	
07405-4	Lab Control Standard Result	
07405-5	Lab Control Standard % Recovery	
07405-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07405-2	07405-3	07405-4	07405-5	07405-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.500	0.452	90 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.500	0.504	101 %	86-113

006

SEVERN TRENT SERVICES

STL Pensacola

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Received: 19 JUL 01
Reported: 31 JUL 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 172410731

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07405-2	Method Blank	
07405-3	Lab Control Standard True Value	
07405-4	Lab Control Standard Result	
07405-5	Lab Control Standard % Recovery	
07405-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07405-2	07405-3	07405-4	07405-5	07405-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.500	0.504	101 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	99 %	0.500	0.492	98 %	61-140
Surrogate - Toluene-d8	100 %	0.500	0.496	99 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.500	0.474	95 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	07.25.01	---	07.25.01	---	---
Prep Time	09:01	---	09:39	---	---
Analysis Date	07.25.01	---	07.25.01	---	---
Analysis Time	09:13	---	09:51	---	---
Batch ID	MAB153	MAB153	MAB153	MAB153	MAB153
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

007

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C107405 Date Received: 7/19/01

1. Was there a Chain of Custody? (Yes) No*
2. Was Chain of Custody properly filled out and relinquished? (Yes) No*
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No* (N/A)
4. Were all samples properly labeled and identified? (Yes) No*
5. Did samples require splitting or compositing♦? Yes* (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No*
7. Were all sample containers received intact? (Yes) No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No* (N/A)
9. Is there sufficient volume for analysis requested? Yes No* (N/A) ~~(San)~~
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No (N/A)
12. If sent, were matrix spike bottles returned? Yes No* (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No* (N/A)

Airbill Number(s): 7926 7609 9658

Shipped By: FedEx

Cooler Number(s): Box CAN # 090

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A
CCK9
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHB **Date:** 7/19/01 **Logged By:** PK **Date:** 7/19/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C107 405

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-006

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Jeff Wilmoth CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0717-01-14	SVE Effluent	AIR	07/17/01	15:20	III/C	14 Day	1								0990		Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK #792676099658.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	7/18/01	11:00	Federal Express	7/18/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	7/19/01	1015
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a,response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

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A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags **are limited to** X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

STL PENSACOLA
State Certifications

Alabama *Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/01*

Arizona *Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02*

Arkansas *Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02*

State of ***California****, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02*

State of ***Connecticut****, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01*

Delaware *Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension granted*

Florida *DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02*

Florida *DEP/DOH CompQAP # 980156*

Florida*, Radioactive Materials License No. G0733-1, no expiration date assigned*

Foreign Soil Permit*, Permit No. S-37599*

Kansas *Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01*

Commonwealth of ***Kentucky****, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01*

State of ***Louisiana****, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01*

Louisiana *Department of Environmental Quality, ELAP, Agency Interest ID 30748 (Interim Accreditation Granted)*

State of ***Maryland****, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/01*

Commonwealth of ***Massachusetts****, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02*

State of ***Michigan****, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/01*

New Hampshire *DES ELAP, Laboratory ID No. 250599A (Wastewater), expires 08/16/01*

State of ***New Jersey****, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01*

New York State*, Department of Health, Laboratory ID No. 11503.(WW and Solids/Hazardous Waste), expires 04/01/01 – extension granted*

North Carolina *Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01*

North Dakota *DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02*

State of ***Oklahoma****, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/01*

Commonwealth of ***Pennsylvania****, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01*

South Carolina *DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/01*

Tennessee *Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/08/01*

Virginia *Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/01*

State of ***Washington****, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01*

West Virginia *Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01*

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04

FROM: Randy Dumaop (904)777-4812
J.A. Jones Environmental Servic
6219 Authority Ave.

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

SHIP DATE: 18JUL01
MAN-WGT: 16 LBS

TO: Rick Hayes (850)474-1001
Severn Trent Labs
3355 McLemore Dr

Pensacola, FL 32514-7045

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 **STANDARD OVERNIGHT**

THU
AA

TRK # **7926 7609 9658** FORM 0201

Deliver By:
BFM 19JUL01

32514-FL-US **XB PNSA**

C107405

C107405

013

Attach one file Label here

CH2M-CONST-GA C107405
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: PR
Labeled by: MHS
Delivered by: MHS

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
Encore Sampler											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MHS	7/9/01	1450
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

\excel\sampctrl\smpcklst.xls May 1, 2001

VOLATILES (MOD. TO14)

VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 107405
PROJECT NAME: N.A.S. CECIL FIELD, 103rd Street

RECEIVED: July 19, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0717-01-14	107405-1	062SVEA07170114

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
July 31, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 107405 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0725A.D Date Analyzed : 25 Jul 2001
Instrument ID : GC/MS Ins Time Analyzed : 8:36
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
74051	062-SVE-E-A-071	93	100	111	0	0	0	0
MA153ABK	VBLKMA/ DAILY M	99	100	95	0	0	0	0
MA153LCS	LCS/BATCH #153	98	99	95	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jul 31 14:59:23 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	0.452	0.500	90.36	58 to 138%	[ ]
27)	M	Benzene	0.504	0.500	100.73	87 to 116%	[ ]
28)	M	Trichloroethene	0.504	0.500	100.74	85 to 116%	[ ]
33)	MC	Toluene	0.504	0.500	100.87	86 to 113%	[ ]
39)	MP	Chlorobenzene	0.508	0.500	101.52	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107405

Lab File ID: MA153ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 7/25/01 Time Analyzed: 9:13

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS	LCS/BATCH #153 LCS 5	MA153LCS.D	9:51
02	062SVEEA0717011	062-SVE-E-A-0717-01-14	74051.D	16:02

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107405

Lab File ID: MA127ABK.D BFB Injection Date: 6/19/01

Instrument ID: MARILYN BFB Injection Time: 8:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107405

Lab File ID: CM0725AT.D BFB Injection Date: 7/25/01

Instrument ID: MARILYN BFB Injection Time: 8:36

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	49.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	62.7
175	4.0 - 9.0% of mass 174	4.6 (7.3)1
176	93.0 - 101.0% of mass 174	62.1 (99.0)1
177	5.0 - 9.0% of mass 176	4.1 (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	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM0725A.D	7/25/01	8:36
02	VBLKMA	VBLKMA/ DAILY METHO	MA153ABK.D	7/25/01	9:13
03	LCS	LCS/BATCH #153 LCS 5	MA153LCS.D	7/25/01	9:51
04	062SVEEA0717011	062-SVE-E-A-0717-01-14	74051.D	7/25/01	16:02

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BA 6/19

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

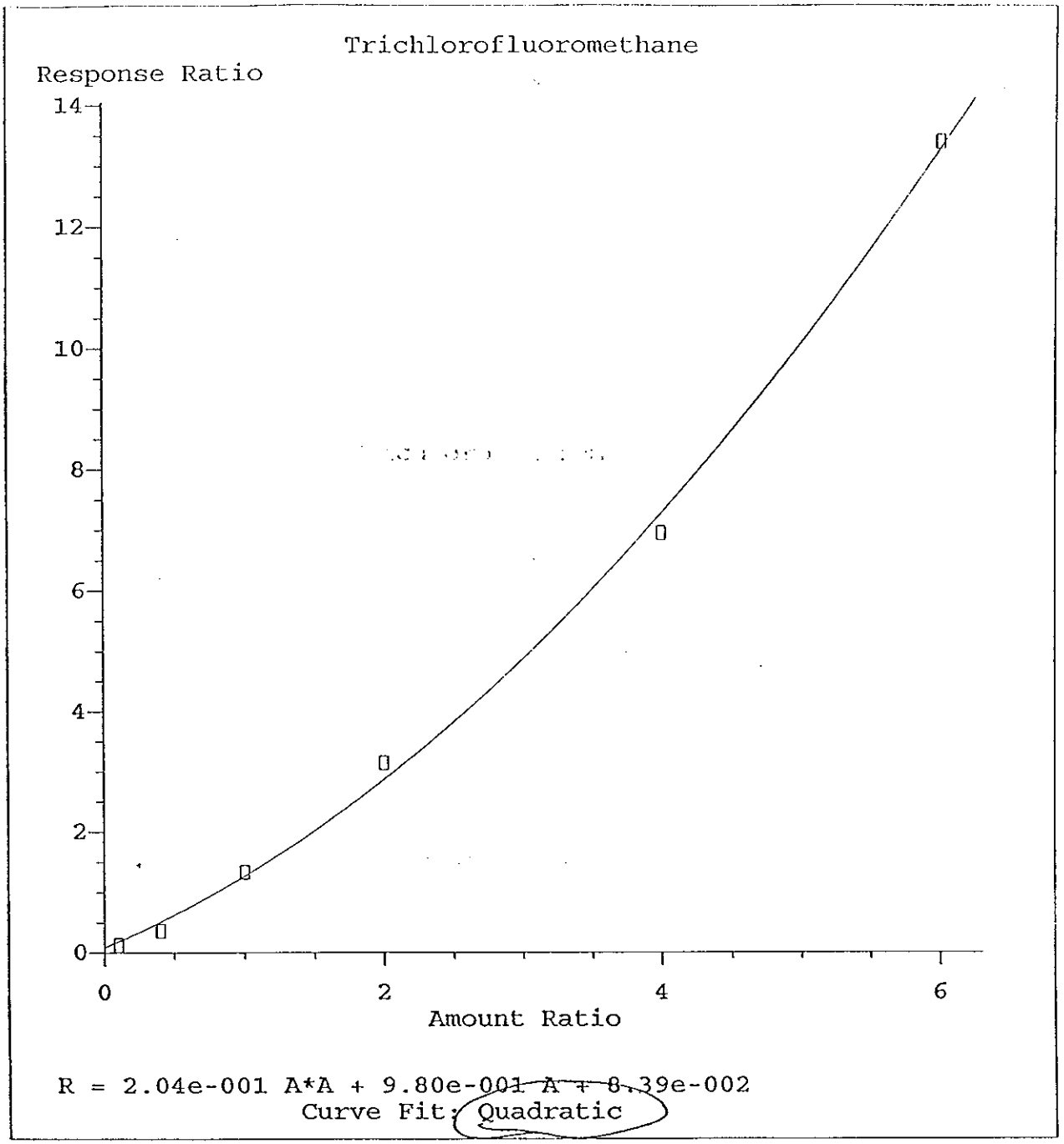
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

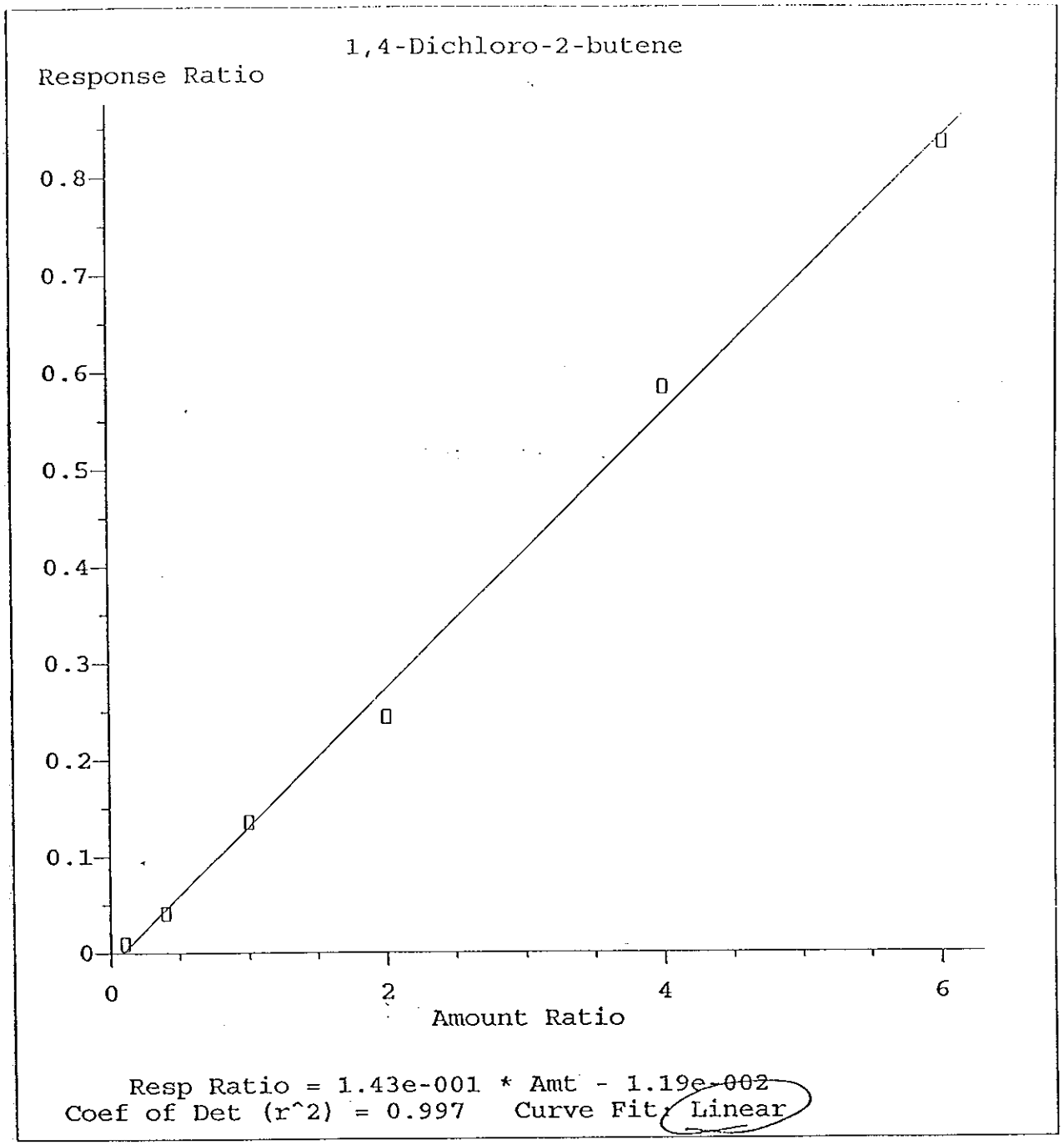
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897✓	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10✓
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41✓
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624✓	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610✓	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76✓
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

.998
DH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

JH 6/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 14:59:23 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	96	0.00
2		Dichlorodifluoromethane	5.221	4.845	7.2#	86	0.00
3		Dichlorotetrafluoroethane	1.746	1.660	4.9#	86	0.00
4	P	Chloromethane	1.056	1.086	-2.8#	103	0.00
5	C	Vinyl chloride	0.990	0.989	0.1#	90	0.00
6		Bromomethane	1.432	1.437	-0.3	95	0.00
7		Chloroethane	0.635	0.653	-2.8#	97	0.00
8		Trichlorofluoromethane	1.509	2.239	-48.4#	161#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.982	-1.1	93	0.00
10	MC	1,1-Dichloroethene	1.112	1.153	-3.7#	97	0.00
11		Iodomethane	0.000	0.000	0.0	146	0.00
12		Methylene chloride	1.996	1.991	0.3	92	0.00
13		Carbon disulfide	3.278	3.502	-6.8#	99	0.00
14		methyl-Tert-Butyl Ether	1.416	1.504	-6.2#	97	0.00
15		trans-1,2-Dichloroethene	1.191	1.237	-3.9#	97	0.00
16		n-Hexane	1.373	1.335	2.8#	88	0.00
17	P	1,1-Dichloroethane	2.420	2.371	2.0#	89	0.00
18		cis-1,2-Dichloroethene	2.017	2.009	0.4	91	0.00
19	C	Chloroform	2.996	2.982	0.5#	91	0.00
20		Isooctane	4.704	8.795	-87.0#	168#	0.00
21		1,1,1-Trichloroethane	2.533	2.540	-0.3	92	0.00
22		Carbon tetrachloride	2.682	2.669	0.5	91	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.529	2.4#	93	0.00
24		1,2-Dichloroethane	1.735	1.713	1.3	90	0.00
25		1,2-Dibromoethane	2.008	2.074	-3.3#	92	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	98	0.00
27	M	Benzene	0.782	0.786	-0.5	93	0.00
28	M	Trichloroethene	0.392	0.396	-1.0	93	0.00
29	C	1,2-Dichloropropane	0.356	0.348	2.2#	90	0.00
30		Bromodichloromethane	0.847	0.825	2.6#	89	0.00
31		cis-1,3-Dichloropropene	0.511	0.502	1.8	91	0.00
32	S	Toluene-d8 SURR#2	0.808	0.812	-0.5	97	0.00
33	MC	Toluene	0.475	0.479	-0.8#	93	0.00
34		trans-1,3-Dichloropropene	0.411	0.409	0.5	90	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	97	0.00
37		Tetrachloroethene	0.495	0.488	1.4	91	0.00
38		Dibromochloromethane	0.696	0.693	0.4	90	0.00
39	MP	Chlorobenzene	0.897	0.901	-0.4	92	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 14:59:23 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.364	1.1#	91	0.00
41		m,p-Xylene	0.467	0.469	-0.4	92	0.00
42		o-Xylene	0.454	0.452	0.4	91	0.00
43		Styrene	0.747	0.716	4.1#	88	0.00
44	P	Bromoform	0.624	0.622	0.3	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.637	-4.4#	93	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.951	4.3#	92	0.00
47		1,4-Dichloro-2-butene	0.123	0.129	-4.9#	92	0.00
48		4-Ethyltoluene	1.262	1.164	7.8#	89	0.00
49		1,3,5-Trimethylbenzene	0.993	0.966	2.7#	92	0.00
50		2-Chlorotoluene	1.329	1.320	0.7	92	0.00
51		1,2,4-Trimethylbenzene	1.043	1.020	2.2#	90	0.00
52		1,3-Dichlorobenzene	0.788	0.775	1.6	90	0.00
53		1,4-Dichlorobenzene	0.826	0.830	-0.5	92	0.00
54		1,2-Dichlorobenzene	0.719	0.716	0.4	90	0.00
55		1,2,4-Trichlorobenzene	0.545	0.514	5.7#	86	0.00
56		Napthalene	0.625	0.665	-6.4#	94	0.00
57		Hexachlorobutadiene	0.481	0.440	8.5#	84	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 14:59:23 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	96	0.00
2		Dichlorodifluoromethane	250.000	231.985	7.2#	86	0.00
3		Dichlorotetrafluoroethane	250.000	237.625	5.0#	86	0.00
4	P	Chloromethane	250.000	257.146	-2.9#	103	0.00
5	C	Vinyl chloride	250.000	249.824	0.1#	90	0.00
6		Bromomethane	250.000	250.988	-0.4	95	0.00
7		Chloroethane	250.000	257.059	-2.8#	97	0.00
8		Trichlorofluoromethane	250.000	412.511	-65.0#	161	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	252.848	-1.1	93	0.00
10	MC	1,1-Dichloroethene	250.000	259.201	-3.7#	97	0.00
11		Iodomethane	-1.000	0.000	0.0	146	0.00
12		Methylene chloride	250.000	249.347	0.3	92	0.00
13		Carbon disulfide	250.000	267.026	-6.8#	99	0.00
14		methyl-Tert-Butyl Ether	250.000	265.520	-6.2#	97	0.00
15		trans-1,2-Dichloroethene	250.000	259.622	-3.8#	97	0.00
16		n-Hexane	250.000	243.022	2.8#	88	0.00
17	P	1,1-Dichloroethane	250.000	244.933	2.0#	89	0.00
18		cis-1,2-Dichloroethene	250.000	249.085	0.4	91	0.00
19	C	Chloroform	250.000	248.813	0.5#	91	0.00
20		Isooctane	250.000	512.964	-105.2#	168	0.00
21		1,1,1-Trichloroethane	250.000	250.651	-0.3	92	0.00
22		Carbon tetrachloride	250.000	248.734	0.5	91	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	243.993	2.4#	93	0.00
24		1,2-Dichloroethane	250.000	246.894	1.2	90	0.00
25		1,2-Dibromoethane	250.000	258.222	-3.3#	92	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	98	0.00
27	M	Benzene	250.000	251.266	-0.5	93	0.00
28	M	Trichloroethene	250.000	252.591	-1.0	93	0.00
29	C	1,2-Dichloropropane	250.000	244.790	2.1#	90	0.00
30		Bromodichloromethane	250.000	243.653	2.5#	89	0.00
31		cis-1,3-Dichloropropene	250.000	245.756	1.7	91	0.00
32	S	Toluene-d8 SURR#2	250.000	251.080	-0.4	97	0.00
33	MC	Toluene	250.000	252.237	-0.9#	93	0.00
34		trans-1,3-Dichloropropene	250.000	248.882	0.4	90	0.00
35		1,1,2-Trichloroethane	250.000	254.448	-1.8	93	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	97	0.00
37		Tetrachloroethene	250.000	246.753	1.3	91	0.00
38		Dibromochloromethane	250.000	248.826	0.5	90	0.00
39	MP	Chlorobenzene	250.000	250.954	-0.4	92	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 14:59:23 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	247.363	1.1#	91	0.00
41		m,p-Xylene	500.000	501.579	-0.3	92	0.00
42		o-Xylene	250.000	248.981	0.4	91	0.00
43		Styrene	250.000	239.620	4.2#	88	0.00
44	P	Bromoform	250.000	249.261	0.3	89	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	261.055	-4.4#	93	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	239.082	4.4#	92	0.00
47		1,4-Dichloro-2-butene	250.000	248.970	0.4	92	0.00
48		4-Ethyltoluene	250.000	230.513	7.8#	89	0.00
49		1,3,5-Trimethylbenzene	250.000	243.219	2.7#	92	0.00
50		2-Chlorotoluene	250.000	248.193	0.7	92	0.00
51		1,2,4-Trimethylbenzene	250.000	244.546	2.2#	90	0.00
52		1,3-Dichlorobenzene	250.000	245.832	1.7	90	0.00
53		1,4-Dichlorobenzene	250.000	251.142	-0.5	92	0.00
54		1,2-Dichlorobenzene	250.000	248.929	0.4	90	0.00
55		1,2,4-Trichlorobenzene	250.000	235.673	5.7#	86	0.00
56		Napthalene	250.000	266.023	-6.4#	94	0.00
57		Hexachlorobutadiene	250.000	228.830	8.5#	84	0.00

029

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107405

Lab File ID (Standard): CM0725A.D Date Analyzed: 7/25/01

Instrument ID: MARILYN Time Analyzed: 8:36

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	302570	11.26	1249639	13.21	941721	20.50
	UPPER LIMIT	605140	11.76	2499278	13.71	1883442	21.00
	LOWER LIMIT	151285	10.76	624820	12.71	470861	20.00
	EPA SAMPLE NO.						
01	VBLKMA	313917	11.28	1298246	13.22	967114	20.52
02	LCS	302773	11.28	1224969	13.24	924812	20.53
03	062SVEEA07170	257626	11.30	851824	13.22	678819	20.55

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

030

STL - Pensacola / GCMS Volatiles Run Log

Date 6-19-01 | Instrument ID : Marilyn | Method (TO14.m) 8260A.m/8260W.m | Other: New To14 curve

Batch MAB127 (1) 2 3 | Batch _____ 1 2 3 | Daily maint. _____

LCS# 8 -MSW- 19 -3 | TO14 8 -MSW- 17 - 1 | AIR-SPK 8 -MSW- 23 - 1 | LCS# 8 -MSW- 23 - 1

BFB 8 -MSW- 19 -3 | 8260 -MSW- - | WATER-SPK -MSW- - | SURR# 8 -MSW- 19 -3

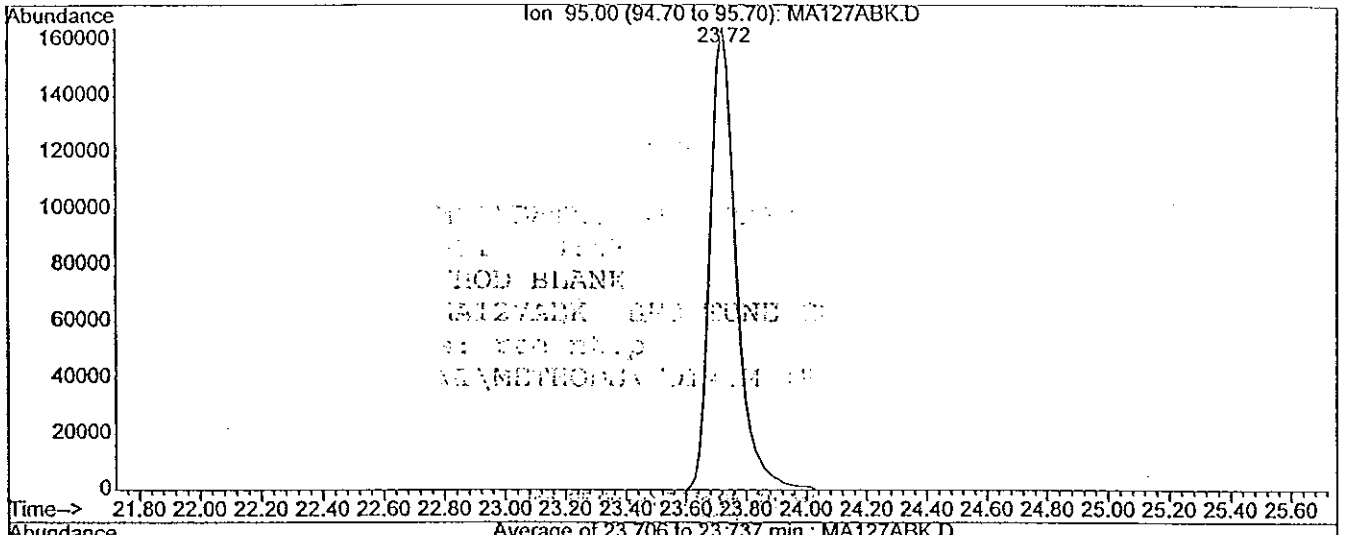
031

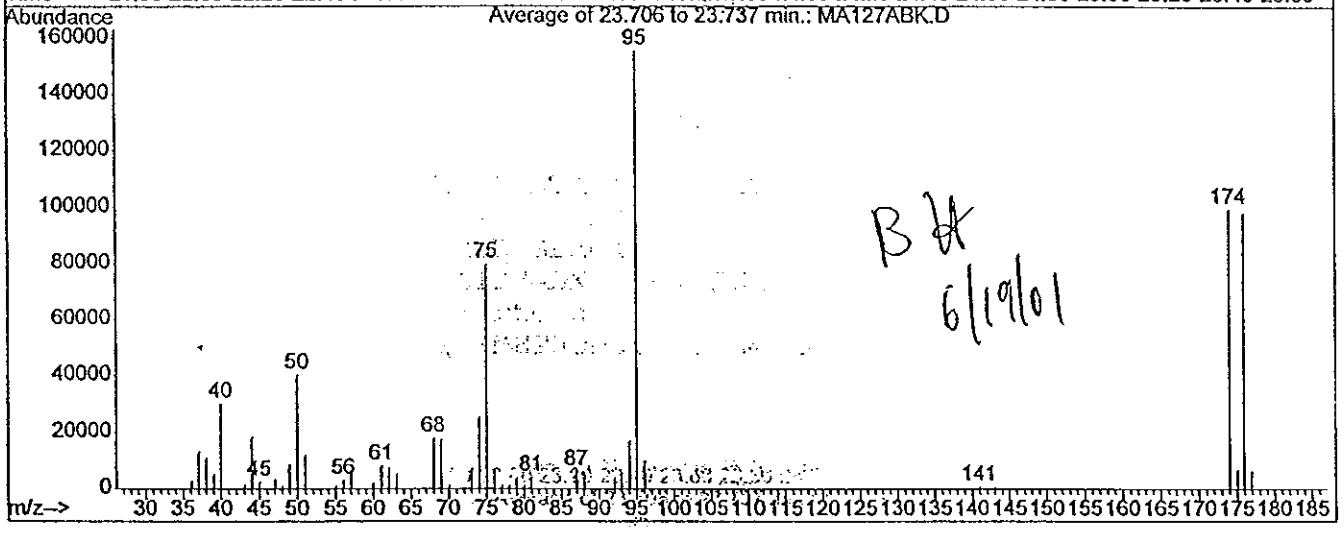
TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	To14.m	BFM ———	50ng		N	Methanol	From ~~CCV~~ Blank 95 Ion Area = 988,000	BH	—	1279		—
10 20 ~~08:29~~	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 35	~~1357~~	973	
08:37	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
13:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0075	5ppb		Y N	A(To14)	5ppb ICAL		319	1323	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
10:20	14		CMA0250	50ppb		Y N		50ppb ccv, too		315	1279	973	—
10:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
11:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
12:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
14:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
14:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		-5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	x1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH 6/19/01 Shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

BFB

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14.M (RTE Integrator)
Title : TO14





BH
6/19/01

Spectrum Information: Average of 23.706 to 23.737 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	40411	PASS
75	95	30	60	51.4	79813	PASS
95	95	100	100	100.0	155392	PASS
96	95	5	9	6.6	10199	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.8	99165	PASS
175	174	5	9	7.1	7032	PASS
176	174	95	101	98.7	97853	PASS
177	176	5	9	6.6	6444	PASS

MA127ABK.D TO14.M Tue Jun 19 09:17:02 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BH 6/19

Calibration Files

25	=CMA0025.D	250	=CMA0250.D	1500	=CMA1500.D
1000	=CMA1000.D	100	=CMA0100.D	500	=CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------		
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------		
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------		
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

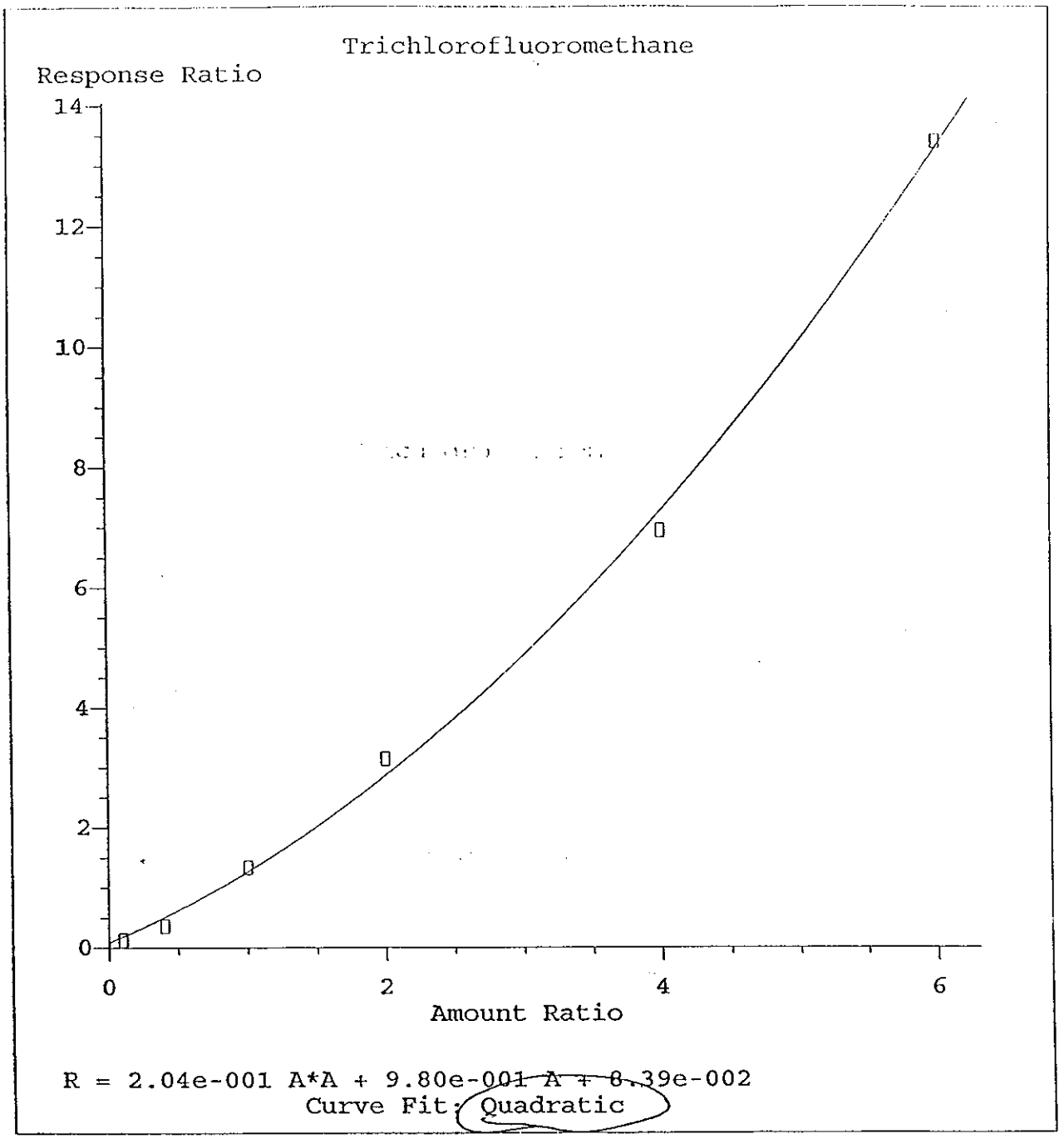
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

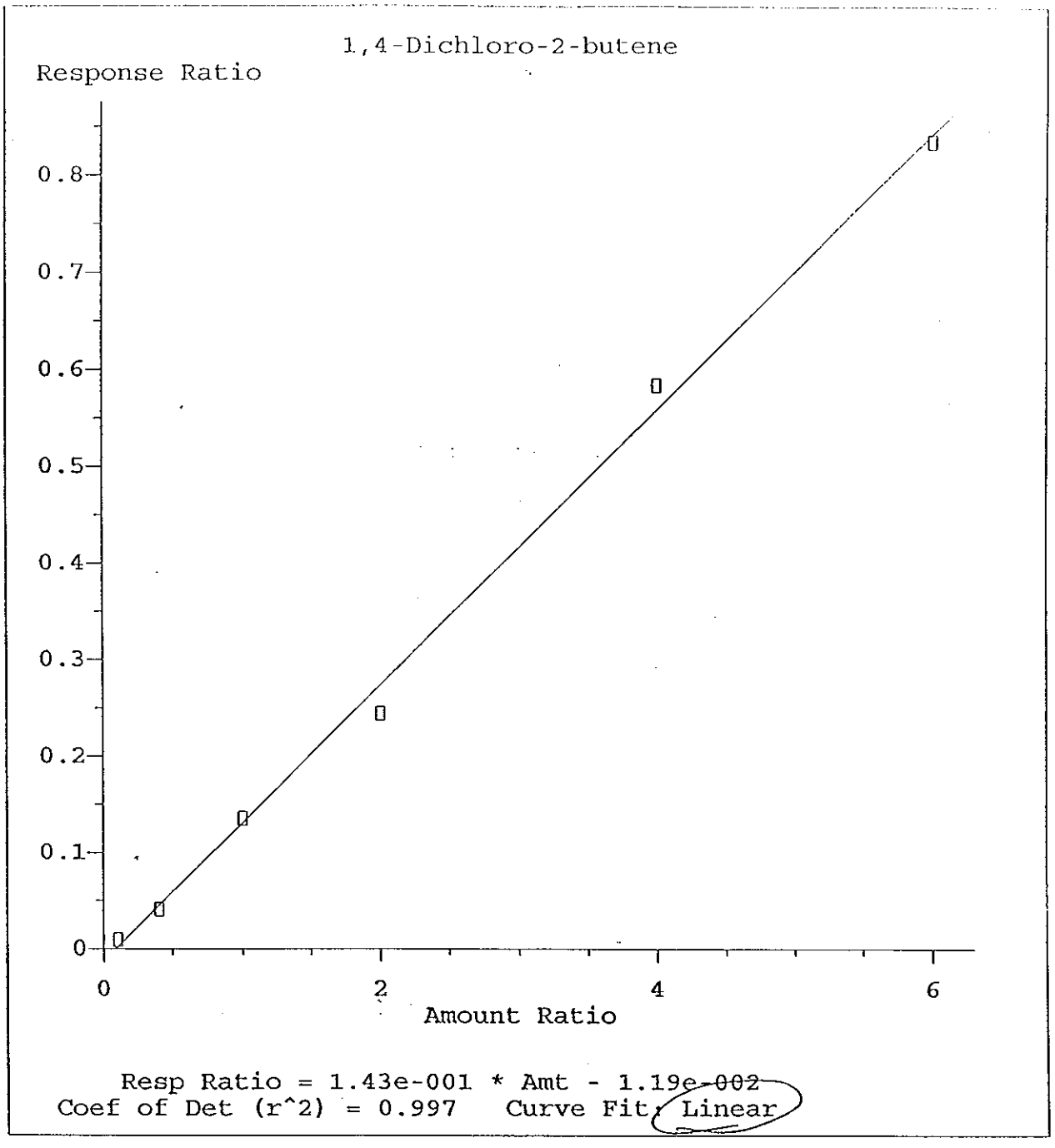
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

.998
BH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

JH 6/19

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng	0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	=	102.62%	
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	=	99.76%	
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	=	96.04%	

Target Compounds

				ng		Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng	98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng #	16
4) Chloromethane	4.19	50	42696	34.20	ng #	86
5) Vinyl chloride	4.42	62	30452	26.33	ng #	83
6) Bromomethane	5.24	94	47587	27.70	ng #	86
7) Chloroethane	5.38	64	18304	23.46	ng #	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng	96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng	92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng	84
12) Methylene chloride	7.99	49	64996	25.56	ng #	76
13) Carbon disulfide	8.13	76	102700	25.44	ng	96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng #	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng	90
16) n-Hexane	8.67	57	51599	29.87	ng #	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng #	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng	93
19) Chloroform	10.99	83	94547	25.46	ng #	92
20) Isooctane	11.95	57	185751	26.14	ng	87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng #	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng	96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng #	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng	99
27) Benzene	12.77	78	107643	27.06	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: TO14S.RES

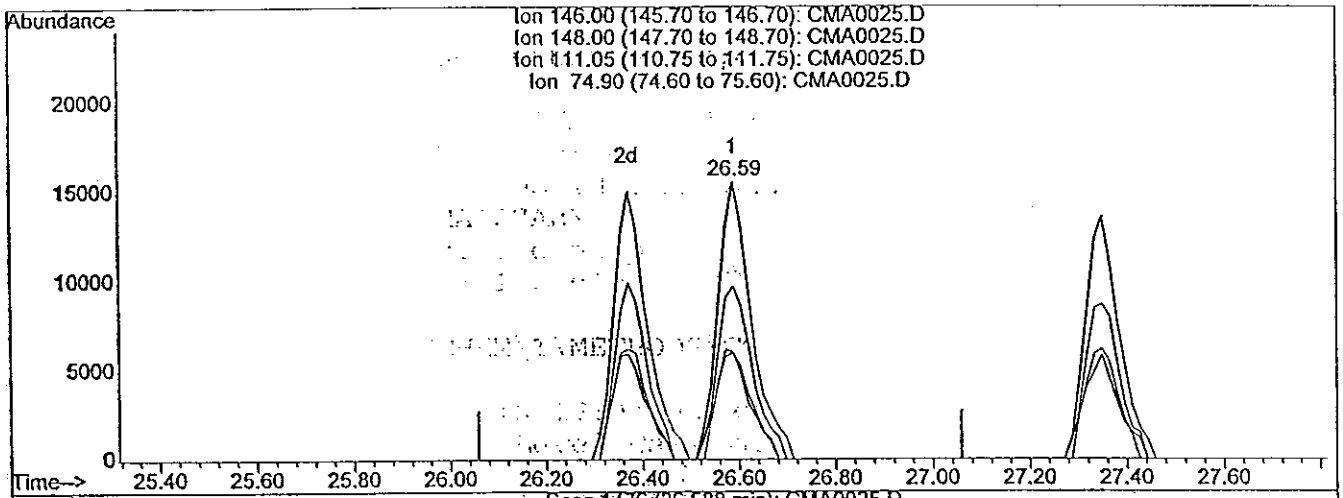
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

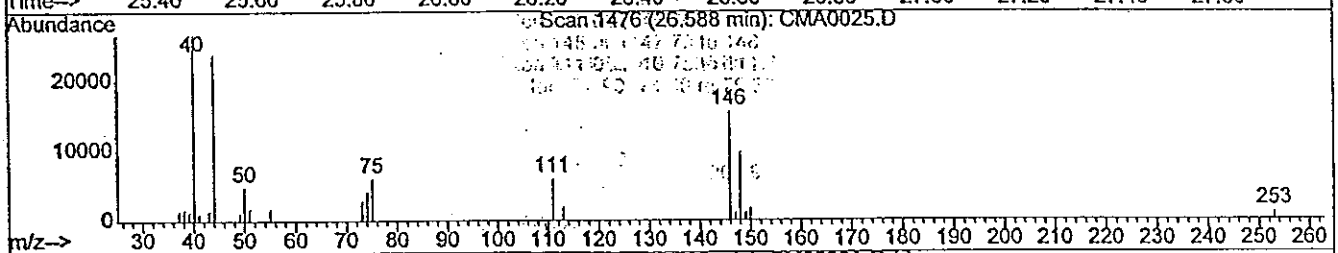
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.37	146	72784m	22.75 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

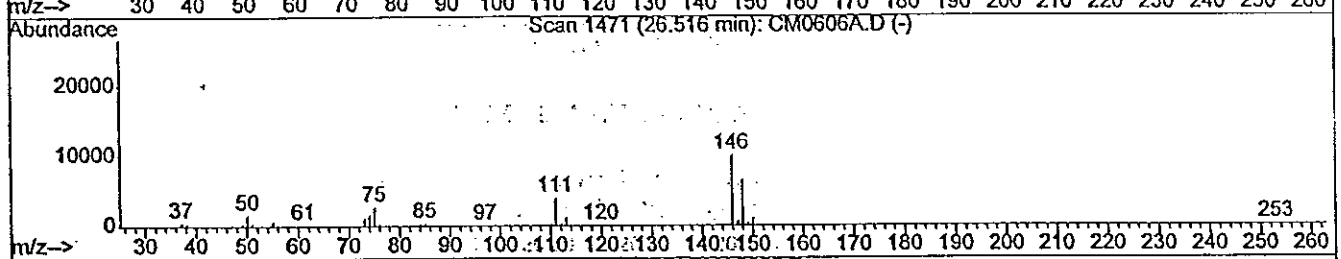
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

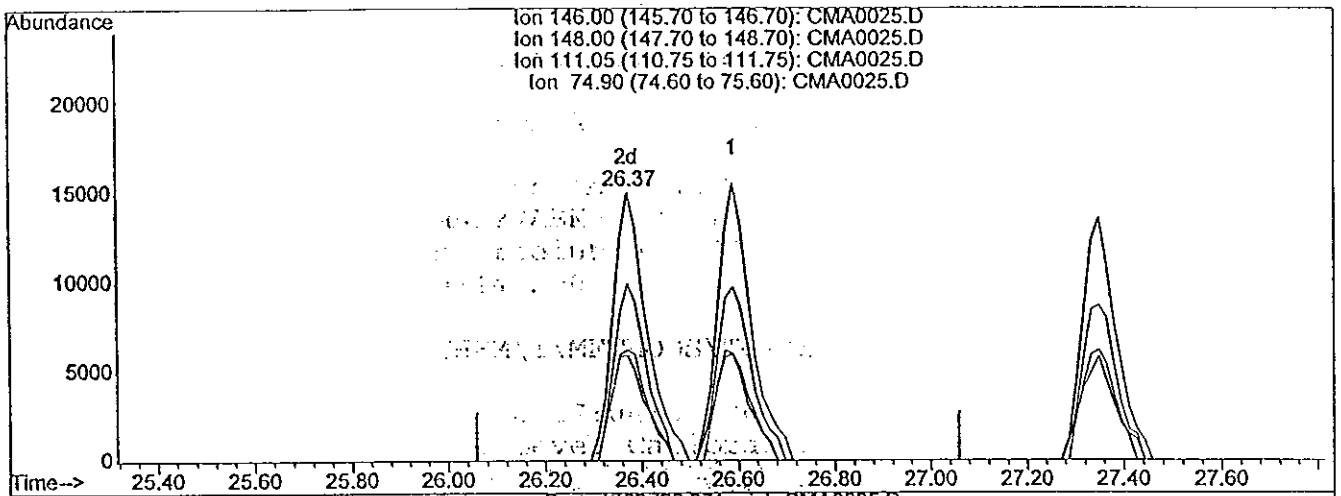
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

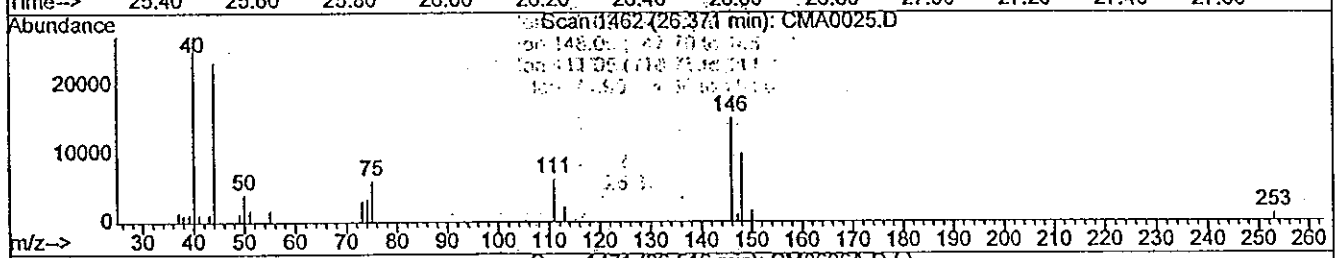
before (wrong peak)

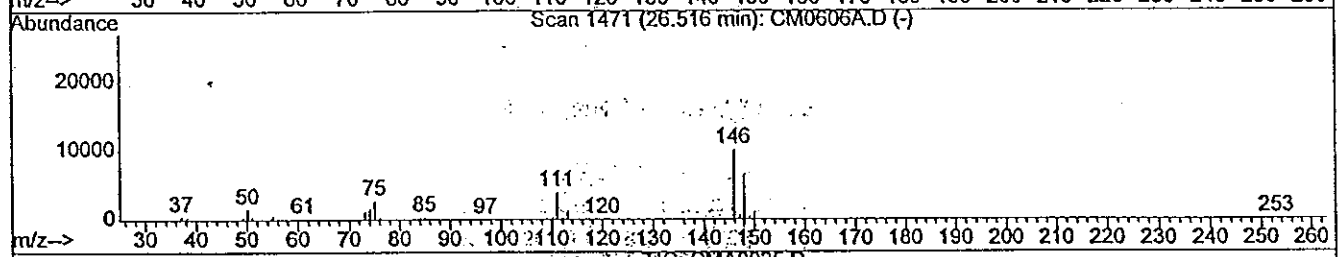
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	68.35
111.05	44.40	41.63
74.90	35.60	42.39

after
BDH 6/19

7-31-01

CMA0025.D TO14S.M Tue Jun 19 10:14:25 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration Original
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00 ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00 ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00 ng	0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54 ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	= 102.62%	
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40 ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	= 99.76%	
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09 ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	= 96.04%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85 ng		98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00 ng	#	16
4) Chloromethane	4.19	50	42696	34.20 ng	#	86
5) Vinyl chloride	4.42	62	30452	26.33 ng	#	83
6) Bromomethane	5.24	94	47587	27.70 ng	#	86
7) Chloroethane	5.38	64	18304	23.46 ng	#	77
8) Trichlorofluoromethane	5.88	101	40773	21.22 ng		96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21 ng		92
10) 1,1-Dichloroethene	7.07	96	33599	24.22 ng		84
12) Methylene chloride	7.99	49	64996	25.56 ng	#	76
13) Carbon disulfide	8.13	76	102700	25.44 ng		96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33 ng	#	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60 ng		90
16) n-Hexane	8.67	57	51599	29.87 ng	#	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78 ng	#	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56 ng		93
19) Chloroform	10.99	83	94547	25.46 ng	#	92
20) Isooctane	11.95	57	185751	26.14 ng		87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15 ng	#	87
22) Carbon tetrachloride	12.41	117	84338	24.92 ng		96
24) 1,2-Dichloroethane	12.69	62	55785	25.57 ng	#	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45 ng		99
27) Benzene	12.77	78	107643	27.06 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.59	146	75419	23.58 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BA 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng	0.04 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.28%						
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.49%						
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.58%						

Target Compounds				ng		Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng	99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng #	18
4) Chloromethane	4.18	50	116261	86.35	ng #	92
5) Vinyl chloride	4.43	62	118046	94.66	ng #	95
6) Bromomethane	5.24	94	162276	87.61	ng	96
7) Chloroethane	5.36	64	72541	86.21	ng	98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng	97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng	92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng	91
12) Methylene chloride	7.97	49	236234	86.14	ng #	81
13) Carbon disulfide	8.11	76	382610	87.90	ng	97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng #	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng	90
16) n-Hexane	8.65	57	158895	85.31	ng #	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng	99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng	93
19) Chloroform	10.98	83	351659	87.81	ng #	96
20) Isooctane	11.93	57	541485	70.67	ng	91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng	93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng	98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng #	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng	99
27) Benzene	12.75	78	382786	92.03	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: TO14S.RES

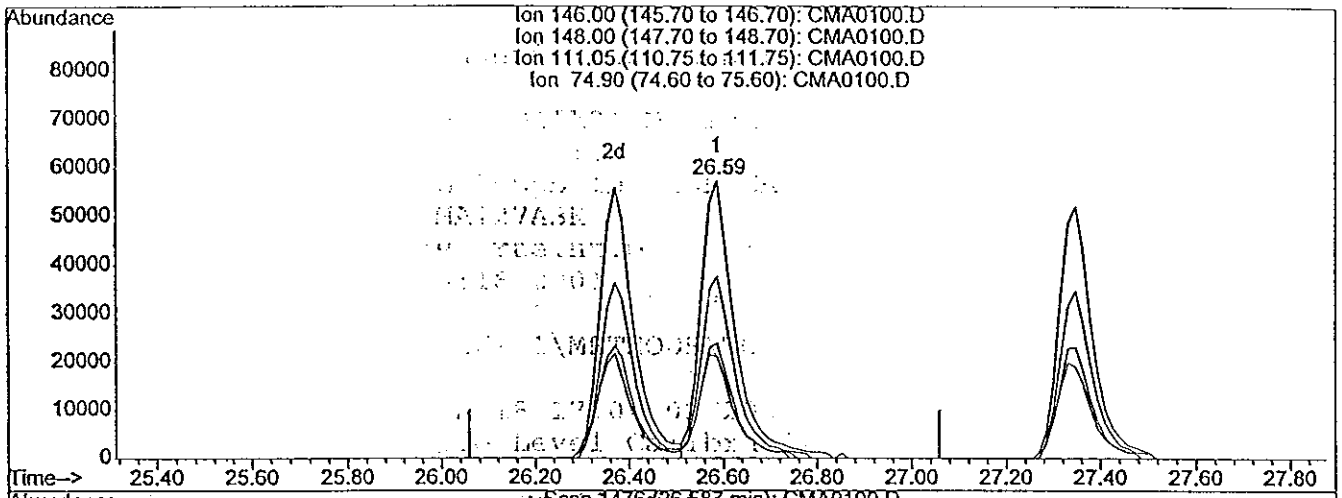
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

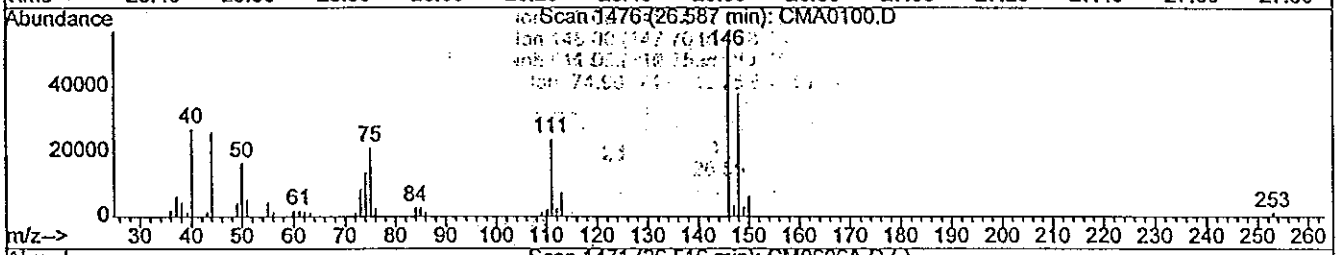
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.37	146	276057m	81.98 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

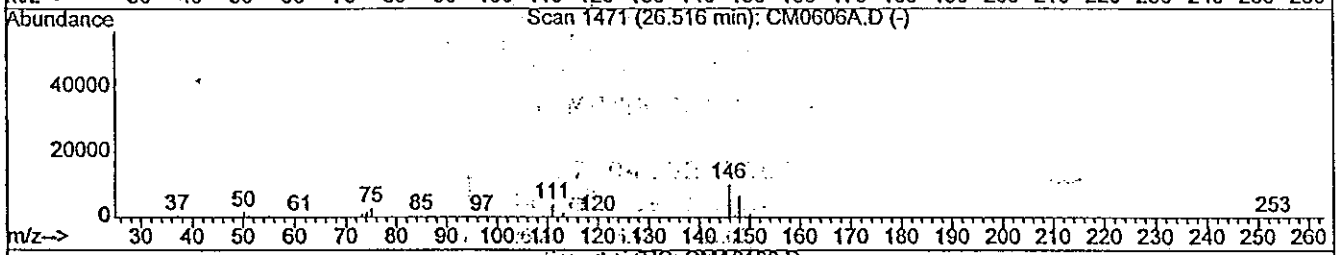
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







Scan 1476 TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

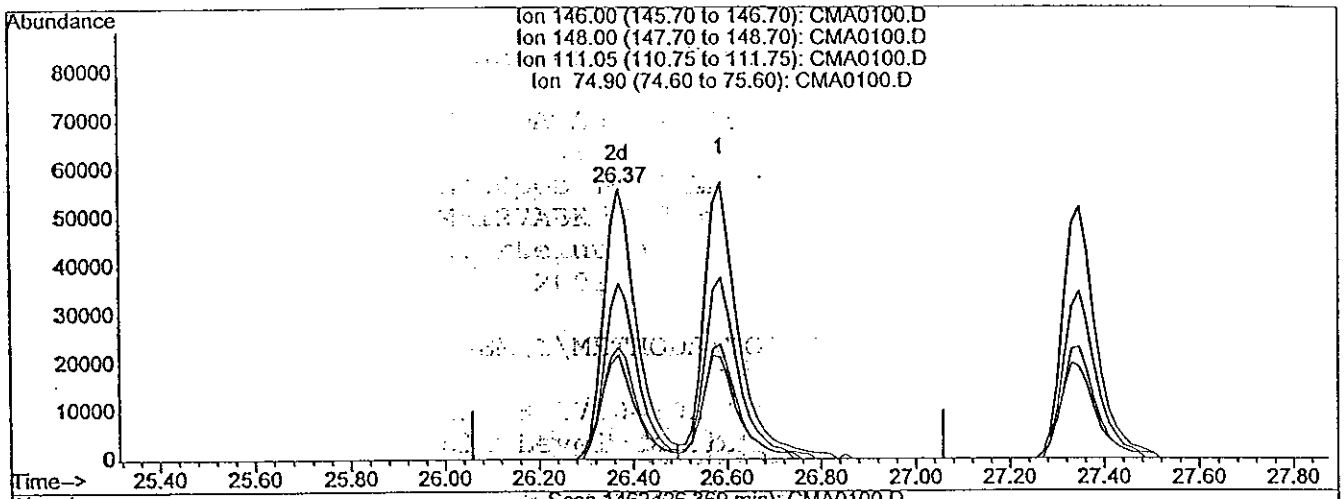
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

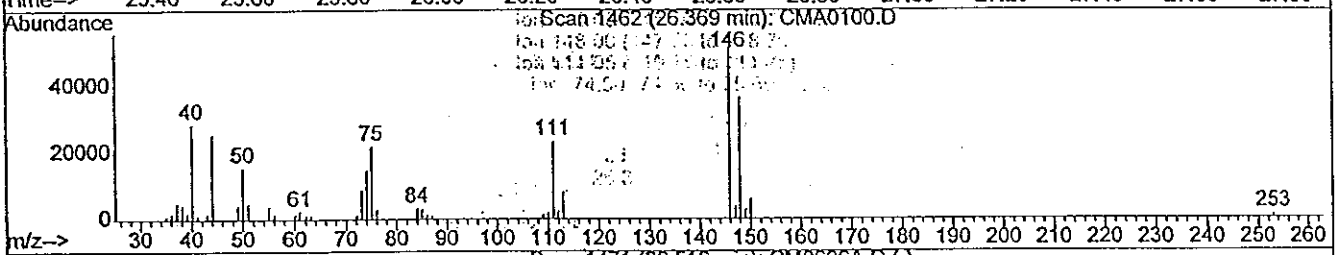
Defaul (wrong peak)

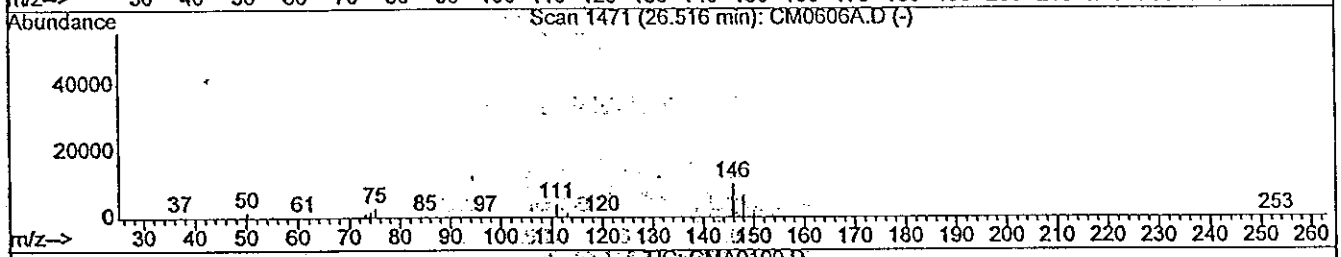
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	69.75
111.05	44.40	44.24
74.90	35.60	40.69

after
BA 6/19

7-31-01

CMA0100.D TO14S.M Tue Jun 19 10:19:02 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00 ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00 ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00 ng	0.04 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20 ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	= 103.28%	
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23 ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	= 100.49%	
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46 ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	= 98.58%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86 ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50 ng	#	18
4) Chloromethane	4.18	50	116261	86.35 ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66 ng	#	95
6) Bromomethane	5.24	94	162276	87.61 ng		96
7) Chloroethane	5.36	64	72541	86.21 ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36 ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45 ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40 ng		91
12) Methylene chloride	7.97	49	236234	86.14 ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90 ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01 ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45 ng		90
16) n-Hexane	8.65	57	158895	85.31 ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63 ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86 ng		93
19) Chloroform	10.98	83	351659	87.81 ng	#	96
20) Isooctane	11.93	57	541485	70.67 ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53 ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53 ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81 ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67 ng		99
27) Benzene	12.75	78	382786	92.03 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.59	146	292016	86.72 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

B 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.12%						
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.77%						
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.82%						

Target Compounds

					ng		Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng		99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng	#	19
4) Chloromethane	4.19	50	318982	237.26	ng		97
5) Vinyl chloride	4.41	62	331551	274.73	ng		97
6) Bromomethane	5.24	94	460160	260.43	ng		96
7) Chloroethane	5.37	64	204687	256.03	ng	#	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng		90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng		88
12) Methylene chloride	7.96	49	653027	250.72	ng	#	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng		99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng	#	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng		90
16) n-Hexane	8.67	57	459285	261.36	ng	#	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng		98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng		93
19) Chloroform	10.97	83	993772	262.88	ng	#	94
20) Isooctane	11.94	57	1581485	256.03	ng		94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng		92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng		97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng		98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng		99
27) Benzene	12.74	78	1052810	266.64	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: TO14S.RES

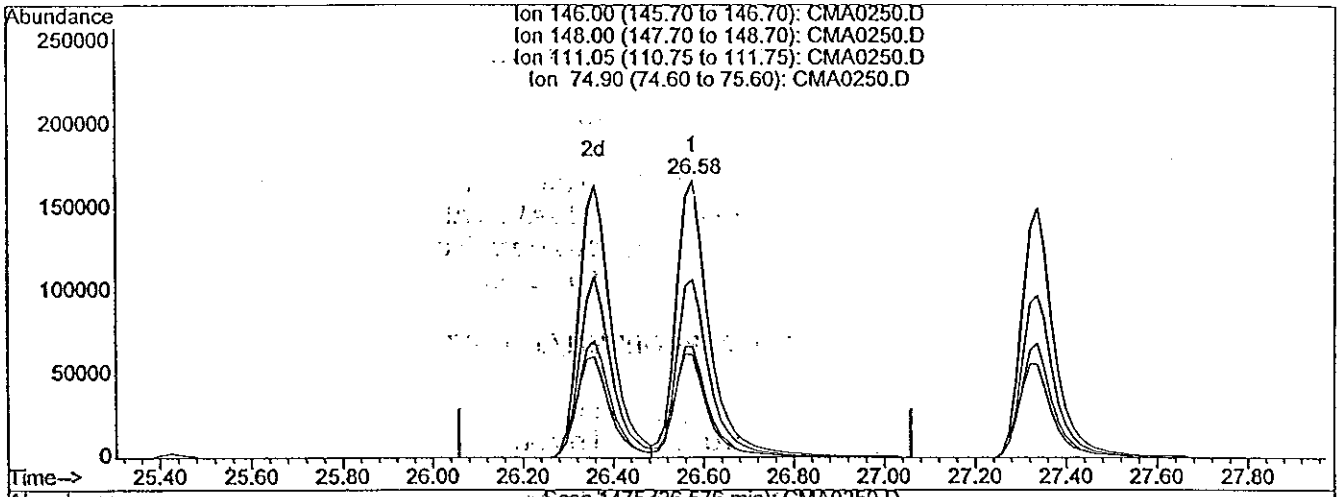
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

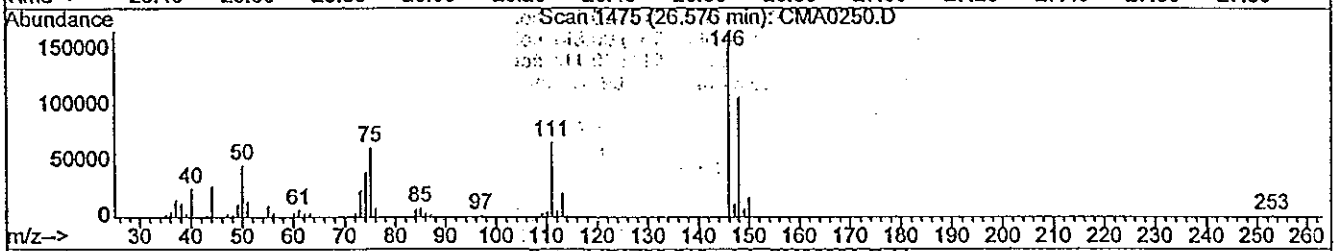
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.36	146	806815m	253.46 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

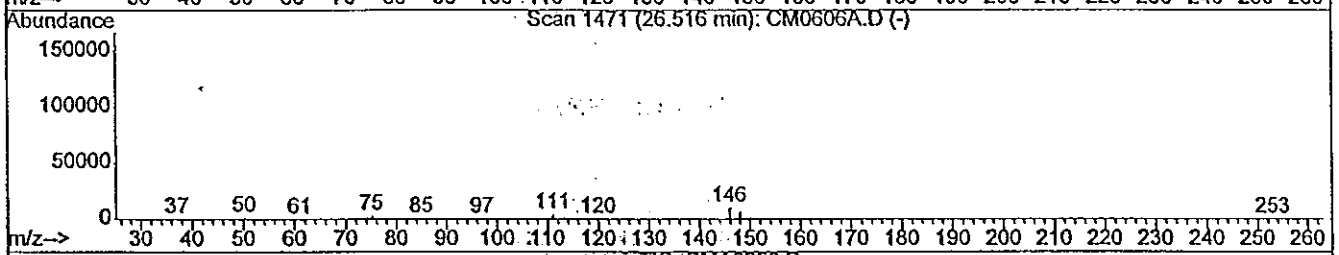
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

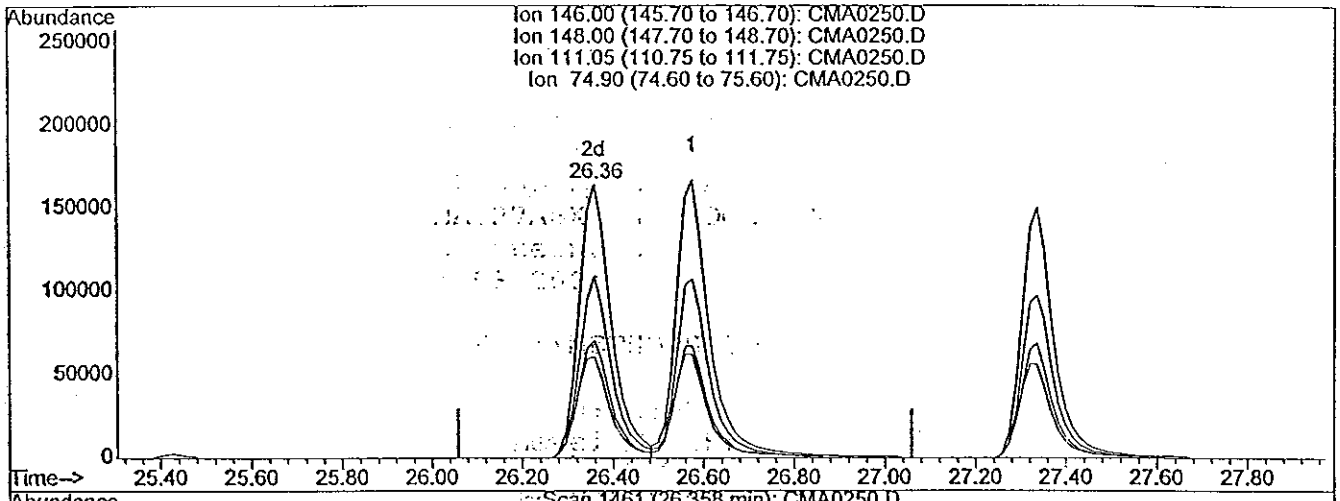
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

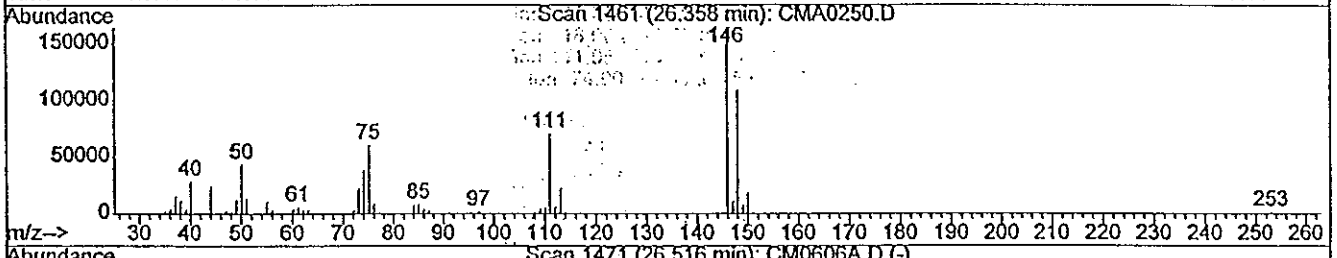
before (wrong peak)

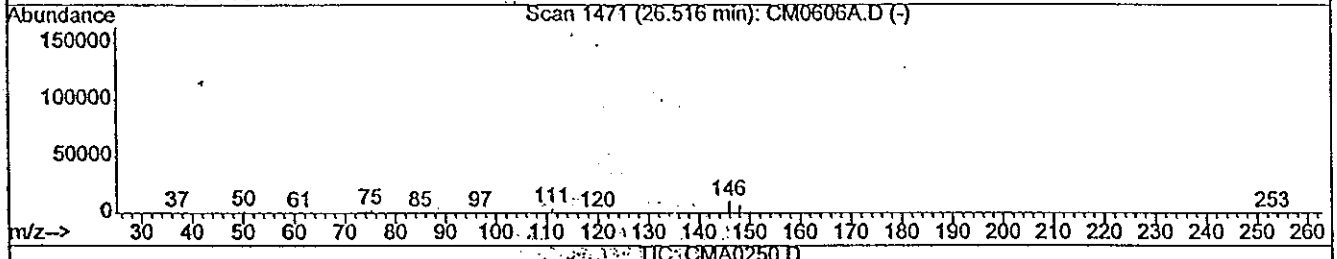
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	70.24
111.05	44.40	44.19
74.90	35.60	41.31

after
BDH
6/19

7-31-01

CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.12%			
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.77%			
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.82%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng	99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng #	19
4) Chloromethane	4.19	50	318982	237.26	ng	97
5) Vinyl chloride	4.41	62	331551	274.73	ng	97
6) Bromomethane	5.24	94	460160	260.43	ng	96
7) Chloroethane	5.37	64	204687	256.03	ng #	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng	90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng	88
12) Methylene chloride	7.96	49	653027	250.72	ng #	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng #	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng	90
16) n-Hexane	8.67	57	459285	261.36	ng #	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng	98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng	93
19) Chloroform	10.97	83	993772	262.88	ng #	94
20) Isooctane	11.94	57	1581485	256.03	ng	94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng	92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng	97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng	98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng	99
27) Benzene	12.74	78	1052810	266.64	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.58	146	851100	267.37 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00 ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%					
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%					
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%					

Target Compounds

				ng		Qvalue
2) Dichlorodifluoromethane	3.91	85	3358732	542.44 ng		98
3) Dichlorotetrafluoroethane	3.91	135	1136619	541.39 ng	#	19
4) Chloromethane	4.17	50	662899	515.90 ng		99
5) Vinyl chloride	4.39	62	659263	554.27 ng		97
6) Bromomethane	5.23	94	933634	532.70 ng		97
7) Chloroethane	5.35	64	424613	541.17 ng		94
8) Trichlorofluoromethane	5.87	101	991097	530.60 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	1295181	531.93 ng		89
10) 1,1-Dichloroethene	7.05	96	728404	528.63 ng		88
12) Methylene chloride	7.96	49	1283111	517.00 ng	#	85
13) Carbon disulfide	8.10	76	2153648	535.91 ng		99
14) methyl-Tert-Butyl Ether	8.27	73	843804	459.13 ng	#	88
15) trans-1,2-Dichloroethene	8.55	96	782795	527.79 ng		92
16) n-Hexane	8.66	57	851040	501.61 ng	#	1
17) 1,1-Dichloroethane	9.39	63	1599028	537.57 ng		99
18) cis-1,2-Dichloroethene	10.63	61	1332506	529.28 ng		93
19) Chloroform	10.97	83	1971654	527.34 ng	#	95
20) Isooctane	11.94	57	2810081	466.45 ng		95
21) 1,1,1-Trichloroethane	11.84	97	1671909	528.89 ng		93
22) Carbon tetrachloride	12.40	117	1776389	531.17 ng		98
24) 1,2-Dichloroethane	12.67	62	1097708	494.67 ng		98
25) 1,2-Dibromoethane	19.64	107	1272731	488.44 ng		99
27) Benzene	12.74	78	2072242	501.33 ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	1063363	512.26 ng		99
29)	1,2-Dichloropropane	14.45	63	954023	504.13 ng	#	87
30)	Bromodichloromethane	14.99	83	2269706	505.24 ng		98
31)	cis-1,3-Dichloropropene	16.21	75	1366041	499.16 ng	#	79
33)	Toluene	17.01	92	1283724	507.88 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	1088252	484.92 ng	#	78
35)	1,1,2-Trichloroethane	17.79	97	773146	478.40 ng		98
37)	Tetrachloroethene	18.63	164	1021392	519.36 ng		97
38)	Dibromochloromethane	19.11	127	1388391	492.05 ng		99
39)	Chlorobenzene	20.68	112	1857792	519.50 ng		96
40)	Ethylbenzene	20.77	106	763296	518.96 ng		93
41)	m,p-Xylene	20.97	106	1955531	1049.84 ng		95
42)	o-Xylene	22.12	106	946502	520.11 ng		92
43)	Styrene	22.20	104	1563814	520.57 ng		96
44)	Bromoform	23.15	173	1233918	472.98 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	1180553	433.21 ng		98
47)	1,4-Dichloro-2-butene	23.11	75	245321	465.57 ng		92
48)	4-Ethyltoluene	24.39	105	2724532	549.15 ng		93
49)	1,3,5-Trimethylbenzene	24.50	105	2065746	517.93 ng		93
50)	2-Chlorotoluene	24.59	91	2726961	511.72 ng		100
51)	1,2,4-Trimethylbenzene	25.43	105	2187501	522.36 ng		99
52)	1,3-Dichlorobenzene	26.36	146	1637869	502.62 ng		99
53)	1,4-Dichlorobenzene	26.58	146	1723393	517.13 ng		98
54)	1,2-Dichlorobenzene	27.34	146	1509456	515.55 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	1101163	512.29 ng		100
56)	Napthalene	31.05	128	1260364	466.26 ng	#	92
57)	Hexachlorobutadiene	30.74	225	988114	584.20 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	296685	250.00	ng	-0.04 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1210927	250.00	ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	914720	250.00	ng	0.01 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.44	65	459531	245.62	ng	-0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.25%						
32) Toluene-d8 SURR#2	16.81	98	978789	249.08	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.63%						
46) 4-Bromofluorobenzene SURR#	23.73	95	926255	254.46	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.78%						

Target Compounds

					ng		Qvalue
2) Dichlorodifluoromethane	3.87	85	6233748	1049.45	ng		98
3) Dichlorotetrafluoroethane	3.89	135	2134530	1064.83	ng	#	22
4) Chloromethane	4.15	50	1224763	1011.29	ng		98
5) Vinyl chloride	4.35	62	1201437	1053.25	ng		98
6) Bromomethane	5.19	94	1744430	1047.88	ng		98
7) Chloroethane	5.32	64	807307	1088.74	ng		95
8) Trichlorofluoromethane	5.83	101	2060376	1201.76	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.64	151	2429552	1057.92	ng		90
10) 1,1-Dichloroethene	7.01	96	1397322	1075.81	ng		91
12) Methylene chloride	7.93	49	2453027	1052.27	ng	#	85
13) Carbon disulfide	8.08	76	4076441	1070.98	ng		100
14) methyl-Tert-Butyl Ether	8.24	73	1803367	1062.77	ng	#	90
15) trans-1,2-Dichloroethene	8.53	96	1472449	1054.23	ng		92
16) n-Hexane	8.62	57	1579011	986.48	ng	#	1
17) 1,1-Dichloroethane	9.37	63	2886545	1023.96	ng		99
18) cis-1,2-Dichloroethene	10.61	61	2499759	1055.54	ng		93
19) Chloroform	10.94	83	3670018	1043.49	ng	#	95
20) Isooctane	11.92	57	5346515	959.54	ng		96
21) 1,1,1-Trichloroethane	11.81	97	3076942	1034.51	ng		93
22) Carbon tetrachloride	12.38	117	3289086	1043.66	ng		97
24) 1,2-Dichloroethane	12.65	62	2148966	1043.28	ng		98
25) 1,2-Dibromoethane	19.63	107	2580322	1073.25	ng		98
27) Benzene	12.72	78	3850696	1026.27	ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

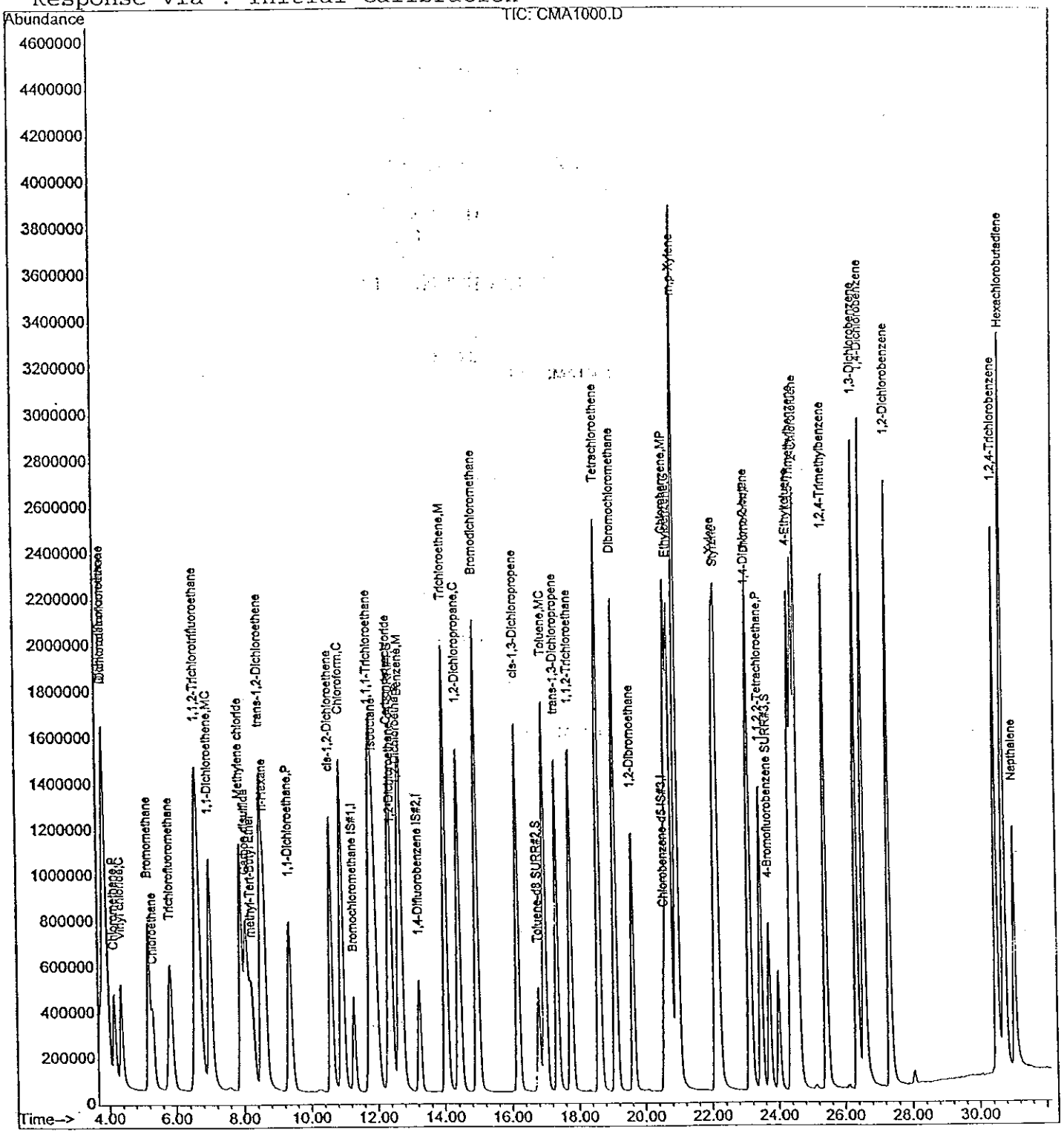
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.04	130	2003048	1064.50 ng		100
29)	1,2-Dichloropropane	14.43	63	1797296	1048.92 ng	#	88
30)	Bromodichloromethane	14.97	83	4319211	1062.49 ng		99
31)	cis-1,3-Dichloropropene	16.19	75	2641211	1071.18 ng	#	80
33)	Toluene	17.01	92	2405121	1050.49 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	2188978	1092.75 ng	#	81
35)	1,1,2-Trichloroethane	17.78	97	1539249	1064.37 ng		98
37)	Tetrachloroethene	18.64	164	1884926	1057.55 ng		97
38)	Dibromochloromethane	19.12	127	2755762	1090.44 ng		99
39)	Chlorobenzene	20.69	112	3456899	1065.66 ng		97
40)	Ethylbenzene	20.78	106	1395946	1043.84 ng		93
41)	m,p-Xylene	20.98	106	3585503	2122.36 ng		94
42)	o-Xylene	22.13	106	1771579	1076.12 ng		94
43)	Styrene	22.21	104	2945131	1084.71 ng		97
44)	Bromoform	23.16	173	2538653	1100.69 ng		100
45)	1,1,2,2-Tetrachloroethane	23.48	83	2423921	1007.79 ng		99
47)	1,4-Dichloro-2-butene	23.13	75	533593	1154.41 ng		92
48)	4-Ethyltoluene	24.40	105	4961557	1097.54 ng		93
49)	1,3,5-Trimethylbenzene	24.51	105	3924783	1094.79 ng		94
50)	2-Chlorotoluene	24.62	91	5084323	1054.07 ng		100
51)	1,2,4-Trimethylbenzene	25.45	105	4026008	1063.11 ng		99
52)	1,3-Dichlorobenzene	26.37	146	3127244	1073.09 ng		98
53)	1,4-Dichlorobenzene	26.59	146	3251439	1081.15 ng		98
54)	1,2-Dichlorobenzene	27.35	146	2827820	1074.36 ng		98
55)	1,2,4-Trichlorobenzene	30.52	180	2190863	1123.03 ng		100
56)	Napthalene	31.06	128	2606085	1102.23 ng	#	93
57)	Hexachlorobutadiene	30.76	225	1763109	1093.12 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration



059

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	306138	250.00	ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1262696	250.00	ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	947465	250.00	ng	0.02 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	466181	242.37	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.95%						
32) Toluene-d8 SURR#2	16.83	98	1004447	245.59	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%						
46) 4-Bromofluorobenzene SURR#	23.74	95	966825	256.83	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.73%						

Target Compounds				ng/		Qvalue
2) Dichlorodifluoromethane	3.91	85	10263276	1642.34	ng	98
3) Dichlorotetrafluoroethane	3.91	135	3431265	1632.62	ng #	20
4) Chloromethane	4.17	50	1953127	1534.65	ng	98
5) Vinyl chloride	4.38	62	1877069	1567.97	ng	98
6) Bromomethane	5.23	94	2784996	1604.46	ng	99
7) Chloroethane	5.34	64	1305263	1692.51	ng	95
8) Trichlorofluoromethane	5.87	101	4102130	2269.65	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.67	151	3860092	1615.15	ng	88
10) 1,1-Dichloroethene	7.05	96	2207728	1631.54	ng	91
12) Methylene chloride	7.96	49	3779790	1556.14	ng #	85
13) Carbon disulfide	8.12	76	6296422	1579.16	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	2578069	1478.67	ng #	90
15) trans-1,2-Dichloroethene	8.57	96	2296356	1580.81	ng	93
16) n-Hexane	8.66	57	2455366	1470.62	ng #	1
17) 1,1-Dichloroethane	9.41	63	4656037	1587.34	ng	99
18) cis-1,2-Dichloroethene	10.65	61	3891754	1583.57	ng	93
19) Chloroform	10.97	83	5699637	1560.49	ng #	95
20) Isooctane	11.94	57	8292835	1436.43	ng	96
21) 1,1,1-Trichloroethane	11.84	97	4778200	1546.65	ng	92
22) Carbon tetrachloride	12.42	117	5106078	1560.13	ng	97
24) 1,2-Dichloroethane	12.68	62	3267735	1539.63	ng	98
25) 1,2-Dibromoethane	19.64	107	3834082	1556.31	ng	98
27) Benzene	12.76	78	5993832	1526.98	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

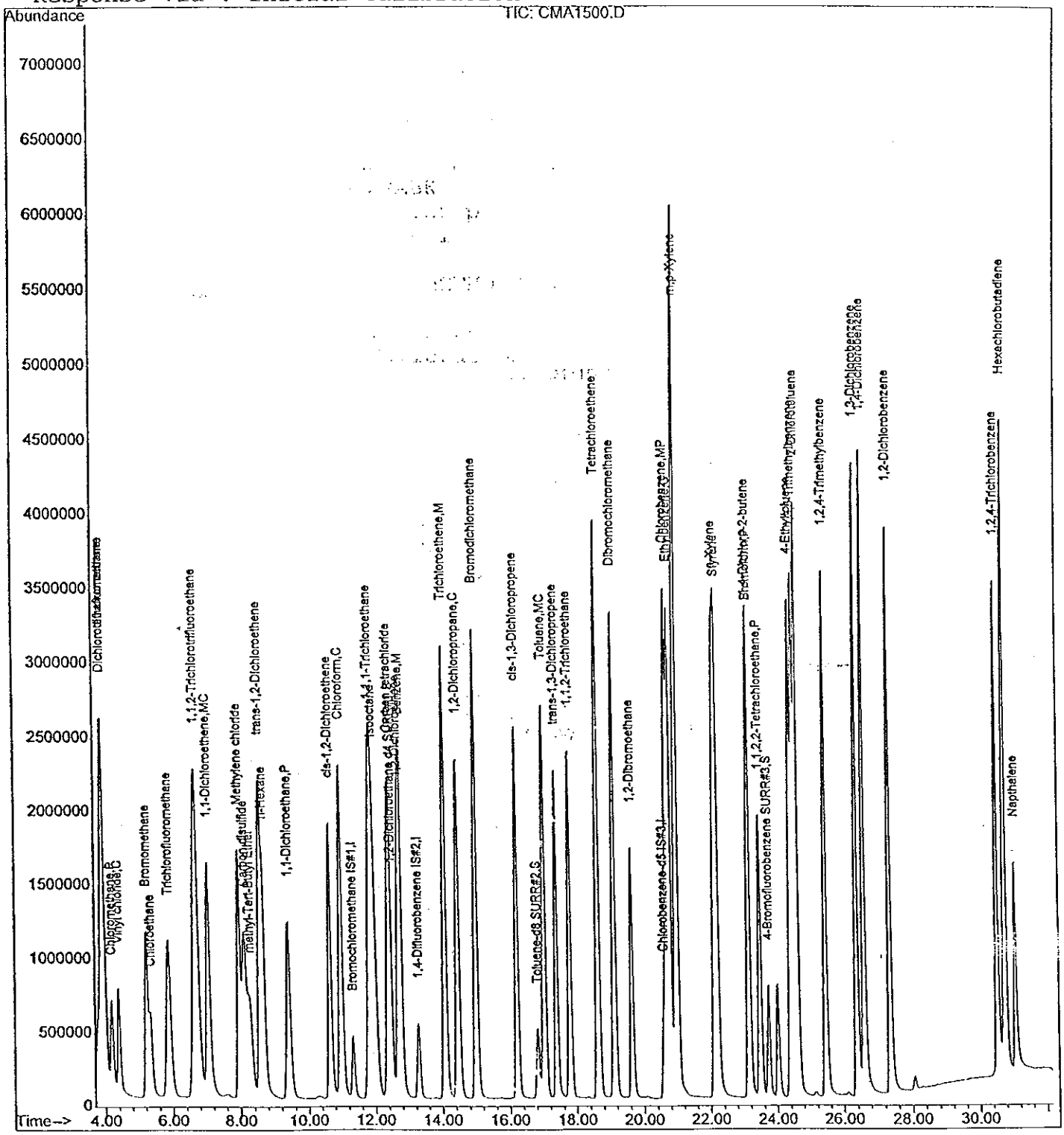
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.08	130	3131271	1590.70	ng		99
29)	1,2-Dichloropropane	14.47	63	2782579	1555.74	ng	#	88
30)	Bromodichloromethane	14.99	83	6626226	1559.37	ng		99
31)	cis-1,3-Dichloropropene	16.21	75	4101408	1597.82	ng	#	81
33)	Toluene	17.03	92	3759602	1574.79	ng		98
34)	trans-1,3-Dichloropropene	17.39	75	3338061	1609.22	ng	#	81
35)	1,1,2-Trichloroethane	17.79	97	2319686	1550.82	ng		98
37)	Tetrachloroethene	18.64	164	2948248	1587.42	ng		97
38)	Dibromochloromethane	19.12	127	4167778	1592.15	ng		98
39)	Chlorobenzene	20.69	112	5396104	1599.79	ng		97
40)	Ethylbenzene	20.79	106	2189347	1581.36	ng		94
41)	m,p-Xylene	20.99	106	5606499	3190.48	ng		94
42)	o-Xylene	22.14	106	2766756	1618.81	ng		95
43)	Styrene	22.21	104	4587667	1631.34	ng		97
44)	Bromoform	23.16	173	3756052	1591.17	ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	3545357	1487.44	ng		99
47)	1,4-Dichloro-2-butene	23.13	75	790900	1690.85	ng		93
48)	4-Ethyltoluene	24.40	105	7867372	1667.46	ng		93
49)	1,3,5-Trimethylbenzene	24.51	105	5868544	1553.55	ng		93
50)	2-Chlorotoluene	24.61	91	7794563	1554.96	ng		99
51)	1,2,4-Trimethylbenzene	25.44	105	6231140	1586.16	ng		100
52)	1,3-Dichlorobenzene	26.38	146	4764054	1590.54	ng		99
53)	1,4-Dichlorobenzene	26.59	146	4993562	1604.01	ng		98
54)	1,2-Dichlorobenzene	27.35	146	4254949	1564.99	ng		99
55)	1,2,4-Trichlorobenzene	30.52	180	3092156	1514.04	ng		99
56)	Napthalene	31.06	128	3458113	1440.20	ng	#	94
57)	Hexachlorobutadiene	30.75	225	2415060	1378.37	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

SAK 6/19/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00	ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00	ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00	ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80	ng	-0.01
Spiked Amount 250.000	Range	61 - 140	Recovery	=	107.12%	
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36	ng	-0.01
Spiked Amount 250.000	Range	90 - 109	Recovery	=	100.14%	
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64	ng	0.00
Spiked Amount 250.000	Range	87 - 112	Recovery	=	97.86%	

Target Compounds Qvalue mg/m3

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:03:53 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00 ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00 ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80 ng	-0.01
Spiked Amount 250.000	Range	61 - 140	Recovery	= 107.12%	
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36 ng	-0.01
Spiked Amount 250.000	Range	90 - 109	Recovery	= 100.14%	
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64 ng	0.00
Spiked Amount 250.000	Range	87 - 112	Recovery	= 97.86%	

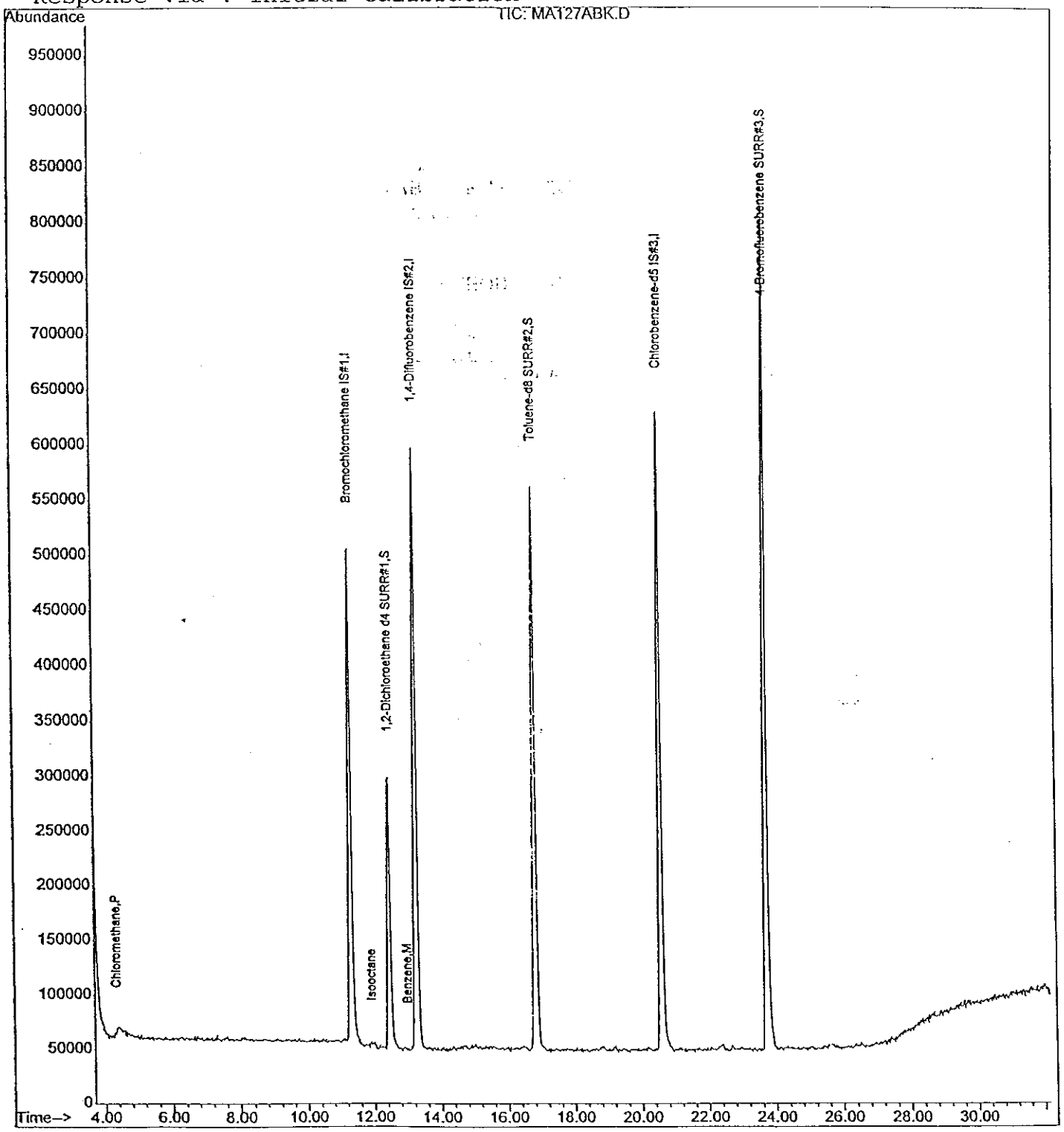
Target Compounds					Qvalue
4) Chloromethane	4.33	50	2018	1.50 ng	# 46
20) Isooctane	11.92	57	16392	2.73 ng	# 7
27) Benzene	12.99	78	967	0.23 ng	# 54

<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:01:25 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\MA127LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:26 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BA 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00 ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00 ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87 ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.95%		
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.90%		
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76 ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%		

Target Compounds

				ng	Qvalue
10) 1,1-Dichloroethene	7.03	96	343674	239.08 ng	91
27) Benzene	12.73	78	1051944	259.40 ng	96
28) Trichloroethene	14.06	130	533841	262.46 ng	99
33) Toluene	17.01	92	641571	260.46 ng	98
39) Chlorobenzene	20.69	112	912178	264.18 ng	94

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Re-name 127 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00	ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00	ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00	ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.95%			
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.90%			
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76	ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%			

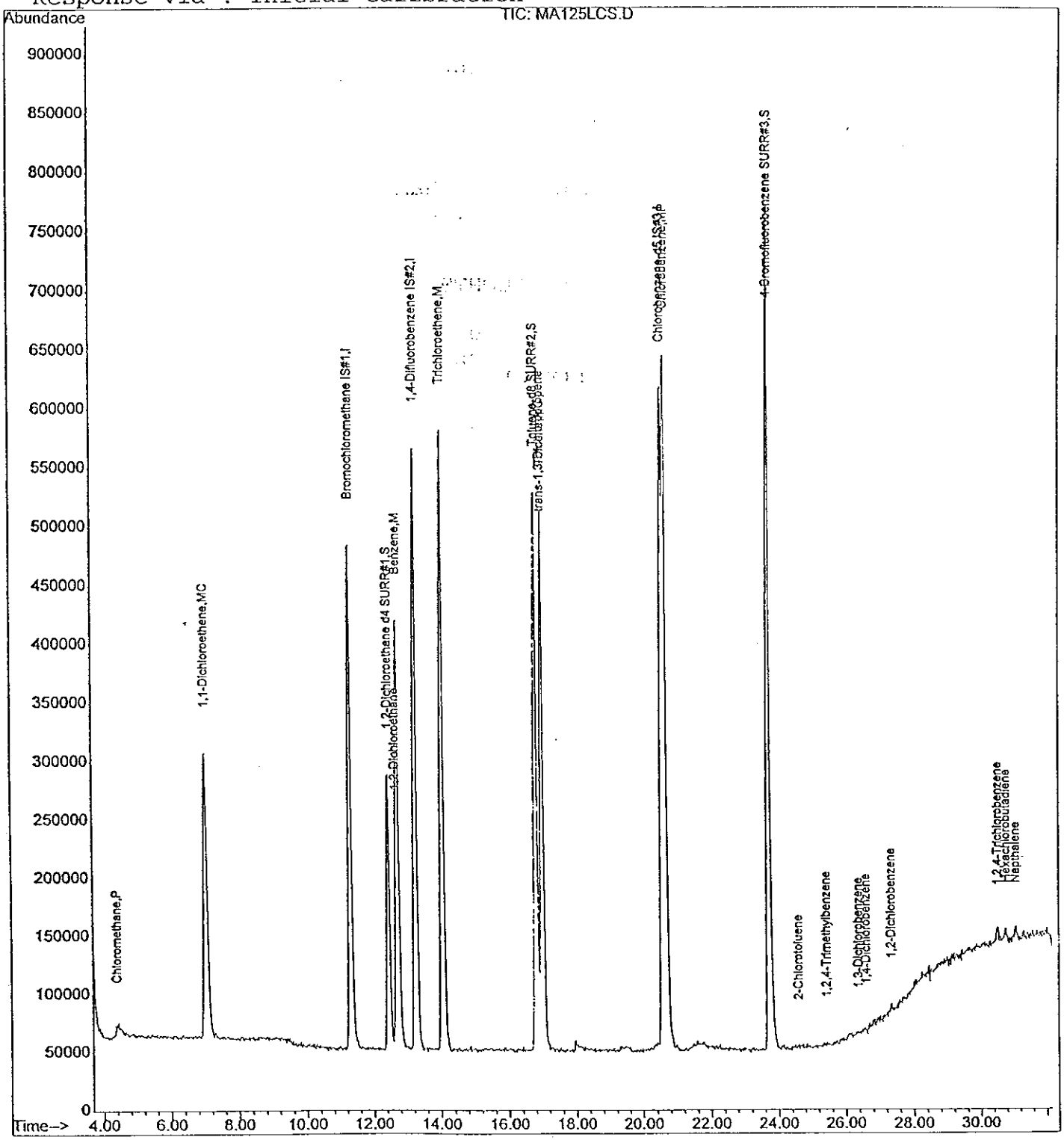
Target Compounds

						Qvalue
4) Chloromethane	4.39	50	5312	3.89	ng	# 72
10) 1,1-Dichloroethene	7.03	96	343674	239.08	ng	91
24) 1,2-Dichloroethane	12.68	62	11044	4.92	ng	# 49
27) Benzene	12.73	78	1051944	259.40	ng	96
28) Trichloroethene	14.06	130	533841	262.46	ng	99
33) Toluene	17.01	92	641571	260.46	ng	98
34) trans-1,3-Dichloropropene	16.99	75	5258	2.47	ng	# 1
39) Chlorobenzene	20.69	112	912178	264.18	ng	94
50) 2-Chlorotoluene	24.60	91	7809	1.53	ng	# 47
51) 1,2,4-Trimethylbenzene	25.44	105	2131	0.53	ng	# 31
52) 1,3-Dichlorobenzene	26.39	146	2943	0.97	ng	# 27
53) 1,4-Dichlorobenzene	26.61	146	3434	1.08	ng	# 40
54) 1,2-Dichlorobenzene	27.35	146	1969	0.71	ng	# 1
55) 1,2,4-Trichlorobenzene	30.52	180	26914	12.83	ng	# 46
56) Napthalene	31.06	128	33755	14.04	ng	# 77
57) Hexachlorobutadiene	30.77	225	11408	6.16	ng	# 68

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



STL - Pensacola / GCMS Volatiles Run Log

Date 07-25-01 BA 7/30 | Instrument ID : Marilyn | Method : TO14.m/8260A.m/8260W.m | Other: _____

Batch MAB153 ① 2 3 | Batch _____ 1 2 3 | Daily maint. 23 1

IS# 8 -MSW- 22 3 | TO14 ___ -MSW- ___ - ___ | AIR-SPK ___ -MSW- ___ - ___ | LCS# 8 -MSW- ~~20~~ - 2 BA 7/30

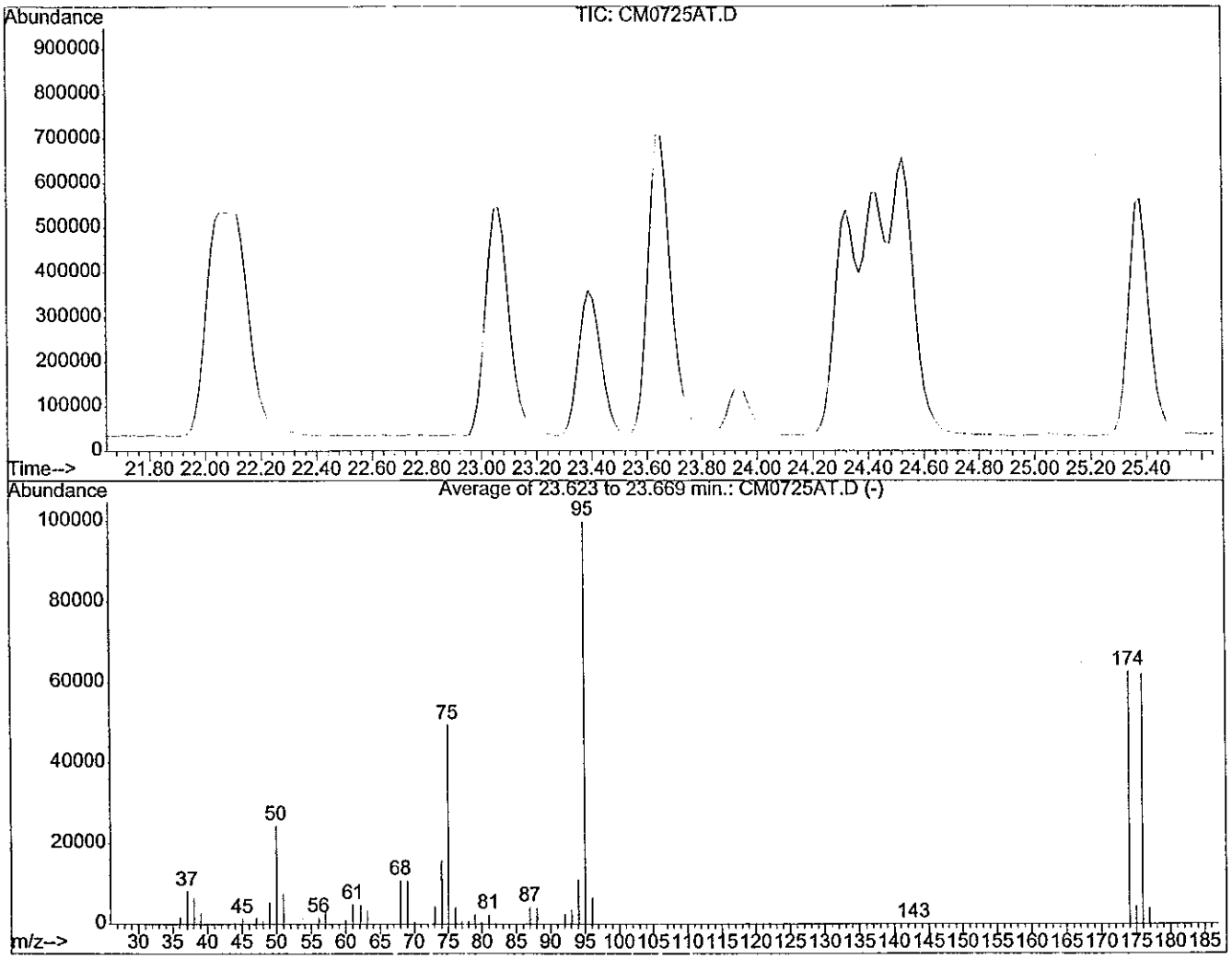
BFB 8 -MSW- 22 3 | 8260 8 -MSW- ~~23~~ - ~~23~~ BA 7/30 | WATER-SPK 8 -MSW- ~~20~~ - 2 | SURR# 8 -MSW- ~~22~~ - ~~2~~ 19 3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:36	14	TO14	BFM —	50ng		N	Methanol	95 Ion Area = 894,000 (From CCV)	BA	—			—
08:36	14		CM 0725A	50ppb		N	W	Daily Calib. Check		303	1250	941	—
09:13	15		MA153A BK	ST.		N	W	Daily Method Blank		314	1298	967	—
09:51	16		MA153 LCS	50ppb		N	W	Batch # 153 LCS		303	1225	925	—
10:28	16		MA153 LCD	↓		Y N	W	↓ (if needed) ↓ ↓ Duplicate		291	1203	905	—
11:06	1		7253-5	X20		Y N	A (TO14)	25mls CAN		260	1009	779	—
12:53	1		↓ -6	ST		Y N		500 mls ↓		278	1056	820	—
13:27	2		7461-3R	X10		Y N		50 mls BAG		249	943	750	—
14:05	1		7402-1	ST		Y N		500 mls CAN		261	970	773	—
16:07	1	↓	7405-1	ST.		Y N	↓	↓ ↓		258	852	679	—
—	15-4	BFBSTL	BLKTUBE	—		Y N	—	MPM prep/clean-up	↓	—			
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N		BA 7/25/01					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14

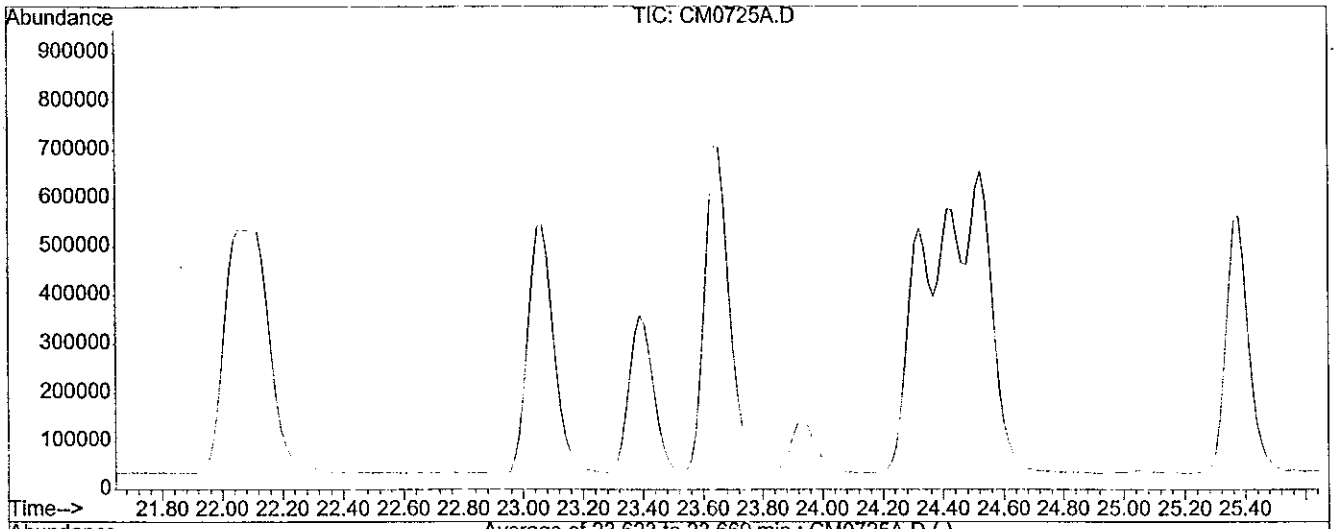


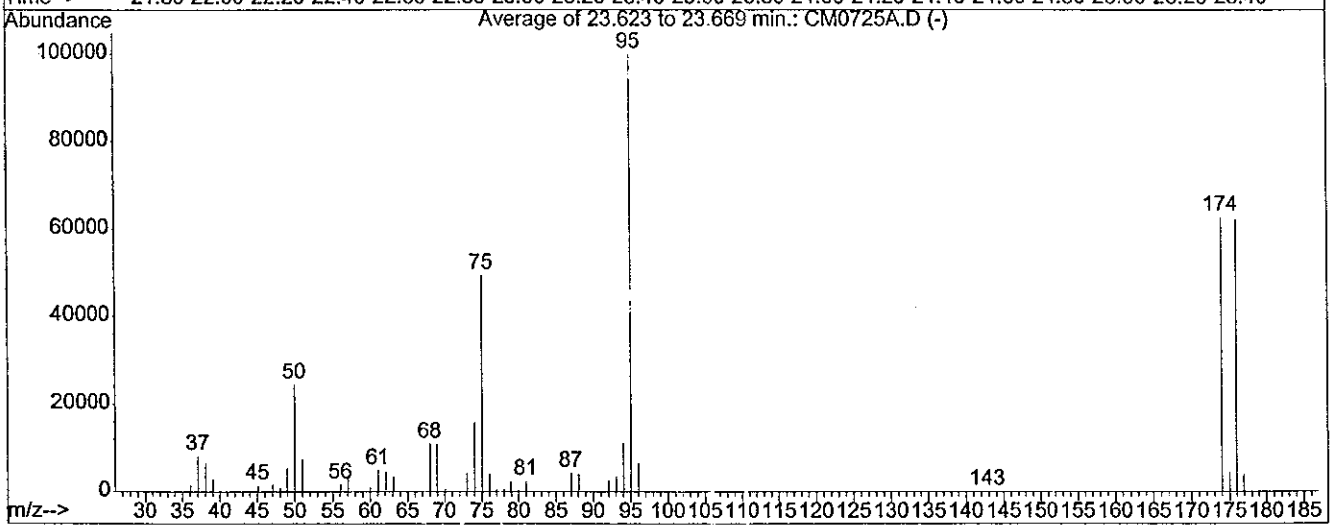
Spectrum Information: Average of 23.623 to 23.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24487	PASS
75	95	30	60	49.4	49411	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6568	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.7	62676	PASS
175	174	5	9	7.3	4585	PASS
176	174	95	101	99.0	62077	PASS
177	176	5	9	6.6	4080	PASS

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14





Spectrum Information: Average of 23.623 to 23.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24487	PASS
75	95	30	60	49.4	49411	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6568	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.7	62676	PASS
175	174	5	9	7.3	4585	PASS
176	174	95	101	99.0	62077	PASS
177	176	5	9	6.6	4080	PASS

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:46:27 2001
Response via : Multiple Level Calibration

passed BH 7/25/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	96	0.00
2		Dichlorodifluoromethane	5.221	4.845	7.2#	86	0.00
3		Dichlorotetrafluoroethane	1.746	1.660	4.9#	86	0.00
4	P	Chloromethane	1.056	1.086	-2.8#	103	0.00
5	C	Vinyl chloride	0.990	0.989	0.1#	90	0.00
6		Bromomethane	1.432	1.437	-0.3	95	0.00
7		Chloroethane	0.635	0.653	-2.8#	97	0.00
8		Trichlorofluoromethane	1.509	2.239	-48.4#	161#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.982	-1.1	93	0.00
10	MC	1,1-Dichloroethene	1.112	1.153	-3.7#	97	0.00
11		Iodomethane	0.000	0.000	0.0	146	0.00
12		Methylene chloride	1.996	1.991	0.3	92	0.00
13		Carbon disulfide	3.278	3.502	-6.8#	99	0.00
14		methyl-Tert-Butyl Ether	1.416	1.504	-6.2#	97	0.00
15		trans-1,2-Dichloroethene	1.191	1.237	-3.9#	97	0.00
16		n-Hexane	1.373	1.335	2.8#	88	0.00
17	P	1,1-Dichloroethane	2.420	2.371	2.0#	89	0.00
18		cis-1,2-Dichloroethene	2.017	2.009	0.4	91	0.00
19	C	Chloroform	2.996	2.982	0.5#	91	0.00
20		Isooctane	4.286	4.398	2.6#	168#	0.00
21		1,1,1-Trichloroethane	2.533	2.540	0.3	92	0.00
22		Carbon tetrachloride	2.682	2.669	0.5	91	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.529	2.4#	93	0.00
24		1,2-Dichloroethane	1.735	1.713	1.3	90	0.00
25		1,2-Dibromoethane	2.008	2.074	-3.3#	92	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	98	0.00
27	M	Benzene	0.782	0.786	-0.5	93	0.00
28	M	Trichloroethene	0.392	0.396	-1.0	93	0.00
29	C	1,2-Dichloropropane	0.356	0.348	2.2#	90	0.00
30		Bromodichloromethane	0.847	0.825	2.6#	89	0.00
31		cis-1,3-Dichloropropene	0.511	0.502	1.8	91	0.00
32	S	Toluene-d8 SURR#2	0.808	0.812	0.5	97	0.00
33	MC	Toluene	0.475	0.479	-0.8#	93	0.00
34		trans-1,3-Dichloropropene	0.411	0.409	0.5	90	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	97	0.00
37		Tetrachloroethene	0.495	0.488	1.4	91	0.00
38		Dibromochloromethane	0.696	0.693	0.4	90	0.00
39	MP	Chlorobenzene	0.897	0.901	-0.4	92	0.00

added 2X BH 7/25/01

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:46:27 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.364	1.1#	91	0.00
41		m,p-Xylene	0.467	0.469	-0.4	92	0.00
42		o-Xylene	0.454	0.452	0.4	91	0.00
43		Styrene	0.747	0.716	4.1#	88	0.00
44	P	Bromoform	0.624	0.622	0.3	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.637	-4.4#	93	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.951	4.3#	92	0.00
47		1,4-Dichloro-2-butene	0.123	0.129	-4.9#	92	0.00
48		4-Ethyltoluene	1.262	1.164	7.8#	89	0.00
49		1,3,5-Trimethylbenzene	0.993	0.966	2.7#	92	0.00
50		2-Chlorotoluene	1.329	1.320	0.7	92	0.00
51		1,2,4-Trimethylbenzene	1.043	1.020	2.2#	90	0.00
52		1,3-Dichlorobenzene	0.788	0.775	1.6	90	0.00
53		1,4-Dichlorobenzene	0.826	0.830	-0.5	92	0.00
54		1,2-Dichlorobenzene	0.719	0.716	0.4	90	0.00
55		1,2,4-Trichlorobenzene	0.545	0.514	5.7#	86	0.00
56		Napthalene	0.625	0.665	-6.4#	94	0.00
57		Hexachlorobutadiene	0.481	0.440	8.5#	84	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 13:29:55 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	96	0.00
2		Dichlorodifluoromethane	250.000	231.985	7.2#	86	0.00
3		Dichlorotetrafluoroethane	250.000	237.625	5.0#	86	0.00
4	P	Chloromethane	250.000	257.146	-2.9#	103	0.00
5	C	Vinyl chloride	250.000	249.824	0.1#	90	0.00
6		Bromomethane	250.000	250.988	-0.4	95	0.00
7		Chloroethane	250.000	257.059	-2.8#	97	0.00
8		Trichlorofluoromethane	250.000	412.511	-65.0#	161	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	252.848	-1.1	93	0.00
10	MC	1,1-Dichloroethene	250.000	259.201	-3.7#	97	0.00
11		Iodomethane	-1.000	0.000	0.0	146	0.00
12		Methylene chloride	250.000	249.347	0.3	92	0.00
13		Carbon disulfide	250.000	267.026	-6.8#	99	0.00
14		methyl-Tert-Butyl Ether	250.000	265.520	-6.2#	97	0.00
15		trans-1,2-Dichloroethene	250.000	259.622	-3.8#	97	0.00
16		n-Hexane	250.000	243.022	2.8#	88	0.00
17	P	1,1-Dichloroethane	250.000	244.933	2.0#	89	0.00
18		cis-1,2-Dichloroethene	250.000	249.085	0.4	91	0.00
19	C	Chloroform	250.000	248.813	0.5#	91	0.00
20		Isooctane	250.000	512.964	-105.2#	168	0.00
21		1,1,1-Trichloroethane	250.000	250.651	-0.3	92	0.00
22		Carbon tetrachloride	250.000	248.734	0.5	91	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	243.993	2.4#	93	0.00
24		1,2-Dichloroethane	250.000	246.894	1.2	90	0.00
25		1,2-Dibromoethane	250.000	258.222	-3.3#	92	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	98	0.00
27	M	Benzene	250.000	251.266	-0.5	93	0.00
28	M	Trichloroethene	250.000	252.591	-1.0	93	0.00
29	C	1,2-Dichloropropane	250.000	244.790	2.1#	90	0.00
30		Bromodichloromethane	250.000	243.653	2.5#	89	0.00
31		cis-1,3-Dichloropropene	250.000	245.756	1.7	91	0.00
32	S	Toluene-d8 SURR#2	250.000	251.080	-0.4	97	0.00
33	MC	Toluene	250.000	252.237	-0.9#	93	0.00
34		trans-1,3-Dichloropropene	250.000	248.882	0.4	90	0.00
35		1,1,2-Trichloroethane	250.000	254.448	-1.8	93	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	97	0.00
37		Tetrachloroethene	250.000	246.753	1.3	91	0.00
38		Dibromochloromethane	250.000	248.826	0.5	90	0.00
39	MP	Chlorobenzene	250.000	250.954	-0.4	92	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 13:29:55 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	247.363	1.1#	91	0.00
41		m,p-Xylene	500.000	501.579	-0.3	92	0.00
42		o-Xylene	250.000	248.981	0.4	91	0.00
43		Styrene	250.000	239.620	4.2#	88	0.00
44	P	Bromoform	250.000	249.261	0.3	89	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	261.055	-4.4#	93	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	239.082	4.4#	92	0.00
47		1,4-Dichloro-2-butene	250.000	248.970	0.4	92	0.00
48		4-Ethyltoluene	250.000	230.513	7.8#	89	0.00
49		1,3,5-Trimethylbenzene	250.000	243.219	2.7#	92	0.00
50		2-Chlorotoluene	250.000	248.193	0.7	92	0.00
51		1,2,4-Trimethylbenzene	250.000	244.546	2.2#	90	0.00
52		1,3-Dichlorobenzene	250.000	245.832	1.7	90	0.00
53		1,4-Dichlorobenzene	250.000	251.142	-0.5	92	0.00
54		1,2-Dichlorobenzene	250.000	248.929	0.4	90	0.00
55		1,2,4-Trichlorobenzene	250.000	235.673	5.7#	86	0.00
56		Napthalene	250.000	266.023	-6.4#	94	0.00
57		Hexachlorobutadiene	250.000	228.830	8.5#	84	0.00

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Original & Final report BDH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.26	128	302570	250.00 ng	0.00 100.00%
26) 1,4-Difluorobenzene IS#2	13.21	114	1249639	250.00 ng	0.00 100.00%
36) Chlorobenzene-d5 IS#3	20.50	117	941721	250.00 ng	0.00 100.00%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.40	65	462690	243.99 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.60%					
32) Toluene-d8 SURR#2	16.75	98	1014211	251.08 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.43%					
46) 4-Bromofluorobenzene SURR#	23.65	95	895187	239.08 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.63%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.86	85	1465872	231.98 ng		99
3) Dichlorotetrafluoroethane	3.87	135	502176	237.62 ng	#	19
4) Chloromethane	4.14	50	328658	257.15 ng		98
5) Vinyl chloride	4.36	62	299278	249.82 ng		99
6) Bromomethane	5.19	94	434900	250.99 ng		96
7) Chloroethane	5.30	64	197626	257.06 ng		97
8) Trichlorofluoromethane	5.82	101	677331	412.51 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.62	151	599828	252.85 ng		91
10) 1,1-Dichloroethene	6.98	96	348748	259.20 ng		92
12) Methylene chloride	7.90	49	602313	249.35 ng	#	85
13) Carbon disulfide	8.04	76	1059509	267.03 ng		100
14) methyl-Tert-Butyl Ether	8.19	73	455110	265.52 ng	#	91
15) trans-1,2-Dichloroethene	8.49	96	374299	259.62 ng		93
16) n-Hexane	8.59	57	403879	243.02 ng	#	1
17) 1,1-Dichloroethane	9.32	63	717345	244.93 ng		99
18) cis-1,2-Dichloroethene	10.57	61	607912	249.09 ng		94
19) Chloroform	10.89	83	902335	248.81 ng	#	95
20) Isooctane accidently added twice BH 7/25	11.87	57	2661164	512.96 ng		96
21) 1,1,1-Trichloroethane	11.76	97	768441	250.65 ng	#	84
22) Carbon tetrachloride	12.34	117	807529	248.73 ng		98
24) 1,2-Dichloroethane	12.60	62	518290	246.89 ng		99
25) 1,2-Dibromoethane	19.57	107	627634	258.22 ng		99
27) Benzene	12.68	78	982326	251.27 ng		97

(#) = qualifier out of range (m) = manual integration
CM0725A.D TO14S.M Wed Jul 25 09:45:57 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

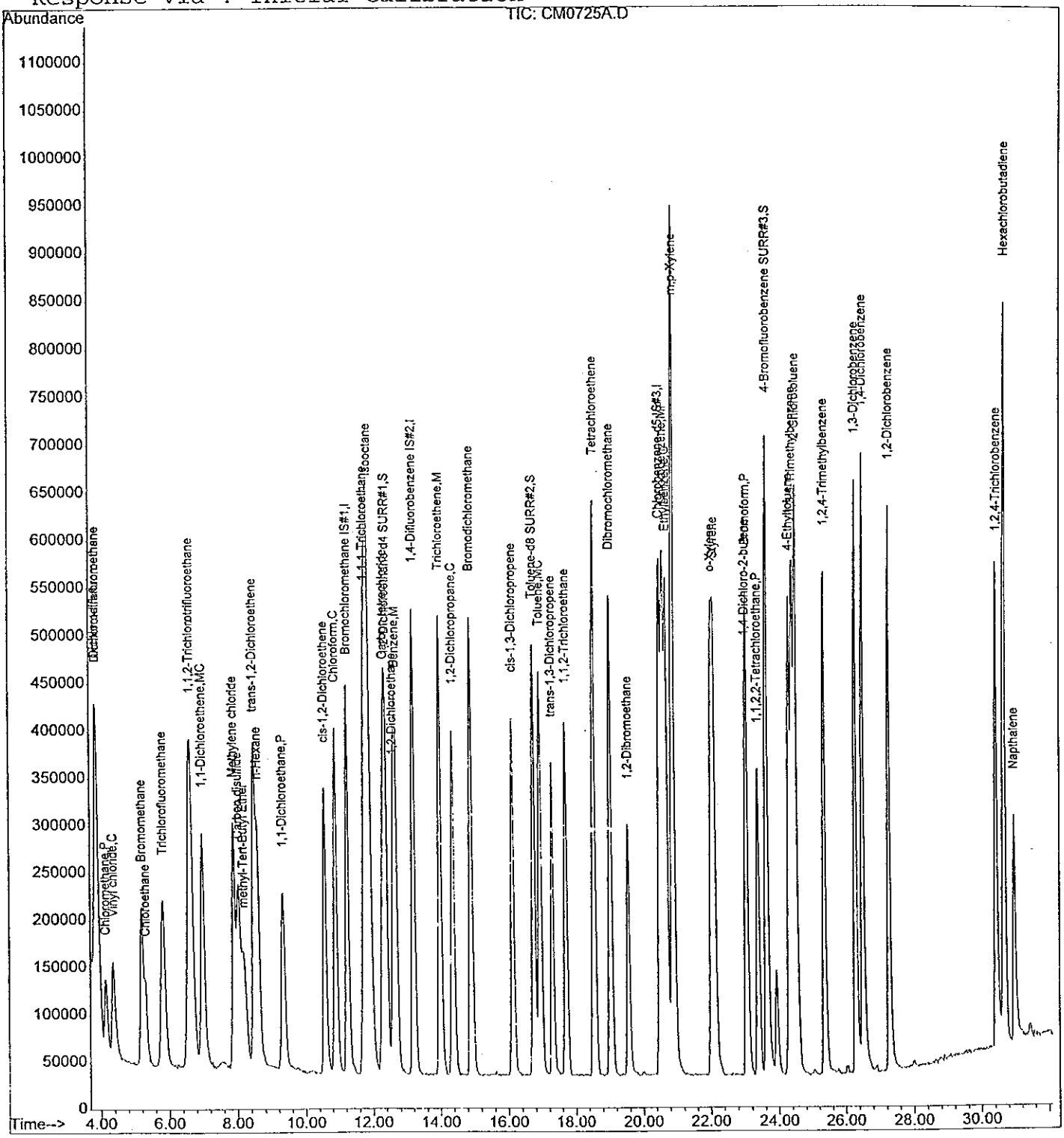
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.00	130	495296	252.59 ng		99
29)	1,2-Dichloropropane	14.39	63	435196	244.79 ng	#	88
30)	Bromodichloromethane	14.91	83	1031122	243.65 ng		99
31)	cis-1,3-Dichloropropene	16.14	75	627296	245.76 ng	#	81
33)	Toluene	16.95	92	598979	252.24 ng		97
34)	trans-1,3-Dichloropropene	17.30	75	511270	248.88 ng	#	79
35)	1,1,2-Trichloroethane	17.72	97	377746	254.45 ng		98
37)	Tetrachloroethene	18.56	164	459962	246.75 ng		97
38)	Dibromochloromethane	19.04	127	652560	248.83 ng		99
39)	Chlorobenzene	20.61	112	848358	250.95 ng		96
40)	Ethylbenzene	20.70	106	343229	247.36 ng		91
41)	m,p-Xylene	20.91	106	882799	501.58 ng		92
42)	o-Xylene	22.04	106	425892	248.98 ng		92
43)	Styrene	22.12	104	673880	239.62 ng		96
44)	Bromoform	23.06	173	585748	249.26 ng		99
45)	1,1,2,2-Tetrachloroethane	23.39	83	599427	261.06 ng		98
47)	1,4-Dichloro-2-butene	23.03	75	121403	248.97 ng		93
48)	4-Ethyltoluene	24.32	105	1095839	230.51 ng		92
49)	1,3,5-Trimethylbenzene	24.41	105	909797	243.22 ng		92
50)	2-Chlorotoluene	24.52	91	1242953	248.19 ng		98
51)	1,2,4-Trimethylbenzene	25.38	105	960519	244.55 ng		99
52)	1,3-Dichlorobenzene	26.29	146	729974	245.83 ng		97
53)	1,4-Dichlorobenzene	26.51	146	781544	251.14 ng		98
54)	1,2-Dichlorobenzene	27.27	146	674252	248.93 ng		98
55)	1,2,4-Trichlorobenzene	30.44	180	484052	235.67 ng		99
56)	Napthalene	30.97	128	626218	266.02 ng	#	91
57)	Hexachlorobutadiene	30.67	225	414772	228.83 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:54 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

BAH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	313917	250.00 ng	0.02 103.75%
26) 1,4-Difluorobenzene IS#2	13.22	114	1298246	250.00 ng	0.02 103.89%
36) Chlorobenzene-d5 IS#3	20.52	117	967114	250.00 ng	0.02 102.70%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.41	65	484784	246.40 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.56%		
32) Toluene-d8 SURR#2	16.76	98	1045513	249.14 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.66%		
46) 4-Bromofluorobenzene SURR#	23.65	95	913619	237.60 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.04%		

mg/m3

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA153ABK.D TO14S.M Wed Jul 25 09:54:56 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:46 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	313917	250.00 ng	0.02 103.75%
26) 1,4-Difluorobenzene IS#2	13.22	114	1298246	250.00 ng	0.02 103.89%
36) Chlorobenzene-d5 IS#3	20.52	117	967114	250.00 ng	0.02 102.70%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.41	65	484784	246.40 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.56%		
32) Toluene-d8 SURR#2	16.76	98	1045513	249.14 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.66%		
46) 4-Bromofluorobenzene SURR#	23.65	95	913619	237.60 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.04%		

Target Compounds

					ng	Qvalue
55) 1,2,4-Trichlorobenzene	30.45	180	3841	1.82 ng	#	86
56) Napthalene	30.98	128	12202	5.05 ng	#	64

<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA153ABK.D TO14S.M Wed Jul 25 09:46:13 2001 Page 1

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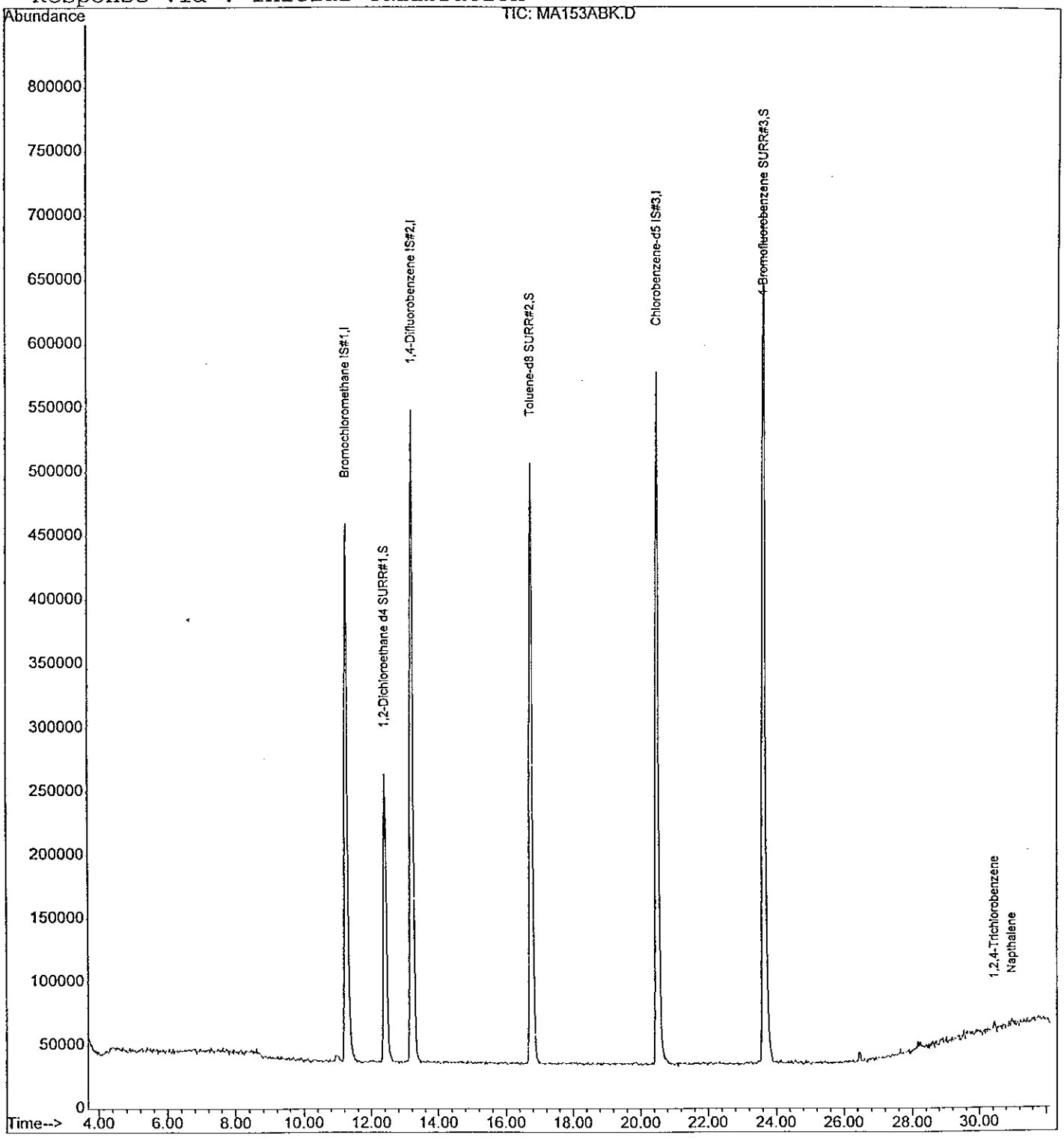
Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:46 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00	ng	0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00	ng	0.03 NA%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%						
32) Toluene-d8 SURR#2	16.78	98	982773	248.20	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%						
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%						
Target Compounds					mg/m3 report	Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	0.45	ng	93
27) Benzene	12.69	78	965079	0.50	ng	97
28) Trichloroethene	14.03	130	484089	0.50	ng	99
33) Toluene	16.96	92	587034	0.50	ng	96
39) Chlorobenzene	20.64	112	842610	0.51	ng	92

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

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

BH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00	ng	0.01 100.07%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00	ng	0.03 98.03%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00	ng	0.03 98.20%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%						
32) Toluene-d8 SURR#2	16.78	98	982773	248.20	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%						
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%						

ng report

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	225.90	ng	93
27) Benzene	12.69	78	965079	251.83	ng	97
28) Trichloroethene	14.03	130	484089	251.85	ng	99
33) Toluene	16.96	92	587034	252.19	ng	96
39) Chlorobenzene	20.64	112	842610	253.81	ng	92

(#) = qualifier out of range (m) = manual integration
MA153LCS.D TO14S.M Wed Jul 25 10:30:20 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001 orig.
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00 ng	0.01 100.07%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00 ng	0.03 98.03%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00 ng	0.03 98.20%

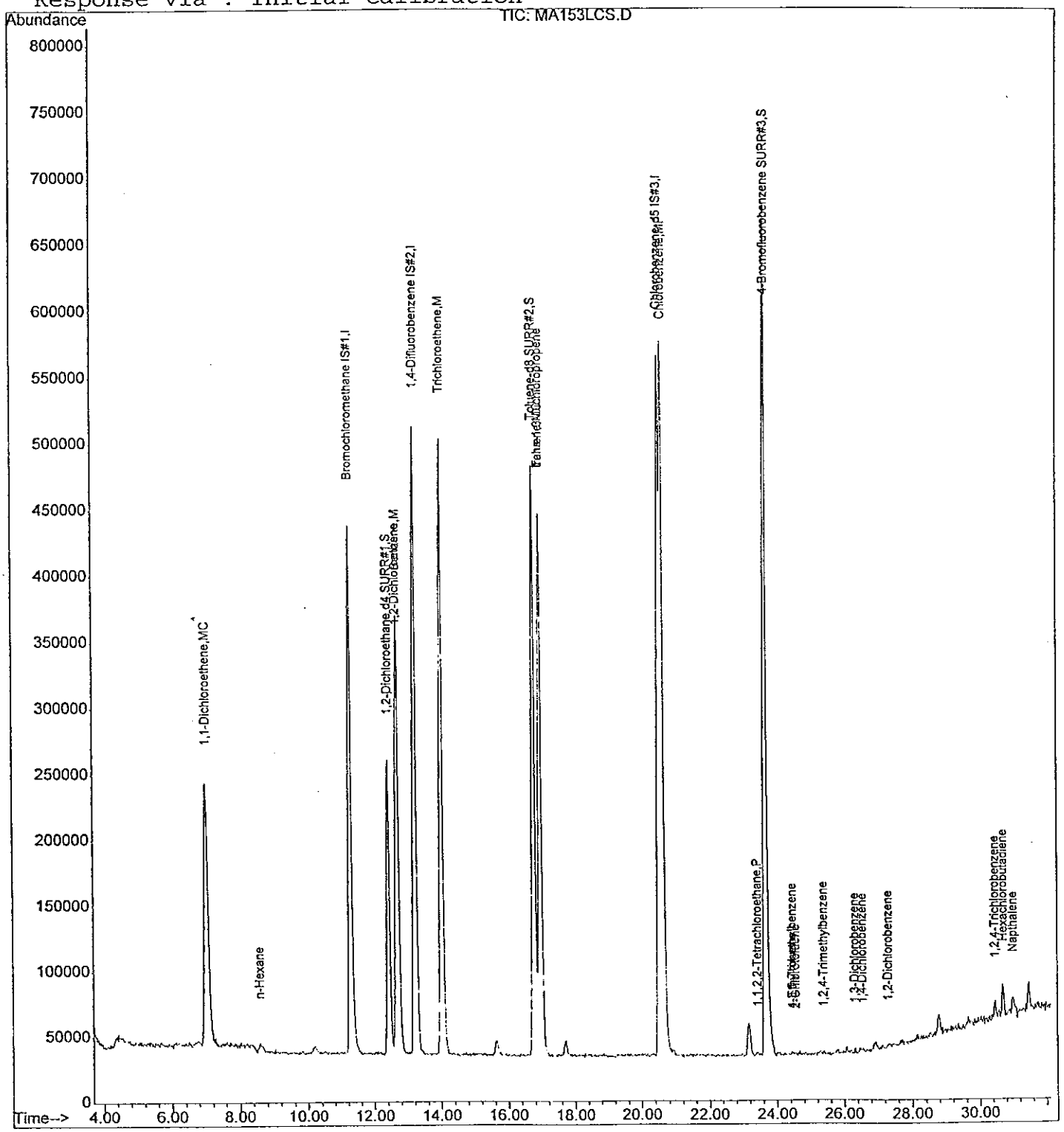
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%					
32) Toluene-d8 SURR#2	16.78	98	982773	248.20 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%					
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%					

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	225.90 ng		93
16) n-Hexane	8.59	57	7860	4.73 ng	#	52
24) 1,2-Dichloroethane	12.68	62	8376	3.99 ng	#	49
27) Benzene	12.69	78	965079	251.83 ng		97
28) Trichloroethene	14.03	130	484089	251.85 ng		99
33) Toluene	16.96	92	587034	252.19 ng		96
34) trans-1,3-Dichloropropene	16.96	75	992	0.49 ng	#	1
39) Chlorobenzene	20.64	112	842610	253.81 ng		92
45) 1,1,2,2-Tetrachloroethane	23.44	83	7527	3.34 ng	#	58
48) 4-Ethyltoluene	24.46	105	4235	0.91 ng	#	46
49) 1,3,5-Trimethylbenzene	24.46	105	4235	1.15 ng	#	30
50) 2-Chlorotoluene	24.55	91	6083	1.24 ng	#	47
51) 1,2,4-Trimethylbenzene	25.39	105	4829	1.25 ng	#	31
52) 1,3-Dichlorobenzene	26.32	146	2122	0.73 ng	#	27
53) 1,4-Dichlorobenzene	26.54	146	3549	1.16 ng	#	27
54) 1,2-Dichlorobenzene	27.30	146	4466	1.68 ng	#	26
55) 1,2,4-Trichlorobenzene	30.45	180	12714	6.30 ng	#	81
56) Napthalene	31.00	128	33528	14.50 ng	#	64
57) Hexachlorobutadiene	30.70	225	15662	8.80 ng		89

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

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:23 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration



AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.	#of impi
502C	A8040136	Acc STD	2000 µg/ml	7/1999	DAW 5/15/98	7-VN 2-1	3
502A-R	A7040370	Acc STD	2000 µg/ml	7/1999	DAW 5/28/98	7-VN 2-2	4
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3	10
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DAW 5/29/98	7-VN 2-4	10
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	10
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DAW 6/16/98	7-VN 2-6	5
Custom TO14 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/21/98	7-VN 2-7	10
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 mixture (2nd source)	M0219	Ultra	2000 µg/ml	3/2000	~~BH 7/28/98~~	7-VN 2-9	
8260 SURR	A11795	Restek	2500 µg/ml	8/2001	DAW 10/6/98	7-VN 2-10	10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DAW 10/6/98	7-VN 2-11	10
Matrix Spike	LA76820	Supelco	25 µg/ml	8/2000	DAW 10/7/98	7-VN 2-12	10
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DAW 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Varies	6/2000	DAW 11/10	7-VN 2-14	1
Benzene d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	10
2-Chloroethyl vinyl ether	A8090042-JB	Accustandard	200.1 µg/ml	9/99	DAW 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAW 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAW 3/9/99	7-VN 2-19	1
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	DAW 3/10/99	7-VN 2-20	5
8260 Volatile Kit	Varies	Restek	Varies	6/2001	DAW 3/10/99	7-VN 2-21	1
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DAW 5/10/99	7-VN 2-22	2
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DAW 5/10/99	7-VN 2-23	2
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DAW 5/10/99	7-VN 2-24	2
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DAW 5/14/99	7-VN 2-25	3
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~	4
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DAW 6/9/99	7-VN 2-27	2
Iodomethane	LA81867	Supelco	2000	4/2000	DAW 6/9/99	7-VN 2-28	

* To be used if neat standard is to be kept after container is opened.

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AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Away 1st Date Used	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DW 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DW 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DW 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MW 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	KW 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	SDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MW 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MW 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MW 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Varies 2002 date	DW 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short list Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77277~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014205	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 ketone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom ketone Mix	A016258	Restek	2000/1000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/1000	4/22/2001	3	8-VN 1-17
8260 Volatiles kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8560S	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016295	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89887	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/02 ~~5~~ 4	8-VN 1-26
VOA Short list Matrix Spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Review to 4/30

* To be used if neat standard is to be kept after container is opened.

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NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89988	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	trench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: Oxygenates
Date: 3/1/01
Analyst: W/O

Standard I.D.: 8 -MSW 19- 1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-16	B1010025	1/4/03	2000-10,000	45	1.8ml	50/250 ug/ml

Comments: exp. 9/1/01

Sol. Name: IS/Surr
Date: 3-29-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 19- 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-4	A016278	8/03	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN-2-13	A017973	3/04	2500 µg/ml	↓	↓	↓

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BMH

Standard I.D.: 8 -MSW 19 -3
Location: Freezer MS018
Solvent: Methanol
Lot # V03E71

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A017265	11/01	2500 µg/ml	500 µls	50 mls	25 ppm
7-VN-2-16 (Surr)	A017264	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/2/01

090

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23 - 1
Location: MS018-Freezer
Solvent: MEOH - V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SURR
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SUR	A017973	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23 -3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

091

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D Vial: 1
Acq On : 25 Jul 2001 16:02 Operator: BDH
Sample : 062-SVE-E-A-0717-01-14\7405-1 Inst : ~~GC/MS~~ Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Jul 26 10:38 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001 BH 7/26/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	257626	250.00	ng	0.03 / 85.15%
26) 1,4-Difluorobenzene IS#2	13.22	114	851824	250.00	ng	0.02 / 68.17%
36) Chlorobenzene-d5 IS#3	20.55	117	678819	250.00	ng	0.05 / 72.08%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	375334	232.46	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 92.98%						
32) Toluene-d8 SURR#2	16.78	98	686567	249.35	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.74%						
46) 4-Bromofluorobenzene SURR#	23.68	95	748101	277.18	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 110.87%						

mg/m³ report

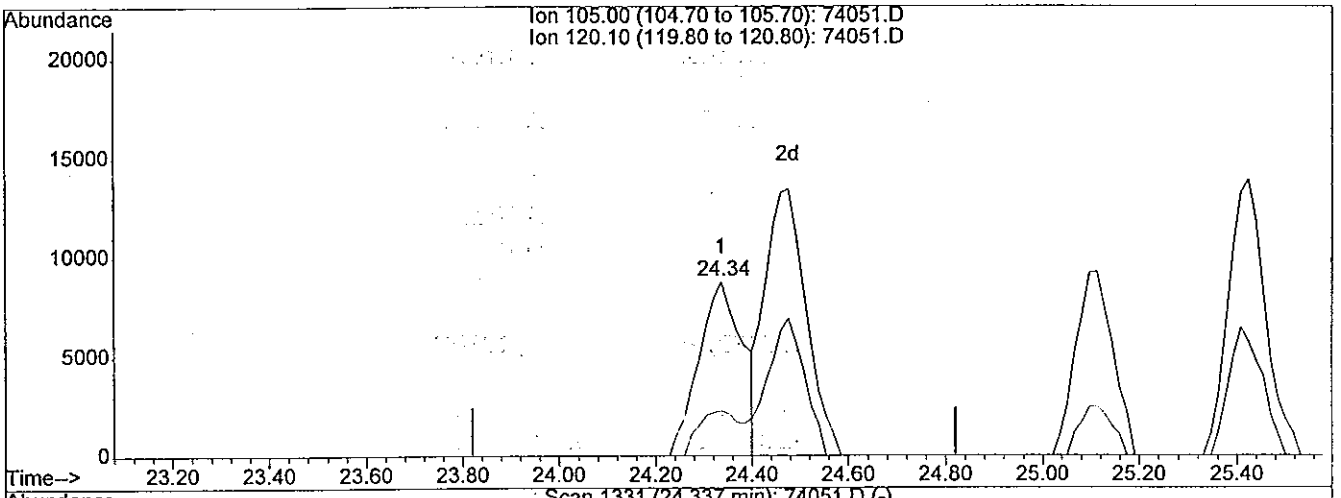
Target Compounds

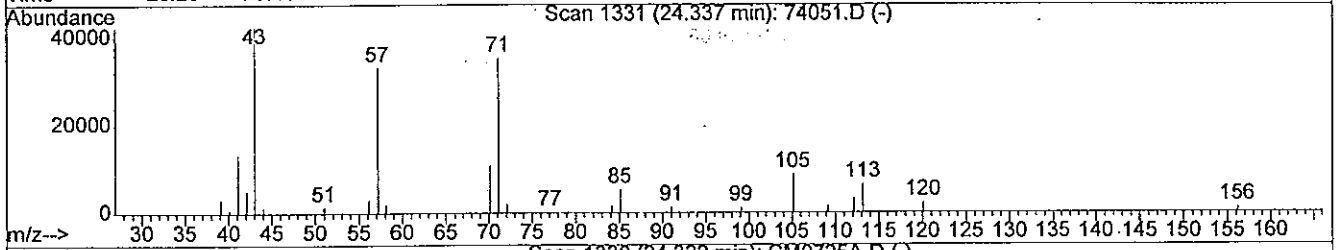
						Qvalue
41) m,p-Xylene	20.94	106	14978	0.05	ng <RL #	65
42) o-Xylene	22.10	106	5457	0.02	ng ↓ #	48
48) 4-Ethyltoluene	24.34	105	55343	0.06	ng	92
49) 1,3,5-Trimethylbenzene	24.48	105	79752	0.12	ng	99
51) 1,2,4-Trimethylbenzene	25.42	105	73856	0.10	ng	96
56) Napthalene	31.03	128	105989	0.25	ng #NR	91

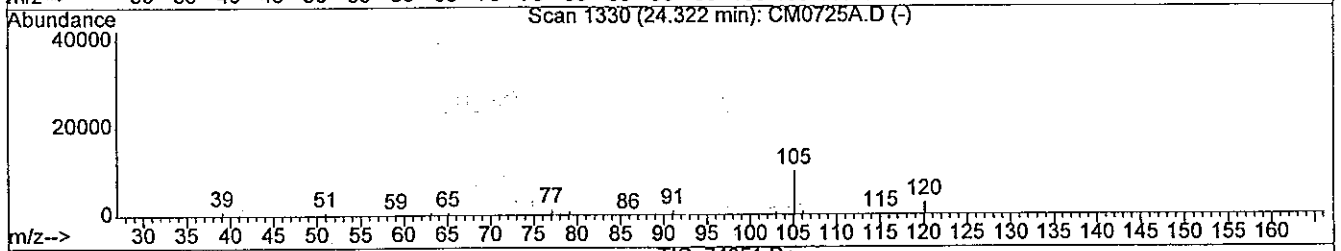
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D Vial: 1
Acq On : 25 Jul 2001 16:02 Operator: BDH
Sample : 062-SVE-E-A-0717-01-14\7405-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 26 10:37 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







TIC: 74051.D

(48) 4-Ethyltoluene

24.34min 16.15ng

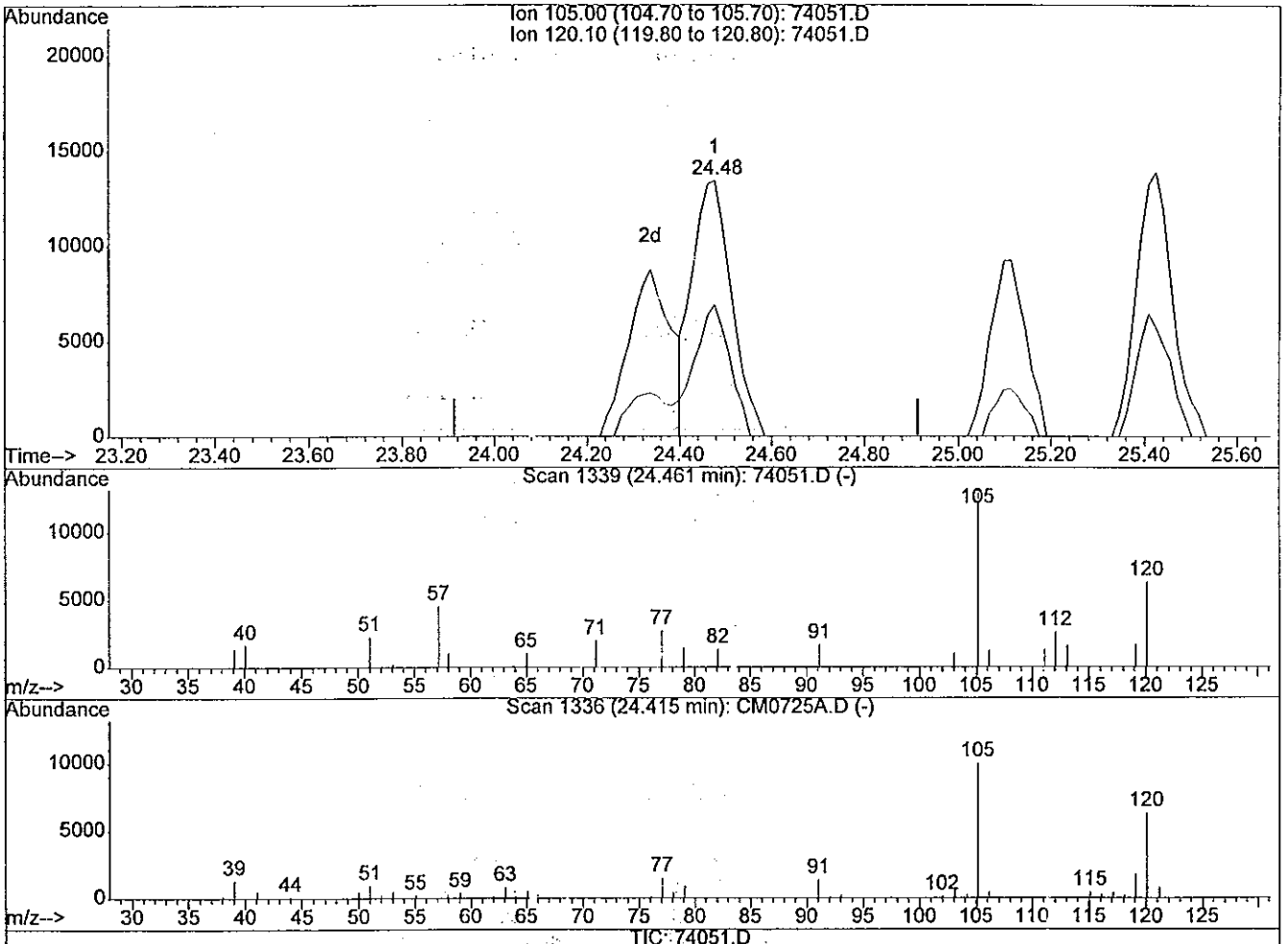
response 55343

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	24.64
0.00	0.00	0.00
0.00	0.00	0.00

74051.D TO14S.M Thu Jul 26 10:38:10 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D Vial: 1
Acq On : 25 Jul 2001 16:02 Operator: BDH
Sample : 062-SVE-E-A-0717-01-14\7405-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 26 10:37 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.48min 29.58ng

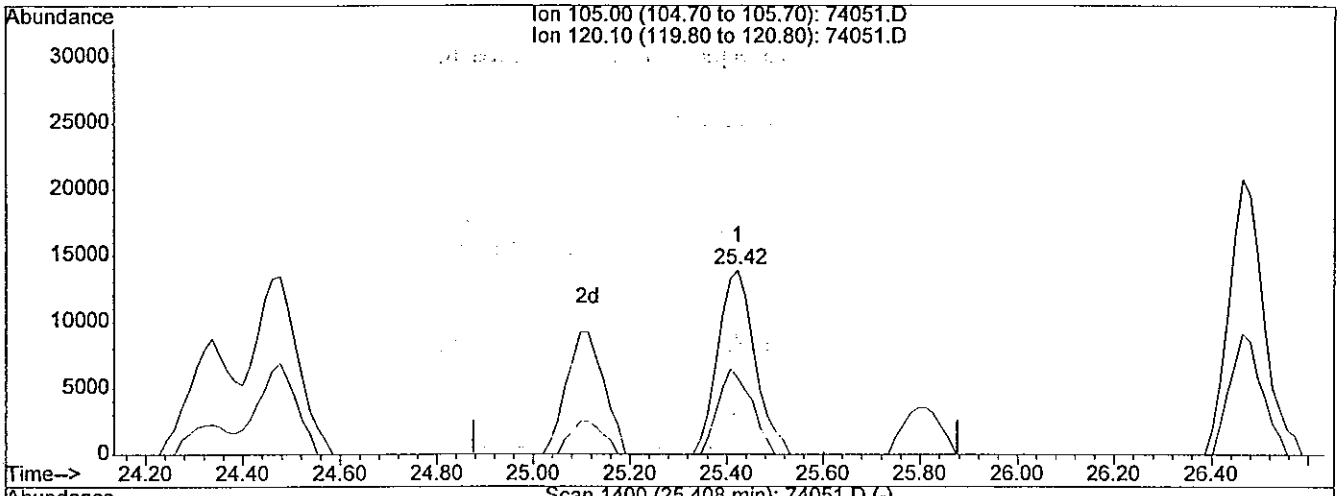
response 79752

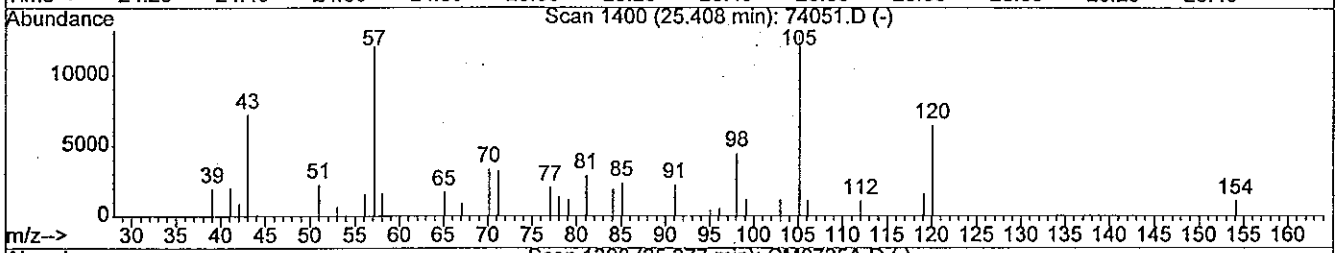
Ion	Exp%	Act%
105.00	100	100
120.10	46.70	47.45
0.00	0.00	0.00
0.00	0.00	0.00

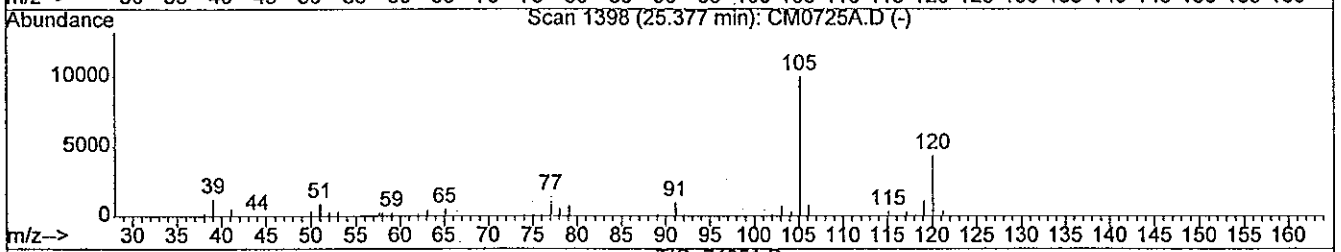
74051.D TO14S.M Thu Jul 26 10:38:20 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D Vial: 1
Acq On : 25 Jul 2001 16:02 Operator: BDH
Sample : 062-SVE-E-A-0717-01-14\7405-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 26 10:38 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







TIC: 74051.D

(51) 1,2,4-Trimethylbenzene

25.42min 26.09ng

response 73856

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	42.25
0.00	0.00	0.00
0.00	0.00	0.00

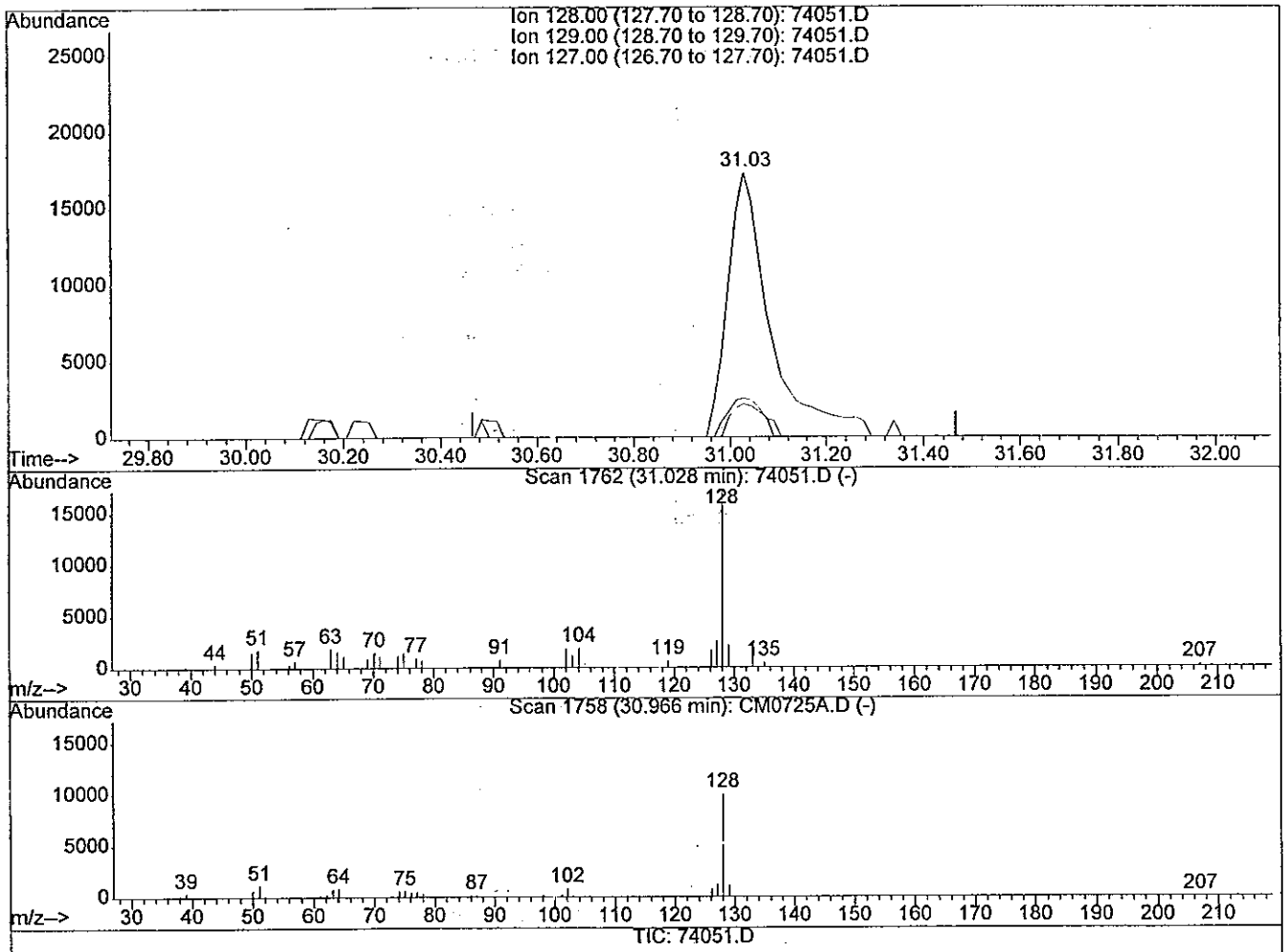
74051.D TO14S.M Thu Jul 26 10:38:31 2001

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D
Acq On : 25 Jul 2001 16:02
Sample : 062-SVE-E-A-0717-01-14\7405-1
Misc : Pf/Pi=1 MA153ABK
MS Integration Params: rteint.p
Quant Time: Jul 26 10:38 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.03min 62.46ng

response 105989

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	9.11#
127.00	15.10	12.45
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D
Acq On : 25 Jul 2001 16:02
Sample : 062-SVE-E-A-0717-01-14\7405-1
Misc : Pf/Pi=1 MA153ABK
MS Integration Params: rteint.p
Quant Time: Jul 25 16:34 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	257626	250.00 ng	0.03 85.15%
26) 1,4-Difluorobenzene IS#2	13.22	114	851824	250.00 ng	0.02 68.17%
36) Chlorobenzene-d5 IS#3	20.55	117	678819	250.00 ng	0.05 72.08%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.43	65	375334	232.46 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 92.98%					
32) Toluene-d8 SURR#2	16.78	98	686567	249.35 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.74%					
46) 4-Bromofluorobenzene SURR#	23.68	95	748101	277.18 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 110.87%					

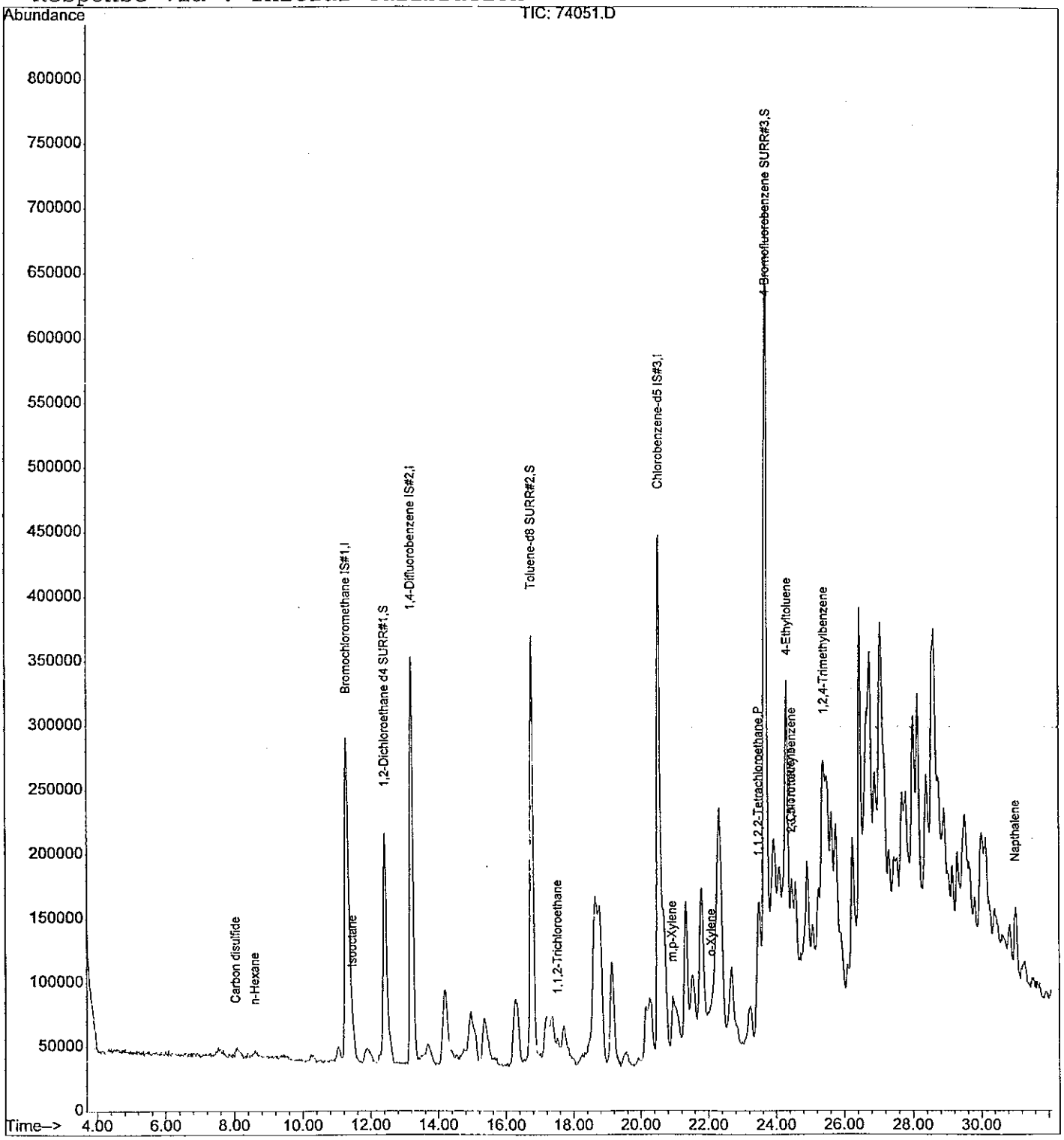
no report

Target Compounds						Qvalue
13) Carbon disulfide	8.05	76	966	0.29 ng	#	1
16) n-Hexane	8.61	57	2223	1.57 ng	#	87
20) Isooctane	11.47	57	19114	3.94 ng	#	42
35) 1,1,2-Trichloroethane	17.54	97	18730	18.51 ng	#	14
41) m,p-Xylene	20.94	106	14978	11.81 ng	#	65
42) o-Xylene	22.10	106	5457	4.43 ng	#	48
45) 1,1,2,2-Tetrachloroethane	23.50	83	43658	26.38 ng	#	30
48) 4-Ethyltoluene	24.34	105	55343	16.15 ng		92
49) 1,3,5-Trimethylbenzene	24.48	105	79752	29.58 ng		99
50) 2-Chlorotoluene	24.46	91	8077	2.24 ng	#	47
51) 1,2,4-Trimethylbenzene	25.42	105	73856	26.09 ng		96
56) Napthalene	31.03	128	105989	62.46 ng	#	91

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

Data File : D:\HPCHEM\1\DATA01\M0725A\74051.D Vial: 1
Acq On : 25 Jul 2001 16:02 Operator: BDH
Sample : 062-SVE-E-A-0717-01-14\7405-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 16:34 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration



SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C108415
Project: CH2M Hill
NAS CECIL FIELD; CTO-0062

Client Sample ID	STL Sample ID
062-SVE-E-A-0814-01-19	C108415-1

The above samples were received at STL Pensacola on August 16, 2001.

Rick Hayes
Senior Project Manager

8/28/01

CCI NAVY RAC PHC
AUG 29 2001

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08415-1	062-SVE-E-A-0814-01-19	08-14-01/10:45

PARAMETER	08415-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08415-1	062-SVE-E-A-0814-01-19	08-14-01/10:45

PARAMETER	08415-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.10
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.11
1,3,5-Trimethylbenzene, mg/m3	0.25
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.13
Surrogate - 1,2-Dichloroethane-d4	97 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	104 %

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SEVERN TRENT SERVICES

STL Pensacola

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Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08415-1	062-SVE-E-A-0814-01-19	08-14-01/10:45

PARAMETER	08415-1
Dilution Factor	1
Prep Date	08.21.01
Prep Time	10:27
Analysis Date	08.21.01
Analysis Time	10:39
Batch ID	MAB174
Prep Method	MOD-TO14
Analyst	BDH

000 4

SEVERN TRENT SERVICES

STL Pensacola

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Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08415-2	Method Blank	
08415-3	Lab Control Standard True Value	
08415-4	Lab Control Standard Result	
08415-5	Lab Control Standard % Recovery	
08415-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4968	99 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.4977	100 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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STL Pensacola is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

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Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08415-2	Method Blank	
08415-3	Lab Control Standard True Value	
08415-4	Lab Control Standard Result	
08415-5	Lab Control Standard % Recovery	
08415-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4532	91 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5019	100 %	86-113

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

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Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08415-2	Method Blank	
08415-3	Lab Control Standard True Value	
08415-4	Lab Control Standard Result	
08415-5	Lab Control Standard % Recovery	
08415-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4922	98 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	95 %	0.5000	0.4927	99 %	61-140
Surrogate - Toluene-d8	101 %	0.5000	0.5012	100 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4875	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	08.21.01	---	08.21.01	---	---
Prep Time	08:07	---	08:07	---	---
Analysis Date	08.21.01	---	08.21.01	---	---
Analysis Time	08:19	---	08:19	---	---
Batch ID	MAB174	MAB174	MAB174	MAB174	MAB174
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

000 007

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C108415 Date Received: 8-16-01

1. Was there a Chain of Custody? (Yes) No+
2. Was Chain of Custody properly filled out and relinquished? (Yes) No+
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No+ (N/A)
4. Were all samples properly labeled and identified? (Yes) No+
5. Did samples require splitting or compositing◆? Yes+ (No)
   Req By: PM Client Other◆
6. Were samples received in proper containers for analysis requested? (Yes) No+
7. Were all sample containers received intact? (Yes) No+
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No+ (N/A)
9. Is there sufficient volume for analysis requested? Yes No+ (N/A) *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No+
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes+ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No+ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No+ (N/A)

Airbill Number(s): 7984 3489 3360

Shipped By: Fed Ex

Cooler Number(s): 144, 133

Shipping Charges: N/A

Cooler Weight(s):

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 8-16-01 **Logged By:** PAE **Date:** 8/16/01

+ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

◆ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C108 415

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-008

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
Day Tank 1 Monthly Air	0062	2916	Jeff Wilmoth CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0814-01-19	SVE Effluent	AIR	08/14/01	10:45	III/C	14 Day	1										Grab	Summa Canister	133
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK #792434293366.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	8/14/01	11:00	Federal Express	8/14/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Davette Howard / Davette Howard	8-16-01	0930
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

C108 415

PLEASE FOLD THIS SHIPPING DOCUMENT IN HALF AND PLACE IT IN A WAYBILL POUCH AFFIXED TO YOUR SHIPMENT SO THAT THE BAR-CODE PORTION OF THE LABEL CAN BE READ AND SCANNED.
***WARNING: USE ONLY THE PRINTED ORIGINAL LABEL FOR SHIPPING. USING A PHOTOCOPY OF THIS LABEL FOR SHIPPING PURPOSES IS FRAUDULENT AND COULD RESULT IN ADDITIONAL BILLING CHARGES, ALONG WITH THE CANCELLATION OF YOUR FEDEX ACCOUNT NUMBER.

FROM: Randy Dumaop (904)777-4812
J.A. Jones Environmental Servic
6219 Authority Ave.

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

TO: Rick Hayes (850)474-1001
Severn Trent Labs
3355 McLemore Dr

Pensacola, FL 32514-7045

SHIP DATE: 14AUG01
MAN-WGT: 13 LBS

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 ** 2DAY **

THU
AA

TRK # 7924 3429 3366 FORM 0201

Deliver By:
BFM 16AUG01

32514-FL-US

F3 PNSA

000 10

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags are limited to X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

SEVERN TRENT SERVICES
STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

000 13

Revised: 06/19/01

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension granted

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Florida, Radioactive Materials License No. G0733-1, no expiration date assigned

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01

Louisiana Department of Environmental Quality, ELAP, Agency Interest ID 30748 (Interim Accreditation Granted)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

State of New Jersey, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/01

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/01

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01

West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04

VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 108415
PROJECT NAME: N.A.S. CECIL FIELD, DAY TANK 1

RECEIVED Aug 16, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0814-01-19	108415-1	0119

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Aug 24, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 106512 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0821A.D Date Analyzed : 21 Aug 2001
Instrument ID : GC/MS Ins Time Analyzed : 7:46
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
84151	062SVEEA-0814-0	97	103	104	0	0	0	0
MA174ABK	VBLKMA/ DAILY M	95	101	97	0	0	0	0
MA174LCS	LCS/BATCH #174	99	100	98	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	108414					
Batch	MAB174	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		248.39	0.5000	0.4968	99%	87-116%
Chlorobenzene		248.84	0.5000	0.4977	100%	88-111%
1,1-Dichloroethene		226.6	0.5000	0.4532	91%	58-138%
Toluene		250.97	0.5000	0.5019	100%	86-113%
Trichloroethene		246.08	0.5000	0.4922	98%	85-116%
1,2-Dichloroethane-d4		246.35	0.5000	0.4927	99%	61-140%
Toluene-d8		250.62	0.5000	0.5012	100%	90-109%
4-Bromofluorobenzene		243.76	0.5000	0.4875	98%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
Mstrintegrati WATERrams: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	226.60	250.00	90.64	58 to 138%	[ ]
27)	M	Benzene	248.39	250.00	99.36	87 to 116%	[ ]
28)	M	Trichloroethene	246.08	250.00	98.43	85 to 116%	[ ]
33)	MC	Toluene	250.97	250.00	100.39	86 to 113%	[ ]
39)	MP	Chlorobenzene	248.84	250.00	99.54	88 to 111%	[ ]

* = out of control limits

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108415

Lab File ID: MA174ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 8/21/01 Time Analyzed: 8:19

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	LCS/BATCH #174 LCS 5	MA174LCS.D	8:54
02	0119	062SVEEA-0814-01-19\ 8	84151.D	10:39

COMMENTS

000119

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108415

Lab File ID: MA127ABK.D BFB Injection Date: 6/19/01

Instrument ID: MARILYN BFB Injection Time: 8:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

000120

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108415

Lab File ID: CM0821AT.D BFB Injection Date: 8/21/01

Instrument ID: MARILYN BFB Injection Time: 7:46

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	49.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	61.6
175	4.0 - 9.0% of mass 174	4.5 (7.3)1
176	93.0 - 101.0% of mass 174	61.4 (99.6)1
177	5.0 - 9.0% of mass 176	3.9 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM0821A.D	8/21/01	7:46
02	VBLKMA	VBLKMA/ DAILY METHO	MA174ABK.D	8/21/01	8:19
03	LCS AND 2ND	LCS/BATCH #174 LCS 5	MA174LCS.D	8/21/01	8:54
04	0119	062SVEEA-0814-01-19\ 8	84151.D	8/21/01	10:39

000

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:22:32 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

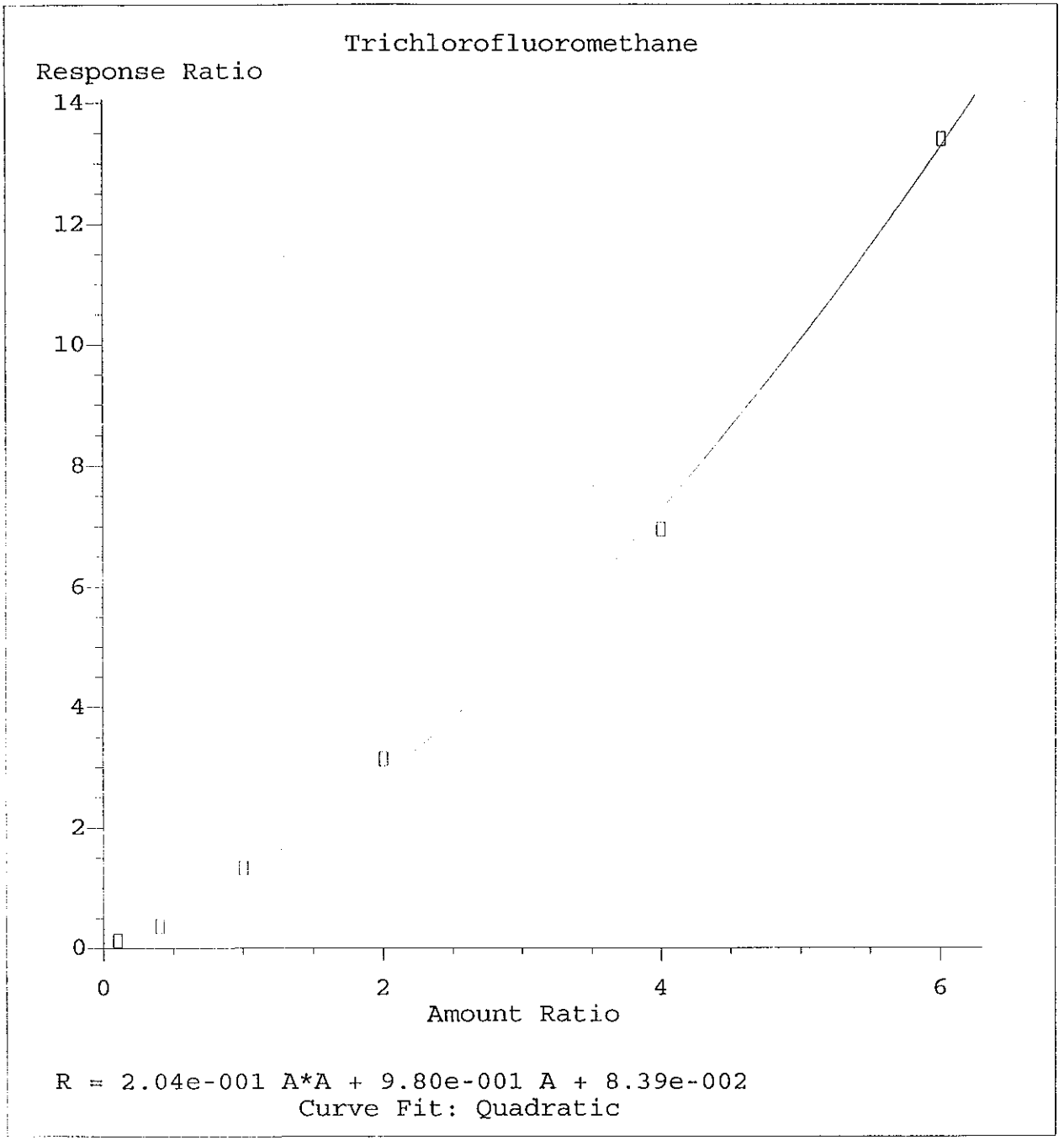
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:22:32 2001
Response via : Initial Calibration

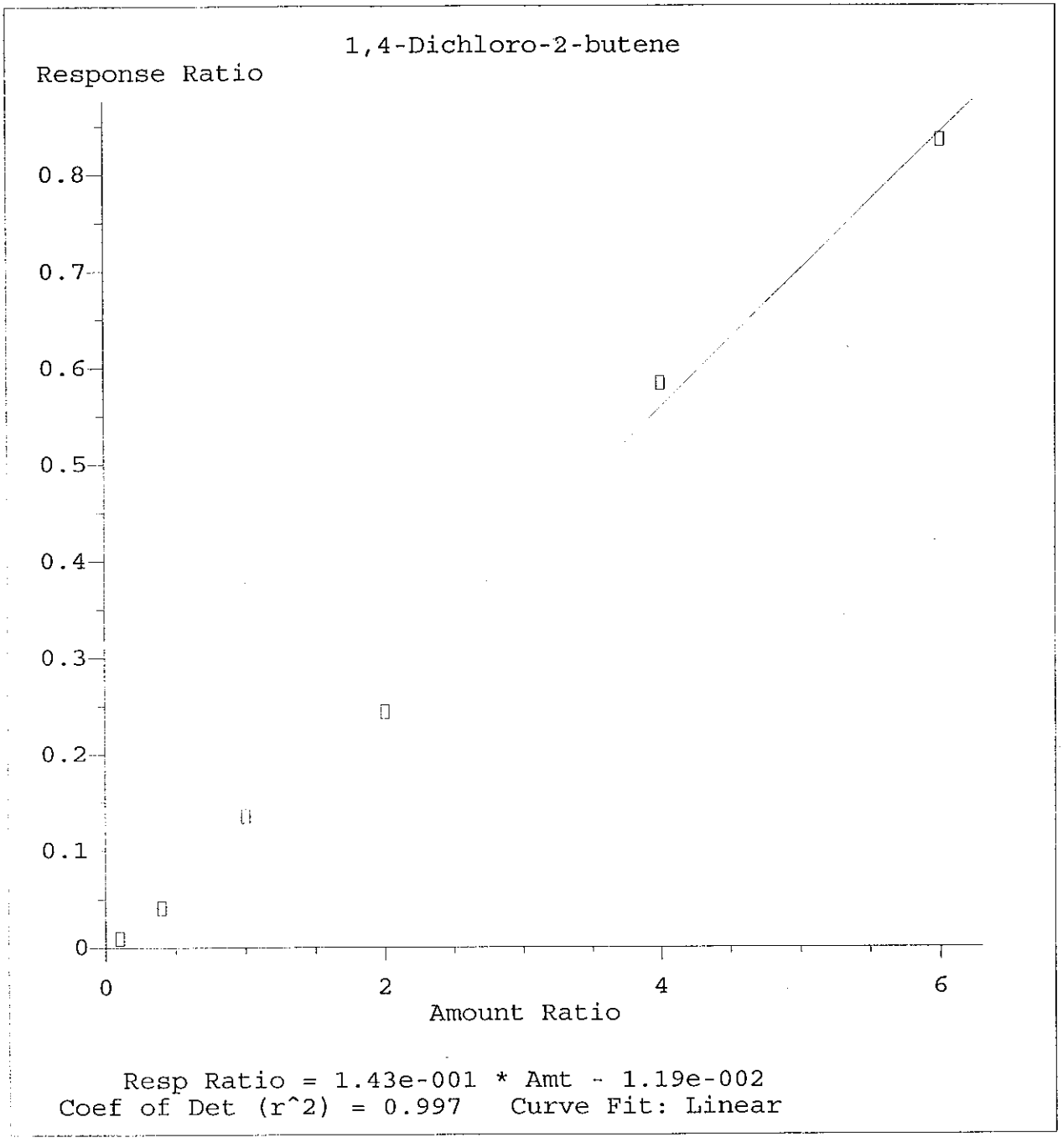
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Fri Aug 24 15:22:34 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Fri Aug 24 15:22:34 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	83	0.00
2		Dichlorodifluoromethane	5.221	3.659	29.9#	56	0.00
3		Dichlorotetrafluoroethane	1.746	1.566	10.3#	70	0.00
4	P	Chloromethane	1.056	0.964	8.7#	79	0.00
5	C	Vinyl chloride	0.990	0.992	-0.2#	79	0.00
6		Bromomethane	1.432	1.425	0.5	81	0.00
7		Chloroethane	0.635	0.598	5.8#	77	0.00
8		Trichlorofluoromethane	1.509	1.135	24.8#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.885	3.8#	76	0.00
10	MC	1,1-Dichloroethene	1.112	1.095	1.5#	80	0.00
11		Iodomethane	0.000	0.000	0.0	137	0.00
12		Methylene chloride	1.996	1.964	1.6	79	0.00
13		Carbon disulfide	3.278	3.475	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	1.416	1.462	-3.2#	82	0.00
15		trans-1,2-Dichloroethene	1.191	1.158	2.8#	79	0.00
16		n-Hexane	1.373	1.197	12.8#	68	0.00
17	P	1,1-Dichloroethane	2.420	2.253	6.9#	73	0.00
18		cis-1,2-Dichloroethene	2.017	1.884	6.6#	74	0.00
19	C	Chloroform	2.996	2.822	5.8#	75	0.00
20		Isooctane	4.704	4.221	10.3#	70	0.00
21		1,1,1-Trichloroethane	2.533	2.345	7.4#	73	0.00
22		Carbon tetrachloride	2.682	2.476	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.512	3.5#	80	0.00
24		1,2-Dichloroethane	1.735	1.647	5.1#	75	0.00
25		1,2-Dibromoethane	2.008	2.012	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	83	0.00
27	M	Benzene	0.782	0.750	4.1#	76	0.00
28	M	Trichloroethene	0.392	0.371	5.4#	74	0.00
29	C	1,2-Dichloropropane	0.356	0.339	4.8#	74	0.00
30		Bromodichloromethane	0.847	0.814	3.9#	75	0.00
31		cis-1,3-Dichloropropene	0.511	0.498	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	0.808	0.811	-0.4	83	0.00
33	MC	Toluene	0.475	0.451	5.1#	75	0.00
34		trans-1,3-Dichloropropene	0.411	0.410	0.2	77	0.00
35		1,1,2-Trichloroethane	0.297	0.298	-0.3	78	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	84	0.00
37		Tetrachloroethene	0.495	0.442	10.7#	72	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	76	0.00
39	MP	Chlorobenzene	0.897	0.849	5.4#	75	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.303	17.7#	66	0.00
41		m,p-Xylene	0.467	0.428	8.4#	73	0.00
42		o-Xylene	0.454	0.416	8.4#	73	0.00
43		Styrene	0.747	0.676	9.5#	72	0.00
44	P	Bromoform	0.624	0.602	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.603	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.971	2.3#	82	0.00
47		1,4-Dichloro-2-butene	0.123	0.123	0.0	77	0.00
48		4-Ethyltoluene	1.262	1.098	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	0.993	0.869	12.5#	72	0.00
50		2-Chlorotoluene	1.329	1.232	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	1.043	0.952	8.7#	73	0.00
52		1,3-Dichlorobenzene	0.788	0.749	4.9#	76	0.00
53		1,4-Dichlorobenzene	0.826	0.749	9.3#	72	0.00
54		1,2-Dichlorobenzene	0.719	0.697	3.1#	76	0.00
55		1,2,4-Trichlorobenzene	0.545	0.529	2.9#	77	0.00
56		Napthalene	0.625	0.684	-9.4#	84	0.00
57		Hexachlorobutadiene	0.481	0.431	10.4#	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	83	0.00
2		Dichlorodifluoromethane	250.000	175.206	29.9#	56	0.00
3		Dichlorotetrafluoroethane	250.000	224.142	10.3#	70	0.00
4	P	Chloromethane	250.000	228.120	8.8#	79	0.00
5	C	Vinyl chloride	250.000	250.511	-0.2#	79	0.00
6		Bromomethane	250.000	248.916	0.4	81	0.00
7		Chloroethane	250.000	235.293	5.9#	77	0.00
8		Trichlorofluoromethane	250.000	228.731	8.5#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	240.416	3.8#	76	0.00
10	MC	1,1-Dichloroethene	250.000	246.249	1.5#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	137	0.00
12		Methylene chloride	250.000	246.051	1.6	79	0.00
13		Carbon disulfide	250.000	264.962	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	250.000	258.167	-3.3#	82	0.00
15		trans-1,2-Dichloroethene	250.000	243.118	2.8#	79	0.00
16		n-Hexane	250.000	218.002	12.8#	68	0.00
17	P	1,1-Dichloroethane	250.000	232.767	6.9#	73	0.00
18		cis-1,2-Dichloroethene	250.000	233.562	6.6#	74	0.00
19	C	Chloroform	250.000	235.462	5.8#	75	0.00
20		Isooctane	250.000	224.301	10.3#	70	0.00
21		1,1,1-Trichloroethane	250.000	231.412	7.4#	73	0.00
22		Carbon tetrachloride	250.000	230.769	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	241.271	3.5#	80	0.00
24		1,2-Dichloroethane	250.000	237.399	5.0#	75	0.00
25		1,2-Dibromoethane	250.000	250.427	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	83	0.00
27	M	Benzene	250.000	239.653	4.1#	76	0.00
28	M	Trichloroethene	250.000	236.674	5.3#	74	0.00
29	C	1,2-Dichloropropane	250.000	238.027	4.8#	74	0.00
30		Bromodichloromethane	250.000	240.276	3.9#	75	0.00
31		cis-1,3-Dichloropropene	250.000	243.825	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	250.000	250.899	-0.4	83	0.00
33	MC	Toluene	250.000	237.428	5.0#	75	0.00
34		trans-1,3-Dichloropropene	250.000	249.355	0.3	77	0.00
35		1,1,2-Trichloroethane	250.000	250.938	-0.4	78	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	84	0.00
37		Tetrachloroethene	250.000	223.156	10.7#	72	0.00
38		Dibromochloromethane	250.000	242.439	3.0#	76	0.00
39	MP	Chlorobenzene	250.000	236.389	5.4#	75	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	205.337	17.9#	66	0.00
41		m,p-Xylene	500.000	457.708	8.5#	73	0.00
42		o-Xylene	250.000	229.296	8.3#	73	0.00
43		Styrene	250.000	226.329	9.5#	72	0.00
44	P	Bromoform	250.000	241.150	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	247.342	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.267	2.3#	82	0.00
47		1,4-Dichloro-2-butene	250.000	239.055	4.4#	77	0.00
48		4-Ethyltoluene	250.000	217.527	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	250.000	218.777	12.5#	72	0.00
50		2-Chlorotoluene	250.000	231.701	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	250.000	228.289	8.7#	73	0.00
52		1,3-Dichlorobenzene	250.000	237.385	5.0#	76	0.00
53		1,4-Dichlorobenzene	250.000	226.511	9.4#	72	0.00
54		1,2-Dichlorobenzene	250.000	242.422	3.0#	76	0.00
55		1,2,4-Trichlorobenzene	250.000	242.642	2.9#	77	0.00
56		Napthalene	250.000	273.494	-9.4#	84	0.00
57		Hexachlorobutadiene	250.000	223.806	10.5#	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108415

Lab File ID (Standard): CM0821A.D Date Analyzed: 8/21/01

Instrument ID: MARILYN Time Analyzed: 7:46

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	262730	11.40	1061352	13.33	819287	20.64
	UPPER LIMIT	525460	11.90	2122704	13.83	1638574	21.14
	LOWER LIMIT	131365	10.90	530676	12.83	409644	20.14
	EPA SAMPLE NO.						
01	VBLKMA	267177	11.44	1015521	13.36	813975	20.66
02	LCS AND 2ND	263252	11.45	1052871	13.39	812221	20.69
03	0119	254958	11.47	908631	13.39	719082	20.67

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

te 6-19-01 Instrument ID : Marilyn Method TO14.m/8260A.m/8260W.m Other: New 1014 curve

tch MAB127 (1) 2 3 Batch 1 2 3 Daily maint.

8 -MSW- 19 -3 TO14 8 -MSW- 17 - 1 AIR-SPK 8 -MSW- 23 - 1 LCS# 8 -MSW- 23 - 1

B 8 -MSW- 19 -3 8260 -MSW- - WATER-SPK -MSW- - SURR# 8 -MSW- 19 -3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
8:27	14	To14.m	BFM ———	50ng		N	Methanol	From ~~old~~ Blank 95 Ion Area = 988,000	BH	—	—	—	—
~~1:27~~ 1:20	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 315	~~1357~~ 1279	973	
5:27	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
3:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
9:04	14		CMA0075	5ppb		Y N	A(To14)	5ppb ICAL		319	1373	992	—
9:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
0:20	14		CMA0250	50ppb		Y N		50ppb CCV too		315	1279	973	—
0:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
1:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
2:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
4:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
4:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		-5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	x1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH 6/19/01 Shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M0619A\
Pre-Seq Cmd:
Post-Seq Cmd:

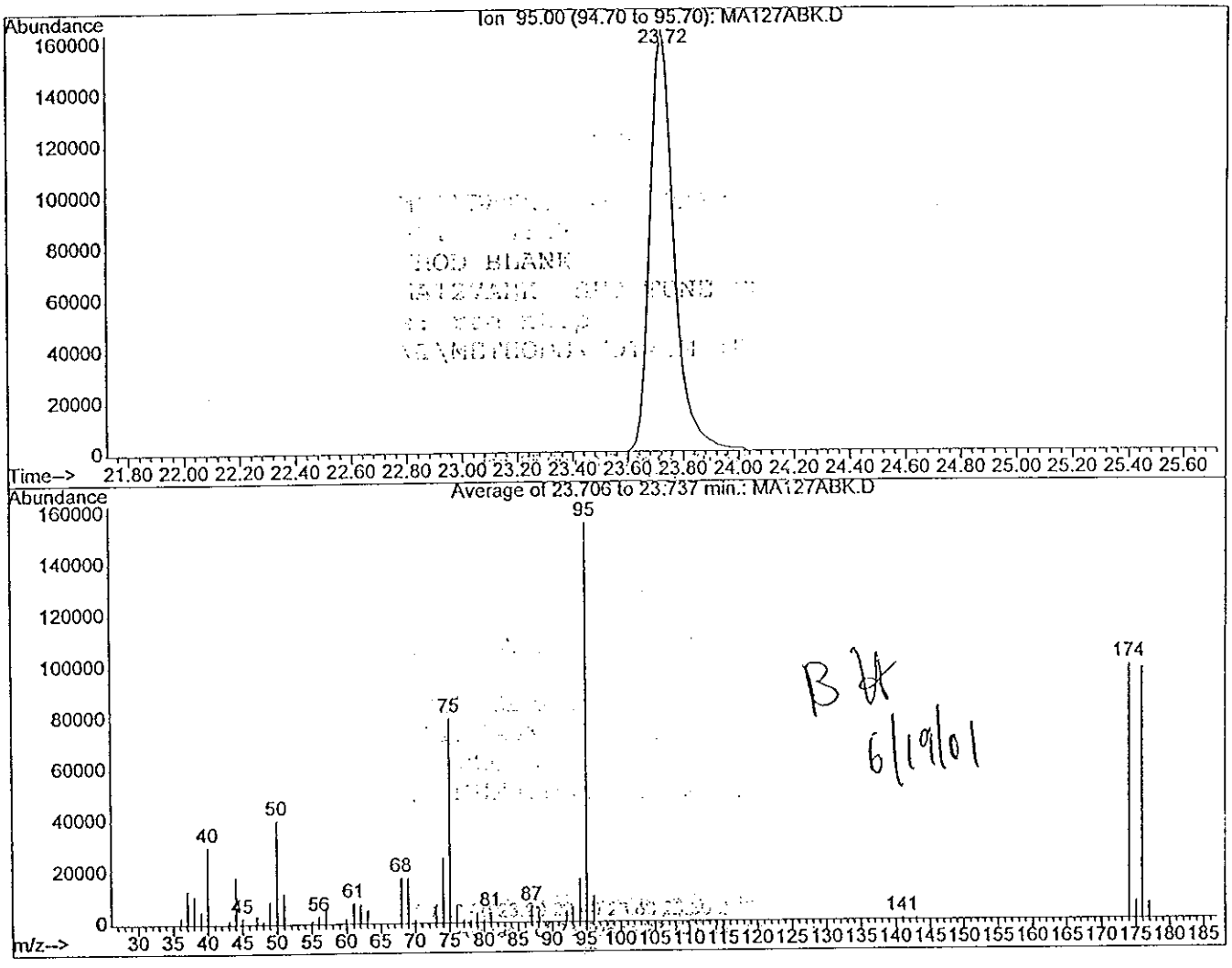
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	MA127ABK	TO14S	DAILY METHOD BLANK
2	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
3	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
4	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
5	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
6	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
7	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
8	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	16	MA125LCS	TO14S	BATCH #127 LCS 50ppb/250ng
10	Sample	1	62401	TO14S	6240-1 ST. 500mls
11	Sample	1	62402	TO14S	6240-2 ST. 500mls
12	Sample	9	61564	TO14S	6156-4 X20 25mls
13	Sample	10	61565	TO14S	6156-5 X10 50mls
14	Sample	11	63641	TO14S	6364-1 X1000 0.5ml
15	Sample	12	64421	TO14S	6442-1 X20 25mls
16	Sample	13	BLKTUBE	BFBSTL	

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D
Acq On : 19 Jun 2001 8:27
Sample : DAILY METHOD BLANK
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14.M (RTE Integrator)
Title : TO14

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BH
6/19/01

Spectrum Information: Average of 23.706 to 23.737 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	40411	PASS
75	95	30	60	51.4	79813	PASS
95	95	100	100	100.0	155392	PASS
96	95	5	9	6.6	10199	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.8	99165	PASS
175	174	5	9	7.1	7032	PASS
176	174	95	101	98.7	97853	PASS
177	176	5	9	6.6	6444	PASS

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00	ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00	ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00	ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80	ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.12%			
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36	ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%			
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%			

Target Compounds Qvalue

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00 ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00 ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80 ng	-0.01
Spiked Amount 250.000	Range	61 - 140	Recovery	= 107.12%	
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36 ng	-0.01
Spiked Amount 250.000	Range	90 - 109	Recovery	= 100.14%	
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64 ng	0.00
Spiked Amount 250.000	Range	87 - 112	Recovery	= 97.86%	

Target Compounds					Qvalue
4) Chloromethane	4.33	50	2018	1.50 ng	# 46
20) Isooctane	11.92	57	16392	2.73 ng	# 7
27) Benzene	12.99	78	967	0.23 ng	# 54

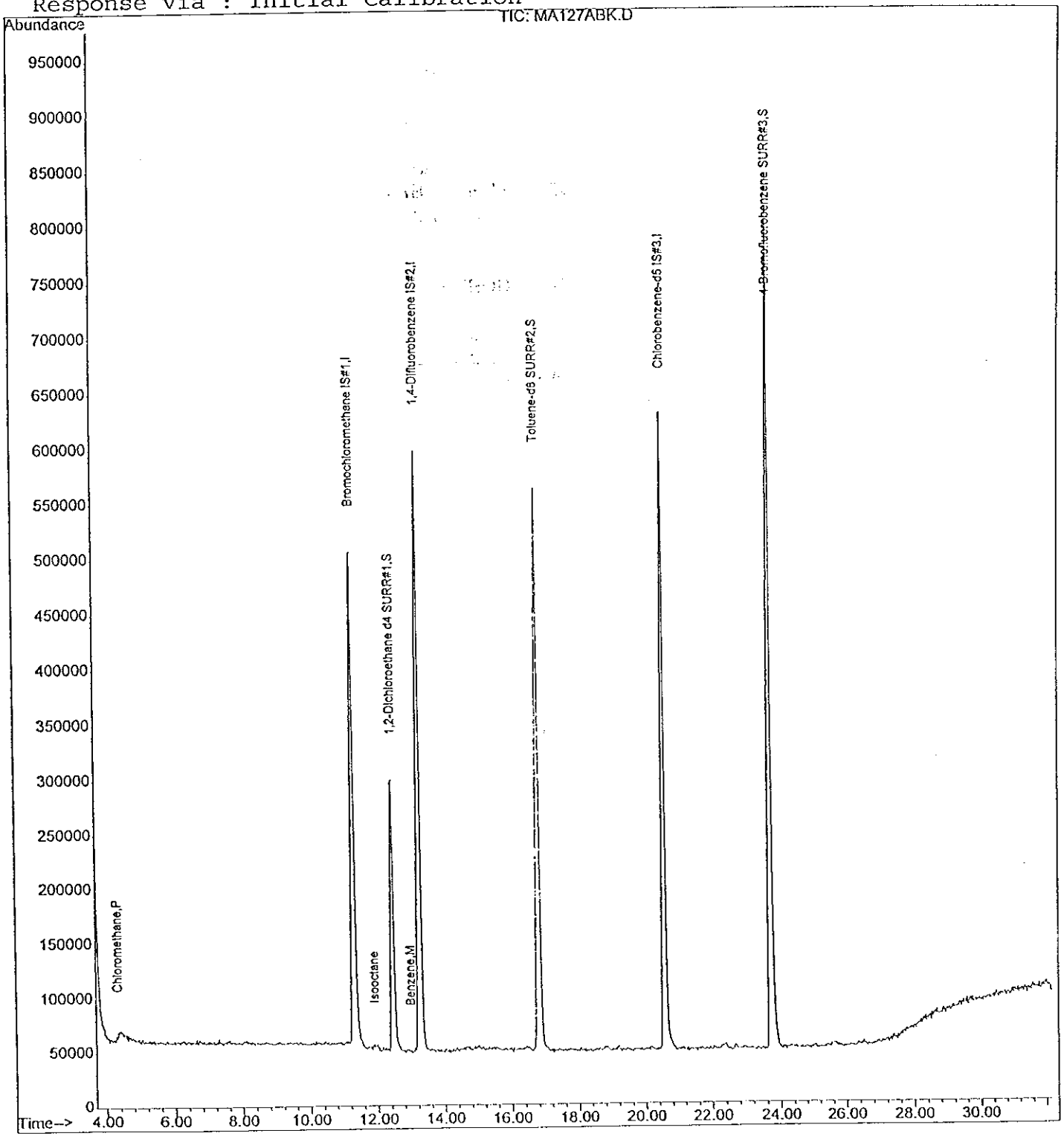
<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:01:25 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D
Acq On : 19 Jun 2001 8:27
Sample : DAILY METHOD BLANK
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



000 196

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127LCS.D
Acq On : 19 Jun 2001 13:41
Sample : BATCH #127 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO)
MS Integration Params: rteint.p
Quant Time: Jun 19 14:26 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BA 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00 ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00 ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87 ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.95%		
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.90%		
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76 ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%		

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.03	96	343674	239.08 ng	91
27) Benzene	12.73	78	1051944	259.40 ng	96
28) Trichloroethene	14.06	130	533841	262.46 ng	99
33) Toluene	17.01	92	641571	260.46 ng	98
39) Chlorobenzene	20.69	112	912178	264.18 ng	94

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Re-name 127 Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	323267	250.00	ng	-0.02 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1296225	250.00	ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	961874	250.00	ng	0.00 NA%

System Monitoring Compounds

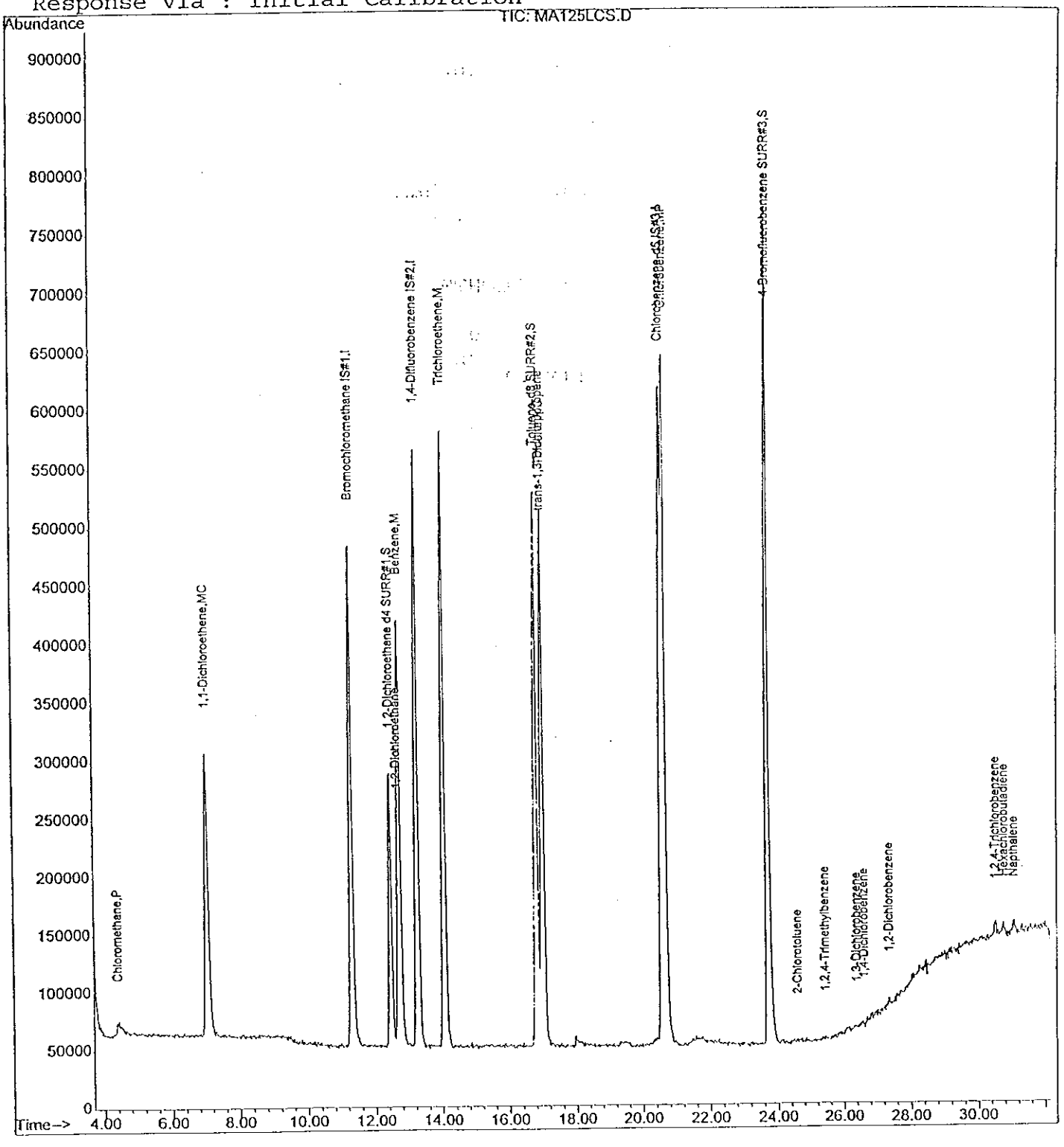
23) 1,2-Dichloroethane d4 SURR	12.46	65	506238	249.87	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 99.95%						
32) Toluene-d8 SURR#2	16.82	98	1035919	247.24	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.90%						
46) 4-Bromofluorobenzene SURR#	23.73	95	932243	243.76	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.50%						

Target Compounds						Qvalue
4) Chloromethane	4.39	50	5312	3.89	ng	# 72
10) 1,1-Dichloroethene	7.03	96	343674	239.08	ng	91
24) 1,2-Dichloroethane	12.68	62	11044	4.92	ng	# 49
27) Benzene	12.73	78	1051944	259.40	ng	96
28) Trichloroethene	14.06	130	533841	262.46	ng	99
33) Toluene	17.01	92	641571	260.46	ng	98
34) trans-1,3-Dichloropropene	16.99	75	5258	2.47	ng	# 1
39) Chlorobenzene	20.69	112	912178	264.18	ng	94
50) 2-Chlorotoluene	24.60	91	7809	1.53	ng	# 47
51) 1,2,4-Trimethylbenzene	25.44	105	2131	0.53	ng	# 31
52) 1,3-Dichlorobenzene	26.39	146	2943	0.97	ng	# 27
53) 1,4-Dichlorobenzene	26.61	146	3434	1.08	ng	# 40
54) 1,2-Dichlorobenzene	27.35	146	1969	0.71	ng	# 1
55) 1,2,4-Trichlorobenzene	30.52	180	26914	12.83	ng	# 46
56) Napthalene	31.06	128	33755	14.04	ng	# 77
57) Hexachlorobutadiene	30.77	225	11408	6.16	ng	# 68

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA125LCS.D Vial: 16
Acq On : 19 Jun 2001 13:41 Operator: BDH
Sample : BATCH #127 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:13 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



Response Factor Report GC/MS TMS

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BAK 6/19

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

000140

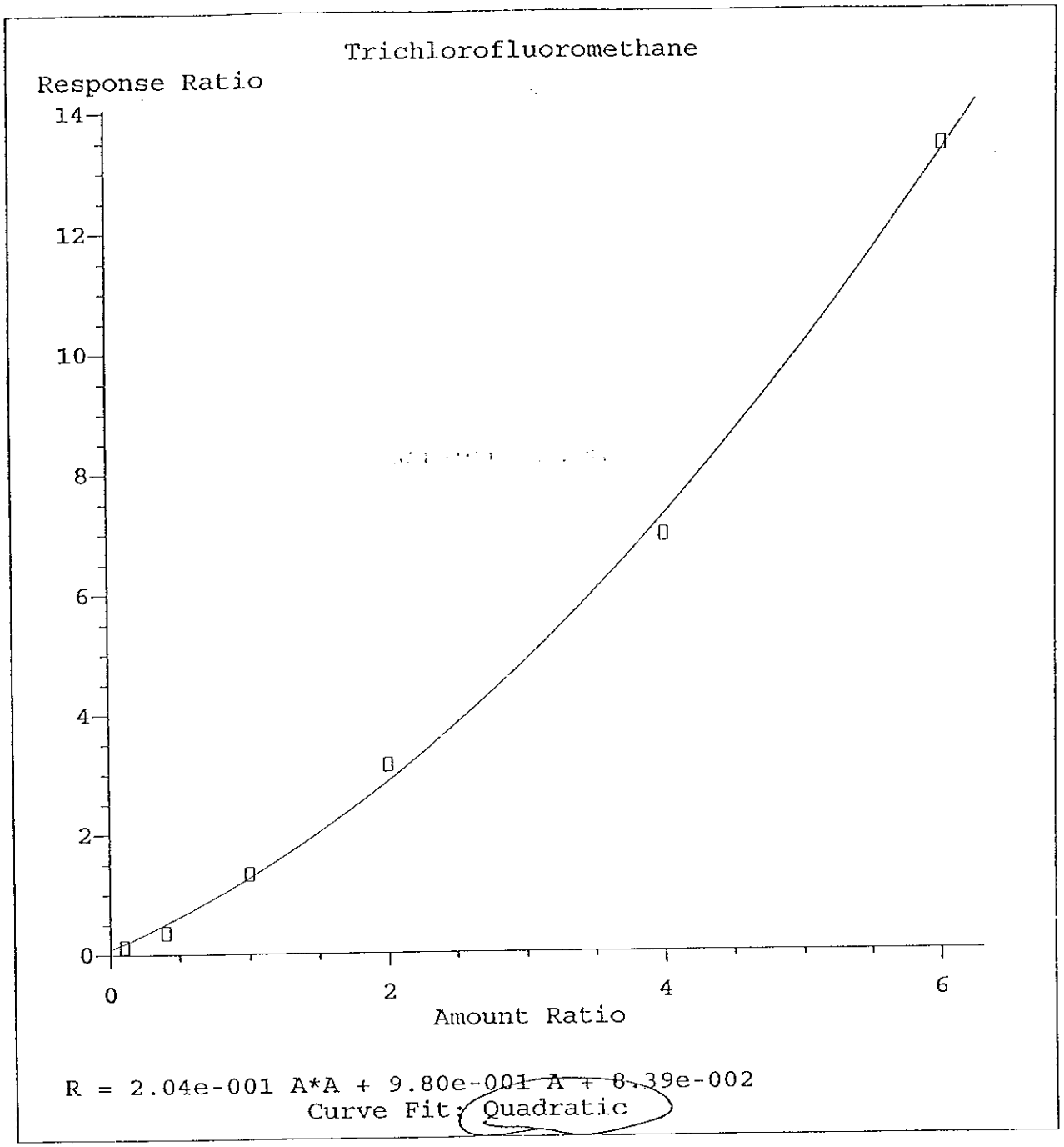
Response Factor Report GC/MS TMS

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

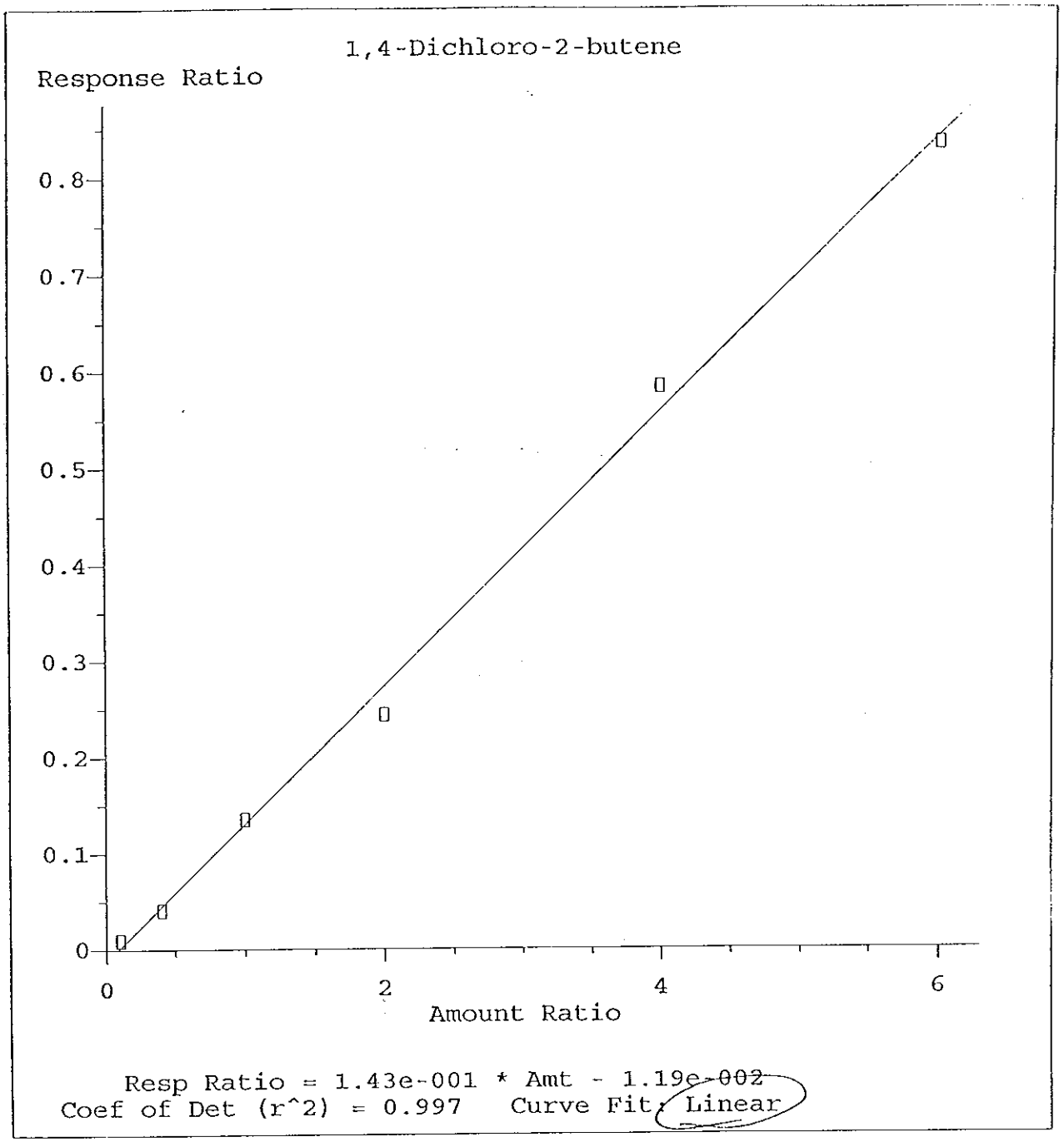
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.997	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

.998
BH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

B H 6/19

000093

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BDH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng		0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.62%							
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.76%							
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.04%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng		98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng	#	16
4) Chloromethane	4.19	50	42696	34.20	ng	#	86
5) Vinyl chloride	4.42	62	30452	26.33	ng	#	83
6) Bromomethane	5.24	94	47587	27.70	ng	#	86
7) Chloroethane	5.38	64	18304	23.46	ng	#	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng		96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng		92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng		84
12) Methylene chloride	7.99	49	64996	25.56	ng	#	76
13) Carbon disulfide	8.13	76	102700	25.44	ng		96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng	#	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng		90
16) n-Hexane	8.67	57	51599	29.87	ng	#	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng	#	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng		93
19) Chloroform	10.99	83	94547	25.46	ng	#	92
20) Isooctane	11.95	57	185751	26.14	ng		87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng	#	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng		96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng	#	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng		99
27) Benzene	12.77	78	107643	27.06	ng		98

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

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000

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

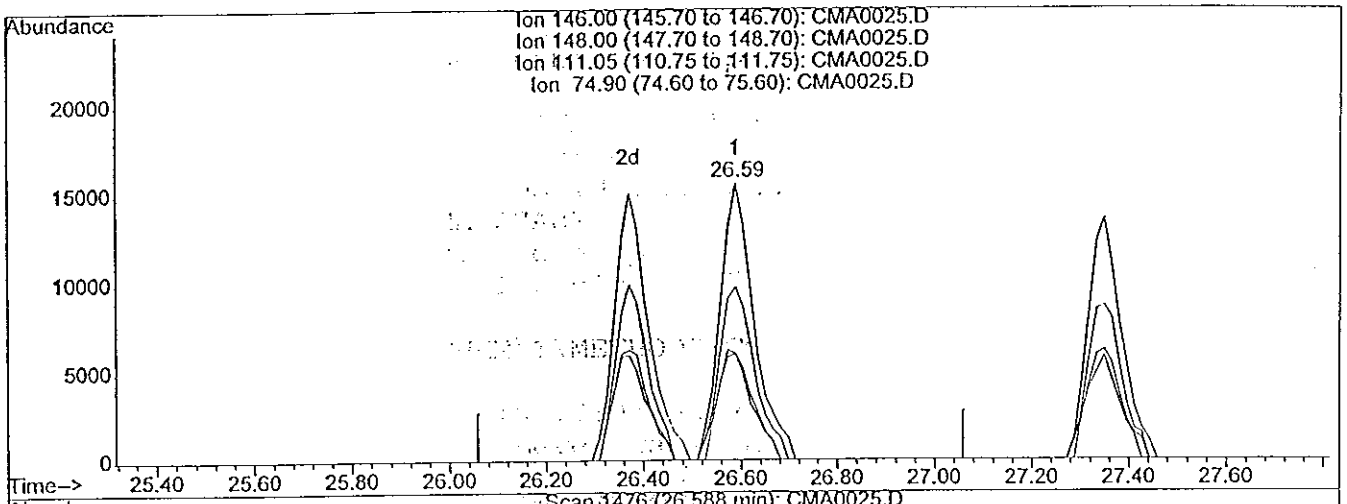
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.37	146	72784m	22.75 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

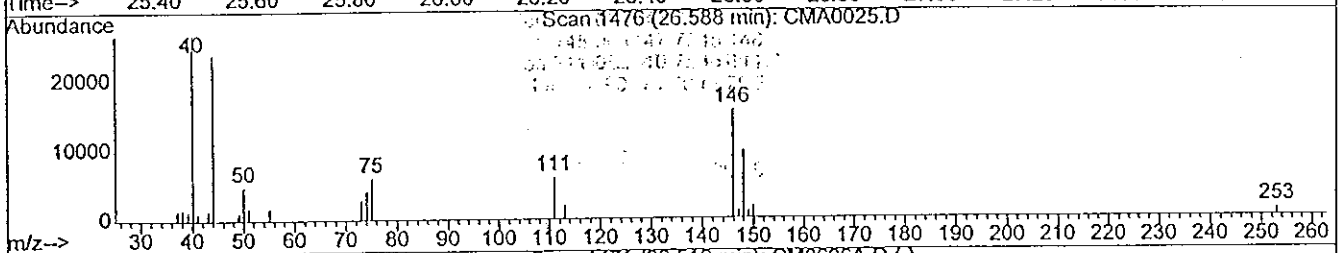
(#) = qualifier out of range (m) = manual integration

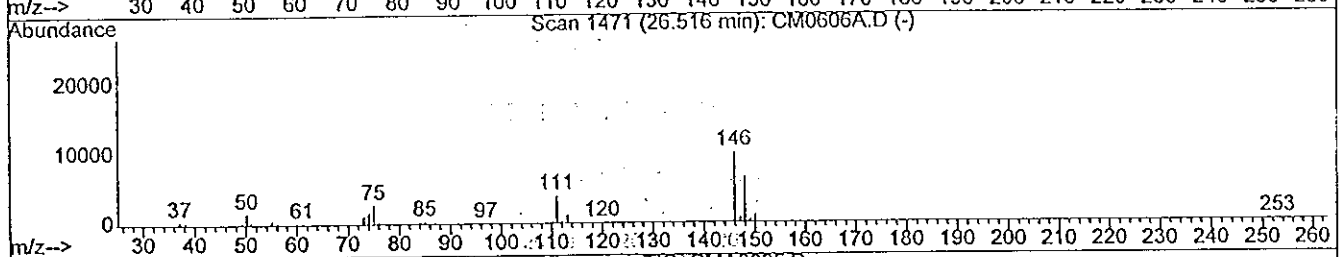
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

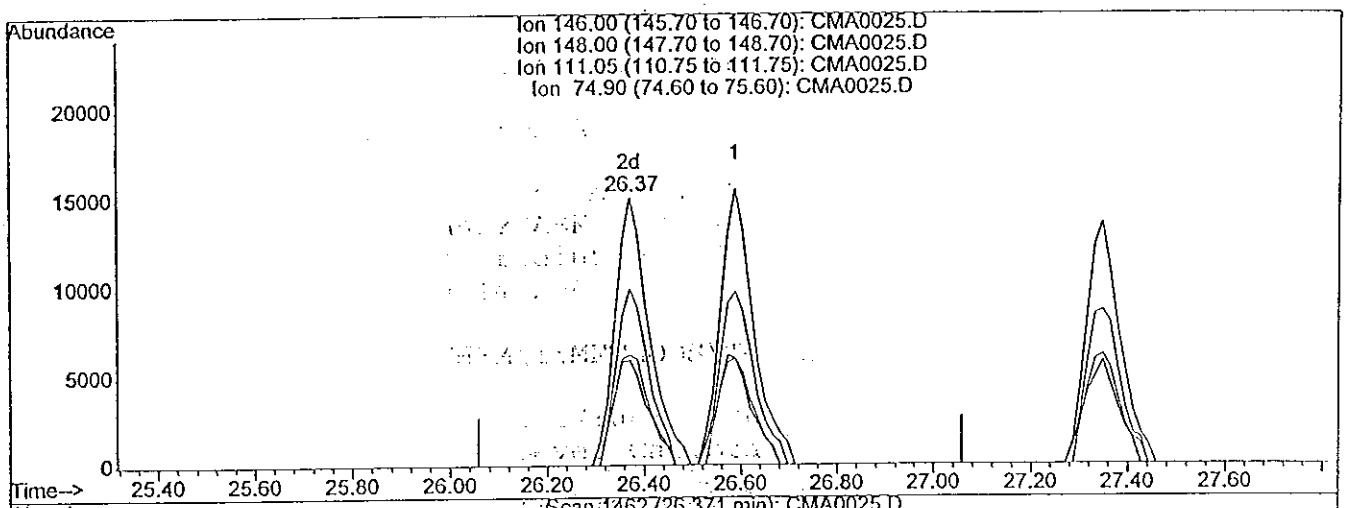
before (wrong peak)

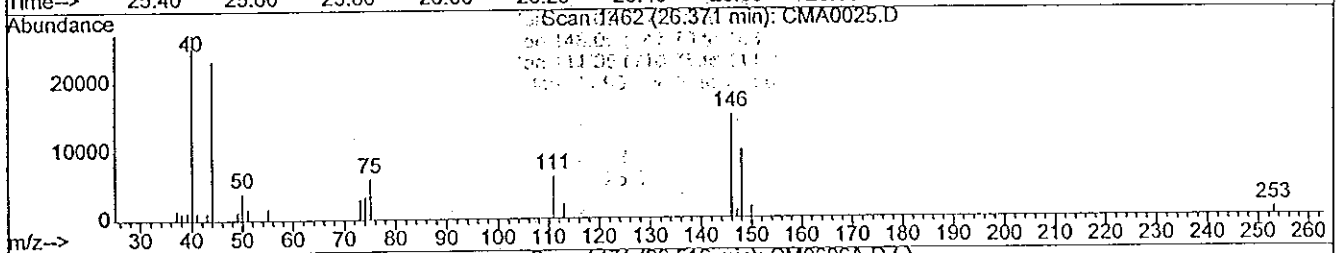
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

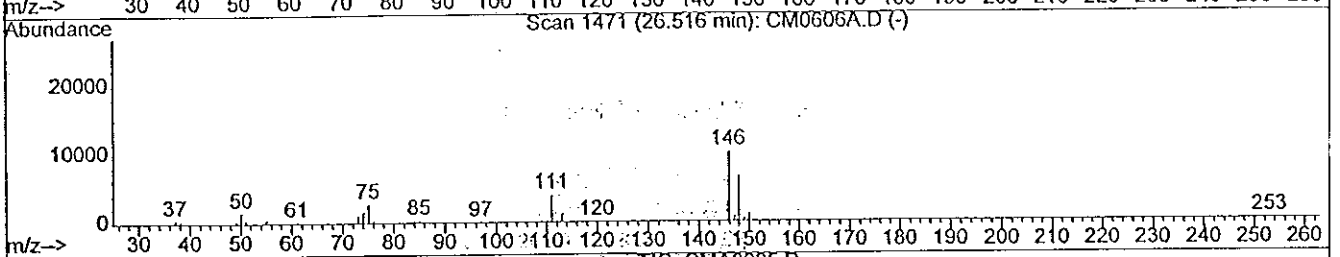
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	68.35
111.05	44.40	41.63
74.90	35.60	42.39

after BDH 6/19

CMA0025.D TO14S.M Tue Jun 19 10:14:25 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng	0.04 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.62%						
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.76%						
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.04%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng	98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng #	16
4) Chloromethane	4.19	50	42696	34.20	ng #	86
5) Vinyl chloride	4.42	62	30452	26.33	ng #	83
6) Bromomethane	5.24	94	47587	27.70	ng #	86
7) Chloroethane	5.38	64	18304	23.46	ng #	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng	96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng	92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng	84
12) Methylene chloride	7.99	49	64996	25.56	ng #	76
13) Carbon disulfide	8.13	76	102700	25.44	ng	96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng #	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng	90
16) n-Hexane	8.67	57	51599	29.87	ng #	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng #	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng	93
19) Chloroform	10.99	83	94547	25.46	ng #	92
20) Isooctane	11.95	57	185751	26.14	ng	87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng #	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng	96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng #	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng	99
27) Benzene	12.77	78	107643	27.06	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

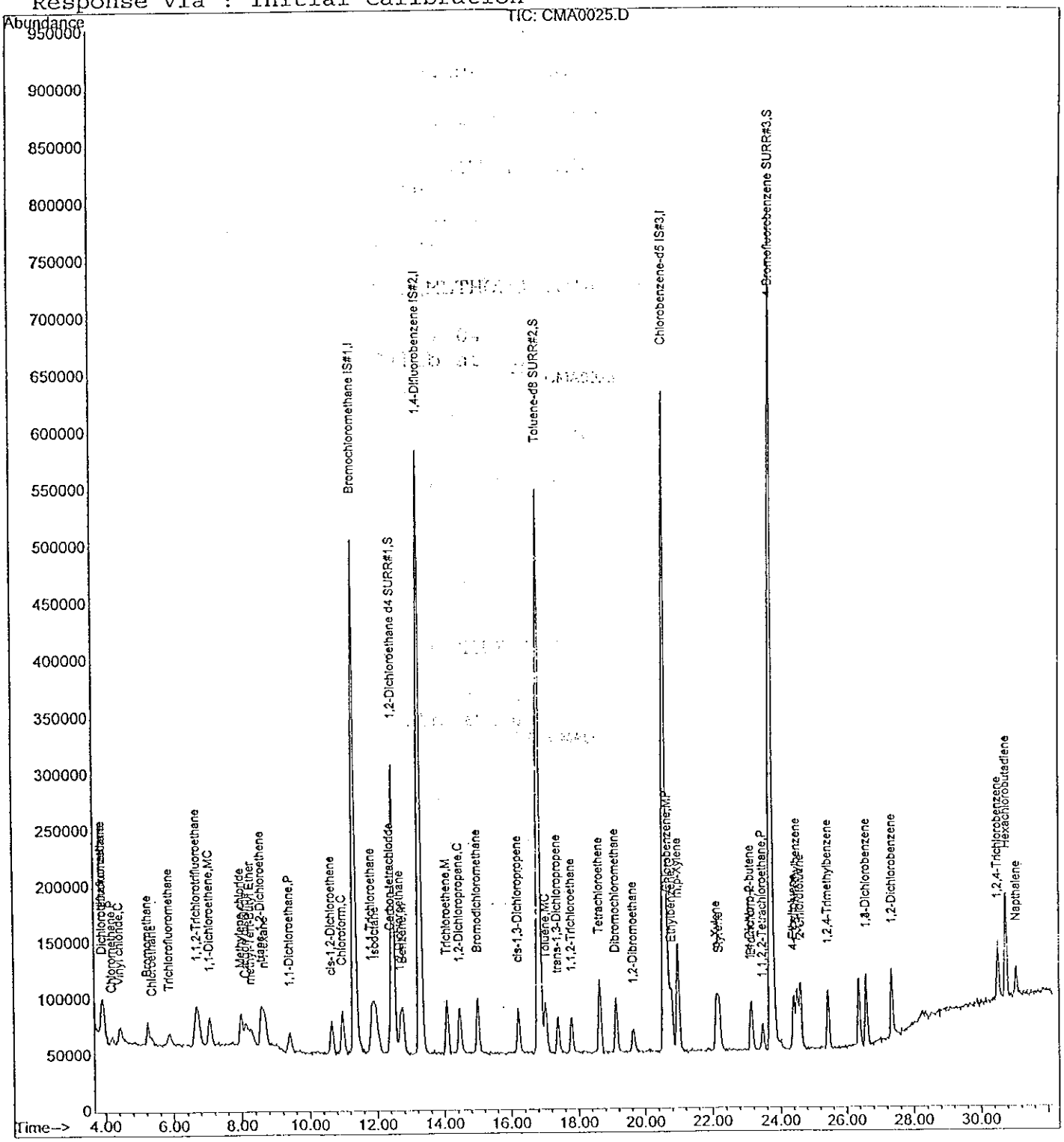
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.09	130	49682	24.74 ng		99
29) 1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30) Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31) cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33) Toluene	17.04	92	61687	25.32 ng	#	97
34) trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35) 1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37) Tetrachloroethene	18.64	164	48080	25.27 ng		97
38) Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39) Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40) Ethylbenzene	20.80	106	36113	25.70 ng		93
41) m,p-Xylene	20.98	106	88100	49.14 ng		88
42) o-Xylene	22.13	106	41825	23.86 ng		81
43) Styrene	22.21	104	66590	23.11 ng	#	85
44) Bromoform	23.16	173	55393	22.22 ng	#	96
45) 1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47) 1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48) 4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49) 1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50) 2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51) 1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52) 1,3-Dichlorobenzene	26.59	146	75419	23.58 ng		96
53) 1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54) 1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55) 1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56) Napthalene	31.06	128	58308	22.41 ng	#	86
57) Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



000 150

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng		0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.28%							
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.49%							
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.58%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng	#	96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

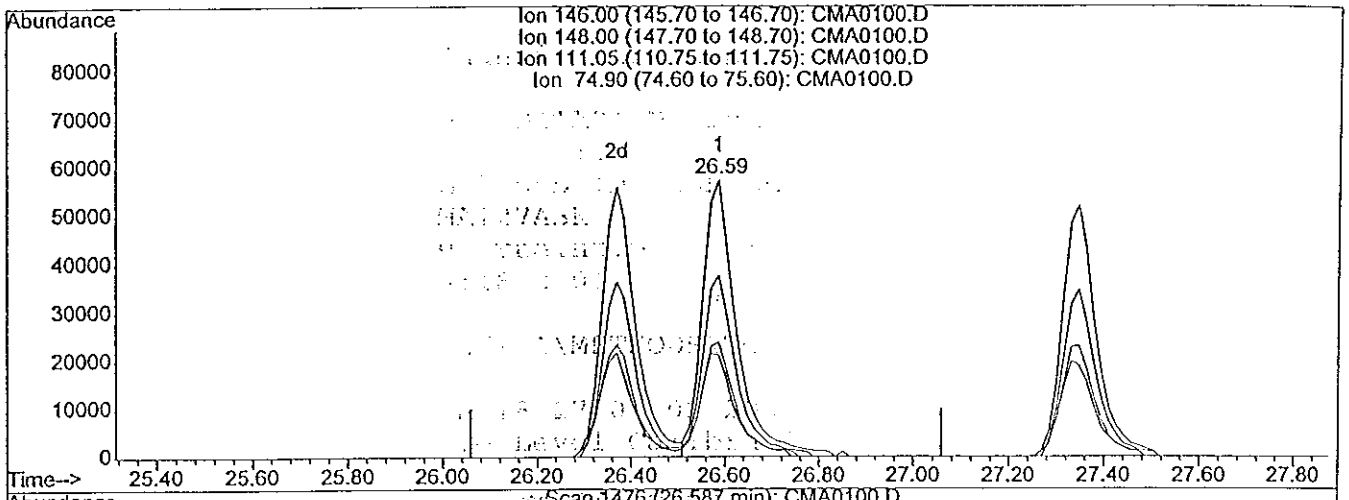
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

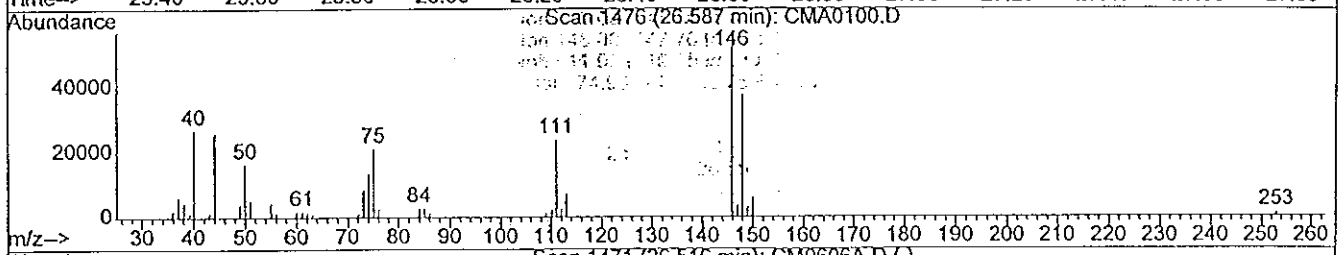
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.37	146	276057m	81.98 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

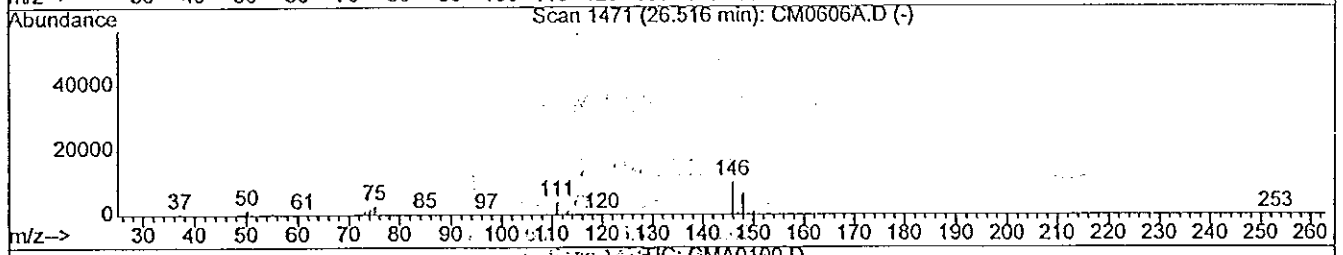
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ir
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







Scan 1476 TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

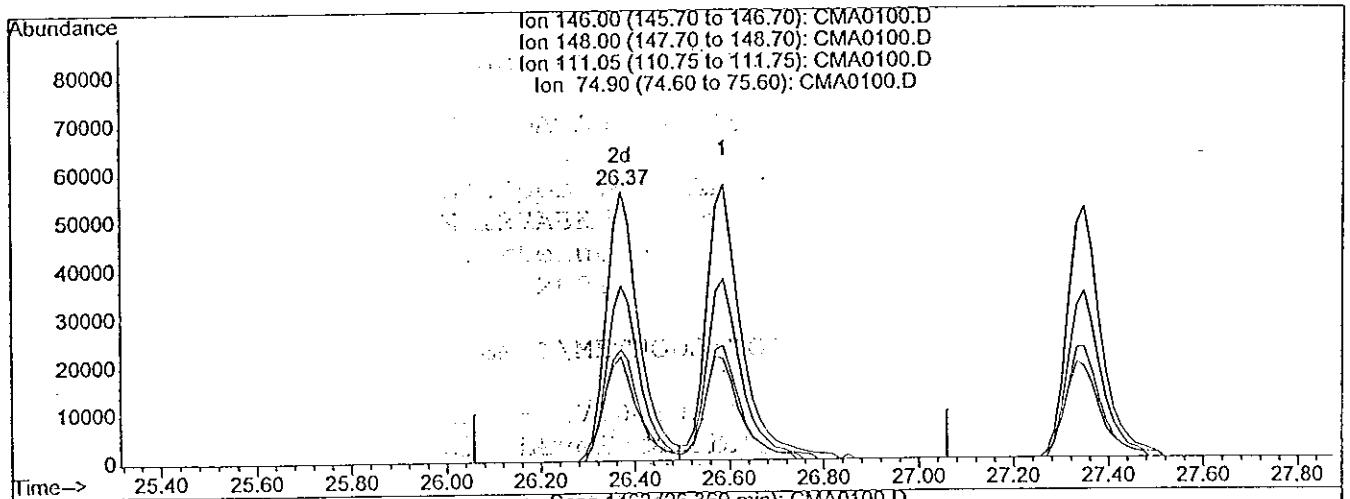
Defaul (wrong peak)

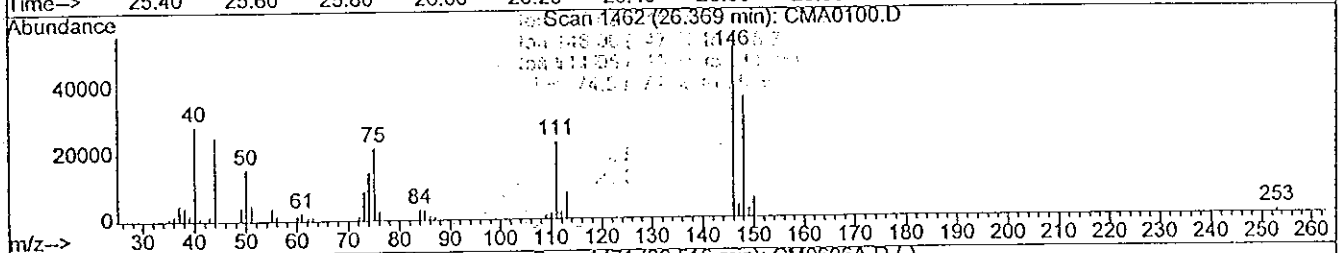
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

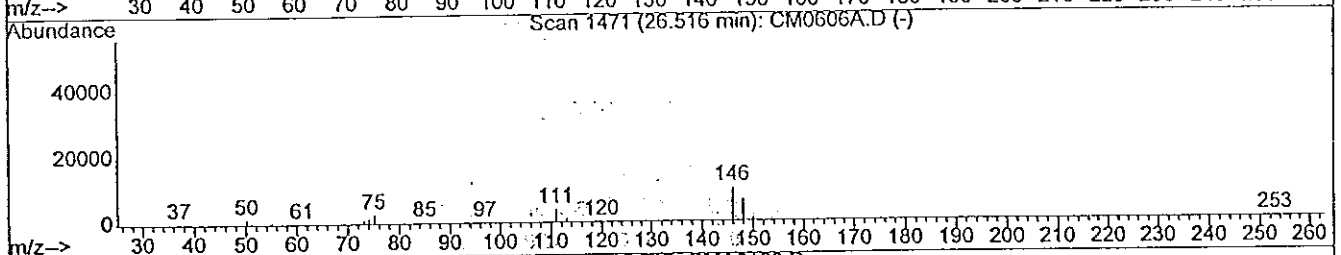
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	69.75
111.05	44.40	44.24
74.90	35.60	40.69

after
BDH 6/19

CMA0100.D TO14S.M Tue Jun 19 10:19:02 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng	0.04 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	=	103.28%	
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	=	100.49%	
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	=	98.58%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng	99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng #	18
4) Chloromethane	4.18	50	116261	86.35	ng #	92
5) Vinyl chloride	4.43	62	118046	94.66	ng #	95
6) Bromomethane	5.24	94	162276	87.61	ng	96
7) Chloroethane	5.36	64	72541	86.21	ng	98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng	97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng	92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng	91
12) Methylene chloride	7.97	49	236234	86.14	ng #	81
13) Carbon disulfide	8.11	76	382610	87.90	ng	97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng #	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng	90
16) n-Hexane	8.65	57	158895	85.31	ng #	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng	99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng	93
19) Chloroform	10.98	83	351659	87.81	ng #	96
20) Isooctane	11.93	57	541485	70.67	ng	91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng	93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng	98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng #	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng	99
27) Benzene	12.75	78	382786	92.03	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

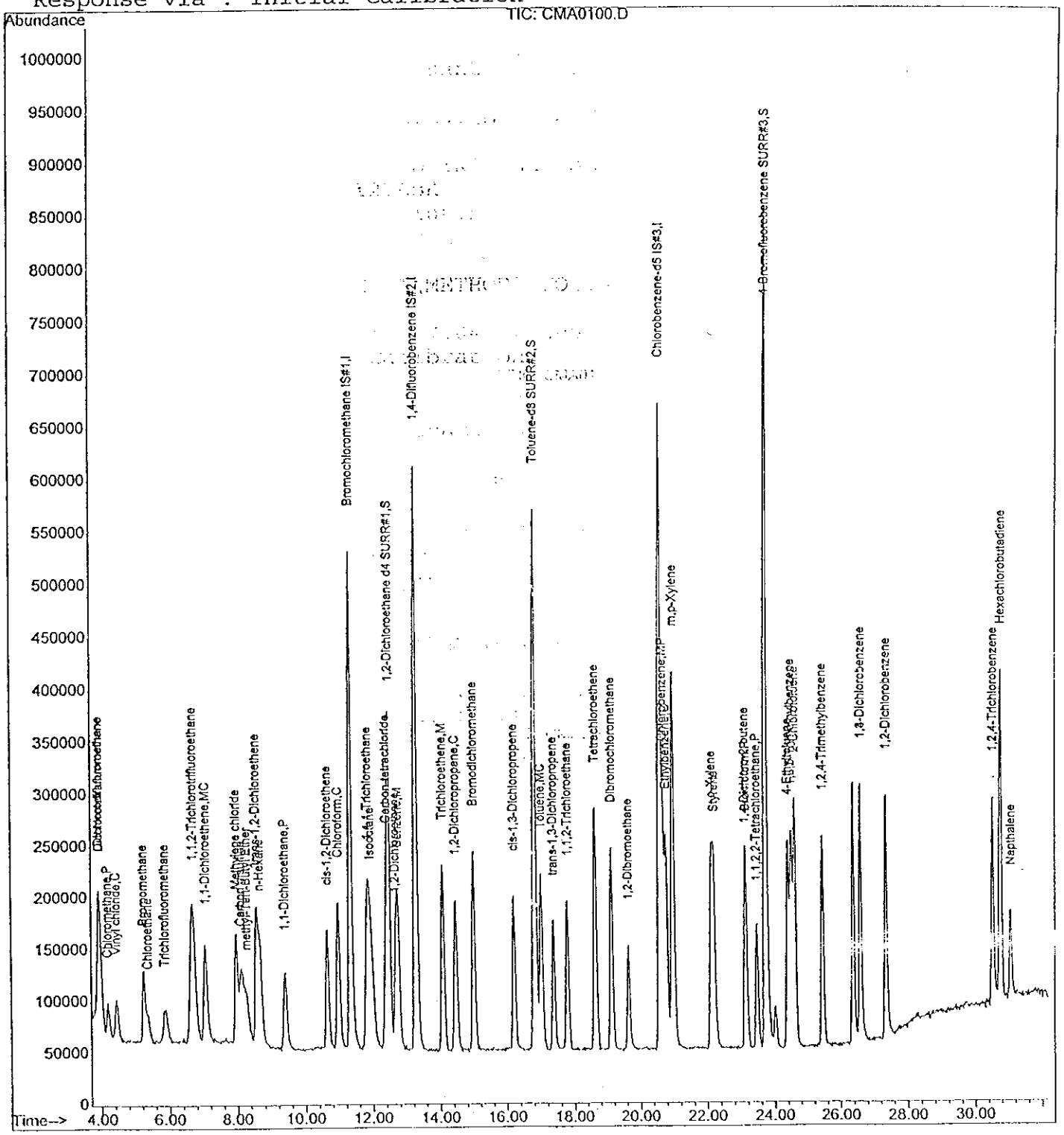
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95
34)	trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35)	1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37)	Tetrachloroethene	18.64	164	177340	88.52 ng		97
38)	Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39)	Chlorobenzene	20.69	112	322025	89.02 ng		91
40)	Ethylbenzene	20.78	106	130472	88.21 ng		85
41)	m,p-Xylene	20.98	106	334220	177.08 ng		90
42)	o-Xylene	22.13	106	159669	86.52 ng		86
43)	Styrene	22.21	104	263946	87.01 ng		93
44)	Bromoform	23.16	173	225855	86.05 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47)	1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48)	4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49)	1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50)	2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51)	1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52)	1,3-Dichlorobenzene	26.59	146	292016	86.72 ng		97
53)	1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54)	1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56)	Napthalene	31.06	128	220575	80.52 ng	#	90
57)	Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



000 157

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

B 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.12%			
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.77%			
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.82%			

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng		99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng	#	19
4) Chloromethane	4.19	50	318982	237.26	ng		97
5) Vinyl chloride	4.41	62	331551	274.73	ng		97
6) Bromomethane	5.24	94	460160	260.43	ng		96
7) Chloroethane	5.37	64	204687	256.03	ng	#	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng		90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng		88
12) Methylene chloride	7.96	49	653027	250.72	ng	#	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng		99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng	#	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng		90
16) n-Hexane	8.67	57	459285	261.36	ng	#	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng		98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng		93
19) Chloroform	10.97	83	993772	262.88	ng	#	94
20) Isooctane	11.94	57	1581485	256.03	ng		94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng		92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng		97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng		98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng		99
27) Benzene	12.74	78	1052810	266.64	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

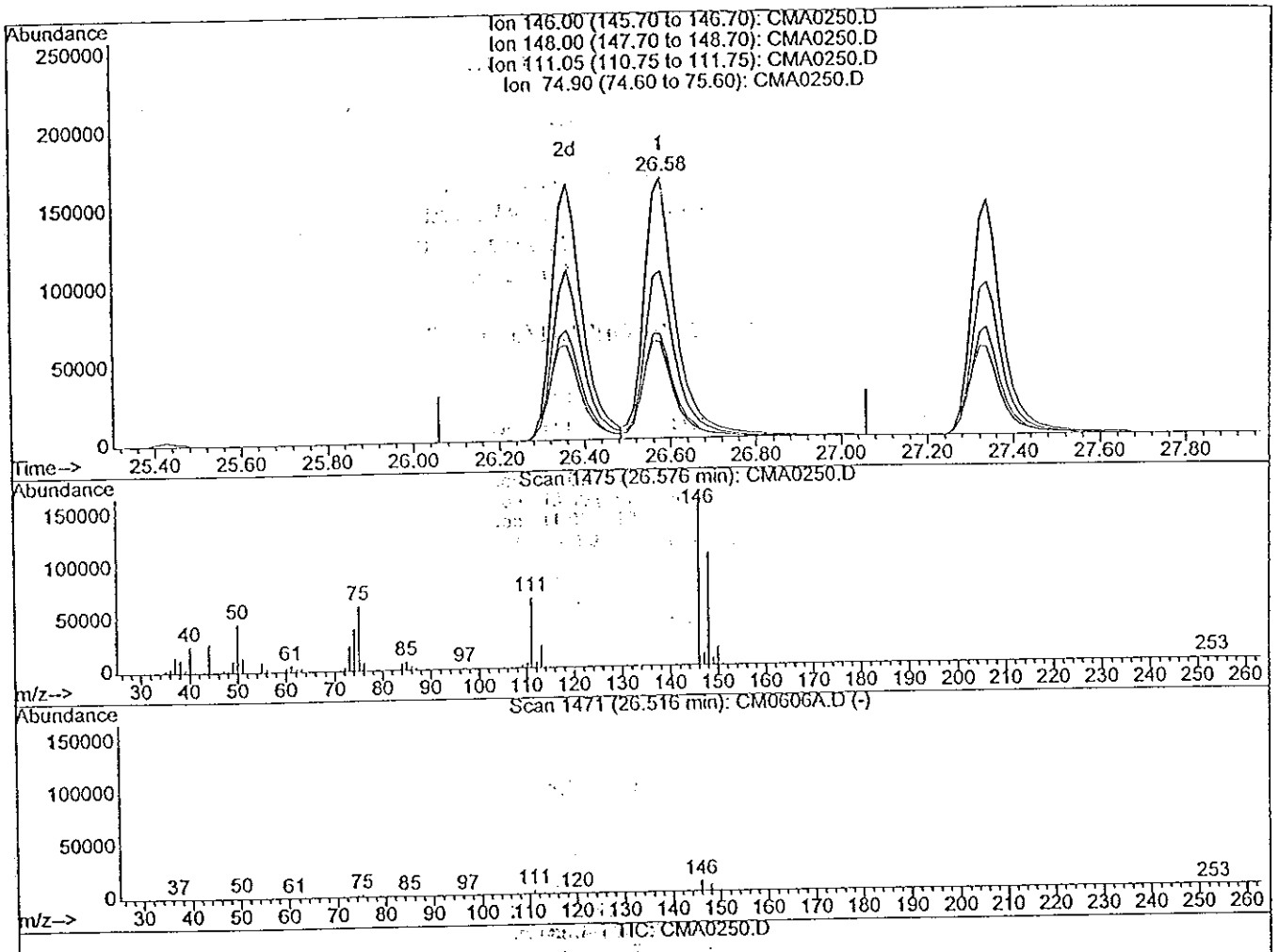
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.36	146	806815m	253.46 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

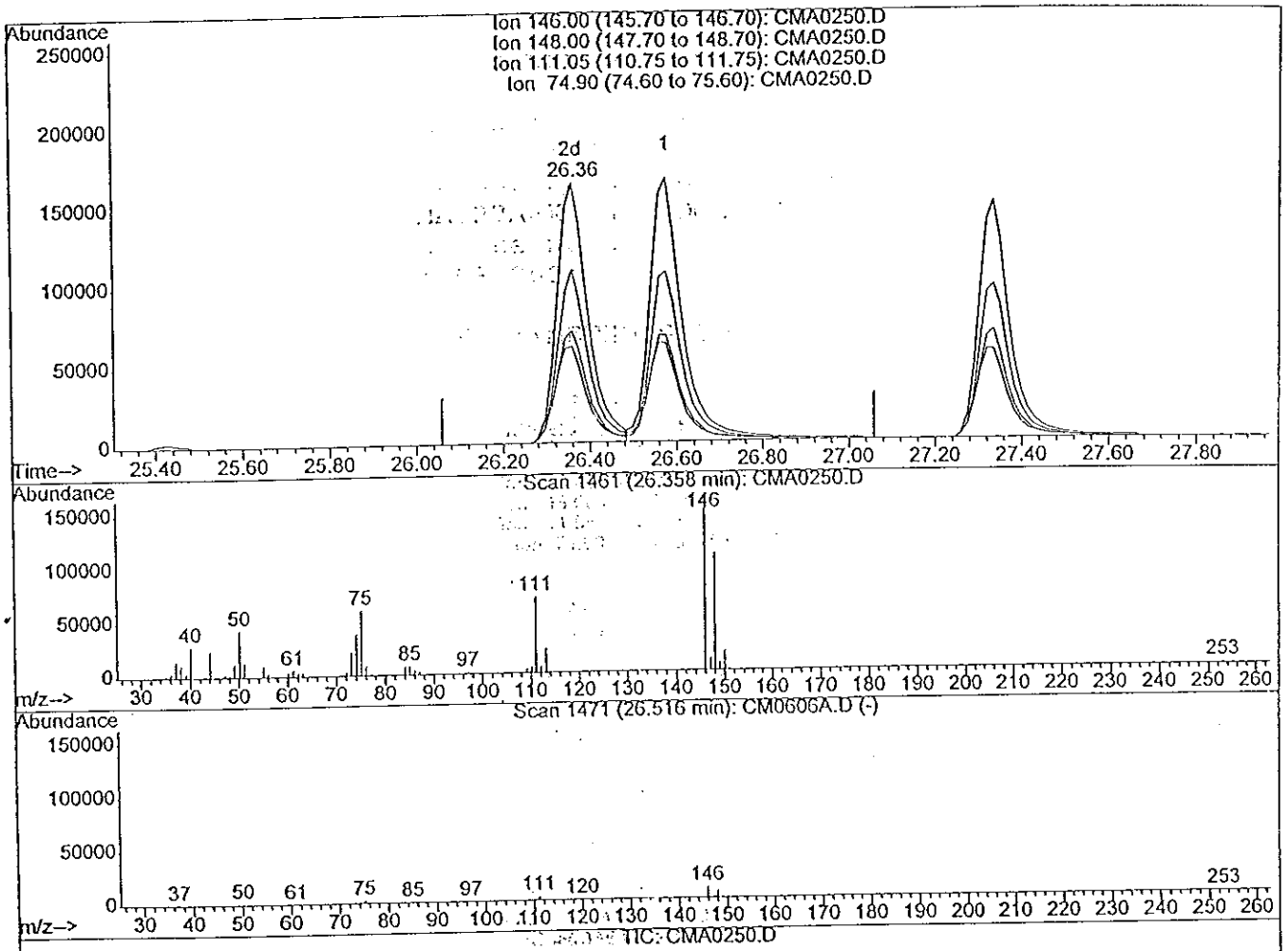
before (wrong peak)

CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ir
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	70.24
111.05	44.40	44.19
74.90	35.60	41.31

after
B/H
6/19

CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

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Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.12%						
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.77%						
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.82%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng	99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng #	19
4) Chloromethane	4.19	50	318982	237.26	ng	97
5) Vinyl chloride	4.41	62	331551	274.73	ng	97
6) Bromomethane	5.24	94	460160	260.43	ng	96
7) Chloroethane	5.37	64	204687	256.03	ng #	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng	90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng	88
12) Methylene chloride	7.96	49	653027	250.72	ng #	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng #	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng	90
16) n-Hexane	8.67	57	459285	261.36	ng #	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng	98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng	93
19) Chloroform	10.97	83	993772	262.88	ng #	94
20) Isooctane	11.94	57	1581485	256.03	ng	94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng	92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng	97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng	98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng	99
27) Benzene	12.74	78	1052810	266.64	ng	96

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

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Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 11
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

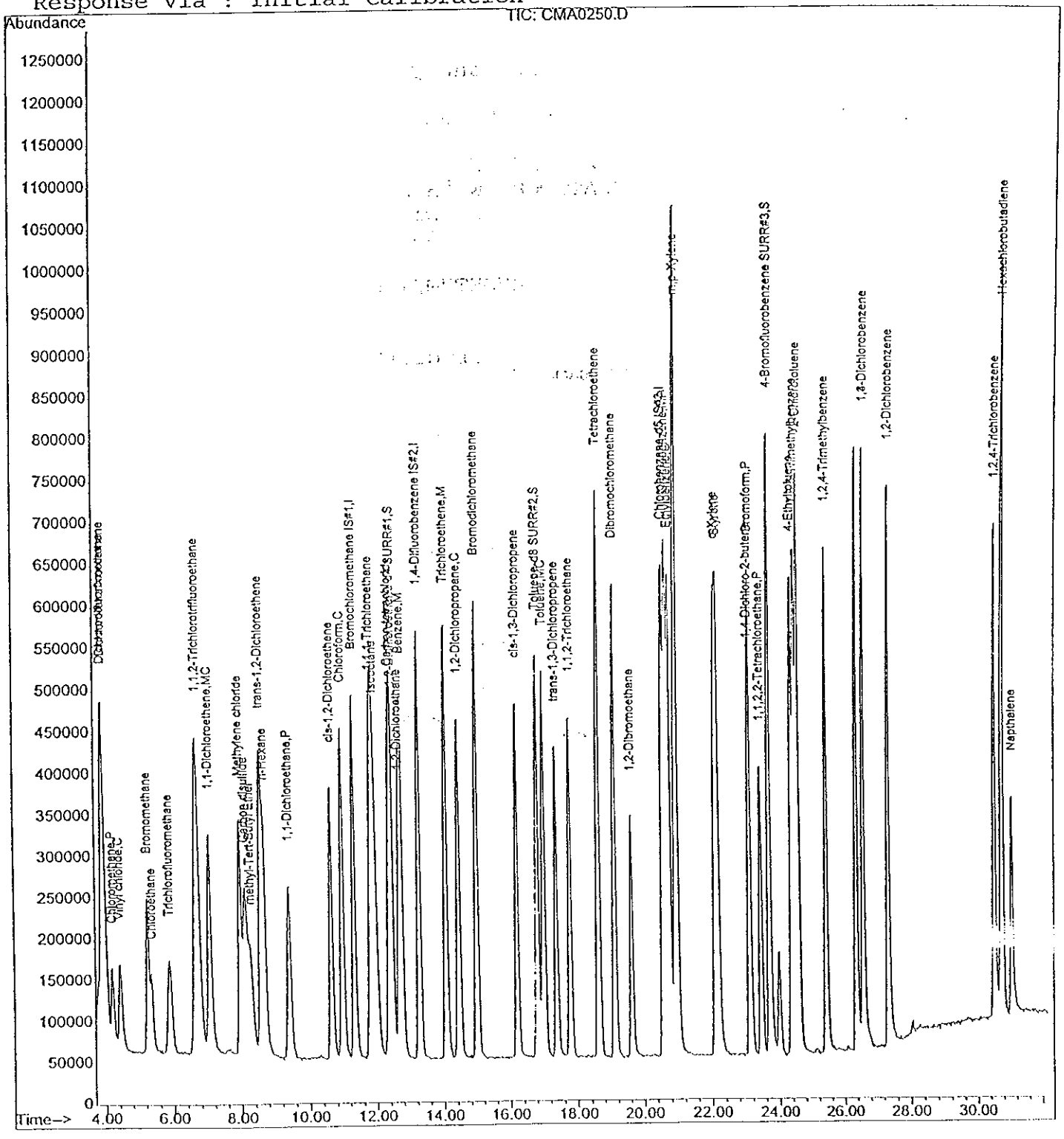
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.06	130	533368	267.45 ng		99
29) 1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30) Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31) cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33) Toluene	17.01	92	642718	264.95 ng		97
34) trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35) 1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37) Tetrachloroethene	18.63	164	504977	261.95 ng		96
38) Dibromochloromethane	19.11	127	724430	269.57 ng		99
39) Chlorobenzene	20.68	112	921500	266.11 ng		95
40) Ethylbenzene	20.77	106	377638	263.60 ng		94
41) m,p-Xylene	20.97	106	955043	525.64 ng		91
42) o-Xylene	22.12	106	466943	263.98 ng		91
43) Styrene	22.18	104	766670	263.77 ng		95
44) Bromoform	23.13	173	658509	265.26 ng		100
45) 1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47) 1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48) 4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49) 1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50) 2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51) 1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52) 1,3-Dichlorobenzene	26.58	146	851100	267.37 ng		97
53) 1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54) 1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55) 1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56) Napthalene	31.05	128	668794	258.75 ng	#	91
57) Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration



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Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D
Acq On : 19 Jun 2001 10:58
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BDH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00	ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00	ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00	ng	0.00 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%						
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%						
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	3358732	542.44	ng	98
3) Dichlorotetrafluoroethane	3.91	135	1136619	541.39	ng #	19
4) Chloromethane	4.17	50	662899	515.90	ng	99
5) Vinyl chloride	4.39	62	659263	554.27	ng	97
6) Bromomethane	5.23	94	933634	532.70	ng	97
7) Chloroethane	5.35	64	424613	541.17	ng	94
8) Trichlorofluoromethane	5.87	101	991097	530.60	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	1295181	531.93	ng	89
10) 1,1-Dichloroethene	7.05	96	728404	528.63	ng	88
12) Methylene chloride	7.96	49	1283111	517.00	ng #	85
13) Carbon disulfide	8.10	76	2153648	535.91	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	843804	459.13	ng #	88
15) trans-1,2-Dichloroethene	8.55	96	782795	527.79	ng	92
16) n-Hexane	8.66	57	851040	501.61	ng #	1
17) 1,1-Dichloroethane	9.39	63	1599028	537.57	ng	99
18) cis-1,2-Dichloroethene	10.63	61	1332506	529.28	ng	93
19) Chloroform	10.97	83	1971654	527.34	ng #	95
20) Isooctane	11.94	57	2810081	466.45	ng	95
21) 1,1,1-Trichloroethane	11.84	97	1671909	528.89	ng	93
22) Carbon tetrachloride	12.40	117	1776389	531.17	ng	98
24) 1,2-Dichloroethane	12.67	62	1097708	494.67	ng	98
25) 1,2-Dibromoethane	19.64	107	1272731	488.44	ng	99
27) Benzene	12.74	78	2072242	501.33	ng	96

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

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Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D
Acq On : 19 Jun 2001 10:58
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

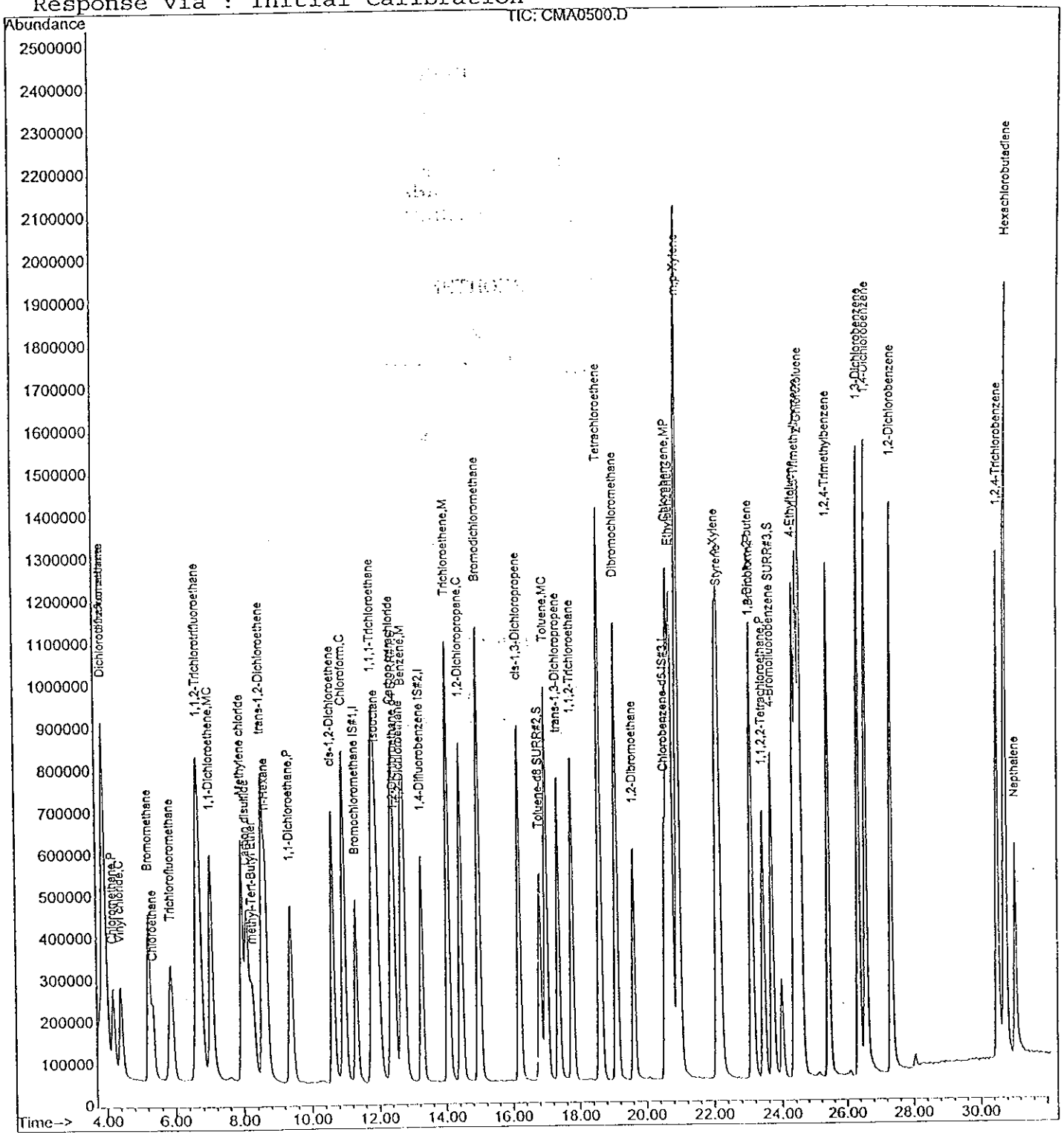
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	1063363	512.26 ng		99
29)	1,2-Dichloropropane	14.45	63	954023	504.13 ng	#	87
30)	Bromodichloromethane	14.99	83	2269706	505.24 ng		98
31)	cis-1,3-Dichloropropene	16.21	75	1366041	499.16 ng	#	79
33)	Toluene	17.01	92	1283724	507.88 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	1088252	484.92 ng	#	78
35)	1,1,2-Trichloroethane	17.79	97	773146	478.40 ng		98
37)	Tetrachloroethene	18.63	164	1021392	519.36 ng		97
38)	Dibromochloromethane	19.11	127	1388391	492.05 ng		99
39)	Chlorobenzene	20.68	112	1857792	519.50 ng		96
40)	Ethylbenzene	20.77	106	763296	518.96 ng		93
41)	m,p-Xylene	20.97	106	1955531	1049.84 ng		95
42)	o-Xylene	22.12	106	946502	520.11 ng		92
43)	Styrene	22.20	104	1563814	520.57 ng		96
44)	Bromoform	23.15	173	1233918	472.98 ng		99
45)	1,1,2,2-Tetrachloroethane	23.47	83	1180553	433.21 ng		98
47)	1,4-Dichloro-2-butene	23.11	75	245321	465.57 ng		92
48)	4-Ethyltoluene	24.39	105	2724532	549.15 ng		93
49)	1,3,5-Trimethylbenzene	24.50	105	2065746	517.93 ng		93
50)	2-Chlorotoluene	24.59	91	2726961	511.72 ng		100
51)	1,2,4-Trimethylbenzene	25.43	105	2187501	522.36 ng		99
52)	1,3-Dichlorobenzene	26.36	146	1637869	502.62 ng		99
53)	1,4-Dichlorobenzene	26.58	146	1723393	517.13 ng		98
54)	1,2-Dichlorobenzene	27.34	146	1509456	515.55 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	1101163	512.29 ng		100
56)	Napthalene	31.05	128	1260364	466.26 ng	#	92
57)	Hexachlorobutadiene	30.74	225	988114	584.20 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D
Acq On : 19 Jun 2001 10:58
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration



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Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D
Acq On : 19 Jun 2001 11:46
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original B 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	296685	250.00	ng	-0.04 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1210927	250.00	ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	914720	250.00	ng	0.01 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.44	65	459531	245.62	ng	-0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.25%						
32) Toluene-d8 SURR#2	16.81	98	978789	249.08	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.63%						
46) 4-Bromofluorobenzene SURR#	23.73	95	926255	254.46	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.78%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.87	85	6233748	1049.45	ng	98
3) Dichlorotetrafluoroethane	3.89	135	2134530	1064.83	ng #	22
4) Chloromethane	4.15	50	1224763	1011.29	ng	98
5) Vinyl chloride	4.35	62	1201437	1053.25	ng	98
6) Bromomethane	5.19	94	1744430	1047.88	ng	98
7) Chloroethane	5.32	64	807307	1088.74	ng	95
8) Trichlorofluoromethane	5.83	101	2060376	1201.76	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.64	151	2429552	1057.92	ng	90
10) 1,1-Dichloroethene	7.01	96	1397322	1075.81	ng	91
12) Methylene chloride	7.93	49	2453027	1052.27	ng #	85
13) Carbon disulfide	8.08	76	4076441	1070.98	ng	100
14) methyl-Tert-Butyl Ether	8.24	73	1803367	1062.77	ng #	90
15) trans-1,2-Dichloroethene	8.53	96	1472449	1054.23	ng	92
16) n-Hexane	8.62	57	1579011	986.48	ng #	1
17) 1,1-Dichloroethane	9.37	63	2886545	1023.96	ng	99
18) cis-1,2-Dichloroethene	10.61	61	2499759	1055.54	ng	93
19) Chloroform	10.94	83	3670018	1043.49	ng #	95
20) Isooctane	11.92	57	5346515	959.54	ng	96
21) 1,1,1-Trichloroethane	11.81	97	3076942	1034.51	ng	93
22) Carbon tetrachloride	12.38	117	3289086	1043.66	ng	97
24) 1,2-Dichloroethane	12.65	62	2148966	1043.28	ng	98
25) 1,2-Dibromoethane	19.63	107	2580322	1073.25	ng	98
27) Benzene	12.72	78	3850696	1026.27	ng	97

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

000

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D
Acq On : 19 Jun 2001 11:46
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

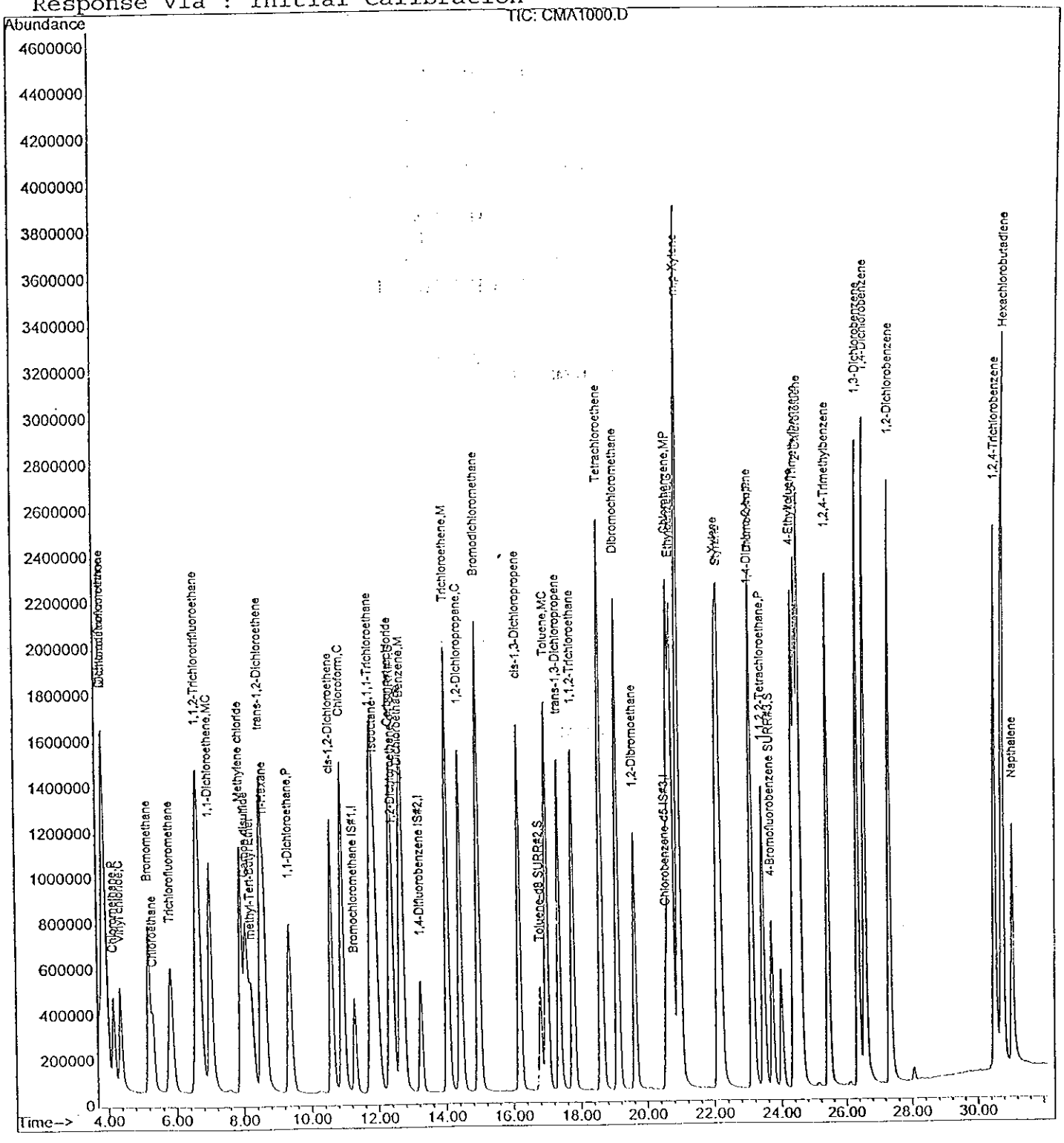
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.04	130	2003048	1064.50 ng		100
29) 1,2-Dichloropropane	14.43	63	1797296	1048.92 ng	#	88
30) Bromodichloromethane	14.97	83	4319211	1062.49 ng		99
31) cis-1,3-Dichloropropene	16.19	75	2641211	1071.18 ng	#	80
33) Toluene	17.01	92	2405121	1050.49 ng		97
34) trans-1,3-Dichloropropene	17.37	75	2188978	1092.75 ng	#	81
35) 1,1,2-Trichloroethane	17.78	97	1539249	1064.37 ng		98
37) Tetrachloroethene	18.64	164	1884926	1057.55 ng		97
38) Dibromochloromethane	19.12	127	2755762	1090.44 ng		99
39) Chlorobenzene	20.69	112	3456899	1065.66 ng		97
40) Ethylbenzene	20.78	106	1395946	1043.84 ng		93
41) m,p-Xylene	20.98	106	3585503	2122.36 ng		94
42) o-Xylene	22.13	106	1771579	1076.12 ng		94
43) Styrene	22.21	104	2945131	1084.71 ng		97
44) Bromoform	23.16	173	2538653	1100.69 ng		100
45) 1,1,2,2-Tetrachloroethane	23.48	83	2423921	1007.79 ng		99
47) 1,4-Dichloro-2-butene	23.13	75	533593	1154.41 ng		92
48) 4-Ethyltoluene	24.40	105	4961557	1097.54 ng		93
49) 1,3,5-Trimethylbenzene	24.51	105	3924783	1094.79 ng		94
50) 2-Chlorotoluene	24.62	91	5084323	1054.07 ng		100
51) 1,2,4-Trimethylbenzene	25.45	105	4026008	1063.11 ng		99
52) 1,3-Dichlorobenzene	26.37	146	3127244	1073.09 ng		98
53) 1,4-Dichlorobenzene	26.59	146	3251439	1081.15 ng		98
54) 1,2-Dichlorobenzene	27.35	146	2827820	1074.36 ng		98
55) 1,2,4-Trichlorobenzene	30.52	180	2190863	1123.03 ng		100
56) Napthalene	31.06	128	2606085	1102.23 ng	#	93
57) Hexachlorobutadiene	30.76	225	1763109	1093.12 ng		100

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

000

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration



000 17

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	306138	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1262696	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	947465	250.00 ng	0.02 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.48	65	466181	242.37 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.95%					
32) Toluene-d8 SURR#2	16.83	98	1004447	245.59 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%					
46) 4-Bromofluorobenzene SURR#	23.74	95	966825	256.83 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.73%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	10263276	1642.34 ng		98
3) Dichlorotetrafluoroethane	3.91	135	3431265	1632.62 ng	#	20
4) Chloromethane	4.17	50	1953127	1534.65 ng		98
5) Vinyl chloride	4.38	62	1877069	1567.97 ng		98
6) Bromomethane	5.23	94	2784996	1604.46 ng		99
7) Chloroethane	5.34	64	1305263	1692.51 ng		95
8) Trichlorofluoromethane	5.87	101	4102130	2269.65 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.67	151	3860092	1615.15 ng		88
10) 1,1-Dichloroethene	7.05	96	2207728	1631.54 ng		91
12) Methylene chloride	7.96	49	3779790	1556.14 ng	#	85
13) Carbon disulfide	8.12	76	6296422	1579.16 ng		99
14) methyl-Tert-Butyl Ether	8.27	73	2578069	1478.67 ng	#	90
15) trans-1,2-Dichloroethene	8.57	96	2296356	1580.81 ng		93
16) n-Hexane	8.66	57	2455366	1470.62 ng	#	1
17) 1,1-Dichloroethane	9.41	63	4656037	1587.34 ng		99
18) cis-1,2-Dichloroethene	10.65	61	3891754	1583.57 ng		93
19) Chloroform	10.97	83	5699637	1560.49 ng	#	95
20) Isooctane	11.94	57	8292835	1436.43 ng		96
21) 1,1,1-Trichloroethane	11.84	97	4778200	1546.65 ng		92
22) Carbon tetrachloride	12.42	117	5106078	1560.13 ng		97
24) 1,2-Dichloroethane	12.68	62	3267735	1539.63 ng		98
25) 1,2-Dibromoethane	19.64	107	3834082	1556.31 ng		98
27) Benzene	12.76	78	5993832	1526.98 ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

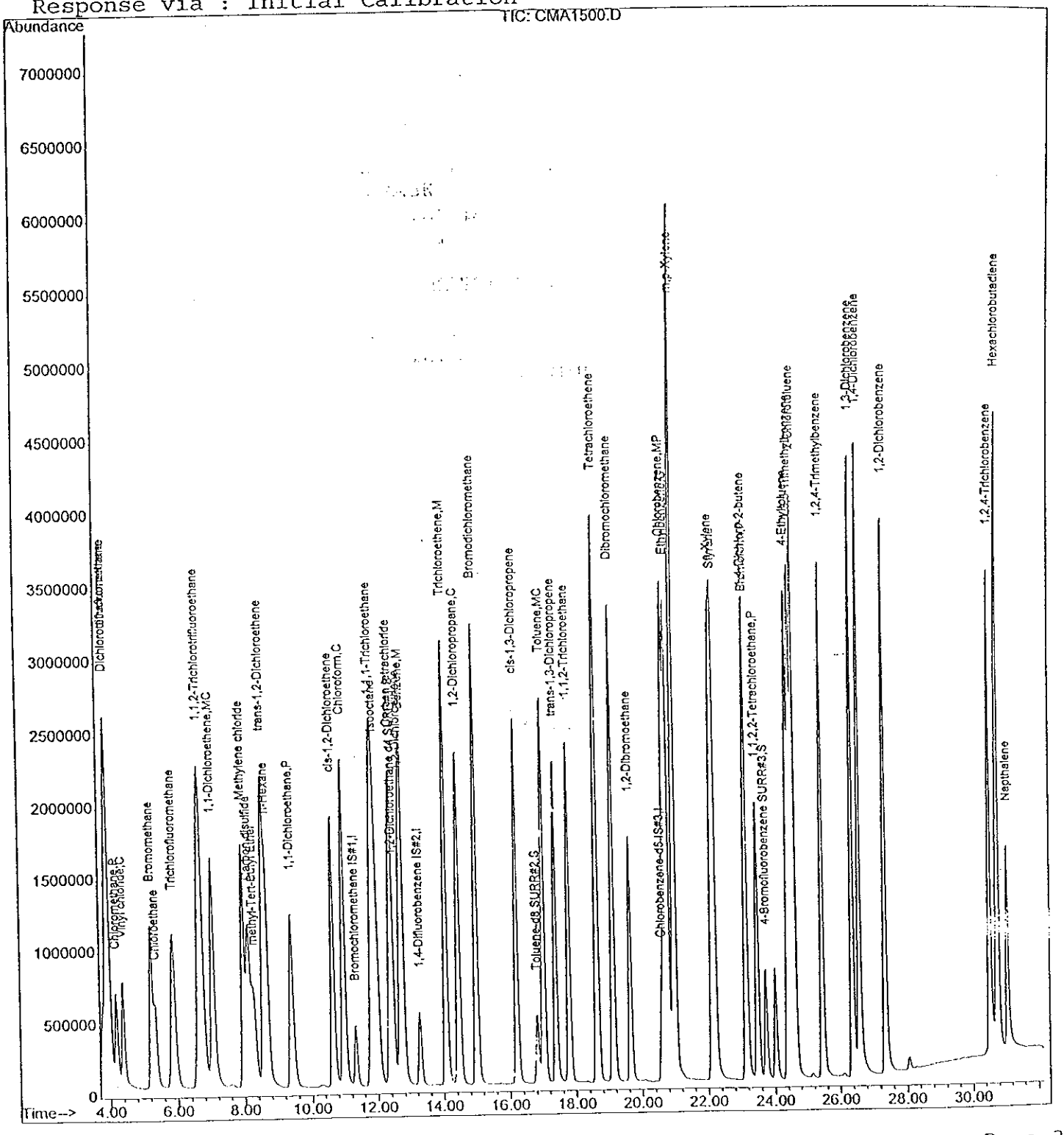
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.08	130	3131271	1590.70 ng		99
29) 1,2-Dichloropropane	14.47	63	2782579	1555.74 ng	#	88
30) Bromodichloromethane	14.99	83	6626226	1559.37 ng		99
31) cis-1,3-Dichloropropene	16.21	75	4101408	1597.82 ng	#	81
33) Toluene	17.03	92	3759602	1574.79 ng		98
34) trans-1,3-Dichloropropene	17.39	75	3338061	1609.22 ng	#	81
35) 1,1,2-Trichloroethane	17.79	97	2319686	1550.82 ng		98
37) Tetrachloroethene	18.64	164	2948248	1587.42 ng		97
38) Dibromochloromethane	19.12	127	4167778	1592.15 ng		98
39) Chlorobenzene	20.69	112	5396104	1599.79 ng		97
40) Ethylbenzene	20.79	106	2189347	1581.36 ng		94
41) m,p-Xylene	20.99	106	5606499	3190.48 ng		94
42) o-Xylene	22.14	106	2766756	1618.81 ng		95
43) Styrene	22.21	104	4587667	1631.34 ng		97
44) Bromoform	23.16	173	3756052	1591.17 ng		99
45) 1,1,2,2-Tetrachloroethane	23.47	83	3545357	1487.44 ng		99
47) 1,4-Dichloro-2-butene	23.13	75	790900	1690.85 ng		93
48) 4-Ethyltoluene	24.40	105	7867372	1667.46 ng		93
49) 1,3,5-Trimethylbenzene	24.51	105	5868544	1553.55 ng		93
50) 2-Chlorotoluene	24.61	91	7794563	1554.96 ng		99
51) 1,2,4-Trimethylbenzene	25.44	105	6231140	1586.16 ng		100
52) 1,3-Dichlorobenzene	26.38	146	4764054	1590.54 ng		99
53) 1,4-Dichlorobenzene	26.59	146	4993562	1604.01 ng		98
54) 1,2-Dichlorobenzene	27.35	146	4254949	1564.99 ng		99
55) 1,2,4-Trichlorobenzene	30.52	180	3092156	1514.04 ng		99
56) Napthalene	31.06	128	3458113	1440.20 ng	#	94
57) Hexachlorobutadiene	30.75	225	2415060	1378.37 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration



000172

STL - Pensacola / GCMS Volatiles Run Log

e 8-21-01
ch MA8174D 2 3
: 8 -MSW- 19 - 3
: 8 -MSW- 19 - 3

Instrument ID : Marilyn
Batch _____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method : TO14.m/8260A.m/8260W.m
AIR-SPK 8 -MSW- 21 - 1
WATER-SPK -MSW- -

Other: _____
Daily maint. _____
LCS# 8 -MSW- 23 - 1
SURR# 8 -MSW- 19 - 3

ME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
:46	14	To14.m	BFM —	50ng		N	Methanol	95 Ion Area = 797,000 (From ccv)	BH	—	—	—	—
:46	14		CM0821A	50ppb		N	W	Daily Calib. Check		263	1061	819	—
:19	15		MA174A BK	ST.		N	W	Daily Method Blank		267	1016	814	—
:54	16		MA174 LCS	50ppb		N	W	Batch # 174 LCS		263	1053	812	—
:31	1		MA174LCD	↓		Y N	A(To14)	↓ ↓ ↓ Duplicate		262	1040	795	—
:05	1		8414-1	ST.		Y N		500mls - CAN		257	871	697	—
:39	1		8415-1	ST.		Y N		↓ - ↓ Matrix		255	909	719	—
:16	2		8484-1	X100		Y N		5mls - BAG		250	1013	777	—
:53	3		-2	X70		Y N		25mls re-run X10		254	1012	771	—
:31	4		-3	↓		Y N		↓		229	926	712	—
:08	5		-4	X10		Y N		50mls ↓		240	940	726	—
:45	6		-2R	X10		Y N		↓		254	1008	770	—
—	14-13	BFBSTL	BLKTUBE	—		Y N	—	MPM clean-up/Prep					
:						Y N							
:						Y N							
:						Y N							
:						Y N		BH 8/21/01					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody

000-47

Sequence Name: [illegible]
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M0821A\
Pre-Seq Cmd:
Post-Seq Cmd:

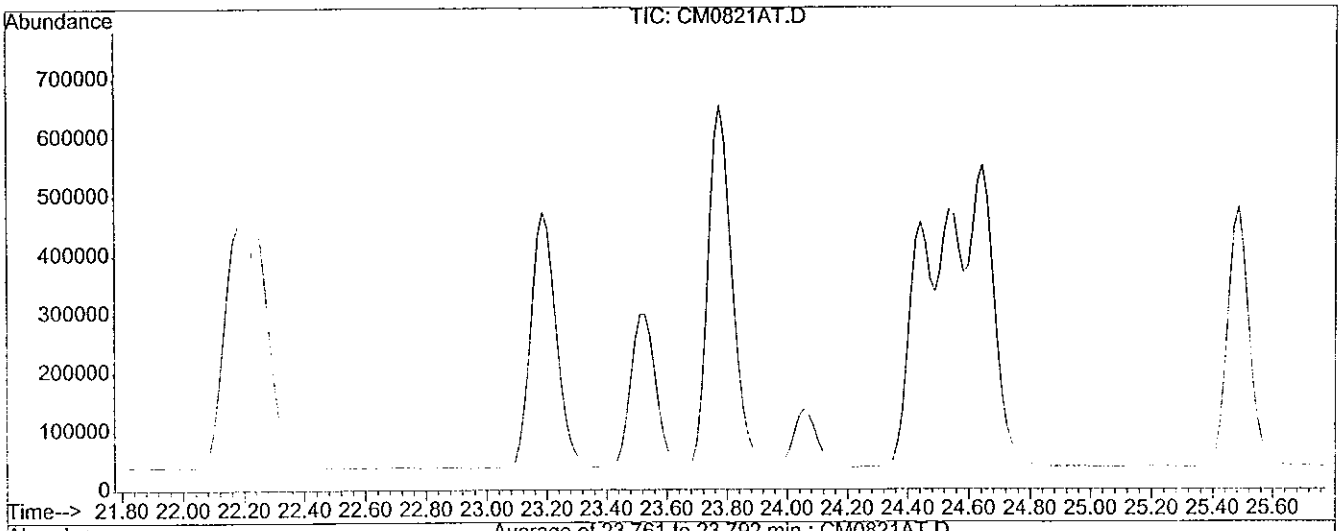
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

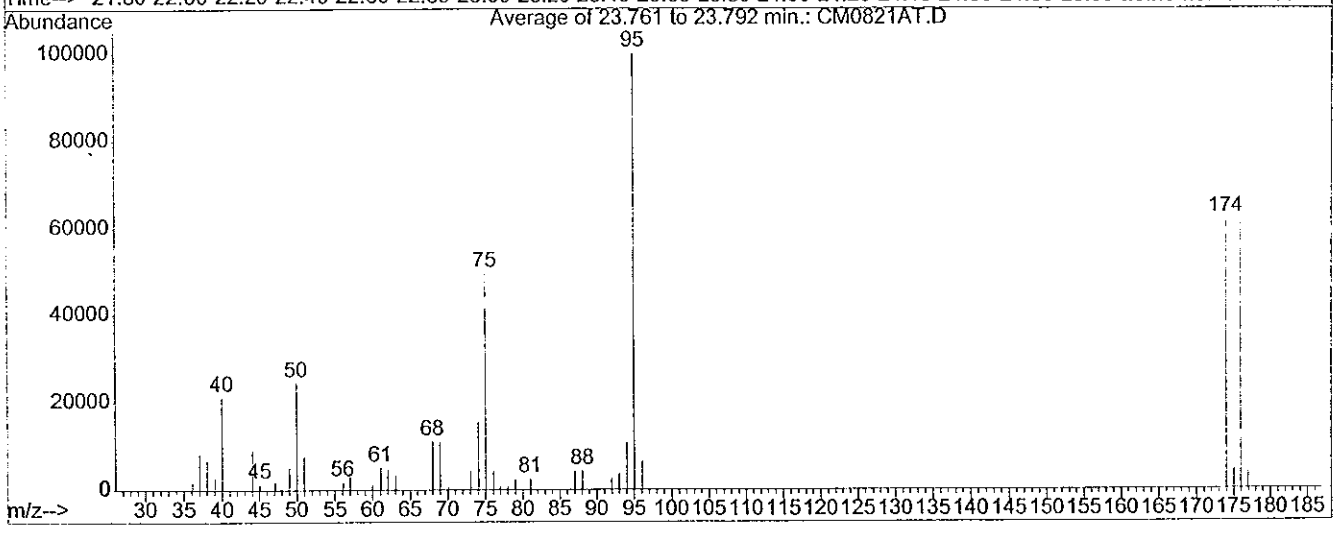
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM0821A	TO14S	VSTDMA/ DAILY CALIB.CHECK 50p
2	Sample	15	MA174ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
3	Sample	16	MA174LCS	TO14S	LCS/BATCH #174 LCS 50ppb/250
4	Sample	16	MA174LCD	TO14S	LCS/BATCH #174 LCD 50ppb/250
5	Sample	1	84141	TO14S	062SVEEA-0814-01-15\ 8414-1 S
6	Sample	1	84151	TO14S	062SVEEA-0814-01-19\ 8415-1 S
7	Sample	2	84841	TO14S	8484-1 X100 5mls BAG
8	Sample	3	84842	TO14S	8484-2 X20 25mls BAG
9	Sample	4	84843	TO14S	8484-3 X20 25mls BAG
10	Sample	5	84844	TO14S	8484-4 X10 50mls BAG
11	Sample	14	BLKTUBE	BFBSTL	

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821AT.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14





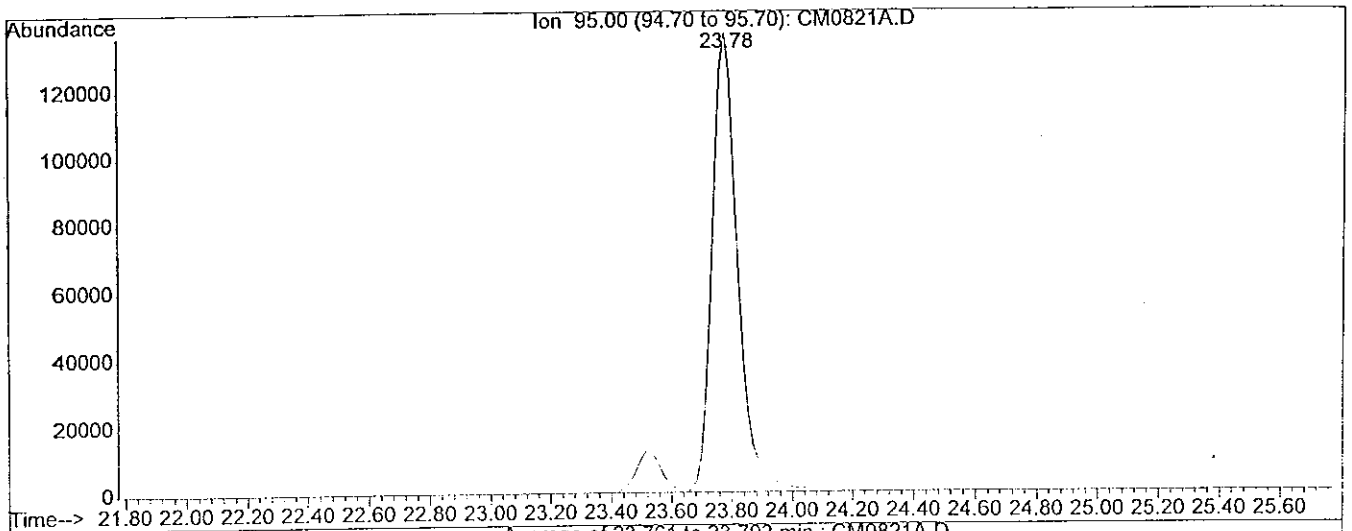
Spectrum Information: Average of 23.761 to 23.792 min.

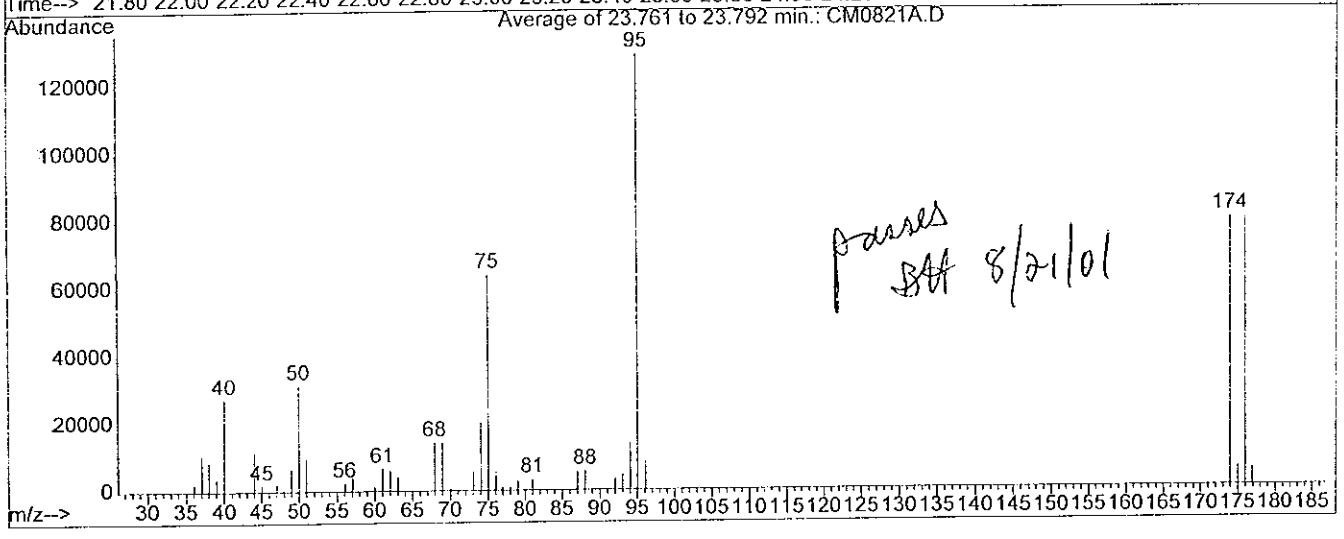
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24502	PASS
75	95	30	60	49.6	49571	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.5	6481	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.6	61633	PASS
175	174	5	9	7.3	4488	PASS
176	174	95	101	99.6	61368	PASS
177	176	5	9	6.4	3925	PASS

BFB

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00





passes BH 8/21/01

Spectrum Information: Average of 23.761 to 23.792 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	31621	PASS
75	95	30	60	49.6	63973	PASS
95	95	100	100	100.0	129053	PASS
96	95	5	9	6.5	8364	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.6	79539	PASS
175	174	5	9	7.3	5792	PASS
176	174	95	101	99.6	79197	PASS
177	176	5	9	6.4	5065	PASS

CM0821A.D TO14S.M Tue Aug 21 08:38:02 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:05 2001
Response via : Multiple Level Calibration

Passes BH 8-21-01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	83	0.00
2		Dichlorodifluoromethane	5.221	3.659	29.9#	56	0.00
3		Dichlorotetrafluoroethane	1.746	1.566	10.3#	70	0.00
4	P	Chloromethane	1.056	0.964	8.7#	79	0.00
5	C	Vinyl chloride	0.990	0.992	-0.2#	79	0.00
6		Bromomethane	1.432	1.425	0.5	81	0.00
7		Chloroethane	0.635	0.598	5.8#	77	0.00
8		Trichlorofluoromethane	1.509	1.135	24.8#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.885	3.8#	76	0.00
10	MC	1,1-Dichloroethene	1.112	1.095	1.5#	80	0.00
11		Iodomethane	0.000	0.000	0.0	137	0.00
12		Methylene chloride	1.996	1.964	1.6	79	0.00
13		Carbon disulfide	3.278	3.475	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	1.416	1.462	-3.2#	82	0.00
15		trans-1,2-Dichloroethene	1.191	1.158	2.8#	79	0.00
16		n-Hexane	1.373	1.197	12.8#	68	0.00
17	P	1,1-Dichloroethane	2.420	2.253	6.9#	73	0.00
18		cis-1,2-Dichloroethene	2.017	1.884	6.6#	74	0.00
19	C	Chloroform	2.996	2.822	5.8#	75	0.00
20		Isooctane	4.704	4.221	10.3#	70	0.00
21		1,1,1-Trichloroethane	2.533	2.345	7.4#	73	0.00
22		Carbon tetrachloride	2.682	2.476	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.512	3.5#	80	0.00
24		1,2-Dichloroethane	1.735	1.647	5.1#	75	0.00
25		1,2-Dibromoethane	2.008	2.012	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	83	0.00
27	M	Benzene	0.782	0.750	4.1#	76	0.00
28	M	Trichloroethene	0.392	0.371	5.4#	74	0.00
29	C	1,2-Dichloropropane	0.356	0.339	4.8#	74	0.00
30		Bromodichloromethane	0.847	0.814	3.9#	75	0.00
31		cis-1,3-Dichloropropene	0.511	0.498	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	0.808	0.811	-0.4	83	0.00
33	MC	Toluene	0.475	0.451	5.1#	75	0.00
34		trans-1,3-Dichloropropene	0.411	0.410	0.2	77	0.00
35		1,1,2-Trichloroethane	0.297	0.298	-0.3	78	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	84	0.00
37		Tetrachloroethene	0.495	0.442	10.7#	72	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	76	0.00
39	MP	Chlorobenzene	0.897	0.849	5.4#	75	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:05 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.303	17.7#	66	0.00
41		m,p-Xylene	0.467	0.428	8.4#	73	0.00
42		o-Xylene	0.454	0.416	8.4#	73	0.00
43		Styrene	0.747	0.676	9.5#	72	0.00
44	P	Bromoform	0.624	0.602	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.603	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.971	2.3#	82	0.00
47		1,4-Dichloro-2-butene	0.123	0.123	0.0	77	0.00
48		4-Ethyltoluene	1.262	1.098	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	0.993	0.869	12.5#	72	0.00
50		2-Chlorotoluene	1.329	1.232	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	1.043	0.952	8.7#	73	0.00
52		1,3-Dichlorobenzene	0.788	0.749	4.9#	76	0.00
53		1,4-Dichlorobenzene	0.826	0.749	9.3#	72	0.00
54		1,2-Dichlorobenzene	0.719	0.697	3.1#	76	0.00
55		1,2,4-Trichlorobenzene	0.545	0.529	2.9#	77	0.00
56		Napthalene	0.625	0.684	-9.4#	84	0.00
57		Hexachlorobutadiene	0.481	0.431	10.4#	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

000 [illegible]

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	83	0.00
2		Dichlorodifluoromethane	250.000	175.206	29.9#	56	0.00
3		Dichlorotetrafluoroethane	250.000	224.142	10.3#	70	0.00
4	P	Chloromethane	250.000	228.120	8.8#	79	0.00
5	C	Vinyl chloride	250.000	250.511	-0.2#	79	0.00
6		Bromomethane	250.000	248.916	0.4	81	0.00
7		Chloroethane	250.000	235.293	5.9#	77	0.00
8		Trichlorofluoromethane	250.000	228.731	8.5#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	240.416	3.8#	76	0.00
10	MC	1,1-Dichloroethene	250.000	246.249	1.5#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	137	0.00
12		Methylene chloride	250.000	246.051	1.6	79	0.00
13		Carbon disulfide	250.000	264.962	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	250.000	258.167	-3.3#	82	0.00
15		trans-1,2-Dichloroethene	250.000	243.118	2.8#	79	0.00
16		n-Hexane	250.000	218.002	12.8#	68	0.00
17	P	1,1-Dichloroethane	250.000	232.767	6.9#	73	0.00
18		cis-1,2-Dichloroethene	250.000	233.562	6.6#	74	0.00
19	C	Chloroform	250.000	235.462	5.8#	75	0.00
20		Isooctane	250.000	224.301	10.3#	70	0.00
21		1,1,1-Trichloroethane	250.000	231.412	7.4#	73	0.00
22		Carbon tetrachloride	250.000	230.769	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	241.271	3.5#	80	0.00
24		1,2-Dichloroethane	250.000	237.399	5.0#	75	0.00
25		1,2-Dibromoethane	250.000	250.427	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	83	0.00
27	M	Benzene	250.000	239.653	4.1#	76	0.00
28	M	Trichloroethene	250.000	236.674	5.3#	74	0.00
29	C	1,2-Dichloropropane	250.000	238.027	4.8#	74	0.00
30		Bromodichloromethane	250.000	240.276	3.9#	75	0.00
31		cis-1,3-Dichloropropene	250.000	243.825	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	250.000	250.899	-0.4	83	0.00
33	MC	Toluene	250.000	237.428	5.0#	75	0.00
34		trans-1,3-Dichloropropene	250.000	249.355	0.3	77	0.00
35		1,1,2-Trichloroethane	250.000	250.938	-0.4	78	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	84	0.00
37		Tetrachloroethene	250.000	223.156	10.7#	72	0.00
38		Dibromochloromethane	250.000	242.439	3.0#	76	0.00
39	MP	Chlorobenzene	250.000	236.389	5.4#	75	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	205.337	17.9#	66	0.00
41		m,p-Xylene	500.000	457.708	8.5#	73	0.00
42		o-Xylene	250.000	229.296	8.3#	73	0.00
43		Styrene	250.000	226.329	9.5#	72	0.00
44	P	Bromoform	250.000	241.150	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	247.342	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.267	2.3#	82	0.00
47		1,4-Dichloro-2-butene	250.000	239.055	4.4#	77	0.00
48		4-Ethyltoluene	250.000	217.527	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	250.000	218.777	12.5#	72	0.00
50		2-Chlorotoluene	250.000	231.701	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	250.000	228.289	8.7#	73	0.00
52		1,3-Dichlorobenzene	250.000	237.385	5.0#	76	0.00
53		1,4-Dichlorobenzene	250.000	226.511	9.4#	72	0.00
54		1,2-Dichlorobenzene	250.000	242.422	3.0#	76	0.00
55		1,2,4-Trichlorobenzene	250.000	242.642	2.9#	77	0.00
56		Napthalene	250.000	273.494	-9.4#	84	0.00
57		Hexachlorobutadiene	250.000	223.806	10.5#	71	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0820P\CM0820P.D (20 Aug 2001 20:26)

orig. passes BH 8/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	262730	250.00 ng	0.11 92.32%
26) 1,4-Difluorobenzene IS#2	13.33	114	1061352	250.00 ng	0.11 91.27%
36) Chlorobenzene-d5 IS#3	20.64	117	819287	250.00 ng	0.15 91.84%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.54	65	397284	241.27 ng	0.11
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.51%					
32) Toluene-d8 SURR#2	16.88	98	860776	250.90 ng	0.14
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.36%					
46) 4-Bromofluorobenzene SURR#	23.78	95	795691	244.27 ng	0.15
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.71%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.04	85	961321	175.21 ng		98
3) Dichlorotetrafluoroethane	4.04	135	411312	224.14 ng	#	34
4) Chloromethane	4.31	50	253170	228.12 ng		96
5) Vinyl chloride	4.53	62	260587	250.51 ng		98
6) Bromomethane	5.36	94	374517	248.92 ng		94
7) Chloroethane	5.47	64	157074	235.29 ng		97
8) Trichlorofluoromethane	5.98	101	298152	228.73 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.79	151	495238	240.42 ng		92
10) 1,1-Dichloroethene	7.16	96	287695	246.25 ng		91
12) Methylene chloride	8.07	49	516092	246.05 ng	#	85
13) Carbon disulfide	8.22	76	912891	264.96 ng		100
14) methyl-Tert-Butyl Ether	8.36	73	384241	258.17 ng	#	86
15) trans-1,2-Dichloroethene	8.66	96	304353	243.12 ng		93
16) n-Hexane	8.75	57	314594	218.00 ng	#	1
17) 1,1-Dichloroethane	9.48	63	591952	232.77 ng		99
18) cis-1,2-Dichloroethene	10.72	61	494969	233.56 ng		94
19) Chloroform	11.05	83	741478	235.46 ng	#	95
20) Isooctane	12.01	57	1108940	224.30 ng		95
21) 1,1,1-Trichloroethane	11.90	97	616044	231.41 ng		93
22) Carbon tetrachloride	12.47	117	650555	230.77 ng		98
24) 1,2-Dichloroethane	12.74	62	432738	237.40 ng		99
25) 1,2-Dibromoethane	19.69	107	528541	250.43 ng		99
27) Benzene	12.82	78	795758	239.65 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.14	130	394159	236.67 ng		99
29)	1,2-Dichloropropane	14.51	63	359412	238.03 ng	#	87
30)	Bromodichloromethane	15.05	83	863623	240.28 ng		98
31)	cis-1,3-Dichloropropene	16.26	75	528593	243.83 ng	#	81
33)	Toluene	17.07	92	478860	237.43 ng		97
34)	trans-1,3-Dichloropropene	17.43	75	435060	249.35 ng	#	79
35)	1,1,2-Trichloroethane	17.83	97	316405	250.94 ng		98
37)	Tetrachloroethene	18.68	164	361895	223.16 ng		97
38)	Dibromochloromethane	19.18	127	553146	242.44 ng		99
39)	Chlorobenzene	20.73	112	695225	236.39 ng		96
40)	Ethylbenzene	20.83	106	247874	205.34 ng		91
41)	m,p-Xylene	21.03	106	700850	457.71 ng		94
42)	o-Xylene	22.16	106	341227	229.30 ng		91
43)	Styrene	22.26	104	553750	226.33 ng		96
44)	Bromoform	23.19	173	493013	241.15 ng		99
45)	1,1,2,2-Tetrachloroethane	23.53	83	494101	247.34 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	100981	239.06 ng		90
48)	4-Ethyltoluene	24.44	105	899659	217.53 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	711970	218.78 ng		92
50)	2-Chlorotoluene	24.65	91	1009502	231.70 ng		98
51)	1,2,4-Trimethylbenzene	25.48	105	780088	228.29 ng		99
52)	1,3-Dichlorobenzene	26.40	146	613249	237.39 ng		98
53)	1,4-Dichlorobenzene	26.40	146	613249	226.51 ng		99
54)	1,2-Dichlorobenzene	27.38	146	571259	242.42 ng		98
55)	1,2,4-Trichlorobenzene	30.56	180	433573	242.64 ng		99
56)	Napthalene	31.10	128	560104	273.49 ng	#	91
57)	Hexachlorobutadiene	30.79	225	352925	223.81 ng		99

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

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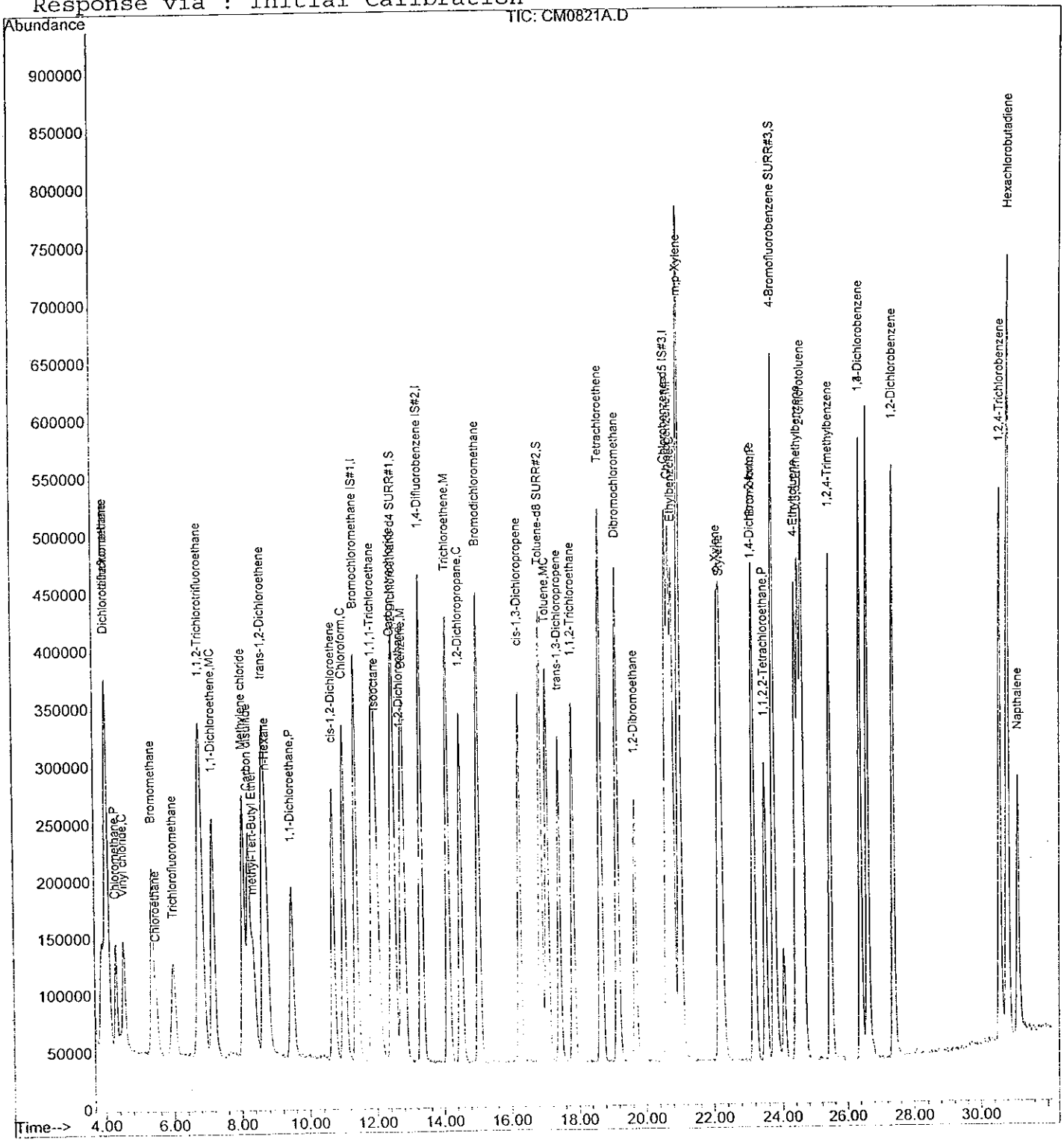
Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration



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Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D
Acq On : 21 Aug 2001 8:19
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 8:56 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

BH 8/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	267177	250.00 ng	0.03 101.69%
26) 1,4-Difluorobenzene IS#2	13.36	114	1015521	250.00 ng	0.03 95.68%
36) Chlorobenzene-d5 IS#3	20.66	117	813975	250.00 ng	0.02 99.35%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	396245	236.63 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.65%		
32) Toluene-d8 SURR#2	16.90	98	829589	252.72 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.09%		
46) 4-Bromofluorobenzene SURR#	23.80	95	785268	242.64 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.06%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA174ABK.D TO14S.M Tue Aug 21 08:56:29 2001

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Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D Vial: 15
Acq On : 21 Aug 2001 8:19 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

orig

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	267177	250.00	ng	0.03 101.69%
26) 1,4-Difluorobenzene IS#2	13.36	114	1015521	250.00	ng	0.03 95.68%
36) Chlorobenzene-d5 IS#3	20.66	117	813975	250.00	ng	0.02 99.35%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	396245	236.63	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 94.65%						
32) Toluene-d8 SURR#2	16.90	98	829589	252.72	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.09%						
46) 4-Bromofluorobenzene SURR#	23.80	95	785268	242.64	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.06%						

Target Compounds						Qvalue
55) 1,2,4-Trichlorobenzene	30.58	180	1995	1.12	ng	# 86
56) Napthalene	31.11	128	8605	4.23	ng	# 64

<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA174ABK.D TO14S.M Tue Aug 21 08:52:14 2001

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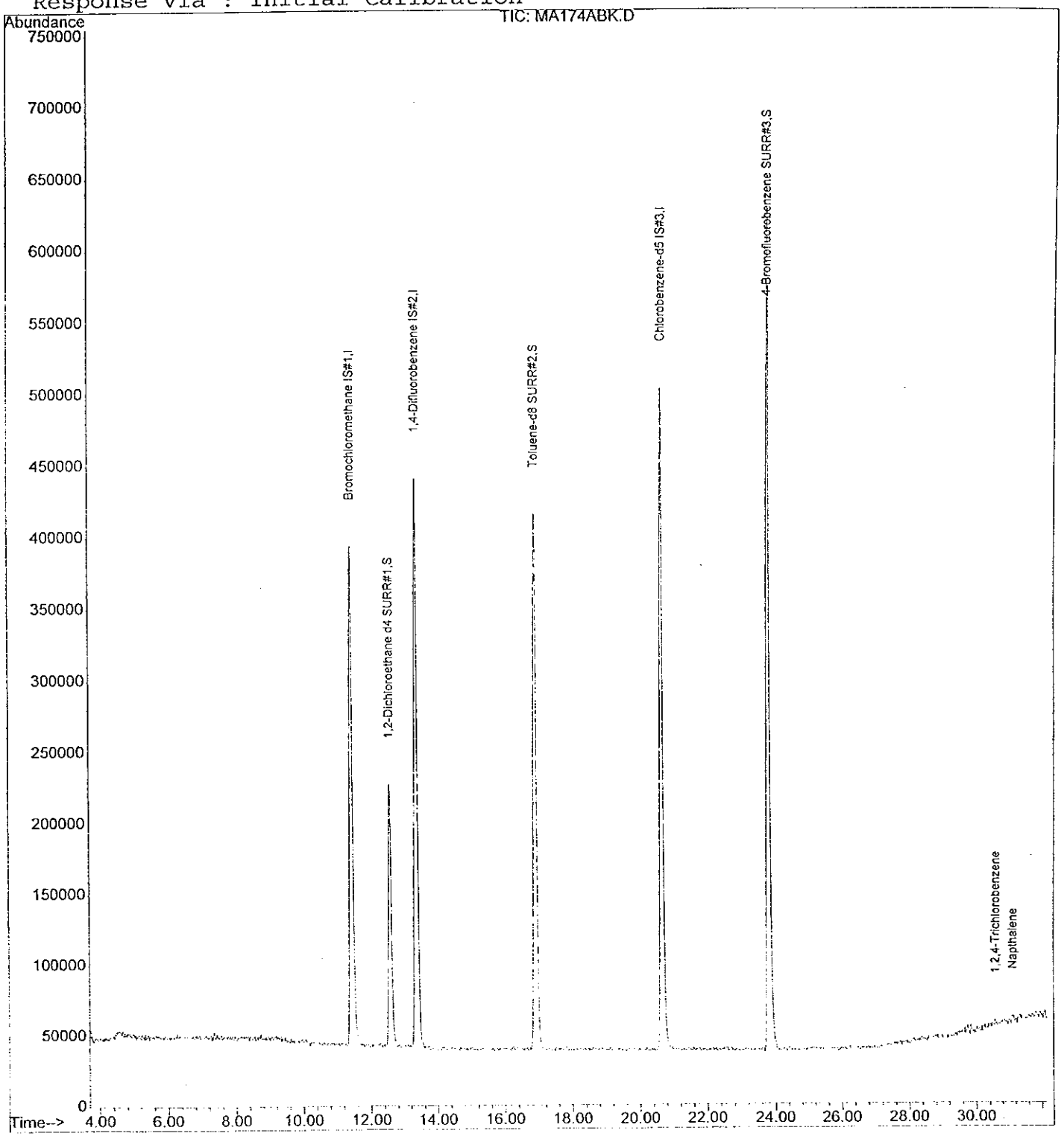
Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D Vial: 15
Acq On : 21 Aug 2001 8:19 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:52 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



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Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 9:37 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	263252	250.00	ng	0.05 100.20%
26) 1,4-Difluorobenzene IS#2	13.39	114	1052871	250.00	ng	0.06 99.20%
36) Chlorobenzene-d5 IS#3	20.69	117	812221	250.00	ng	0.05 99.14%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.58	65	406461	246.35	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.54%						
32) Toluene-d8 SURR#2	16.93	98	852932	250.62	ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.25%						
46) 4-Bromofluorobenzene SURR#	23.81	95	787191	243.76	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.50%						

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.21	96	265267	226.60	ng	93
27) Benzene	12.86	78	818172	248.39	ng	97
28) Trichloroethene	14.18	130	406548	246.08	ng	99
33) Toluene	17.12	92	502137	250.97	ng	97
39) Chlorobenzene	20.78	112	725530	248.84	ng	93

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

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 9:26 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	263252	250.00 ng	0.05 100.20%
26) 1,4-Difluorobenzene IS#2	13.39	114	1052871	250.00 ng	0.06 99.20%
36) Chlorobenzene-d5 IS#3	20.69	117	812221	250.00 ng	0.05 99.14%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.58	65	406461	246.35 ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.54%					
32) Toluene-d8 SURR#2	16.93	98	852932	250.62 ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.25%					
46) 4-Bromofluorobenzene SURR#	23.81	95	787191	243.76 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.50%					

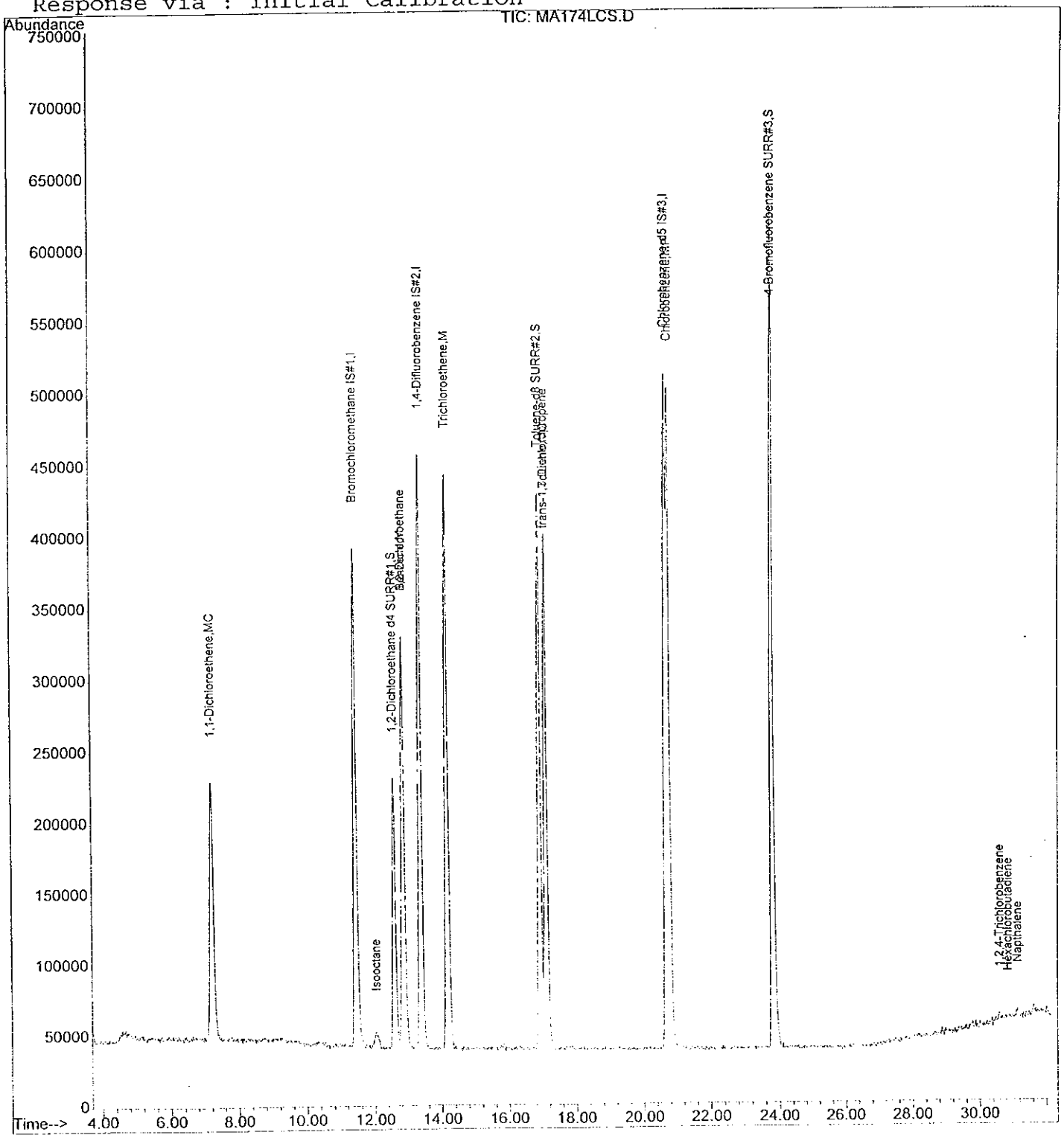
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.21	96	265267	226.60 ng		93
20) Isooctane	12.06	57	38123	7.70 ng		82
24) 1,2-Dichloroethane	12.86	62	5504	3.01 ng	#	49
27) Benzene	12.86	78	818172	248.39 ng		97
28) Trichloroethene	14.18	130	406548	246.08 ng		99
33) Toluene	17.12	92	502137	250.97 ng		97
34) trans-1,3-Dichloropropene	17.10	75	1933	1.12 ng	#	1
39) Chlorobenzene	20.78	112	725530	248.84 ng		93
55) 1,2,4-Trichlorobenzene	30.59	180	3359	1.90 ng	#	64
56) Napthalene	31.14	128	14858	7.32 ng	#	64
57) Hexachlorobutadiene	30.84	225	4547	2.91 ng	#	19

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

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D
Acq On : 21 Aug 2001 8:54
Sample : LCS/BATCH #174 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE
MS Integration Params: rteint.p
Quant Time: Aug 21 9:26 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



000-09

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:22 2001

Vial: 1
Operator: BDH
Inst : ~~GC/MS~~ Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

BA 8/21/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	254958	250.00	ng	0.06 97.04%
26) 1,4-Difluorobenzene IS#2	13.39	114	908631	250.00	ng	0.06 85.61%
36) Chlorobenzene-d5 IS#3	20.67	117	719082	250.00	ng	0.03 87.77%

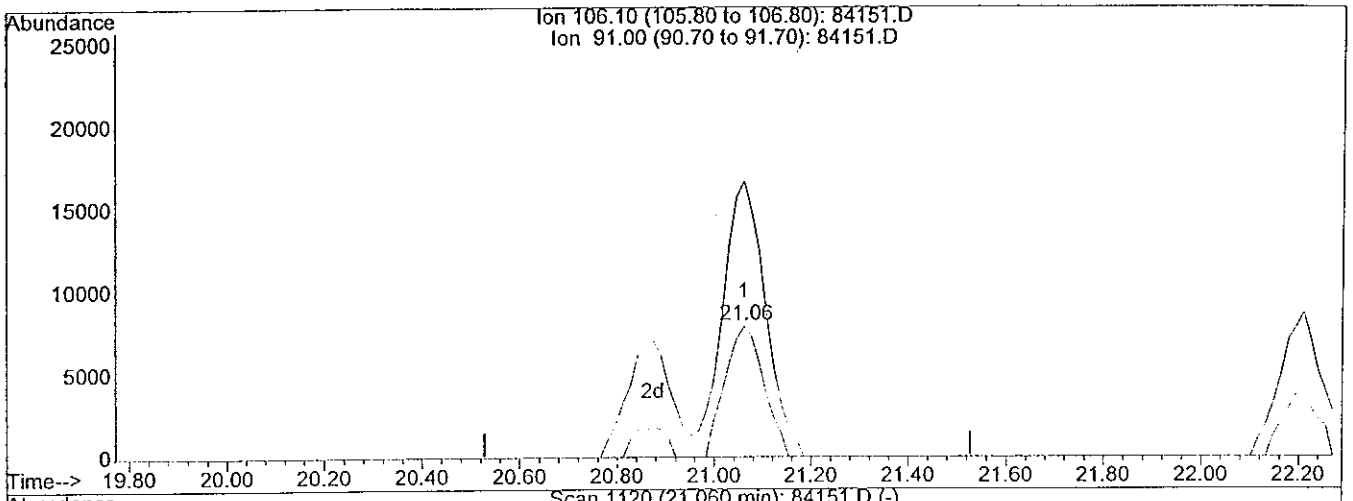
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.60	65	385929	241.52	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.61%						
32) Toluene-d8 SURR#2	16.92	98	753672	256.60	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.64%						
46) 4-Bromofluorobenzene SURR#	23.81	95	745623	260.79	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 104.32%						

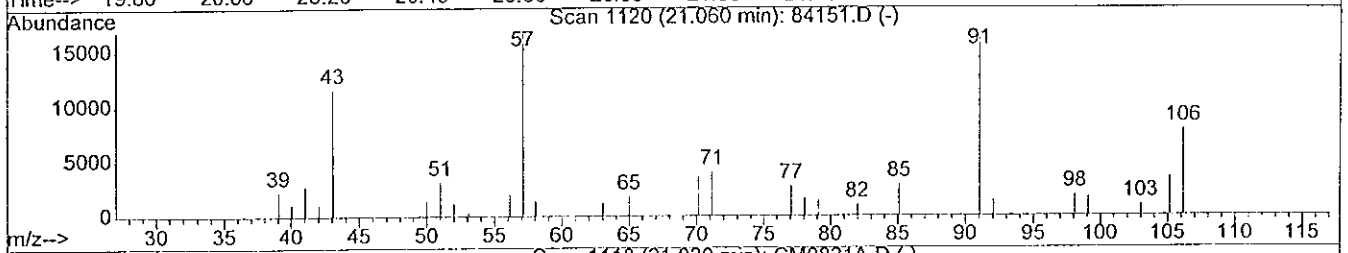
Target Compounds						Qvalue
40) Ethylbenzene	20.87	106	8499	0.03	ng <RL #	11
41) m,p-Xylene	21.06	106	44054	0.13	ng	82
42) o-Xylene	22.19	106	19151	0.06	ng #	66
48) 4-Ethyltoluene	24.43	105	92357	0.10	ng	94
49) 1,3,5-Trimethylbenzene	24.57	105	175355	0.25	ng	99
51) 1,2,4-Trimethylbenzene	25.50	105	85029	0.11	ng	94

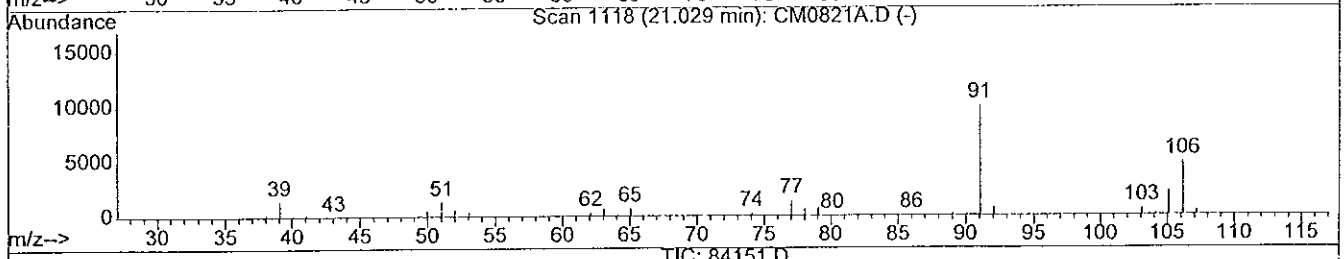
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D Vial: 1
Acq On : 21 Aug 2001 10:39 Operator: BDH
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 11:21 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84151.D

(41) m,p-Xylene

21.06min 32.78ng

response 44054

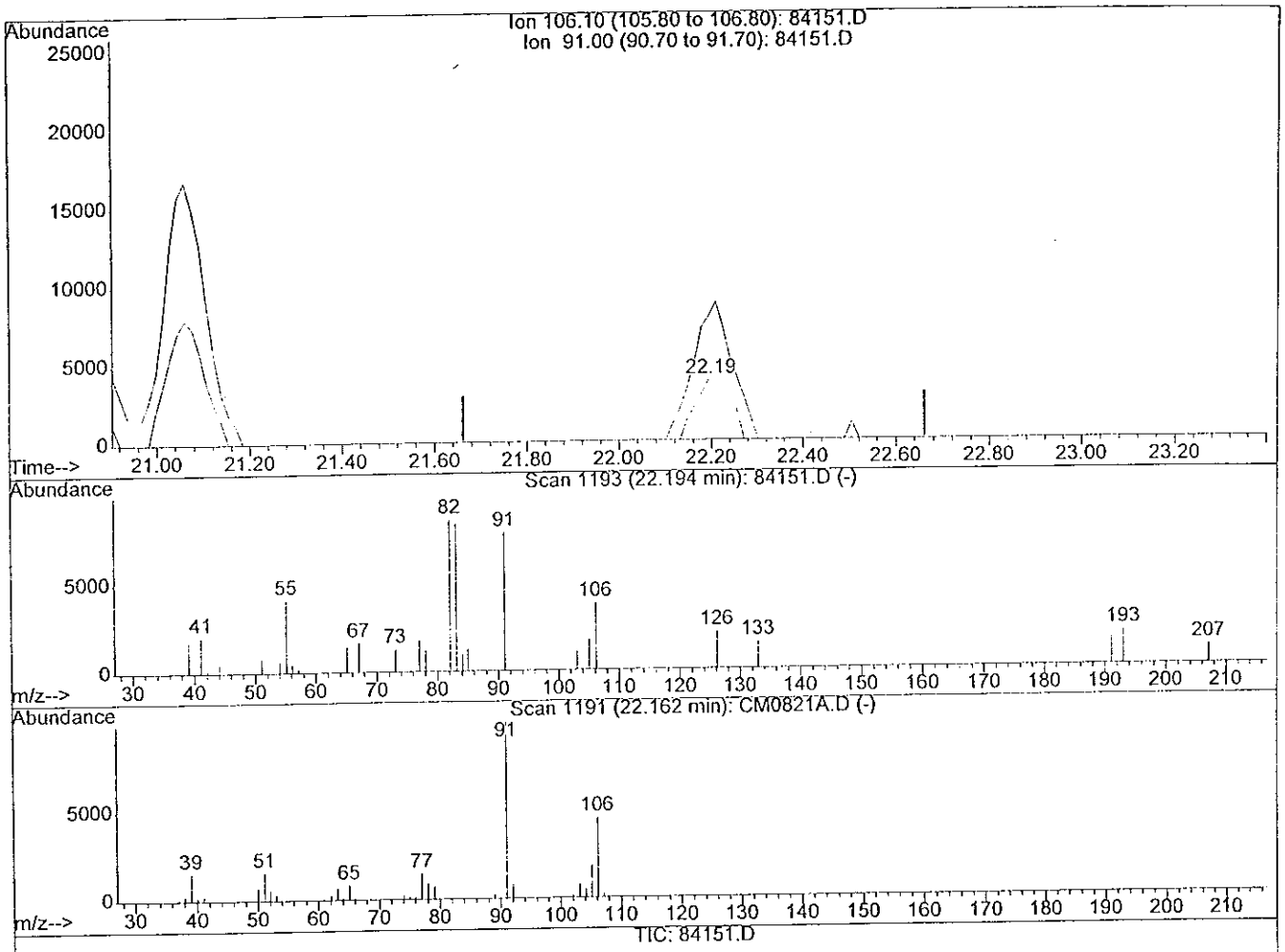
Ion	Exp%	Act%
106.10	100	100
91.00	205.30	232.46
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:21 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.19min 14.66ng

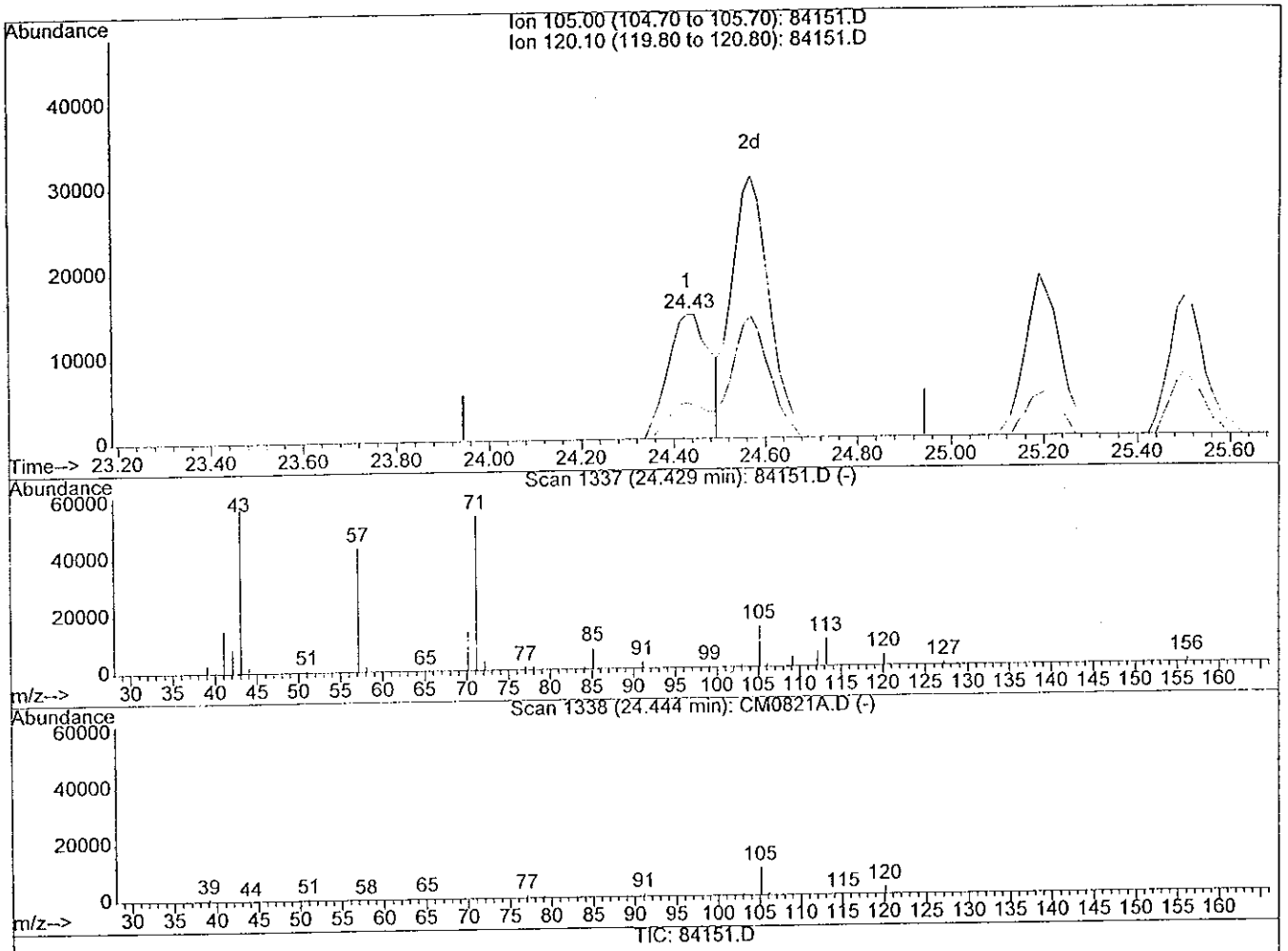
response 19151

Ion	Exp%	Act%
106.10	100	100
91.00	215.80	269.86#
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:21 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.43min 25.44ng

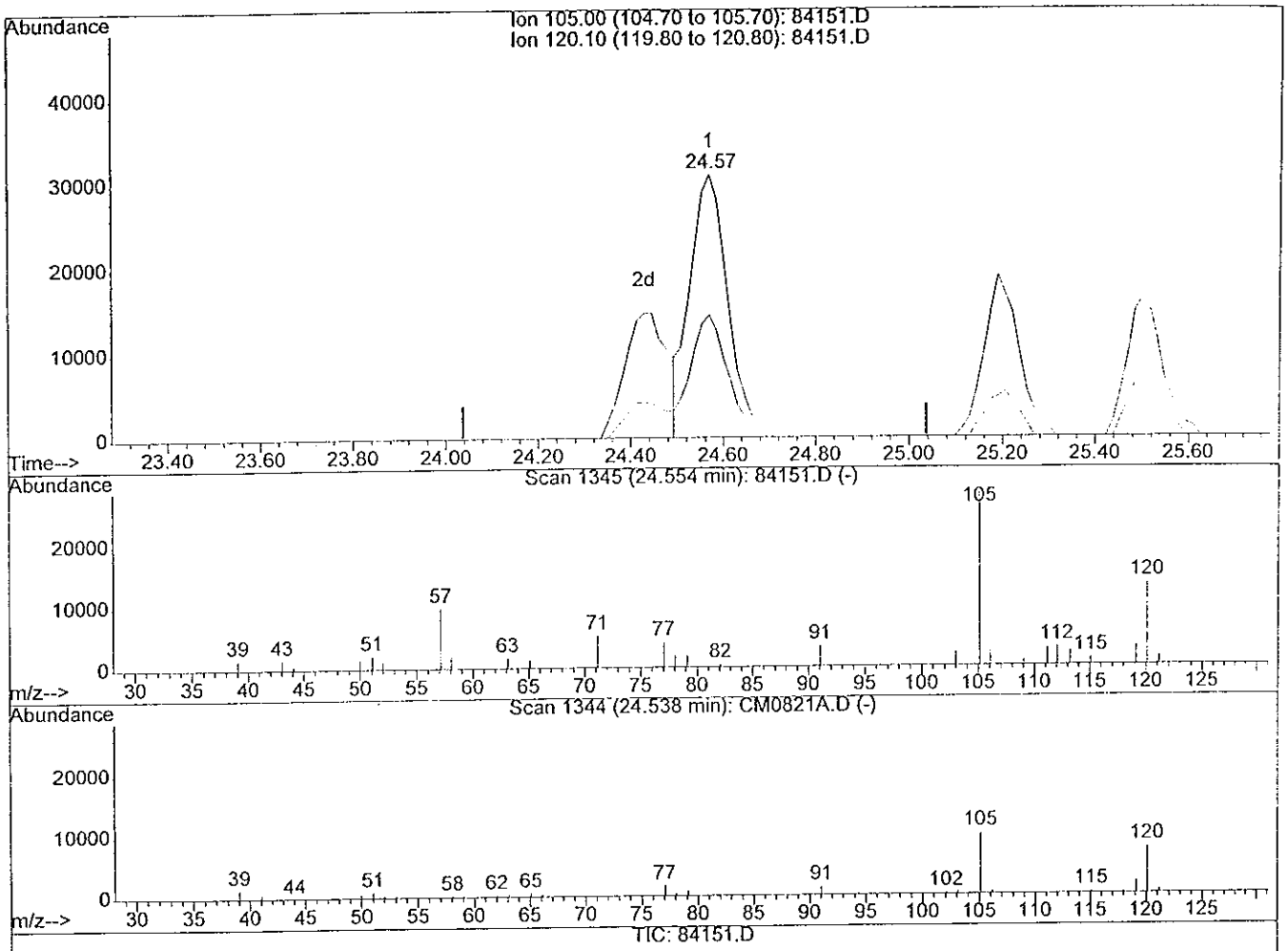
response 92357

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	25.68
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:21 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.57min 61.39ng

response 175355

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	47.14
0.00	0.00	0.00
0.00	0.00	0.00

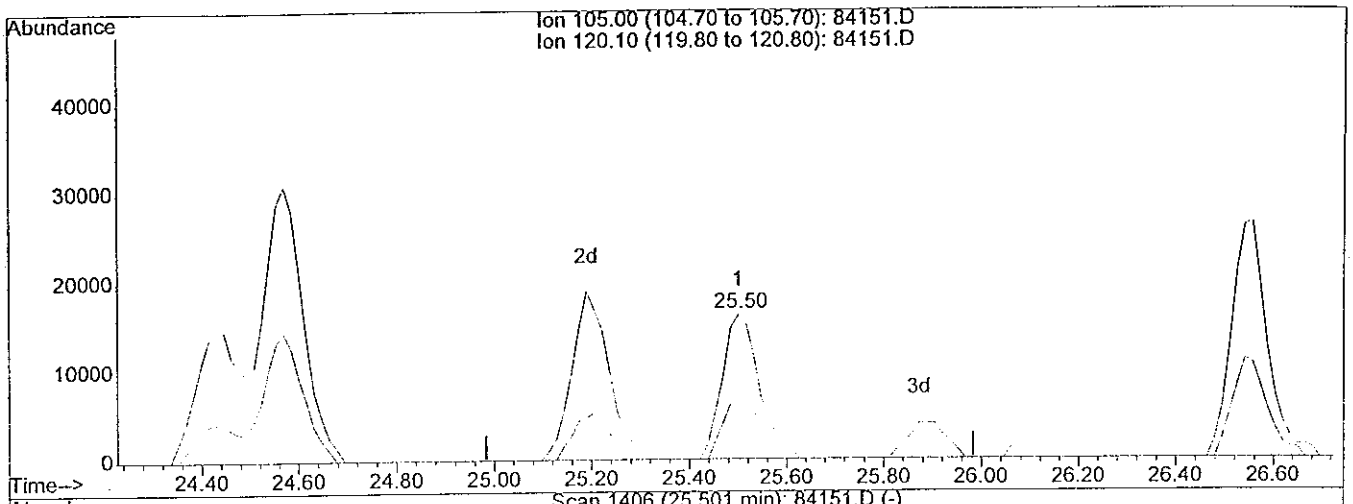
84151.D TO14S.M Tue Aug 21 11:22:06 2001

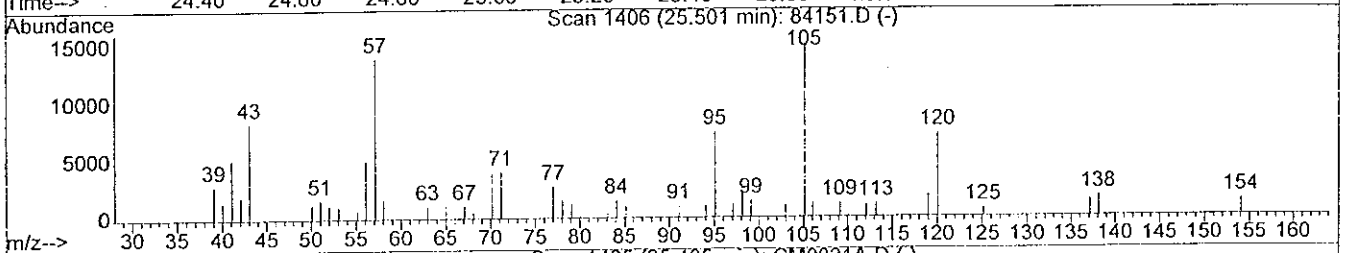
000192

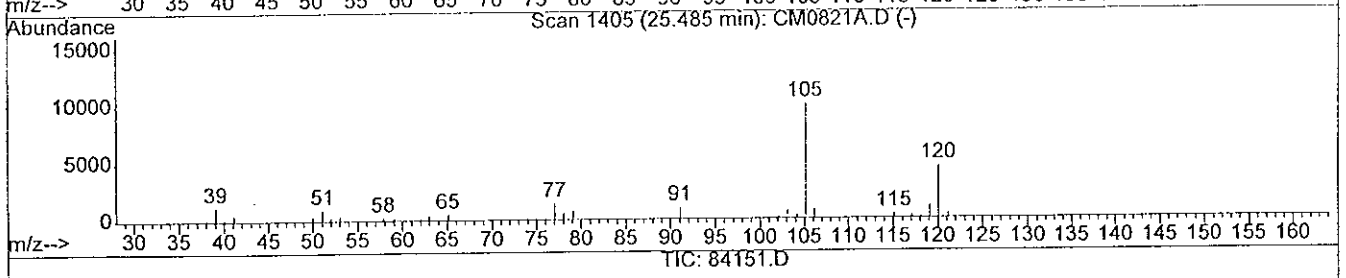
Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:22 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84151.D

(51) 1,2,4-Trimethylbenzene

25.50min 28.35ng

response 85029

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	41.22
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:11 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

orig

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	254958	250.00 ng	0.06 97.04%
26) 1,4-Difluorobenzene IS#2	13.39	114	908631	250.00 ng	0.06 85.61%
36) Chlorobenzene-d5 IS#3	20.67	117	719082	250.00 ng	0.03 87.77%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.60	65	385929	241.52 ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.61%					
32) Toluene-d8 SURR#2	16.92	98	753672	256.60 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.64%					
46) 4-Bromofluorobenzene SURR#	23.81	95	745623	260.79 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 104.32%					

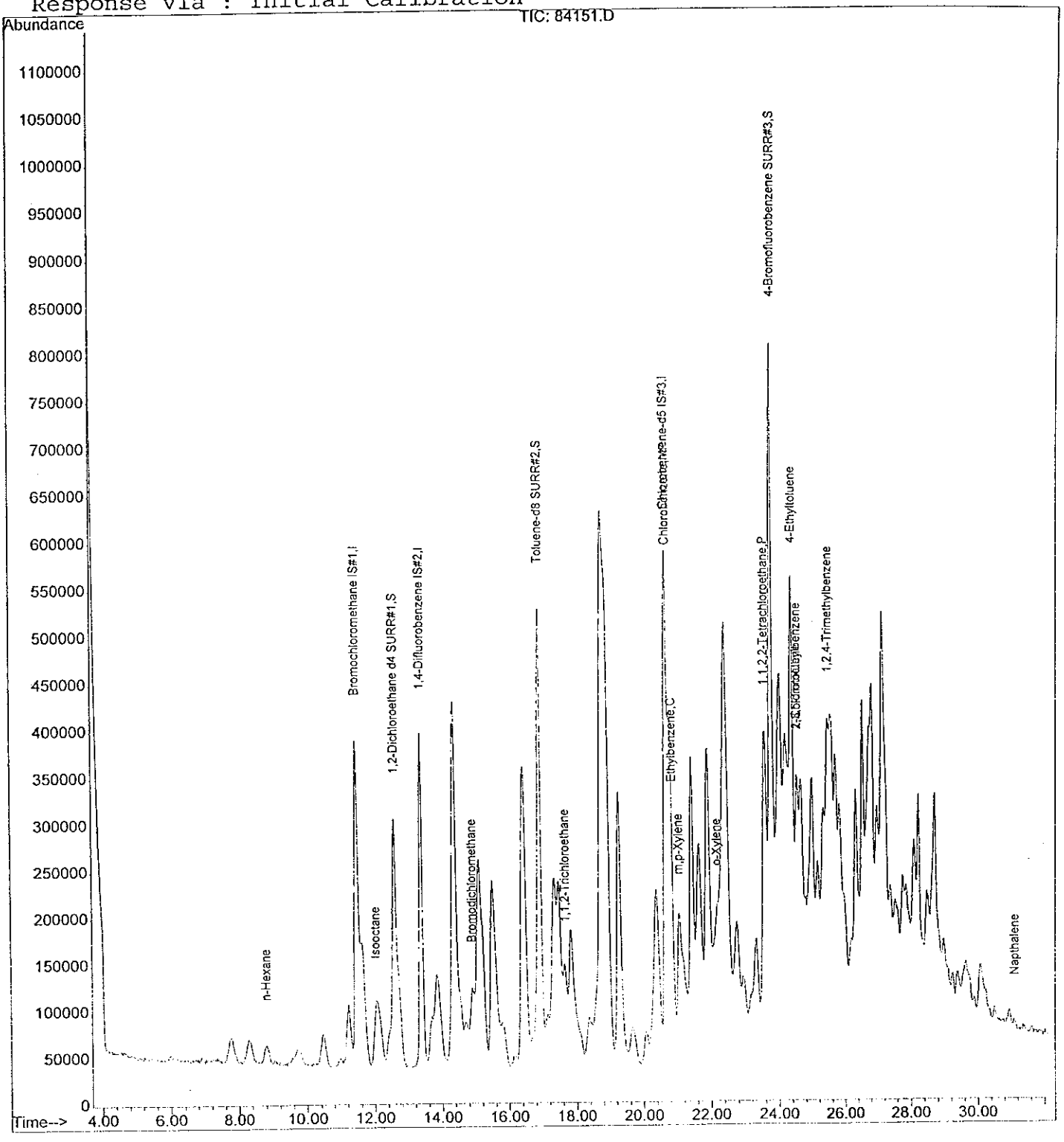
Target Compounds						Qvalue
16) n-Hexane	8.81	57	33921	24.22 ng	#	15
20) Isooctane	12.04	57	47330	9.87 ng	#	1
30) Bromodichloromethane	14.91	83	8042	2.61 ng	#	25
35) 1,1,2-Trichloroethane	17.68	97	122130	113.14 ng	#	15
39) Chlorobenzene	20.70	112	936	0.36 ng	#	1
40) Ethylbenzene	20.87	106	8499	8.02 ng	#	11
41) m,p-Xylene	21.06	106	44054	32.78 ng		82
42) o-Xylene	22.19	106	19151	14.66 ng	#	66
45) 1,1,2,2-Tetrachloroethane	23.61	83	87637	49.98 ng	#	30
48) 4-Ethyltoluene	24.43	105	92357	25.44 ng		94
49) 1,3,5-Trimethylbenzene	24.57	105	175355	61.39 ng		99
50) 2-Chlorotoluene	24.57	91	21857	5.72 ng	#	47
51) 1,2,4-Trimethylbenzene	25.50	105	85029	28.35 ng		94
56) Napthalene	31.11	128	5467	3.04 ng	#	64

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

Data File : D:\HPCHEM\1\DATA01\M0821A\84151.D
Acq On : 21 Aug 2001 10:39
Sample : 062SVEEA-0814-01-19\ 8415-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 11:11 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



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AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A804036	Acc STD	2000 µg/ml	7/1999	DKY 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKY 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DKY 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKY 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~MO~~ ~~BH~~ 7/29/98	7-VN 2-9
8260 SURR	A11715	Restek	2500 µg/ml	8/2001	DKY 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKY 10/6/98	7-VN 2-11
Matrix Spike	LA76420	Supelco	25 µg/ml	8/2000	DKY 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DKY 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKY 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A9090942-06	Accustandard	200.1 µg/ml	9/99	BD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKY 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKY 3/9/99	7-VN 2-19
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	MO 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DKY 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKY 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DKY 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKY 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKY 5/19/99	7-VN 2-25
~~Custom TO14 VOA Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DKY 6/9/99	7-VN 2-27
Toluene Mix	LA81867	Supelco	2000	4/2000	DKY 6/29/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Away 1st Date Used	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWJ 6/19/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWJ 6/19/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 9	
8260 kit	NA	Restek	Various	Various 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	P-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	P-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	P-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	P-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 (Nov 1 2001)	5	P-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	P-VN 1-9
8260 SURR	A014205	Restek	2500 µg/ml	12/2002	10	P-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	P-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	P-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000 µg/ml	5/2001	2	P-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	P-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	P-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	P-VN 1-17
8260 Volatiles kit	Various	Restek	2000/Various	10/2001 (expired)	1	P-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	P-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	P-VN 1-20
Carbon Disulfide	LA8605	Supelco	5000	10/2002	1	P-VN 1-21
1&2-Methyl-Naphthalene	LA90443	Supelco	2000	5/10/2001	3	P-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	P-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	P-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	P-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/ml	7/1/2001	4 (Dtk 6/13/02)	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89947	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	drench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-T014	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: Oxygenates
Date: 3/1/01
Analyst: W/O

Standard I.D.: 8 -MSW 19- 1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-16	B1010035	1/4/03	2000-10,000	45	1.8ml	50/250 ug/ml

Comments: exp. 9/1/01

Sol. Name: IS/Surr
Date: 3-29-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 19- 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-4	A016278	8/03	2500 µg/ml	500 µl	50ml	25 µg/ml
8-VN-2-13	A017973	3/04	2500 µg/ml	↓	↓	↓

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BDH

Standard I.D.: 8 -MSW 19 -3
Location: Freezer MS018
Solvent: Methanol
Lot # V03E71

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A017265	11/01	2500 µg/ml	500 µls	50 mls	25 ppm
7-VN-2-16 (Surr)	A017264	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/2/01

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23. 1
Location: MS018-Freezer
Solvent: MEOH -V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SUM
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23. 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SUM	A017973	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23 -3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Cylinder)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110734	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 175710920

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-1	062-SVE-E-A-0814-01-19	08-14-01/10:45	C108415

PARAMETER	08415-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 175710920

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-1	062-SVE-E-A-0814-01-19	08-14-01/10:45	C108415

PARAMETER	08415-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.10
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.11
1,3,5-Trimethylbenzene, mg/m3	0.25
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.13
Surrogate - 1,2-Dichloroethane-d4	97 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	104 %
Dilution Factor	1
Analysis Date	08.21.01
Analysis Time	10:39
Batch ID	MAB174
Analyst	BDH

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 175710920

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-2	Method Blank		C108415
08415-3	Lab Control Standard True Value		C108415
08415-4	Lab Control Standard Result		C108415
08415-5	Lab Control Standard % Recovery		C108415
08415-6	LCS Accuracy Control Limit (%R)		C108415

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4968	99 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.4977	100 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

000001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 175710920

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-2	Method Blank		C108415
08415-3	Lab Control Standard True Value		C108415
08415-4	Lab Control Standard Result		C108415
08415-5	Lab Control Standard % Recovery		C108415
08415-6	LCS Accuracy Control Limit (%R)		C108415

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4532	91 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5019	100 %	86-113

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STL Pensacola is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 175710920

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-2	Method Blank		C108415
08415-3	Lab Control Standard True Value		C108415
08415-4	Lab Control Standard Result		C108415
08415-5	Lab Control Standard % Recovery		C108415
08415-6	LCS Accuracy Control Limit (%R)		C108415

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4922	98 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	95 %	0.5000	0.4927	99 %	61-140
Surrogate - Toluene-d8	101 %	0.5000	0.5012	100 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4875	98 %	87-112
Dilution Factor	1	---	1	---	---
Analysis Date	08.21.01	---	08.21.01	---	---
Analysis Time	08:19	---	08:19	---	---
Batch ID	MAB174	MAB174	MAB174	MAB174	MAB174
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08415
Received: 16 AUG 01
Reported: 28 AUG 01

Mr. Jeff Wilmoth
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08415-2	Method Blank		C108415
08415-3	Lab Control Standard True Value		C108415
08415-4	Lab Control Standard Result		C108415
08415-5	Lab Control Standard % Recovery		C108415
08415-6	LCS Accuracy Control Limit (%R)		C108415

PARAMETER	08415-2	08415-3	08415-4	08415-5	08415-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4922	98 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	95 %	0.5000	0.4927	99 %	61-140
Surrogate - Toluene-d8	101 %	0.5000	0.5012	100 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4875	98 %	87-112
Dilution Factor	1	---	1	---	---
Analysis Date	08.21.01	---	08.21.01	---	---
Analysis Time	08:19	---	08:19	---	---
Batch ID	MAB174	MAB174	MAB174	MAB174	MAB174
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

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000006
000005 CJW 9-20-01

CH2MHILL DATA DELIVERABLE EVALUATION

Project

Laboratory STL Pensacola

CTO GZ *Number* 163151

Manager Cettman, Philip

Scientist Lisa Solman

Date Due 8/30

Date Received 8/28

Evaluation

- CCI Level (circle one) **A** **B** **C**
- Electronic Data Deliverables (circle one) **yes** **no**
- Review Level **E** = Evaluation **V** = Validation E
- Sample Delivery Group Number C1C8414, C1C8415

Archiving

- SDG Measurement (in inches) 210 pg.
  - Scanning Cost = inches x 0.10 $21
  - Additional Cost $15
  - Out-sourced **Y** or **N**

    Vendor Acton Blueprint
- Date of Archive

Comments

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 109718
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Sept. 28, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0927-01-16	109718-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Oct. 8, 2001

CCI NAVY RAC PM

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-09718
Received: 28 SEP 01
Reported: 09 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 17211109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09718-1	062-SVE-E-A-0927-01-16	09-27-01/10:35

PARAMETER	09718-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09718-1	062-SVE-E-A-0927-01-16	09-27-01/10:35

PARAMETER	09718-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	120 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	95 %

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LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09718-1	062-SVE-E-A-0927-01-16	09-27-01/10:35

PARAMETER	09718-1
Dilution Factor	1
Prep Date	10.07.01
Prep Time	20:20
Analysis Date	10.07.01
Analysis Time	20:33
Batch ID	MAB209
Prep Method	MOD-TO14
Analyst	BDH

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
09718-2	Method Blank	
09718-3	Lab Control Standard True Value	
09718-4	Lab Control Standard Result	
09718-5	Lab Control Standard % Recovery	
09718-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09718-2	09718-3	09718-4	09718-5	09718-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.500	0.487	97 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.500	0.495	99 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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09718-2	Method Blank	
09718-3	Lab Control Standard True Value	
09718-4	Lab Control Standard Result	
09718-5	Lab Control Standard % Recovery	
09718-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09718-2	09718-3	09718-4	09718-5	09718-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.500	0.437	87 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.500	0.499	100 %	86-113

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09718-2	Method Blank	
09718-3	Lab Control Standard True Value	
09718-4	Lab Control Standard Result	
09718-5	Lab Control Standard % Recovery	
09718-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09718-2	09718-3	09718-4	09718-5	09718-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.500	0.480	96 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	115 %	0.500	0.556	111 %	61-140
Surrogate - Toluene-d8	105 %	0.500	0.517	103 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.500	0.477	95 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	10.07.01	---	10.07.01	---	---
Prep Time	12:38	---	13:15	---	---
Analysis Date	10.07.01	---	10.07.01	---	---
Analysis Time	12:51	---	13:28	---	---
Batch ID	MAB209	MAB209	MAB209	MAB209	MAB209
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

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09718-3	Lab Control Standard True Value	
09718-4	Lab Control Standard Result	
09718-5	Lab Control Standard % Recovery	
09718-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09718-2	09718-3	09718-4	09718-5	09718-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes

Rick Hayes, Project Manager

Final Page Of Report

008

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C109718 Date Received: 9/28/01

1. Was there a Chain of Custody? (Yes) No+
2. Was Chain of Custody properly filled out and relinquished? (Yes) No+
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No+ (N/A)
4. Were all samples properly labeled and identified? (Yes) No+
5. Did samples require splitting or compositing♦? Yes+ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No+
7. Were all sample containers received intact? (Yes) No+
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No+ (N/A)
9. Is there sufficient volume for analysis requested? Yes No+ (N/A) *(Can)*
10. Were samples received within Holding Time? (Refer to STL-SOP 1040) (Yes) No+
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes+ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No+ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No+ (N/A)

Airbill Number(s): 7901 7057 8730
7901 7057 8730.

Shipped By: FedEx

Cooler Number(s): Box CAN# 273 248, 278 250
249 245 082 068

Shipping Charges: N/A

Cooler Weight(s): 30#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

multiple project shipment

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 9/28/01 Logged By: [illegible] Date: 9/28/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C109718

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-011

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0927-01-16	SVE Effluent	AIR	09/27/01	10:35	III/C	14 Day	1									082	Grab	Summa Canister	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY (please print)	COURIER AND SHIPPING NUMBER	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK # 7924 5055 5418	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	9/27/01	18:00	Federal Express	9/27/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	9/28/01	0907
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

C10977 18

PLEASE FOLD THIS SHIPPING DOCUMENT IN HALF AND PLACE IT IN A WAYBILL POUCH AFFIXED TO YOUR SHIPMENT SO THAT THE BAR-CODE PORTION OF THE LABEL CAN BE READ AND SCANNED. ***WARNING: USE ONLY THE PRINTED ORIGINAL LABEL FOR SHIPPING. USING A PHOTOCOPY OF THIS LABEL FOR SHIPPING PURPOSES IS FRAUDULENT AND COULD RESULT IN ADDITIONAL BILLING CHARGES, ALONG WITH THE CANCELLATION OF YOUR FEDEX ACCOUNT NUMBER.

FROM: Randy Dumaop (904)777-4812
J.A. Jones Environmental Servic
6219 Authority Ave.

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

TO: Rick Hayes (850)474-1001
Severn Trent Labs
3355 McLemore Dr

Pensacola, FL 32514-7045

SHIP DATE: 27SEP01
MAN-WGT: 30 LBS

REF: 164548/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 **PRIORITY OVERNIGHT**

FRI
AA

TRK # **7924 5055 5418** FORM 0201

Deliver By:
BFM 28SEP01

32514-FL-US
DROP OFF

XB PNSA

011

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: PE
Labeled by: MLS
Delivered by: MLS

CH2M-CONST-GA C109718
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MLS	9/28/01	1750
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

2A
AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 109718 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1009A.D Date Analyzed : 7 Oct 2001
Instrument ID : GC/MS Ins Time Analyzed : 11:27
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
97181	062SVEEA0927011	120	103	95	0	0	0	0
MA209ABK	VBLKMA/ DAILY M	115	105	99	0	0	0	0
MA209LCS	LCS/BATCH #209	111	103	95	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Oct 08 10:56:36 2001
Response via : Multiple Level Calibration

		Compound Name	Conc(ng)	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	218.49	250.00	87.40	58 to 138%	[ ]
27)	M	Benzene	243.42	250.00	97.37	87 to 116%	[ ]
28)	M	Trichloroethene	240.17	250.00	96.07	85 to 116%	[ ]
33)	MC	Toluene	249.58	250.00	99.83	86 to 113%	[ ]
39)	MP	Chlorobenzene	247.42	250.00	98.97	88 to 111%	[ ]

GENERIC LCS FORM

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	109718					
Batch	MAB209	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		243.42	0.5000	0.4868	97%	87-116%
Chlorobenzene		247.42	0.5000	0.4948	99%	88-111%
1,1-Dichloroethene		218.49	0.5000	0.4370	87%	58-138%
Toluene		249.58	0.5000	0.4992	100%	86-113%
Trichloroethene		240.17	0.5000	0.4803	96%	85-116%
1,2-Dichloroethane-d4		277.9	0.5000	0.5558	111%	61-140%
Toluene-d8		258.54	0.5000	0.5171	103%	90-109%
4-Bromofluorobenzene		238.63	0.5000	0.4773	95%	87-112%

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109718

Lab File ID: MA209ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 10/7/01 Time Analyzed: 12:51

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS	LCS/BATCH #209 LCS 5	MA209LCS.D	13:28
02	SVEEA	062SVEEA09270116\971	97181.D	20:33

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109718

Lab File ID: MA127ABK.D BFB Injection Date: 6/19/01

Instrument ID: MARILYN BFB Injection Time: 8:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109718

Lab File ID: BFM1007A.D BFB Injection Date: 10/7/01

Instrument ID: MARILYN BFB Injection Time: 11:07

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	28.5
75	30.0 - 66.0% of mass 95	56.1
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	0.6 (0.9)1
174	50.0 - 120.0% of mass 95	62.7
175	4.0 - 9.0% of mass 174	4.4 (7.0)1
176	93.0 - 101.0% of mass 174	60.8 (97.1)1
177	5.0 - 9.0% of mass 176	3.7 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM1009A.D	10/7/01	11:27
02	VBLKMA	VBLKMA/ DAILY METHO	MA209ABK.D	10/7/01	12:51
03	LCS	LCS/BATCH #209 LCS 5	MA209LCS.D	10/7/01	13:28
04	SVEEA	062SVEEA09270116\971	97181.D	10/7/01	20:33

Response Factor Report

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BH 6/19

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------		
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#\
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#\
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#\
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------		
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#\
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#\
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------		
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

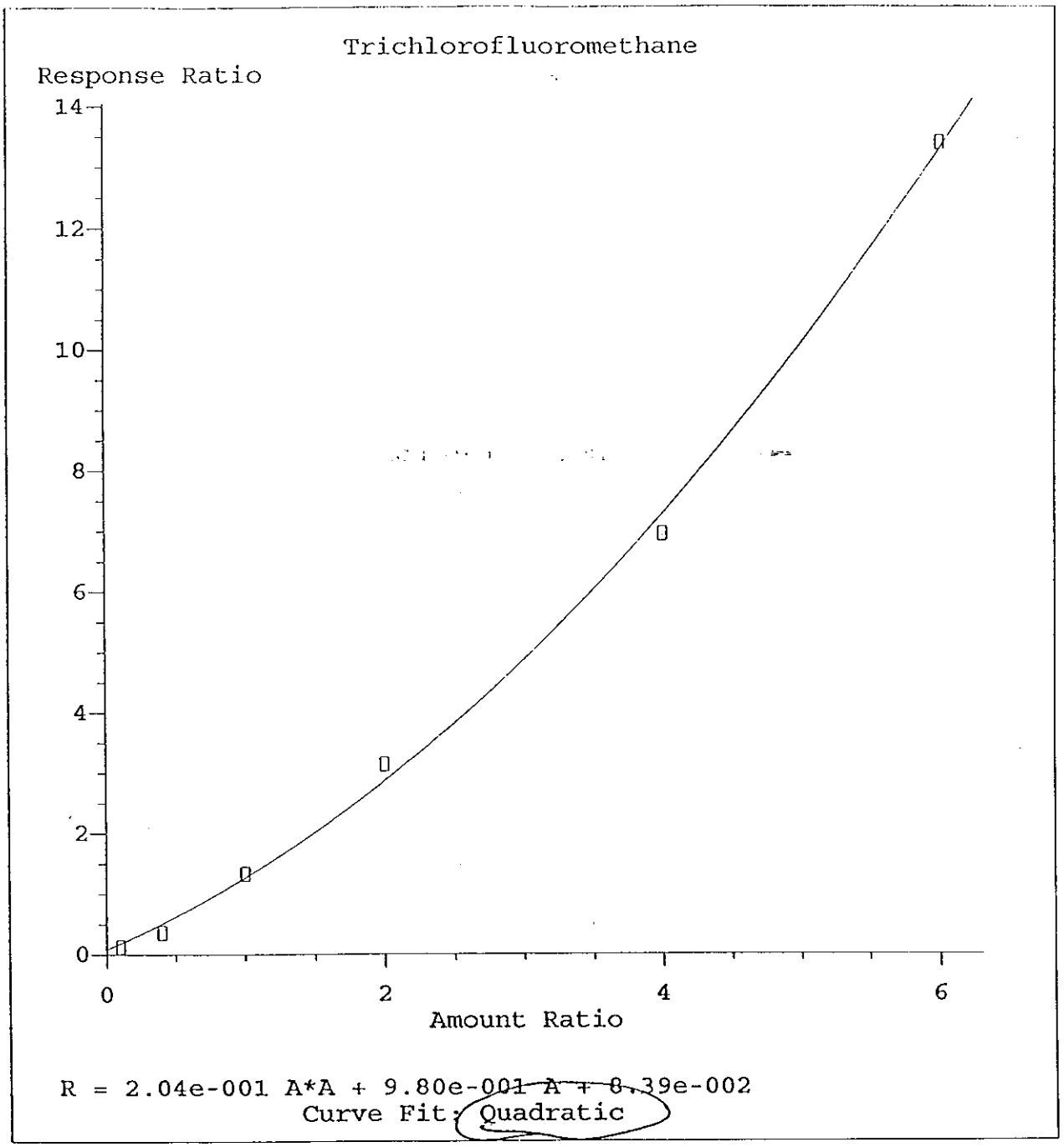
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RS
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.99	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

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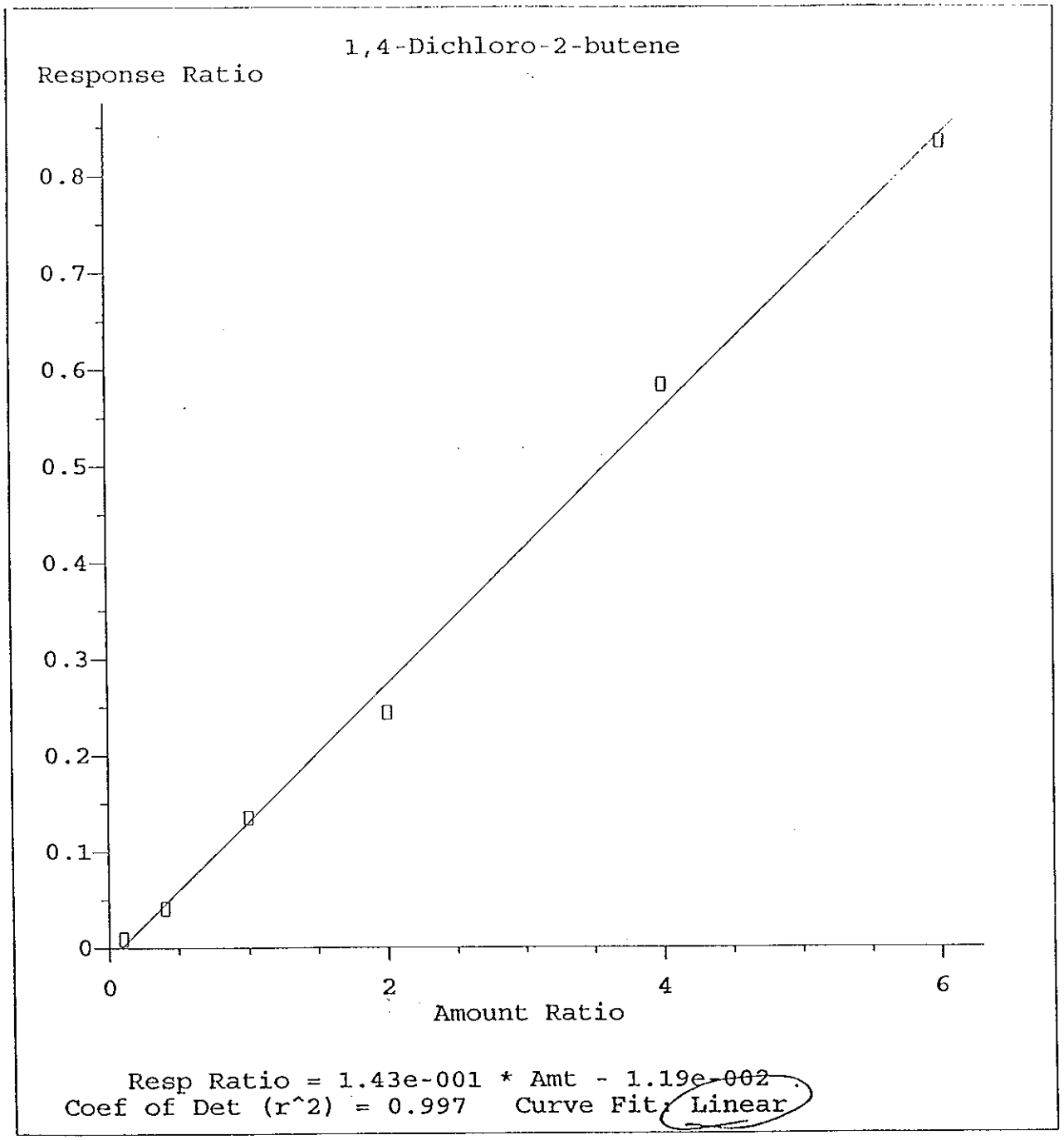
BH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

JH 6/19

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D
Acq On : 7 Oct 2001 11:27
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

passes BH 10/7/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	128	0.00
2		Dichlorodifluoromethane	5.221	4.064	22.2#	96	0.00
3		Dichlorotetrafluoroethane	1.746	1.667	4.5#	115	0.00
4	P	Chloromethane	1.056	1.176	-11.4#	149	0.00
5	C	Vinyl chloride	0.990	1.059	-7.0#	129	0.00
6		Bromomethane	1.432	1.425	0.5	125	0.00
7		Chloroethane	0.635	0.637	-0.3	126	0.00
8		Trichlorofluoromethane	1.509	1.999	-32.5#	192#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.946	0.7	121	0.00
10	MC	1,1-Dichloroethene	1.112	1.123	-1.0#	127	0.00
11		Iodomethane	0.000	0.000	0.0	1895#	0.00
12		Methylene chloride	1.996	2.096	-5.0#	130	0.00
13		Carbon disulfide	3.278	3.528	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	1.416	1.695	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	1.191	1.270	-6.6#	133	0.00
16		n-Hexane	1.373	1.396	-1.7	123	0.00
17	P	1,1-Dichloroethane	2.420	2.596	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	2.017	2.153	-6.7#	130	0.00
19	C	Chloroform	2.996	3.204	-6.9#	130	0.00
20		Isooctane	4.704	4.160	11.6#	106	0.00
21		1,1,1-Trichloroethane	2.533	2.854	-12.7#	138	0.00
22		Carbon tetrachloride	2.682	2.915	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.800	-14.9#	146	0.00
24		1,2-Dichloroethane	1.735	1.989	-14.6#	139	0.00
25		1,2-Dibromoethane	2.008	2.153	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	132	0.00
27	M	Benzene	0.782	0.784	-0.3	126	0.00
28	M	Trichloroethene	0.392	0.380	3.1#	121	0.00
29	C	1,2-Dichloropropane	0.356	0.349	2.0#	122	0.00
30		Bromodichloromethane	0.847	0.878	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	0.511	0.512	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	0.808	0.831	-2.8#	135	0.00
33	MC	Toluene	0.475	0.474	0.2#	125	0.00
34		trans-1,3-Dichloropropene	0.411	0.434	-5.6#	130	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	136	0.00
37		Tetrachloroethene	0.495	0.455	8.1#	120	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	124	0.00
39	MP	Chlorobenzene	0.897	0.870	3.0#	125	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.351	4.6#	123	0.00
41		m,p-Xylene	0.467	0.445	4.7#	124	0.00
42		o-Xylene	0.454	0.434	4.4#	123	0.00
43		Styrene	0.747	0.676	9.5#	117	0.00
44	P	Bromoform	0.624	0.576	7.7#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.620	-1.6	128	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.991	0.3	136	0.00
47		1,4-Dichloro-2-butene	0.123	0.111	9.8#	111	0.00
48		4-Ethyltoluene	1.262	1.138	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	0.993	0.911	8.3#	122	0.00
50		2-Chlorotoluene	1.329	1.392	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	1.043	0.993	4.8#	123	0.00
52		1,3-Dichlorobenzene	0.788	0.762	3.3#	125	0.00
53		1,4-Dichlorobenzene	0.826	0.795	3.8#	124	0.00
54		1,2-Dichlorobenzene	0.719	0.720	-0.1	127	0.00
55		1,2,4-Trichlorobenzene	0.545	0.519	4.8#	123	0.00
56		Napthalene	0.625	0.701	-12.2#	139	0.00
57		Hexachlorobutadiene	0.481	0.438	8.9#	117	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	128	0.00
2		Dichlorodifluoromethane	250.000	194.617	22.2#	96	0.00
3		Dichlorotetrafluoroethane	250.000	238.622	4.6#	115	0.00
4	P	Chloromethane	250.000	278.352	-11.3#	149	0.00
5	C	Vinyl chloride	250.000	267.370	-6.9#	129	0.00
6		Bromomethane	250.000	248.907	0.4	125	0.00
7		Chloroethane	250.000	250.821	-0.3	126	0.00
8		Trichlorofluoromethane	250.000	375.643	-50.3#	192	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	248.140	0.7	121	0.00
10	MC	1,1-Dichloroethene	250.000	252.543	-1.0#	127	0.00
11		Iodomethane	-1.000	0.000	0.0	1895	0.00
12		Methylene chloride	250.000	262.587	-5.0#	130	0.00
13		Carbon disulfide	250.000	269.037	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	250.000	299.296	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	250.000	266.622	-6.6#	133	0.00
16		n-Hexane	250.000	254.174	-1.7	123	0.00
17	P	1,1-Dichloroethane	250.000	268.155	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	250.000	266.977	-6.8#	130	0.00
19	C	Chloroform	250.000	267.324	-6.9#	130	0.00
20		Isooctane	250.000	221.059	11.6#	106	0.00
21		1,1,1-Trichloroethane	250.000	281.677	-12.7#	138	0.00
22		Carbon tetrachloride	250.000	271.649	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	287.158	-14.9#	146	0.00
24		1,2-Dichloroethane	250.000	286.723	-14.7#	139	0.00
25		1,2-Dibromoethane	250.000	268.038	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	132	0.00
27	M	Benzene	250.000	250.713	-0.3	126	0.00
28	M	Trichloroethene	250.000	242.253	3.1#	121	0.00
29	C	1,2-Dichloropropane	250.000	245.360	1.9#	122	0.00
30		Bromodichloromethane	250.000	259.345	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	250.000	250.610	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	250.000	257.007	-2.8#	135	0.00
33	MC	Toluene	250.000	249.400	0.2#	125	0.00
34		trans-1,3-Dichloropropene	250.000	263.712	-5.5#	130	0.00
35		1,1,2-Trichloroethane	250.000	254.365	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	136	0.00
37		Tetrachloroethene	250.000	229.658	8.1#	120	0.00
38		Dibromochloromethane	250.000	242.367	3.1#	124	0.00
39	MP	Chlorobenzene	250.000	242.442	3.0#	125	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	237.906	4.8#	123	0.00
41		m,p-Xylene	500.000	476.187	4.8#	124	0.00
42		o-Xylene	250.000	238.860	4.5#	123	0.00
43		Styrene	250.000	226.520	9.4#	117	0.00
44	P	Bromoform	250.000	230.991	7.6#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	254.366	-1.7	128	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	249.206	0.3	136	0.00
47		1,4-Dichloro-2-butene	250.000	216.829	13.3#	111	0.00
48		4-Ethyltoluene	250.000	225.420	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	250.000	229.348	8.3#	122	0.00
50		2-Chlorotoluene	250.000	261.846	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	250.000	238.181	4.7#	123	0.00
52		1,3-Dichlorobenzene	250.000	241.589	3.4#	125	0.00
53		1,4-Dichlorobenzene	250.000	240.683	3.7#	124	0.00
54		1,2-Dichlorobenzene	250.000	250.424	-0.2	127	0.00
55		1,2,4-Trichlorobenzene	250.000	238.114	4.8#	123	0.00
56		Napthalene	250.000	280.245	-12.1#	139	0.00
57		Hexachlorobutadiene	250.000	227.518	9.0#	117	0.00

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109718

Lab File ID (Standard): CM1009A.D Date Analyzed: 10/7/01

Instrument ID: MARILYN Time Analyzed: 11:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	404145	11.30	1693931	13.23	1327951	20.52
	UPPER LIMIT	808290	11.80	3387862	13.73	2655902	21.02
	LOWER LIMIT	202073	10.80	846966	12.73	663976	20.02
	EPA SAMPLE NO.						
01	VBLKMA	294258	11.38	1134732	13.32	894959	20.63
02	LCS	422646	11.41	1729116	13.33	1315459	20.65
03	SVEEA	374404	11.39	1561008	13.32	1162480	20.61

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Sequence Name: [illegible]
Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M0619A\
Pre-Seq Cmd:
Post-Seq Cmd:

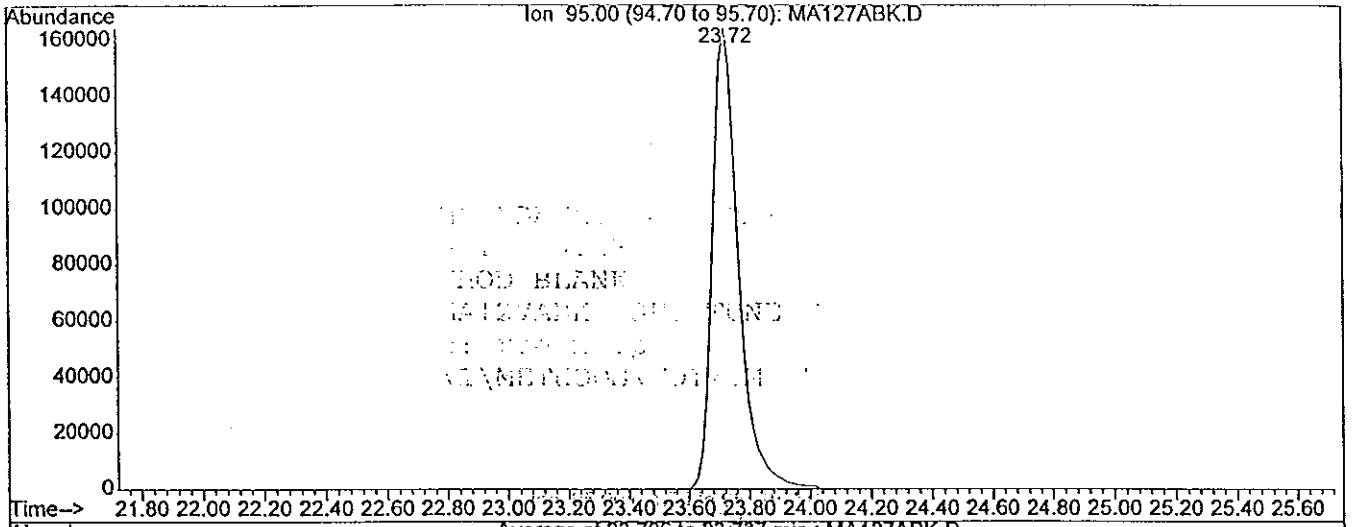
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

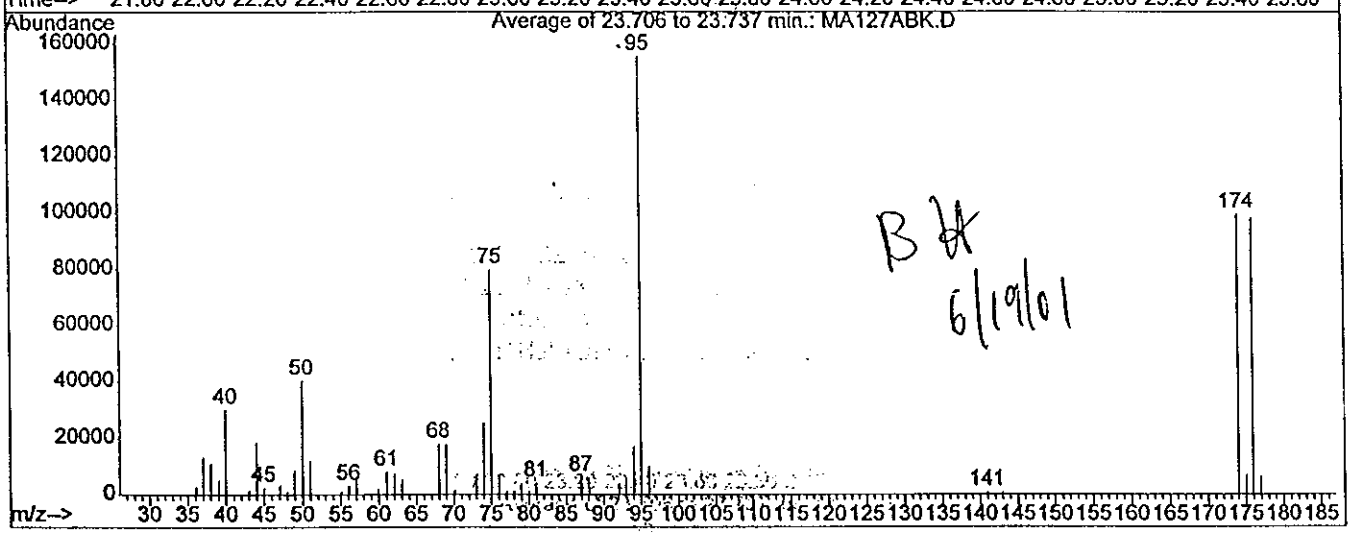
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	MA127ABK	TO14S	DAILY METHOD BLANK
2	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
3	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
4	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
5	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
6	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
7	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
8	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	16	MA125LCS	TO14S	BATCH #127 LCS 50ppb/250ng
10	Sample	1	62401	TO14S	6240-1 ST. 500mls
11	Sample	1	62402	TO14S	6240-2 ST. 500mls
12	Sample	9	61564	TO14S	6156-4 X20 25mls
13	Sample	10	61565	TO14S	6156-5 X10 50mls
14	Sample	11	63641	TO14S	6364-1 X1000 0.5ml
15	Sample	12	64421	TO14S	6442-1 X20 25mls
16	Sample	13	BLKTUBE	BFBSTL	

BFB

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ir
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14.M (RTE Integrator)
Title : TO14





BH
6/19/01

Spectrum Information: Average of 23.706 to 23.737 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	40411	PASS
75	95	30	60	51.4	79813	PASS
95	95	100	100	100.0	155392	PASS
96	95	5	9	6.6	10199	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.8	99165	PASS
175	174	5	9	7.1	7032	PASS
176	174	95	101	98.7	97853	PASS
177	176	5	9	6.6	6444	PASS

MA127ABK.D TO14.M Tue Jun 19 09:17:02 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

SH 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	319396	250.00 ng	-0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.26	114	1356824	250.00 ng	-0.01 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1016057	250.00 ng	0.00 NA%

System Monitoring Compounds

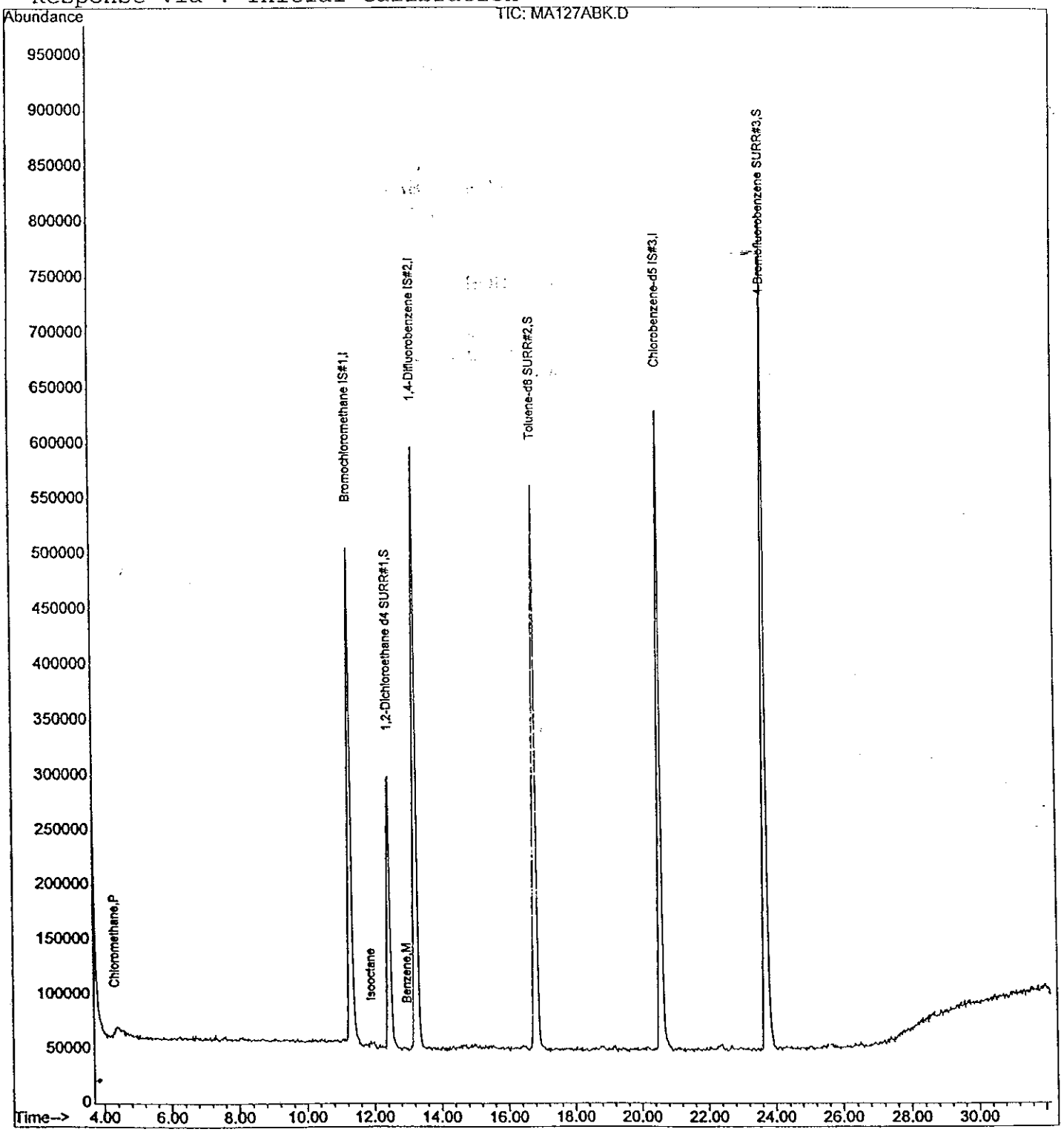
23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80 ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.12%		
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%		
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%		

Target Compounds Qvalue

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

Data File : D:\HPCHEM\1\DATA01\M0619A\MA127ABK.D Vial: 15
Acq On : 19 Jun 2001 8:27 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK BFB TUNE CHECK ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 14:01 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

BH 6/19

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	5.416	5.407	5.587	5.253	4.349	5.314	5.221	8.47
3)		Dichlorotetrafluoro	1.681	1.861	1.868	1.799	1.470	1.798	1.746	8.64
4)	P	Chloromethane	1.337	1.012	1.063	1.032	0.844	1.049	1.056	15.06
5)	C	Vinyl chloride	0.953	1.052	1.022	1.012	0.857	1.043	0.990	7.45#\
6)		Bromomethane	1.490	1.459	1.516	1.470	1.178	1.477	1.432	8.79
7)		Chloroethane	0.573	0.649	0.711	0.680	0.527	0.672	0.635	11.11
8)		Trichlorofluorometh	1.276	1.334	2.233	1.736	0.908	1.568	-----	
							Q	A= 0.204	R^2=0.998	
								B= 0.980		
								C= 0.084		
9)		1,1,2-Trichlorotrif	1.874	2.055	2.101	2.047	1.634	2.049	1.960	9.07
10)	MC	1,1-Dichloroethene	1.052	1.138	1.202	1.177	0.949	1.152	1.112	8.52#\
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.035	2.071	2.058	2.067	1.715	2.030	1.996	6.95
13)		Carbon disulfide	3.215	3.408	3.428	3.435	2.777	3.407	3.278	7.90
14)		methyl-Tert-Butyl E	1.504	1.488	1.404	1.520	1.247	1.335	1.416	7.67
15)		trans-1,2-Dichloroe	1.187	1.229	1.250	1.241	1.002	1.238	1.191	7.99
16)		n-Hexane	1.615	1.457	1.337	1.331	1.153	1.346	1.373	11.18
17)	P	1,1-Dichloroethane	2.387	2.560	2.535	2.432	2.075	2.530	2.420	7.51
18)		cis-1,2-Dichloroeth	1.927	2.116	2.119	2.106	1.723	2.108	2.017	8.03
19)	C	Chloroform	2.960	3.152	3.103	3.093	2.552	3.119	2.996	7.58#\
20)		Isooctane	5.815	5.016	4.515	4.505	3.930	4.446	4.704	13.69
21)		1,1,1-Trichloroetha	2.514	2.659	2.601	2.593	2.187	2.645	2.533	6.98
22)		Carbon tetrachlorid	2.640	2.801	2.780	2.772	2.292	2.810	2.682	7.49
23)	S	1,2-Dichloroethane	1.604	1.578	1.523	1.549	1.614	1.533	1.567	2.42
24)		1,2-Dichloroethane	1.746	1.835	1.779	1.811	1.499	1.737	1.735	6.99
25)		1,2-Dibromoethane	1.881	2.155	2.087	2.174	1.738	2.013	2.008	8.46
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.814	0.823	0.791	0.795	0.692	0.778	0.782	6.02
28)	M	Trichloroethene	0.375	0.417	0.413	0.414	0.335	0.399	0.392	8.15
29)	C	1,2-Dichloropropane	0.352	0.378	0.367	0.371	0.307	0.358	0.356	7.21#\
30)		Bromodichloromethan	0.819	0.902	0.875	0.892	0.740	0.852	0.847	7.08
31)		cis-1,3-Dichloropro	0.478	0.541	0.541	0.545	0.445	0.513	0.511	8.00
32)	S	Toluene-d8 SURR#2	0.806	0.815	0.795	0.808	0.812	0.812	0.808	0.86
33)	MC	Toluene	0.466	0.502	0.496	0.497	0.407	0.482	0.475	7.55#\
34)		trans-1,3-Dichlorop	0.363	0.442	0.441	0.452	0.359	0.409	0.411	10.06
35)		1,1,2-Trichloroetha	0.288	0.319	0.306	0.318	0.261	0.290	0.297	7.33
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.485	0.519	0.519	0.515	0.424	0.508	0.495	7.44
38)		Dibromochloromethan	0.648	0.744	0.733	0.753	0.609	0.690	0.696	8.36

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

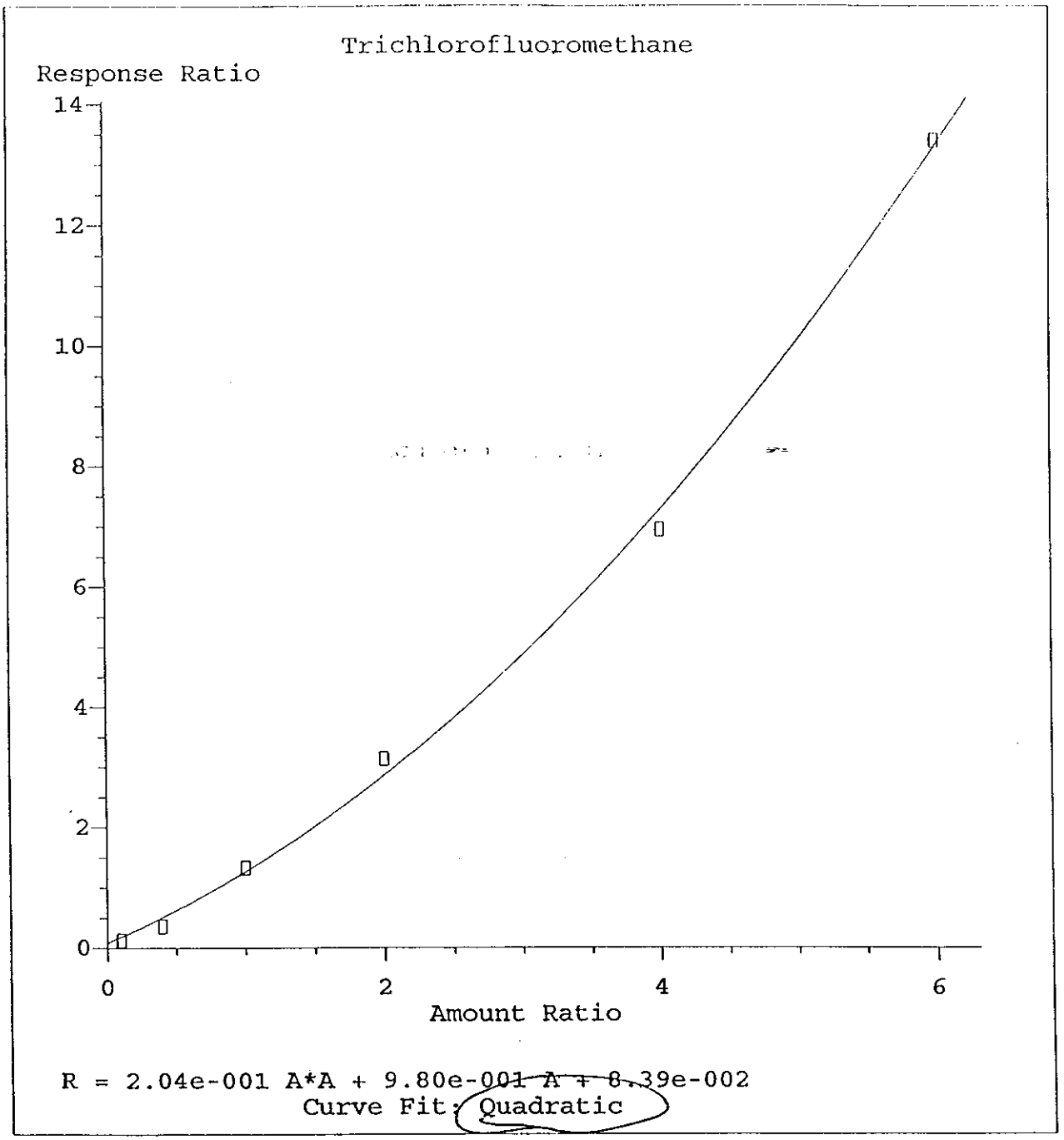
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 13:50:55 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

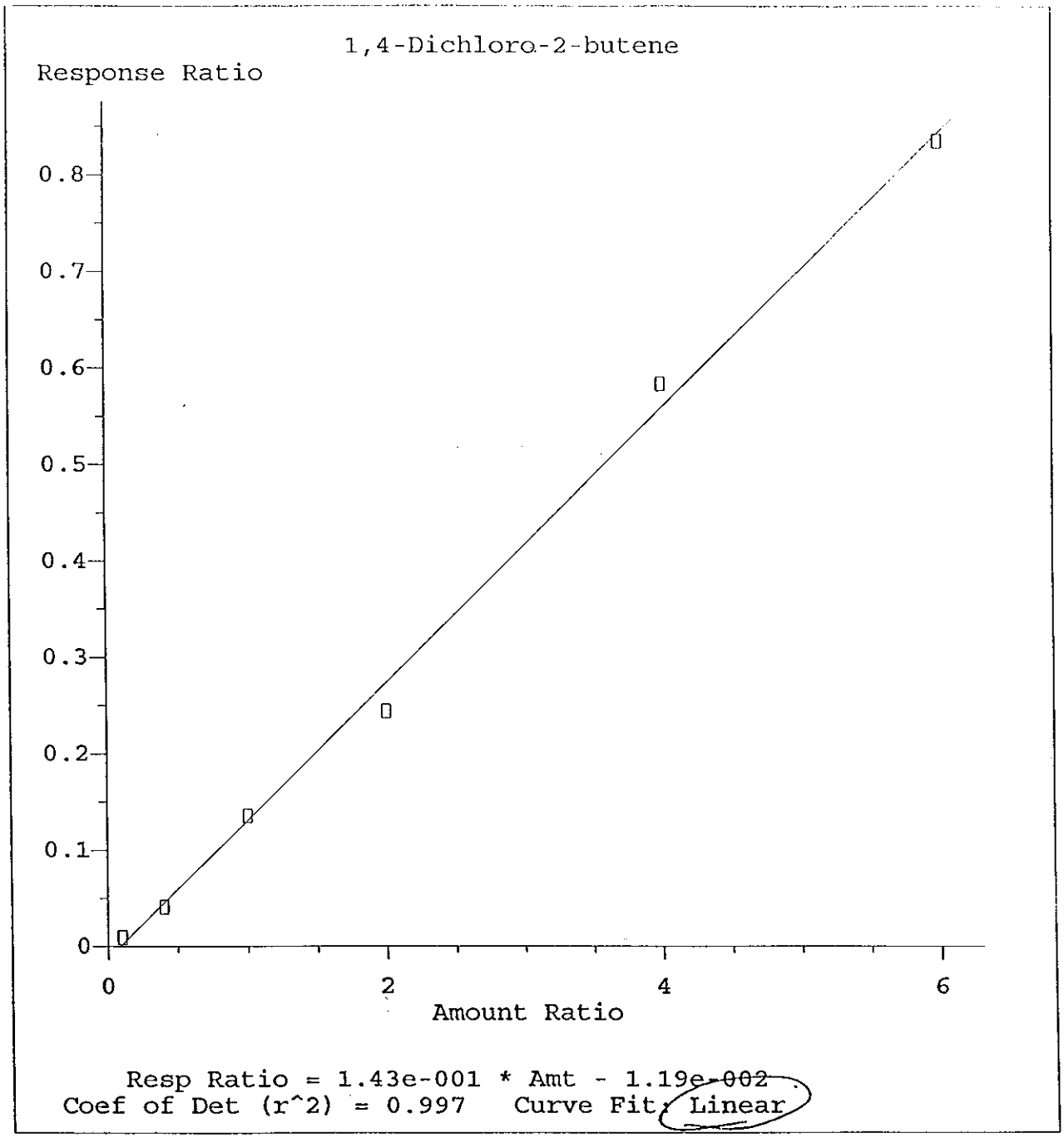
		Compound	25	250	1500	1000	100	500	Avg	%RS
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.99	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:48:10 2001

.998
BH 6/19



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue Jun 19 13:50:14 2001

JH 6/19

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng		0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.62%							
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.76%							
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.04%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng		98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng	#	16
4) Chloromethane	4.19	50	42696	34.20	ng	#	86
5) Vinyl chloride	4.42	62	30452	26.33	ng	#	83
6) Bromomethane	5.24	94	47587	27.70	ng	#	86
7) Chloroethane	5.38	64	18304	23.46	ng	#	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng		96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng		92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng		84
12) Methylene chloride	7.99	49	64996	25.56	ng	#	76
13) Carbon disulfide	8.13	76	102700	25.44	ng		96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng	#	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng		90
16) n-Hexane	8.67	57	51599	29.87	ng	#	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng	#	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng		93
19) Chloroform	10.99	83	94547	25.46	ng	#	92
20) Isooctane	11.95	57	185751	26.14	ng		87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng	#	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng		96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng	#	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng		99
27) Benzene	12.77	78	107643	27.06	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.37	146	72784m	22.75 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

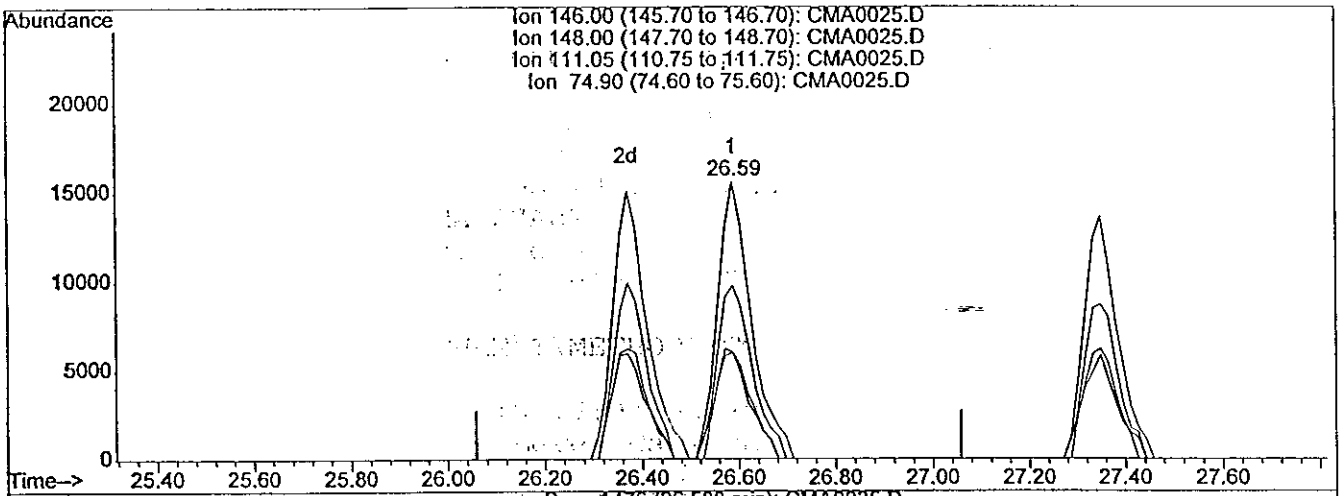
(#) = qualifier out of range (m) = manual integration

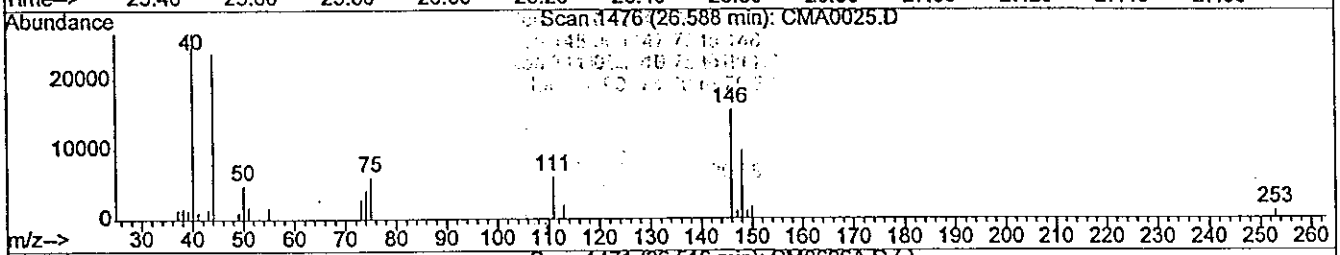
Quantitation Report (RTE)

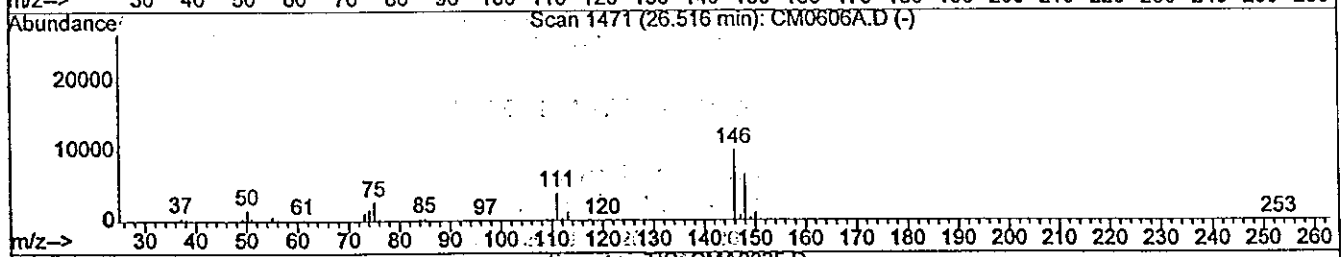
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

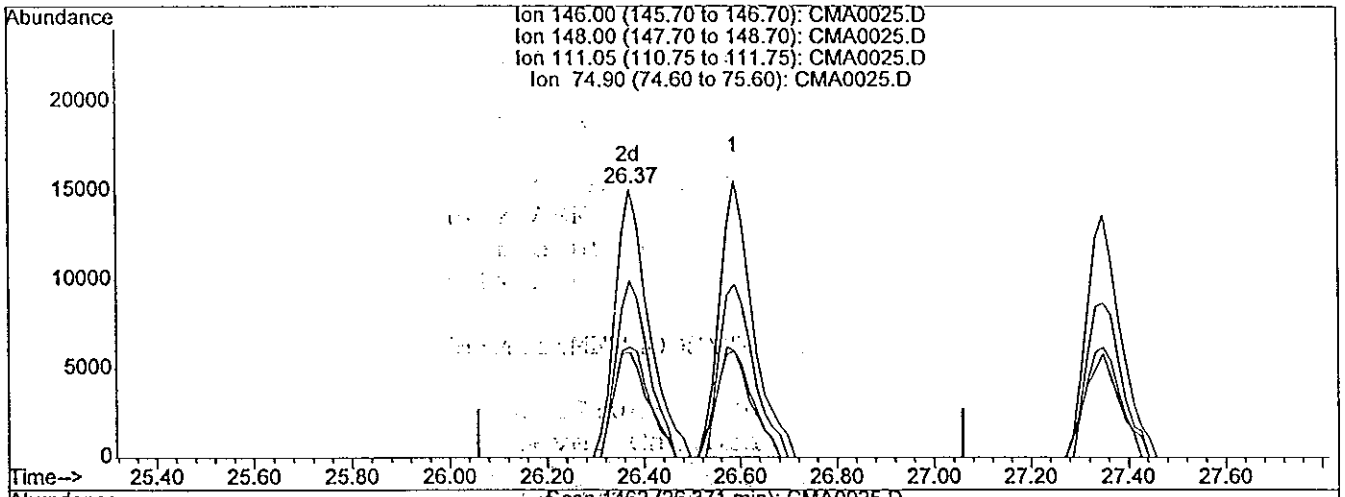
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

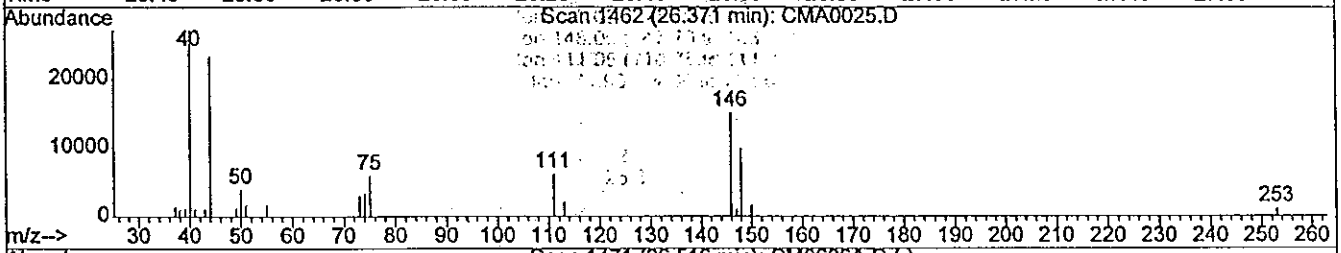
before (wrong peak)

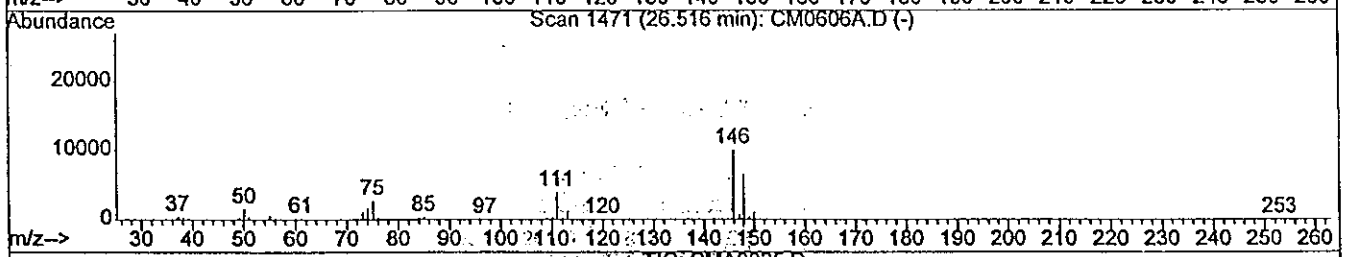
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS In
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	68.35
111.05	44.40	41.63
74.90	35.60	42.39

after BDH 6/19

CMA0025.D TO14S.M Tue Jun 19 10:14:25 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration Original
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	319423	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.30	114	1323117	250.00	ng	0.06 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	992251	250.00	ng	0.04 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	512353	256.54	ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	=	102.62%	
32) Toluene-d8 SURR#2	16.84	98	1066531	249.40	ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	=	99.76%	
46) 4-Bromofluorobenzene SURR#	23.73	95	954541	240.09	ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	=	96.04%	

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	172996	29.85	ng		98
3) Dichlorotetrafluoroethane	3.92	135	53689	21.00	ng	#	16
4) Chloromethane	4.19	50	42696	34.20	ng	#	86
5) Vinyl chloride	4.42	62	30452	26.33	ng	#	83
6) Bromomethane	5.24	94	47587	27.70	ng	#	86
7) Chloroethane	5.38	64	18304	23.46	ng	#	77
8) Trichlorofluoromethane	5.88	101	40773	21.22	ng		96
9) 1,1,2-Trichlorotrifluoroet	6.70	151	59857	24.21	ng		92
10) 1,1-Dichloroethene	7.07	96	33599	24.22	ng		84
12) Methylene chloride	7.99	49	64996	25.56	ng	#	76
13) Carbon disulfide	8.13	76	102700	25.44	ng		96
14) methyl-Tert-Butyl Ether	8.27	73	48046	25.33	ng	#	82
15) trans-1,2-Dichloroethene	8.58	96	37921	25.60	ng		90
16) n-Hexane	8.67	57	51599	29.87	ng	#	1
17) 1,1-Dichloroethane	9.42	63	76261	25.78	ng	#	96
18) cis-1,2-Dichloroethene	10.66	61	61542	24.56	ng		93
19) Chloroform	10.99	83	94547	25.46	ng	#	92
20) Isooctane	11.95	57	185751	26.14	ng		87
21) 1,1,1-Trichloroethane	11.84	97	80299	25.15	ng	#	87
22) Carbon tetrachloride	12.41	117	84338	24.92	ng		96
24) 1,2-Dichloroethane	12.69	62	55785	25.57	ng	#	89
25) 1,2-Dibromoethane	19.65	107	60096	23.45	ng		99
27) Benzene	12.77	78	107643	27.06	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

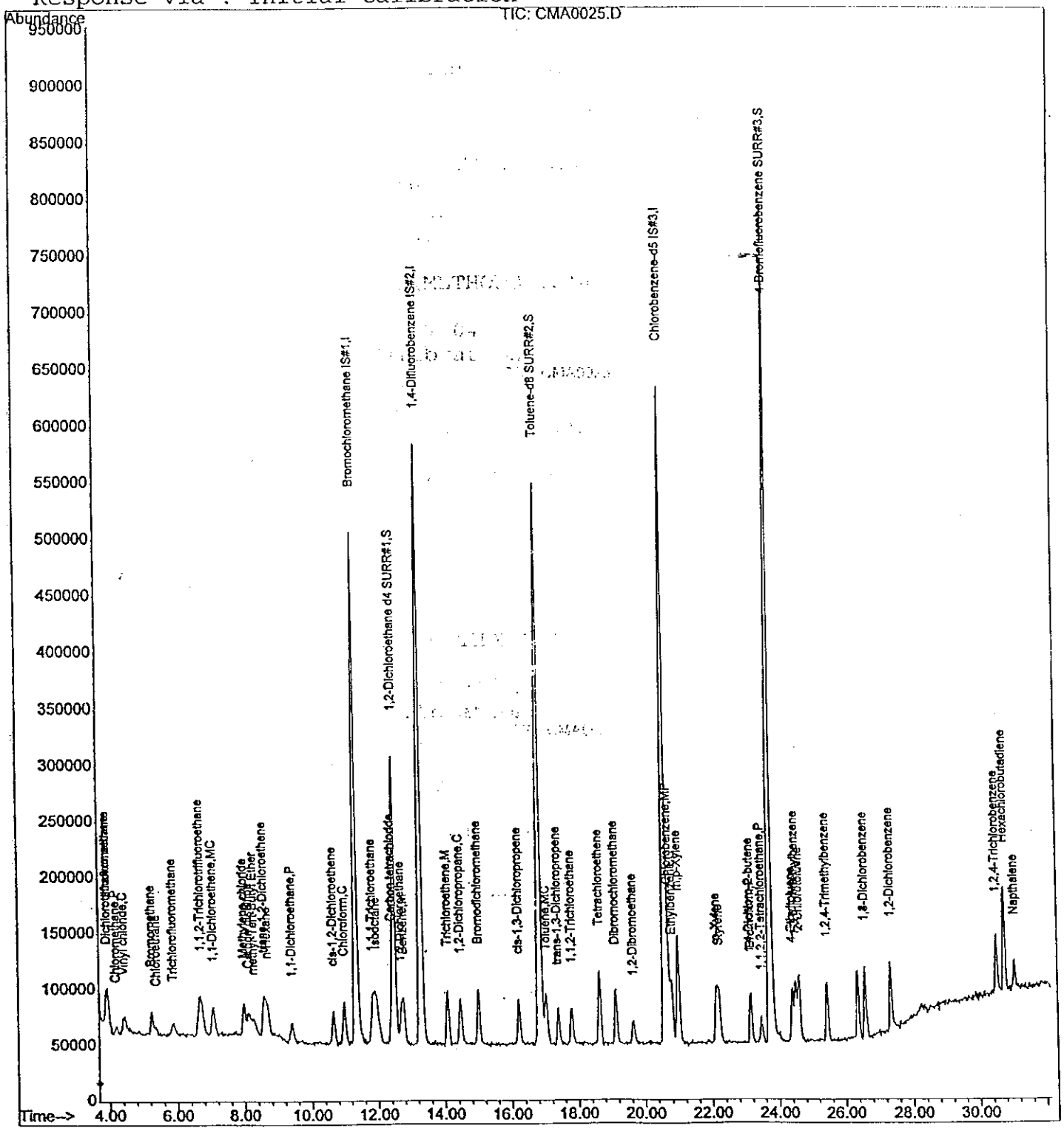
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97
34)	trans-1,3-Dichloropropene	17.38	75	48068	22.25 ng	#	53
35)	1,1,2-Trichloroethane	17.80	97	38056	24.86 ng		96
37)	Tetrachloroethene	18.64	164	48080	25.27 ng		97
38)	Dibromochloromethane	19.12	127	64312	24.06 ng	#	82
39)	Chlorobenzene	20.69	112	84338	24.55 ng	#	78
40)	Ethylbenzene	20.80	106	36113	25.70 ng		93
41)	m,p-Xylene	20.98	106	88100	49.14 ng		88
42)	o-Xylene	22.13	106	41825	23.86 ng		81
43)	Styrene	22.21	104	66590	23.11 ng	#	85
44)	Bromoform	23.16	173	55393	22.22 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.48	83	57927	22.19 ng	#	92
47)	1,4-Dichloro-2-butene	23.13	75	9398	18.73 ng	#	73
48)	4-Ethyltoluene	24.40	105	110190	22.70 ng		99
49)	1,3,5-Trimethylbenzene	24.49	105	95785	25.07 ng		97
50)	2-Chlorotoluene	24.60	91	132158	25.88 ng		93
51)	1,2,4-Trimethylbenzene	25.44	105	98380	24.27 ng		98
52)	1,3-Dichlorobenzene	26.59	146	75419	23.58 ng		96
53)	1,4-Dichlorobenzene	26.59	146	75419	23.58 ng		97
54)	1,2-Dichlorobenzene	27.35	146	65139	23.12 ng	#	96
55)	1,2,4-Trichlorobenzene	30.50	180	54243	26.11 ng	#	85
56)	Napthalene	31.06	128	58308	22.41 ng	#	86
57)	Hexachlorobutadiene	30.75	225	55920	34.47 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D Vial: 14
Acq On : 19 Jun 2001 9:04 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

BH 6/19 ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng	0.04 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	=	103.28%	
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	=	100.49%	
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	=	98.58%	

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng	#	96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: TO14S.RES

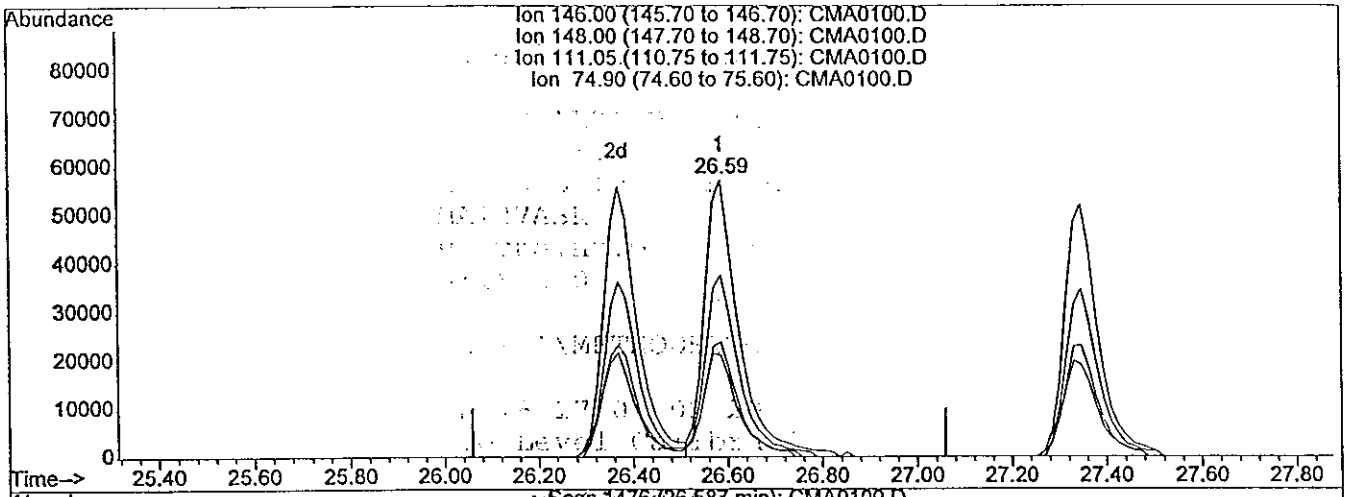
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

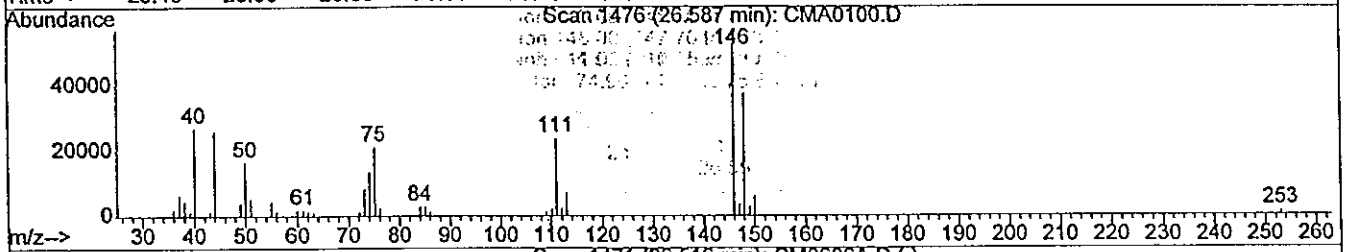
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.07	130	185396	88.32 ng		97
29) 1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30) Bromodichloromethane	15.00	83	409621	91.44 ng		97
31) cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33) Toluene	17.02	92	225119	88.39 ng		95
34) trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35) 1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37) Tetrachloroethene	18.64	164	177340	88.52 ng		97
38) Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39) Chlorobenzene	20.69	112	322025	89.02 ng		91
40) Ethylbenzene	20.78	106	130472	88.21 ng		85
41) m,p-Xylene	20.98	106	334220	177.08 ng		90
42) o-Xylene	22.13	106	159669	86.52 ng		86
43) Styrene	22.21	104	263946	87.01 ng		93
44) Bromoform	23.16	173	225855	86.05 ng		99
45) 1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47) 1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48) 4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49) 1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50) 2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51) 1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52) 1,3-Dichlorobenzene	26.37	146	276057m	81.98 ng		97
53) 1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54) 1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55) 1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56) Napthalene	31.06	128	220575	80.52 ng	#	90
57) Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

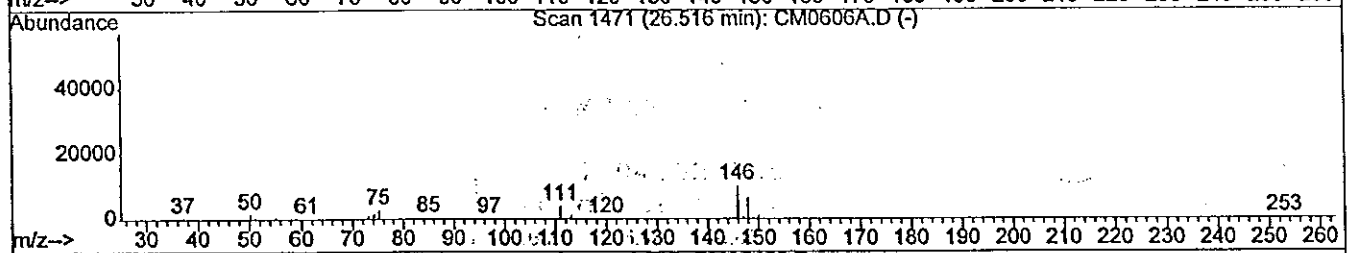
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ir
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







Scan 1476 TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

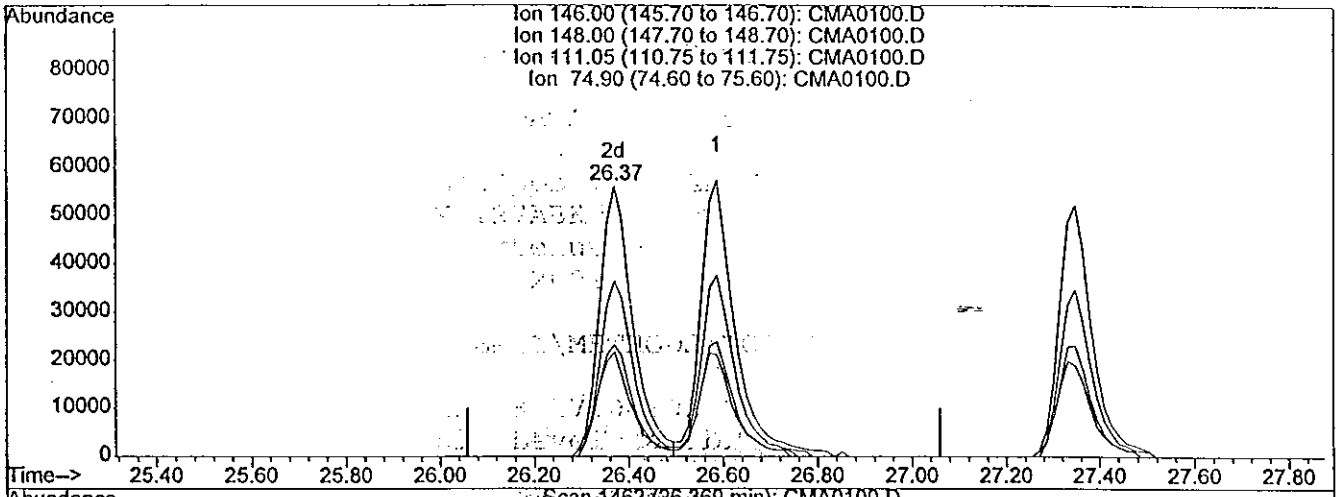
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

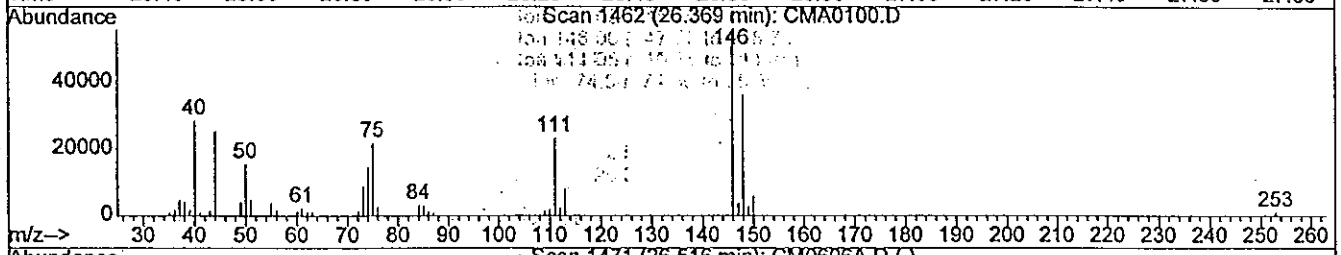
Defaul (wrong peak)

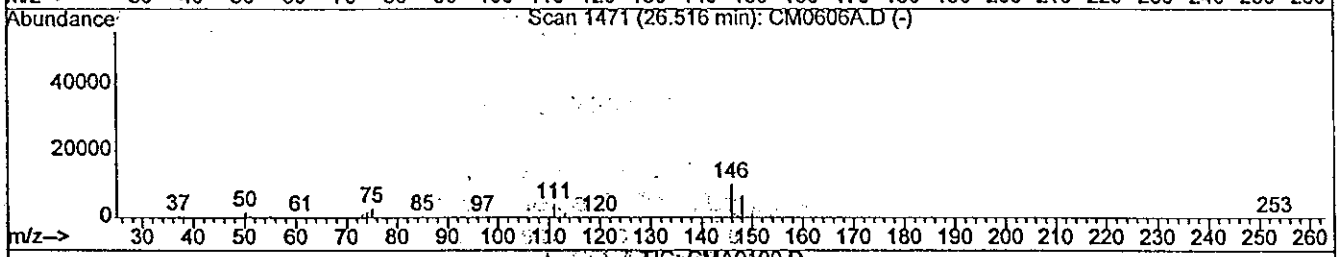
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:19 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	69.75
111.05	44.40	44.24
74.90	35.60	40.69

after
BA 6/19

CMA0100.D TO14S.M Tue Jun 19 10:19:02 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00 ng	0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00 ng	0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00 ng	0.04 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20 ng	0.06
Spiked Amount 250.000	Range	61 - 140	Recovery	= 103.28%	
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23 ng	0.04
Spiked Amount 250.000	Range	90 - 109	Recovery	= 100.49%	
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46 ng	0.04
Spiked Amount 250.000	Range	87 - 112	Recovery	= 98.58%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86 ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50 ng	#	18
4) Chloromethane	4.18	50	116261	86.35 ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66 ng	#	95
6) Bromomethane	5.24	94	162276	87.61 ng		96
7) Chloroethane	5.36	64	72541	86.21 ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36 ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45 ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40 ng		91
12) Methylene chloride	7.97	49	236234	86.14 ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90 ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01 ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45 ng		90
16) n-Hexane	8.65	57	158895	85.31 ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63 ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86 ng		93
19) Chloroform	10.98	83	351659	87.81 ng	#	96
20) Isooctane	11.93	57	541485	70.67 ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53 ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53 ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81 ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67 ng		99
27) Benzene	12.75	78	382786	92.03 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D
Acq On : 19 Jun 2001 9:42
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

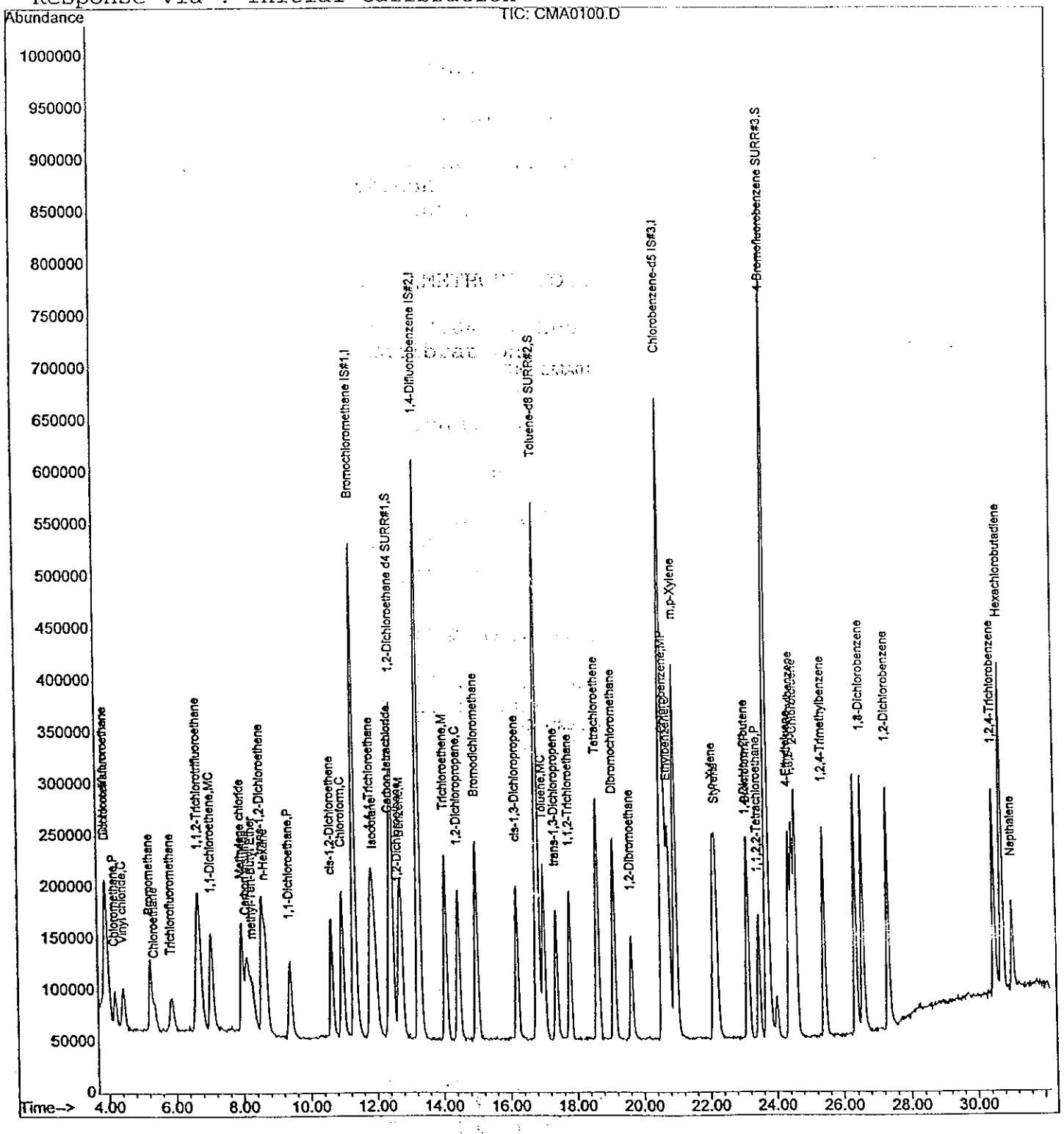
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.07	130	185396	88.32 ng		97
29) 1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30) Bromodichloromethane	15.00	83	409621	91.44 ng		97
31) cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33) Toluene	17.02	92	225119	88.39 ng		95
34) trans-1,3-Dichloropropene	17.38	75	198542	87.92 ng	#	72
35) 1,1,2-Trichloroethane	17.80	97	144691	90.40 ng		97
37) Tetrachloroethene	18.64	164	177340	88.52 ng		97
38) Dibromochloromethane	19.13	127	254303	90.38 ng	#	98
39) Chlorobenzene	20.69	112	322025	89.02 ng		91
40) Ethylbenzene	20.78	106	130472	88.21 ng		85
41) m,p-Xylene	20.98	106	334220	177.08 ng		90
42) o-Xylene	22.13	106	159669	86.52 ng		86
43) Styrene	22.21	104	263946	87.01 ng		93
44) Bromoform	23.16	173	225855	86.05 ng		99
45) 1,1,2,2-Tetrachloroethane	23.47	83	224996	81.86 ng		98
47) 1,4-Dichloro-2-butene	23.12	75	42724	80.89 ng		85
48) 4-Ethyltoluene	24.40	105	463233	90.62 ng		94
49) 1,3,5-Trimethylbenzene	24.49	105	352652	87.68 ng		95
50) 2-Chlorotoluene	24.60	91	477231	88.76 ng		98
51) 1,2,4-Trimethylbenzene	25.44	105	367236	86.04 ng		98
52) 1,3-Dichlorobenzene	26.59	146	292016	86.72 ng		97
53) 1,4-Dichlorobenzene	26.59	146	292016	86.72 ng		98
54) 1,2-Dichlorobenzene	27.35	146	256476	86.46 ng		97
55) 1,2,4-Trichlorobenzene	30.51	180	191250	87.43 ng		93
56) Napthalene	31.06	128	220575	80.52 ng	#	90
57) Hexachlorobutadiene	30.75	225	173952	101.86 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0100.D Vial: 14
Acq On : 19 Jun 2001 9:42 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:16 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

B 6/19

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.12%						
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.77%						
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.82%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng	99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng #	19
4) Chloromethane	4.19	50	318982	237.26	ng	97
5) Vinyl chloride	4.41	62	331551	274.73	ng	97
6) Bromomethane	5.24	94	460160	260.43	ng	96
7) Chloroethane	5.37	64	204687	256.03	ng #	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng	90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng	88
12) Methylene chloride	7.96	49	653027	250.72	ng #	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng #	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng	90
16) n-Hexane	8.67	57	459285	261.36	ng #	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng	98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng	93
19) Chloroform	10.97	83	993772	262.88	ng #	94
20) Isooctane	11.94	57	1581485	256.03	ng	94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng	92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng	97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng	98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng	99
27) Benzene	12.74	78	1052810	266.64	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

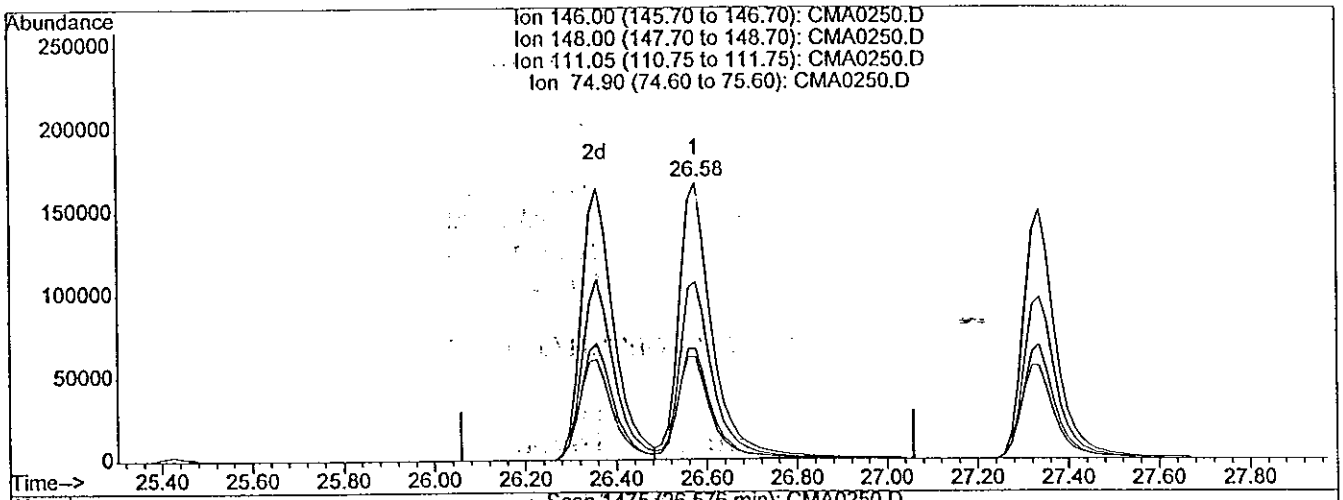
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.36	146	806815m	253.46 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

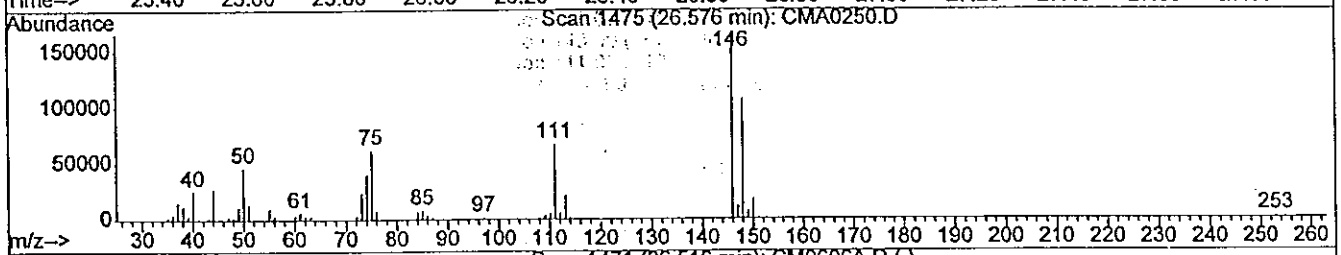
(#) = qualifier out of range (m) = manual integration

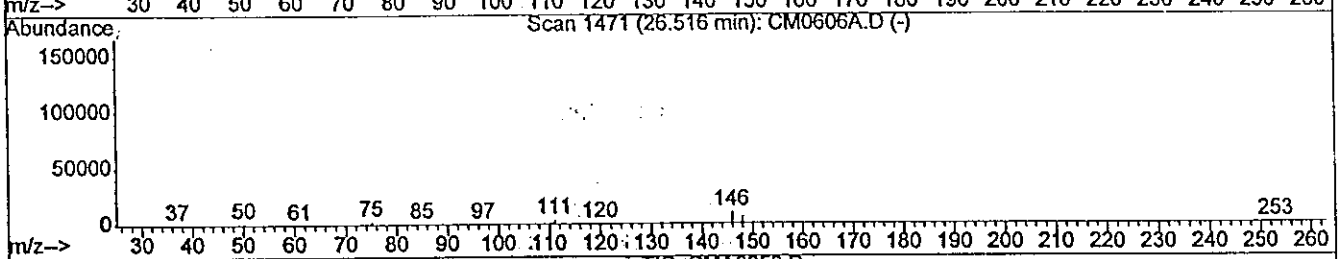
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D
Acq On : 19 Jun 2001 10:20
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

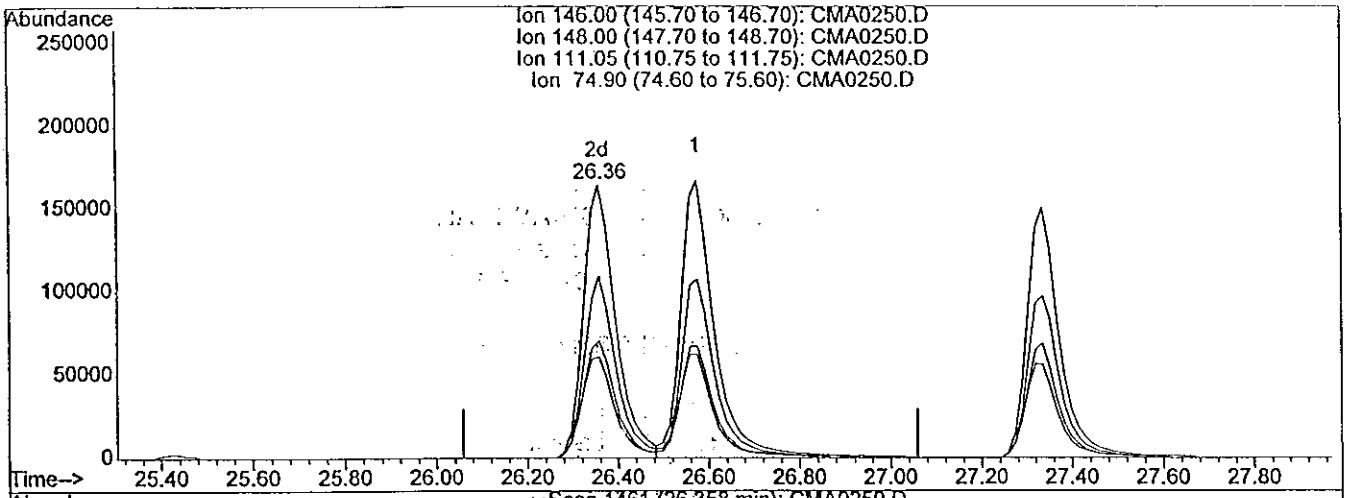
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

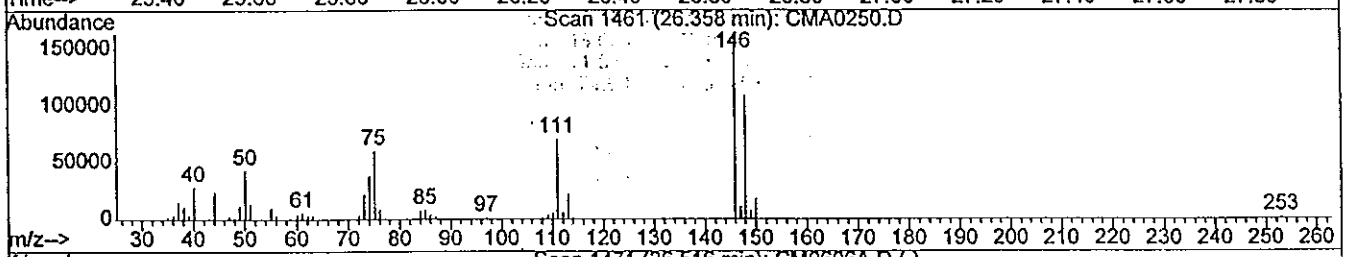
before (wrong peak)

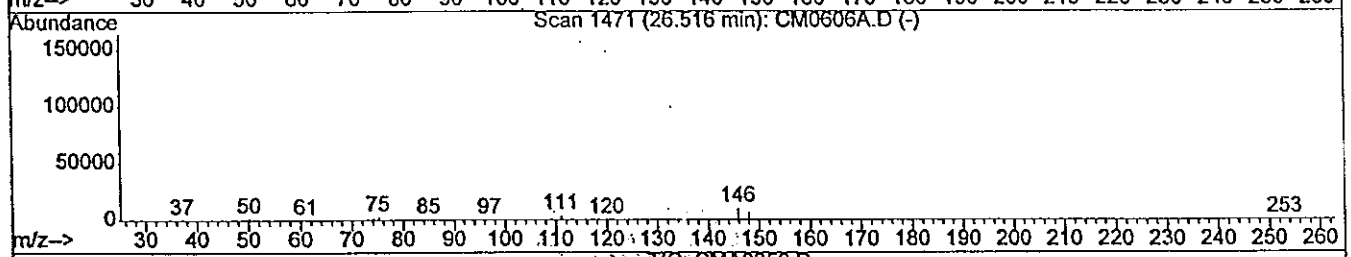
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS In
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:08 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	70.24
111.05	44.40	44.19
74.90	35.60	41.31

after
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CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	315307	250.00	ng	0.05 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1279260	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	973248	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.12%			
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.77%			
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.82%			

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.91	85	1705012	274.94	ng		99
3) Dichlorotetrafluoroethane	3.92	135	586703	272.55	ng	#	19
4) Chloromethane	4.19	50	318982	237.26	ng		97
5) Vinyl chloride	4.41	62	331551	274.73	ng		97
6) Bromomethane	5.24	94	460160	260.43	ng		96
7) Chloroethane	5.37	64	204687	256.03	ng	#	95
8) Trichlorofluoromethane	5.86	101	420726	202.12	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	647943	257.29	ng		90
10) 1,1-Dichloroethene	7.06	96	358682	253.58	ng		88
12) Methylene chloride	7.96	49	653027	250.72	ng	#	84
13) Carbon disulfide	8.12	76	1074695	260.99	ng		99
14) methyl-Tert-Butyl Ether	8.27	73	469207	254.89	ng	#	86
15) trans-1,2-Dichloroethene	8.57	96	387363	256.10	ng		90
16) n-Hexane	8.67	57	459285	261.36	ng	#	1
17) 1,1-Dichloroethane	9.40	63	807251	267.42	ng		98
18) cis-1,2-Dichloroethene	10.65	61	667310	262.17	ng		93
19) Chloroform	10.97	83	993772	262.88	ng	#	94
20) Isooctane	11.94	57	1581485	256.03	ng		94
21) 1,1,1-Trichloroethane	11.83	97	838267	258.57	ng		92
22) Carbon tetrachloride	12.40	117	883126	256.45	ng		97
24) 1,2-Dichloroethane	12.67	62	578618	262.20	ng		98
25) 1,2-Dibromoethane	19.62	107	679459	262.99	ng		99
27) Benzene	12.74	78	1052810	266.64	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

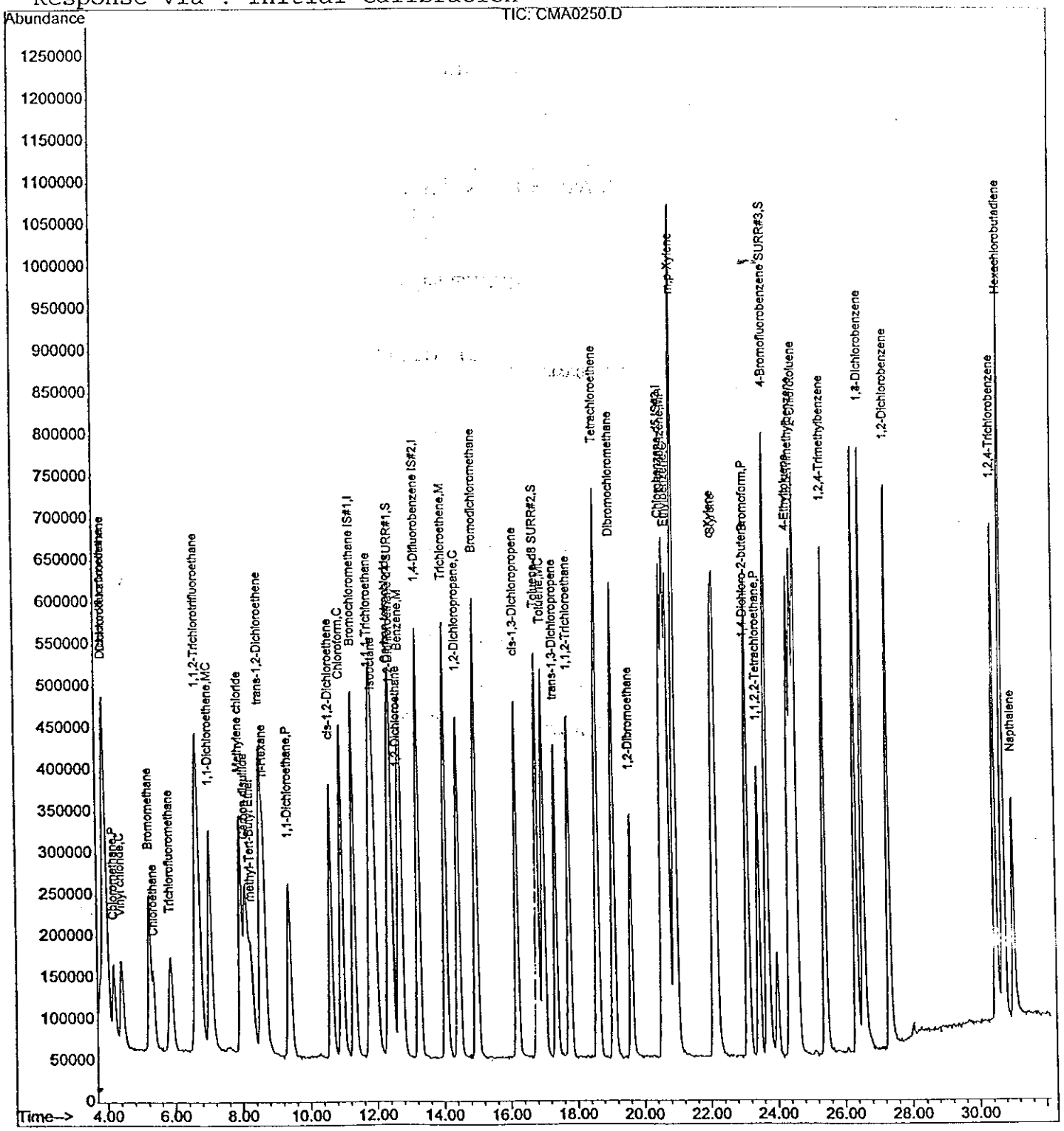
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	566032	267.55 ng	#	80
35)	1,1,2-Trichloroethane	17.79	97	407490	269.23 ng		98
37)	Tetrachloroethene	18.63	164	504977	261.95 ng		96
38)	Dibromochloromethane	19.11	127	724430	269.57 ng		99
39)	Chlorobenzene	20.68	112	921500	266.11 ng		95
40)	Ethylbenzene	20.77	106	377638	263.60 ng		94
41)	m,p-Xylene	20.97	106	955043	525.64 ng		91
42)	o-Xylene	22.12	106	466943	263.98 ng		91
43)	Styrene	22.18	104	766670	263.77 ng		95
44)	Bromoform	23.13	173	658509	265.26 ng		100
45)	1,1,2,2-Tetrachloroethane	23.46	83	644693	249.57 ng		98
47)	1,4-Dichloro-2-butene	23.10	75	131763	263.53 ng		90
48)	4-Ethyltoluene	24.39	105	1225601	252.87 ng		99
49)	1,3,5-Trimethylbenzene	24.48	105	990256	254.62 ng		93
50)	2-Chlorotoluene	24.59	91	1350071	259.70 ng		99
51)	1,2,4-Trimethylbenzene	25.43	105	1073014	262.84 ng		98
52)	1,3-Dichlorobenzene	26.58	146	851100	267.37 ng		97
53)	1,4-Dichlorobenzene	26.58	146	851100	263.89 ng		98
54)	1,2-Dichlorobenzene	27.34	146	752031	266.21 ng		98
55)	1,2,4-Trichlorobenzene	30.50	180	561854	270.41 ng		99
56)	Napthalene	31.05	128	668794	258.75 ng	#	91
57)	Hexachlorobutadiene	30.74	225	495941	292.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0250.D Vial: 14
Acq On : 19 Jun 2001 10:20 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK w/ISOOCTANE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 10:52 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19/01

no report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00	ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00	ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00	ng	0.00 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%						
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%						
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	3358732	542.44	ng	98
3) Dichlorotetrafluoroethane	3.91	135	1136619	541.39	ng #	19
4) Chloromethane	4.17	50	662899	515.90	ng	99
5) Vinyl chloride	4.39	62	659263	554.27	ng	97
6) Bromomethane	5.23	94	933634	532.70	ng	97
7) Chloroethane	5.35	64	424613	541.17	ng	94
8) Trichlorofluoromethane	5.87	101	991097	530.60	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	1295181	531.93	ng	89
10) 1,1-Dichloroethene	7.05	96	728404	528.63	ng	88
12) Methylene chloride	7.96	49	1283111	517.00	ng #	85
13) Carbon disulfide	8.10	76	2153648	535.91	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	843804	459.13	ng #	88
15) trans-1,2-Dichloroethene	8.55	96	782795	527.79	ng	92
16) n-Hexane	8.66	57	851040	501.61	ng #	1
17) 1,1-Dichloroethane	9.39	63	1599028	537.57	ng	99
18) cis-1,2-Dichloroethene	10.63	61	1332506	529.28	ng	93
19) Chloroform	10.97	83	1971654	527.34	ng #	95
20) Isooctane	11.94	57	2810081	466.45	ng	95
21) 1,1,1-Trichloroethane	11.84	97	1671909	528.89	ng	93
22) Carbon tetrachloride	12.40	117	1776389	531.17	ng	98
24) 1,2-Dichloroethane	12.67	62	1097708	494.67	ng	98
25) 1,2-Dibromoethane	19.64	107	1272731	488.44	ng	99
27) Benzene	12.74	78	2072242	501.33	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D
Acq On : 19 Jun 2001 10:58
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

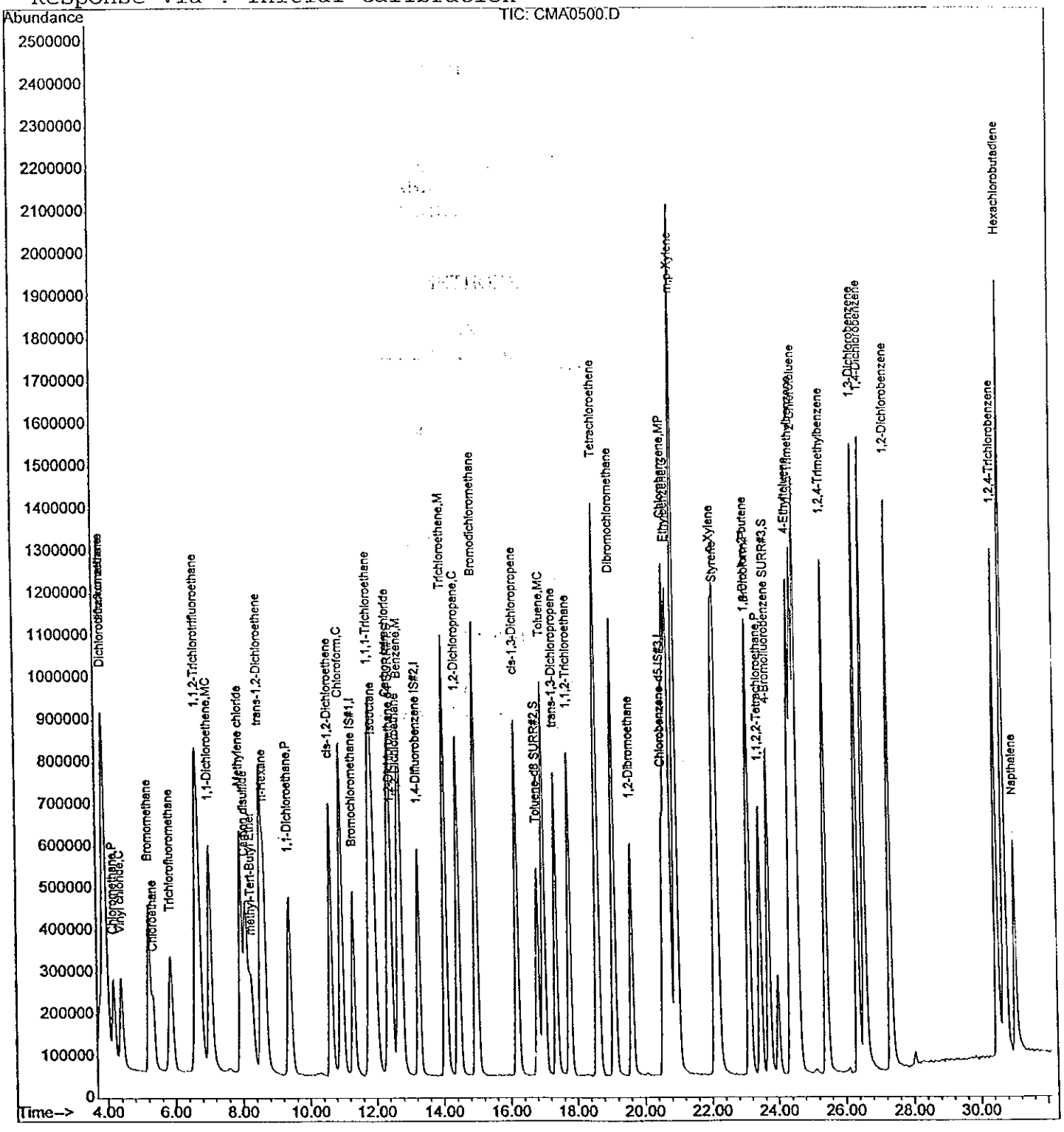
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.06	130	1063363	512.26 ng		99
29) 1,2-Dichloropropane	14.45	63	954023	504.13 ng	#	87
30) Bromodichloromethane	14.99	83	2269706	505.24 ng		98
31) cis-1,3-Dichloropropene	16.21	75	1366041	499.16 ng	#	79
33) Toluene	17.01	92	1283724	507.88 ng		97
34) trans-1,3-Dichloropropene	17.37	75	1088252	484.92 ng	#	78
35) 1,1,2-Trichloroethane	17.79	97	773146	478.40 ng		98
37) Tetrachloroethene	18.63	164	1021392	519.36 ng		97
38) Dibromochloromethane	19.11	127	1388391	492.05 ng		99
39) Chlorobenzene	20.68	112	1857792	519.50 ng		96
40) Ethylbenzene	20.77	106	763296	518.96 ng		93
41) m,p-Xylene	20.97	106	1955531	1049.84 ng		95
42) o-Xylene	22.12	106	946502	520.11 ng		92
43) Styrene	22.20	104	1563814	520.57 ng		96
44) Bromoform	23.15	173	1233918	472.98 ng		99
45) 1,1,2,2-Tetrachloroethane	23.47	83	1180553	433.21 ng		98
47) 1,4-Dichloro-2-butene	23.11	75	245321	465.57 ng		92
48) 4-Ethyltoluene	24.39	105	2724532	549.15 ng		93
49) 1,3,5-Trimethylbenzene	24.50	105	2065746	517.93 ng		93
50) 2-Chlorotoluene	24.59	91	2726961	511.72 ng		100
51) 1,2,4-Trimethylbenzene	25.43	105	2187501	522.36 ng		99
52) 1,3-Dichlorobenzene	26.36	146	1637869	502.62 ng		99
53) 1,4-Dichlorobenzene	26.58	146	1723393	517.13 ng		98
54) 1,2-Dichlorobenzene	27.34	146	1509456	515.55 ng		98
55) 1,2,4-Trichlorobenzene	30.50	180	1101163	512.29 ng		100
56) Napthalene	31.05	128	1260364	466.26 ng	#	92
57) Hexachlorobutadiene	30.74	225	988114	584.20 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D Vial: 14
Acq On : 19 Jun 2001 10:58 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	296685	250.00	ng	-0.04 NA%
26) 1,4-Difluorobenzene IS#2	13.25	114	1210927	250.00	ng	-0.02 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	914720	250.00	ng	0.01 NA%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.44	65	459531	245.62	ng	-0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.25%						
32) Toluene-d8 SURR#2	16.81	98	978789	249.08	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.63%						
46) 4-Bromofluorobenzene SURR#	23.73	95	926255	254.46	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.78%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.87	85	6233748	1049.45	ng	98
3) Dichlorotetrafluoroethane	3.89	135	2134530	1064.83	ng #	22
4) Chloromethane	4.15	50	1224763	1011.29	ng	98
5) Vinyl chloride	4.35	62	1201437	1053.25	ng	98
6) Bromomethane	5.19	94	1744430	1047.88	ng	98
7) Chloroethane	5.32	64	807307	1088.74	ng	95
8) Trichlorofluoromethane	5.83	101	2060376	1201.76	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.64	151	2429552	1057.92	ng	90
10) 1,1-Dichloroethene	7.01	96	1397322	1075.81	ng	91
12) Methylene chloride	7.93	49	2453027	1052.27	ng #	85
13) Carbon disulfide	8.08	76	4076441	1070.98	ng	100
14) methyl-Tert-Butyl Ether	8.24	73	1803367	1062.77	ng #	90
15) trans-1,2-Dichloroethene	8.53	96	1472449	1054.23	ng	92
16) n-Hexane	8.62	57	1579011	986.48	ng #	1
17) 1,1-Dichloroethane	9.37	63	2886545	1023.96	ng	99
18) cis-1,2-Dichloroethene	10.61	61	2499759	1055.54	ng	93
19) Chloroform	10.94	83	3670018	1043.49	ng #	95
20) Isooctane	11.92	57	5346515	959.54	ng	96
21) 1,1,1-Trichloroethane	11.81	97	3076942	1034.51	ng	93
22) Carbon tetrachloride	12.38	117	3289086	1043.66	ng	97
24) 1,2-Dichloroethane	12.65	62	2148966	1043.28	ng	98
25) 1,2-Dibromoethane	19.63	107	2580322	1073.25	ng	98
27) Benzene	12.72	78	3850696	1026.27	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

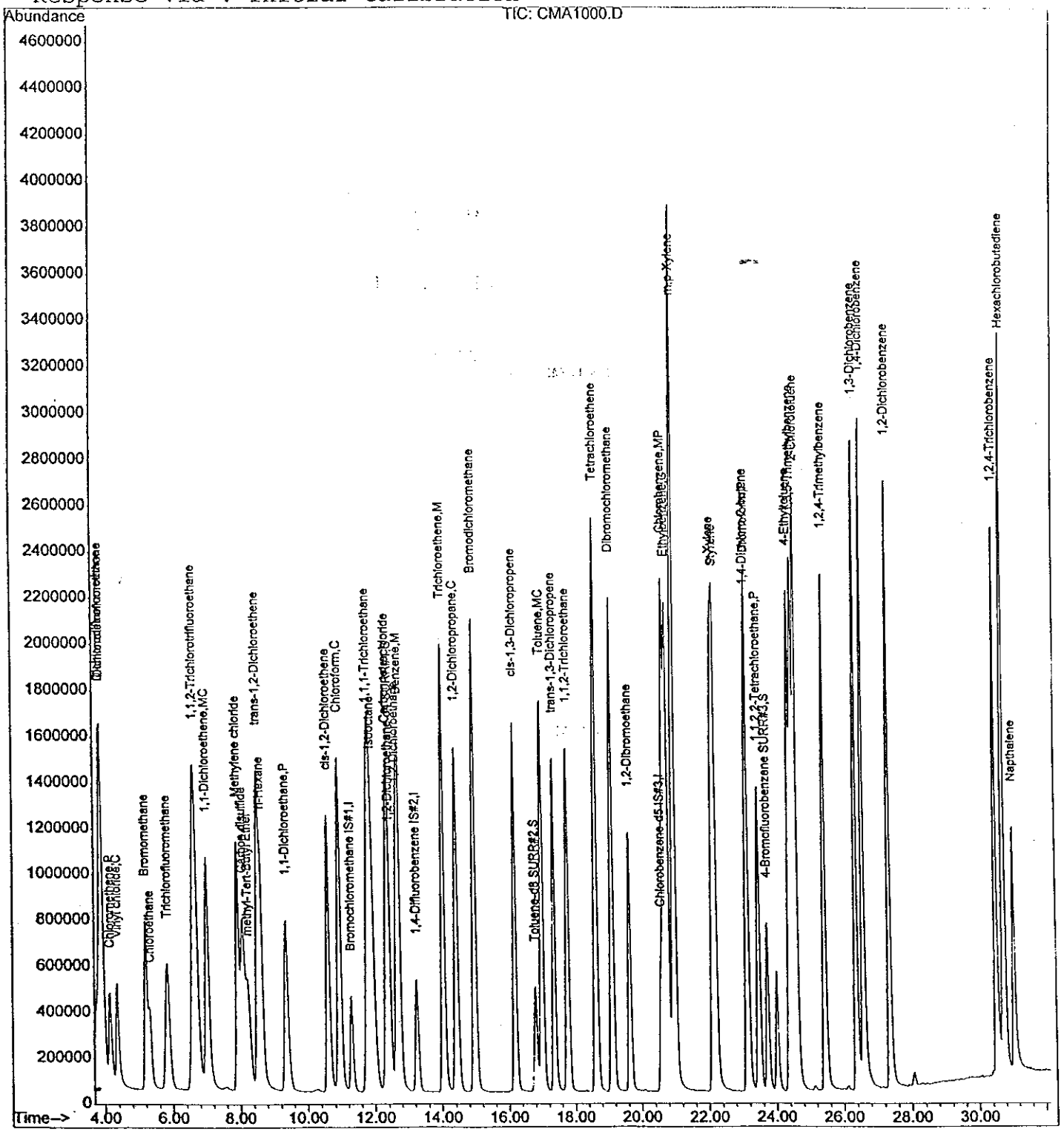
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.04	130	2003048	1064.50 ng		100
29)	1,2-Dichloropropane	14.43	63	1797296	1048.92 ng	#	88
30)	Bromodichloromethane	14.97	83	4319211	1062.49 ng		99
31)	cis-1,3-Dichloropropene	16.19	75	2641211	1071.18 ng	#	80
33)	Toluene	17.01	92	2405121	1050.49 ng		97
34)	trans-1,3-Dichloropropene	17.37	75	2188978	1092.75 ng	#	81
35)	1,1,2-Trichloroethane	17.78	97	1539249	1064.37 ng		98
37)	Tetrachloroethene	18.64	164	1884926	1057.55 ng		97
38)	Dibromochloromethane	19.12	127	2755762	1090.44 ng		99
39)	Chlorobenzene	20.69	112	3456899	1065.66 ng		97
40)	Ethylbenzene	20.78	106	1395946	1043.84 ng		93
41)	m,p-Xylene	20.98	106	3585503	2122.36 ng		94
42)	o-Xylene	22.13	106	1771579	1076.12 ng		94
43)	Styrene	22.21	104	2945131	1084.71 ng		97
44)	Bromoform	23.16	173	2538653	1100.69 ng		100
45)	1,1,2,2-Tetrachloroethane	23.48	83	2423921	1007.79 ng		99
47)	1,4-Dichloro-2-butene	23.13	75	533593	1154.41 ng		92
48)	4-Ethyltoluene	24.40	105	4961557	1097.54 ng		93
49)	1,3,5-Trimethylbenzene	24.51	105	3924783	1094.79 ng		94
50)	2-Chlorotoluene	24.62	91	5084323	1054.07 ng		100
51)	1,2,4-Trimethylbenzene	25.45	105	4026008	1063.11 ng		99
52)	1,3-Dichlorobenzene	26.37	146	3127244	1073.09 ng		98
53)	1,4-Dichlorobenzene	26.59	146	3251439	1081.15 ng		98
54)	1,2-Dichlorobenzene	27.35	146	2827820	1074.36 ng		98
55)	1,2,4-Trichlorobenzene	30.52	180	2190863	1123.03 ng		100
56)	Napthalene	31.06	128	2606085	1102.23 ng	#	93
57)	Hexachlorobutadiene	30.76	225	1763109	1093.12 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D Vial: 14
Acq On : 19 Jun 2001 11:46 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D Vial: 14
Acq On : 19 Jun 2001 12:24 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA127ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

original BH 6/19

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	306138	250.00	ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1262696	250.00	ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.60	117	947465	250.00	ng	0.02 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	466181	242.37	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.95%						
32) Toluene-d8 SURR#2	16.83	98	1004447	245.59	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%						
46) 4-Bromofluorobenzene SURR#	23.74	95	966825	256.83	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.73%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.91	85	10263276	1642.34	ng	98
3) Dichlorotetrafluoroethane	3.91	135	3431265	1632.62	ng #	20
4) Chloromethane	4.17	50	1953127	1534.65	ng	98
5) Vinyl chloride	4.38	62	1877069	1567.97	ng	98
6) Bromomethane	5.23	94	2784996	1604.46	ng	99
7) Chloroethane	5.34	64	1305263	1692.51	ng	95
8) Trichlorofluoromethane	5.87	101	4102130	2269.65	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.67	151	3860092	1615.15	ng	88
10) 1,1-Dichloroethene	7.05	96	2207728	1631.54	ng	91
12) Methylene chloride	7.96	49	3779790	1556.14	ng #	85
13) Carbon disulfide	8.12	76	6296422	1579.16	ng	99
14) methyl-Tert-Butyl Ether	8.27	73	2578069	1478.67	ng #	90
15) trans-1,2-Dichloroethene	8.57	96	2296356	1580.81	ng	93
16) n-Hexane	8.66	57	2455366	1470.62	ng #	1
17) 1,1-Dichloroethane	9.41	63	4656037	1587.34	ng	99
18) cis-1,2-Dichloroethene	10.65	61	3891754	1583.57	ng	93
19) Chloroform	10.97	83	5699637	1560.49	ng #	95
20) Isooctane	11.94	57	8292835	1436.43	ng	96
21) 1,1,1-Trichloroethane	11.84	97	4778200	1546.65	ng	92
22) Carbon tetrachloride	12.42	117	5106078	1560.13	ng	97
24) 1,2-Dichloroethane	12.68	62	3267735	1539.63	ng	98
25) 1,2-Dibromoethane	19.64	107	3834082	1556.31	ng	98
27) Benzene	12.76	78	5993832	1526.98	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

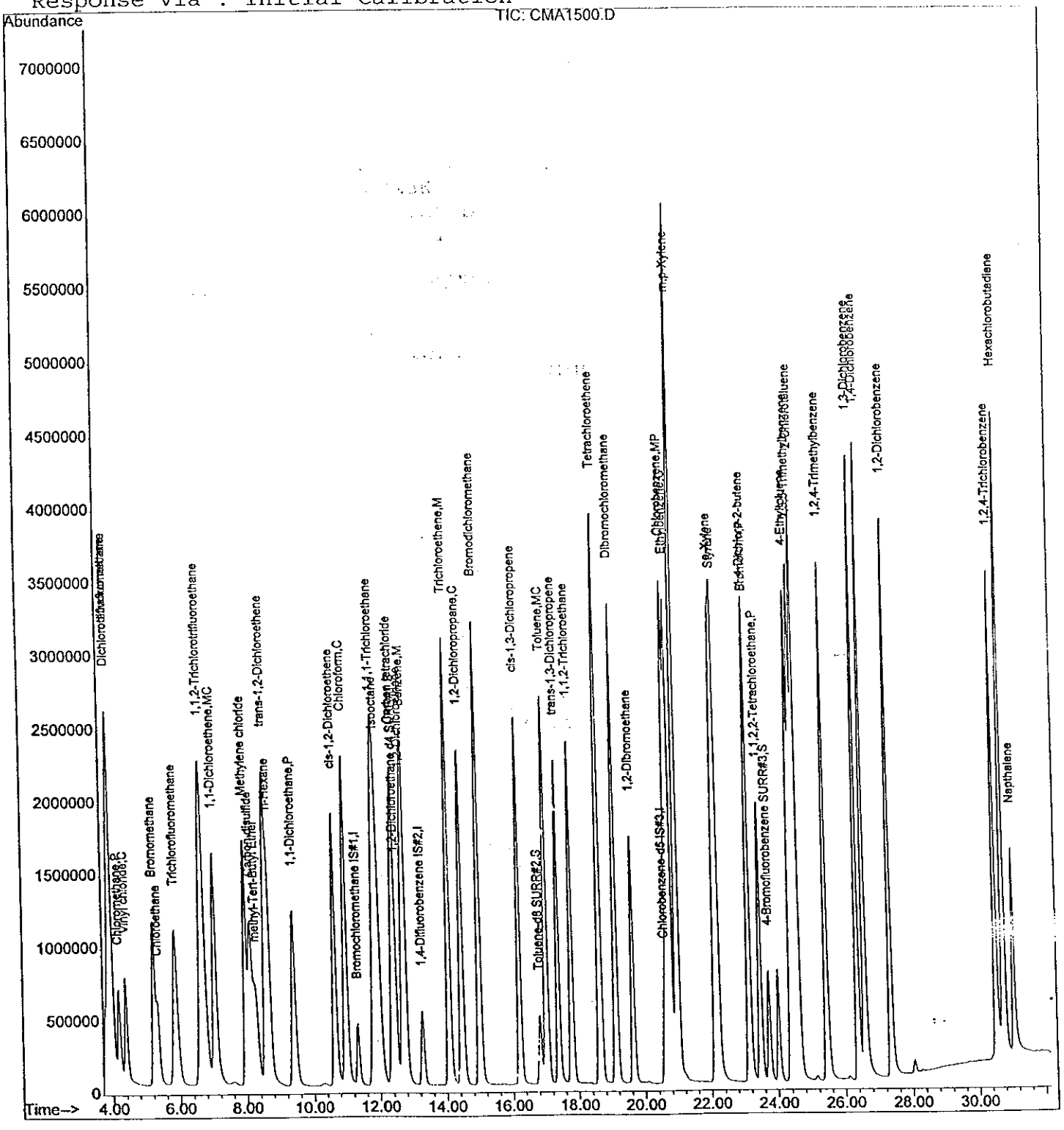
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.08	130	3131271	1590.70 ng		99
29) 1,2-Dichloropropane	14.47	63	2782579	1555.74 ng	#	88
30) Bromodichloromethane	14.99	83	6626226	1559.37 ng		99
31) cis-1,3-Dichloropropene	16.21	75	4101408	1597.82 ng	#	81
33) Toluene	17.03	92	3759602	1574.79 ng		98
34) trans-1,3-Dichloropropene	17.39	75	3338061	1609.22 ng	#	81
35) 1,1,2-Trichloroethane	17.79	97	2319686	1550.82 ng		98
37) Tetrachloroethene	18.64	164	2948248	1587.42 ng		97
38) Dibromochloromethane	19.12	127	4167778	1592.15 ng		98
39) Chlorobenzene	20.69	112	5396104	1599.79 ng		97
40) Ethylbenzene	20.79	106	2189347	1581.36 ng		94
41) m,p-Xylene	20.99	106	5606499	3190.48 ng		94
42) o-Xylene	22.14	106	2766756	1618.81 ng		95
43) Styrene	22.21	104	4587667	1631.34 ng		97
44) Bromoform	23.16	173	3756052	1591.17 ng		99
45) 1,1,2,2-Tetrachloroethane	23.47	83	3545357	1487.44 ng		99
47) 1,4-Dichloro-2-butene	23.13	75	790900	1690.85 ng		93
48) 4-Ethyltoluene	24.40	105	7867372	1667.46 ng		93
49) 1,3,5-Trimethylbenzene	24.51	105	5868544	1553.55 ng		93
50) 2-Chlorotoluene	24.61	91	7794563	1554.96 ng		99
51) 1,2,4-Trimethylbenzene	25.44	105	6231140	1586.16 ng		100
52) 1,3-Dichlorobenzene	26.38	146	4764054	1590.54 ng		99
53) 1,4-Dichlorobenzene	26.59	146	4993562	1604.01 ng		98
54) 1,2-Dichlorobenzene	27.35	146	4254949	1564.99 ng		99
55) 1,2,4-Trichlorobenzene	30.52	180	3092156	1514.04 ng		99
56) Napthalene	31.06	128	3458113	1440.20 ng	#	94
57) Hexachlorobutadiene	30.75	225	2415060	1378.37 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration



Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1007A\
Pre-Seq Cmd:
Post-Seq Cmd:

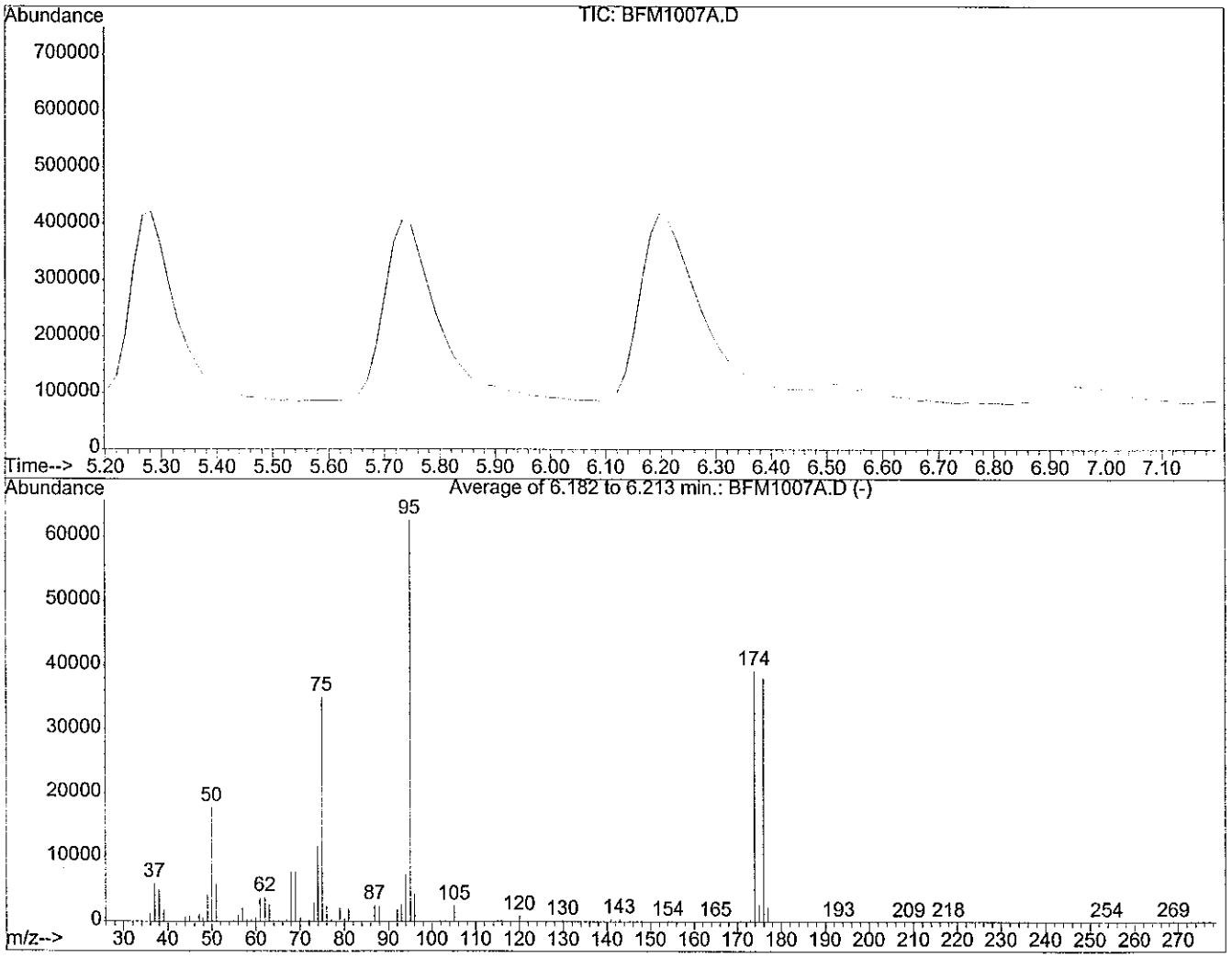
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1007A	BFBSTL	VSTDMA/ DAILY CALIB.CHECK 50p
2	Sample	14	CM1009A	TO14S	VSTDMA/ DAILY CALIB.CHECK 50p
3	Sample	15	MA209ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
4	Sample	16	MA209LCS	TO14S	LCS/BATCH #209 LCS 50ppb/250
5	Sample	1	97162	TO14S	063SVE2-780-IA09270141\9716-2
6	Sample	2	97164	TO14S	063TMX1-780-EA09270141\9716-4
7	Sample	1	96641	TO14S	067SVEEA-0925-46\9664-1 ST 50
8	Sample	1	97161	TO14S	063SVE1-780-IA09270141\9716-1
9	Sample	1	97163	TO14S	063ASI-780-EA09270141\9716-3
10	Sample	1	97164R	TO14S	063TMX1-780-EA09270141\9716-4
11	Sample	1	97171	TO14S	063SVE1061IA09270142\9717-1 S
12	Sample	1	97172	TO14S	063SVE1062IA09270142\9717-2 S
13	Sample	1	97181	TO14S	062SVEEA09270116\9718-1 ST 50
14	Sample	1	97191	TO14S	062SVEEA09270120\9719-1 ST 50
15	Sample	1	QC212	TO14S	QC CAN CHECK #021 ST. 500mls
16	Sample	1	BLKTUBE	BFBSTL	

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\BFM1007A.D Vial: 13
Acq On : 7 Oct 2001 11:07 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 140 (6.20 min)
Average of 3 scans: 139,140,141 minus background scan 120 (5.89 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	28.5	17826	PASS
75	95	30	60	56.1	35132	PASS
95	95	100	100	100.0	62600	PASS
96	95	5	9	6.9	4302	PASS
173	174	0	2	0.9	371	PASS
174	95	50	100	62.7	39229	PASS
175	174	5	9	7.0	2734	PASS
176	174	95	101	97.1	38091	PASS
177	176	5	9	6.1	2310	PASS

Average of 6.182 to 6.213 min.: BFM1007A.D
VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1217	56.00	1046	73.05	2906	93.00	2675
37.00	5949	56.95	2079	74.00	11813	94.00	7406
38.00	4917	57.95	329	75.00	35132	95.05	62600
39.05	1816	60.00	631	76.00	2519	96.00	4302
43.95	755	60.95	3667	77.00	323	105.05	2519
45.00	911	62.05	3783	79.00	2149	120.05	961
47.00	1107	63.00	2618	79.95	497	140.90	469
47.90	553	68.00	7735	80.95	2096	142.90	473
49.00	4169	68.95	7707	86.90	2549	172.95	371
50.00	17826	70.05	548	87.95	2410	173.95	39229
51.00	5840	72.00	332	91.95	1904	174.95	2734

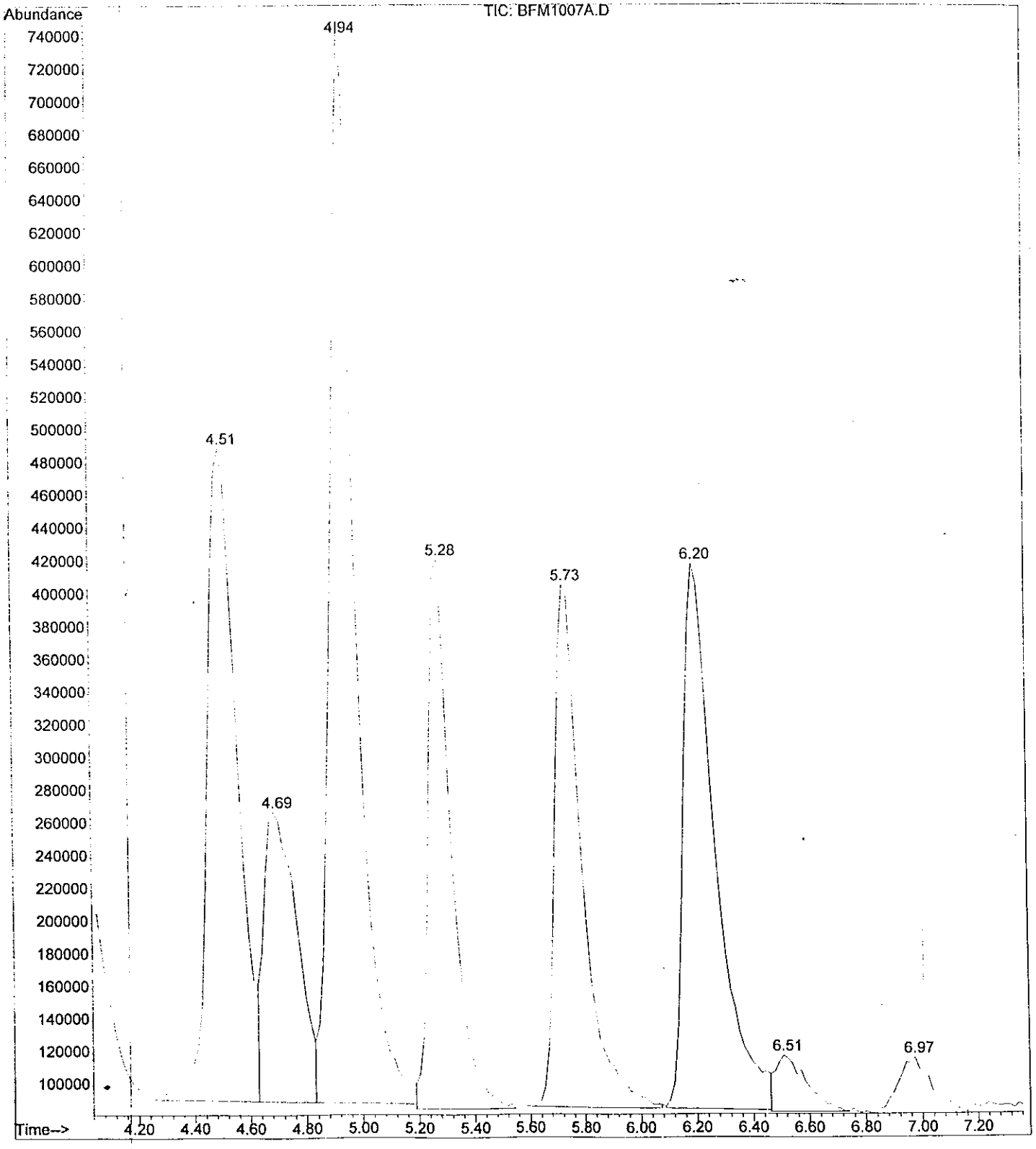
Average of 6.182 to 6.213 min.: BFM1007A.D
VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	38091						
176.95	2310						

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1007A\BFM1007A.D
Acq On : 7 Oct 2001 11:07
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1007A.D BFBSTL.M Sun Oct 07 11:15:04 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

passes BH 10/7/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	128	0.00
2		Dichlorodifluoromethane	5.221	4.064	22.2#	96	0.00
3		Dichlorotetrafluoroethane	1.746	1.667	4.5#	115	0.00
4	P	Chloromethane	1.056	1.176	-11.4#	149	0.00
5	C	Vinyl chloride	0.990	1.059	-7.0#	129	0.00
6		Bromomethane	1.432	1.425	0.5	125	0.00
7		Chloroethane	0.635	0.637	-0.3	126	0.00
8		Trichlorofluoromethane	1.509	1.999	-32.5#	192#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.946	0.7	121	0.00
10	MC	1,1-Dichloroethene	1.112	1.123	-1.0#	127	0.00
11		Iodomethane	0.000	0.000	0.0	1895#	0.00
12		Methylene chloride	1.996	2.096	-5.0#	130	0.00
13		Carbon disulfide	3.278	3.528	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	1.416	1.695	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	1.191	1.270	-6.6#	133	0.00
16		n-Hexane	1.373	1.396	-1.7	123	0.00
17	P	1,1-Dichloroethane	2.420	2.596	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	2.017	2.153	-6.7#	130	0.00
19	C	Chloroform	2.996	3.204	-6.9#	130	0.00
20		Isooctane	4.704	4.160	11.6#	106	0.00
21		1,1,1-Trichloroethane	2.533	2.854	-12.7#	138	0.00
22		Carbon tetrachloride	2.682	2.915	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.800	-14.9#	146	0.00
24		1,2-Dichloroethane	1.735	1.989	-14.6#	139	0.00
25		1,2-Dibromoethane	2.008	2.153	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	132	0.00
27	M	Benzene	0.782	0.784	-0.3	126	0.00
28	M	Trichloroethene	0.392	0.380	3.1#	121	0.00
29	C	1,2-Dichloropropane	0.356	0.349	2.0#	122	0.00
30		Bromodichloromethane	0.847	0.878	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	0.511	0.512	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	0.808	0.831	-2.8#	135	0.00
33	MC	Toluene	0.475	0.474	0.2#	125	0.00
34		trans-1,3-Dichloropropene	0.411	0.434	-5.6#	130	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	136	0.00
37		Tetrachloroethene	0.495	0.455	8.1#	120	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	124	0.00
39	MP	Chlorobenzene	0.897	0.870	3.0#	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.351	4.6#	123	0.00
41		m,p-Xylene	0.467	0.445	4.7#	124	0.00
42		o-Xylene	0.454	0.434	4.4#	123	0.00
43		Styrene	0.747	0.676	9.5#	117	0.00
44	P	Bromoform	0.624	0.576	7.7#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.620	-1.6	128	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.991	0.3	136	0.00
47		1,4-Dichloro-2-butene	0.123	0.111	9.8#	111	0.00
48		4-Ethyltoluene	1.262	1.138	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	0.993	0.911	8.3#	122	0.00
50		2-Chlorotoluene	1.329	1.392	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	1.043	0.993	4.8#	123	0.00
52		1,3-Dichlorobenzene	0.788	0.762	3.3#	125	0.00
53		1,4-Dichlorobenzene	0.826	0.795	3.8#	124	0.00
54		1,2-Dichlorobenzene	0.719	0.720	-0.1	127	0.00
55		1,2,4-Trichlorobenzene	0.545	0.519	4.8#	123	0.00
56		Napthalene	0.625	0.701	-12.2#	139	0.00
57		Hexachlorobutadiene	0.481	0.438	8.9#	117	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	128	0.00
2		Dichlorodifluoromethane	250.000	194.617	22.2#	96	0.00
3		Dichlorotetrafluoroethane	250.000	238.622	4.6#	115	0.00
4	P	Chloromethane	250.000	278.352	-11.3#	149	0.00
5	C	Vinyl chloride	250.000	267.370	-6.9#	129	0.00
6		Bromomethane	250.000	248.907	0.4	125	0.00
7		Chloroethane	250.000	250.821	-0.3	126	0.00
8		Trichlorofluoromethane	250.000	375.643	-50.3#	192	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	248.140	0.7	121	0.00
10	MC	1,1-Dichloroethene	250.000	252.543	-1.0#	127	0.00
11		Iodomethane	-1.000	0.000	0.0	1895	0.00
12		Methylene chloride	250.000	262.587	-5.0#	130	0.00
13		Carbon disulfide	250.000	269.037	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	250.000	299.296	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	250.000	266.622	-6.6#	133	0.00
16		n-Hexane	250.000	254.174	-1.7	123	0.00
17	P	1,1-Dichloroethane	250.000	268.155	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	250.000	266.977	-6.8#	130	0.00
19	C	Chloroform	250.000	267.324	-6.9#	130	0.00
20		Isooctane	250.000	221.059	11.6#	106	0.00
21		1,1,1-Trichloroethane	250.000	281.677	-12.7#	138	0.00
22		Carbon tetrachloride	250.000	271.649	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	287.158	-14.9#	146	0.00
24		1,2-Dichloroethane	250.000	286.723	-14.7#	139	0.00
25		1,2-Dibromoethane	250.000	268.038	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	132	0.00
27	M	Benzene	250.000	250.713	-0.3	126	0.00
28	M	Trichloroethene	250.000	242.253	3.1#	121	0.00
29	C	1,2-Dichloropropane	250.000	245.360	1.9#	122	0.00
30		Bromodichloromethane	250.000	259.345	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	250.000	250.610	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	250.000	257.007	-2.8#	135	0.00
33	MC	Toluene	250.000	249.400	0.2#	125	0.00
34		trans-1,3-Dichloropropene	250.000	263.712	-5.5#	130	0.00
35		1,1,2-Trichloroethane	250.000	254.365	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	136	0.00
37		Tetrachloroethene	250.000	229.658	8.1#	120	0.00
38		Dibromochloromethane	250.000	242.367	3.1#	124	0.00
39	MP	Chlorobenzene	250.000	242.442	3.0#	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	237.906	4.8#	123	0.00
41		m,p-Xylene	500.000	476.187	4.8#	124	0.00
42		o-Xylene	250.000	238.860	4.5#	123	0.00
43		Styrene	250.000	226.520	9.4#	117	0.00
44	P	Bromoform	250.000	230.991	7.6#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	254.366	-1.7	128	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	249.206	0.3	136	0.00
47		1,4-Dichloro-2-butene	250.000	216.829	13.3#	111	0.00
48		4-Ethyltoluene	250.000	225.420	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	250.000	229.348	8.3#	122	0.00
50		2-Chlorotoluene	250.000	261.846	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	250.000	238.181	4.7#	123	0.00
52		1,3-Dichlorobenzene	250.000	241.589	3.4#	125	0.00
53		1,4-Dichlorobenzene	250.000	240.683	3.7#	124	0.00
54		1,2-Dichlorobenzene	250.000	250.424	-0.2	127	0.00
55		1,2,4-Trichlorobenzene	250.000	238.114	4.8#	123	0.00
56		Napthalene	250.000	280.245	-12.1#	139	0.00
57		Hexachlorobutadiene	250.000	227.518	9.0#	117	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1002A\CM1004A.D (3 Oct 2001 10:24)

BJK 10/7/01 ng repeat

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	404145	250.00	ng	0.00 111.77%
26) 1,4-Difluorobenzene IS#2	13.23	114	1693931	250.00	ng	0.00 114.61%
36) Chlorobenzene-d5 IS#3	20.52	117	1327951	250.00	ng	0.00 116.97%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	727352	287.16	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 114.86%						
32) Toluene-d8 SURR#2	16.77	98	1407251	257.01	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.80%						
46) 4-Bromofluorobenzene SURR#	23.67	95	1315782	249.21	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.68%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.00	85	1642589	194.62	ng	98
3) Dichlorotetrafluoroethane	4.02	135	673575	238.62	ng #	32
4) Chloromethane	4.27	50	475194	278.35	ng	99
5) Vinyl chloride	4.48	62	427824	267.37	ng	98
6) Bromomethane	5.31	94	576081	248.91	ng	96
7) Chloroethane	5.42	64	257565	250.82	ng #	94
8) Trichlorofluoromethane	5.93	101	808059	375.64	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	786276	248.14	ng	95
10) 1,1-Dichloroethene	7.08	96	453859	252.54	ng	82
12) Methylene chloride	7.98	49	847232	262.59	ng #	83
13) Carbon disulfide	8.13	76	1425854	269.04	ng	99
14) methyl-Tert-Butyl Ether	8.26	73	685222m	299.30	ng #	88
15) trans-1,2-Dichloroethene	8.55	96	513433	266.62	ng	88
16) n-Hexane	8.65	57	564219	254.17	ng #	1
17) 1,1-Dichloroethane	9.38	63	1049007	268.16	ng	98
18) cis-1,2-Dichloroethene	10.60	61	870318	266.98	ng	89
19) Chloroform	10.94	83	1294924	267.32	ng #	93
20) Isooctane	11.89	57	1681179	221.06	ng	93
21) 1,1,1-Trichloroethane	11.80	97	1153466	281.68	ng	94
22) Carbon tetrachloride	12.36	117	1177991	271.65	ng	98
24) 1,2-Dichloroethane	12.62	62	803961	286.72	ng #	97
25) 1,2-Dibromoethane	19.58	107	870203	268.04	ng	99
27) Benzene	12.70	78	1328650	250.71	ng	97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

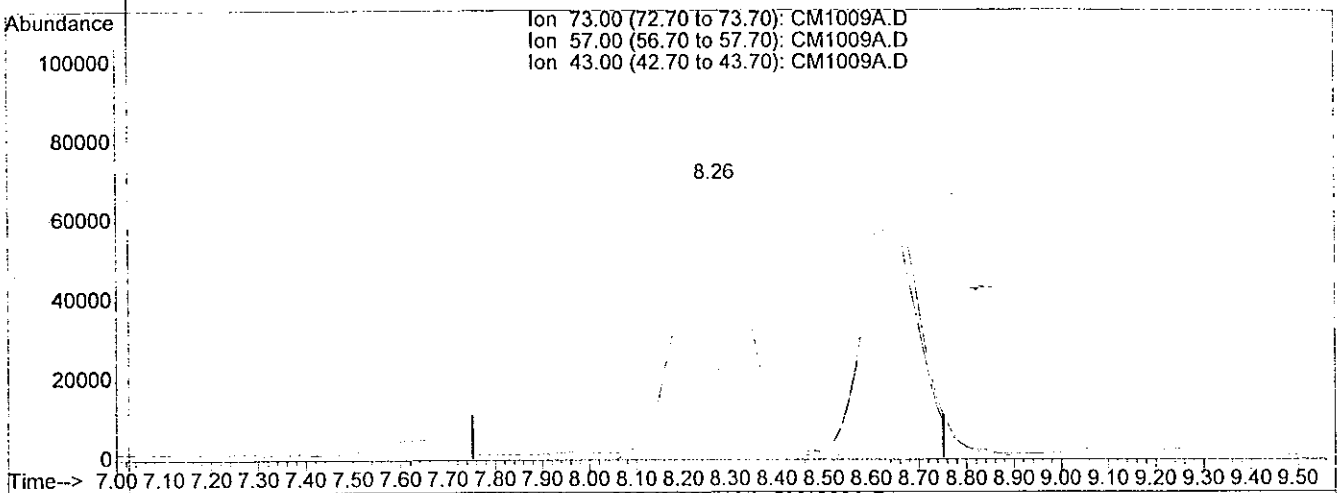
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	643911	242.25 ng		96
29)	1,2-Dichloropropane	14.41	63	591299	245.36 ng	#	81
30)	Bromodichloromethane	14.93	83	1487742	259.34 ng		98
31)	cis-1,3-Dichloropropene	16.14	75	867116	250.61 ng	#	70
33)	Toluene	16.95	92	802804	249.40 ng		95
34)	trans-1,3-Dichloropropene	17.31	75	734341	263.71 ng	#	71
35)	1,1,2-Trichloroethane	17.73	97	511882	254.37 ng		98
37)	Tetrachloroethene	18.57	164	603672	229.66 ng		99
38)	Dibromochloromethane	19.06	127	896307	242.37 ng		99
39)	Chlorobenzene	20.62	112	1155717	242.44 ng		93
40)	Ethylbenzene	20.72	106	465495	237.91 ng		87
41)	m,p-Xylene	20.91	106	1181844	476.19 ng		89
42)	o-Xylene	22.06	106	576151	238.86 ng		88
43)	Styrene	22.14	104	898311	226.52 ng		93
44)	Bromoform	23.08	173	765442	230.99 ng		98
45)	1,1,2,2-Tetrachloroethane	23.43	83	823612	254.37 ng		97
47)	1,4-Dichloro-2-butene	23.07	75	146823	216.83 ng	#	82
48)	4-Ethyltoluene	24.36	105	1511131	225.42 ng		92
49)	1,3,5-Trimethylbenzene	24.45	105	1209769	229.35 ng		86
50)	2-Chlorotoluene	24.56	91	1849141	261.85 ng		97
51)	1,2,4-Trimethylbenzene	25.41	105	1319202	238.18 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1011592	241.59 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1056182	240.68 ng		97
54)	1,2-Dichlorobenzene	27.32	146	956495	250.42 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	689646	238.11 ng		100
56)	Napthalene	31.05	128	930262	280.25 ng	#	91
57)	Hexachlorobutadiene	30.74	225	581529	227.52 ng		100

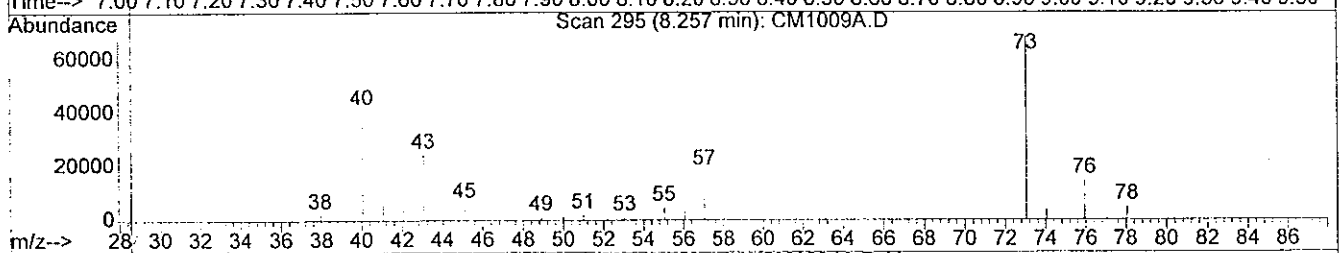
(#) = qualifier out of range (m) = manual integration

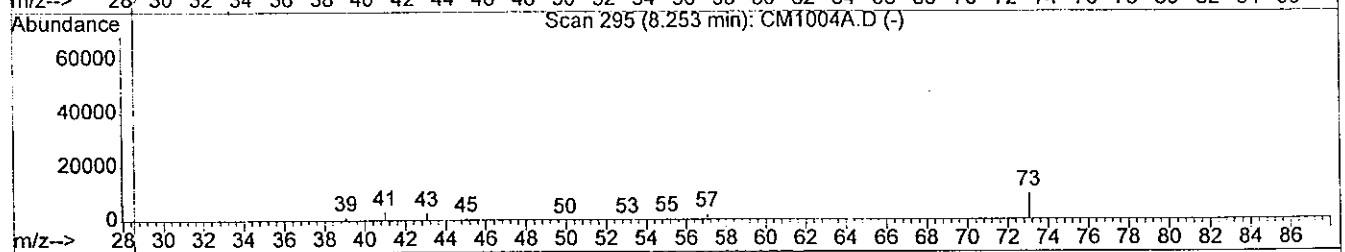
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Multiple Level Calibration







TIC: CM1009A.D

(14) methyl-Tert-Butyl Ether

before

8.26min 317.83ng

response 727647

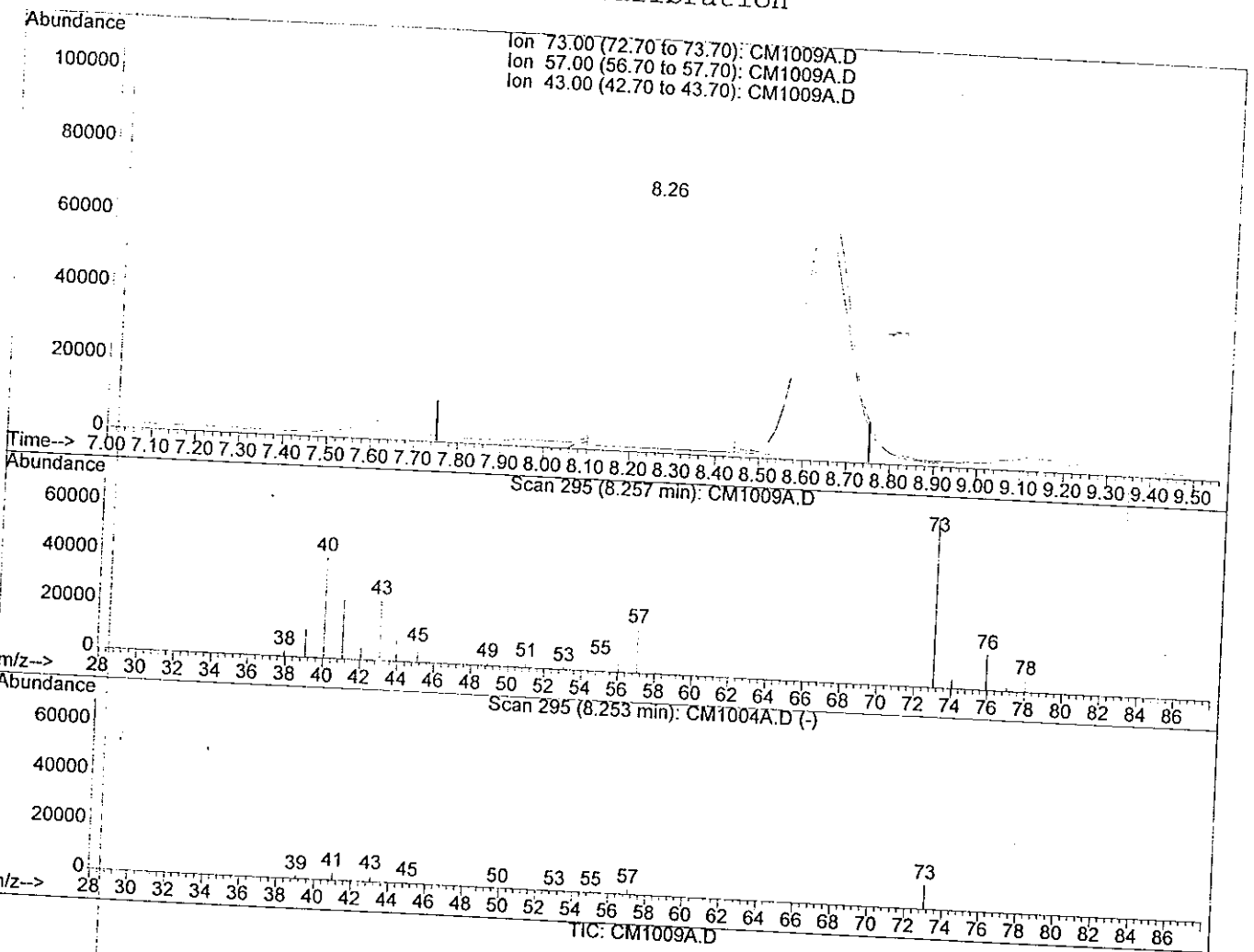
Ion	Exp%	Act%
73.00	100	100
57.00	24.60	26.95
43.00	22.10	31.34#
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D
Acq On : 7 Oct 2001 11:27
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ir
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Multiple Level Calibration



(14) methyl-Tert-Butyl Ether

8.26min 299.30ng m

response 685222

Ion	Exp%	Act%
73.00	100	100
57.00	24.60	28.62
43.00	22.10	33.28#
0.00	0.00	0.00

after
BDH
10/7/01

CM1009A.D TO14S.M Sun Oct 07 12:02:24 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1002A\CM1004A.D (3 Oct 2001 10:24)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	404145	250.00	ng	0.00 111.77%
26) 1,4-Difluorobenzene IS#2	13.23	114	1693931	250.00	ng	0.00 114.61%
36) Chlorobenzene-d5 IS#3	20.52	117	1327951	250.00	ng	0.00 116.97%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	727352	287.16	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 114.86%						
32) Toluene-d8 SURR#2	16.77	98	1407251	257.01	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.80%						
46) 4-Bromofluorobenzene SURR#	23.67	95	1315782	249.21	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.68%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	4.00	85	1642589	194.62	ng		98
3) Dichlorotetrafluoroethane	4.02	135	673575	238.62	ng	#	32
4) Chloromethane	4.27	50	475194	278.35	ng		99
5) Vinyl chloride	4.48	62	427824	267.37	ng		98
6) Bromomethane	5.31	94	576081	248.91	ng		96
7) Chloroethane	5.42	64	257565	250.82	ng	#	94
8) Trichlorofluoromethane	5.93	101	808059	375.64	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	786276	248.14	ng		95
10) 1,1-Dichloroethene	7.08	96	453859	252.54	ng		82
12) Methylene chloride	7.98	49	847232	262.59	ng	#	83
13) Carbon disulfide	8.13	76	1425854	269.04	ng		99
14) methyl-Tert-Butyl Ether	8.26	73	727647	317.83	ng	#	88
15) trans-1,2-Dichloroethene	8.55	96	513433	266.62	ng		88
16) n-Hexane	8.65	57	564219	254.17	ng	#	1
17) 1,1-Dichloroethane	9.38	63	1049007	268.16	ng		98
18) cis-1,2-Dichloroethene	10.60	61	870318	266.98	ng		89
19) Chloroform	10.94	83	1294924	267.32	ng	#	93
20) Isooctane	11.89	57	1681179	221.06	ng		93
21) 1,1,1-Trichloroethane	11.80	97	1153466	281.68	ng		94
22) Carbon tetrachloride	12.36	117	1177991	271.65	ng		98
24) 1,2-Dichloroethane	12.62	62	803961	286.72	ng	#	97
25) 1,2-Dibromoethane	19.58	107	870203	268.04	ng		99
27) Benzene	12.70	78	1328650	250.71	ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

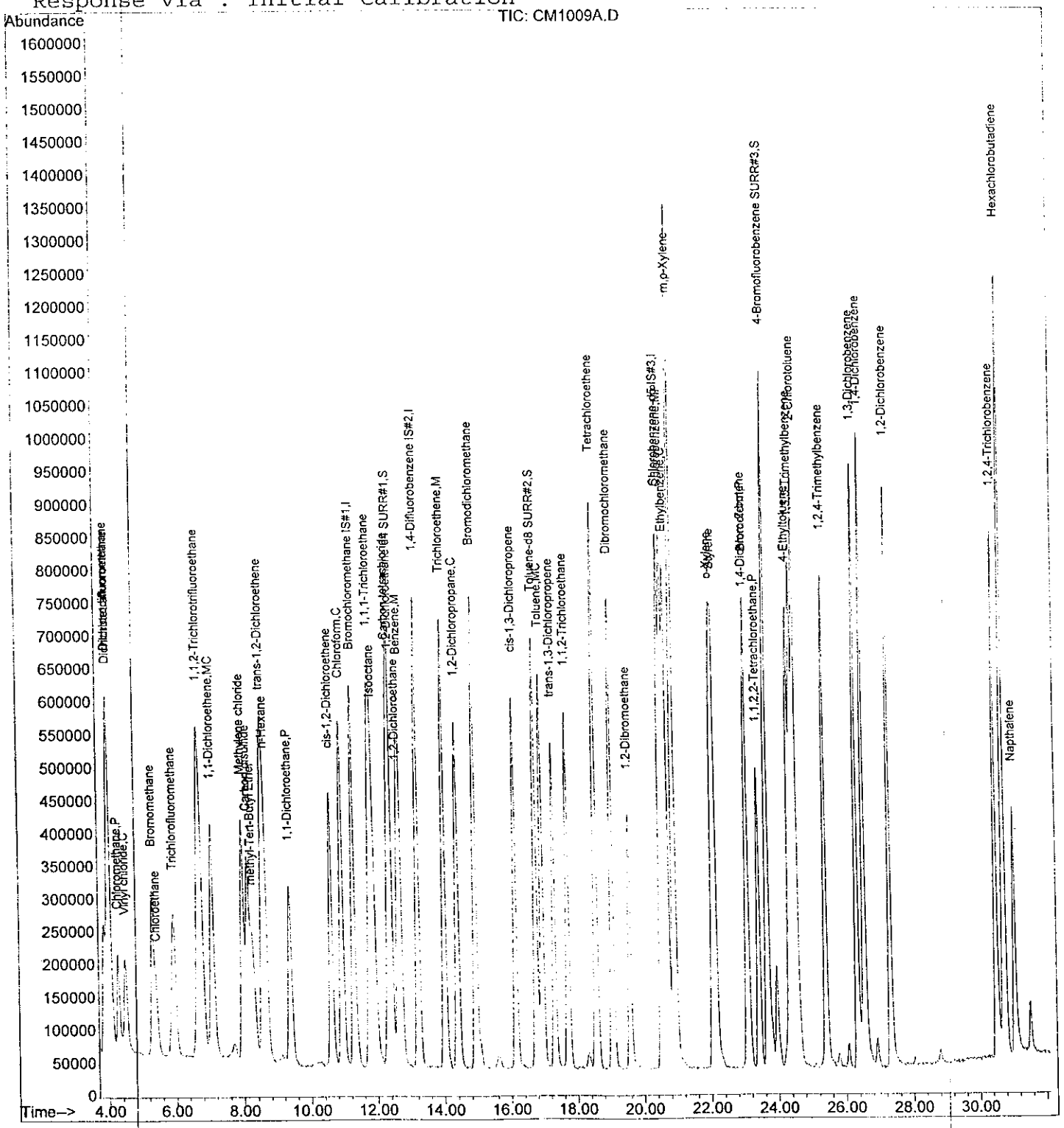
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	643911	242.25 ng		96
29)	1,2-Dichloropropane	14.41	63	591299	245.36 ng	#	81
30)	Bromodichloromethane	14.93	83	1487742	259.34 ng		98
31)	cis-1,3-Dichloropropene	16.14	75	867116	250.61 ng	#	70
33)	Toluene	16.95	92	802804	249.40 ng		95
34)	trans-1,3-Dichloropropene	17.31	75	734341	263.71 ng	#	71
35)	1,1,2-Trichloroethane	17.73	97	511882	254.37 ng		98
37)	Tetrachloroethene	18.57	164	603672	229.66 ng		99
38)	Dibromochloromethane	19.06	127	896307	242.37 ng		99
39)	Chlorobenzene	20.62	112	1155717	242.44 ng		93
40)	Ethylbenzene	20.72	106	465495	237.91 ng		87
41)	m,p-Xylene	20.91	106	1181844	476.19 ng		89
42)	o-Xylene	22.06	106	576151	238.86 ng		88
43)	Styrene	22.14	104	898311	226.52 ng		93
44)	Bromoform	23.08	173	765442	230.99 ng		98
45)	1,1,2,2-Tetrachloroethane	23.43	83	823612	254.37 ng		97
47)	1,4-Dichloro-2-butene	23.07	75	146823	216.83 ng	#	82
48)	4-Ethyltoluene	24.36	105	1511131	225.42 ng		92
49)	1,3,5-Trimethylbenzene	24.45	105	1209769	229.35 ng		86
50)	2-Chlorotoluene	24.56	91	1849141	261.85 ng		97
51)	1,2,4-Trimethylbenzene	25.41	105	1319202	238.18 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1011592	241.59 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1056182	240.68 ng		97
54)	1,2-Dichlorobenzene	27.32	146	956495	250.42 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	689646	238.11 ng		100
56)	Napthalene	31.05	128	930262	280.25 ng	#	91
57)	Hexachlorobutadiene	30.74	225	581529	227.52 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 0.002
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

mg/m³ report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00 ng	0.07 NA%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00 ng	0.09 NA%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00 ng	0.11 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54 ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%		
32) Toluene-d8 SURR#2	16.86	98	963040	262.55 ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%		
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99 ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%		

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00	ng	0.07 72.81%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00	ng	0.09 66.99%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00	ng	0.11 67.39%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54	ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%			
32) Toluene-d8 SURR#2	16.86	98	963040	262.55	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%			
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99	ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%			

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 13:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00	ng	0.07 72.81%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00	ng	0.09 66.99%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00	ng	0.11 67.39%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54	ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%			
32) Toluene-d8 SURR#2	16.86	98	963040	262.55	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%			
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99	ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%			

Target Compounds

						Qvalue
27) Benzene	12.80	78	12400	3.49	ng	# 54
33) Toluene	17.06	92	5689	2.64	ng	# 67
39) Chlorobenzene	20.74	112	6803	2.12	ng	# 20
56) Napthalene	31.15	128	6155	2.75	ng	# 64

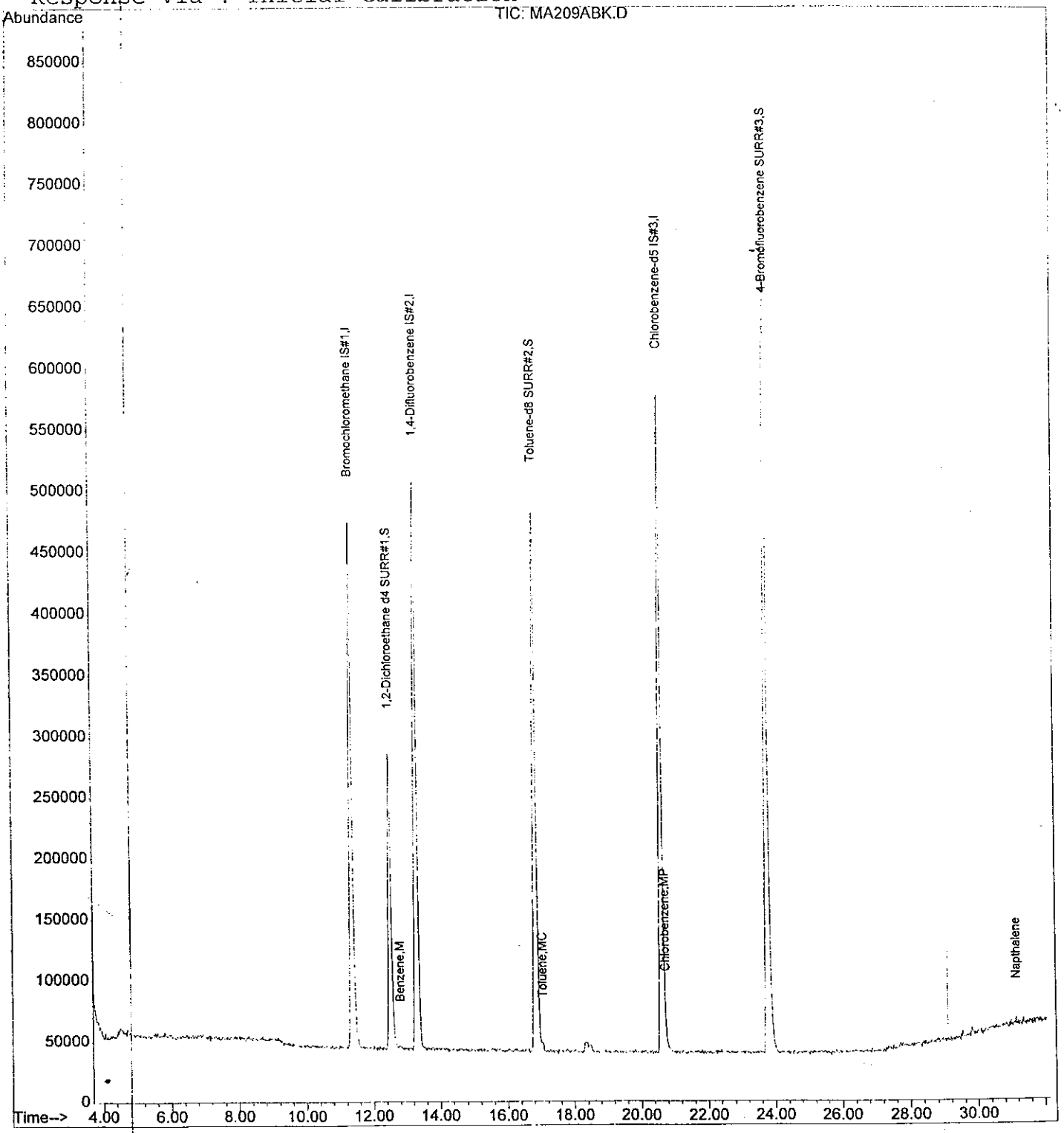
LRL/NR/NSF

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 13:23 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: BDH Date Acquired: 7 Oct 2001 12:51
Data File: D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209ABK.D
Name: VBLKMA/ DAILY METHOD BLANK
Misc: Pi/Pf=1 MA209ABK
Method: D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title: TO14
Library Searched: C:\DATABASE\NBS75K.L

TIC	Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

MA209ABK.D TO14S.M Mon Oct 08 15:10:27 2001

0 TIC's

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

BM 10-7-01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	422646	250.00	ng	0.11 104.58%
26) 1,4-Difluorobenzene IS#2	13.33	114	1729116	250.00	ng	0.11 102.08%
36) Chlorobenzene-d5 IS#3	20.65	117	1315459	250.00	ng	0.12 99.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	736117	277.90	ng	0.11
Spiked Amount 250.000	Range 61 - 140		Recovery = 111.16%			
32) Toluene-d8 SURR#2	16.87	98	1445026	258.54	ng	0.11
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.42%			
46) 4-Bromofluorobenzene SURR#	23.80	95	1248091	238.63	ng	0.12
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.45%			

Target Compounds

							Qvalue
10) 1,1-Dichloroethene	7.17	96	410640	218.49	ng		83
27) Benzene	12.82	78	1316814	243.42	ng		97
28) Trichloroethene	14.14	130	651630	240.17	ng		98
33) Toluene	17.08	92	820078	249.58	ng	#	96
39) Chlorobenzene	20.74	112	1168342	247.42	ng		95

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:00 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	422646	250.00	ng	0.11 104.58%
26) 1,4-Difluorobenzene IS#2	13.33	114	1729116	250.00	ng	0.11 102.08%
36) Chlorobenzene-d5 IS#3	20.65	117	1315459	250.00	ng	0.12 99.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	736117	277.90	ng	0.11
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.16%						
32) Toluene-d8 SURR#2	16.87	98	1445026	258.54	ng	0.11
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.42%						
46) 4-Bromofluorobenzene SURR#	23.80	95	1248091	238.63	ng	0.12
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.45%						

Target Compounds

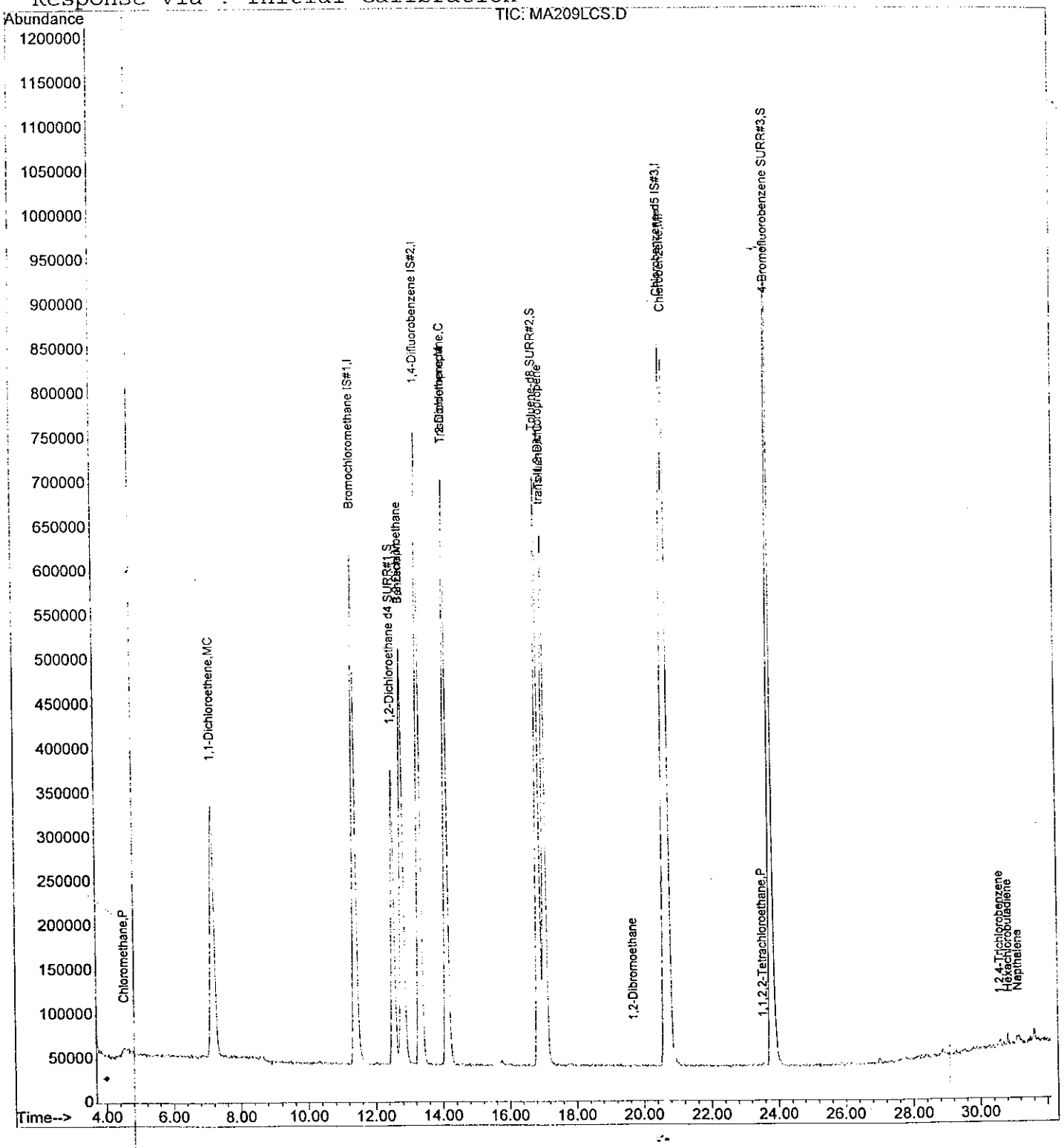
						Qvalue
4) Chloromethane	4.53	50	2144	1.20	ng	# 77
10) 1,1-Dichloroethene	7.17	96	410640	218.49	ng	83
24) 1,2-Dichloroethane	12.81	62	15529	5.30	ng	# 49
25) 1,2-Dibromoethane	19.70	107	1026	0.30	ng	# 3
27) Benzene	12.82	78	1316814	243.42	ng	97
28) Trichloroethene	14.14	130	651630	240.17	ng	98
29) 1,2-Dichloropropane	14.14	63	957	0.39	ng	# 1
33) Toluene	17.08	92	820078	249.58	ng	# 96
34) trans-1,3-Dichloropropene	17.06	75	6870	2.42	ng	# 1
39) Chlorobenzene	20.74	112	1168342	247.42	ng	95
45) 1,1,2,2-Tetrachloroethane	23.55	83	7107	2.22	ng	# 44
55) 1,2,4-Trichlorobenzene	30.60	180	5846	2.04	ng	# 85
56) Napthalene	31.14	128	28019	8.52	ng	# 64
57) Hexachlorobutadiene	30.85	225	10364	4.09	ng	# 76

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:00 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97181.D Vial: 1
Acq On : 7 Oct 2001 20:33 Operator: BDH
Sample : 062SVEEA09270116\9718-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Oct 7 21:05 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

mg/m^3 report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	374404	250.00	ng	0.09 NA%
26) 1,4-Difluorobenzene IS#2	13.32	114	1561008	250.00	ng	0.09 NA%
36) Chlorobenzene-d5 IS#3	20.61	117	1162480	250.00	ng	0.09 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.52	65	706164	300.94	ng	0.09
Spiked Amount 250.000	Range 61 - 140		Recovery = 120.38%			
32) Toluene-d8 SURR#2	16.86	98	1297167	257.07	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.83%			
46) 4-Bromofluorobenzene SURR#	23.76	95	1101489	238.31	ng	0.09
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.32%			

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97181.D Vial: 1
Acq On : 7 Oct 2001 20:33 Operator: BDH
Sample : 062SVEEA09270116\9718-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 21:05 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001 orig. BH 10/7/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	374404	250.00	ng	0.09 92.64%
26) 1,4-Difluorobenzene IS#2	13.32	114	1561008	250.00	ng	0.09 92.15%
36) Chlorobenzene-d5 IS#3	20.61	117	1162480	250.00	ng	0.09 87.54%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.52	65	706164	300.94	ng	0.09
Spiked Amount 250.000	Range 61 - 140		Recovery = 120.38%			
32) Toluene-d8 SURR#2	16.86	98	1297167	257.07	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.83%			
46) 4-Bromofluorobenzene SURR#	23.76	95	1101489	238.31	ng	0.09
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.32%			

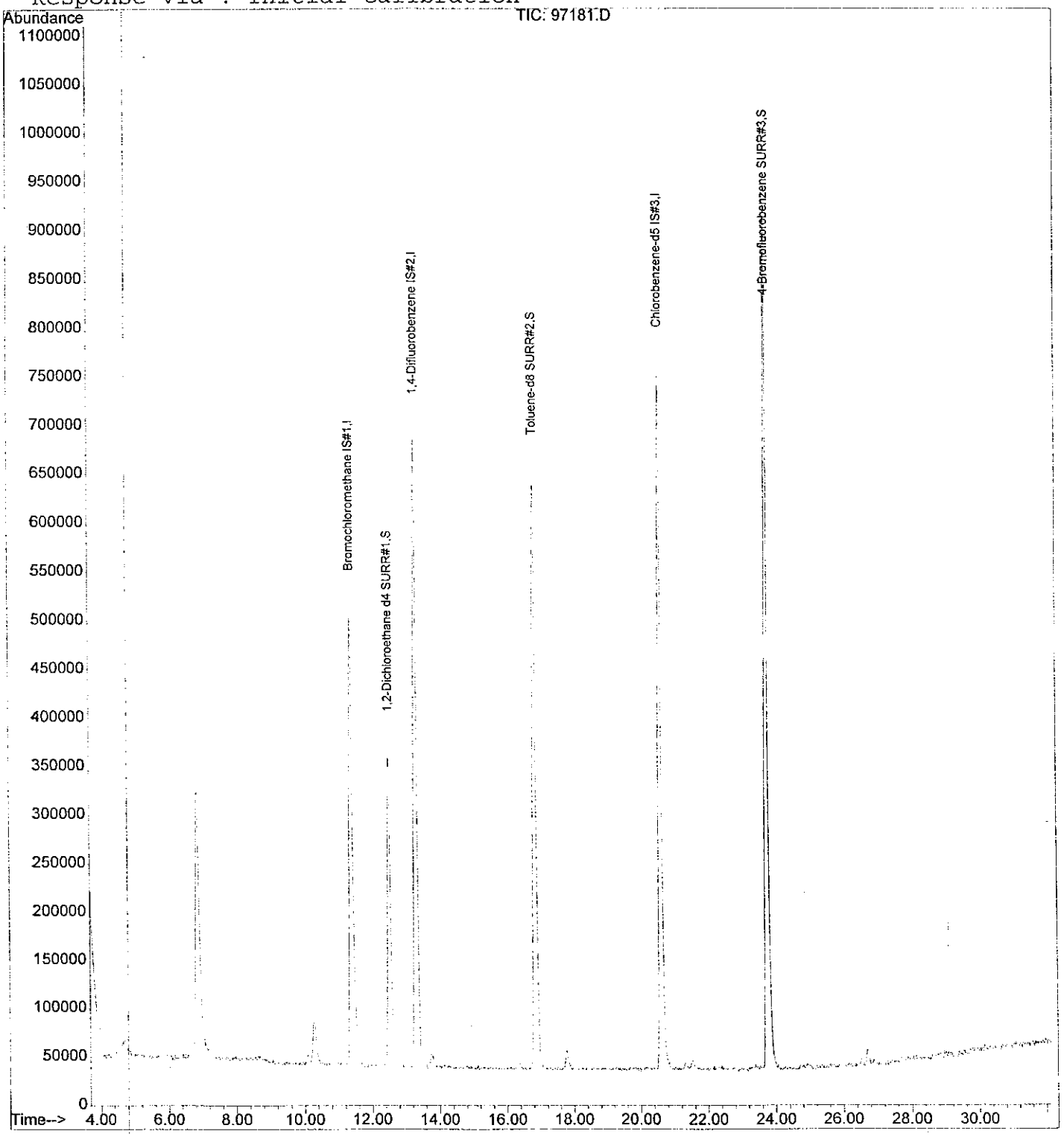
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97181.D Vial: 1
Acq On : 7 Oct 2001 20:33 Operator: BDH
Sample : 062SVEEA09270116\9718-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 21:05 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: BDH Date Acquired: 7 Oct 2001 20:33
Data File: D:\HPCHEM\1\DATA\MARILYN\1M1007A\97181.D
Name: 062SVEEA09270116\9718-1 ST 500mls
Misc: Pf/Pi=2 MA209ABK
Method: D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title: TO14
Library Searched: C:\DATABASE\NBS75K.L

TIC Top Hit name	mg/m3	RT	EstConc	Units (ng report)	Area	IntStd	ISRT	ISArea	ISConc
Acetone	0.6992	6.86	174.8	ng	2337420	ISTD01	11.39	3342690	250.0
2-Butanone	0.1016	10.29	25.4	ng	339287	ISTD01	11.39	3342690	250.0

97181.D TO14S.M Mon Oct 08 15:12:01 2001

Library Search Compound Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97181.D Vial: 1
Acq On : 7 Oct 2001 20:33 Operator: BDH
Sample : 062SVEEA09270116\9718-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 1.00
MS Integration Params: LSCINT.P

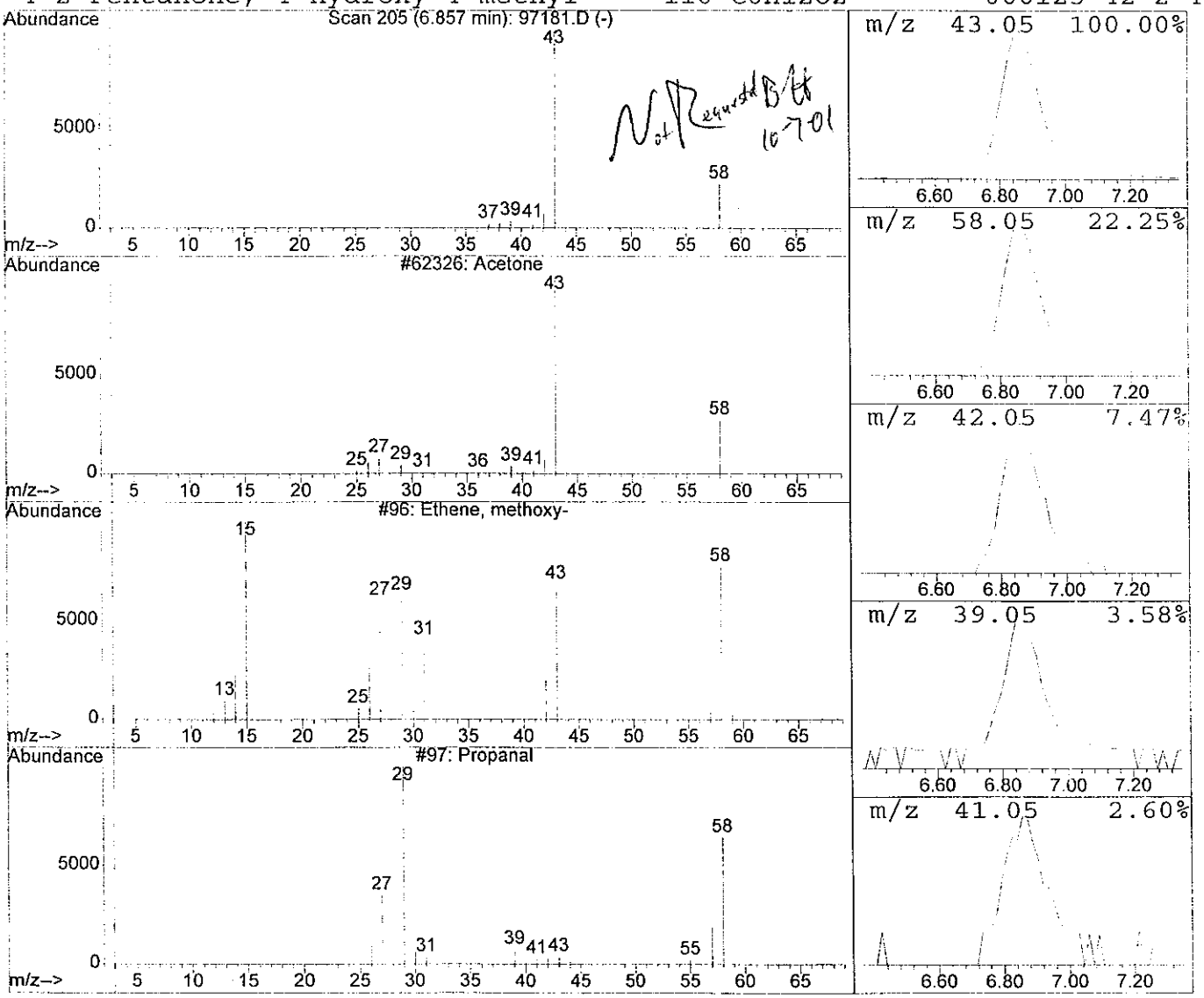
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 1 Acetone Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
6.86	174.82 ng	2337420	Bromochloromethan	3342690	11.39

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Acetone	58	C3H6O	000067-64-1	80
2	Ethene, methoxy-	58	C3H6O	000107-25-5	4
3	Propanal	58	C3H6O	000123-38-6	4
4	2-Pentanone, 4-hydroxy-4-methyl-	116	C6H12O2	000123-42-2	4



Not Reported B/H 10-7-01

Library Search Compound Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97181.D Vial: 1
Acq On : 7 Oct 2001 20:33 Operator: BDH
Sample : 062SVEEA09270116\9718-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 1.00
MS Integration Params: LSCINT.P

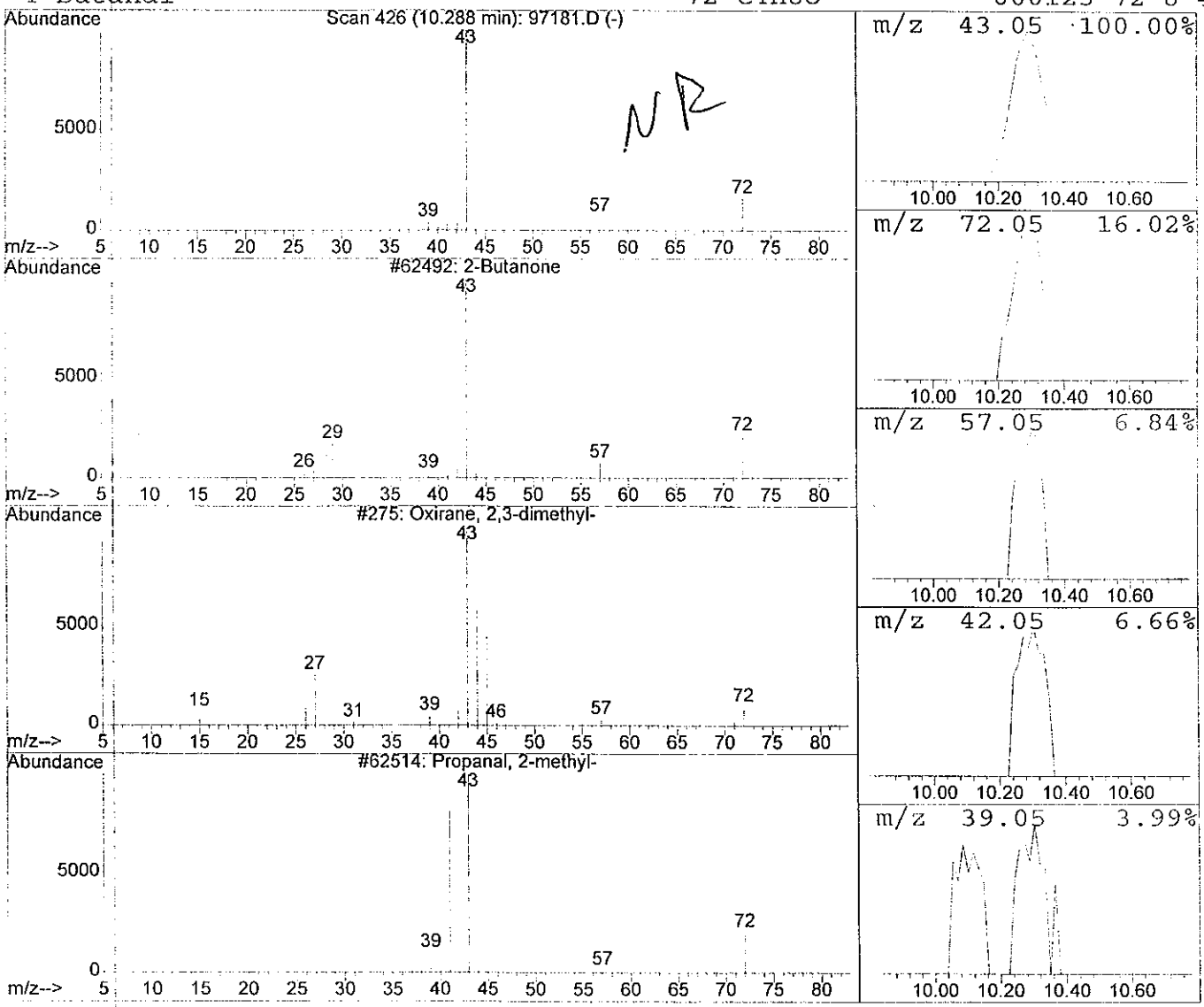
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 2 2-Butanone Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
10.29	25.38 ng	339287	Bromochloromethan	3342690	11.39

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Butanone	72	C4H8O	000078-93-3	9
2	Oxirane, 2,3-dimethyl-	72	C4H8O	003266-23-7	7
3	Propanal, 2-methyl-	72	C4H8O	000078-84-2	5
4	Butanal	72	C4H8O	000123-72-8	4



AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date R-P	LOG I.D.	#o impi
502C	A304038	Acc STD	2000 µg/ml	7/1999	DAY 5/18/98	7-VN 2-1	3
502A-R	A704037	Acc STD	2000 µg/ml	7/1999	DAY 5/18/98	7-VN 2-2	4
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3	10
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DAS 5/29/98	7-VN 2-4	12
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	12
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DAS 6/16/98	7-VN 2-6	5
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	7-VN 2-7	10
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LAD~~ 7/29/98	7-VN 2-9	
8260 Surr	A11715	Restek	2500 µg/ml	8/2001	DAS 10/6/98	7-VN 2-10	10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DAS 10/6/98	7-VN 2-11	10
Matrix Spike	LA76020	Supelco	25 µg/ml	8/2000	DAS 10/7/98	7-VN 2-12	10
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DAY 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Varies	6/2000	DAY 11/10	7-VN 2-14	1
Benzene-d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	10
2-Chloroethyl vinyl ether	A8090042-08	Accustandard	200.1 µg/ml	9/99	AD 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAY 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAY 3/9/99	7-VN 2-19	1
Custom Keytone Mix	LA011115	Restek	2000 µg/ml	3/2000	DAY 3/10/99	7-VN 2-20	5
8260 Volatile Kit	Varies	Restek	Varies	6/2001	DAY 3/10/99	7-VN 2-21	
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DAY 5/10/99	7-VN 2-22	
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DAY 5/10/99	7-VN 2-23	
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DAY 5/10/99	7-VN 2-24	
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DAY 5/10/99	7-VN 2-25	
~~Custom TO14 VOA Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~	
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DAY 6/9/99	7-VN 2-27	
Idomethane	LA81867	Supelco	2000	4/2000	DAY 6/9/99	7-VN 2-28	

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst Date Read ~~DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ # Ampules	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83977	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short List Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	2	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SOMR	A014275	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Vitra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/03 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Revised to 4-13-

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016543	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	2 each	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0 mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000 µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-To14	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/10/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95986	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: Oxygenates
Date: 3/1/01
Analyst: W/C

Standard I.D.: 8 -MSW 19- 1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-16	B1010025	1/4/03	2000 - 10,000	45	1.8ml	50/250 ug/ml

Comments: exp. 9/1/01

Sol. Name: IS/Surr
Date: 3-29-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 19- 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-4	A016278	8/03	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN-2-13	A017973	3/04	2500 µg/ml	↓	↓	↓

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BDH

Standard I.D.: 8 -MSW 19 -3
Location: Freezer MS018
Solvent: Methanol
Lot # V03E71

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A017265	11/01	2500 µg/ml	500 µls	50 mls	25 ppm
7-VN-2-16 (Surr)	A017264	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/2/01

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23 - 1
Location: MS018 - Freezer
Solvent: MEOH - V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SURR
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SURR	A017173	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23 -3
Location: MS018 - Std Freezer
Solvent: MEOH - Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Calibration)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

STL Pensacola / GCMS Volatiles Run Log

Date 10-7-01
Batch MAB209 (1) 2 3
IS# 9 -MSW- 19 - 3 (+Surr)
BFB 8 -MSW- 19 -3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method / TO14 /8260AIR /8260WATER /624MOD all airs were Summa cans
Batch 1 2 3
AIR-SPK 8 -MSW- 21 - 1 (LCS)
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

101

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:07	13		BEM1007A							separate shot at 11:07 - passes
11:27	14	TO14.m	CM 1007A (named CM1009A by accident)	50ppb		Y N	W	yes	BH	Daily Cal Check/bfb tune/95' ion area = 553,000
12:51	15		MA 209A BK	ST	BH 10/9	Y N				Daily Method Blank
13:28	16		M A209 LCS	50ppb		Y N				Batch# 209 LCS
14:05	1		9716-2	X10		Y N	A (TO14)			50mls
14:39	2		-4			Y N				re-run ST.
15:51	1		9716-1	ST		Y N				500mls re-run X10 - 4 cmpds.
16:25	1		-3.			Y N				re-run X10 - cis12DCE
16:58	1		-4R	ST	✓	Y N				re-run ST. possible C.O. from #3 run at 19:59 verified; report
15:12	1		9664-1	ST.		Y N				
17:31	1		9717-1	ST.		Y N				
18:09	1		-2	ST.		Y N				
18:46	5		9716 -1R	X10	✓	Y N				for 4 cmpds
19:23	6		-3R	X10	✓	Y N				for cis12DCE only
19:59	1		9716 -4RR	ST	✓	Y N				c.o. check - report this run
20:33	1		9718-1	ST		Y N				
21:07	1		9719-1	ST.		Y N				
21:44	1		QC212	ST.		Y N				QC can check # 212 ST. - passes
—	14-13	BFBSL	BLKTUBE	—		Y N	—	—		MPM clean-up/prep
:						Y N				
:						Y N				
:						Y N				BH 10-7-01
:						Y N				
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

STL - Pensacola / GCMS Volatiles Run Log

Date 6-19-01 | Instrument ID : Marilyn | Method : TO14.m/8260A.m/8260W.m | Other: New TO14 curve

Batch MAB127 (1) 2 3 | Batch _____ 1 2 3 | Daily maint. _____

IS# 8 -MSW- 19 -3 | TO14 8 -MSW- 17 - 1 | AIR-SPK 8 -MSW- 23 - 1 | LCS# 8 -MSW- 23 - 1

BFB 8 -MSW- 19 -3 | 8260 -MSW- - | WATER-SPK -MSW- - | SURR# 8 -MSW- 19 -3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	TO14.m	BFM ———	50ng		N	Methanol	From ~~60~~ Blank 95 Ion Area = 988,000	BH	—	—		—
~~08:27~~ 10:20	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 325	~~1357~~ 1279	973	
08:27	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
13:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0075	5ppb		Y N	A(TO14)	5ppb ICAL		319	1323	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
10:20	14		CMA0250	50ppb		Y N		50ppb CCV too		315	1279	973	—
10:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
11:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
12:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
14:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
14:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		-5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	X1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH 6/19/01 shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinguished sample(s) back to the sample storage refrigerator.

entered JSK

CH2MHILL DATA DELIVERABLE EVALUATION

Project Name: NAS Cecil Field

CTO: 62 **Project Number:** 163151 **SDG#:** C109719

Project Manager Sam Ross ***Laboratory*** STL - Pensacola

Preliminary Data

Date Due — **Date Received** _____

Final Data

Date Due 10/12/01 **Date Received** 10/12/01

Evaluation

- CCI Level: A B (C)
- Electronic Data Deliverables Received? **yes** **no**
- Review Level Needed: Evaluation: ✓ Validation: _____

- **Validated Data**
  Date Due _____ **Date Received** _____

Archiving

- Total pages of final report: 114
- Out-sourced? **Yes or No**

Comments

_____

_____

_____

_____

_____

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C109719 Date Received: 9/28/01

1. Was there a Chain of Custody? (Yes) No♣
2. Was Chain of Custody properly filled out and relinquished? (Yes) No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No♣ (N/A)
4. Were all samples properly labeled and identified? (Yes) No♣
5. Did samples require splitting or compositing♦? Yes♣ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No♣
7. Were all sample containers received intact? (Yes) No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ (N/A)
9. Is there sufficient volume for analysis requested? Yes No♣ (N/A) *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No♣ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ (N/A)

Airbill Number(s): 7901 7057 8730
7901 7057 8730.

Shipped By: FedEx

Cooler Number(s): Box CAN# 273 248, 278 250
249 245 082 068

Shipping Charges: N/A

Cooler Weight(s): 30#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

multiple project shipment

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 9/28/01 Logged By: [illegible] Date: 9/28/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C109 719

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-012

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
Day Tank 1 Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0927-01-20	SVE Effluent	AIR	09/27/01	10:00	III/C	14 Day	1									068	Grab	Summa Canister	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK # 7924 5055 5418	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop R. Dumaop	9/27/01	18:00	Federal Express	9/27/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	9/28/01	0907
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

CH2MHILL DATA DELIVERABLE EVALUATION

Project Name: NAS Cecil Field Monthly Air

CTO: 62 **Project Number:** 163151 **SDG#:** C110417

Project Manager Sam Ross *Laboratory* STL-Pensacola

Preliminary Data

Date Due _____ **Date Received** _____

Final Data

Date Due 10/31/01 **Date Received** 10/31/01

Evaluation

- CCI Level: A B (C)
- Electronic Data Deliverables Received? yes no
- Review Level Needed: Evaluation: _____ Validation: _____

- **Validated Data**
  Date Due _____ **Date Received** _____

Archiving

- Total pages of final report: _____
- Out-sourced? Yes or No

Comments

_____

_____

_____

_____

_____

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C110417

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-016

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Bill Canclos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM #	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-17	SVE Effluent	AIR	10/15/01	10:55	III/C	14 Day	1									1	Grab	Summa Canister	298
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791678865018.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	10/15/01	12:00	Printed Name and Signature: Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature: Davette Howard	10-17-01	0903
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C110417 Date Received: 10-17-01

1. Was there a Chain of Custody? **Yes** No♣
2. Was Chain of Custody properly filled out and relinquished? **Yes** No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No♣ **N/A**
4. Were all samples properly labeled and identified? **Yes** No♣
5. Did samples require splitting or compositing♦? Yes♣ **No**
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? **Yes** No♣
7. Were all sample containers received intact? **Yes** No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ **N/A**
9. Is there sufficient volume for analysis requested? Yes No♣ **N/A** *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) **Yes** No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No **N/A**
12. If sent, were matrix spike bottles returned? Yes No♣ **N/A**
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ **N/A**

Airbill Number(s): 7916 7886 5018

Shipped By: Fed Ex

Cooler Number(s): 285, 298

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 10-17-01 **Logged By:** [illegible] **Date:** 10/17/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

NAVY PAC PMO
OCT 31 2001

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SEVERN TRENT SERVICES

STL Pensacola

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Received: 17 OCT 01
Reported: 29 OCT 01

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	106 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	102 %

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
Dilution Factor	1
Prep Date	10.25.01
Prep Time	13:57
Analysis Date	10.25.01
Analysis Time	14:11
Batch ID	MAB218
Prep Method	MOD-TO14
Analyst	BDH

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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	250.27	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	255.95	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	223.16	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	256.43	103 %	86-113

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10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	251.07	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	250.01	100 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	254.53	102 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.5000	239.04	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	10.25.01	---	10.25.01	---	---
Prep Time	09:16	---	09:50	---	---
Analysis Date	10.25.01	---	10.25.01	---	---
Analysis Time	09:29	---	10:03	---	---
Batch ID	MAB218	MAB218	MAB218	MAB218	MAB218
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

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10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

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STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C110417 Date Received: 10-17-01

1. Was there a Chain of Custody? (Yes) No+
2. Was Chain of Custody properly filled out and relinquished? (Yes) No+
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No+ (N/A)
4. Were all samples properly labeled and identified? (Yes) No+
5. Did samples require splitting or compositing♦? Yes+ (No)
   Req By: PM Client Other+
6. Were samples received in proper containers for analysis requested? (Yes) No+
7. Were all sample containers received intact? (Yes) No+
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No+ (N/A)
9. Is there sufficient volume for analysis requested? Yes No+ (N/A *(Can)*)
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No+
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes+ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No+ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No+ (N/A)

Airbill Number(s): 7916 7886 5018

Shipped By: Fed Ex

Cooler Number(s): 285, 298

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 10-17-01 **Logged By:** [illegible] **Date:** 10/17/01

+ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C110417

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-016

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Jennifer Zimmerman J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-17	SVE Effluent	AIR	10/15/01	10:55	III/C	14 Day	1									1	Grab	Summa Canister	298
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Anthony Cain J.A. Jones Environmental Services	Federal Express TRK #791678865018.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	10/15/01	12:00	Printed Name and Signature: Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature: Davette Havard / Davette Havard	10-17-01	0905
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

C 110417

PLEASE FOLD THIS SHIPPING DOCUMENT IN HALF AND PLACE IT IN A WAYBILL POUCH AFFIXED TO YOUR SHIPMENT SO THAT THE BAR-CODE PORTION OF THE LABEL CAN BE READ AND SCANNED.
***WARNING: USE ONLY THE PRINTED ORIGINAL LABEL FOR SHIPPING. USING A PHOTOCOPY OF THIS LABEL FOR SHIPPING PURPOSES IS FRAUDULENT AND COULD RESULT IN ADDITIONAL BILLING CHARGES, ALONG WITH THE CANCELLATION OF YOUR FEDEX ACCOUNT NUMBER.

FROM: Randy Dumaop (904)777-4812
J.A. Jones Environmental Servic
6219 Authority Ave.
Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

TO: Rick Hayes (850)474-1001
Severn Trent Labs
3355 McLemore Dr

Pensacola, FL 32514-7045

SHIP DATE: 15OCT01
MAN-WGT: 16 LBS

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 ** 2DAY **

WED
AA

Deliver By:
BFM 17OCT01

TRK # 7916 7886 5018 FORM 0201

32514-FL-US
DROP OFF

F3 PNSA

010

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: Pen
Labeled by: DMH
Delivered by: DMH

CH2M-CONST-GA C110417
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	8	1	DMH	10-17-01	1645
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

SEVERN TRENT SERVICES

STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL <u>and</u> analyte is not detected <u>or</u> surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside --50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

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Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

Revised. 06/19/01

FL DEP Data Qualifiers

SEVERN TRENT SERVICES

STL Pensacola

The following codes shall be used when reporting data values that either meet the specified description outlined below or do not meet the quality control criteria of the laboratory:

SYMBOL	MEANING
A	Value reported is the mean (average) of two or more determinations. This code shall be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed (e.g. laboratory replicate samples, field duplicates, etc.) independently. Do not use this code if the data are the result of replicate analysis on the same sample aliquot, extract or digestate. Under most conditions, replicate values shall be reported as individual analyses.
B	Results based upon colony counts outside the acceptable range. This code applies to microbiological tests and specifically to membrane filter colony counts. The code is to be used if the colony count is generated from a plate in which the total number of coliform colonies exceeds the method indicated ideal ranges which are: Total Coliforms: 20 - 80 colonies Fecal Coliforms: 20 - 60 colonies
F	When reporting species: F indicates the female sex
H	Value based on field kit determination; results may not be accurate. This code shall be used if a field screening test (i.e. field gas chromatograph data, immunoassay, vendor-supplied field kit, etc.) was used to generate the value and the field kit or method has not been recognized by the Department as equivalent to laboratory methods.
J	Estimated value; value not accurate. This code shall be used in the following instances: 1. surrogate recovery limits have been exceeded; 2. no known quality control criteria exists for the component; 3. the reported value failed to meet the established quality control criteria for either precision or accuracy; 4. the sample matrix interfered with the ability to make any accurate determination; or 5. if the data is questionable because of improper laboratory or field protocols (e.g. composite sample was collected instead of a grab sample). Note: a "J" value shall be accompanied by justification for its use. A "J" value shall not be used if another code applies (e.g., K, L, M, T, V, Y, I)
K	Off-scale low. Actual value is known to be less than the value given. This code shall be used if: 1. The value is less than the lowest calibration standard and the calibration curve is known to be non-linear; or 2. The value is known to be less than the reported value based on sample size, dilution or some other variable. This code shall not be used to report values that are less than the laboratory practical quantitation limit or laboratory method detection limit.
L	Off-scale high. Actual value is known to be greater than value given. To be used when the concentration of the analyte is above the acceptable level for quantitation (exceeds the linear range or highest calibration standard) <u>and</u> the calibration curve is known to exhibit a negative deflection.
M	When reporting chemical analyses: presence of material is verified but not quantified; the actual value is less than the value given. The reported value shall be the laboratory practical quantitation limit. This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is greater than the method detection limit. If the value is less than the method detection limit use "T" below. When reporting Oxygen Reduction Potential or Temperature: indicates a negative value When reporting Species: indicates male sex.
N	Presumptive evidence of presence of material. This qualifier shall be used if: 1. the component has been tentatively identified based on mass spectral library search; 2. there is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e. presence of analyte was not confirmed by alternate procedures).

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FL DEP Data Qualifiers

SEVERN TRENT SERVICES
STL Pensacola

SYMBOL	MEANING
O	Sampled, but analysis lost or not performed. Note: if reporting data to the U.S. Environmental Protection Agency Water Quality Storage and Retrieval (STORET) data base, a numerical value must be entered. Such values are not meaningful and shall not be used.
Q	Sample held beyond the accepted holding time. This code shall be used if the value is derived from a sample that was prepared or analyzed after the approved holding time restrictions for sample preparation or analysis.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes, only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected. This shall be used to indicate that the specified component was not detected. The value associated with the qualifier shall be the laboratory method detection limit. Unless requested by the client, less than the method detection limit values shall not be reported (see "T" above).
V	Indicates that the analyte was detected in both the sample and the associated method blank. Note: the value in the blank shall not be subtracted from associated samples.
Y	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC), the numeric value represents the filtration volume.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
?	Data is rejected and should not be used. Some of all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not analyzed due to interference. Note: if reporting data to the U.S. Environmental Protection Agency Water Quality Storage and Retrieval (STORET) data base, a numerical value must be entered. Such values are not meaningful and shall not be used.

If more than one code applies, and the data is to be entered into STORET, only one code shall be reported. The code shall be selected based on the following hierarchy:

?
*, O
Y
V
H
B, K, L, M, I, U, T, Z
A, N, F, Q
J

The following codes deal with certain aspects of field activities. The codes shall be used if the laboratory has knowledge of the specific sampling event. The codes shall be added by the organization collecting samples if they apply:

D	Measurement was made in the field (i.e. in situ). This applies to any value (ex. pH, specific conductance, etc.) that was obtained under field conditions using approved analytical methods. Note: when data is to be entered into STORET, and the parameter code specifies a field measurement (e.g. "Field pH"), this code is not required.
E	Indicates that extra samples were taken at composite stations.
R	Significant rain in the past 48 hours. This code shall be used when the rainfall might contribute to a lower than normal value.
!	Data deviates from historically established concentration ranges.

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STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

*State of **California**, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02*

*State of **Connecticut**, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01*

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension granted

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Florida, Radioactive Materials License No. G0733-1, no expiration date assigned

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01

*Commonwealth of **Kentucky**, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01*

*State of **Louisiana**, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01*

Louisiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

*State of **Maryland**, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02*

*Commonwealth of **Massachusetts**, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02*

*State of **Michigan**, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02*

*New **Hampshire** DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02*

*State of New **Jersey**, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01*

*New **York State**, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02*

*North **Carolina** Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01*

*North **Dakota** DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02*

*State of **Oklahoma**, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02*

*Commonwealth of **Pennsylvania**, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01*

*South **Carolina** DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02*

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

*State of **Washington**, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01*

West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 110417
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Oct. 17, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1015-01-17	110417-1	SVEEA17

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Oct. 26, 2001

2A
AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1025A.D Date Analyzed : 25 Oct 2001
Instrument ID : GC/MS Ins Time Analyzed : 8:52
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
104171	062SVEA10150117	106	100	102	0	0	0	0
MA218ABK	VBLKMA/ DAILY M	102	99	95	0	0	0	0
MA218LCS	LCS/BATCH #218	100	102	96	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

018

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\MA218LCS.D Vial: 16
Acq On : 25 Oct 2001 10:03 Operator: BDH
Sample : LCS/BATCH #218 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	223.16	250.00	89.26	58 to 138%	[ ]
27)	M	Benzene	250.27	250.00	100.11	87 to 116%	[ ]
28)	M	Trichloroethene	251.07	250.00	100.43	85 to 116%	[ ]
33)	MC	Toluene	256.43	250.00	102.57	86 to 113%	[ ]
39)	MP	Chlorobenzene	255.95	250.00	102.38	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	110417					
Batch	MAB218	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		250.27	0.5000	0.5005	100%	87-116%
Chlorobenzene		255.95	0.5000	0.5119	102%	88-111%
1,1-Dichloroethene		223.16	0.5000	0.4463	89%	58-138%
Toluene		256.43	0.5000	0.5129	103%	86-113%
Trichloroethene		251.07	0.5000	0.5021	100%	85-116%
1,2-Dichloroethane-d4		250.01	0.5000	0.5000	100%	61-140%
Toluene-d8		254.53	0.5000	0.5091	102%	90-109%
4-Bromofluorobenzene		239.04	0.5000	0.4781	96%	87-112%

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID: MA218ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 10/25/01 Time Analyzed: 9:29

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	LCS/BATCH #218 LCS 5	MA218LCS.D	10:03
02	SVEEA17	062SVEA10150117\1041	104171.D	14:11

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID: BFMA1024.D BFB Injection Date: 10/24/01

Instrument ID: MARILYN BFB Injection Time: 8:31

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	29.6
75	30.0 - 66.0% of mass 95	55.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	62.1
175	4.0 - 9.0% of mass 174	4.2 (6.8)1
176	93.0 - 101.0% of mass 174	60.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.2 (6.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	10/24/01	10:49
02	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025R.D	10/24/01	11:26
03	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	10/24/01	12:04
04	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	10/24/01	13:00
05	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	10/24/01	13:51
06	VSTD0100	100NG/4UL/20PPB INITI	CMA0100R.D	10/24/01	14:47

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID: BFM1025A.D BFB Injection Date: 10/25/01

Instrument ID: MARILYN BFB Injection Time: 8:30

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	29.0
75	30.0 - 66.0% of mass 95	56.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	59.9
175	4.0 - 9.0% of mass 174	4.5 (7.6)1
176	93.0 - 101.0% of mass 174	59.1 (98.7)1
177	5.0 - 9.0% of mass 176	4.3 (7.3)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	VSTD0250MA	DAILY CALIB. CHECK 50	CM1025A.D	10/25/01	8:52
02	VBLKMA	VBLKMA/ DAILY METHO	MA218ABK.D	10/25/01	9:29
03	LCS AND 2ND	LCS/BATCH #218 LCS 5	MA218LCS.D	10/25/01	10:03
04	SVEEA17	062SVEA10150117\1041	104171.D	10/25/01	14:11

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integratc
Title : TO14
Last Update : Fri Oct 26 13:22:07 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.450	1.609	2.668	1.794	2.247	1.786	-----	
							Q	A= 0.335	R^2=0.992	
								B= 0.513		
								C= 0.585		
3)		Dichlorotetrafluoro	1.923	1.948	2.523	1.817	2.241	1.936	2.065	12.87
4)	P	Chloromethane	1.350	1.225	1.609	1.200	1.259	1.280	1.320	11.40
5)	C	Vinyl chloride	1.122	1.150	1.316	1.084	1.157	1.158	1.165	6.84#
6)		Bromomethane	1.565	1.559	1.756	1.493	1.469	1.572	1.569	6.41
7)		Chloroethane	0.673	0.721	0.784	0.698	0.646	0.708	0.705	6.69
8)		Trichlorofluorometh	1.889	2.374	2.694	2.477	2.161	2.446	2.340	11.96
9)		1,1,2-Trichlorotrif	2.182	2.131	1.988	2.013	1.741	2.079	2.022	7.69
10)	MC	1,1-Dichloroethene	1.187	1.241	1.174	1.218	1.073	1.242	1.189	5.32#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.772	2.538	2.411	2.235	2.140	2.328	2.404	9.44
13)		Carbon disulfide	3.583	3.762	4.056	3.565	3.566	3.791	3.721	5.19
14)		methyl-Tert-Butyl E	2.558	1.720	1.870	1.892	1.771	1.861	-----	
							L	M= 1.885	R^2=1.000	
								B= -0.060		
15)		trans-1,2-Dichloroe	1.373	1.435	1.412	1.283	1.199	1.389	1.349	6.65
16)		n-Hexane	1.822	1.646	1.586	1.486	1.559	1.563	1.610	7.18
17)	P	1,1-Dichloroethane	2.732	2.891	2.845	2.685	2.479	2.749	2.730	5.29
18)		cis-1,2-Dichloroeth	2.132	2.371	2.358	2.231	2.064	2.260	2.236	5.44
19)	C	Chloroform	3.366	3.581	3.479	3.318	3.008	3.389	3.357	5.80#
20)		Isooctane	6.977	5.444	5.322	5.016	6.648	5.142	5.758	14.52
21)		1,1,1-Trichloroetha	3.042	3.141	2.980	2.771	2.720	2.922	2.929	5.48
22)		Carbon tetrachlorid	3.077	3.171	3.147	2.931	2.743	3.026	3.016	5.28
23)	S	1,2-Dichloroethane	1.785	1.756	1.760	1.816	1.834	1.778	1.788	1.73
24)		1,2-Dichloroethane	2.467	2.081	2.145	2.104	1.861	2.036	2.116	9.38
25)		1,2-Dibromoethane	2.773	2.014	2.322	2.248	1.884	2.137	2.230	13.88
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.867	0.835	0.859	0.829	0.753	0.820	0.827	4.93
28)	M	Trichloroethene	0.408	0.409	0.423	0.412	0.360	0.403	0.403	5.40
29)	C	1,2-Dichloropropane	0.383	0.378	0.392	0.381	0.337	0.375	0.374	5.15#
30)		Bromodichloromethan	0.958	0.929	0.977	0.949	0.829	0.929	0.929	5.62
31)		cis-1,3-Dichloropro	0.555	0.532	0.590	0.570	0.491	0.549	0.548	6.24
32)	S	Toluene-d8 SURR#2	0.838	0.828	0.826	0.819	0.827	0.826	0.828	0.73
33)	MC	Toluene	0.510	0.510	0.528	0.511	0.448	0.503	0.502	5.53#
34)		trans-1,3-Dichlorop	0.506	0.425	0.508	0.486	0.400	0.461	0.464	9.56
35)		1,1,2-Trichloroetha	0.412	0.296	0.342	0.333	0.276	0.312	0.329	14.36
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

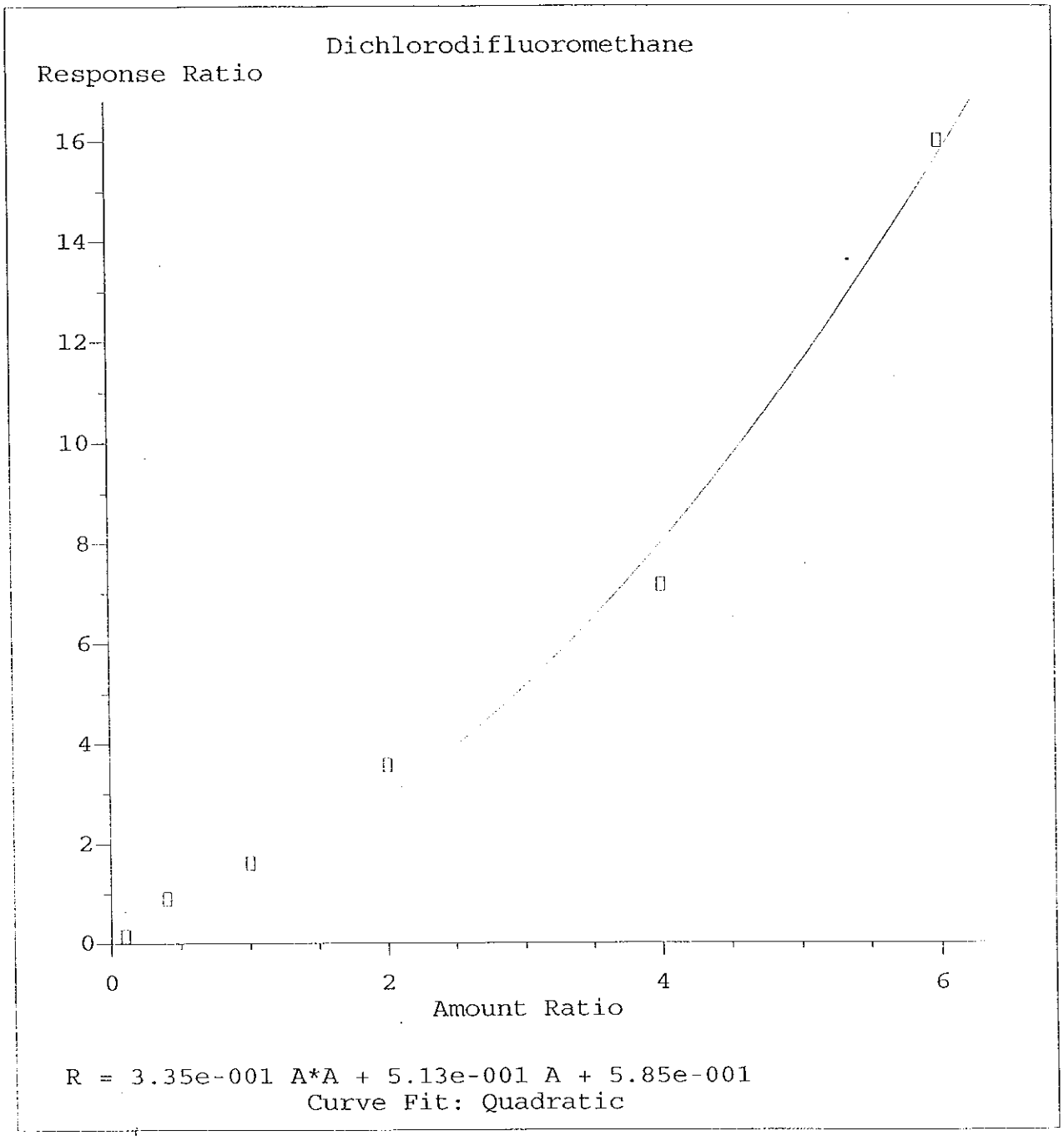
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrat
Title : TO14
Last Update : Fri Oct 26 13:22:07 2001
Response via : Initial Calibration

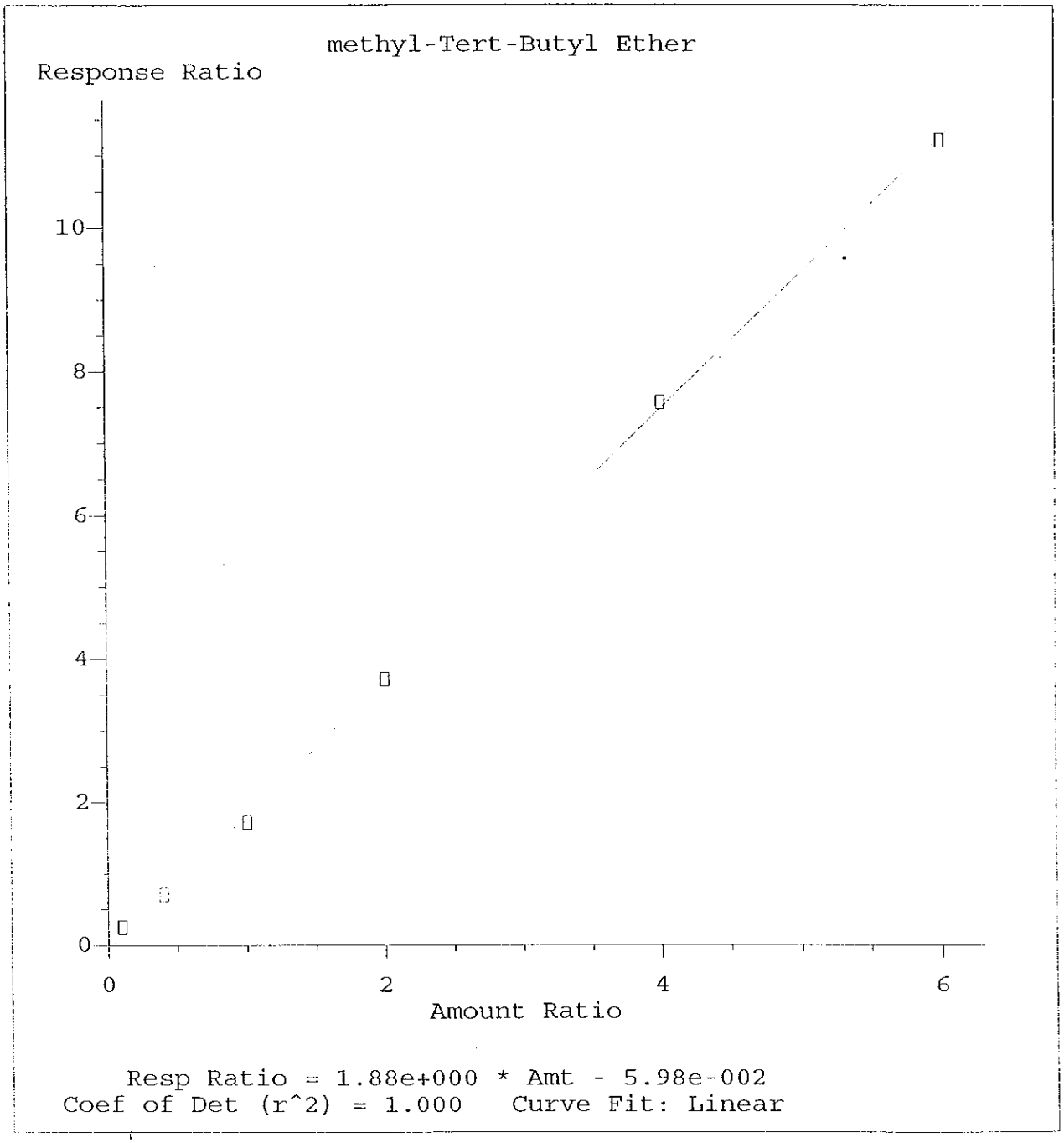
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
37)		Tetrachloroethene	0.507	0.498	0.501	0.489	0.424	0.483	0.483	6.28
38)		Dibromochloromethan	0.870	0.696	0.770	0.757	0.636	0.714	0.741	10.73
39)	MP	Chlorobenzene	0.945	0.952	0.991	0.950	0.836	0.940	0.936	5.57
40)	C	Ethylbenzene	0.368	0.391	0.399	0.390	0.329	0.380	0.376	6.81#
41)		m,p-Xylene	0.481	0.484	0.522	0.499	0.434	0.498	0.486	6.06
42)		o-Xylene	0.451	0.482	0.514	0.486	0.406	0.477	0.469	7.88
43)		Styrene	0.715	0.748	0.826	0.781	0.649	0.766	0.747	8.13
44)	P	Bromoform	0.840	0.551	0.684	0.651	0.526	0.599	-----	
							L	M= 0.688	R^2=0.998	
								B= -0.096		
45)	P	1,1,2,2-Tetrachloro	1.034	0.589	0.726	0.699	0.593	0.653	-----	
							L	M= 0.730	R^2=0.998	
								B= -0.088		
46)	S	4-Bromofluorobenzen	0.925	0.938	1.029	0.961	0.955	0.982	0.965	3.82
47)		1,4-Dichloro-2-bute	0.170	0.106	0.161	0.147	0.115	0.130	-----	
							L	M= 0.162	R^2=0.994	
								B= -0.038		
48)		4-Ethyltoluene	1.217	1.390	1.411	1.247	1.125	1.363	1.292	8.78
49)		1,3,5-Trimethylbenz	1.029	1.023	1.200	1.022	0.873	1.077	1.038	10.16
50)		2-Chlorotoluene	1.420	1.403	1.528	1.416	1.282	1.430	1.413	5.56
51)		1,2,4-Trimethylbenz	1.079	1.095	1.181	1.087	0.993	1.112	1.091	5.54
52)		1,3-Dichlorobenzene	0.825	0.783	0.898	0.793	0.724	0.803	0.804	7.12
53)		1,4-Dichlorobenzene	0.868	0.819	0.948	0.836	0.776	0.843	0.848	6.79
54)		1,2-Dichlorobenzene	0.826	0.707	0.838	0.712	0.687	0.737	0.751	8.65
55)		1,2,4-Trichlorobenz	0.648	0.447	0.604	0.484	0.565	0.519	0.545	13.87
56)		Napthalene	1.246	0.521	0.795	0.666	0.890	0.671	-----	
							Q	A= 0.057	R^2=0.997	
								B= 0.432		
								C= 0.102		
57)		Hexachlorobutadiene	0.507	0.418	0.456	0.384	0.538	0.432	0.456	12.60

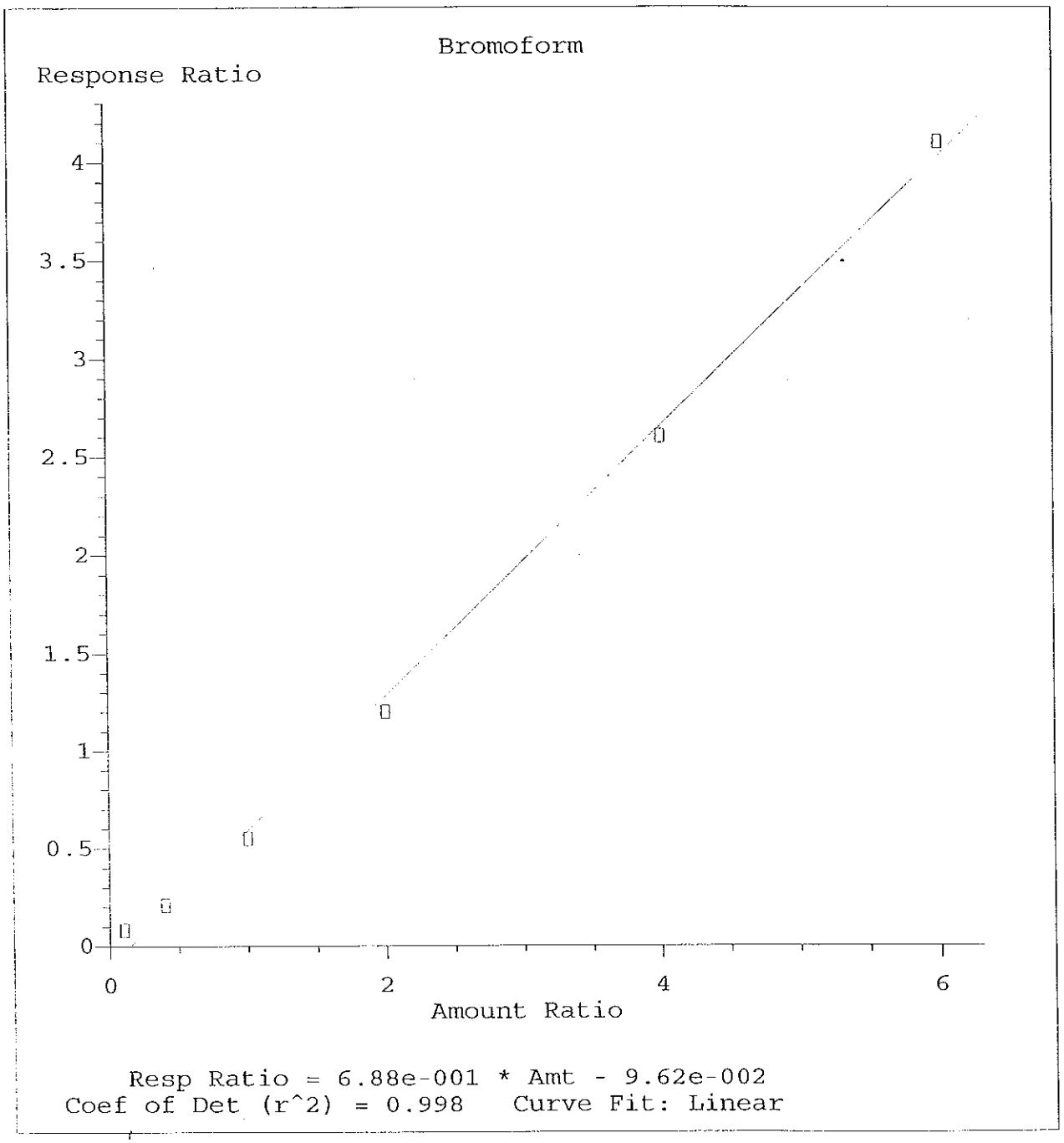
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



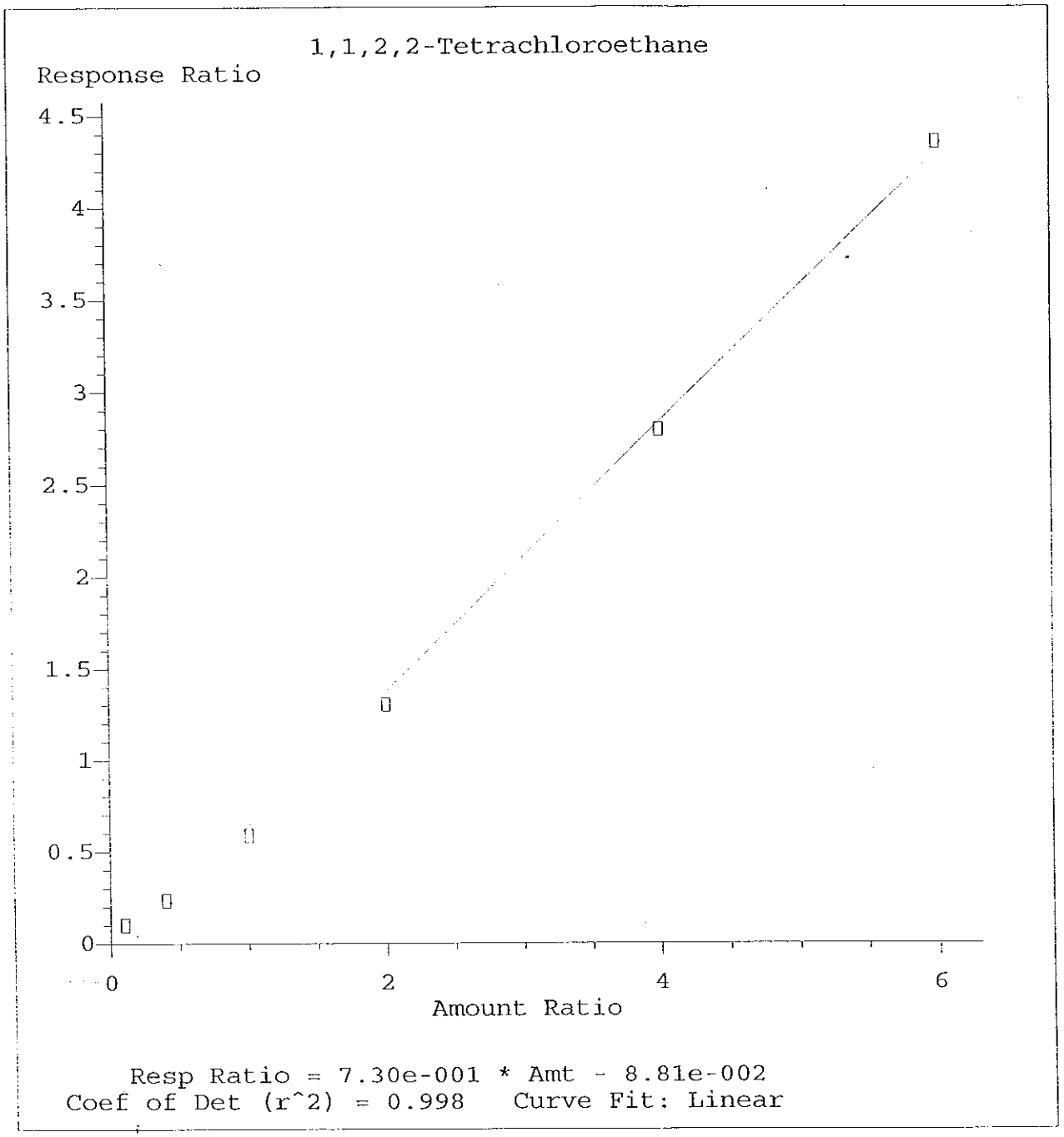
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



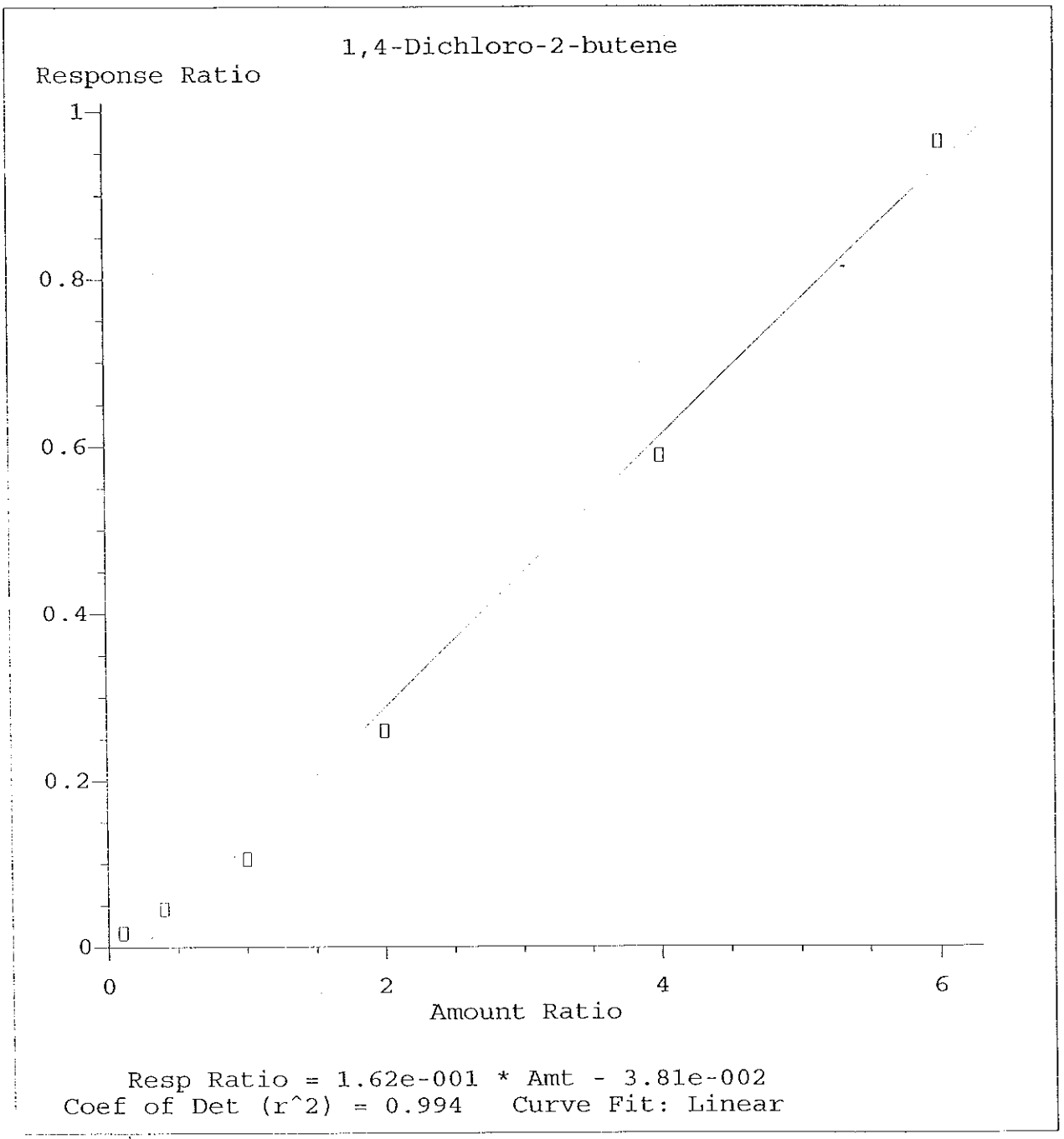
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



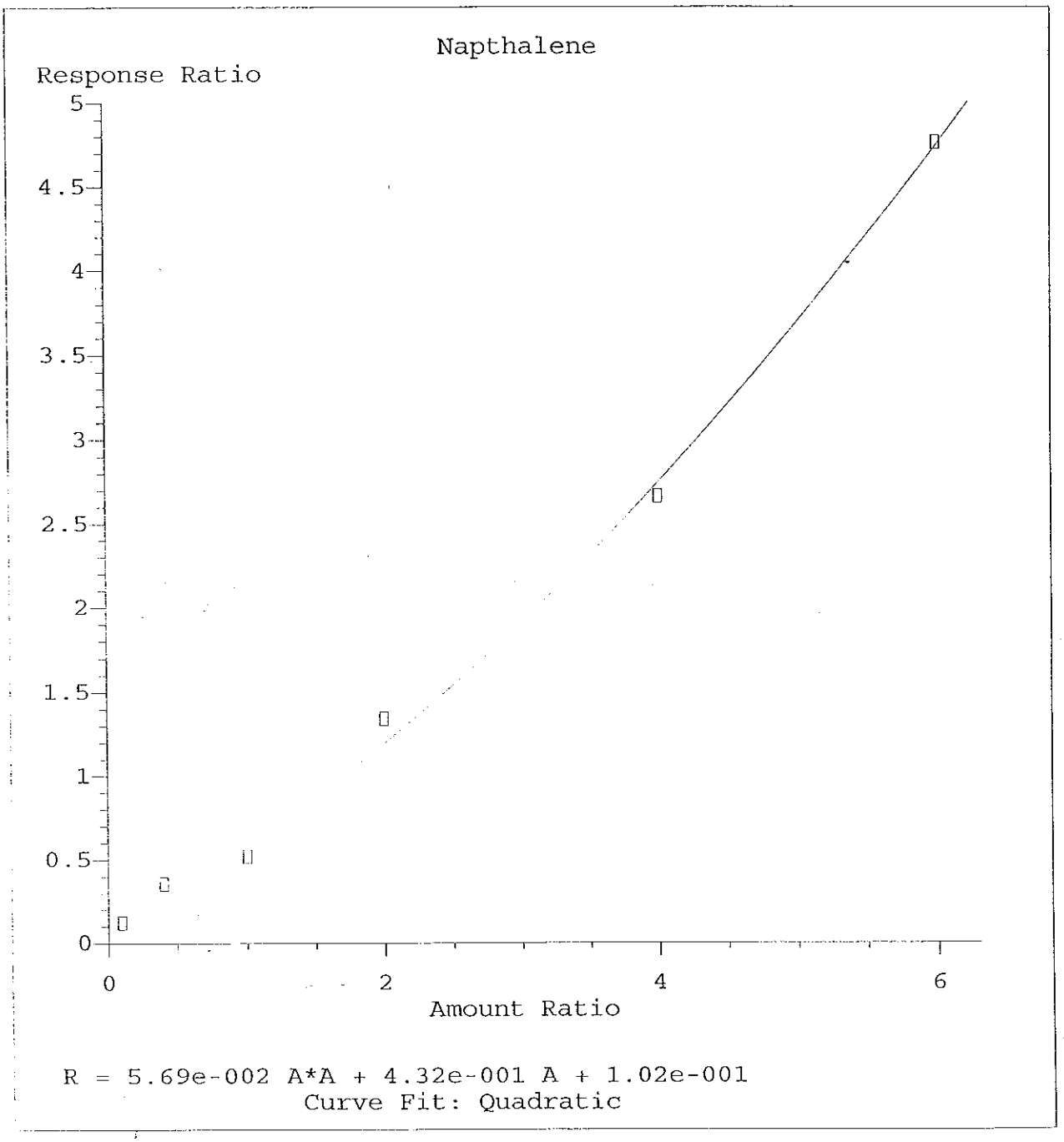
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	84	0.00
2		Dichlorodifluoromethane	1.926	1.831	4.9#	96	0.00
3		Dichlorotetrafluoroethane	2.065	1.907	7.7#	82	0.00
4	P	Chloromethane	1.320	1.227	7.0#	84	0.00
5	C	Vinyl chloride	1.165	1.205	-3.4#	88	0.00
6		Bromomethane	1.569	1.687	-7.5#	91	0.00
7		Chloroethane	0.705	0.732	-3.8#	86	0.00
8		Trichlorofluoromethane	2.340	2.165	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	2.022	2.098	-3.8#	83	0.00
10	MC	1,1-Dichloroethene	1.189	1.262	-6.1#	86	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.94#
12		Methylene chloride	2.404	2.452	-2.0	81	0.00
13		Carbon disulfide	3.721	3.992	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	1.945	1.949	-0.2	95	0.00
15		trans-1,2-Dichloroethene	1.349	1.350	-0.1	79	0.00
16		n-Hexane	1.610	1.453	9.8#	74	0.00
17	P	1,1-Dichloroethane	2.730	2.940	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	2.236	2.410	-7.8#	86	0.00
19	C	Chloroform	3.357	3.578	-6.6#	84	0.00
20		Isooctane	5.758	5.031	12.6#	78	0.00
21		1,1,1-Trichloroethane	2.929	3.173	-8.3#	85	0.00
22		Carbon tetrachloride	3.016	3.192	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.788	1.792	-0.2	86	0.00
24		1,2-Dichloroethane	2.116	2.191	-3.5#	89	0.00
25		1,2-Dibromoethane	2.230	2.274	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	80	0.00
27	M	Benzene	0.827	0.873	-5.6#	84	0.00
28	M	Trichloroethene	0.403	0.424	-5.2#	83	0.00
29	C	1,2-Dichloropropane	0.374	0.398	-6.4#	84	0.00
30		Bromodichloromethane	0.929	0.996	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	0.548	0.578	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	0.828	0.839	-1.3	81	0.00
33	MC	Toluene	0.502	0.532	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	0.464	0.490	-5.6#	92	0.00
35		1,1,2-Trichloroethane	0.329	0.327	0.6	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	81	0.00
37		Tetrachloroethene	0.483	0.504	-4.3#	82	0.00
38		Dibromochloromethane	0.741	0.756	-2.0#	88	0.00
39	MP	Chlorobenzene	0.936	0.990	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.376	0.402	-6.9#	84	0.00
41		m,p-Xylene	0.486	0.511	-5.1#	86	0.00
42		o-Xylene	0.469	0.487	-3.8#	82	0.00
43		Styrene	0.747	0.784	-5.0#	85	0.00
44	P	Bromoform	0.642	0.633	1.4	93	0.00
45	P	1,1,2,2-Tetrachloroethane	0.716	0.663	7.4#	91	0.00
46	S	4-Bromofluorobenzene SURR#3	0.965	0.994	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	0.138	0.129	6.5#	99	0.00
48		4-Ethyltoluene	1.292	1.276	1.2	74	0.00
49		1,3,5-Trimethylbenzene	1.038	1.118	-7.7#	89	0.00
50		2-Chlorotoluene	1.413	1.533	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	1.091	1.152	-5.6#	85	0.00
52		1,3-Dichlorobenzene	0.804	0.857	-6.6#	89	0.00
53		1,4-Dichlorobenzene	0.848	0.921	-8.6#	91	0.00
54		1,2-Dichlorobenzene	0.751	0.798	-6.3#	92	0.00
55		1,2,4-Trichlorobenzene	0.545	0.557	-2.2#	101	0.00
56		Napthalene	0.798	0.707	11.4#	110	0.00
57		Hexachlorobutadiene	0.456	0.489	-7.2#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	84	0.00
2		Dichlorodifluoromethane	250.000	335.190	-34.1#	96	0.00
3		Dichlorotetrafluoroethane	250.000	230.914	7.6#	82	0.00
4	P	Chloromethane	250.000	232.363	7.1#	84	0.00
5	C	Vinyl chloride	250.000	258.683	-3.5#	88	0.00
6		Bromomethane	250.000	268.807	-7.5#	91	0.00
7		Chloroethane	250.000	259.648	-3.9#	86	0.00
8		Trichlorofluoromethane	250.000	231.250	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	259.368	-3.7#	83	0.00
10	MC	1,1-Dichloroethene	250.000	265.335	-6.1#	86	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.94#
12		Methylene chloride	250.000	254.974	-2.0	81	0.00
13		Carbon disulfide	250.000	268.224	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	250.000	263.411	-5.4#	95	0.00
15		trans-1,2-Dichloroethene	250.000	250.208	-0.1	79	0.00
16		n-Hexane	250.000	225.546	9.8#	74	0.00
17	P	1,1-Dichloroethane	250.000	269.183	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	250.000	269.473	-7.8#	86	0.00
19	C	Chloroform	250.000	266.437	-6.6#	84	0.00
20		Isooctane	250.000	218.424	12.6#	78	0.00
21		1,1,1-Trichloroethane	250.000	270.834	-8.3#	85	0.00
22		Carbon tetrachloride	250.000	264.616	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	250.595	-0.2	86	0.00
24		1,2-Dichloroethane	250.000	258.881	-3.6#	89	0.00
25		1,2-Dibromoethane	250.000	254.934	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	80	0.00
27	M	Benzene	250.000	263.968	-5.6#	84	0.00
28	M	Trichloroethene	250.000	263.149	-5.3#	83	0.00
29	C	1,2-Dichloropropane	250.000	265.956	-6.4#	84	0.00
30		Bromodichloromethane	250.000	268.115	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	250.000	263.685	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.392	-1.4	81	0.00
33	MC	Toluene	250.000	264.939	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	250.000	263.733	-5.5#	92	0.00
35		1,1,2-Trichloroethane	250.000	249.105	0.4	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	81	0.00
37		Tetrachloroethene	250.000	260.697	-4.3#	82	0.00
38		Dibromochloromethane	250.000	254.971	-2.0	88	0.00
39	MP	Chlorobenzene	250.000	264.397	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	266.978	-6.8#	84	0.00
41		m,p-Xylene	500.000	525.818	-5.2#	86	0.00
42		o-Xylene	250.000	259.544	-3.8#	82	0.00
43		Styrene	250.000	262.378	-5.0#	85	0.00
44	P	Bromoform	250.000	261.730	-4.7#	93	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	252.934	-1.2	91	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	257.457	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	251.402	-0.6	99	0.00
48		4-Ethyltoluene	250.000	246.772	1.3	74	0.00
49		1,3,5-Trimethylbenzene	250.000	269.351	-7.7#	89	0.00
50		2-Chlorotoluene	250.000	271.180	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	250.000	263.989	-5.6#	85	0.00
52		1,3-Dichlorobenzene	250.000	266.343	-6.5#	89	0.00
53		1,4-Dichlorobenzene	250.000	271.376	-8.6#	91	0.00
54		1,2-Dichlorobenzene	250.000	265.517	-6.2#	92	0.00
55		1,2,4-Trichlorobenzene	250.000	255.719	-2.3#	101	0.00
56		Napthalene	250.000	293.887	-17.6#	110	0.00
57		Hexachlorobutadiene	250.000	268.278	-7.3#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID (Standard): CM1025A.D Date Analyzed: 10/25/01

Instrument ID: MARILYN Time Analyzed: 8:52

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	310060	11.45	1279657	13.39	979219	20.71
	UPPER LIMIT	620120	11.95	2559314	13.89	1958438	21.21
	LOWER LIMIT	155030	10.95	639829	12.89	489610	20.21
	EPA SAMPLE NO.						
01	VBLKMA	280257	11.48	1169848	13.41	869092	20.74
02	LCS AND 2ND	387358	11.48	1555172	13.42	1185306	20.74
03	SVEEA17	399377	11.50	1618494	13.42	1205864	20.74

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

036

Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1024A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

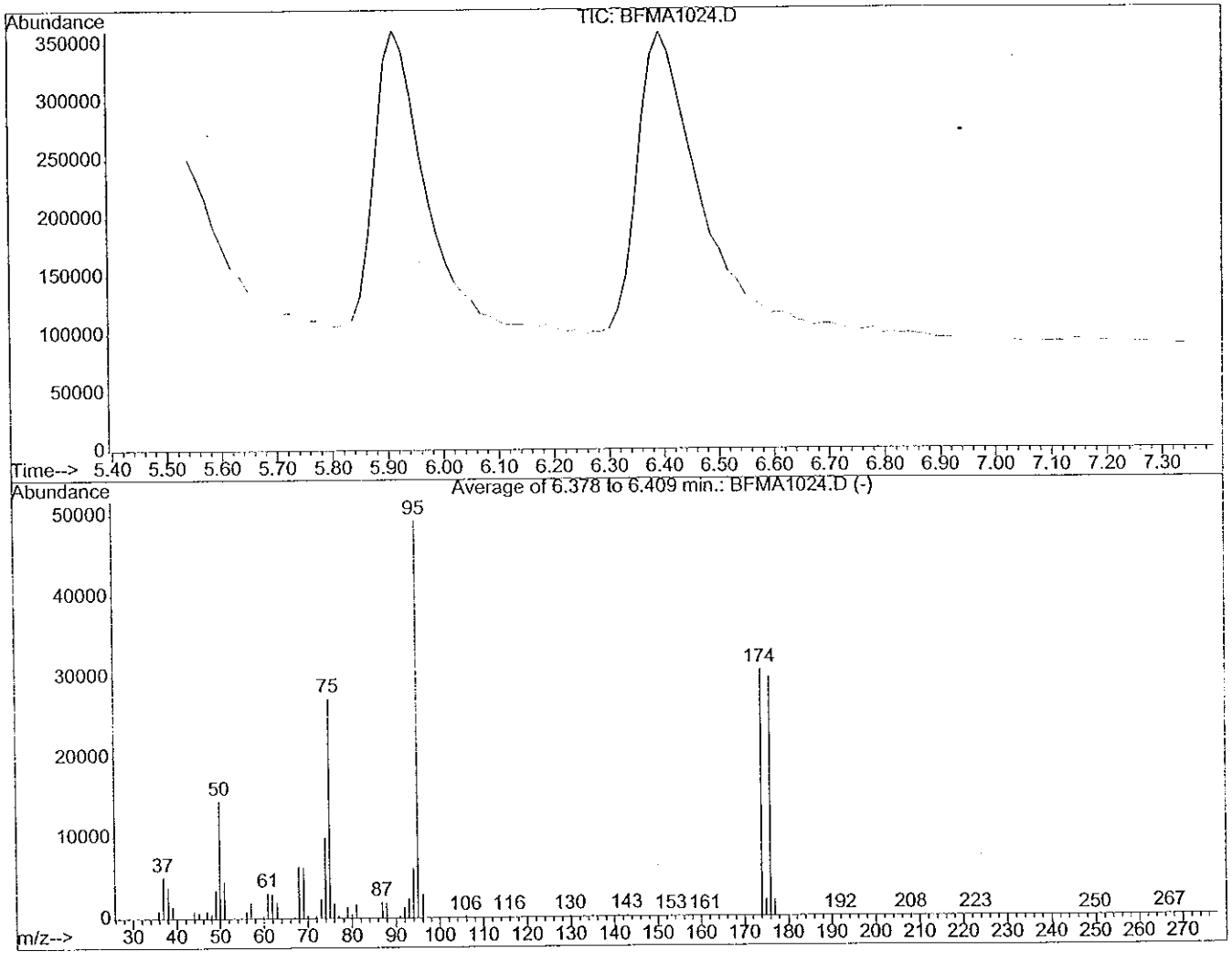
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	BFMA1024	BFBSTL	DAILY BFB 12HR. TUNE
2	Sample	15	MA217ABK	TO14S	DAILY METHOD BLANK
3	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB. not used
4	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB not used
5	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
6	Sample	14	CMA0025R	TO14S	25ng/1uL/5ppb INITIAL CALIB.
7	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
8	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
9	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
10	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
11	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
12	Sample	14	CMA0100R	TO14S	100ng/4uL/20ppb INITIAL CALIB
13	Sample	16	MA217LCS	TO14S	BATCH #217 LCS 50ppb/250ng
14	Sample	1	104151	TO14S	10415-1 X100 5mls
15	Sample	2	104152	TO14S	10415-2 X100 5mls
16	Sample	3	104153	TO14S	10415-3 X100 5mls
17	Sample	4	103811	TO14S	10381-1 X500 1.0ml
18	Sample	5	103812	TO14S	10381-2 X500 1.0ml
19	Sample	6	103813	TO14S	10381-3 X500 1.0ml
20	Sample	7	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
21	Sample	8	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
22	Sample	9	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
23	Sample	10	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
24	Sample	11	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
25	Sample	12	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
26	Sample	13	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
27	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
28	Sample	15	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
29	Sample	16	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
30	Sample	1	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
31	"	2	"	"	"
32	"	3	"	"	"

To 14 curve

Last Modified: Wed Oct 24 15:36:50 2001

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1024A\BFMA1024.D Vial: 15
Acq On : 24 Oct 2001 8:31 Operator: BDH
Sample : DAILY BFB 12HR. TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14



Peak Apex is scan: 56 (6.39 min)
Average of 3 scans: 55,56,57 minus background scan 36 (6.08 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	29.6	14632	PASS
75	95	30	60	55.5	27382	PASS
95	95	100	100	100.0	49359	PASS
96	95	5	9	6.2	3065	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	62.1	30635	PASS
175	174	5	9	6.8	2089	PASS
176	174	95	101	97.1	29741	PASS
177	176	5	9	6.9	2053	PASS

DAILY BFB 12HR. TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	1033	56.00	1003	74.00	9965	93.00	2440
37.00	5151	57.00	1964	75.05	27382	94.00	6246
38.05	3941	59.90	340	75.95	1913	95.00	49359
39.05	1558	60.95	3217	76.95	421	96.05	3065
43.95	991	61.95	3060	78.95	1457	105.90	247
45.00	758	63.00	2119	79.95	577	140.90	254
46.90	996	67.95	6433	80.95	1768	142.90	257
48.00	648	69.00	6326	86.90	2051	173.95	30635
48.95	3535	70.00	419	87.95	1947	174.95	2089
50.00	14632	71.90	341	90.95	254	175.95	29741
51.00	4593	73.05	2396	91.95	1351	176.90	2053

Data File : D:\HPCHEM\1\DATA01\M1024A\BFMA1024.D
Acq On : 24 Oct 2001 8:31
Sample : DAILY BFB 12HR. TUNE
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK
MS Integration Params: rteint.p

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON
Sampling : 1
Start Thrs: 0.2
Stop Thrs : 0

Filtering: 5
Min Area: 3 % of largest Peak
Max Peaks: 100
Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

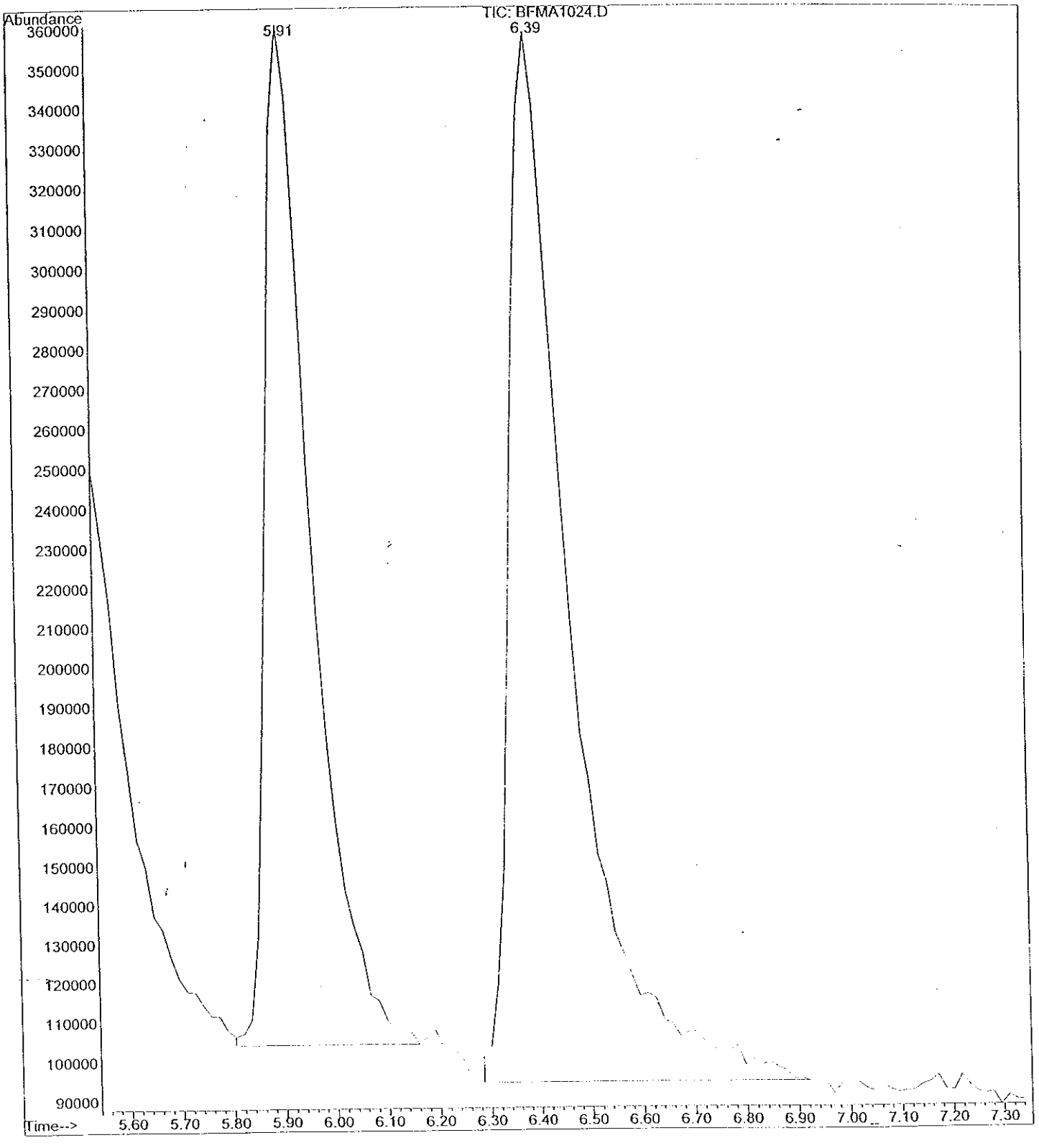
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.912	18	25	41	rVB	256747	1599777	72.16%	41.913%
2	6.394	49	56	90	rVB	263899	2217127	100.00%	58.087%

Sum of corrected areas: 3816904

BFMA1024.D BFBSTL.M Wed Oct 24 08:39:19 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\BFMA1024.D
Acq On : 24 Oct 2001 8:31
Sample : DAILY BFB 12HR. TUNE
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFMA1024.D BFBSTL.M Wed Oct 24 08:39:19 2001

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration

Passes BK 10/24/01

Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.450	1.609	2.668	1.794	2.247	1.786	-----	
							Q	A= 0.335	R^2=0.992	
								B= 0.513		
								C= 0.585		
3)		Dichlorotetrafluoro	1.923	1.948	2.523	1.817	2.241	1.936	2.065	12.87
4)	P	Chloromethane	1.350	1.225	1.609	1.200	1.259	1.280	1.320	11.40
5)	C	Vinyl chloride	1.122	1.150	1.316	1.084	1.157	1.158	1.165	6.84#
6)		Bromomethane	1.565	1.559	1.756	1.493	1.469	1.572	1.569	6.41
7)		Chloroethane	0.673	0.721	0.784	0.698	0.646	0.708	0.705	6.69
8)		Trichlorofluorometh	1.889	2.374	2.694	2.477	2.161	2.446	2.340	11.96
9)		1,1,2-Trichlorotrif	2.182	2.131	1.988	2.013	1.741	2.079	2.022	7.69
10)	MC	1,1-Dichloroethene	1.187	1.241	1.174	1.218	1.073	1.242	1.189	5.32#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.772	2.538	2.411	2.235	2.140	2.328	2.404	9.44
13)		Carbon disulfide	3.583	3.762	4.056	3.565	3.566	3.791	3.721	5.19
14)		methyl-Tert-Butyl E	2.558	1.720	1.870	1.892	1.771	1.861	-----	
							L	M= 1.885	R^2=1.000	
								B= -0.060		
15)		trans-1,2-Dichloroe	1.373	1.435	1.412	1.283	1.199	1.389	1.349	6.65
16)		n-Hexane	1.822	1.646	1.586	1.486	1.559	1.563	1.610	7.18
17)	P	1,1-Dichloroethane	2.732	2.891	2.845	2.685	2.479	2.749	2.730	5.29
18)		cis-1,2-Dichloroeth	2.132	2.371	2.358	2.231	2.064	2.260	2.236	5.44
19)	C	Chloroform	3.366	3.581	3.479	3.318	3.008	3.389	3.357	5.80#
20)		Isooctane	6.977	5.444	5.322	5.016	6.648	5.142	5.758	14.52
21)		1,1,1-Trichloroetha	3.042	3.141	2.980	2.771	2.720	2.922	2.929	5.48
22)		Carbon tetrachlorid	3.077	3.171	3.147	2.931	2.743	3.026	3.016	5.28
23)	S	1,2-Dichloroethane	1.785	1.756	1.760	1.816	1.834	1.778	1.788	1.73
24)		1,2-Dichloroethane	2.467	2.081	2.145	2.104	1.861	2.036	2.116	9.38
25)		1,2-Dibromoethane	2.773	2.014	2.322	2.248	1.884	2.137	2.230	13.88
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.867	0.835	0.859	0.829	0.753	0.820	0.827	4.93
28)	M	Trichloroethene	0.408	0.409	0.423	0.412	0.360	0.403	0.403	5.40
29)	C	1,2-Dichloropropane	0.383	0.378	0.392	0.381	0.337	0.375	0.374	5.15#
30)		Bromodichloromethan	0.958	0.929	0.977	0.949	0.829	0.929	0.929	5.62
31)		cis-1,3-Dichloropro	0.555	0.532	0.590	0.570	0.491	0.549	0.548	6.24
32)	S	Toluene-d8 SURR#2	0.838	0.828	0.826	0.819	0.827	0.826	[illegible]	0.73
33)	MC	Toluene	0.510	0.510	0.528	0.511	0.448	0.503	0.502	5.53#
34)		trans-1,3-Dichlorop	0.506	0.425	0.508	0.486	0.400	0.461	0.464	9.56
35)		1,1,2-Trichloroetha	0.412	0.296	0.342	0.333	0.276	0.312	0.329	14.36
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							

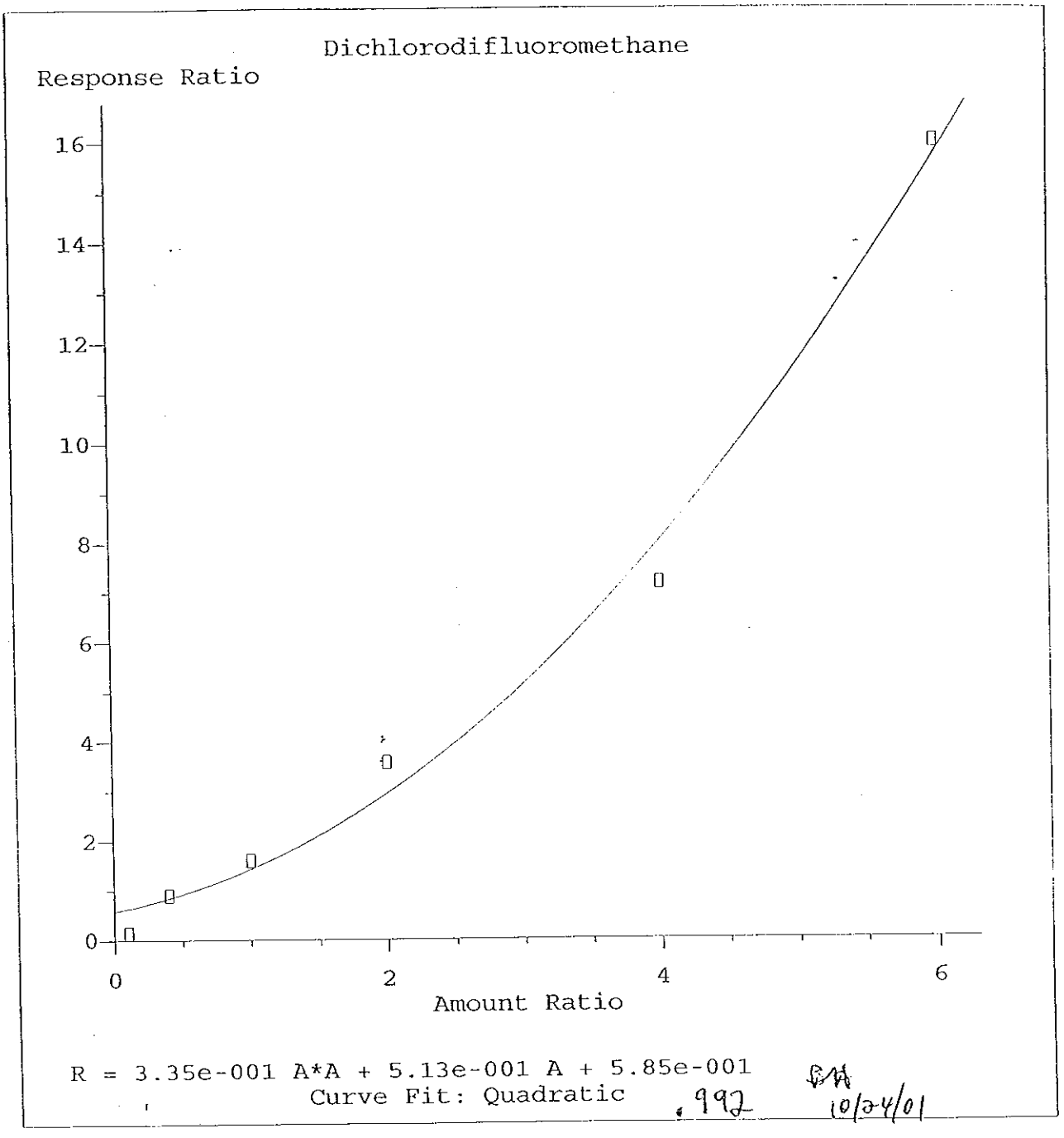
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration

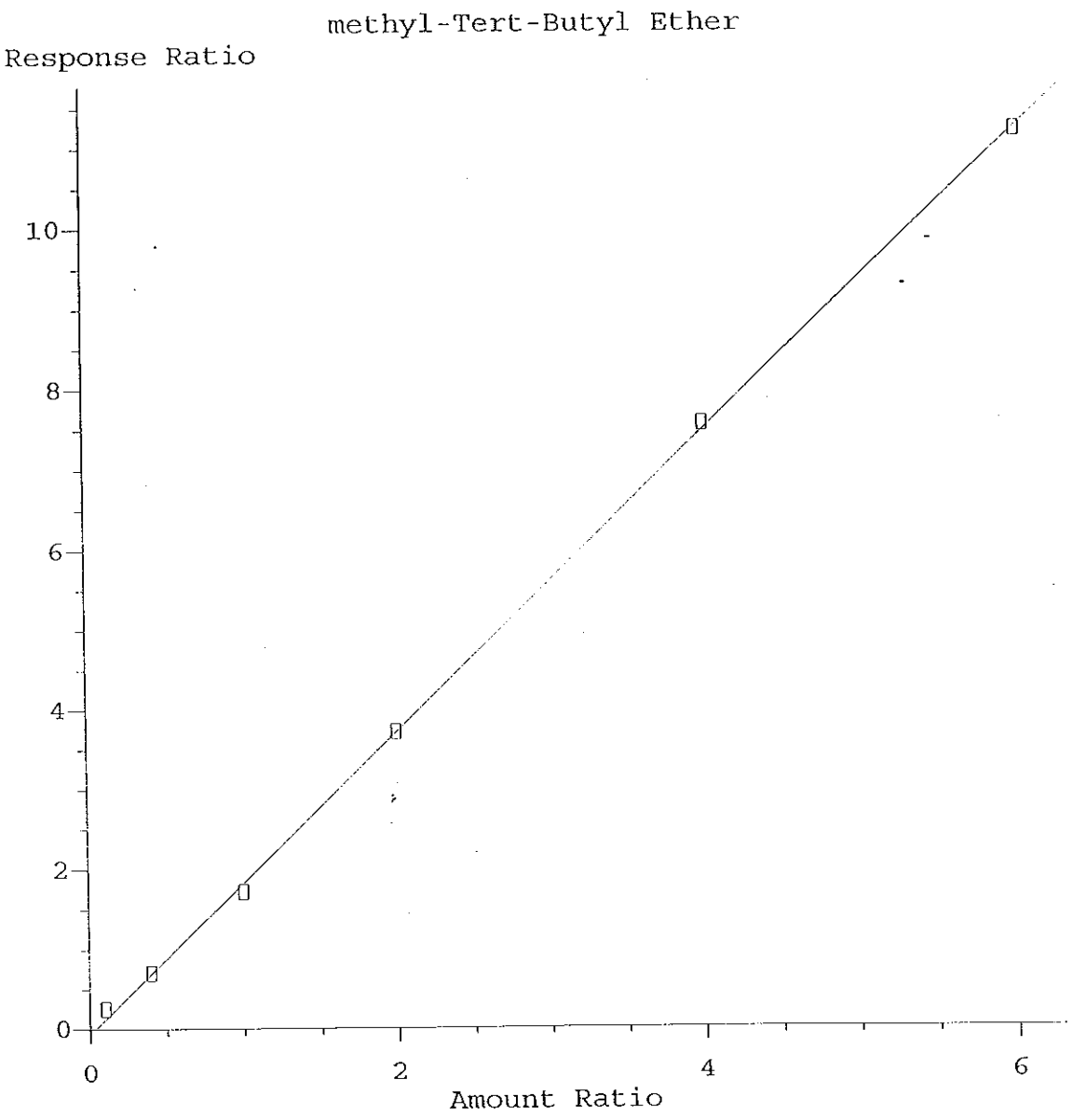
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
37)		Tetrachloroethene	0.507	0.498	0.501	0.489	0.424	0.483	0.483	6.28
38)		Dibromochloromethan	0.870	0.696	0.770	0.757	0.636	0.714	0.741	10.73
39)	MP	Chlorobenzene	0.945	0.952	0.991	0.950	0.836	0.940	0.936	5.57
40)	C	Ethylbenzene	0.368	0.391	0.399	0.390	0.329	0.380	0.376	6.81#
41)		m,p-Xylene	0.481	0.484	0.522	0.499	0.434	0.498	0.486	6.06
42)		o-Xylene	0.451	0.482	0.514	0.486	0.406	0.477	0.469	7.88
43)		Styrene	0.715	0.748	0.826	0.781	0.649	0.766	0.747	8.13
44)	P	Bromoform	0.840	0.551	0.684	0.651	0.526	0.599	-----	
							L	M= 0.688	R^2=0.998	
								B= -0.096		
45)	P	1,1,2,2-Tetrachloro	1.034	0.589	0.726	0.699	0.593	0.653	-----	
							L	M= 0.730	R^2=0.998	
								B= -0.088		
46)	S	4-Bromofluorobenzen	0.925	0.938	1.029	0.961	0.955	0.982	0.965	3.82
47)		1,4-Dichloro-2-bute	0.170	0.106	0.161	0.147	0.115	0.130	-----	
							L	M= 0.162	R^2=0.994	
								B= -0.038		
48)		4-Ethyltoluene	1.217	1.390	1.411	1.247	1.125	1.363	1.292	8.78
49)		1,3,5-Trimethylbenz	1.029	1.023	1.200	1.022	0.873	1.077	1.038	10.16
50)		2-Chlorotoluene	1.420	1.403	1.528	1.416	1.282	1.430	1.413	5.56
51)		1,2,4-Trimethylbenz	1.079	1.095	1.181	1.087	0.993	1.112	1.091	5.54
52)		1,3-Dichlorobenzene	0.825	0.783	0.898	0.793	0.724	0.803	0.804	7.12
53)		1,4-Dichlorobenzene	0.868	0.819	0.948	0.836	0.776	0.843	0.848	6.79
54)		1,2-Dichlorobenzene	0.826	0.707	0.838	0.712	0.687	0.737	0.751	8.65
55)		1,2,4-Trichlorobenz	0.648	0.447	0.604	0.484	0.565	0.519	0.545	13.87
56)		Napthalene	1.246	0.521	0.795	0.666	0.890	0.671	-----	
							Q	A= 0.057	R^2=0.997	
								B= 0.432		
								C= 0.102		
57)		Hexachlorobutadiene	0.507	0.418	0.456	0.384	0.538	0.432	0.456	12.60

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

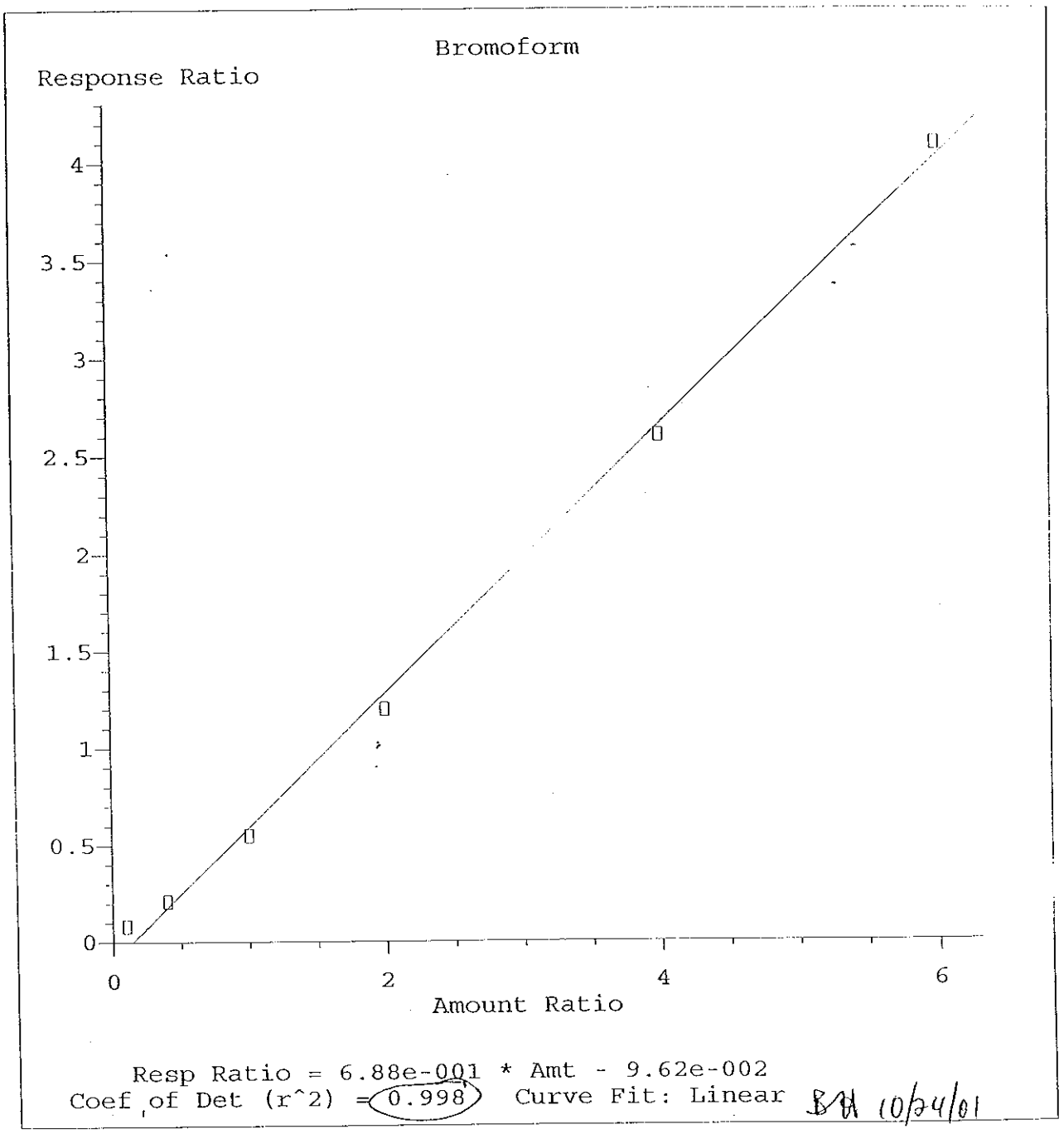


Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:22:03 2001

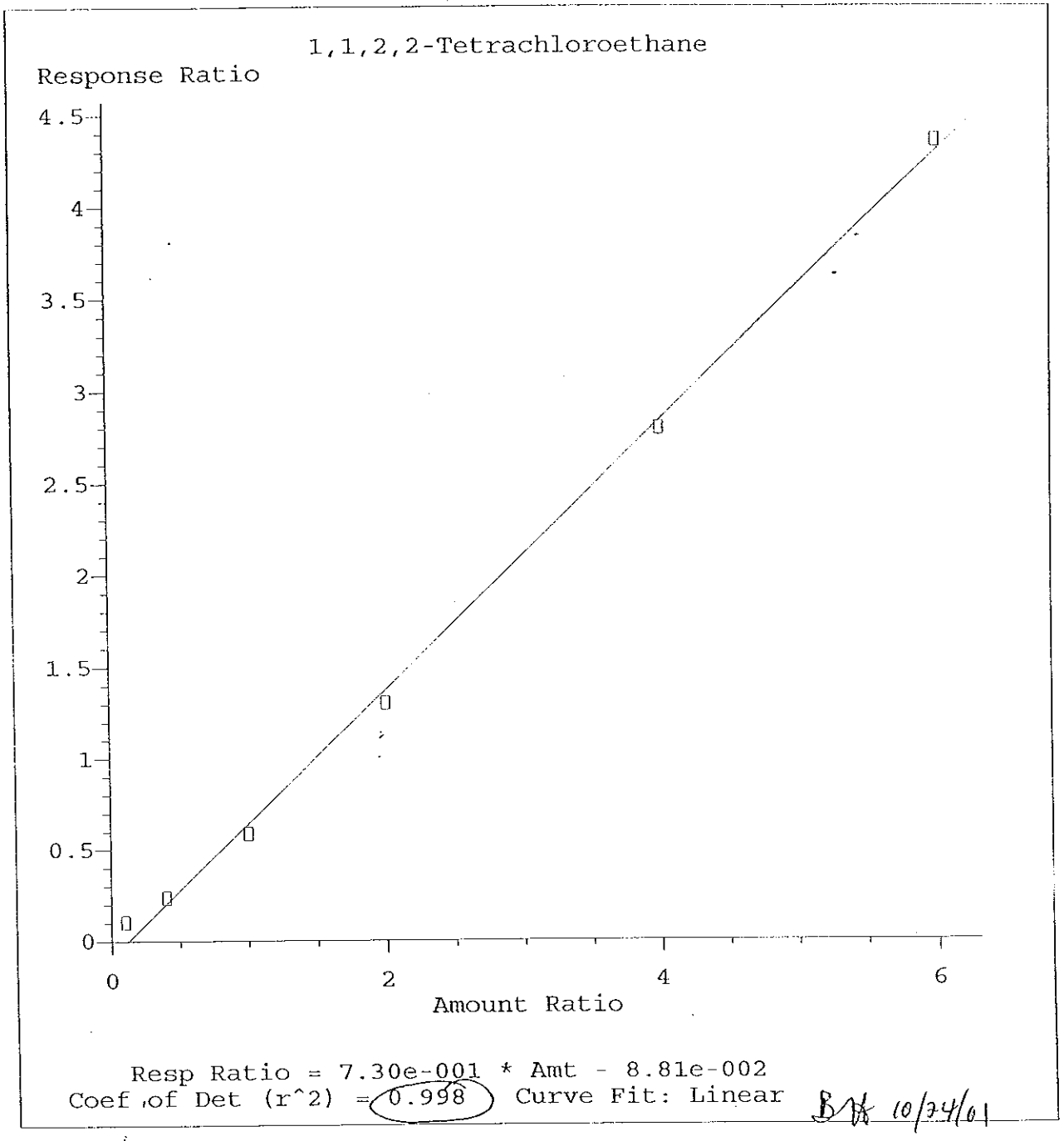


Resp Ratio = 1.88e+000 * Amt - 5.98e-002
Coef of Det (r^2) = 1.000 Curve Fit: Linear BH 10/24/01

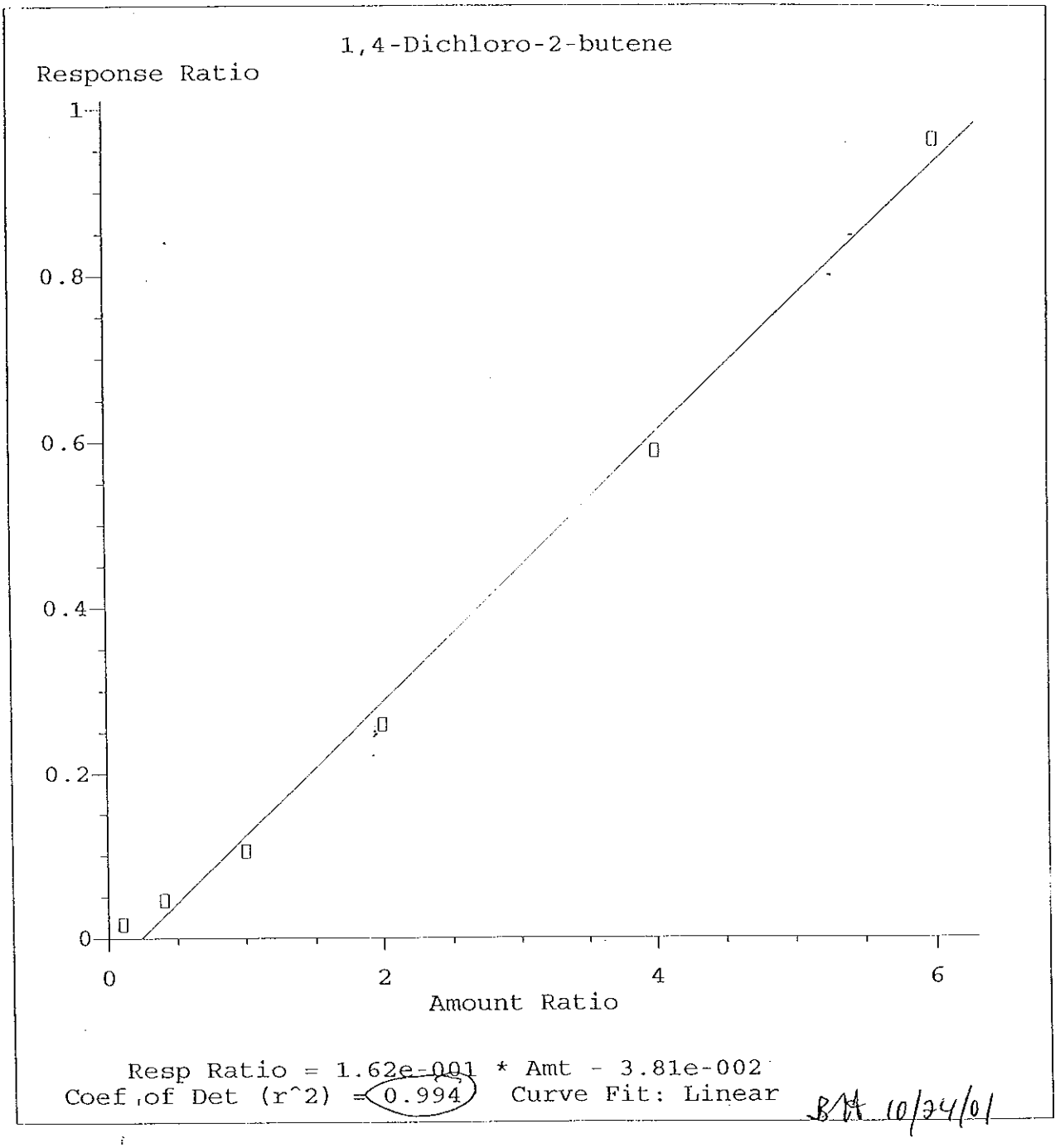
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:25:19 2001



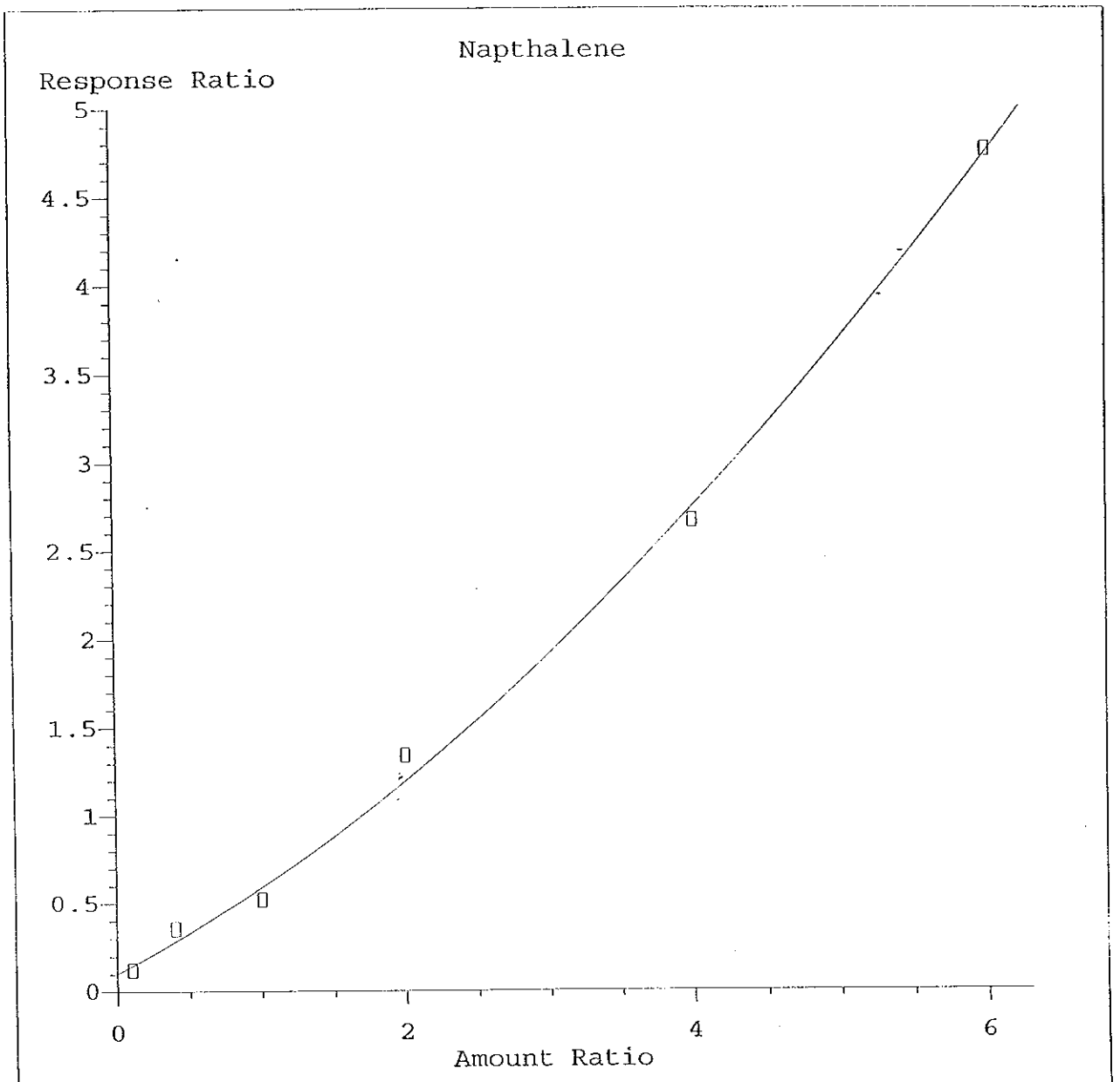
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:25:19 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:26:06 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:26:56 2001



R = 5.69e-002 A*A + 4.32e-001 A + 1.02e-001
Curve Fit: Quadratic

.997 DH 10/24/01

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:27:13 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

BH 10/24/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00	ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00	ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00	ng	0.00 104.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 113.95%						
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.71%						
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 93.07%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.03	85	58539m	6.94	ng	# 82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53	ng	# 32
4) Chloromethane	4.42	50	54501	31.95	ng	# 84
5) Vinyl chloride	4.65	62	45304	28.33	ng	# 89
6) Bromomethane	5.47	94	63214	27.33	ng	91
7) Chloroethane	5.60	64	27159	26.47	ng	# 87
8) Trichlorofluoromethane	6.13	101	76300	29.69	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83	ng	98
10) 1,1-Dichloroethene	7.29	96	47924	26.69	ng	80
12) Methylene chloride	8.21	49	111935	34.72	ng	# 80
13) Carbon disulfide	8.36	76	144676	27.32	ng	# 77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15	ng	# 68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80	ng	89
16) n-Hexane	8.87	57	73561	33.16	ng	# 1
17) 1,1-Dichloroethane	9.62	63	110346	28.23	ng	# 97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43	ng	# 89
19) Chloroform	11.19	83	135948	28.09	ng	# 92
20) Isooctane	12.13	57	281769	37.08	ng	89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03	ng	# 88
22) Carbon tetrachloride	12.62	117	124248	28.67	ng	98
24) 1,2-Dichloroethane	12.88	62	99619	35.56	ng	# 93
25) 1,2-Dibromoethane	19.85	107	111982	34.52	ng	99
27) Benzene	12.96	78	144795	27.71	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

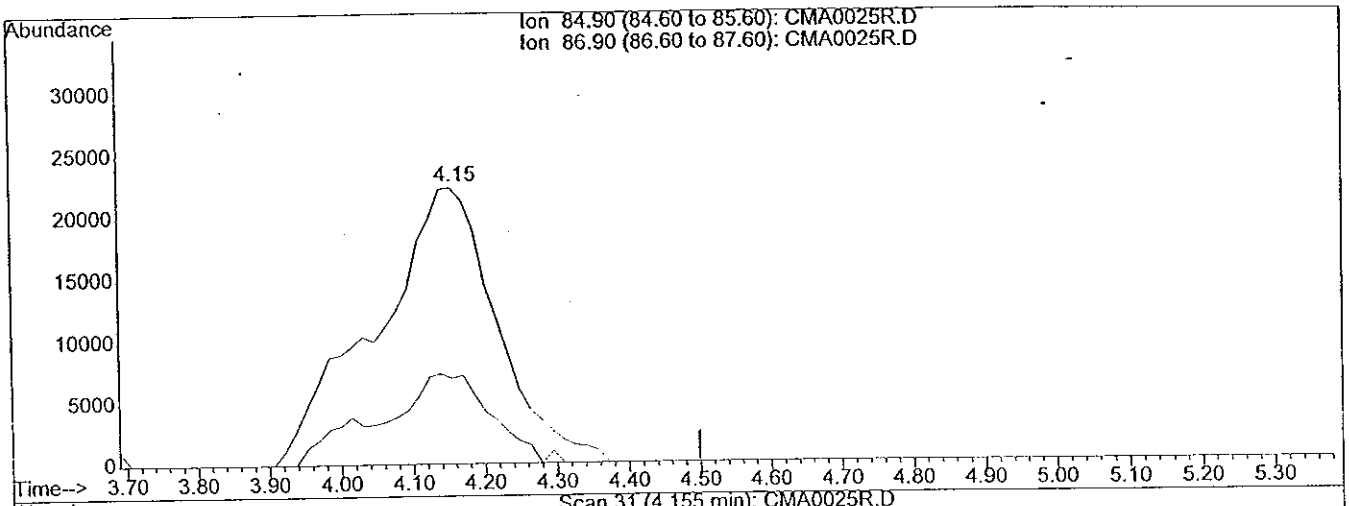
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.29	130	68130	26.00 ng		96
29) 1,2-Dichloropropane	14.67	63	64049	26.95 ng	#	74
30) Bromodichloromethane	15.21	83	160043	28.29 ng	#	99
31) cis-1,3-Dichloropropene	16.40	75	92662	27.16 ng	#	60
33) Toluene	17.23	92	85129	26.82 ng		94
34) trans-1,3-Dichloropropene	17.57	75	84572	30.80 ng	#	63
35) 1,1,2-Trichloroethane	17.99	97	68750	34.65 ng		96
37) Tetrachloroethene	18.84	164	63764	25.60 ng		99
38) Dibromochloromethane	19.34	127	109505	31.25 ng	#	89
39) Chlorobenzene	20.91	112	118956	26.33 ng	#	78
40) Ethylbenzene	20.98	106	46322	24.98 ng		71
41) m,p-Xylene	21.19	106	121090	51.49 ng		86
42) o-Xylene	22.34	106	56792	24.85 ng		81
43) Styrene	22.43	104	90021	23.96 ng	#	90
44) Bromoform	23.38	173	105640	33.64 ng	#	98
45) 1,1,2,2-Tetrachloroethane	23.70	83	130148	42.42 ng	#	96
47) 1,4-Dichloro-2-butene	23.34	75	21361	52.93 ng	#	73
48) 4-Ethyltoluene	24.60	105	153113	24.10 ng		91
49) 1,3,5-Trimethylbenzene	24.69	105	129427	25.89 ng		95
50) 2-Chlorotoluene	24.80	91	178701	26.70 ng		94
51) 1,2,4-Trimethylbenzene	25.64	105	135720	25.86 ng		94
52) 1,3-Dichlorobenzene	26.56	146	103775	26.15 ng		96
53) 1,4-Dichlorobenzene	26.78	146	109191	26.26 ng		96
54) 1,2-Dichlorobenzene	27.54	146	103990	28.73 ng		96
55) 1,2,4-Trichlorobenzene	30.73	180	81566	29.72 ng		97
56) Napthalene	31.29	128	156822	49.86 ng	#	88
57) Hexachlorobutadiene	30.98	225	63838	26.36 ng		98

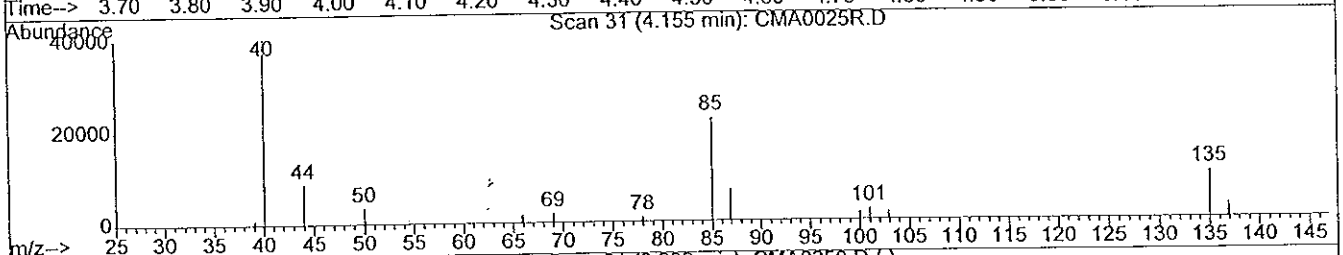
(#) = qualifier out of range (m) = manual integration

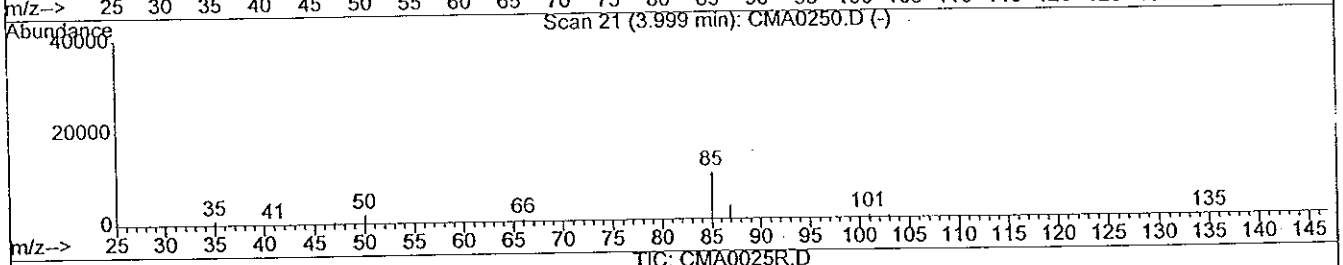
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:03:29 2001
Response via : Multiple Level Calibration







TIC: CMA0025R.D

(2) Dichlorodifluoromethane

4.15min 31.09ng

response 262224

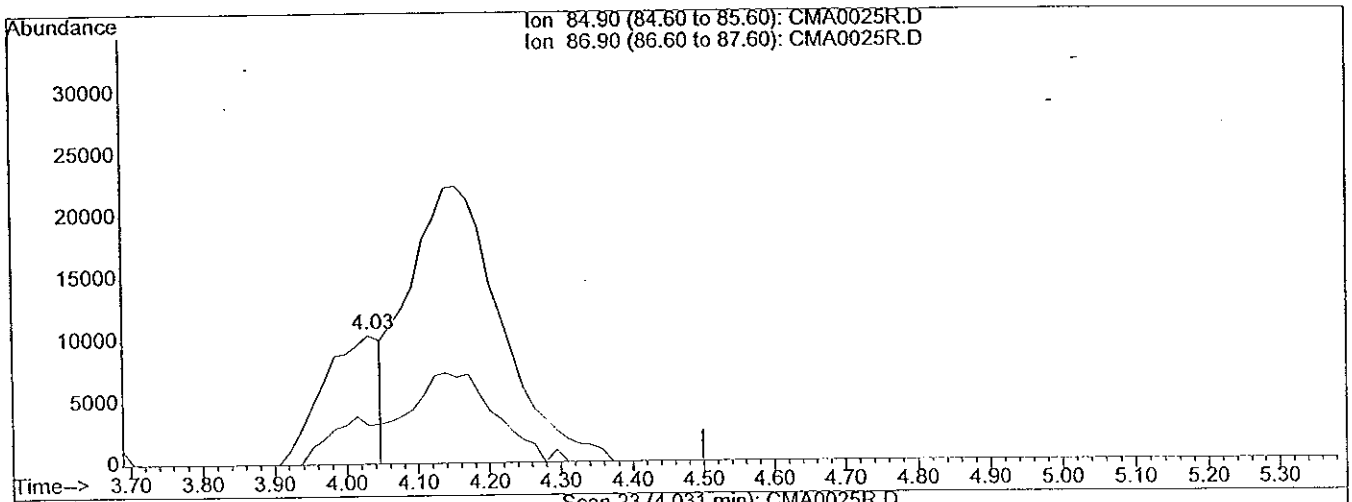
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	23.52#
0.00	0.00	0.00
0.00	0.00	0.00

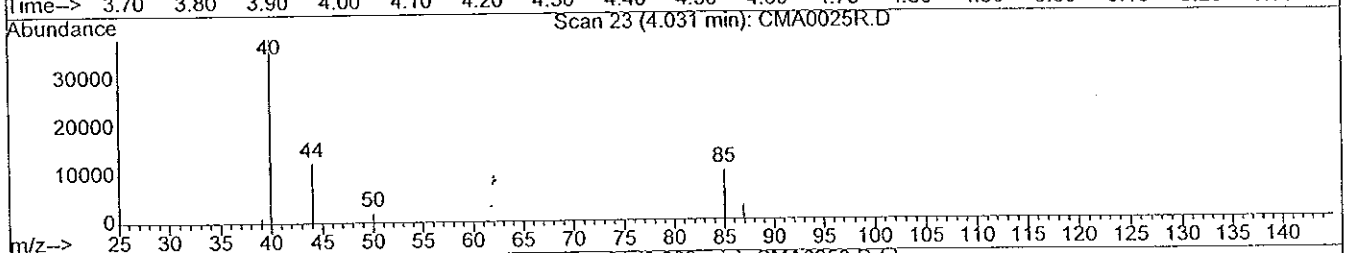
before
(mis-integrated
co-elution)

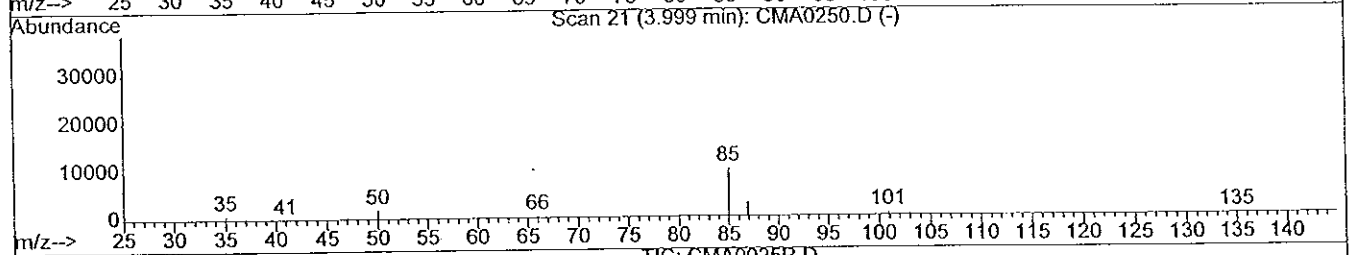
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:03:29 2001
Response via : Multiple Level Calibration







TIC: CMA0025R.D

(2) Dichlorodifluoromethane

4.03min 6.94ng m

response 58539

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	105.35#
0.00	0.00	0.00
0.00	0.00	0.00

a ftn
BA
10-24-01

10-26-01

CMA0025R.D TO14S.M Wed Oct 24 15:06:12 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00 ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00 ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00 ng	0.00 104.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 113.95%					
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.71%					
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 93.07%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.15	85	262224	31.09 ng	#	82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53 ng	#	32
4) Chloromethane	4.42	50	54501	31.95 ng	#	84
5) Vinyl chloride	4.65	62	45304	28.33 ng	#	89
6) Bromomethane	5.47	94	63214	27.33 ng		91
7) Chloroethane	5.60	64	27159	26.47 ng	#	87
8) Trichlorofluoromethane	6.13	101	76300	29.69 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83 ng		98
10) 1,1-Dichloroethene	7.29	96	47924	26.69 ng		80
12) Methylene chloride	8.21	49	111935	34.72 ng	#	80
13) Carbon disulfide	8.36	76	144676	27.32 ng	#	77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15 ng	#	68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80 ng		89
16) n-Hexane	8.87	57	73561	33.16 ng	#	1
17) 1,1-Dichloroethane	9.62	63	110346	28.23 ng	#	97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43 ng	#	89
19) Chloroform	11.19	83	135948	28.09 ng	#	92
20) Isooctane	12.13	57	281769	37.08 ng		89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03 ng	#	88
22) Carbon tetrachloride	12.62	117	124248	28.67 ng		98
24) 1,2-Dichloroethane	12.88	62	99619	35.56 ng	#	93
25) 1,2-Dibromoethane	19.85	107	111982	34.52 ng		99
27) Benzene	12.96	78	144795	27.71 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

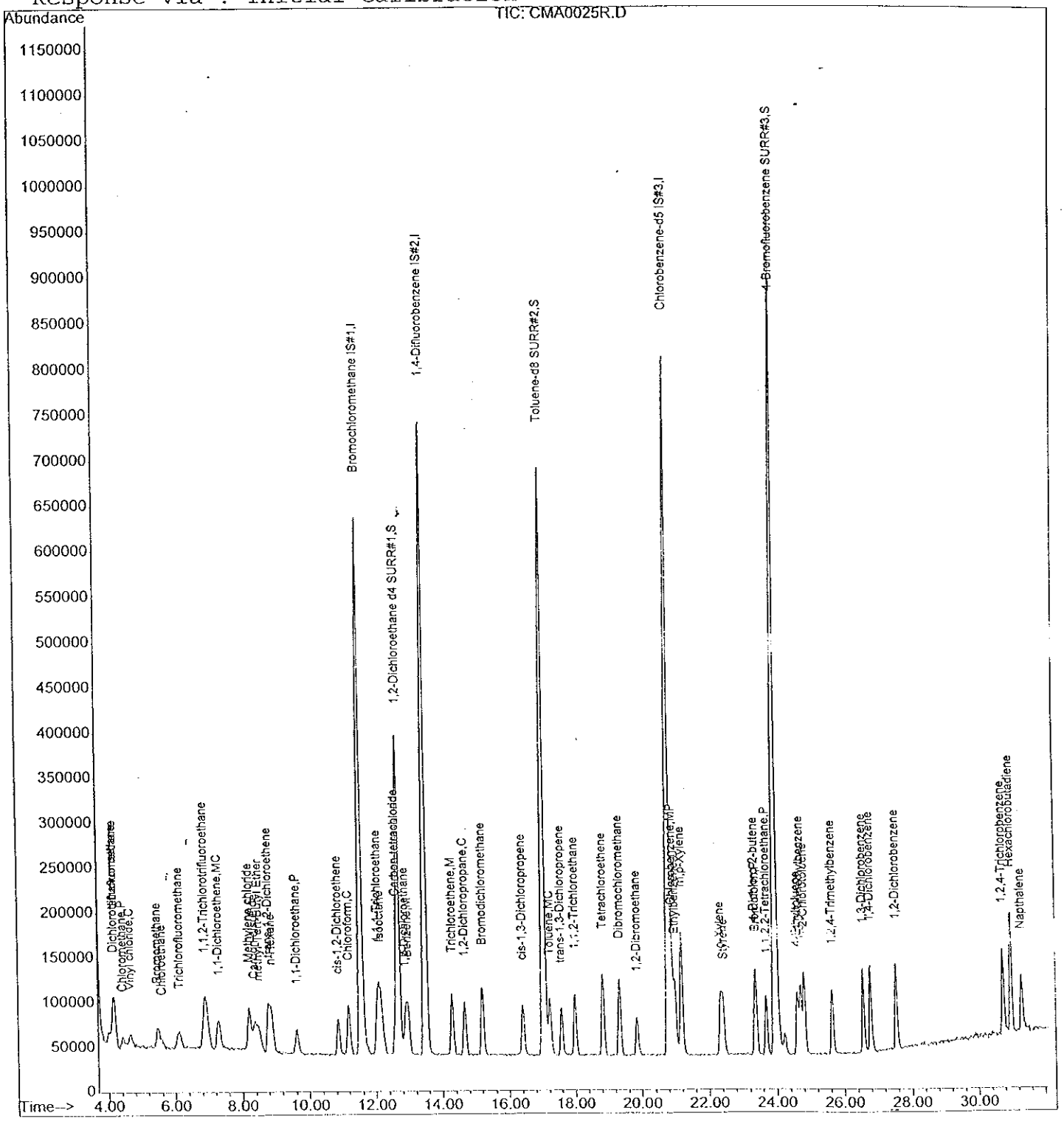
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.29	130	68130	26.00 ng		96
29) 1,2-Dichloropropane	14.67	63	64049	26.95 ng	#	74
30) Bromodichloromethane	15.21	83	160043	28.29 ng	#	99
31) cis-1,3-Dichloropropene	16.40	75	92662	27.16 ng	#	60
33) Toluene	17.23	92	85129	26.82 ng		94
34) trans-1,3-Dichloropropene	17.57	75	84572	30.80 ng	#	63
35) 1,1,2-Trichloroethane	17.99	97	68750	34.65 ng		96
37) Tetrachloroethene	18.84	164	63764	25.60 ng		99
38) Dibromochloromethane	19.34	127	109505	31.25 ng	#	89
39) Chlorobenzene	20.91	112	118956	26.33 ng	#	78
40) Ethylbenzene	20.98	106	46322	24.98 ng		71
41) m,p-Xylene	21.19	106	121090	51.49 ng		86
42) o-Xylene	22.34	106	56792	24.85 ng		81
43) Styrene	22.43	104	90021	23.96 ng	#	90
44) Bromoform	23.38	173	105640	33.64 ng	#	98
45) 1,1,2,2-Tetrachloroethane	23.70	83	130148	42.42 ng	#	96
47) 1,4-Dichloro-2-butene	23.34	75	21361	52.93 ng	#	73
48) 4-Ethyltoluene	24.60	105	153113	24.10 ng		91
49) 1,3,5-Trimethylbenzene	24.69	105	129427	25.89 ng		95
50) 2-Chlorotoluene	24.80	91	178701	26.70 ng		94
51) 1,2,4-Trimethylbenzene	25.64	105	135720	25.86 ng		94
52) 1,3-Dichlorobenzene	26.56	146	103775	26.15 ng		96
53) 1,4-Dichlorobenzene	26.78	146	109191	26.26 ng		96
54) 1,2-Dichlorobenzene	27.54	146	103990	28.73 ng		96
55) 1,2,4-Trichlorobenzene	30.73	180	81566	29.72 ng		97
56) Napthalene	31.29	128	156822	49.86 ng	#	88
57) Hexachlorobutadiene	30.98	225	63838	26.36 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D Vial: 14
Acq On : 24 Oct 2001 11:26 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D
Acq On : 24 Oct 2001 14:47
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	302643	250.00	ng	0.00 82.19%
26) 1,4-Difluorobenzene IS#2	13.49	114	1245925	250.00	ng	0.02 77.80%
36) Chlorobenzene-d5 IS#3	20.83	117	955337	250.00	ng	0.03 79.23%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.70	65	554901	292.55	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 117.02%						
32) Toluene-d8 SURR#2	17.06	98	1030874	255.97	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.39%						
46) 4-Bromofluorobenzene SURR#	24.00	95	912366	240.20	ng	0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.08%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.99	85	272073	43.05	ng		91
3) Dichlorotetrafluoroethane	4.14	135	271306	128.35	ng	#	36
4) Chloromethane	4.40	50	152375	119.19	ng		100
5) Vinyl chloride	4.64	62	140074	116.90	ng		96
6) Bromomethane	5.48	94	177821	102.60	ng		95
7) Chloroethane	5.60	64	78228	101.73	ng		95
8) Trichlorofluoromethane	6.10	101	261604	177.07	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	210701	88.80	ng		99
10) 1,1-Dichloroethene	7.29	96	129909	96.53	ng	#	80
12) Methylene chloride	8.19	49	259052	107.22	ng	#	81
13) Carbon disulfide	8.35	76	431745	108.79	ng		99
14) methyl-Tert-Butyl Ether	8.47	73	214349	125.03	ng	#	88
15) trans-1,2-Dichloroethene	8.78	96	145204	100.69	ng		86
16) n-Hexane	8.88	57	188686	113.51	ng	#	1
17) 1,1-Dichloroethane	9.62	63	300128	102.45	ng		99
18) cis-1,2-Dichloroethene	10.85	61	249880	102.36	ng		88
19) Chloroform	11.19	83	364120	100.38	ng	#	91
20) Isooctane	12.15	57	804780	141.31	ng		91
21) 1,1,1-Trichloroethane	12.04	97	329324	107.39	ng		90
22) Carbon tetrachloride	12.62	117	332071	102.26	ng		99
24) 1,2-Dichloroethane	12.90	62	225233	107.27	ng	#	96
25) 1,2-Dibromoethane	19.88	107	228039	93.80	ng		97
27) Benzene	12.97	78	375037	96.22	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D
Acq On : 24 Oct 2001 14:47
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

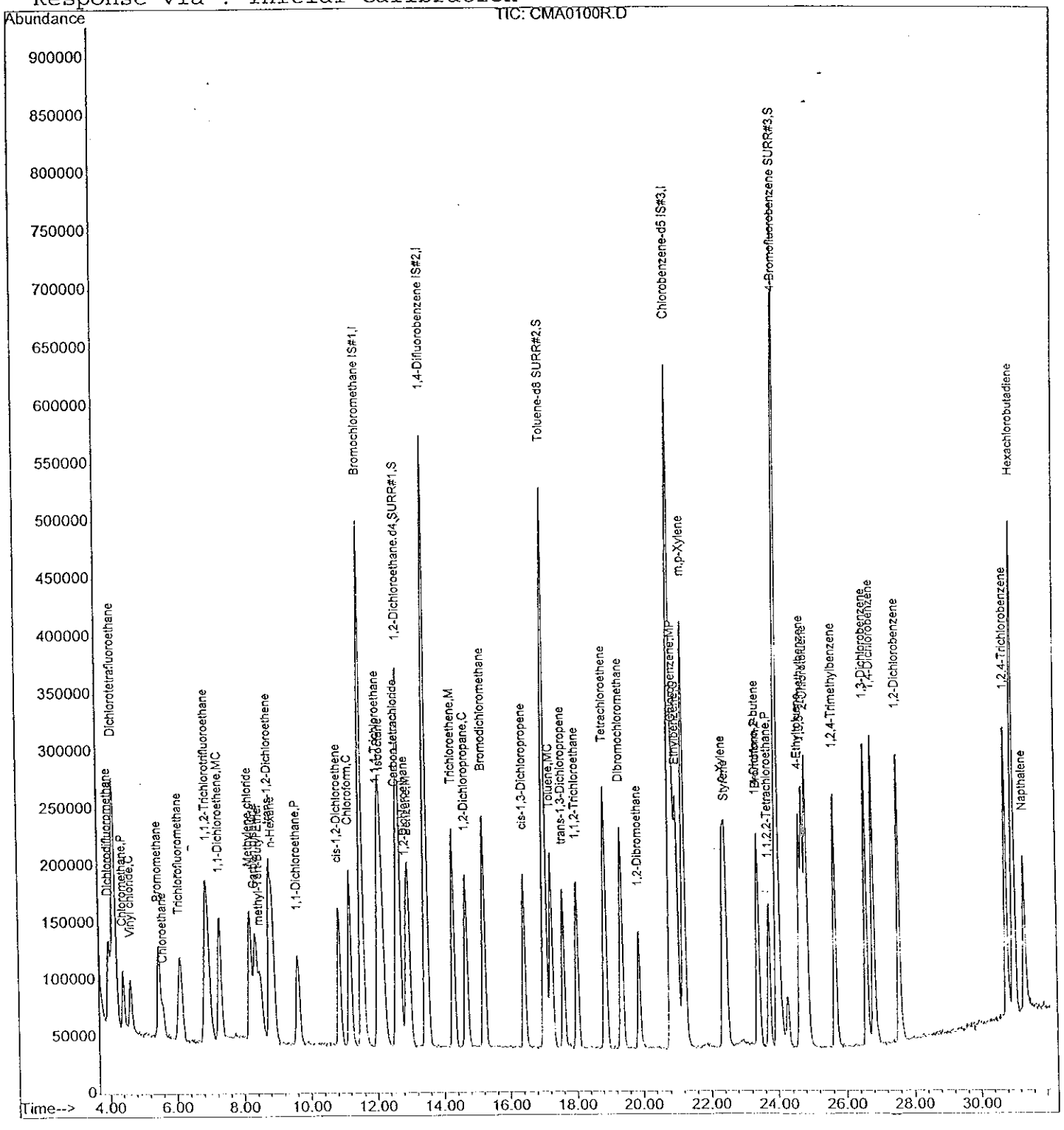
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.29	130	179494	91.81 ng		97
29) 1,2-Dichloropropane	14.68	63	167819	94.68 ng	#	78
30) Bromodichloromethane	15.21	83	413062	97.90 ng		98
31) cis-1,3-Dichloropropene	16.44	75	244455	96.06 ng	#	69
33) Toluene	17.24	92	223095	94.23 ng	#	96
34) trans-1,3-Dichloropropene	17.60	75	199236	97.28 ng	#	65
35) 1,1,2-Trichloroethane	18.01	97	137652	93.00 ng		97
37) Tetrachloroethene	18.86	164	162019	85.68 ng		99
38) Dibromochloromethane	19.36	127	242979	91.33 ng	#	95
39) Chlorobenzene	20.94	112	319423	93.14 ng		89
40) Ethylbenzene	21.03	106	125543	89.19 ng		81
41) m,p-Xylene	21.22	106	331428	185.62 ng		88
42) o-Xylene	22.38	106	155148	89.41 ng		83
43) Styrene	22.46	104	247815	86.86 ng		93
44) Bromoform	23.41	173	201116	84.36 ng		98
45) 1,1,2,2-Tetrachloroethane	23.73	83	226623	97.29 ng	#	97
47) 1,4-Dichloro-2-butene	23.39	75	43805	103.50 ng	#	78
48) 4-Ethyltoluene	24.65	105	430079	89.18 ng		90
49) 1,3,5-Trimethylbenzene	24.74	105	333794	87.96 ng	#	84
50) 2-Chlorotoluene	24.85	91	489814	96.41 ng		95
51) 1,2,4-Trimethylbenzene	25.67	105	379614	95.27 ng		95
52) 1,3-Dichlorobenzene	26.59	146	276507	91.79 ng	#	96
53) 1,4-Dichlorobenzene	26.81	146	296626	93.96 ng		96
54) 1,2-Dichlorobenzene	27.57	146	262422	95.50 ng		97
55) 1,2,4-Trichlorobenzene	30.80	180	216052	103.69 ng		98
56) Napthalene	31.34	128	340165	142.45 ng	#	89
57) Hexachlorobutadiene	31.03	225	205656	111.84 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D Vial: 14
Acq On : 24 Oct 2001 14:47 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1018A\CM1018A.D (18 Oct 2001 9:14)

SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	368219	250.00	ng	0.25 83.27%
26) 1,4-Difluorobenzene IS#2	13.47	114	1601426	250.00	ng	0.23 89.02%
36) Chlorobenzene-d5 IS#3	20.80	117	1205806	250.00	ng	0.25 86.27%

ng repost

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.68	65	646459	280.12	ng	0.25
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.05%						
32) Toluene-d8 SURR#2	17.03	98	1325806	256.12	ng	0.23
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.45%						
46) 4-Bromofluorobenzene SURR#	23.95	95	1131201	235.95	ng	0.25
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.38%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	592383	77.03	ng	# 41
3) Dichlorotetrafluoroethane	4.15	135	717125	278.84	ng	# 15
4) Chloromethane	4.42	50	450888	289.88	ng	98
5) Vinyl chloride	4.65	62	423452	290.46	ng	98
6) Bromomethane	5.47	94	574041	272.22	ng	96
7) Chloroethane	5.58	64	265512	283.79	ng	# 93
8) Trichlorofluoromethane	6.11	101	874332	432.87	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	784554	271.75	ng	97
10) 1,1-Dichloroethene	7.29	96	456836	279.00	ng	83
12) Methylene chloride	8.19	49	934526	317.90	ng	# 83
13) Carbon disulfide	8.35	76	1385420	286.91	ng	99
14) methyl-Tert-Butyl Ether	8.49	73	633372	303.64	ng	# 87
15) trans-1,2-Dichloroethene	8.78	96	528529	301.24	ng	89
16) n-Hexane	8.87	57	606151m	299.71	ng	# 3
17) 1,1-Dichloroethane	9.62	63	1064586	298.69	ng	98
18) cis-1,2-Dichloroethene	10.85	61	872941	293.91	ng	90
19) Chloroform	11.17	83	1318659	298.78	ng	# 92
20) Isooctane	12.13	57	2004730	289.32	ng	93
21) 1,1,1-Trichloroethane	12.04	97	1156403	309.95	ng	94
22) Carbon tetrachloride	12.62	117	1167801	295.57	ng	98
24) 1,2-Dichloroethane	12.88	62	766158	299.90	ng	# 97
25) 1,2-Dibromoethane	19.85	107	741614	250.72	ng	98
27) Benzene	12.96	78	1337354	266.93	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

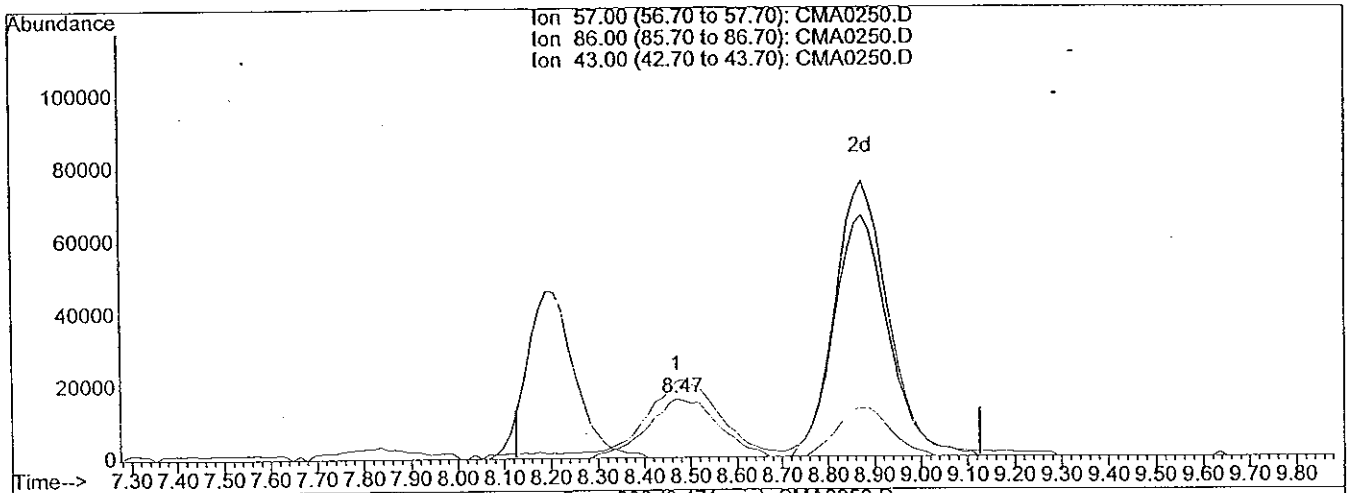
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.28	130	655661	260.92 ng		97
29) 1,2-Dichloropropane	14.67	63	604992	265.54 ng	#	80
30) Bromodichloromethane	15.19	83	1487706	274.32 ng		98
31) cis-1,3-Dichloropropene	16.40	75	852570	260.64 ng	#	71
33) Toluene	17.23	92	817016	268.48 ng	#	95
34) trans-1,3-Dichloropropene	17.58	75	680959	258.67 ng	#	71
35) 1,1,2-Trichloroethane	17.99	97	474556	249.44 ng		98
37) Tetrachloroethene	18.84	164	599949	251.36 ng		99
38) Dibromochloromethane	19.32	127	839755	250.08 ng		98
39) Chlorobenzene	20.89	112	1148198	265.26 ng		92
40) Ethylbenzene	20.98	106	470972m	265.09 ng	#	0
41) m,p-Xylene	21.19	106	1168371	518.45 ng		87
42) o-Xylene	22.33	106	580940	265.24 ng		88
43) Styrene	22.41	104	901693	250.41 ng		94
44) Bromoform	23.38	173	664074	220.70 ng		99
45) 1,1,2,2-Tetrachloroethane	23.69	83	710006	241.49 ng		97
47) 1,4-Dichloro-2-butene	23.34	75	127341	208.15 ng	#	80
48) 4-Ethyltoluene	24.60	105	1676646	275.45 ng		93
49) 1,3,5-Trimethylbenzene	24.71	105	1233434	257.52 ng		94
50) 2-Chlorotoluene	24.80	91	1691875	263.84 ng		98
51) 1,2,4-Trimethylbenzene	25.63	105	1320562	262.58 ng		98
52) 1,3-Dichlorobenzene	26.56	146	943975	248.28 ng		96
53) 1,4-Dichlorobenzene	26.78	146	986973m	247.69 ng		97
54) 1,2-Dichlorobenzene	27.52	146	852078	245.68 ng		97
55) 1,2,4-Trichlorobenzene	30.73	180	539441	205.12 ng		99
56) Napthalene	31.29	128	627940	208.33 ng	#	93
57) Hexachlorobutadiene	30.98	225	504469	217.36 ng		100

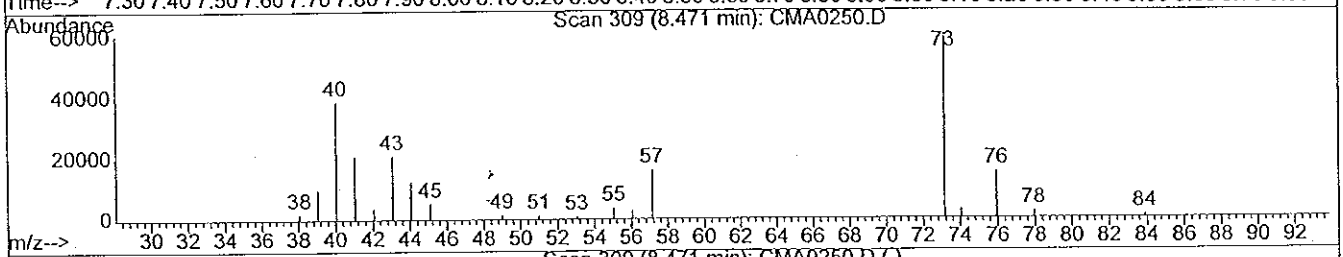
(#) = qualifier out of range (m) = manual integration

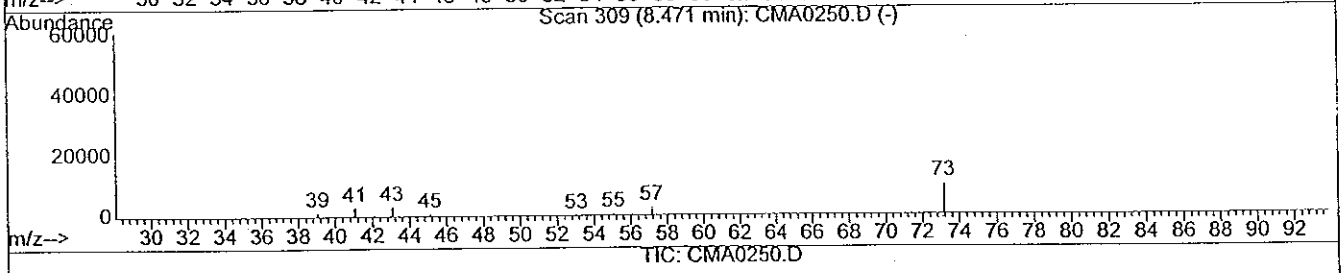
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:33 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 11:33:32 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(16) n-Hexane

8.47min 85.35ng

response 172617

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	118.04#
0.00	0.00	0.00

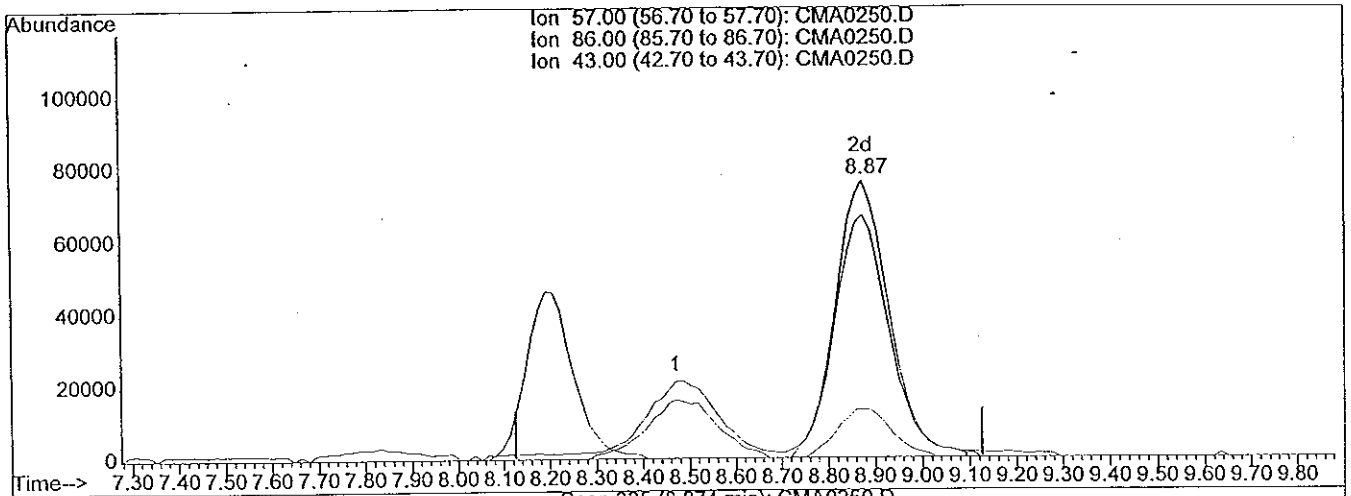
Define (wrong peak)

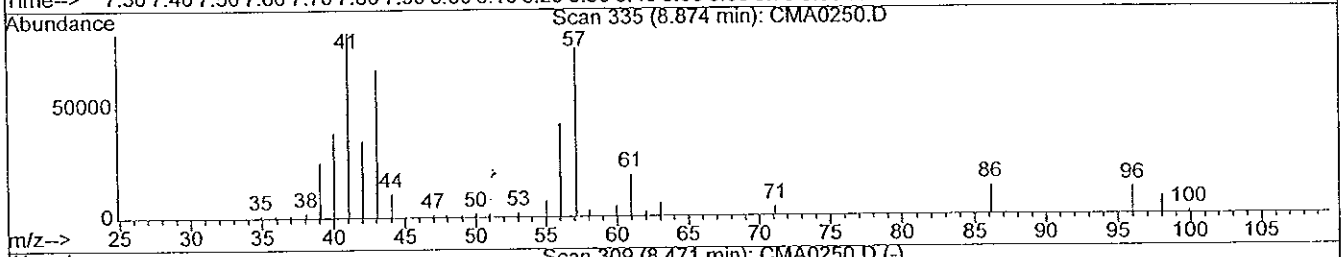
CMA0250.D TO14S.M Wed Oct 24 13:40:52 2001

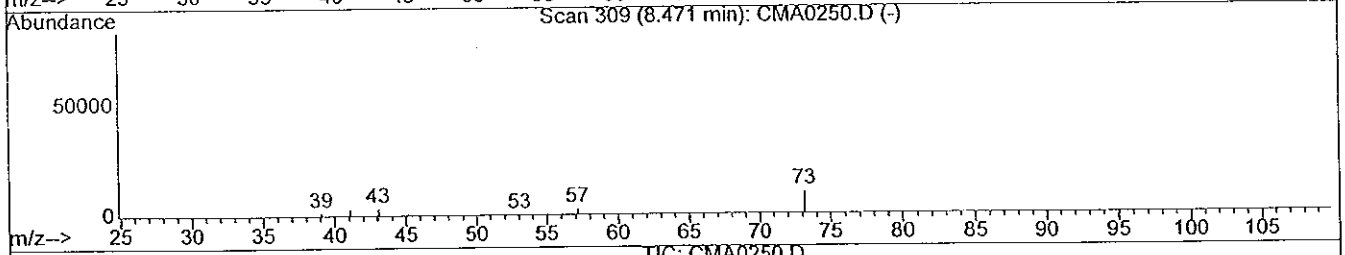
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 11:33:32 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(16) n-Hexane

8.87min, 299.71ng m

response 606151

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	33.61#
0.00	0.00	0.00

after
BH
10/24/01

10-26-01

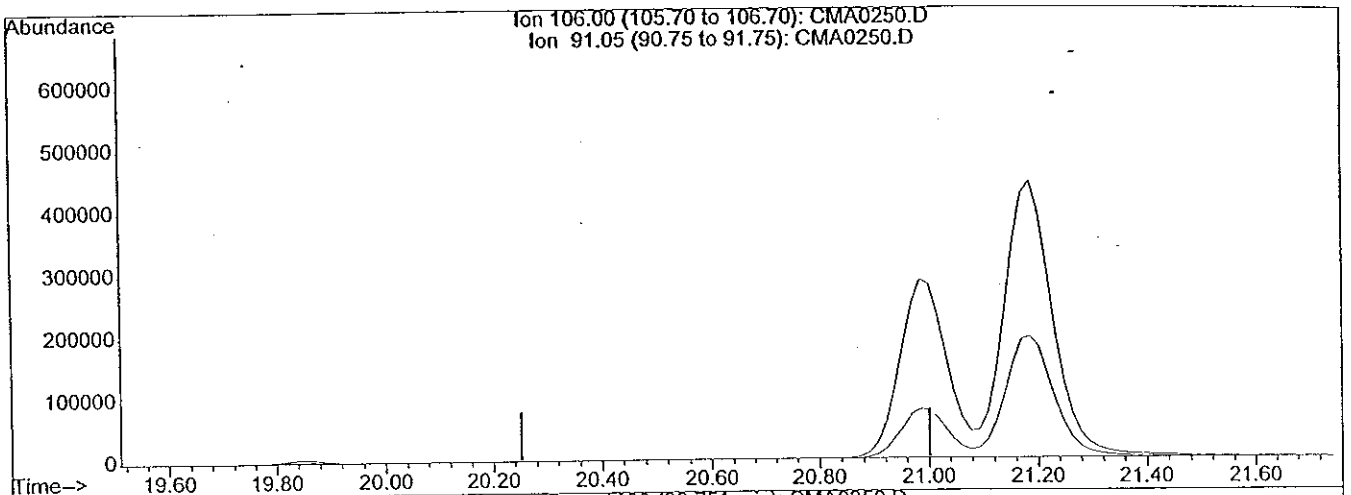
CMA0250.D TO14S.M Wed Oct 24 13:41:00 2001

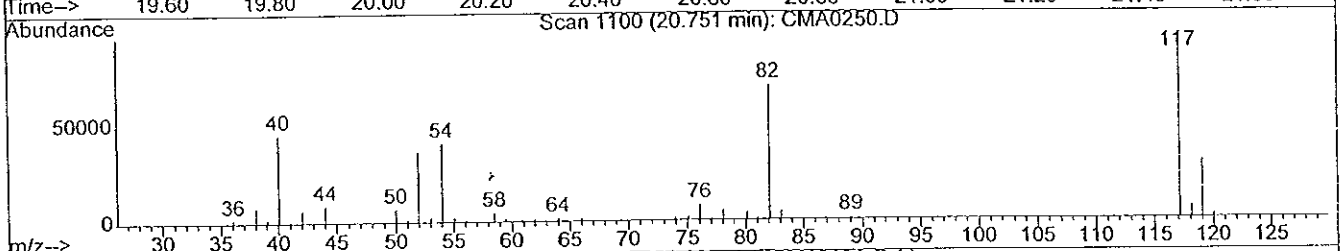
003

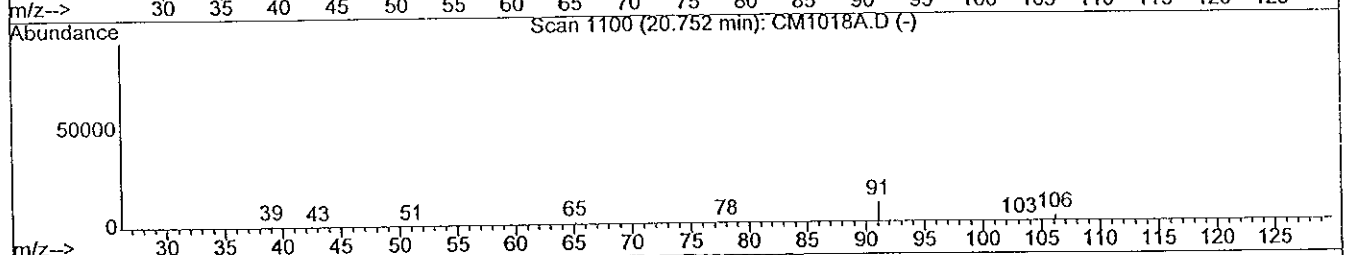
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(40) Ethylbenzene (C)

20.75min 0.00ng

response 0

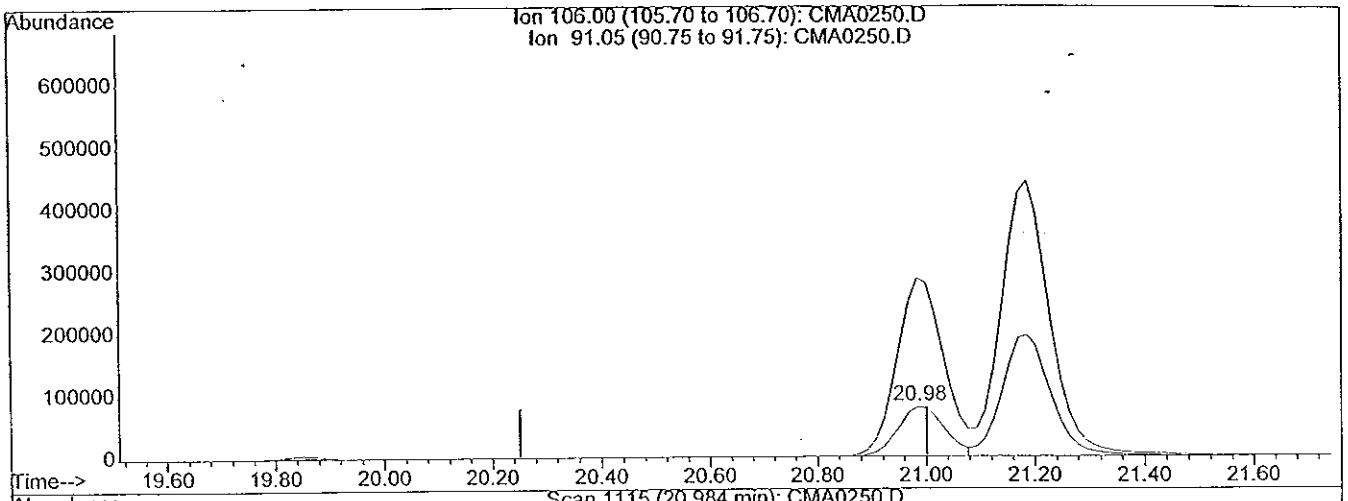
Ion	Exp%	Act%
106.00	100	0.00
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

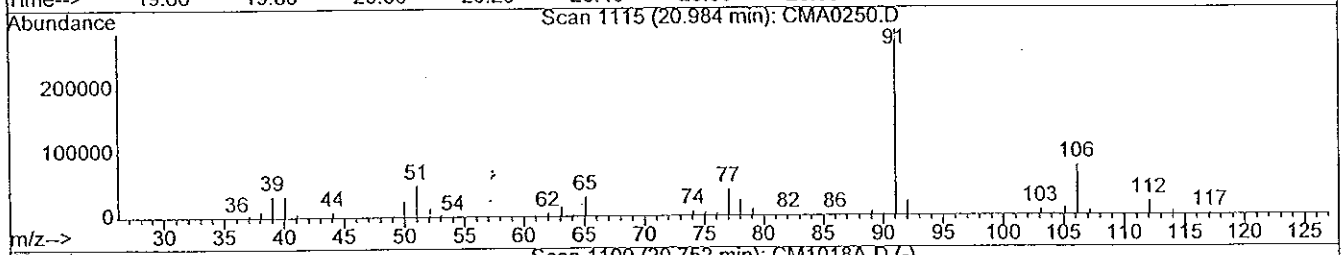
before (missed peak, just outside RT window)

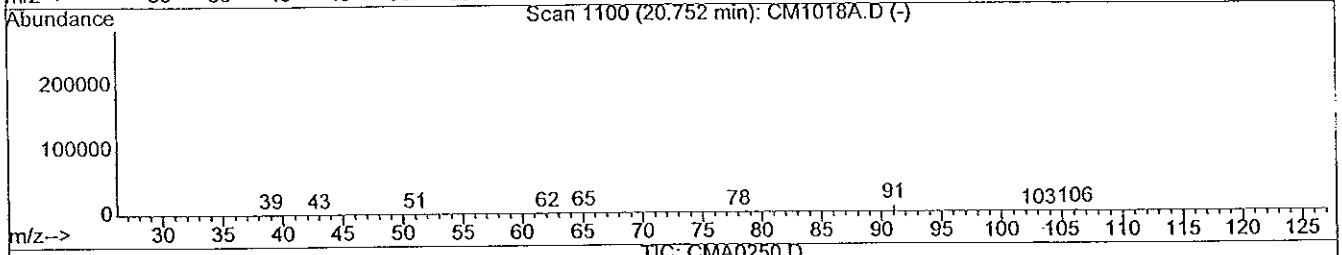
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:32 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(40) Ethylbenzene (C)

20.98min 265.09ng m

response 470972

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

after
DH 10/24/01

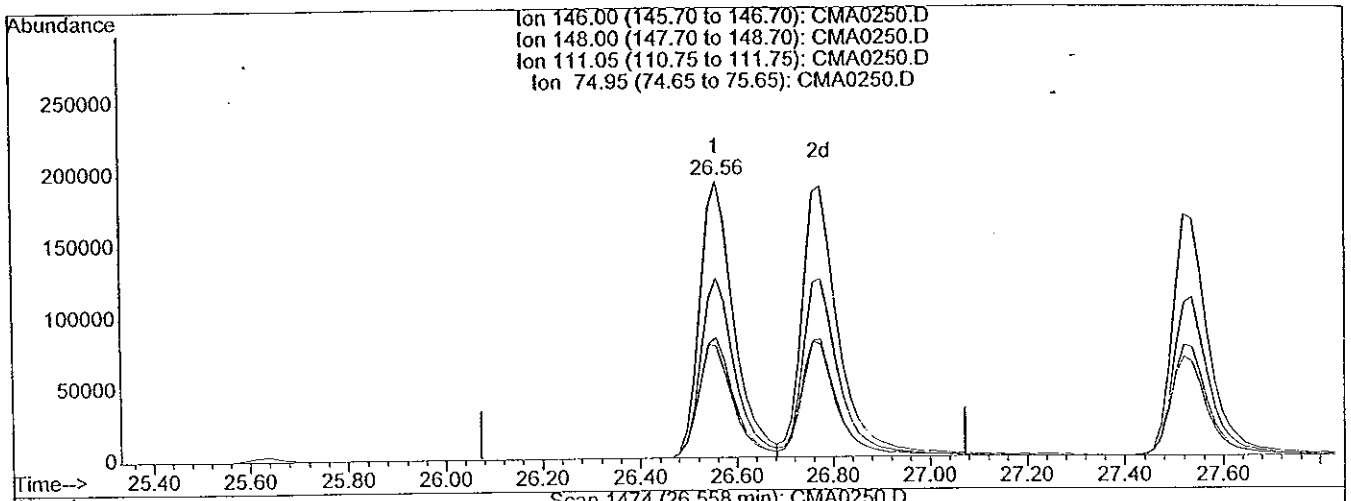
TB 10-26-01

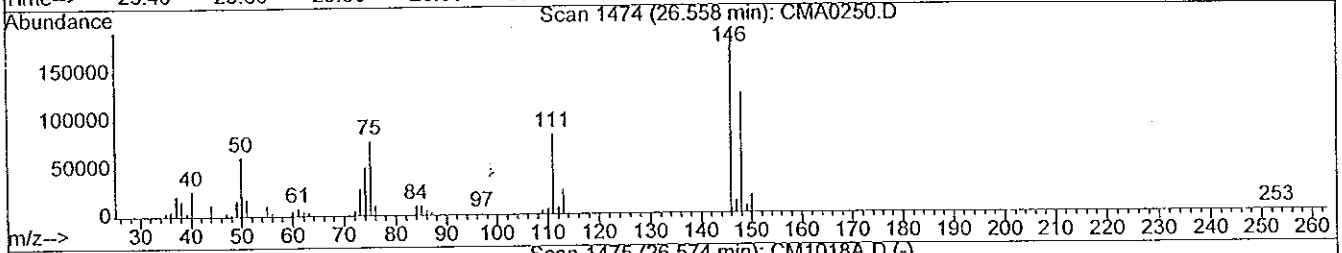
CMA0250.D TO14S.M Wed Oct 24 11:32:55 2001

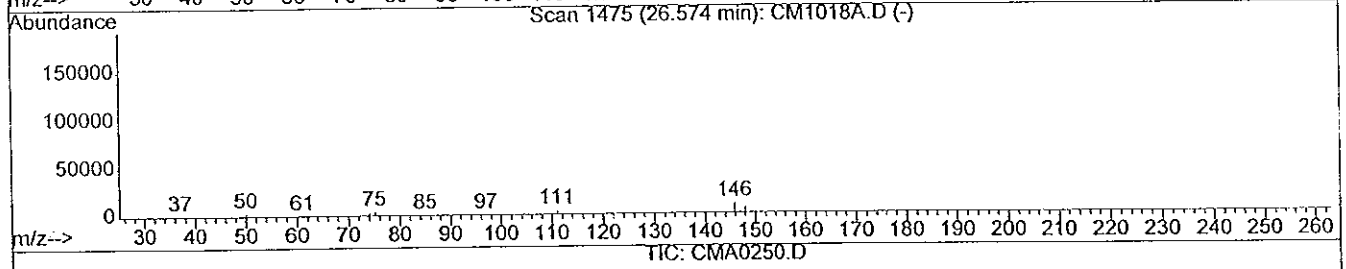
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:32 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(53) 1,4-Dichlorobenzene

26.56min 236.90ng

response 943975

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.94
111.05	43.10	44.04
74.95	36.90	41.68

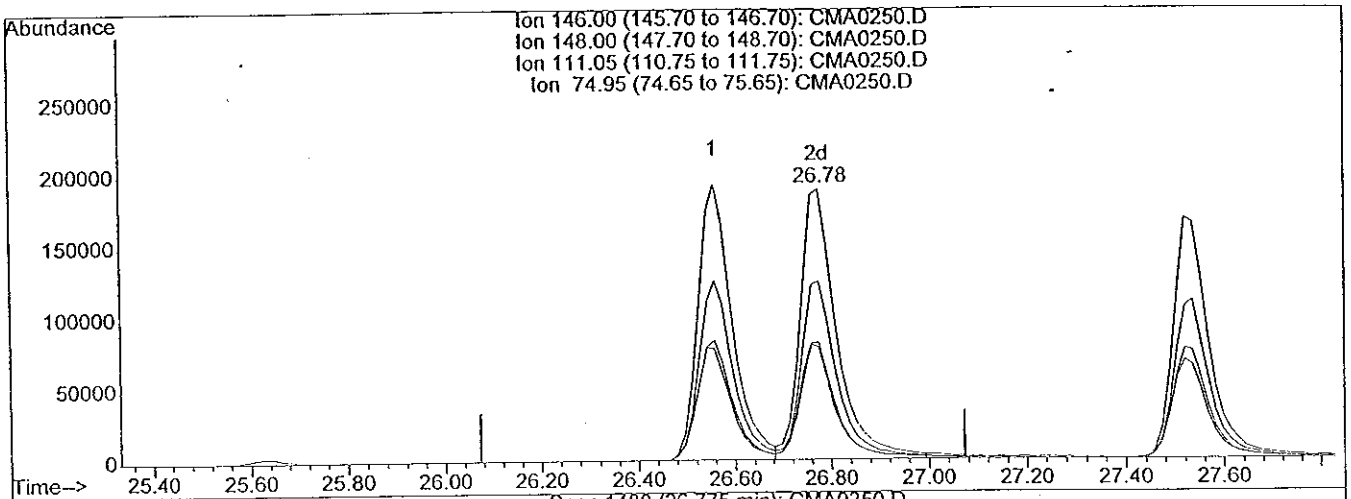
before (wrong peak)

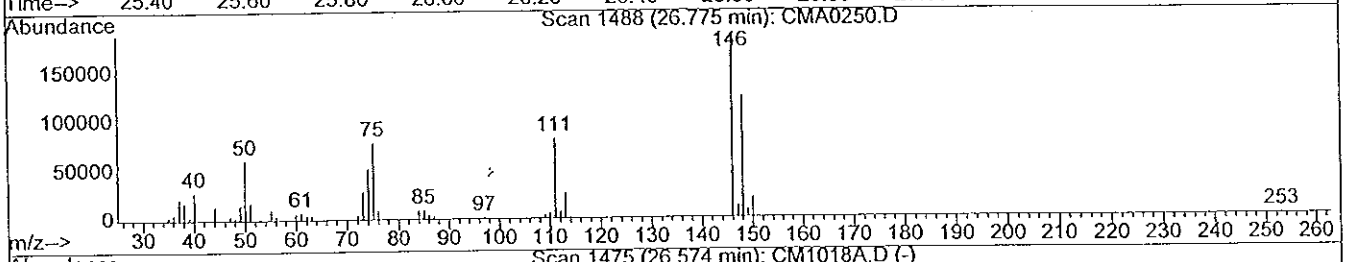
CMA0250.D TO14S.M Wed Oct 24 11:33:01 2001

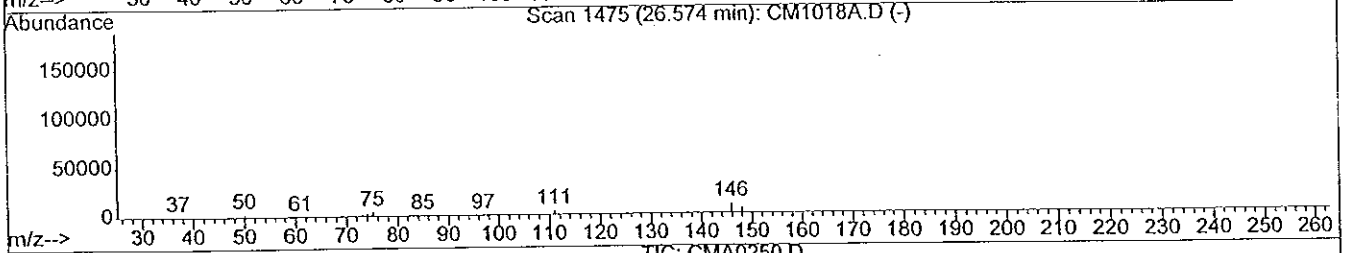
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:33 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(53) 1,4-Dichlorobenzene

26.78min 247.69ng m

response 986973

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	62.12
111.05	43.10	42.12
74.95	36.90	39.87

after
BDH
10/24/01

TM
10-26-01

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1018A\CM1018A.D (18 Oct 2001 9:14)

orig

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	368219	250.00 ng	0.25 83.27%
26) 1,4-Difluorobenzene IS#2	13.47	114	1601426	250.00 ng	0.23 89.02%
36) Chlorobenzene-d5 IS#3	20.80	117	1205806	250.00 ng	0.25 86.27%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.68	65	646459	280.12 ng	0.25
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.05%					
32) Toluene-d8 SURR#2	17.03	98	1325806	256.12 ng	0.23
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.45%					
46) 4-Bromofluorobenzene SURR#	23.95	95	1131201	235.95 ng	0.25
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.38%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	592383	77.03 ng	#	41
3) Dichlorotetrafluoroethane	4.15	135	717125	278.84 ng	#	15
4) Chloromethane	4.42	50	450888	289.88 ng		98
5) Vinyl chloride	4.65	62	423452	290.46 ng		98
6) Bromomethane	5.47	94	574041	272.22 ng		96
7) Chloroethane	5.58	64	265512	283.79 ng	#	93
8) Trichlorofluoromethane	6.11	101	874332	432.87 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	784554	271.75 ng		97
10) 1,1-Dichloroethene	7.29	96	456836	279.00 ng		83
12) Methylene chloride	8.19	49	934526	317.90 ng	#	83
13) Carbon disulfide	8.35	76	1385420	286.91 ng		99
14) methyl-Tert-Butyl Ether	8.49	73	633372	303.64 ng	#	87
15) trans-1,2-Dichloroethene	8.78	96	528529	301.24 ng		89
16) n-Hexane	8.47	57	172617	85.35 ng	#	3
17) 1,1-Dichloroethane	9.62	63	1064586	298.69 ng		98
18) cis-1,2-Dichloroethene	10.85	61	872941	293.91 ng		90
19) Chloroform	11.17	83	1318659	298.78 ng	#	92
20) Isooctane	12.13	57	2004730	289.32 ng		93
21) 1,1,1-Trichloroethane	12.04	97	1156403	309.95 ng		94
22) Carbon tetrachloride	12.62	117	1167801	295.57 ng		98
24) 1,2-Dichloroethane	12.88	62	766158	299.90 ng	#	97
25) 1,2-Dibromoethane	19.85	107	741614	250.72 ng		98
27) Benzene	12.96	78	1337354	266.93 ng		96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

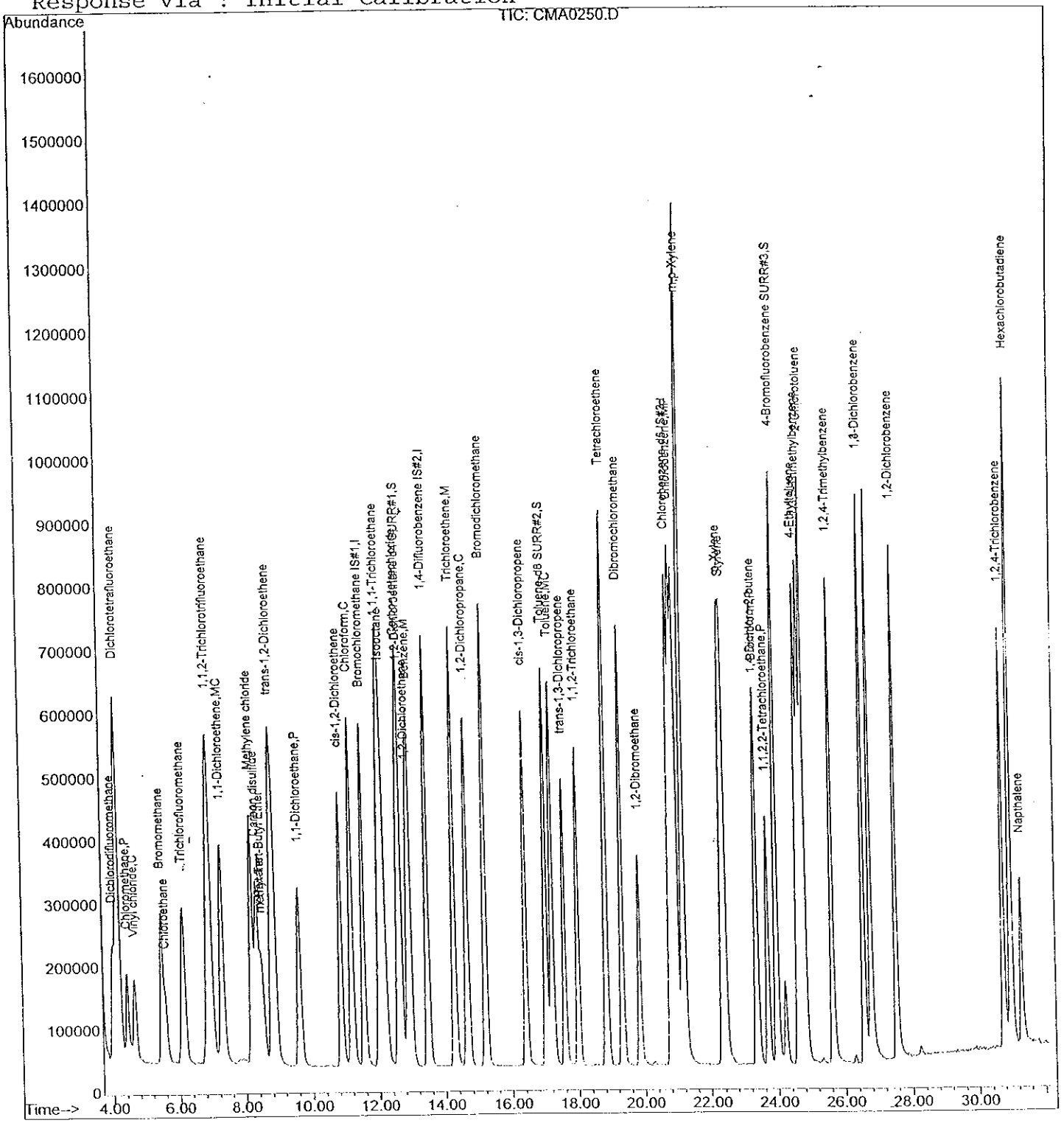
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.28	130	655661	260.92 ng		97
29) 1,2-Dichloropropane	14.67	63	604992	265.54 ng	#	80
30) Bromodichloromethane	15.19	83	1487706	274.32 ng		98
31) cis-1,3-Dichloropropene	16.40	75	852570	260.64 ng	#	71
33) Toluene	17.23	92	817016	268.48 ng	#	95
34) trans-1,3-Dichloropropene	17.58	75	680959	258.67 ng	#	71
35) 1,1,2-Trichloroethane	17.99	97	474556	249.44 ng		98
37) Tetrachloroethene	18.84	164	599949	251.36 ng		99
38) Dibromochloromethane	19.32	127	839755	250.08 ng		98
39) Chlorobenzene	20.89	112	1148198	265.26 ng		92
41) m,p-Xylene	21.19	106	1168371	518.45 ng		87
42) o-Xylene	22.33	106	580940	265.24 ng		88
43) Styrene	22.41	104	901693	250.41 ng		94
44) Bromoform	23.38	173	664074	220.70 ng		99
45) 1,1,2,2-Tetrachloroethane	23.69	83	710006	241.49 ng		97
47) 1,4-Dichloro-2-butene	23.34	75	127341	208.15 ng	#	80
48) 4-Ethyltoluene	24.60	105	1676646	275.45 ng		93
49) 1,3,5-Trimethylbenzene	24.71	105	1233434	257.52 ng		94
50) 2-Chlorotoluene	24.80	91	1691875	263.84 ng		98
51) 1,2,4-Trimethylbenzene	25.63	105	1320562	262.58 ng		98
52) 1,3-Dichlorobenzene	26.56	146	943975	248.28 ng		96
53) 1,4-Dichlorobenzene	26.56	146	943975	236.90 ng		97
54) 1,2-Dichlorobenzene	27.52	146	852078	245.68 ng		97
55) 1,2,4-Trichlorobenzene	30.73	180	539441	205.12 ng		99
56) Napthalene	31.29	128	627940	208.33 ng	#	93
57) Hexachlorobutadiene	30.98	225	504469	217.36 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	335627	250.00 ng	0.00 91.15%
26) 1,4-Difluorobenzene IS#2	13.49	114	1393904	250.00 ng	0.02 87.04%
36) Chlorobenzene-d5 IS#3	20.82	117	1059272	250.00 ng	0.02 87.85%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.68	65	596594	283.62 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 113.45%					
32) Toluene-d8 SURR#2	17.05	98	1151441	255.55 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.22%					
46) 4-Bromofluorobenzene SURR#	23.97	95	1040529	247.06 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.82%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1198890	171.05 ng		98
3) Dichlorotetrafluoroethane	4.16	135	1299726	554.44 ng	#	34
4) Chloromethane	4.42	50	858972	605.87 ng		97
5) Vinyl chloride	4.64	62	777500	585.10 ng		98
6) Bromomethane	5.50	94	1055105	548.95 ng		96
7) Chloroethane	5.60	64	475305	557.35 ng	#	93
8) Trichlorofluoromethane	6.13	101	1642064	755.75 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	1395839	530.44 ng		97
10) 1,1-Dichloroethene	7.30	96	833822	558.69 ng		83
12) Methylene chloride	8.21	49	1562946	583.30 ng	#	82
13) Carbon disulfide	8.37	76	2544755	578.18 ng		98
14) methyl-Tert-Butyl Ether	8.49	73	1248899	656.87 ng	#	88
15) trans-1,2-Dichloroethene	8.79	96	932503	583.10 ng		89
16) n-Hexane	8.90	57	1048920	568.99 ng	#	1
17) 1,1-Dichloroethane	9.62	63	1845041	567.93 ng		99
18) cis-1,2-Dichloroethene	10.87	61	1516716	560.25 ng		90
19) Chloroform	11.19	83	2274961	565.52 ng	#	92
20) Isooctane	12.16	57	3451582	546.50 ng		93
21) 1,1,1-Trichloroethane	12.06	97	1961314	576.73 ng		92
22) Carbon tetrachloride	12.62	117	2031258	564.04 ng		98
24) 1,2-Dichloroethane	12.89	62	1366704	586.92 ng	#	98
25) 1,2-Dibromoethane	19.87	107	1434749	532.15 ng		100
27) Benzene	12.96	78	2286563	524.34 ng		96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

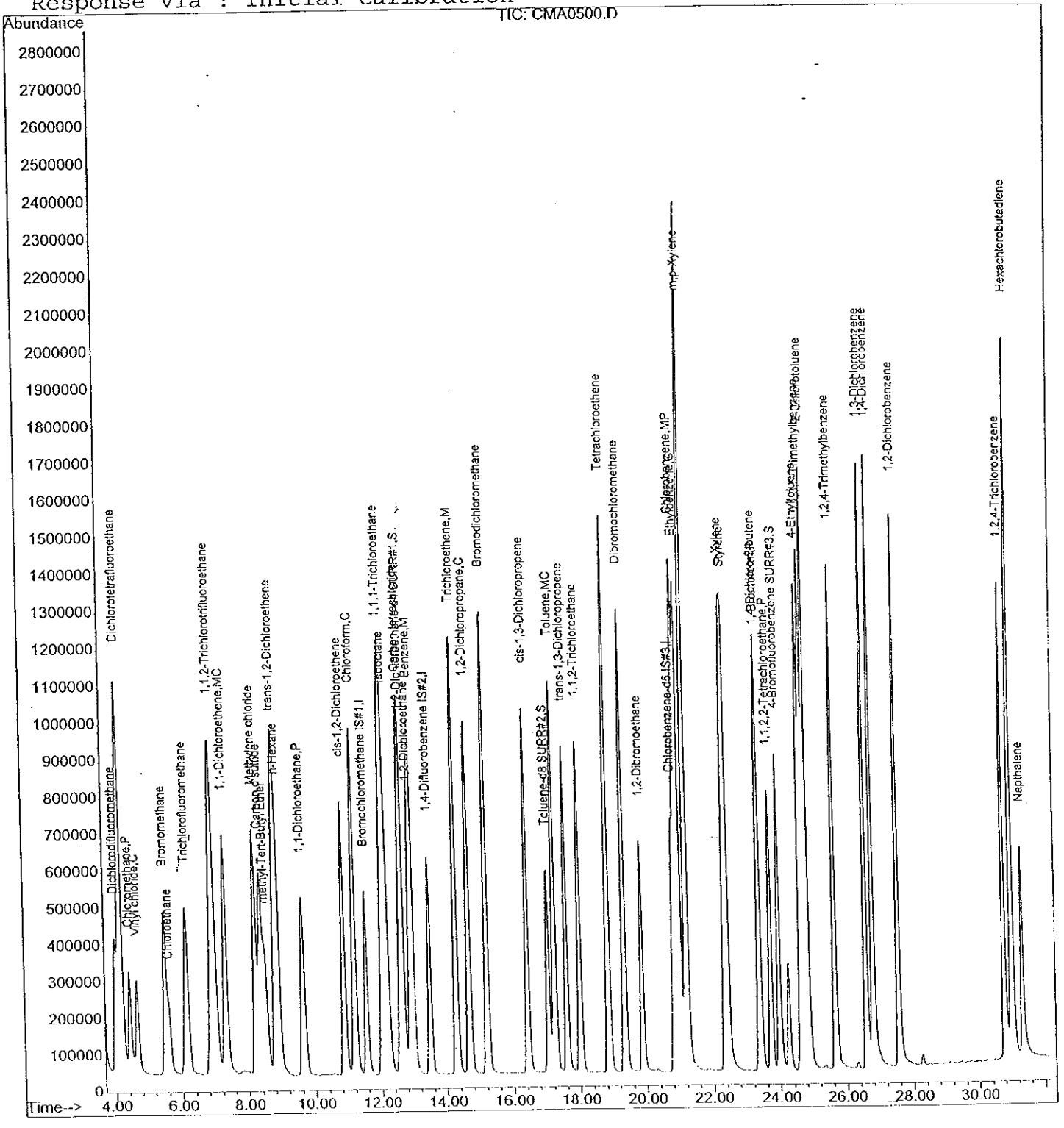
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.30	130	1124713	514.22 ng		97
29) 1,2-Dichloropropane	14.67	63	1046814	527.87 ng	#	81
30) Bromodichloromethane	15.21	83	2589250	548.51 ng		98
31) cis-1,3-Dichloropropene	16.42	75	1529163	537.08 ng	#	71
33) Toluene	17.23	92	1401707	529.18 ng	#	94
34) trans-1,3-Dichloropropene	17.59	75	1284286	560.48 ng	#	74
35) 1,1,2-Trichloroethane	17.99	97	871120	526.05 ng		97
37) Tetrachloroethene	18.85	164	1022802	487.81 ng		99
38) Dibromochloromethane	19.34	127	1513544	513.08 ng		99
39) Chlorobenzene	20.91	112	1991948	523.85 ng		94
40) Ethylbenzene	21.00	106	806049	516.45 ng		87
41) m,p-Xylene	21.21	106	2109001	1065.29 ng		89
42) o-Xylene	22.36	106	1010344	525.11 ng		86
43) Styrene	22.43	104	1622506	512.91 ng		95
44) Bromoform	23.40	173	1269638	480.33 ng		99
45) 1,1,2,2-Tetrachloroethane	23.71	83	1382645	535.33 ng		97
47) 1,4-Dichloro-2-butene	23.36	75	275039	477.93 ng	#	82
48) 4-Ethyltoluene	24.62	105	2886559	539.81 ng		92
49) 1,3,5-Trimethylbenzene	24.73	105	2282513	542.48 ng		94
50) 2-Chlorotoluene	24.82	91	3029218	537.75 ng		97
51) 1,2,4-Trimethylbenzene	25.65	105	2356377	533.35 ng		98
52) 1,3-Dichlorobenzene	26.58	146	1701056	509.29 ng		97
53) 1,4-Dichlorobenzene	26.80	146	1785143	509.98 ng		97
54) 1,2-Dichlorobenzene	27.56	146	1561744	512.60 ng		96
55) 1,2,4-Trichlorobenzene	30.77	180	1098617	475.53 ng		100
56) Napthalene	31.33	128	1422310	537.16 ng	#	92
57) Hexachlorobutadiene	31.00	225	916172	449.36 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	381143	250.00	ng	0.00 103.51%
26) 1,4-Difluorobenzene IS#2	13.50	114	1562902	250.00	ng	0.03 97.59%
36) Chlorobenzene-d5 IS#3	20.86	117	1183115	250.00	ng	0.06 98.12%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	691978	289.68	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 115.87%						
32) Toluene-d8 SURR#2	17.07	98	1280433	253.45	ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.38%						
46) 4-Bromofluorobenzene SURR#	24.01	95	1136531	241.61	ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.64%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.97	85	2735069	343.61	ng		98
3) Dichlorotetrafluoroethane	4.14	135	2769932	1040.50	ng	#	34
4) Chloromethane	4.40	50	1829586	1136.39	ng		95
5) Vinyl chloride	4.61	62	1651969	1094.71	ng		97
6) Bromomethane	5.47	94	2276884	1043.14	ng		97
7) Chloroethane	5.57	64	1064134	1098.81	ng	#	93
8) Trichlorofluoromethane	6.11	101	3775685	1236.43	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	3068817	1026.93	ng		98
10) 1,1-Dichloroethene	7.29	96	1856306	1095.25	ng		82
12) Methylene chloride	8.19	49	3407078	1119.70	ng	#	83
13) Carbon disulfide	8.36	76	5434383	1087.27	ng		99
14) methyl-Tert-Butyl Ether	8.47	73	2884045	1335.74	ng	#	89
15) trans-1,2-Dichloroethene	8.78	96	1956401	1077.26	ng		88
16) n-Hexane	8.87	57	2265746	1082.29	ng	#	1
17) 1,1-Dichloroethane	9.62	63	4092898	1109.40	ng		99
18) cis-1,2-Dichloroethene	10.86	61	3400663	1106.14	ng		90
19) Chloroform	11.19	83	5058553	1107.31	ng	#	92
20) Isooctane	12.15	57	7647454	1066.26	ng		93
21) 1,1,1-Trichloroethane	12.06	97	4224028	1093.76	ng		92
22) Carbon tetrachloride	12.63	117	4469033	1092.77	ng		98
24) 1,2-Dichloroethane	12.90	62	3208228	1213.23	ng	#	98
25) 1,2-Dibromoethane	19.90	107	3427551	1119.46	ng		99
27) Benzene	12.97	78	5184887	1060.40	ng		96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

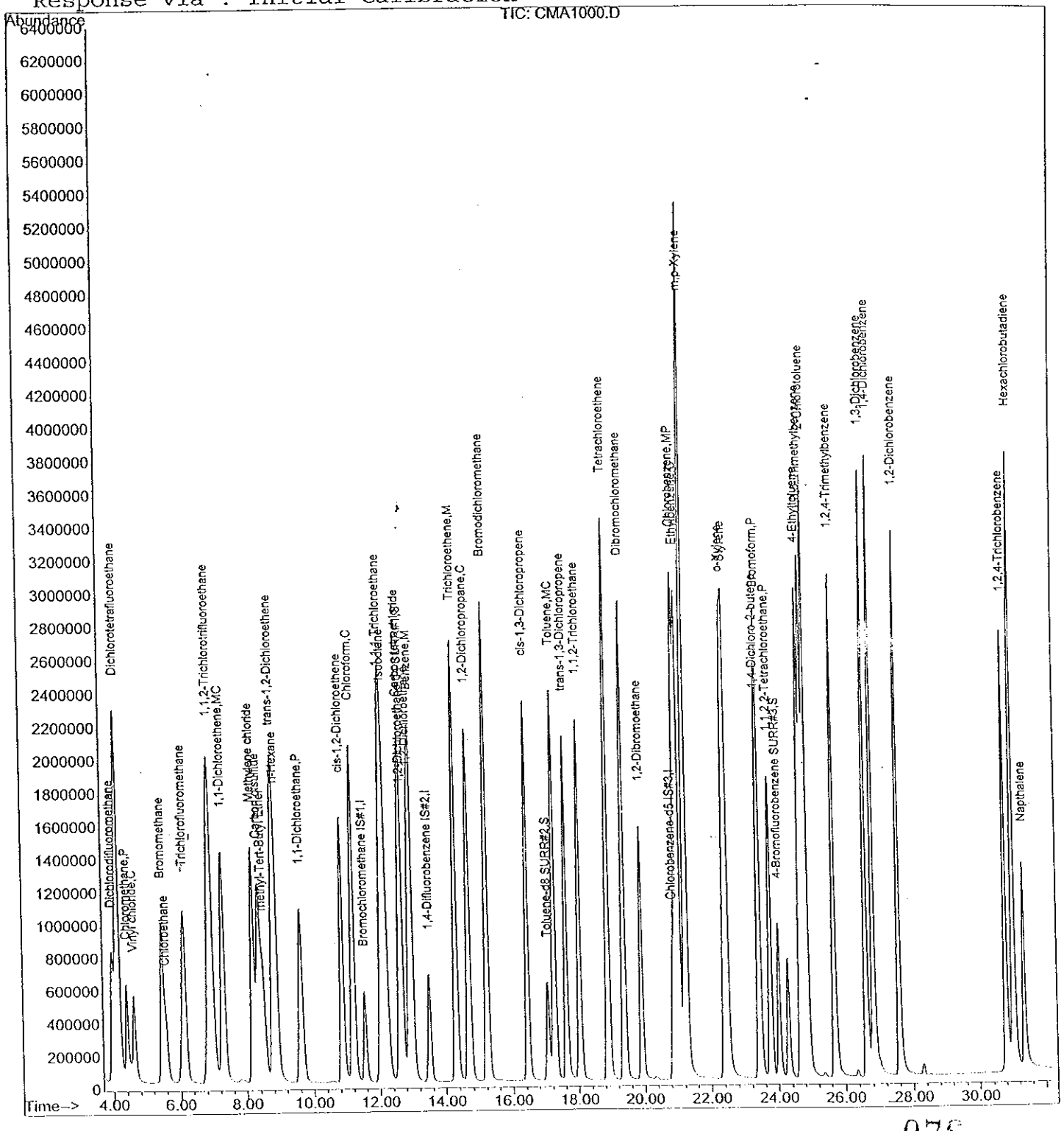
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.31	130	2574537	1049.80 ng		97
29) 1,2-Dichloropropane	14.68	63	2381129	1070.89 ng	#	81
30) Bromodichloromethane	15.22	83	5935390	1121.41 ng		98
31) cis-1,3-Dichloropropene	16.44	75	3562044	1115.80 ng	#	72
33) Toluene	17.26	92	3196310	1076.22 ng	#	96
34) trans-1,3-Dichloropropene	17.62	75	3038375	1182.60 ng	#	74
35) 1,1,2-Trichloroethane	18.03	97	2082258	1121.47 ng		98
37) Tetrachloroethene	18.89	164	2312926	987.64 ng		99
38) Dibromochloromethane	19.39	127	3584791	1088.02 ng		99
39) Chlorobenzene	20.95	112	4497216	1058.90 ng		94
40) Ethylbenzene	21.05	106	1844660	1058.19 ng		88
41) m,p-Xylene	21.25	106	4723023	2135.96 ng		89
42) o-Xylene	22.40	106	2300502	1070.49 ng		89
43) Styrene	22.47	104	3694630	1045.70 ng		95
44) Bromoform	23.44	173	3080932	1043.57 ng		99
45) 1,1,2,2-Tetrachloroethane	23.75	83	3305758	1145.94 ng		98
47) 1,4-Dichloro-2-butene	23.39	75	696318	1053.93 ng	#	83
48) 4-Ethyltoluene	24.66	105	5901317	988.08 ng		99
49) 1,3,5-Trimethylbenzene	24.76	105	4837745	1029.42 ng		93
50) 2-Chlorotoluene	24.87	91	6699275	1064.78 ng		98
51) 1,2,4-Trimethylbenzene	25.69	105	5145516	1042.75 ng		98
52) 1,3-Dichlorobenzene	26.60	146	3752879	1005.98 ng		97
53) 1,4-Dichlorobenzene	26.82	146	3957298	1012.19 ng		97
54) 1,2-Dichlorobenzene	27.58	146	3369446	990.16 ng		97
55) 1,2,4-Trichlorobenzene	30.80	180	2290557	887.68 ng		100
56) Napthalene	31.36	128	3152732	1066.04 ng	#	93
57) Hexachlorobutadiene	31.03	225	1818158	798.42 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D Vial: 14
Acq On : 24 Oct 2001 13:51 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	299711	250.00	ng	0.00 81.39%
26) 1,4-Difluorobenzene IS#2	13.49	114	1220318	250.00	ng	0.02 76.20%
36) Chlorobenzene-d5 IS#3	20.83	117	936333	250.00	ng	0.03 77.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	527563	280.86	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.34%						
32) Toluene-d8 SURR#2	17.06	98	1008524	255.67	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.27%						
46) 4-Bromofluorobenzene SURR#	23.98	95	963269	258.75	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.50%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	4797534	766.49	ng	92
3) Dichlorotetrafluoroethane	4.14	135	4537207	2167.44	ng #	37
4) Chloromethane	4.40	50	2893540	2285.53	ng	96
5) Vinyl chloride	4.61	62	2367084	1994.78	ng	98
6) Bromomethane	5.48	94	3156872	1839.27	ng	97
7) Chloroethane	5.58	64	1410452	1852.12	ng #	93
8) Trichlorofluoromethane	6.11	101	4845163	1699.40	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	3574884	1521.31	ng	100
10) 1,1-Dichloroethene	7.29	96	2110739	1583.74	ng #	79
12) Methylene chloride	8.19	49	4335480	1811.94	ng #	83
13) Carbon disulfide	8.36	76	7294302	1855.90	ng	99
14) methyl-Tert-Butyl Ether	8.49	73	3362521	1980.48	ng #	88
15) trans-1,2-Dichloroethene	8.78	96	2538724	1777.72	ng	88
16) n-Hexane	8.88	57	2851603	1732.23	ng #	1
17) 1,1-Dichloroethane	9.62	63	5115557	1763.34	ng	99
18) cis-1,2-Dichloroethene	10.86	61	4239743	1753.76	ng	90
19) Chloroform	11.19	83	6255523	1741.38	ng #	93
20) Isooctane	12.15	57	9569612	1696.77	ng	93
21) 1,1,1-Trichloroethane	12.06	97	5359062	1764.70	ng	93
22) Carbon tetrachloride	12.63	117	5658667	1759.60	ng	98
24) 1,2-Dichloroethane	12.90	62	3858010	1855.35	ng #	98
25) 1,2-Dibromoethane	19.87	107	4175204	1734.15	ng	98
27) Benzene	12.97	78	6292055	1648.09	ng #	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D
Acq On : 24 Oct 2001 13:51
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.29	130	3094281	1615.94 ng		97
29)	1,2-Dichloropropane	14.68	63	2868173	1652.06 ng	#	80
30)	Bromodichloromethane	15.21	83	7154624	1731.25 ng		98
31)	cis-1,3-Dichloropropene	16.42	75	4319987	1733.11 ng	#	72
33)	Toluene	17.24	92	3866913	1667.53 ng	#	95
34)	trans-1,3-Dichloropropene	17.60	75	3719908	1854.33 ng	#	74
35)	1,1,2-Trichloroethane	18.02	97	2504902	1727.83 ng		98
37)	Tetrachloroethene	18.87	164	2814538	1518.59 ng		100
38)	Dibromochloromethane	19.35	127	4327935	1659.77 ng		99
39)	Chlorobenzene	20.94	112	5564921	1655.64 ng		94
40)	Ethylbenzene	21.03	106	2243058	1625.86 ng		84
41)	m,p-Xylene	21.22	106	5860338	3348.82 ng		91
42)	o-Xylene	22.37	106	2889161	1698.75 ng		90
43)	Styrene	22.44	104	4641960	1660.10 ng		95
44)	Bromoform	23.41	173	3840273	1643.60 ng		99
45)	1,1,2,2-Tetrachloroethane	23.73	83	4079898	1787.05 ng		98
47)	1,4-Dichloro-2-butene	23.38	75	901773	1709.88 ng	#	85
48)	4-Ethyltoluene	24.65	105	7928116	1677.30 ng		92
49)	1,3,5-Trimethylbenzene	24.74	105	6743899	1813.24 ng		95
50)	2-Chlorotoluene	24.85	91	8583321	1723.78 ng		98
51)	1,2,4-Trimethylbenzene	25.67	105	6635306	1699.06 ng		99
52)	1,3-Dichlorobenzene	26.59	146	5047201	1709.52 ng		97
53)	1,4-Dichlorobenzene	26.81	146	5326160	1721.36 ng		97
54)	1,2-Dichlorobenzene	27.57	146	4708775	1748.45 ng		97
55)	1,2,4-Trichlorobenzene	30.80	180	3395953	1662.92 ng		100
56)	Napthalene	31.36	128	4463519	1907.05 ng	#	93
57)	Hexachlorobutadiene	31.03	225	2562018	1421.60 ng		99

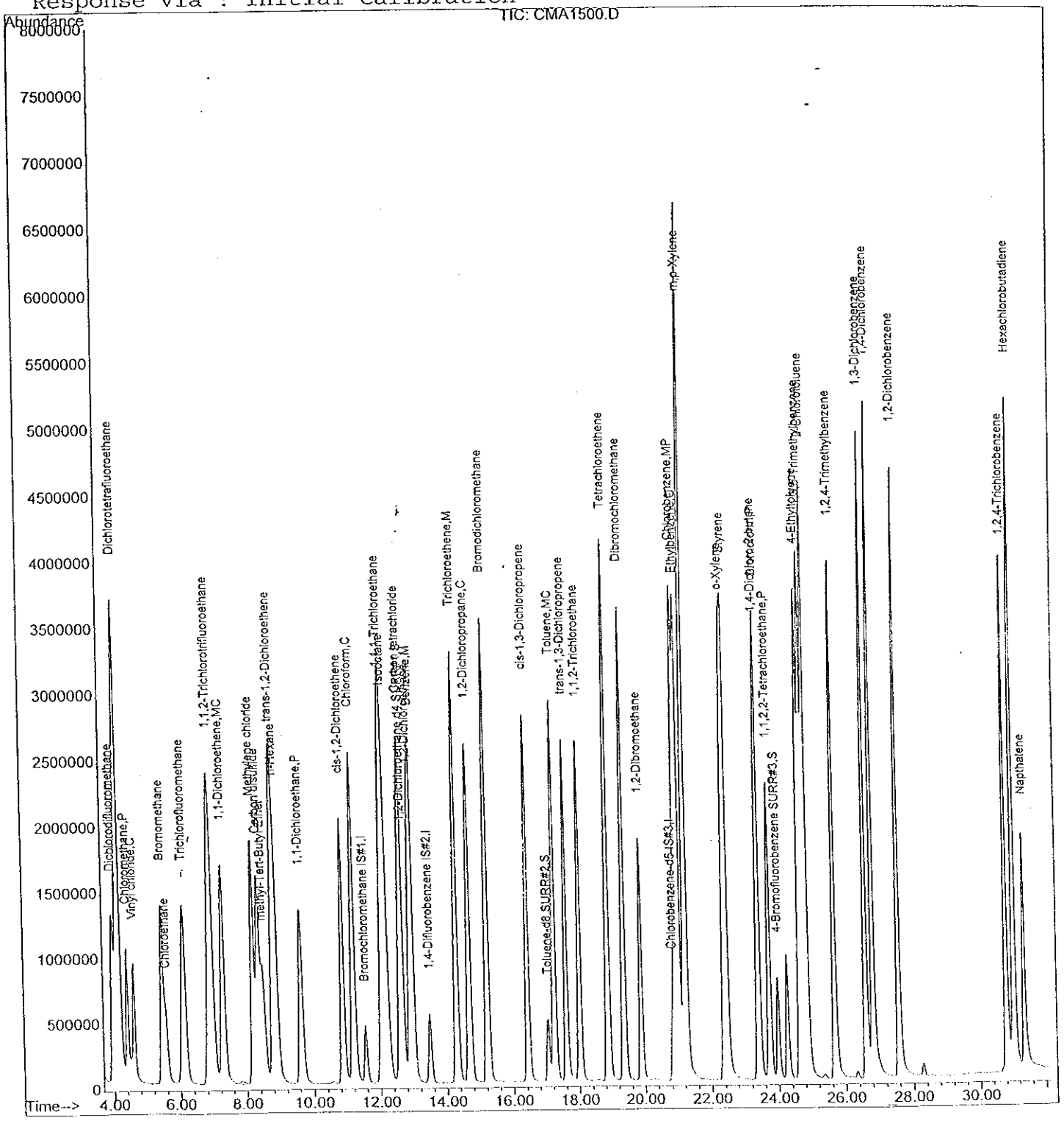
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D
Acq On : 24 Oct 2001 13:51
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Comment: 1014
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1025A\
Pre-Seq Cmd:
Post-Seq Cmd:

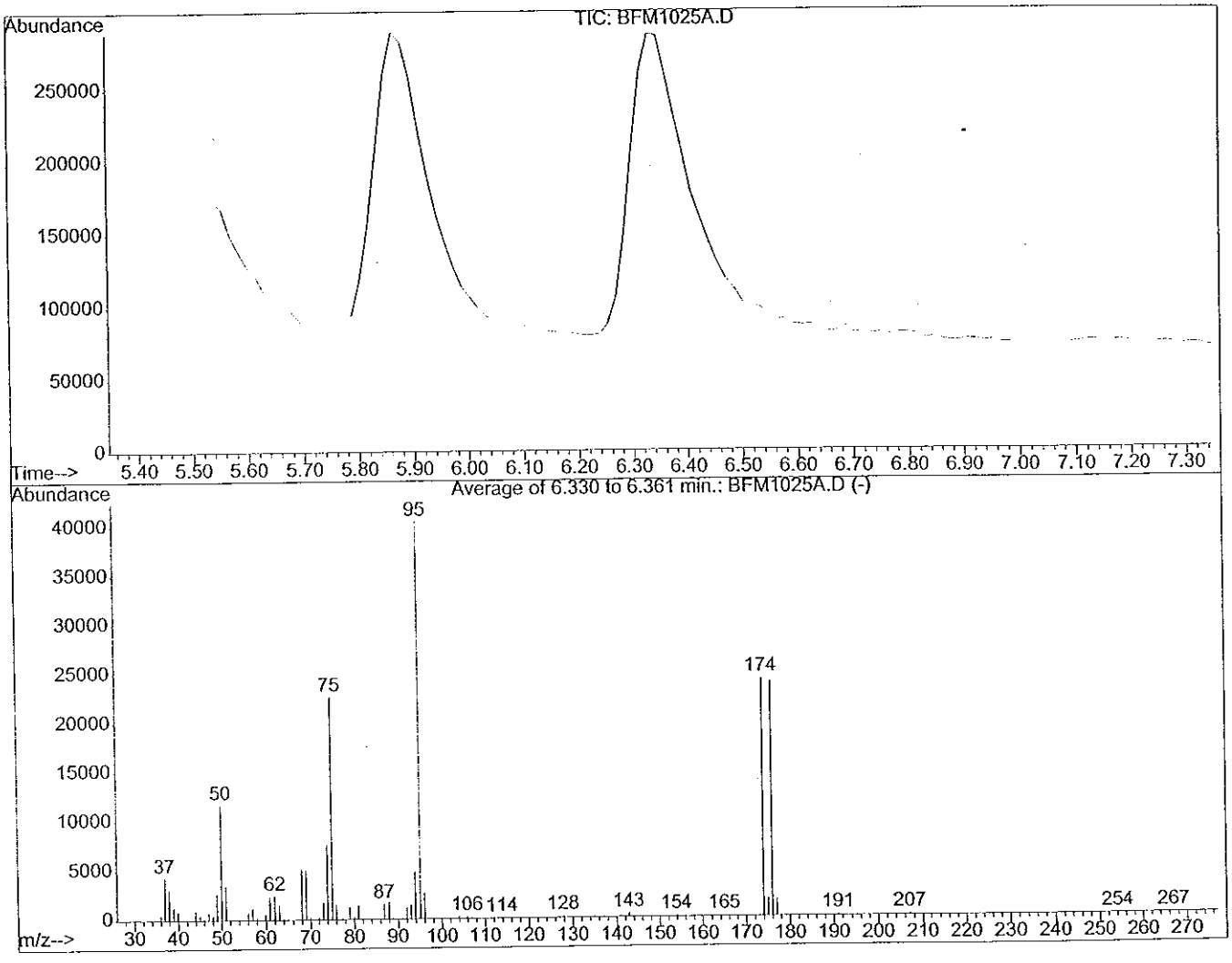
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1025A	BFBSTL	DAILY BFB 12 HOUR TUNE
2	Sample	14	CM1025A	TO14S	DAILY CALIB. CHECK 50ppb/250n
3	Sample	15	MA218ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
4	Sample	16	MA218LCS	TO14S	LCS/BATCH #218 LCS 50ppb/250
5	Sample	1	104151R	TO14S	10415-1 ST. 500mls
6	Sample	1	104152R	TO14S	10415-2 ST. 500mls
7	Sample	1	104153R	TO14S	10415-3 ST. 500mls
8	Sample	2	103812R	TO14S	10381-2 X50 10mls
9	Sample	3	103813R	TO14S	10381-3 X100 5mls
10	Sample	1	104161	TO14S	062SVEA10150121\10416-1 ST. 5
11	Sample	1	104171	TO14S	062SVEA10150117\10417-1 ST. 5
12	Sample	1	105101	TO14S	067SVEA101647\10510-1 ST. 500
13	Sample	1	104161R	TO14S	062SVEA10150121\10416-1 ST. 5
14	Sample	2	BLKTUBE	BFBSTL	MPM CLEANUP
15	Sample	3	BLKTUBE	BFBSTL	MPM CLEANUP

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\BFM1025A.D Vial: 13
Acq On : 25 Oct 2001 8:30 Operator: BDH
Sample : DAILY BFB 12 HOUR TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 53 (6.35 min)
Average of 3 scans: 52,53,54 minus background scan 33 (6.04 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	29.0	11724	PASS
75	95	30	60	56.0	22675	PASS
95	95	100	100	100.0	40459	PASS
96	95	5	9	6.5	2647	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	59.9	24253	PASS
175	174	5	9	7.6	1840	PASS
176	174	95	101	98.7	23928	PASS
177	176	5	9	7.3	1738	PASS

BFM1025A.D TO14S.M Fri Oct 26 13:04:56 2001

DAILY BFB 12 HOUR TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	542	51.00	3517	72.00	235	92.95	1487
37.00	4329	56.00	745	73.00	1800	93.95	4852
37.95	3054	57.00	1209	74.00	7681	95.05	40459
39.05	1347	58.00	272	75.05	22675	96.00	2647
39.95	901	59.90	598	75.95	1557	103.85	234
43.95	983	60.90	2370	78.95	1301	105.85	237
45.00	524	62.05	2461	79.90	249	127.85	210
47.00	792	63.00	1647	80.90	1436	140.85	231
47.95	458	68.00	5140	86.90	1570	142.85	390
48.95	2686	69.00	5018	87.95	1757	173.95	24253
50.00	11724	70.00	239	92.00	1155	174.95	1840

Average of 6.330 to 6.361 min.: BFM1025A.D

DAILY BFB 12 HOUR TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	23928						
176.95	1738						

Data File : D:\HPCHEM\1\DATA01\M1025A\BFM1025A.D Vial: 13
Acq On : 25 Oct 2001 8:30 Operator: BDH
Sample : DAILY BFB 12 HOUR TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.864	14	22	44	rVB2	209604	1533389	93.04%	48.198%
2	6.330	45	52	73	rBV	207086	1648060	100.00%	51.802%

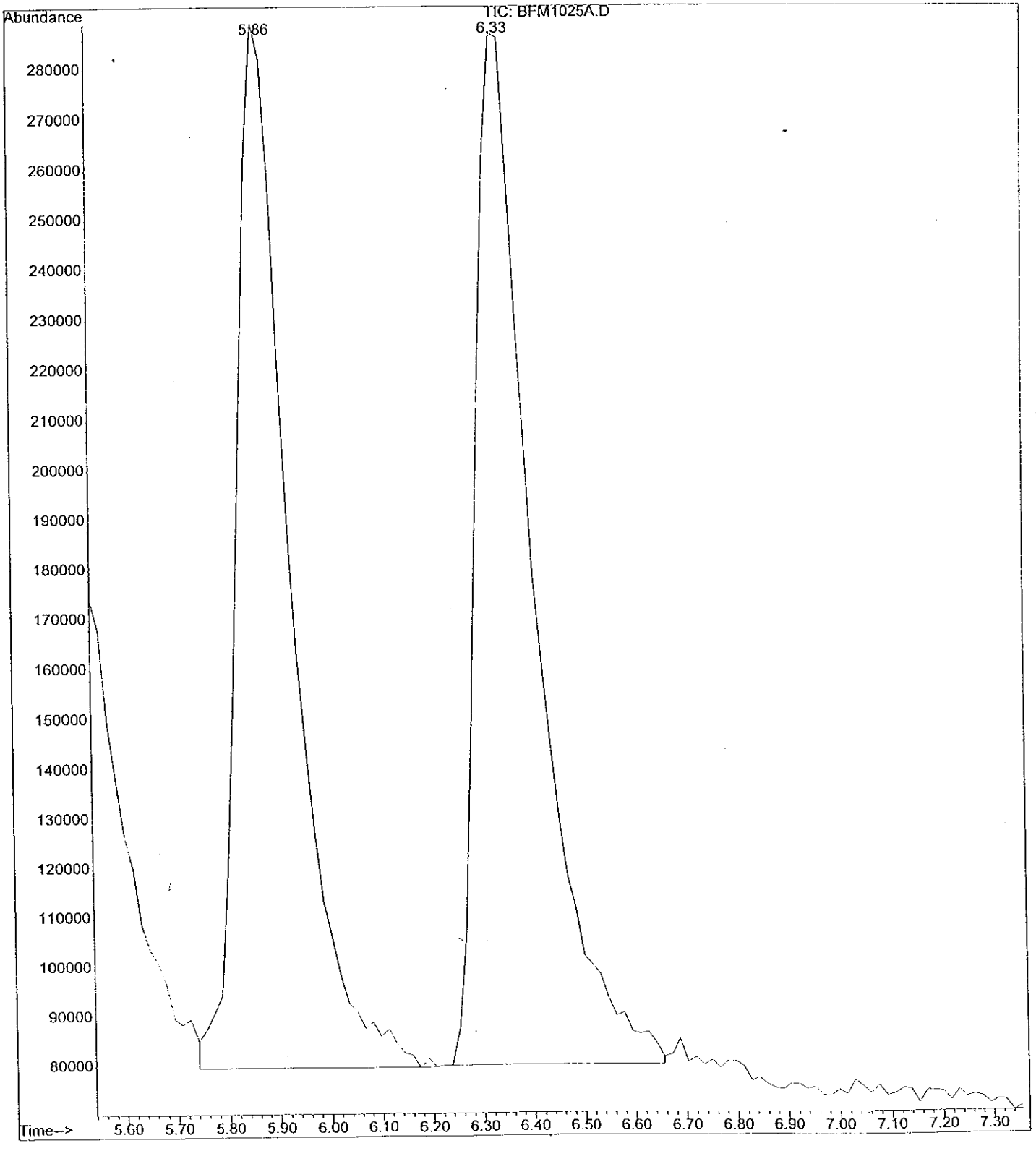
Sum of corrected areas: 3181449

BFM1025A.D BFBSTL.M Thu Oct 25 08:37:52 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1025A\BFM1025A.D
Acq On : 25 Oct 2001 8:30
Sample : DAILY BFB 12 HOUR TUNE
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1025A.D BFBSTL.M Thu Oct 25 08:37:53 2001

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:40 2001
Response via : Multiple Level Calibration

passes BH 10/25/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	84	0.00
2		Dichlorodifluoromethane	1.926	1.831	4.9#	96	0.00
3		Dichlorotetrafluoroethane	2.065	1.907	7.7#	82	0.00
4	P	Chloromethane	1.320	1.227	7.0#	84	0.00
5	C	Vinyl chloride	1.165	1.205	3.4#	88	0.00
6		Bromomethane	1.569	1.687	-7.5#	91	0.00
7		Chloroethane	0.705	0.732	-3.8#	86	0.00
8		Trichlorofluoromethane	2.340	2.165	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	2.022	2.098	-3.8#	83	0.00
10	MC	1,1-Dichloroethene	1.189	1.262	-6.1#	86	0.00
11		Iodomethane N/A	~~0.000~~	~~0.000~~	~~0.0~~	~~0#~~	~~7.94#~~
12		Methylene chloride	2.404	2.452	-2.0	81	0.00
13		Carbon disulfide	3.721	3.992	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	1.945	1.949	-0.2	95	0.00
15		trans-1,2-Dichloroethene	1.349	1.350	-0.1	79	0.00
16		n-Hexane	1.610	1.453	9.8#	74	0.00
17	P	1,1-Dichloroethane	2.730	2.940	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	2.236	2.410	-7.8#	86	0.00
19	C	Chloroform	3.357	3.578	-6.6#	84	0.00
20		Isooctane	5.758	5.031	12.6#	78	0.00
21		1,1,1-Trichloroethane	2.929	3.173	-8.3#	85	0.00
22		Carbon tetrachloride	3.016	3.192	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.788	1.792	-0.2	86	0.00
24		1,2-Dichloroethane	2.116	2.191	-3.5#	89	0.00
25		1,2-Dibromoethane	2.230	2.274	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	80	0.00
27	M	Benzene	0.827	0.873	-5.6#	84	0.00
28	M	Trichloroethene	0.403	0.424	-5.2#	83	0.00
29	C	1,2-Dichloropropane	0.374	0.398	-6.4#	84	0.00
30		Bromodichloromethane	0.929	0.996	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	0.548	0.578	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	0.828	0.839	-1.3	81	0.00
33	MC	Toluene	0.502	0.532	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	0.464	0.490	-5.6#	92	0.00
35		1,1,2-Trichloroethane	0.329	0.327	0.6	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	81	0.00
37		Tetrachloroethene	0.483	0.504	-4.3#	82	0.00
38		Dibromochloromethane	0.741	0.756	-2.0#	88	0.00
39	MP	Chlorobenzene	0.936	0.990	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:40 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.376	0.402	-6.9#	84	0.00
41		m,p-Xylene	0.486	0.511	-5.1#	86	0.00
42		o-Xylene	0.469	0.487	-3.8#	82	0.00
43		Styrene	0.747	0.784	-5.0#	85	0.00
44	P	Bromoform	0.642	0.633	1.4	93	0.00
45	P	1,1,2,2-Tetrachloroethane	0.716	0.663	7.4#	91	0.00
46	S	4-Bromofluorobenzene SURR#3	0.965	0.994	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	0.138	0.129	6.5#	99	0.00
48		4-Ethyltoluene	1.292	1.276	1.2	74	0.00
49		1,3,5-Trimethylbenzene	1.038	1.118	-7.7#	89	0.00
50		2-Chlorotoluene	1.413	1.533	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	1.091	1.152	-5.6#	85	0.00
52		1,3-Dichlorobenzene	0.804	0.857	-6.6#	89	0.00
53		1,4-Dichlorobenzene	0.848	0.921	-8.6#	91	0.00
54		1,2-Dichlorobenzene	0.751	0.798	-6.3#	92	0.00
55		1,2,4-Trichlorobenzene	0.545	0.557	-2.2#	101	0.00
56		Napthalene	0.798	0.707	11.4#	110	0.00
57		Hexachlorobutadiene	0.456	0.489	-7.2#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:07:35 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	84	0.00
2		Dichlorodifluoromethane	250.000	335.190	-34.1#	96	0.00
3		Dichlorotetrafluoroethane	250.000	230.914	7.6#	82	0.00
4	P	Chloromethane	250.000	232.363	7.1#	84	0.00
5	C	Vinyl chloride	250.000	258.683	-3.5#	88	0.00
6		Bromomethane	250.000	268.807	-7.5#	91	0.00
7		Chloroethane	250.000	259.648	-3.9#	86	0.00
8		Trichlorofluoromethane	250.000	231.250	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	259.368	-3.7#	83	0.00
10	MC	1,1-Dichloroethene	250.000	265.335	-6.1#	86	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.94#
12		Methylene chloride	250.000	254.974	-2.0	81	0.00
13		Carbon disulfide	250.000	268.224	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	250.000	263.411	-5.4#	95	0.00
15		trans-1,2-Dichloroethene	250.000	250.208	-0.1	79	0.00
16		n-Hexane	250.000	225.546	9.8#	74	0.00
17	P	1,1-Dichloroethane	250.000	269.183	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	250.000	269.473	-7.8#	86	0.00
19	C	Chloroform	250.000	266.437	-6.6#	84	0.00
20		Isooctane	250.000	218.424	12.6#	78	0.00
21		1,1,1-Trichloroethane	250.000	270.834	-8.3#	85	0.00
22		Carbon tetrachloride	250.000	264.616	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	250.595	-0.2	86	0.00
24		1,2-Dichloroethane	250.000	258.881	-3.6#	89	0.00
25		1,2-Dibromoethane	250.000	254.934	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	80	0.00
27	M	Benzene	250.000	263.968	-5.6#	84	0.00
28	M	Trichloroethene	250.000	263.149	-5.3#	83	0.00
29	C	1,2-Dichloropropane	250.000	265.956	-6.4#	84	0.00
30		Bromodichloromethane	250.000	268.115	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	250.000	263.685	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.392	-1.4	81	0.00
33	MC	Toluene	250.000	264.939	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	250.000	263.733	-5.5#	92	0.00
35		1,1,2-Trichloroethane	250.000	249.105	0.4	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	81	0.00
37		Tetrachloroethene	250.000	260.697	-4.3#	82	0.00
38		Dibromochloromethane	250.000	254.971	-2.0	88	0.00
39	MP	Chlorobenzene	250.000	264.397	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:07:35 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	266.978	-6.8#	84	0.00
41		m,p-Xylene	500.000	525.818	-5.2#	86	0.00
42		o-Xylene	250.000	259.544	-3.8#	82	0.00
43		Styrene	250.000	262.378	-5.0#	85	0.00
44	P	Bromoform	250.000	261.730	-4.7#	93	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	252.934	-1.2	91	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	257.457	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	251.402	-0.6	99	0.00
48		4-Ethyltoluene	250.000	246.772	1.3	74	0.00
49		1,3,5-Trimethylbenzene	250.000	269.351	-7.7#	89	0.00
50		2-Chlorotoluene	250.000	271.180	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	250.000	263.989	-5.6#	85	0.00
52		1,3-Dichlorobenzene	250.000	266.343	-6.5#	89	0.00
53		1,4-Dichlorobenzene	250.000	271.376	-8.6#	91	0.00
54		1,2-Dichlorobenzene	250.000	265.517	-6.2#	92	0.00
55		1,2,4-Trichlorobenzene	250.000	255.719	-2.3#	101	0.00
56		Napthalene	250.000	293.887	-17.6#	110	0.00
57		Hexachlorobutadiene	250.000	268.278	-7.3#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. - passes BH 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	310060	250.00 ng	-0.09 84.21%
26) 1,4-Difluorobenzene IS#2	13.39	114	1279657	250.00 ng	-0.08 79.91%
36) Chlorobenzene-d5 IS#3	20.71	117	979219	250.00 ng	-0.09 81.21%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.60	65	555698	250.59 ng	-0.08
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.24%		
32) Toluene-d8 SURR#2	16.95	98	1073312	253.39 ng	-0.08
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.36%		
46) 4-Bromofluorobenzene SURR#	23.86	95	973122	257.46 ng	-0.09
Spiked Amount 250.000	Range 87 - 112		Recovery = 102.98%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.94	85	567838	335.19 ng		98
3) Dichlorotetrafluoroethane	4.09	135	591303	230.91 ng	#	34
4) Chloromethane	4.36	50	380482	232.36 ng		97
5) Vinyl chloride	4.57	62	373610	258.68 ng		97
6) Bromomethane	5.41	94	523083	268.81 ng		92
7) Chloroethane	5.52	64	227040	259.65 ng	#	94
8) Trichlorofluoromethane	6.05	101	671222	231.25 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.84	151	650493	259.37 ng		99
10) 1,1-Dichloroethene	7.21	96	391277	265.33 ng	#	79
12) Methylene chloride	8.11	49	760201	254.97 ng	#	81
13) Carbon disulfide	8.27	76	1237691	268.22 ng		99
14) methyl-Tert-Butyl Ether	8.41	73	604446	263.41 ng	#	86
15) trans-1,2-Dichloroethene	8.70	96	418492	250.21 ng		85
16) n-Hexane	8.80	57	450410	225.55 ng	#	1
17) 1,1-Dichloroethane	9.54	63	911463	269.18 ng		98
18) cis-1,2-Dichloroethene	10.77	61	747230	269.47 ng		88
19) Chloroform	11.09	83	1109262	266.44 ng	#	92
20) Isooctane	12.06	57	1559891	218.42 ng		91
21) 1,1,1-Trichloroethane	11.96	97	983955	270.83 ng		94
22) Carbon tetrachloride	12.52	117	989781	264.62 ng		98
24) 1,2-Dichloroethane	12.80	62	679280	258.88 ng	#	98
25) 1,2-Dibromoethane	19.76	107	704983	254.93 ng		100
27) Benzene	12.86	78	1117733	263.97 ng	#	96

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

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

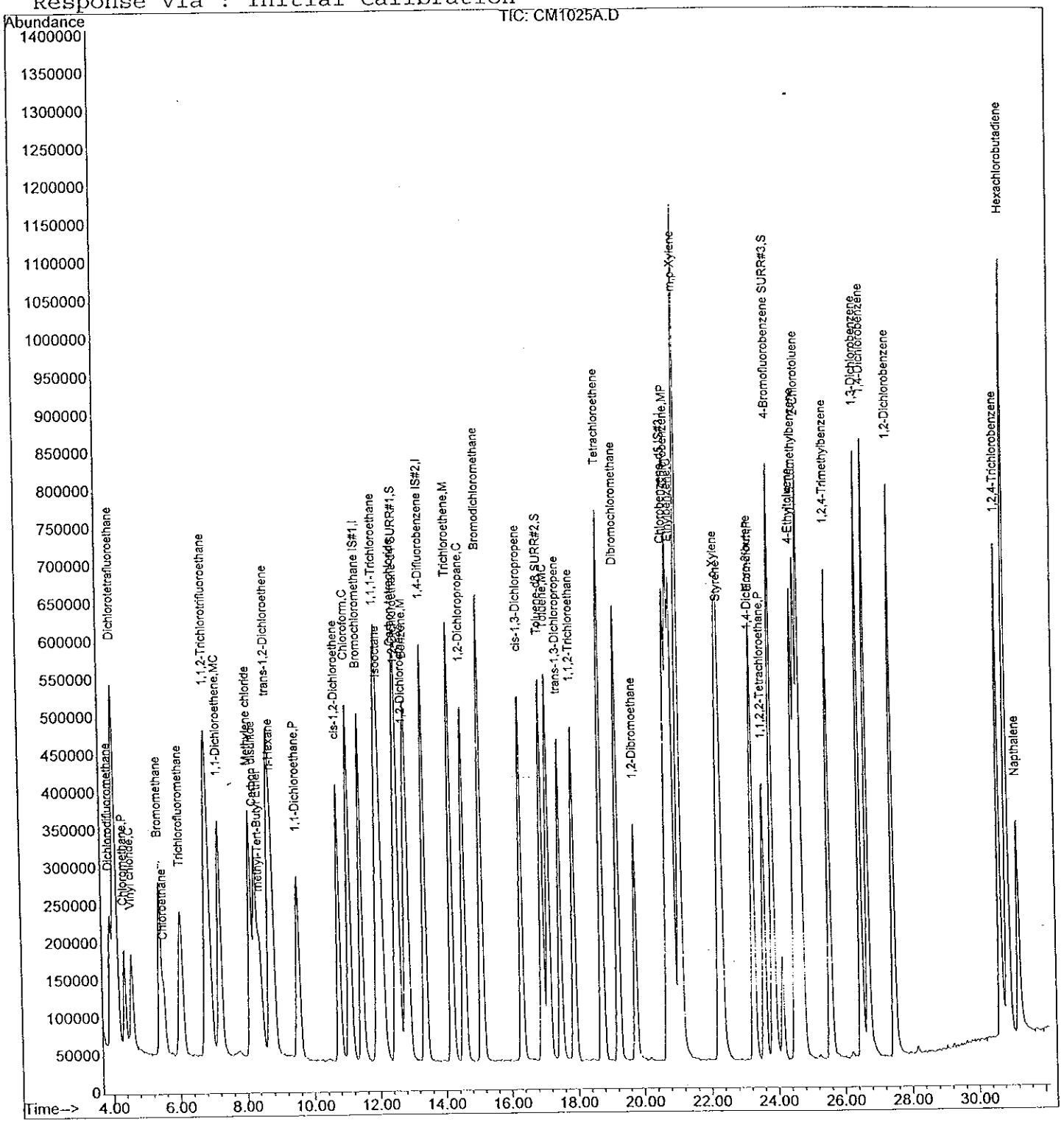
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.18	130	542233	263.15 ng		96
29) 1,2-Dichloropropane	14.57	63	509614	265.96 ng	#	79
30) Bromodichloromethane	15.12	83	1274341	268.12 ng		98
31) cis-1,3-Dichloropropene	16.33	75	739185	263.69 ng	#	68
33) Toluene	17.13	92	680258	264.94 ng	#	95
34) trans-1,3-Dichloropropene	17.49	75	626847	263.73 ng	#	70
35) 1,1,2-Trichloroethane	17.89	97	419036	249.10 ng		98
37) Tetrachloroethene	18.75	164	493672	260.70 ng		99
38) Dibromochloromethane	19.25	127	739829	254.97 ng		98
39) Chlorobenzene	20.80	112	969083	264.40 ng		92
40) Ethylbenzene	20.91	106	393325	266.98 ng		85
41) m,p-Xylene	21.09	106	1001500	525.82 ng		85
42) o-Xylene	22.24	106	477193	259.54 ng		82
43) Styrene	22.34	104	768125	262.38 ng		93
44) Bromoform	23.28	173	619836	261.73 ng		99
45) 1,1,2,2-Tetrachloroethane	23.61	83	649162	252.93 ng		97
47) 1,4-Dichloro-2-butene	23.25	75	126490	251.40 ng	#	75
48) 4-Ethyltoluene	24.52	105	1249047	246.77 ng		98
49) 1,3,5-Trimethylbenzene	24.62	105	1094581	269.35 ng		96
50) 2-Chlorotoluene	24.73	91	1500918	271.18 ng		96
51) 1,2,4-Trimethylbenzene	25.56	105	1128411	263.99 ng		96
52) 1,3-Dichlorobenzene	26.48	146	839018	266.34 ng		96
53) 1,4-Dichlorobenzene	26.70	146	901624	271.38 ng		95
54) 1,2-Dichlorobenzene	27.46	146	781232	265.52 ng		97
55) 1,2,4-Trichlorobenzene	30.67	180	545552	255.72 ng		99
56) Napthalene	31.22	128	692044	293.89 ng	#	91
57) Hexachlorobutadiene	30.91	225	479266	268.28 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D
Acq On : 25 Oct 2001 9:29
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 10:06 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

BJK 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00 ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00 ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00 ng	0.03 88.75%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 102.49%		
32) Toluene-d8 SURR#2	16.96	98	961330	248.26 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.30%		
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.34%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA218ABK.D TO14S.M Thu Oct 25 10:06:09 2001

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D
Acq On : 25 Oct 2001 9:29
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 10:01 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00 ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00 ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00 ng	0.03 88.75%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 102.49%		
32) Toluene-d8 SURR#2	16.96	98	961330	248.26 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.30%		
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.34%		

Target Compounds					Qvalue
52) 1,3-Dichlorobenzene	26.70	146	2049	0.73 ng	# 27
53) 1,4-Dichlorobenzene	26.70	146	2049	0.69 ng	# 27
54) 1,2-Dichlorobenzene	27.49	146	1017	0.39 ng	# 26
55) 1,2,4-Trichlorobenzene	30.67	180	5903	3.12 ng	# 85
56) Napthalene	31.23	128	15216	Below Cal	# 64
57) Hexachlorobutadiene	30.91	225	1018	0.64 ng	# 19

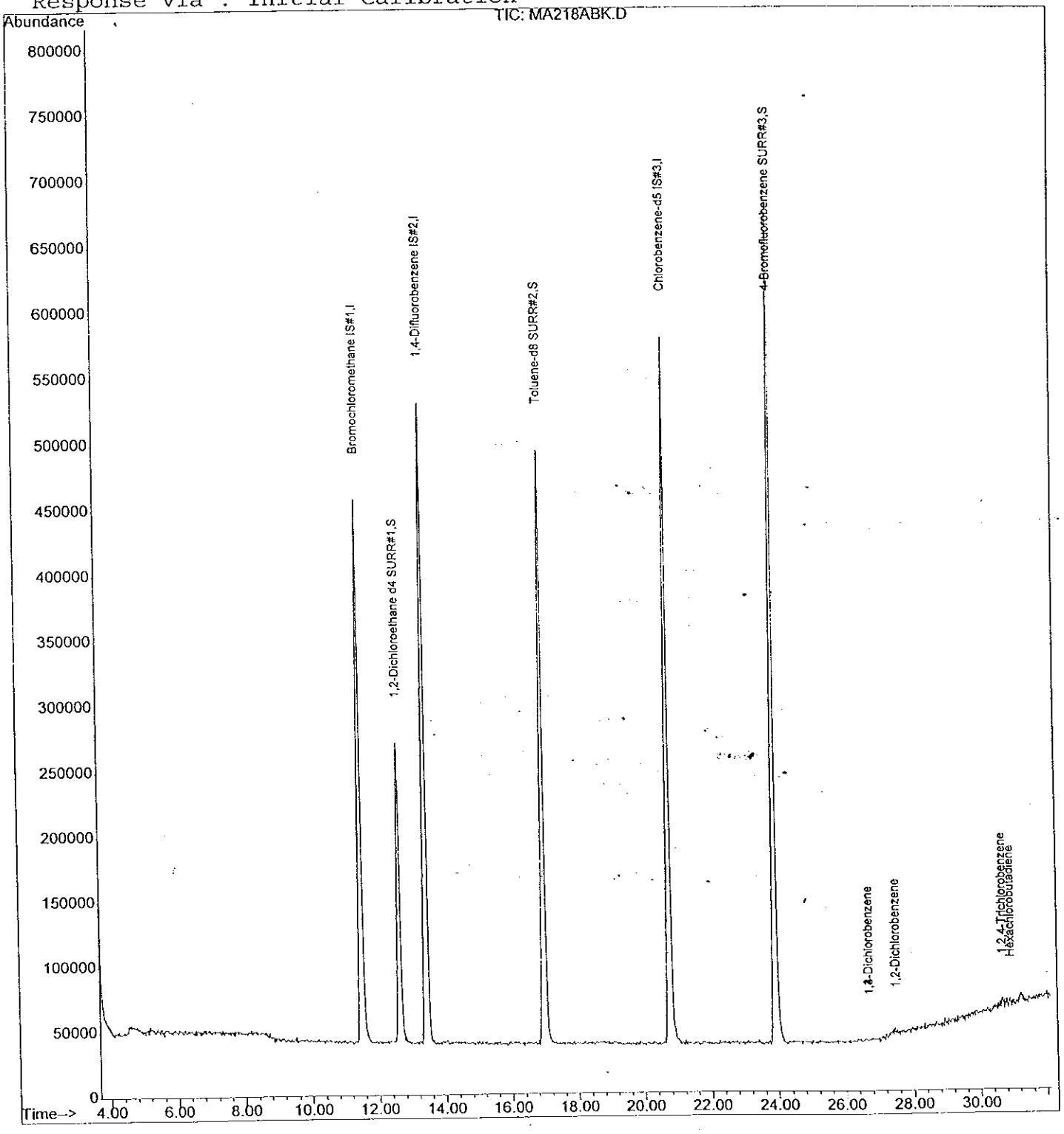
CPL/NR/NSF m.c.d.

(#) = qualifier out of range (m) = manual integration
MA218ABK.D TO14S.M Thu Oct 25 10:01:54 2001

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D
Acq On : 25 Oct 2001 9:29
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 10:01 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D
Acq On : 25 Oct 2001 10:03
Sample : LCS/BATCH #218 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Oct 25 10:45 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

B.H. 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	387358	250.00	ng	0.03 124.93%
26) 1,4-Difluorobenzene IS#2	13.42	114	1555172	250.00	ng	0.03 121.53%
36) Chlorobenzene-d5 IS#3	20.74	117	1185306	250.00	ng	0.03 121.05%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	692615	250.01	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.00%						
32) Toluene-d8 SURR#2	16.98	98	1310283	254.53	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.81%						
46) 4-Bromofluorobenzene SURR#	23.89	95	1093662	239.04	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.62%						

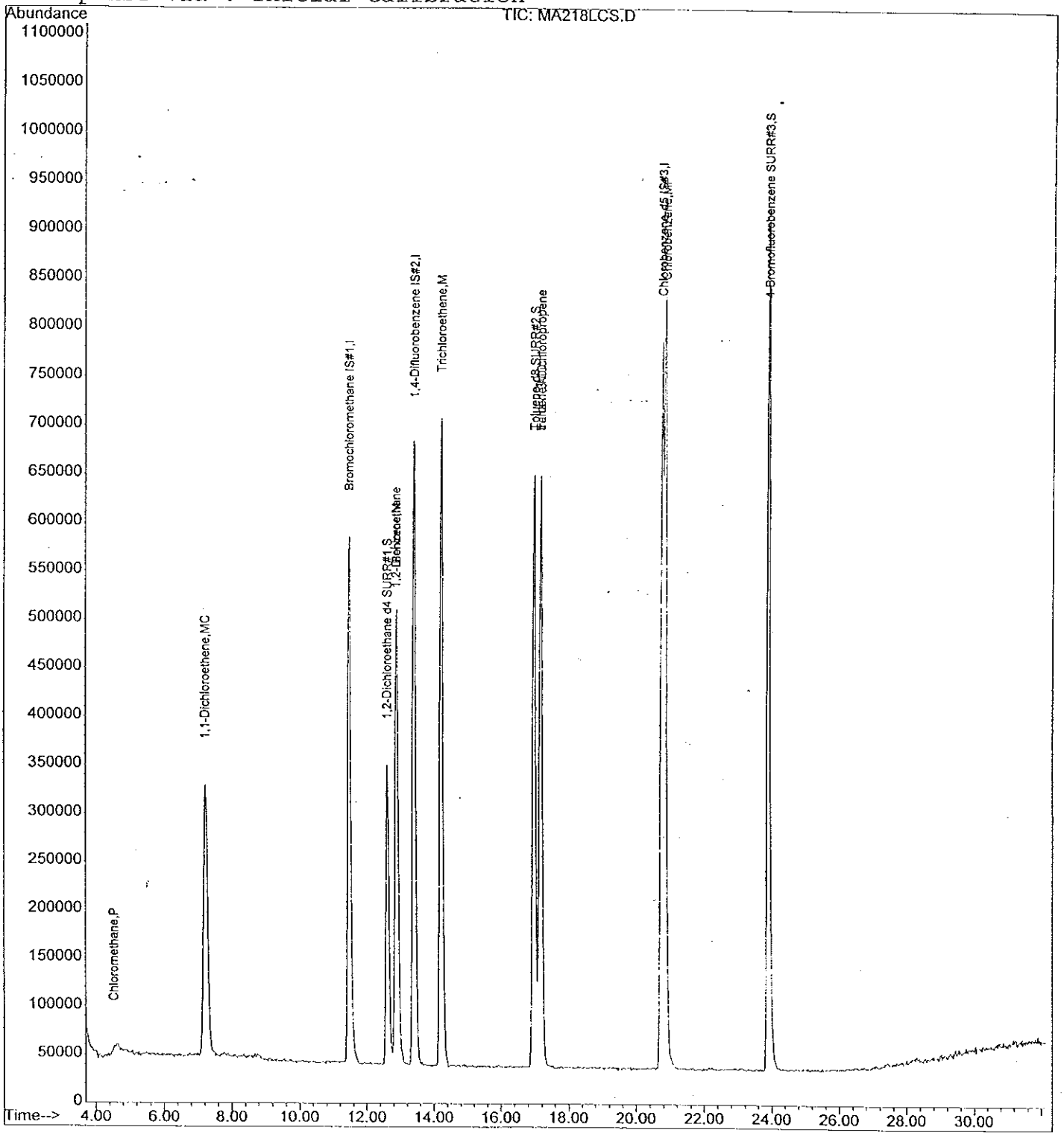
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.23	96	411127	223.16	ng	83
27) Benzene	12.90	78	1287872	250.27	ng	96
28) Trichloroethene	14.22	130	628735	251.07	ng	96
33) Toluene	17.17	92	800178	256.43	ng #	94
39) Chlorobenzene	20.85	112	1135555	255.95	ng	96
56) Napthalene	31.23	128	3345	Below Cal	#	64

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

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D
Acq On : 25 Oct 2001 10:03
Sample : LCS/BATCH #218 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Oct 25 10:35 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D
Acq On : 25 Oct 2001 10:03
Sample : LCS/BATCH #218 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Oct 25 10:35 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	387358	250.00 ng	0.03 124.93%
26) 1,4-Difluorobenzene IS#2	13.42	114	1555172	250.00 ng	0.03 121.53%
36) Chlorobenzene-d5 IS#3	20.74	117	1185306	250.00 ng	0.03 121.05%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.62	65	692615	250.01 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.00%					
32) Toluene-d8 SURR#2	16.98	98	1310283	254.53 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.81%					
46) 4-Bromofluorobenzene SURR#	23.89	95	1093662	239.04 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.62%					

Target Compounds						Qvalue
4) Chloromethane	4.53	50	939	0.46 ng	#	46
10) 1,1-Dichloroethene	7.23	96	411127	223.16 ng		83
24) 1,2-Dichloroethane	12.88	62	13975	4.26 ng	#	49
27) Benzene	12.90	78	1287872	250.27 ng		96
28) Trichloroethene	14.22	130	628735	251.07 ng		96
33) Toluene	17.17	92	800178	256.43 ng	#	94
34) trans-1,3-Dichloropropene	17.17	75	7648	2.65 ng	#	1
39) Chlorobenzene	20.85	112	1135555	255.95 ng		96
56) Napthalene	31.23	128	3345	Below Cal	#	64

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D
Acq On : 25 Oct 2001 14:11
Sample : 062SVEA10150117\10417-1 ST. 500mls
Misc : Pi/Pf=2 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 15:21 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

BDH 10/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	399377	250.00	ng	0.05 128.81%
26) 1,4-Difluorobenzene IS#2	13.42	114	1618494	250.00	ng	0.03 126.48%
36) Chlorobenzene-d5 IS#3	20.74	117	1205864	250.00	ng	0.03 123.15%

mg/m³ report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.63	65	754719	264.23	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.69%			
32) Toluene-d8 SURR#2	16.96	98	1343279	250.74	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.30%			
46) 4-Bromofluorobenzene SURR#	23.87	95	1185115	254.61	ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.84%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
104171.D TO14S.M Thu Oct 25 15:21:34 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D
Acq On : 25 Oct 2001 14:11
Sample : 062SVEA10150117\10417-1 ST. 500mls
Misc : Pi/Pf=2 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 14:43 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	399377	250.00	ng	0.05 128.81%
26) 1,4-Difluorobenzene IS#2	13.42	114	1618494	250.00	ng	0.03 126.48%
36) Chlorobenzene-d5 IS#3	20.74	117	1205864	250.00	ng	0.03 123.15%

ng report

System Monitoring Compounds

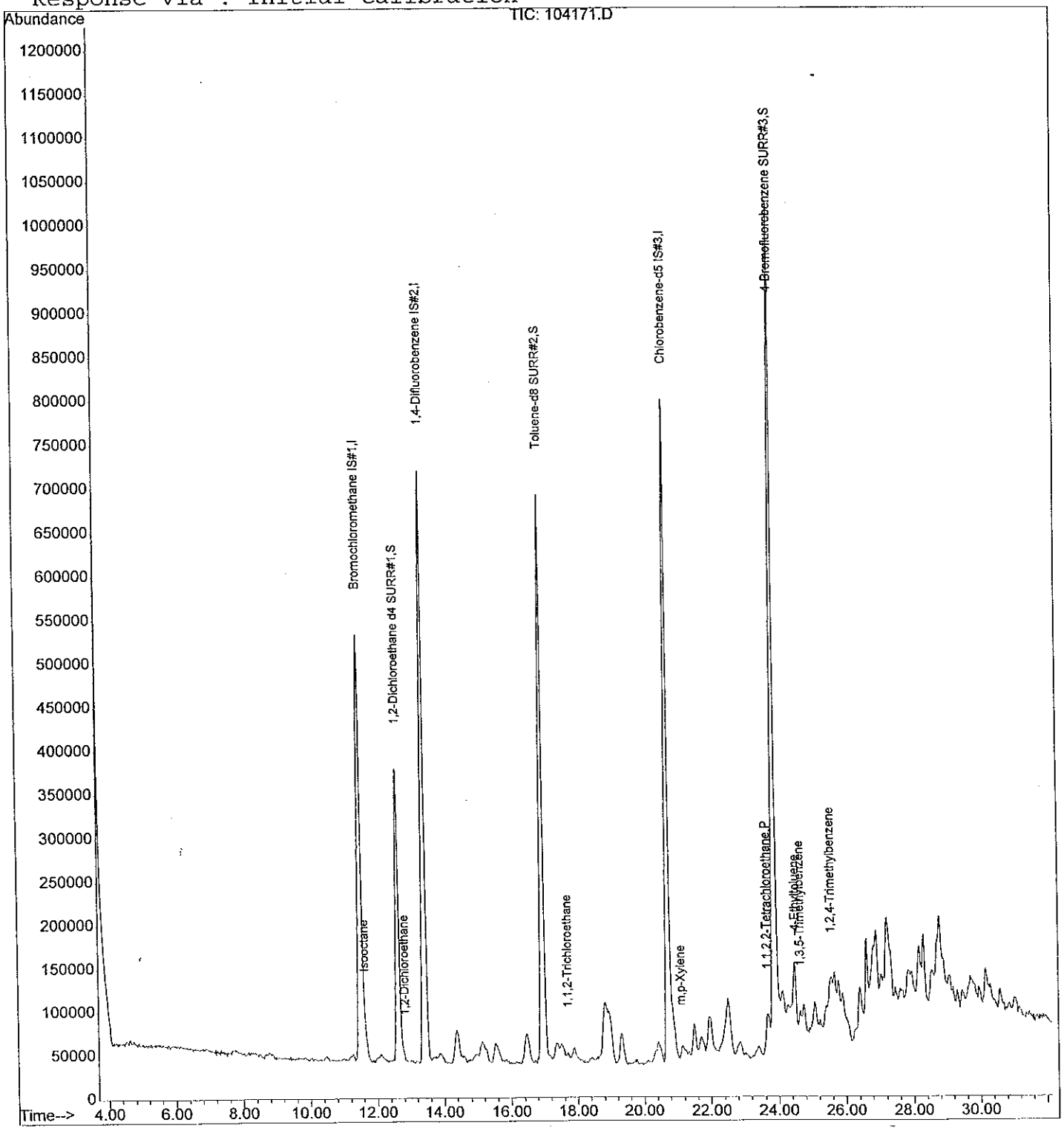
23) 1,2-Dichloroethane d4 SURR 12.63 65 754719 264.23 ng 0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.69%
32) Toluene-d8 SURR#2 16.96 98 1343279 250.74 ng 0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.30%
46) 4-Bromofluorobenzene SURR# 23.87 95 1185115 254.61 ng 0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.84%

Target Compounds						Qvalue	
20) Isooctane	11.64	57	9332	1.01	ng	#	1
24) 1,2-Dichloroethane	12.83	62	1012	0.30	ng	#	49
35) 1,1,2-Trichloroethane	17.71	97	8609	4.05	ng	#	14
41) m,p-Xylene	21.11	106	945	0.40	ng	#	1
45) 1,1,2,2-Tetrachloroethane	23.67	83	15974	29.82	ng	#	30
48) 4-Ethyltoluene	24.51	105	17550	2.82	ng	#	46
49) 1,3,5-Trimethylbenzene	24.65	105	25131	5.02	ng		98
51) 1,2,4-Trimethylbenzene	25.57	105	19347	3.68	ng	#	73

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D Vial: 1
Acq On : 25 Oct 2001 14:11 Operator: BDH
Sample : 062SVEA10150117\10417-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 14:43 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



ch MAB217 ① 2 3 — 8 -MSW- 1926 3 — 8 -MSW- 1926 3

Batch _____ 1 2 3 — TO14 8 -MSW- 23 - 3 — 8260 -MSW- -

Batch AIR-SPK 8 -MSW- 21 10/24 — W-SPK -MSW- -

Sequence cont. on page

IME	POS #	BH 10/24 METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
										~~Daily Cal Check~~ BH 10/24 /bfb tune/95 ion area = 459,000
3:31	15	BFBSTL	BH 10/24 BFMA1024	50ppb		Y N	W	Yes	BH	Daily Method Blank
:52	15	T014	MA217A BK	ST		Y N				Batch# 217 LCS a 2nd Source
:26	16		MA217 LCS	50ppb		Y N				25ng Init. Calib. can't see gases, (not used) re-run w/new STD (not used)
:34	14		CMA0025	5ppb		Y N				100ng
:11	14		CMA0100	20ppb		Y N				250ng
:49	14		CMA0250	50ppb		Y N				25ng re-run w/new STD vial for gases
:26	14		CMA0025R	5ppb	✓	Y N				500ng
2:04	14		CMA0500	100ppb		Y N			BH 10/24	100ng
3:00	14		CMA1000	200ppb		Y N	—	—		MPM port #14 carry-over clean-up
3:33	14	BFBSTL	BLKTUBE	—		Y N	W	Yes		2000ng Init. Calib.
3:51	14	T014	CMA2000	300ppb		Y N	—	—		MPM port #14 carry-over clean-up
4:24	14	BFBSTL	BLKTUBE	—		Y N	W	Yes		100ng Init Calib. re-run w/new STD vial for gases
4:47	14	T014	CMA0100R	20ppb		Y N	A(T014)			5mls CAN re-run ST/see OCCE
6:00	1		10415-1	X100		Y N				
:	2		-2			Y N				
:	3		-3			Y N				1.0ml
:	4		10381-1	X500		Y N				
:	5		-2			Y N				
:	6		-3			Y N				
:	7-3	BFBSTL	BLKTUBE	—		Y N	—	—		MPM cleanup
:						Y N				
:						Y N				
:						Y N				BH 10/24/01
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

* Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

STL Pensacola / GCMS Volatiles Run Log

Date: 11-01-01 Instrument ID: MARILYN Method TO14 /8260AIR /8260WATER /624MOD

Batch: MAB218 Batch 1 2 3 Batch 1 2 3 Maint. ___

Tune: MSW-26-3 TO14 8 -MSW- 23 - 3 AIR-SPK 8 -MSW- 23 - 1 ~~Sequence cont.~~

Blk: MSW-26-3 8260 -MSW- - W-SPK -MSW- - ~~on page~~

TIME	POS. #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
										Daily BFB 12 Hour Tune
~~08:30~~	~~13~~	~~BFBSTL~~	~~BFM1025A~~	~~50 ppb~~			W	Yes	BH	Daily Cal Check/bfb tune/95 ion area = 379,000
08:52	14	TO14SIM	CM1025A	50ppb		Y N	W	Yes		
09:29	15		MA218A BK	ST		Y N	W			Daily Method Blank
10:03	16		MA218 LCS	50ppb		Y N	W			Batch# 218 LCS
10:37	1		10415-1R	ST.	✓	Y N	A(TO14)			500mls
11:11	1		-2R		✓	Y N				
11:49	1		-3R		✓	Y N				
12:23	2		10381-2R	X50	✓	Y N				10mls
12:59	3		-3R	X100	✓	Y N				5mls
13:37	1		10416-1	ST		Y N				500mls re-run ST-possible n-hexane carry-over from
14:11	1		10417-1			Y N				
14:44	1		10510-1			Y N				
15:18	1		10416-1R		✓	Y N				C.O. verif.
—	2-4	BFBSTL	BLKTUBE	—		Y N	—	—		MFM clean-up/prep
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 10/25/01
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DKW 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKW 5/28/98	7-VN 2-2
8260 SURR	A11075	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	AM 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	AM 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 µg/ml	3/2000	~~BH 7/28/98~~	7-VN 2-9
8260 SURR	A117K	Restek	2500 µg/ml	8/2001	AM 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	AM 10/6/98	7-VN 2-11
Matrix Spike	LA76220	Supelco	25 µg/ml	8/2000	AM 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	AM 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKW 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090042-JB	Accustandard	200.1 µg/ml	9/99	WD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-19
Custom Keytone Mix	LA011115	Restek	2000 µg/ml	3/2000	AM 3/10/99	7-VN 2-20
8260 Volatile Kit	Varies	Restek	Varies	6/2001	AM 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKW 5/10/99	7-VN 2-22
VOC Mix 6	LA80482	Supelco	2000 µg/ml	4/2000	AM 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	AM 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	AM 5/18/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~
Equity Keytones	LA83458	Supelco	2000 µg/ml	9/2000	AM 6/9/99	7-VN 2-27
Idomethane	LA81867	Supelco	2000	4/2000	AM 6/29/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	KDW 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	SDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MVO 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MVO 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MVO 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 date	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	P-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	P-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	P-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	P-VN 1-4
8240 Matrix Spike (Short list)	LA84166	Supelco	2500 µg/ml	7/2002 (not in date)	5	P-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	P-VN 1-9
8260 Surr	A014275	Restek	2500 µg/ml	12/2002	10	P-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	P-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	P-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	P-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	P-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	P-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	P-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/mix	10/2001 ← earliest	1	P-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	P-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	P-VN 1-20
Carbon Disulfide	LA8605	Supelco	5000	10/2002	1	P-VN 1-21
1&2-Methyl-Naphthalene	LA90442	Supelco	2000	5/10/2001	3	P-VN 1-22
Isopropyl Ether	A016295	Restek	2000	5/12/2001	3	P-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	P-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	P-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	DIK 6/13/03 ~~5~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89188	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	1 trench	8-VN 2-9
n-Hexane	B0110235	Accystandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various 4/16/01	4/16/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Tetrachloroethane	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: MD

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW 26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: TO14 IS/SURT
Date: 10-12-01
Analyst: SAA

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23. 1
Location: MS018 - Freezer
Solvent: MEOH - V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SUM
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW-2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN-2-13 SUM	A017473	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23 -3
Location: MS018 - Std Freezer
Solvent: MEOH - Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES
STL Pensacola

CASE NARRATIVE

STL Order Number:	C111556
Project:	CTO-0062, NAS Cecil Field
Revised:	12/11/01

The samples listed above were received at STL Pensacola on November 26, 2001. See the PSIF (Project Sample Inspection Form) for additional information regarding sample receipt and inspection.

Reporting of Results

A U qualifier next to the sample result indicates the compound was not detected in the sample at or above the MDL. The laboratory RL is associated with the "U" qualifier.

The data has been flagged with CLP data qualifiers (and STL Pensacola data qualifiers where CLP do not exist). The QC data was evaluated against STL Pensacola's in-house generated control limits.

Rick Hayes
Senior Project Manager
STL Pensacola

CCI NAVY RAC PMO DEC 13 2001

December 11, 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

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Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.05J
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	100 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	98 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Dilution Factor	1
Prep Date	11.28.01
Prep Time	15:10
Analysis Date	11.28.01
Analysis Time	15:23
Batch ID	MAB241
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5206	104 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5395	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

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Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4620	92 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5285	106 %	86-113

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5323	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	98 %	0.5000	0.5025	101 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.4963	99 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4922	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	11.28.01	---	11.28.01	---	---
Prep Time	10:46	---	10:46	---	---
Analysis Date	11.28.01	---	11.28.01	---	---
Analysis Time	10:59	---	10:59	---	---
Batch ID	MAB241	MAB241	MAB241	MAB241	MAB241
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
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PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

3355 McLemore Drive • Pensacola, FL 32514 • Tel: 850 474 1001 • Fax: 850 478 2671 • www.stl-inc.com
STL Pensacola is a part of Severn Trent Laboratories, Inc.

State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension grante

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Florida, Radioactive Materials License No. G0733-1, no expiration date assigned

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01

Louisiana Department of Environmental Quality, ELAP, Agency Interest ID 30748 (Interim Accreditation Granted)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

State of New Jersey, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/01

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01

West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04

\word\certlist\condcert.lst revised 08/13/01

C111556

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 21NOV01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 2350 3419 FORM 0201

BFM

MON
AA

Deliver by:
26NOV01

32514-FL-US

F3 PNSA

Please fold this document in half and place it in the waybill pouch affixed to your shipment so that the barcode portion of the label can be read and scanned. **WARNING: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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Shipment Complete | Cancel Shipment

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read an
4. To print a receipt of your shipment, please click on "Shipping History."

Ship a New Package

Ship Inside U.S. | Ship Outside U.S. | Ship to Same Recipient

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, ndelivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C111556 Date Received: 26-Nov-01

1. Was there a Chain of Custody? **Yes** No♣
2. Was Chain of Custody properly filled out and relinquished? **Yes** No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No♣ **N/A**
4. Were all samples properly labeled and identified? **Yes** No♣
5. Did samples require splitting or compositing♦? Req By: PM Client Other♦ Yes♦ **No**
6. Were samples received in proper containers for analysis requested? **Yes** No♣
7. Were all sample containers received intact? **Yes** No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ **N/A**
9. Is there sufficient volume for analysis requested? Yes No♣ **N/A (Can)**
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) **Yes** No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No **N/A**
12. If sent, were matrix spike bottles returned? Yes No♣ **N/A**
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ **N/A**

Airbill Number(s): 7902 2350 3419

Shipped By: FEDEX

Cooler Number(s): air Can

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: [illegible] Date: 11/26/01 Logged By: [illegible] Date: 11/26/01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C 111556

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-018

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1120-01-18	SVE Effluent	AIR	11/20/01	10:35	III/C	14 Day	1							2	0	0	Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #7902 2350 3419.

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	11/21/01	11:00	Printed Name and Signature: Federal Express	11/21/01	11:00
Printed Name and Signature:			Printed Name and Signature: R. ELSPERMAN, STL	11/26/01	1000
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

13

Attach one file Label here

CH2M-CONST-GA C111556
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: [illegible]
Labeled by: [illegible]
Delivered by: [illegible]

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	—		
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

\excel\sampctrl\smpcklst.xls July 13, 2001

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 111556
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Nov. 26, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1120-01-18	111556-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Nov. 29, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Contract : NA
Project : NA
Site : NA
Location : NA
Group : NA
Lab File ID (Standard): CM1128A.D
Date Analyzed : 28 Nov 2001
Instrument ID : GC/MS Ins
Time Analyzed : 9:31
GC Column : CAP
ID : MARI
Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
115561	062SVEEA1120011	100	100	98	0	0	0	0
MA241ABK	VBLKMA\ DAILY M	98	100	99	0	0	0	0
MA241LCS	VLCSMA\BATCH #2	100	99	98	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

ng report

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits

TO-14 NG-MG/M3 CONVERSION

order # 111556

Batch MAB241

	Actual ng result	Sample # 3 mg/m3 TRUE	4 mg/m3 RESULT	5 % REC	6 rec limit
Benzene	260.31	0.5000	0.5206	104%	87-116%
Chlorobenzene	269.75	0.5000	0.5395	108%	88-111%
1,1-Dichloroethene	231.01	0.5000	0.4620	92%	58-138%
Toluene	264.23	0.5000	0.5285	106%	86-113%
Trichloroethene	266.13	0.5000	0.5323	106%	85-116%
1,2-Dichloroethane-d4	251.25	0.5000	0.5025	101%	61-140%
Toluene-d8	248.14	0.5000	0.4963	99%	90-109%
4-Bromofluorobenzene	246.08	0.5000	0.4922	98%	87-112%

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: MA241ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 11/28/01 Time Analyzed: 10:59

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\BATCH #241 L	MA241LCS.D	11:36
02	SVEEA	062SVEEA11200118\115	115561.D	15:23

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: BFM1122P.D BFB Injection Date: 11/22/01

Instrument ID: MARILYN BFB Injection Time: 12:47

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.3
75	30.0 - 66.0% of mass 95	44.3
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 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.6 (6.8)1
176	93.0 - 101.0% of mass 174	67.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	11/22/01	14:11
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	11/22/01	14:48
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	11/22/01	15:25
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	11/22/01	16:03
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	11/22/01	16:58
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	11/22/01	17:53

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 111556

Lab File ID: CM1128A.D BFB Injection Date: 11/28/01

Instrument ID: MARILYN BFB Injection Time: 09:31

GC Column: CAP Heated Purge: (Y/N) N

M/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.5
75	30.0 - 66.0% of mass 95	41.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 95	0.0 (0.00)1
174	50.0 - 120.0% of mass 95	72.9
175	4.0 - 9.0% of mass 174	5.2 (7.1)1
176	93.0 - 101.0% of mass 174	71.4 (98.0)1
177	5.0 - 9.0% of mass 176	4.5 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	VSTD0250MA	VSTD050/DAILY CALIB.	CM1128A.D	11/28/01	09:31
2.	VBLKMA	VBLKMA/DAILY METHOD	MA241ABK.D	11/28/01	10:59
3.	LCS AND 2ND	VLCSMA/BATCH #241 L	MA241LCS.D	11/28/01	11:36
4.	SVEEA	062SVEEA11200118/11	115561.D	11/28/01	15:23

page 1 of 1

FORM V - VOA

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
							L	M= 1.933	R^2=0.998	
								B= -0.311		
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

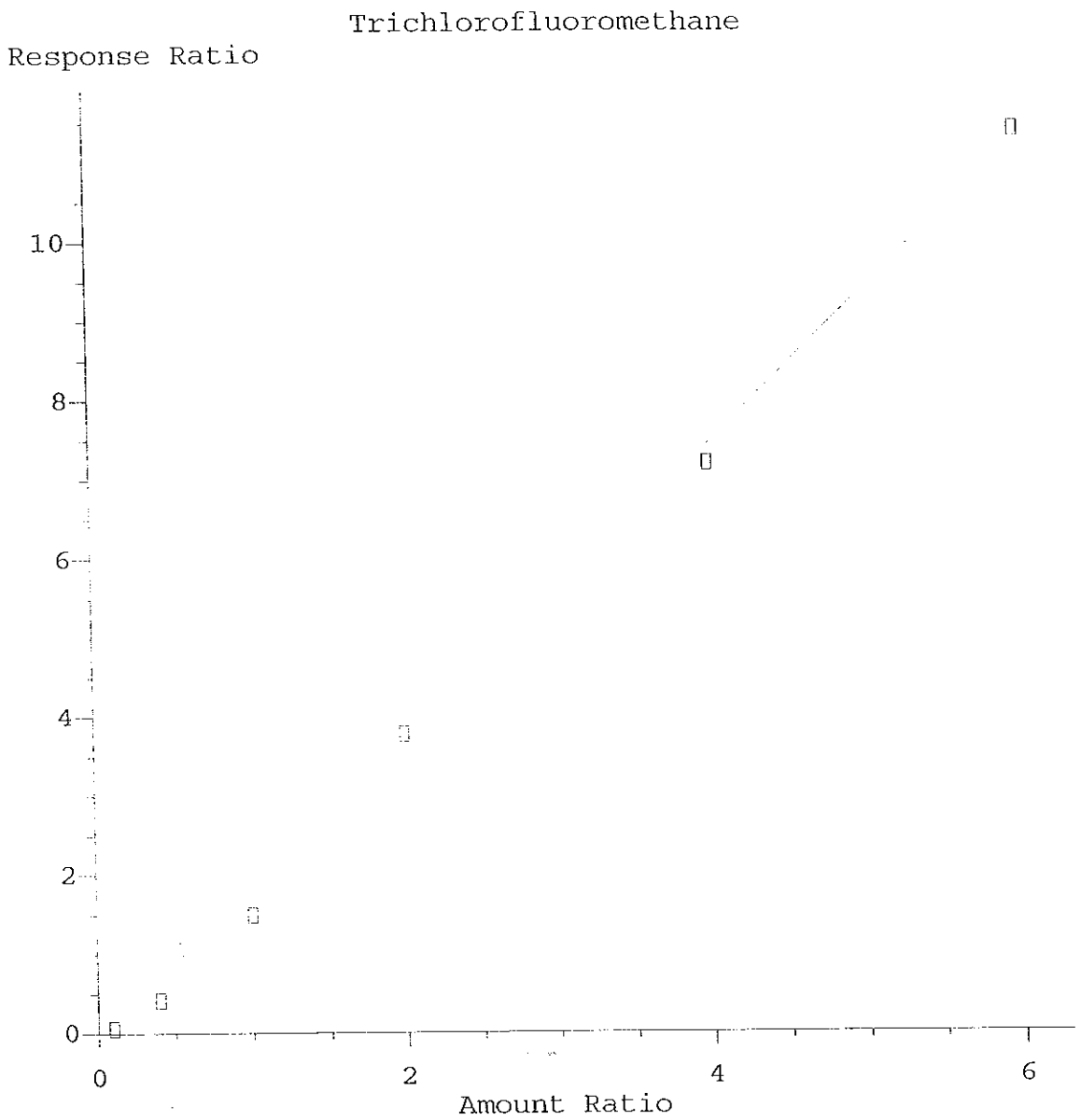
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

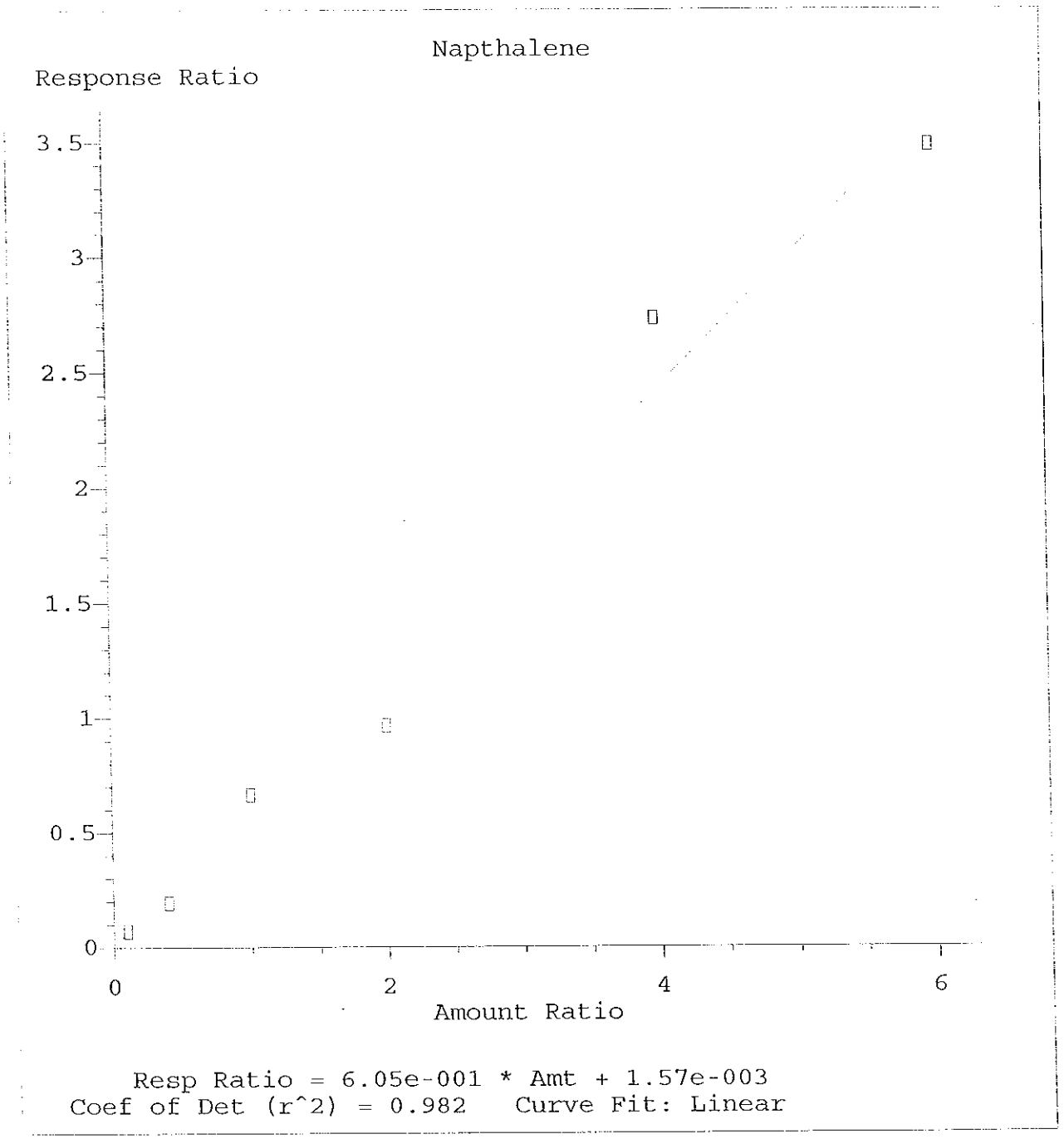
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M=	0.605	R^2=0.982
								B=	0.002	
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Resp Ratio = 1.93e+000 * Amt - 3.11e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	-1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	103	0.00
2		Dichlorodifluoromethane	250.000	230.877	7.6#	104	0.00
3		Dichlorotetrafluoroethane	250.000	238.192	4.7#	97	0.00
4	P	Chloromethane	250.000	253.249	-1.3	102	0.00
5	C	Vinyl chloride	250.000	265.317	-6.1#	102	0.00
6		Bromomethane	250.000	235.625	5.8#	97	0.00
7		Chloroethane	250.000	248.533	0.6	97	0.00
8		Trichlorofluoromethane	250.000	155.059	38.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	247.581	1.0	99	0.00
10	MC	1,1-Dichloroethene	250.000	251.949	-0.8#	99	0.00
11		Iodomethane	-1.000	0.000	0.0	363	0.00
12		Methylene chloride	250.000	249.737	0.1	96	0.00
13		Carbon disulfide	250.000	257.522	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	250.000	252.648	-1.1	96	0.00
15		trans-1,2-Dichloroethene	250.000	255.142	-2.1#	98	0.00
16		n-Hexane	250.000	240.980	3.6#	95	0.00
17	P	1,1-Dichloroethane	250.000	245.752	1.7	96	0.00
18		cis-1,2-Dichloroethene	250.000	246.091	1.6	96	0.00
19	C	Chloroform	250.000	246.722	1.3#	96	0.00
20		Isooctane	250.000	225.823	9.7#	92	0.00
21		1,1,1-Trichloroethane	250.000	245.389	1.8	95	0.00
22		Carbon tetrachloride	250.000	245.681	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	237.191	5.1#	95	0.00
24		1,2-Dichloroethane	250.000	241.956	3.2#	89	0.00
25		1,2-Dibromoethane	250.000	249.092	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	105	0.00
27	M	Benzene	250.000	252.473	-1.0	98	0.00
28	M	Trichloroethene	250.000	251.502	-0.6	97	0.00
29	C	1,2-Dichloropropane	250.000	244.436	2.2#	94	0.00
30		Bromodichloromethane	250.000	245.957	1.6	92	0.00
31		cis-1,3-Dichloropropene	250.000	247.872	0.9	93	0.00
32	S	Toluene-d8 SURR#2	250.000	247.565	1.0	103	0.00
33	MC	Toluene	250.000	249.156	0.3#	96	0.00
34		trans-1,3-Dichloropropene	250.000	249.759	0.1	91	0.00
35		1,1,2-Trichloroethane	250.000	244.917	2.0#	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	103	0.00
37		Tetrachloroethene	250.000	256.922	-2.8#	99	0.00
38		Dibromochloromethane	250.000	246.431	1.4	90	0.00
39	MP	Chlorobenzene	250.000	253.105	-1.2	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	246.862	1.3#	94	0.00
41		m,p-Xylene	500.000	508.263	-1.7	97	0.00
42		o-Xylene	250.000	248.466	0.6	94	0.00
43		Styrene	250.000	255.191	-2.1#	96	0.00
44	P	Bromoform	250.000	252.381	-1.0	89	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	251.067	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	243.532	2.6#	98	0.00
47		1,4-Dichloro-2-butene	250.000	252.056	-0.8	87	0.00
48		4-Ethyltoluene	250.000	232.333	7.1#	92	0.00
49		1,3,5-Trimethylbenzene	250.000	245.400	1.8	99	0.00
50		2-Chlorotoluene	250.000	249.414	0.2	94	0.00
51		1,2,4-Trimethylbenzene	250.000	249.501	0.2	94	0.00
52		1,3-Dichlorobenzene	250.000	257.413	-3.0#	97	0.00
53		1,4-Dichlorobenzene	250.000	257.727	-3.1#	97	0.00
54		1,2-Dichlorobenzene	250.000	258.268	-3.3#	96	0.00
55		1,2,4-Trichlorobenzene	250.000	285.688	-14.3#	109	0.00
56		Napthalene	250.000	283.122	-13.2#	104	0.00
57		Hexachlorobutadiene	250.000	278.025	-11.2#	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID (Standard): CM1128A.D Date Analyzed: 11/28/01

Instrument ID: MARILYN Time Analyzed: 9:31

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	772353	11.39	3112331	13.32	2373923	20.63
	UPPER LIMIT	1544706	11.89	6224662	13.82	4747846	21.13
	LOWER LIMIT	386177	10.89	1556166	12.82	1186962	20.13
	EPA SAMPLE NO.						
01	VBLKMA	720219	11.42	2817140	13.36	2162601	20.66
02	LCS AND 2ND	786922	11.41	3161841	13.35	2399134	20.67
03	SVEEA	859704	11.41	3324919	13.32	2555967	20.63

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Sequence Name: D:\HPCHEM\1\SEQUENCE\CT014.S
Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1122P\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

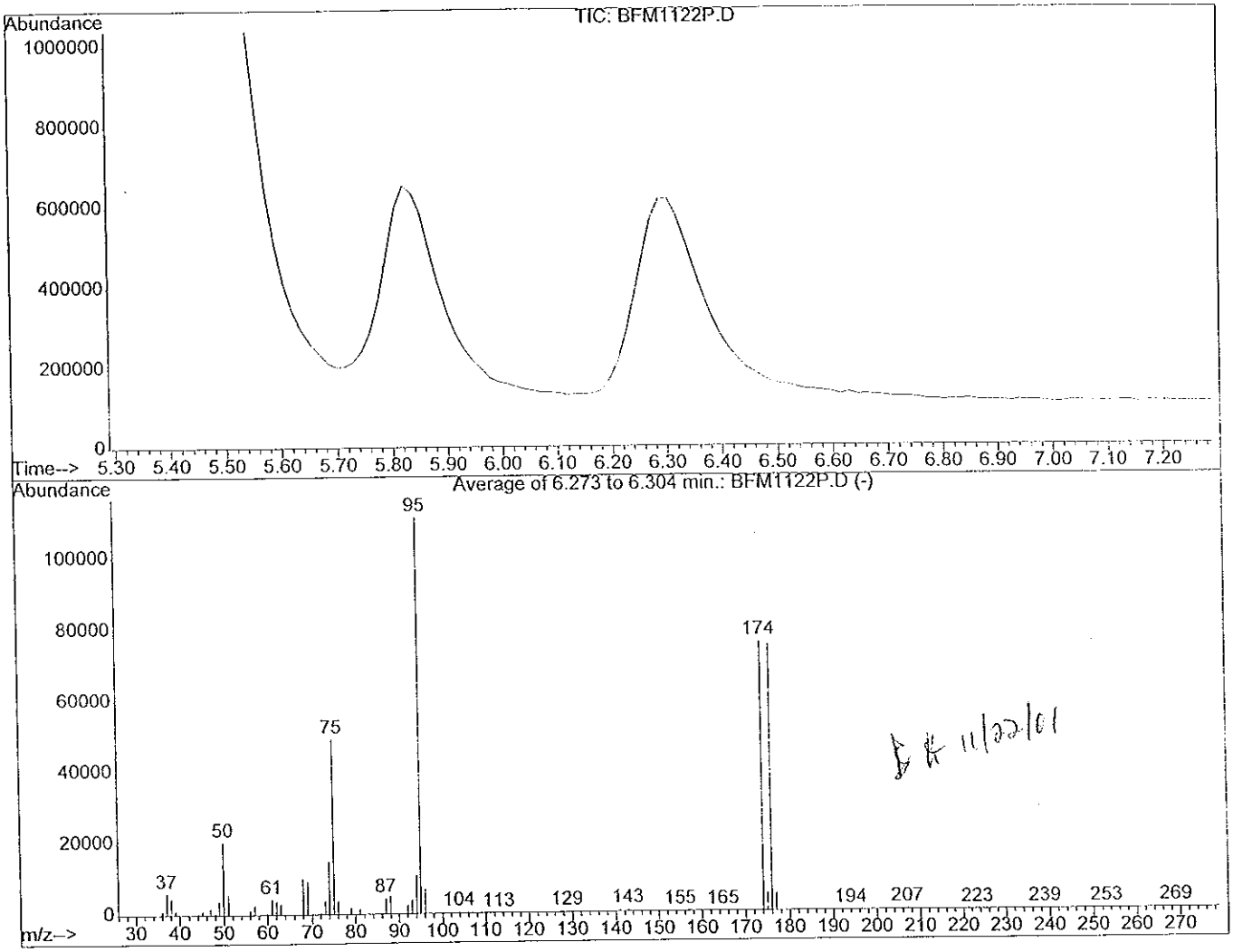
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1122P	BFBSTL	DAILY BFB 12HR. TUNE 50ppb
2	Sample	14	CCVTEST	TO14S	POSSIBLE CCV?...OR CURVE TIME
3	Sample	15	MA235ABK	TO14S	DAILY METHOD BLANK
4	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
5	Sample	15	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
6	Sample	16	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
7	Sample	1	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
8	Sample	2	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	3	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
10	Sample	4	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
11	Sample	5	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
12	Sample	6	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
13	Sample	7	MA235LCS	TO14S	BATCH #235 LCS 50ppb/250ng
14	Sample	8	114711	TO14S	11471-1 X10 50mls
15	Sample	9	114712	TO14S	11471-2 X10 50mls
16	Sample	10	114713	TO14S	11471-3 X10 50mls
17	Sample	11	114714	TO14S	11471-4 X10 50mls
18	Sample	12	114715	TO14S	11471-5 X10 50mls
19	Sample	13	115111	TO14S	11511-1 X10 50mls
20	Sample	14	115112	TO14S	11511-2 X10 50mls

Last Modified: Thu Nov 22 13:30:24 2001

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



Peak Apex is scan: 49 (6.29 min)
Average of 3 scans: 48,49,50 minus background scan 29 (5.98 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	20396	PASS
75	95	30	60	44.3	49232	PASS
95	95	100	100	100.0	111169	PASS
96	95	5	9	6.3	7014	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.3	75908	PASS
175	174	5	9	6.8	5127	PASS
176	174	95	101	98.8	75024	PASS
177	176	5	9	6.6	4948	PASS

BFM1122P.D TO14S.M Thu Nov 22 12:55:43 2001

Average of 0.275 to 0.301 min.: [illegible]

DAILY BFB 12HR. TUNE 50ppb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1075	61.00	4393	86.95	4439	176.95	4948
37.05	6063	62.05	3859	88.00	4999		
38.05	4536	63.00	3038	92.00	2494		
39.05	1246	68.00	10184	93.00	3964		
45.00	1133	69.00	9431	94.05	10828		
46.95	1809	73.05	3941	95.00	111169		
48.95	3843	74.00	14781	96.05	7014		
49.95	20396	75.05	49232	142.90	715		
51.00	5842	76.00	3752	173.95	75908		
56.05	1288	79.00	1925	174.95	5127		
57.05	2719	81.00	1490	175.95	75024		

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON
Sampling : 1
Start Thrs: 0.2
Stop Thrs : 0

Filtering: 5
Min Area: 3 % of largest Peak
Max Peaks: 100
Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

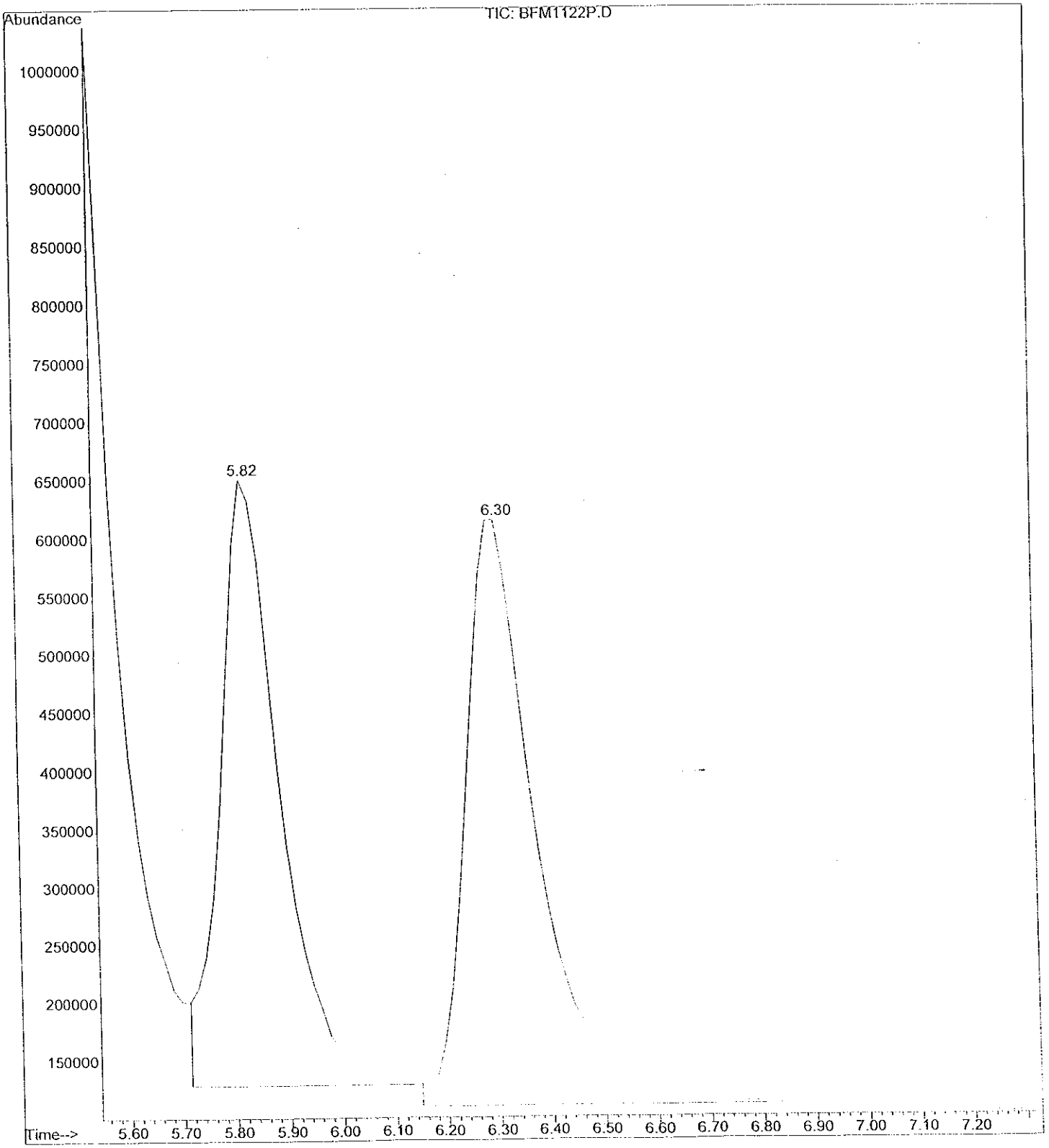
Sum of corrected areas: 8872066

BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

BA 11/22/01

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

11/29/01

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
							L	M= 1.933	R^2=0.998	
								B= -0.311		
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

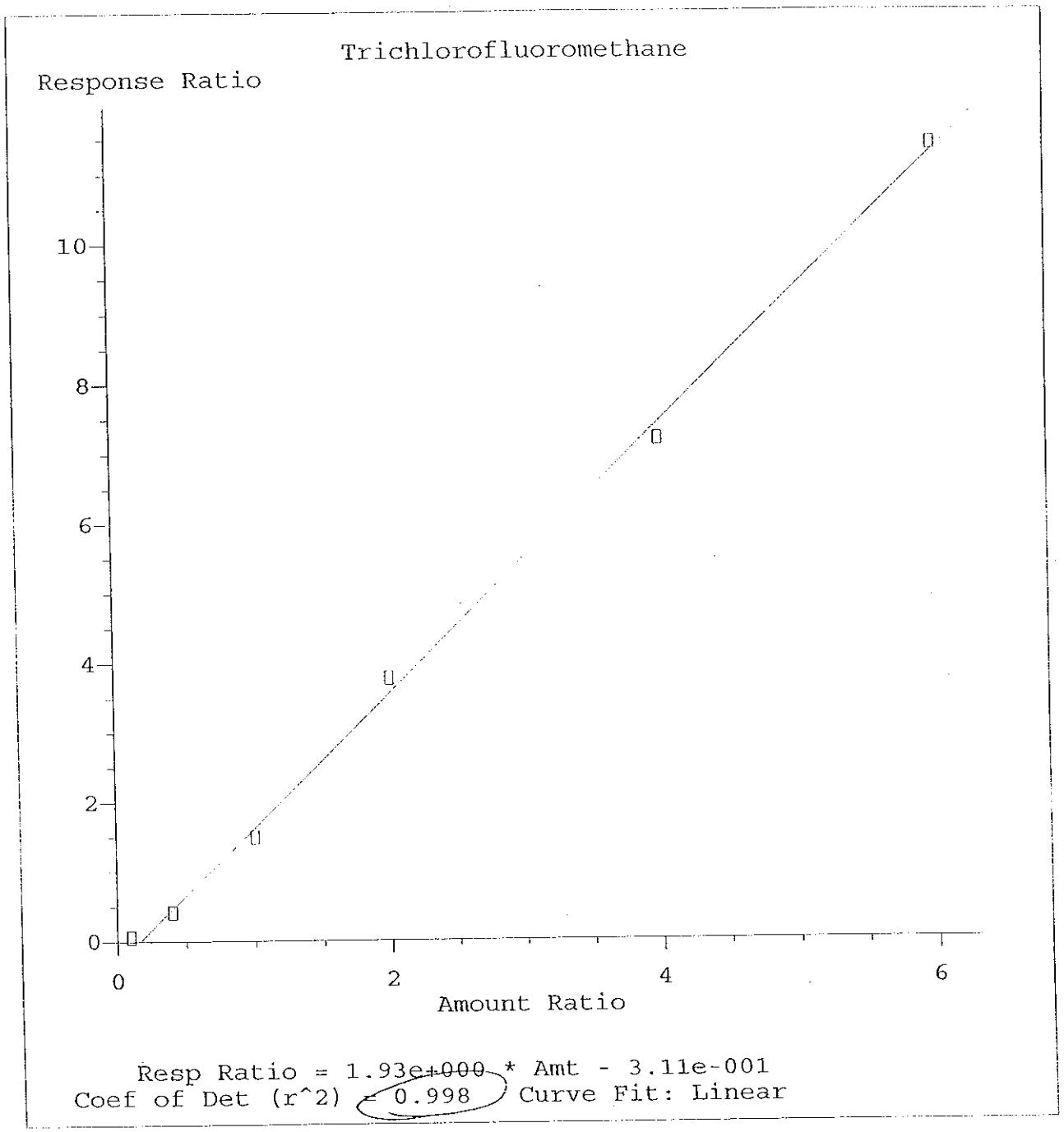
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

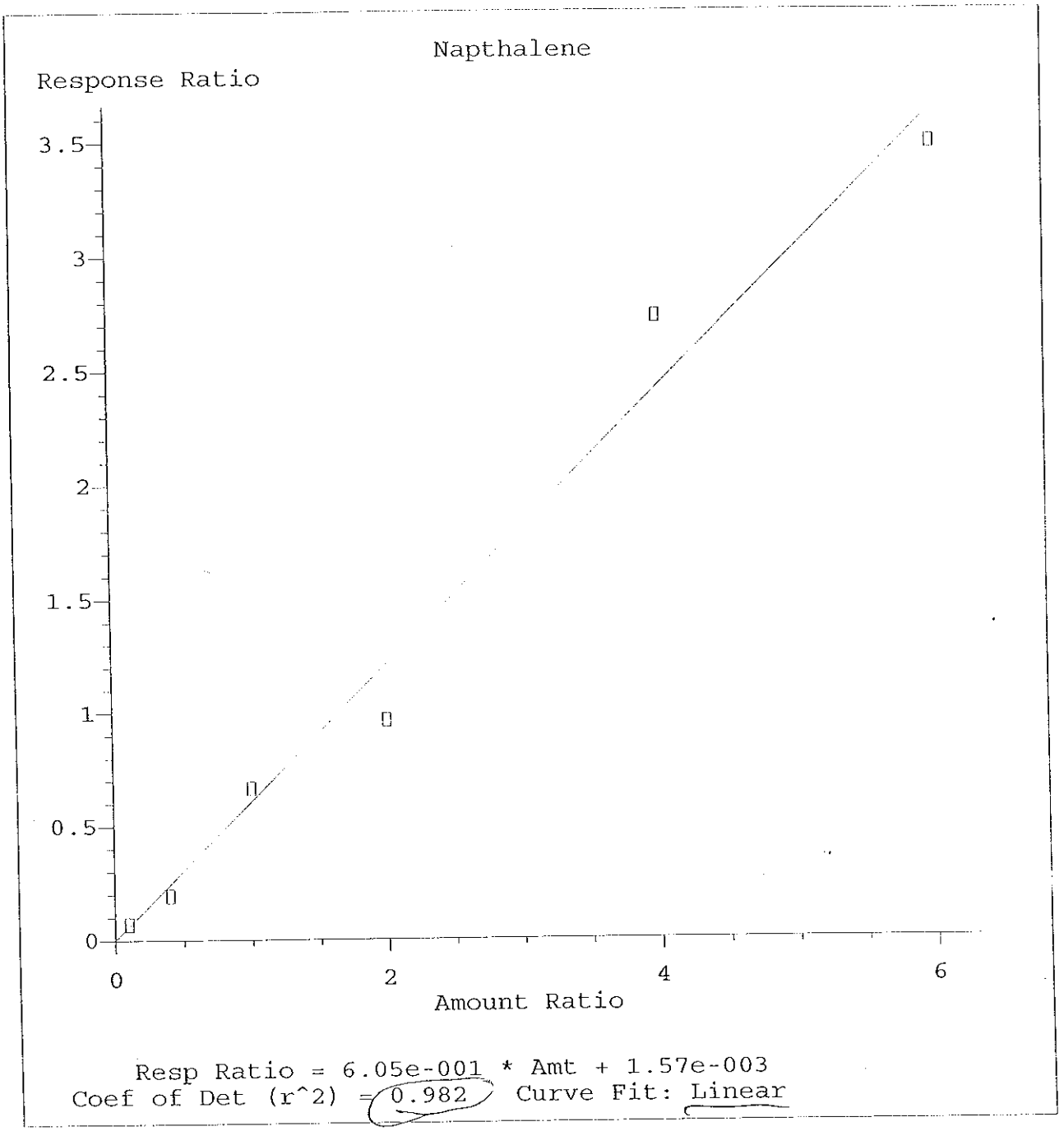
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M=	0.605	R^2=0.982
								B=	0.002	
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 20:58:58 2001

BY 11-22-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:01:25 2001

BH 11/22/01

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D
Acq On : 22 Nov 2001 14:11
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00 ng	-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00 ng	-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00 ng	-0.03 282.19%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41 ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.36%#		
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68 ng	-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.27%		
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21 ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.08%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67 ng		98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58 ng	#	45
4) Chloromethane	4.36	50	54217	16.33 ng	#	92
5) Vinyl chloride	4.59	62	51362	17.20 ng	#	87
6) Bromomethane	5.42	94	98746	24.20 ng	#	82
7) Chloroethane	5.54	64	32840	18.79 ng	#	89
8) Trichlorofluoromethane	6.04	101	39870	6.56 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29 ng		83
10) 1,1-Dichloroethene	7.20	96	66093	21.79 ng		85
12) Methylene chloride	8.12	49	91249	15.70 ng	#	94
13) Carbon disulfide	8.27	76	181220	18.71 ng	#	93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60 ng	#	85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71 ng		89
16) n-Hexane	8.78	57	80570	20.60 ng	#	1
17) 1,1-Dichloroethane	9.51	63	119239	16.98 ng	#	98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26 ng		92
19) Chloroform	11.08	83	153161	17.29 ng		98
20) Isooctane	12.03	57	303517	20.95 ng		97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80 ng		89
22) Carbon tetrachloride	12.51	117	137597	17.08 ng		99
24) 1,2-Dichloroethane	12.77	62	78090	14.06 ng		98
25) 1,2-Dibromoethane	19.75	107	111469	20.00 ng		97
27) Benzene	12.85	78	179158	21.12 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D
Acq On : 22 Nov 2001 14:11
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	95845	23.30 ng		96
29) 1,2-Dichloropropane	14.56	63	72859	19.13 ng		95
30) Bromodichloromethane	15.07	83	169881	17.23 ng		99
31) cis-1,3-Dichloropropene	16.30	75	105593	18.65 ng		94
33) Toluene	17.11	92	110233	21.32 ng	#	95
34) trans-1,3-Dichloropropene	17.46	75	79087	16.48 ng	#	82
35) 1,1,2-Trichloroethane	17.87	97	67774	20.88 ng		98
37) Tetrachloroethene	18.72	164	87289	23.66 ng		95
38) Dibromochloromethane	19.22	127	120192	20.80 ng	#	94
39) Chlorobenzene	20.79	112	160392	21.82 ng		92
40) Ethylbenzene	20.88	106	65807	22.17 ng		99
41) m,p-Xylene	21.07	106	165326	42.60 ng		99
42) o-Xylene	22.21	106	78495	21.26 ng		99
43) Styrene	22.31	104	119668	20.45 ng		95
44) Bromoform	23.25	173	108489	22.72 ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	107840	20.51 ng	#	99
47) 1,4-Dichloro-2-butene	23.22	75	17978	18.55 ng	#	90
48) 4-Ethyltoluene	24.50	105	227968	22.22 ng		95
49) 1,3,5-Trimethylbenzene	24.59	105	165409	19.65 ng		90
50) 2-Chlorotoluene	24.70	91	215651	19.02 ng		99
51) 1,2,4-Trimethylbenzene	25.54	105	173761	19.86 ng		98
52) 1,3-Dichlorobenzene	26.47	146	145028	22.89 ng		94
53) 1,4-Dichlorobenzene	26.69	146	152149	22.95 ng	#	93
54) 1,2-Dichlorobenzene	27.45	146	133248	22.68 ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	99718	24.12 ng		97
56) Napthalene	31.19	128	143146	23.66 ng	#	89
57) Hexachlorobutadiene	30.88	225	107311	30.39 ng		99

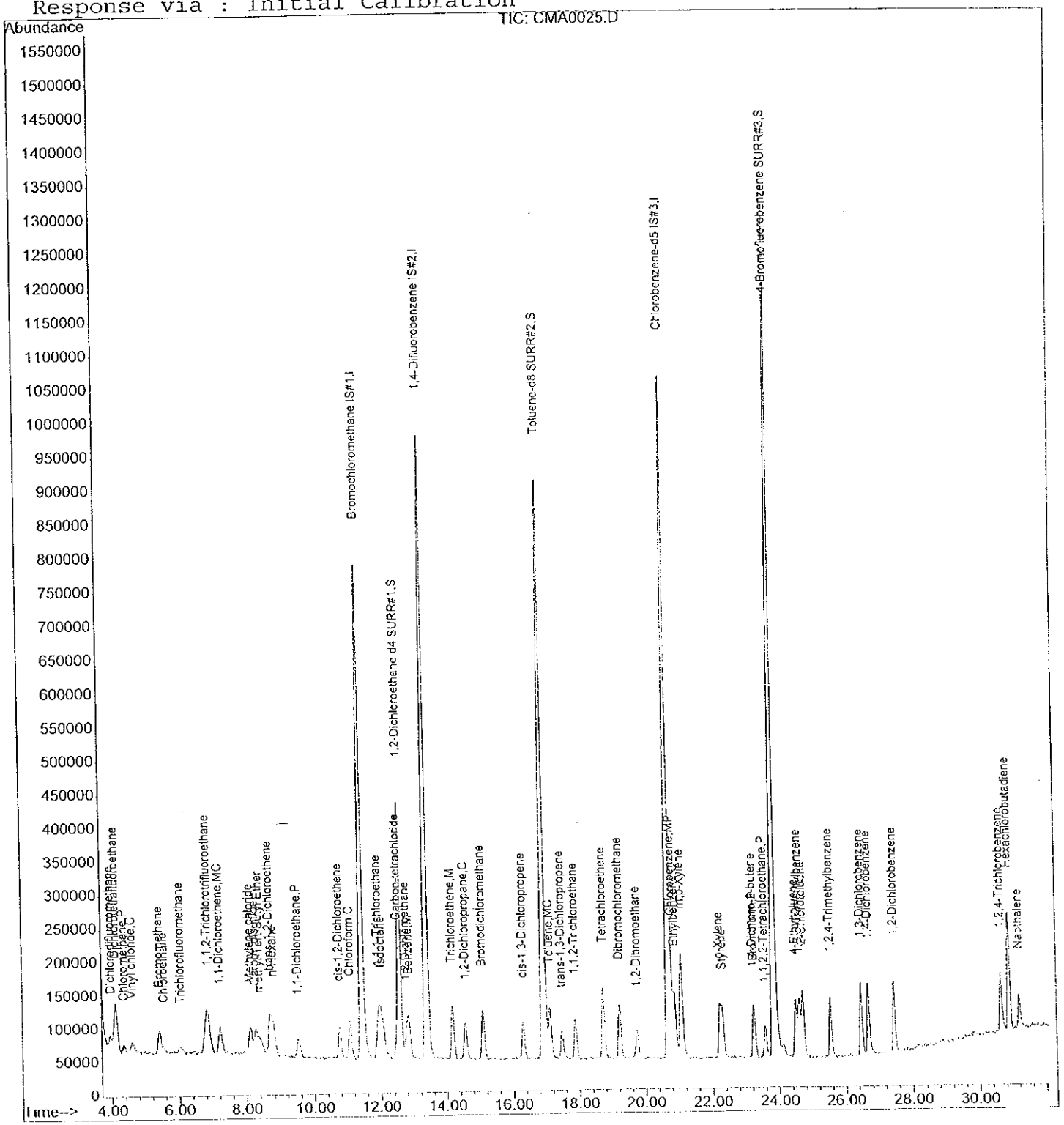
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D
Acq On : 22 Nov 2001 14:11
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

B.A. 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00 ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00 ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00 ng	-0.03 318.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.18%					
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.79%					
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.22%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28 ng	#	97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38 ng	#	26
4) Chloromethane	4.34	50	234313	61.77 ng	#	95
5) Vinyl chloride	4.58	62	216303	63.39 ng		96
6) Bromomethane	5.40	94	354015	75.93 ng	#	93
7) Chloroethane	5.51	64	139656	69.94 ng		99
8) Trichlorofluoromethane	6.02	101	315067	45.35 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07 ng		82
10) 1,1-Dichloroethene	7.20	96	278552	80.39 ng		87
12) Methylene chloride	8.09	49	356949	53.74 ng		97
13) Carbon disulfide	8.27	76	759303	68.61 ng		97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76 ng		97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25 ng		92
16) n-Hexane	8.75	57	281184	62.93 ng	#	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92 ng		99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71 ng		91
19) Chloroform	11.07	83	642388	63.47 ng		99
20) Isooctane	12.03	57	896151	54.14 ng		98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11 ng		92
22) Carbon tetrachloride	12.50	117	576813	62.69 ng		97
24) 1,2-Dichloroethane	12.76	62	306106	48.25 ng		98
25) 1,2-Dibromoethane	19.73	107	469753	73.76 ng		99
27) Benzene	12.84	78	744820	78.71 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

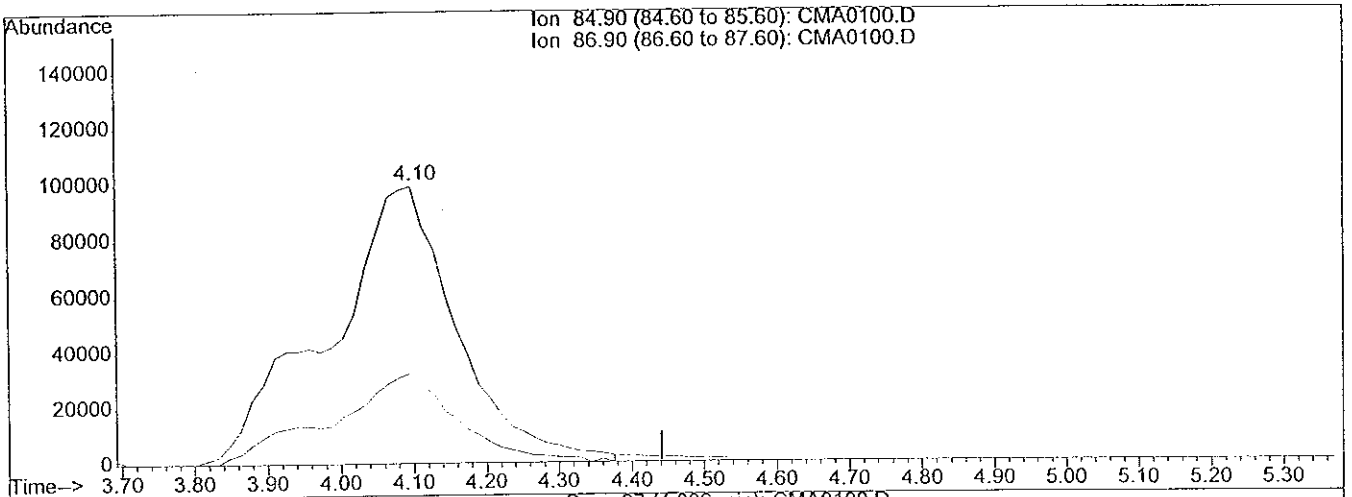
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01 ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30) Bromodichloromethane	15.07	83	723015	65.75 ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33) Toluene	17.11	92	471365	81.74 ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94 ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27 ng		96
37) Tetrachloroethene	18.72	164	379057	91.16 ng		94
38) Dibromochloromethane	19.20	127	507313	77.89 ng		98
39) Chlorobenzene	20.77	112	690880	83.38 ng		97
40) Ethylbenzene	20.88	106	269786	80.64 ng		100
41) m,p-Xylene	21.07	106	715119	163.47 ng		99
42) o-Xylene	22.21	106	335595	80.64 ng		98
43) Styrene	22.29	104	516712	78.36 ng		99
44) Bromoform	23.24	173	450088	83.61 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50 ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86 ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21 ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38 ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12 ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93 ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05 ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42 ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17 ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46 ng		98
56) Napthalene	31.19	128	442169	64.85 ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07 ng		99

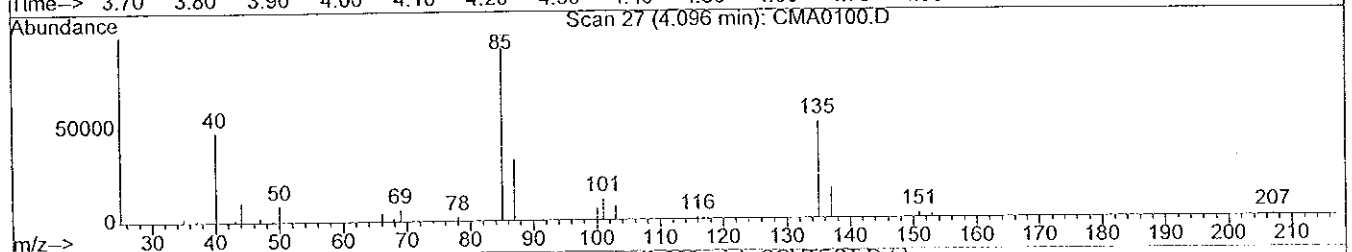
(#) = qualifier out of range (m) = manual integration

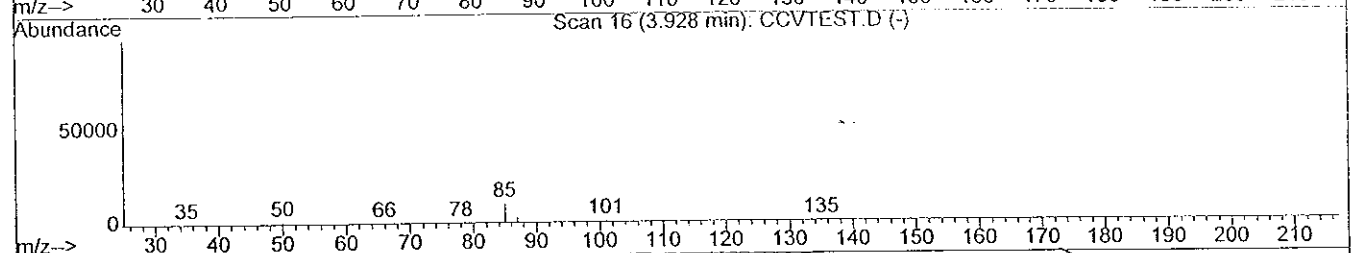
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

before (mis-integ / coeluted)

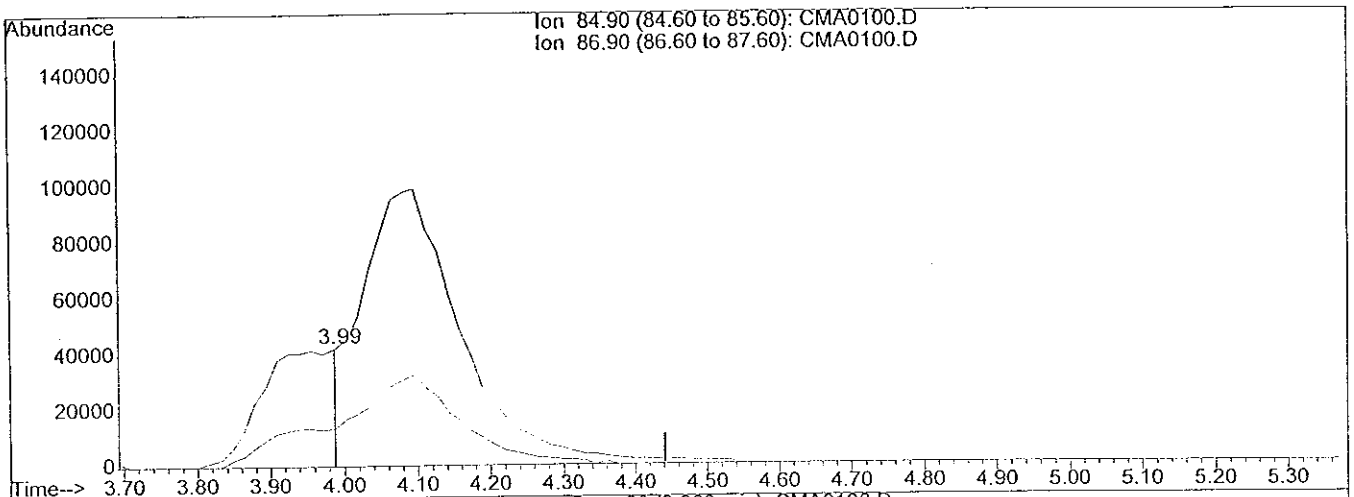
CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

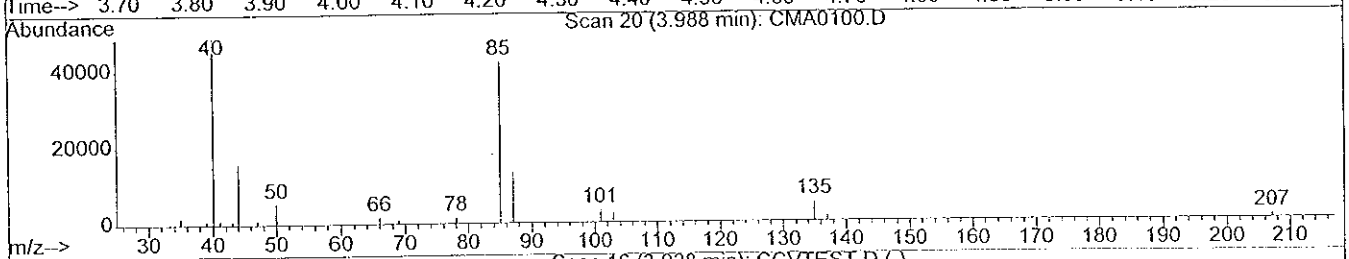
Quantitation Report (Qedit)

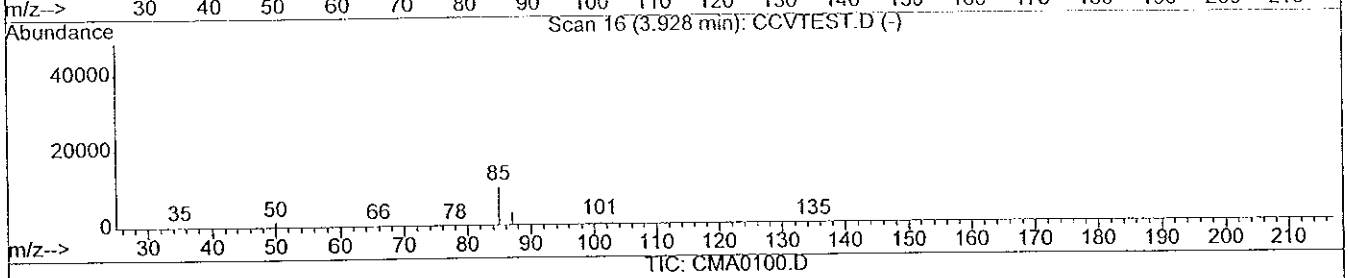
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(2) Dichlorodifluoromethane

3.99min 47.28ng m

response 296446

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	131.84#
0.00	0.00	0.00
0.00	0.00	0.00

after BH 11-00-01

11-27-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%			
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng	97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng #	26
4) Chloromethane	4.34	50	234313	61.77	ng #	95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng #	93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng #	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

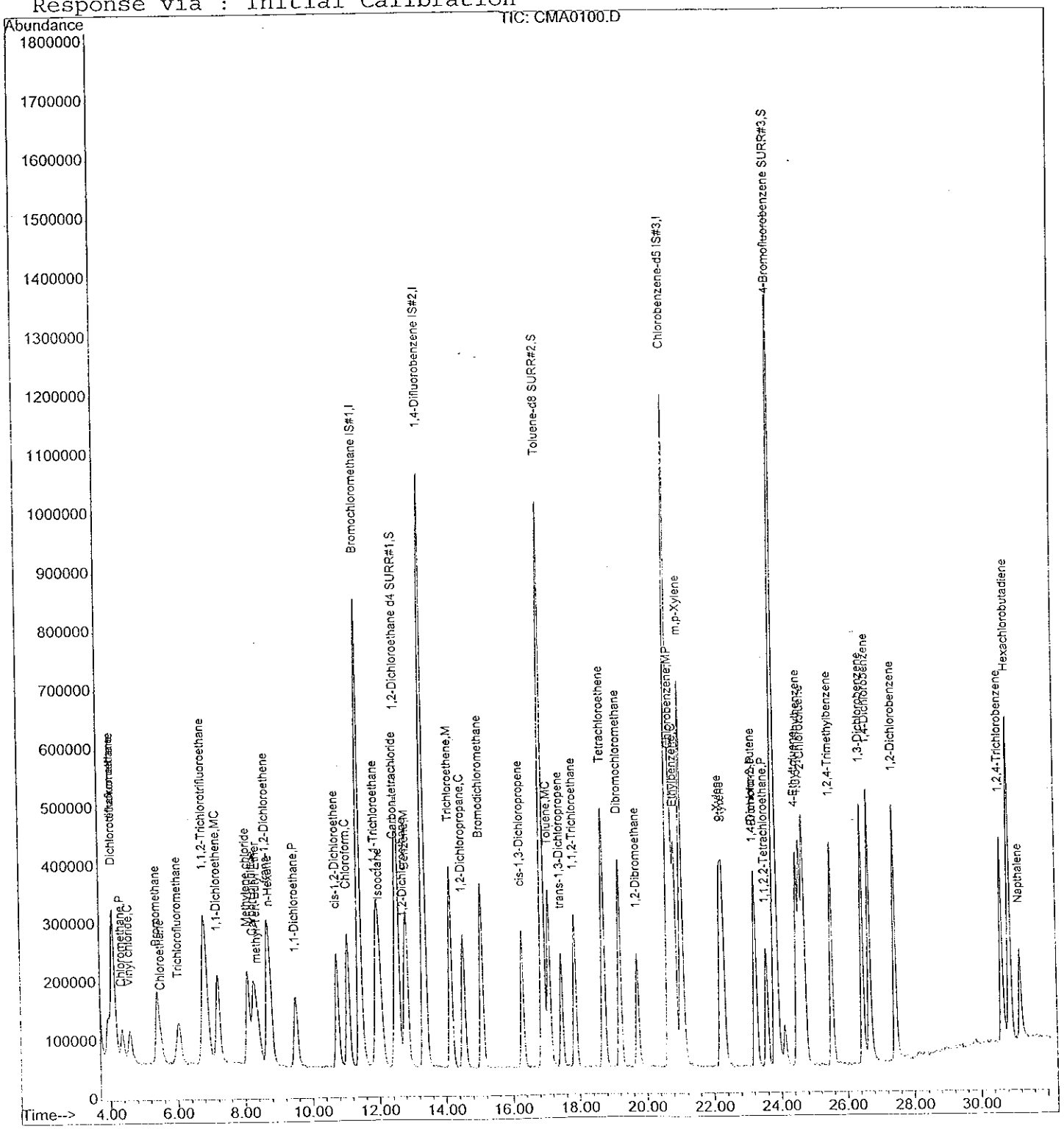
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01 ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30) Bromodichloromethane	15.07	83	723015	65.75 ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33) Toluene	17.11	92	471365	81.74 ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94 ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27 ng		96
37) Tetrachloroethene	18.72	164	379057	91.16 ng		94
38) Dibromochloromethane	19.20	127	507313	77.89 ng		98
39) Chlorobenzene	20.77	112	690880	83.38 ng		97
40) Ethylbenzene	20.88	106	269786	80.64 ng		100
41) m,p-Xylene	21.07	106	715119	163.47 ng		99
42) o-Xylene	22.21	106	335595	80.64 ng		98
43) Styrene	22.29	104	516712	78.36 ng		99
44) Bromoform	23.24	173	450088	83.61 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50 ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86 ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21 ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38 ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12 ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93 ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05 ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42 ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17 ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46 ng		98
56) Napthalene	31.19	128	442169	64.85 ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Original

SH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	747317	250.00	ng	-0.03 342.15%
26) 1,4-Difluorobenzene IS#2	13.36	114	2968219	250.00	ng	-0.03 313.17%
36) Chlorobenzene-d5 IS#3	20.68	117	2302990	250.00	ng	-0.03 320.90%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	820411	147.75	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 59.10%#						
32) Toluene-d8 SURR#2	16.90	98	2311670	235.45	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.18%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2090630	232.72	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 93.09%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	827926	133.15	ng	90
3) Dichlorotetrafluoroethane	4.10	135	1388168	229.31	ng #	38
4) Chloromethane	4.36	50	667704	177.47	ng	97
5) Vinyl chloride	4.58	62	667727	197.30	ng	97
6) Bromomethane	5.40	94	1057285	228.66	ng #	96
7) Chloroethane	5.49	64	444066	224.24	ng	97
8) Trichlorofluoromethane	6.02	101	1119090	162.40	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.81	151	1602469	276.08	ng	84
10) 1,1-Dichloroethene	7.19	96	879523	255.94	ng	88
12) Methylene chloride	8.09	49	1170582	177.71	ng	99
13) Carbon disulfide	8.27	76	2364904	215.47	ng	95
14) methyl-Tert-Butyl Ether	8.37	73	1088522	197.18	ng	99
15) trans-1,2-Dichloroethene	8.68	96	964847	250.40	ng	92
16) n-Hexane	8.75	57	900365	203.19	ng #	1
17) 1,1-Dichloroethane	9.51	63	1569813	197.24	ng	99
18) cis-1,2-Dichloroethene	10.74	61	1256735	190.36	ng	90
19) Chloroform	11.07	83	1998117	199.07	ng	99
20) Isooctane	12.03	57	2929672	178.46	ng	97
21) 1,1,1-Trichloroethane	11.92	97	1675247	188.72	ng	90
22) Carbon tetrachloride	12.49	117	1799050	197.14	ng	97
24) 1,2-Dichloroethane	12.76	62	994608	158.08	ng #	98
25) 1,2-Dibromoethane	19.73	107	1598340	253.04	ng	98
27) Benzene	12.84	78	2294603	241.48	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	1288590	279.77 ng		95
29) 1,2-Dichloropropane	14.54	63	972142	227.89 ng		98
30) Bromodichloromethane	15.07	83	2284620	206.89 ng		99
31) cis-1,3-Dichloropropene	16.28	75	1439679	227.09 ng		99
33) Toluene	17.09	92	1486003	256.60 ng		99
34) trans-1,3-Dichloropropene	17.46	75	1137293	211.64 ng		96
35) 1,1,2-Trichloroethane	17.87	97	966109	265.81 ng		97
37) Tetrachloroethene	18.72	164	1207383	287.81 ng		95
38) Dibromochloromethane	19.20	127	1667056	253.68 ng		98
39) Chlorobenzene	20.77	112	2194379	262.49 ng		95
40) Ethylbenzene	20.86	106	878711	260.33 ng		97
41) m,p-Xylene	21.07	106	2263755	512.90 ng		98
42) o-Xylene	22.21	106	1107267	263.72 ng		97
43) Styrene	22.29	104	1732542	260.42 ng		97
44) Bromoform	23.24	173	1563705	287.91 ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	1438178	240.48 ng		99
47) 1,4-Dichloro-2-butene	23.21	75	272354	247.14 ng		92
48) 4-Ethyltoluene	24.50	105	2824082	242.01 ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	2149970	224.58 ng	#	77
50) 2-Chlorotoluene	24.70	91	2938488	227.88 ng		96
51) 1,2,4-Trimethylbenzene	25.54	105	2386166	239.77 ng		96
52) 1,3-Dichlorobenzene	26.45	146	1974072	274.03 ng		95
53) 1,4-Dichlorobenzene	26.67	146	2075315	275.28 ng	#	94
54) 1,2-Dichlorobenzene	27.43	146	1821255	272.65 ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	1250003	265.87 ng		100
56) Napthalene	31.17	128	1532679	222.80 ng	#	92
57) Hexachlorobutadiene	30.88	225	1068702	266.11 ng		98

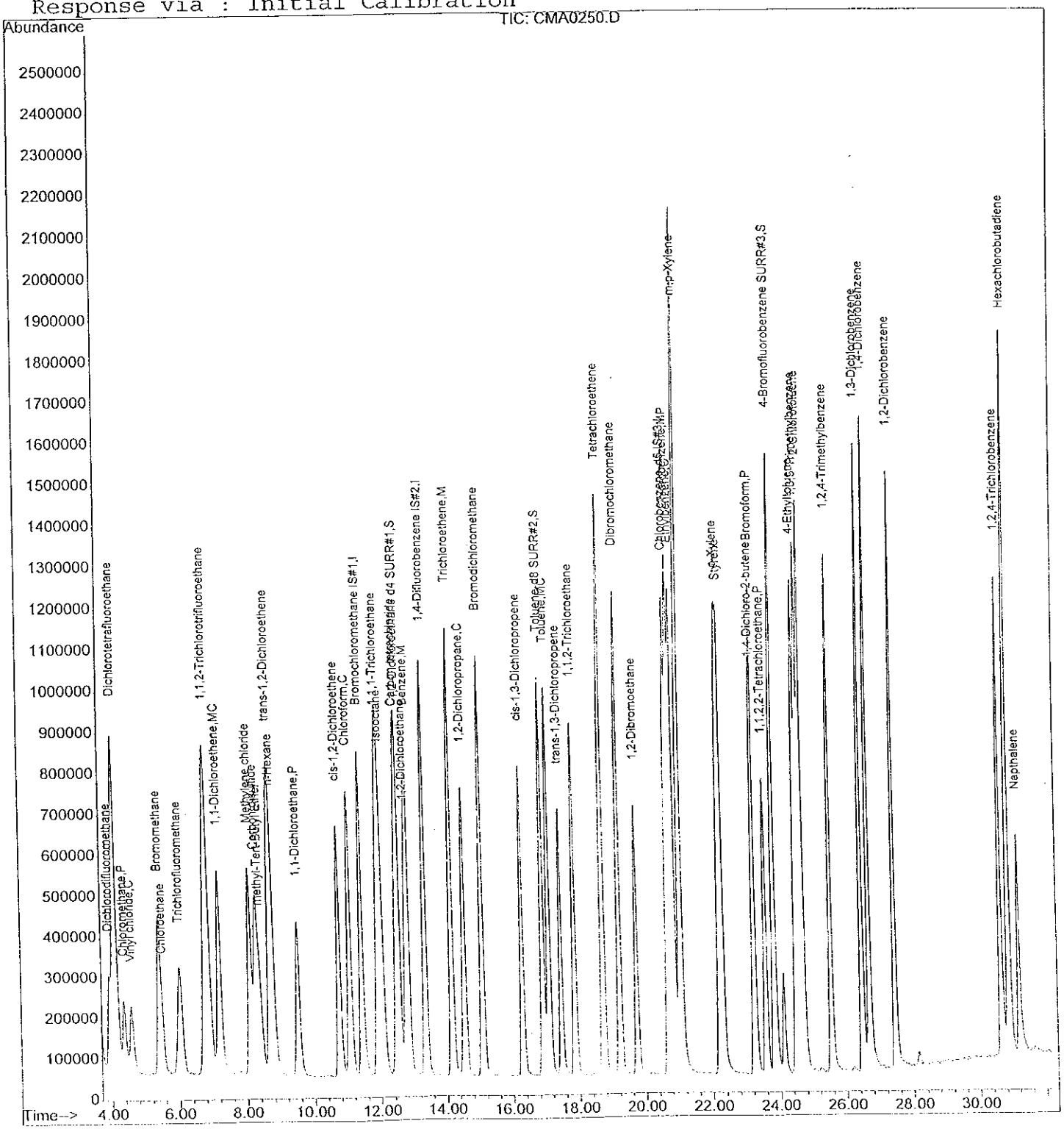
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 57.07%#						
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 93.88%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 88.53%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1844056m	320.89	ng	# 98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	# 26
4) Chloromethane	4.36	50	1284225	369.32	ng	95
5) Vinyl chloride	4.58	62	1256220	401.61	ng	97
6) Bromomethane	5.42	94	2007486	469.75	ng	# 97
7) Chloroethane	5.51	64	856510	467.97	ng	97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng	82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng	88
12) Methylene chloride	8.10	49	2159716	354.74	ng	99
13) Carbon disulfide	8.27	76	4502881	443.88	ng	98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng	98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng	92
16) n-Hexane	8.77	57	1747631	426.72	ng	# 1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng	98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng	91
19) Chloroform	11.07	83	3825367	412.36	ng	98
20) Isooctane	12.03	57	5483567	361.41	ng	96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng	91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng	97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	# 97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng	97
27) Benzene	12.84	78	4427183	462.51	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

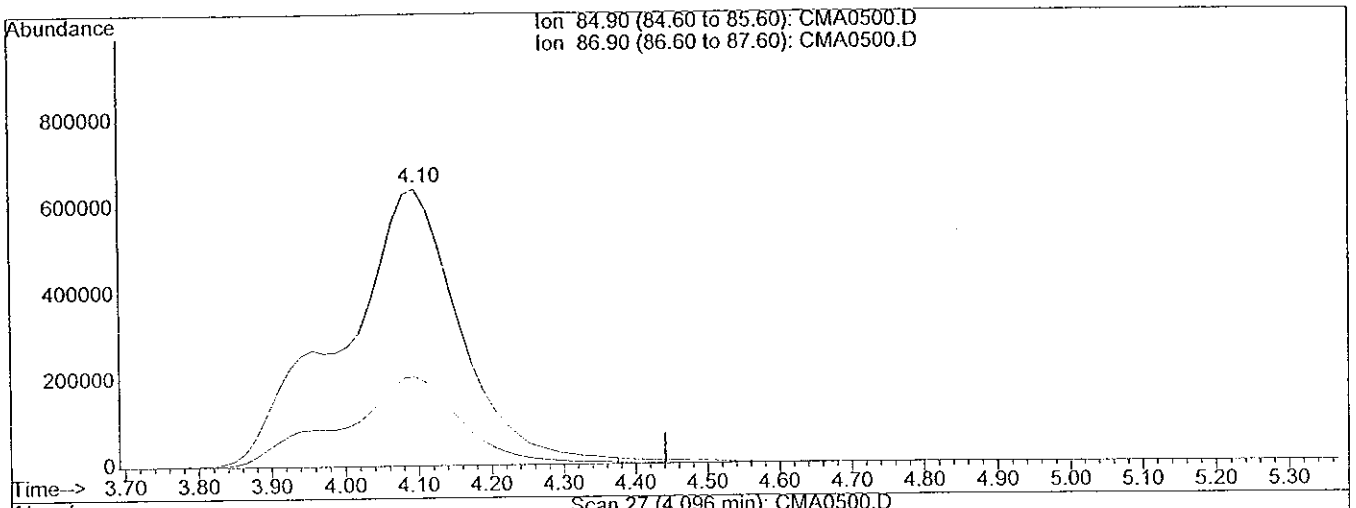
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70 ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33) Toluene	17.11	92	2870951	492.12 ng		98
34) trans-1,3-Dichloropropene	17.46	75	1946542	359.58 ng		98
35) 1,1,2-Trichloroethane	17.87	97	1581503	431.94 ng		97
37) Tetrachloroethene	18.72	164	2362211	575.17 ng		95
38) Dibromochloromethane	19.20	127	2829227	439.77 ng		98
39) Chlorobenzene	20.77	112	4188342	511.74 ng		94
40) Ethylbenzene	20.88	106	1693683	512.53 ng		99
41) m,p-Xylene	21.07	106	4383149	1014.39 ng		96
42) o-Xylene	22.21	106	2136548	519.78 ng		95
43) Styrene	22.29	104	3277411	503.19 ng		97
44) Bromoform	23.25	173	2400417	451.44 ng		100
45) 1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	387280	358.97 ng		92
48) 4-Ethyltoluene	24.50	105	5829345	510.26 ng		95
49) 1,3,5-Trimethylbenzene	24.61	105	4420240	471.62 ng		89
50) 2-Chlorotoluene	24.70	91	5571099	441.31 ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	4502643	462.15 ng		95
52) 1,3-Dichlorobenzene	26.47	146	3614890	512.56 ng		94
53) 1,4-Dichlorobenzene	26.69	146	3720955	504.15 ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	3135068	479.40 ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	2085615	453.11 ng		99
56) Napthalene	31.19	128	2175497	323.03 ng	#	92
57) Hexachlorobutadiene	30.88	225	1885829	479.65 ng		98

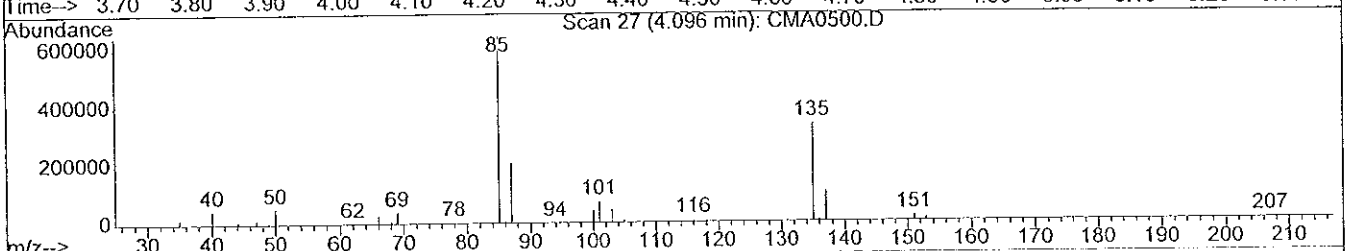
(#) = qualifier out of range (m) = manual integration

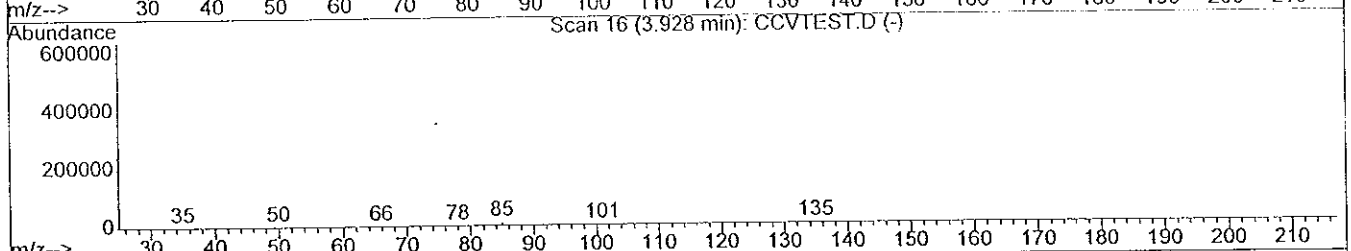
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

Defour (misintegrated co-eluted)

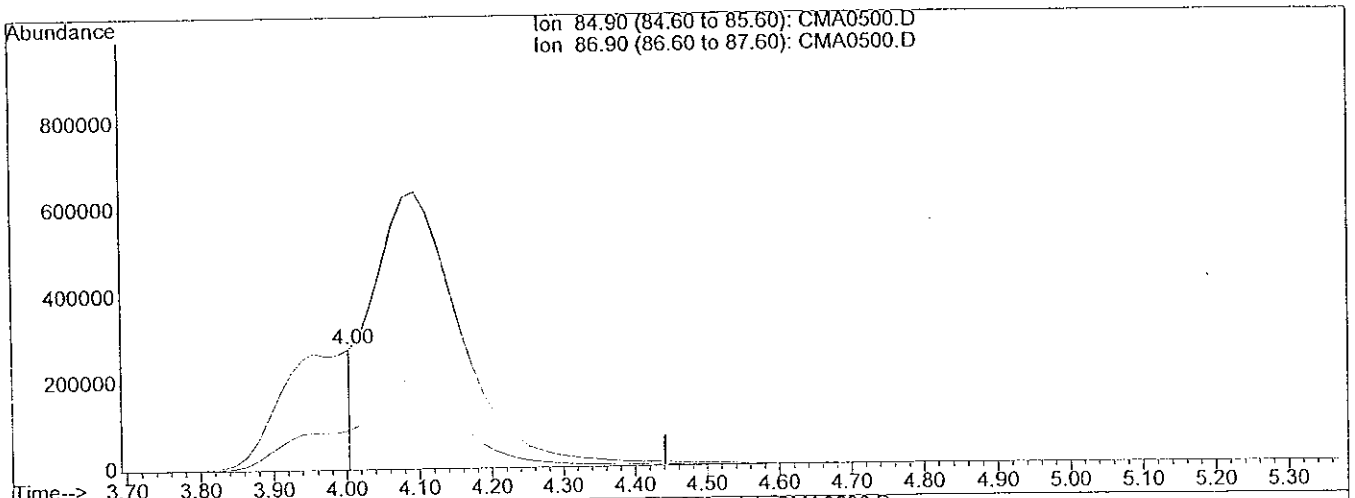
CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

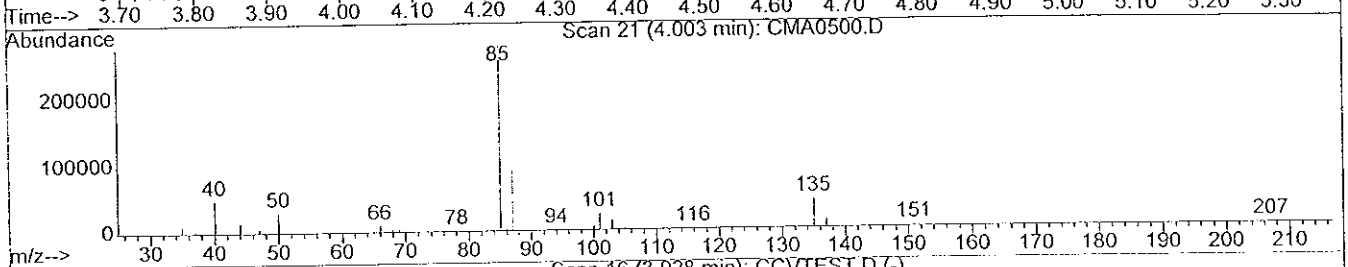
Quantification Report (QedIt)

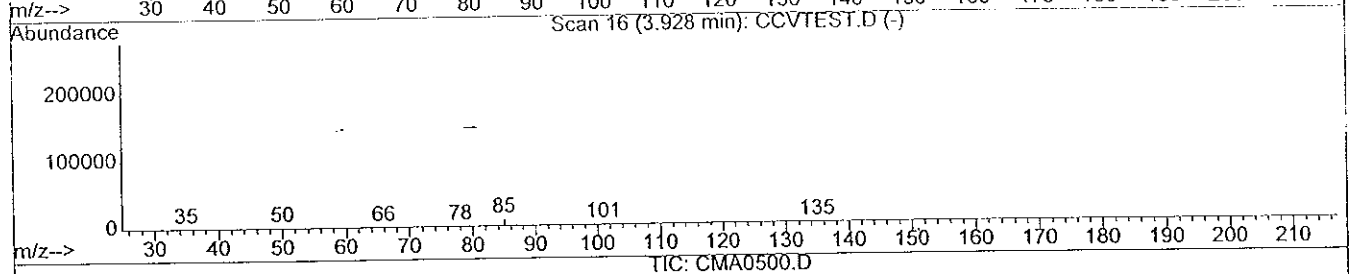
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.27#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/22/01

11-24-01

CMA0500.D TO14S.M Thu Nov 22 20:48:14 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#			
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%			

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40	ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

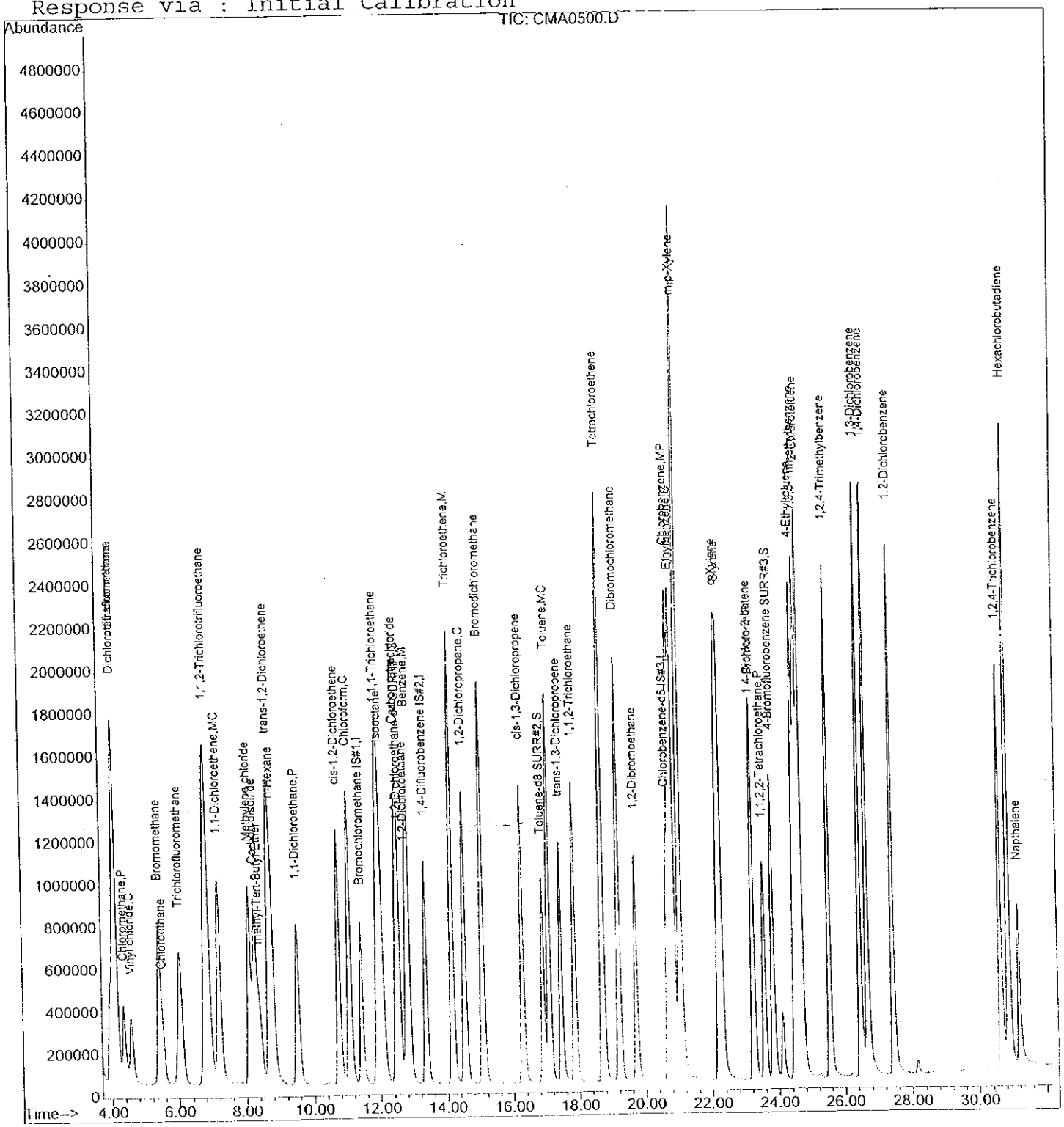
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70 ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33) Toluene	17.11	92	2870951	492.12 ng		98
34) trans-1,3-Dichloropropene	17.46	75	1946542	359.58 ng		98
35) 1,1,2-Trichloroethane	17.87	97	1581503	431.94 ng		97
37) Tetrachloroethene	18.72	164	2362211	575.17 ng		95
38) Dibromochloromethane	19.20	127	2829227	439.77 ng		98
39) Chlorobenzene	20.77	112	4188342	511.74 ng		94
40) Ethylbenzene	20.88	106	1693683	512.53 ng		99
41) m,p-Xylene	21.07	106	4383149	1014.39 ng		96
42) o-Xylene	22.21	106	2136548	519.78 ng		95
43) Styrene	22.29	104	3277411	503.19 ng		97
44) Bromoform	23.25	173	2400417	451.44 ng		100
45) 1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	387280	358.97 ng		92
48) 4-Ethyltoluene	24.50	105	5829345	510.26 ng		95
49) 1,3,5-Trimethylbenzene	24.61	105	4420240	471.62 ng		89
50) 2-Chlorotoluene	24.70	91	5571099	441.31 ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	4502643	462.15 ng		95
52) 1,3-Dichlorobenzene	26.47	146	3614890	512.56 ng		94
53) 1,4-Dichlorobenzene	26.69	146	3720955	504.15 ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	3135068	479.40 ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	2085615	453.11 ng		99
56) Napthalene	31.19	128	2175497	323.03 ng	#	92
57) Hexachlorobutadiene	30.88	225	1885829	479.65 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00 ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00 ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00 ng	-0.03 269.44%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61 ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#		
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08 ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%		
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02 ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71 ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77 ng	#	43
4) Chloromethane	4.34	50	2269279	718.82 ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87 ng		96
6) Bromomethane	5.40	94	3658163	942.87 ng	#	97
7) Chloroethane	5.49	64	1503351	904.74 ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61 ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99 ng		86
12) Methylene chloride	8.10	49	3782190	684.28 ng		97
13) Carbon disulfide	8.26	76	8103282	879.86 ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88 ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65 ng		90
16) n-Hexane	8.77	57	2872334	772.51 ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92 ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82 ng		89
19) Chloroform	11.07	83	6416217	761.83 ng		98
20) Isooctane	12.03	57	9902255	718.87 ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75 ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16 ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89 ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56 ng		98
27) Benzene	12.84	78	7380435	918.40 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

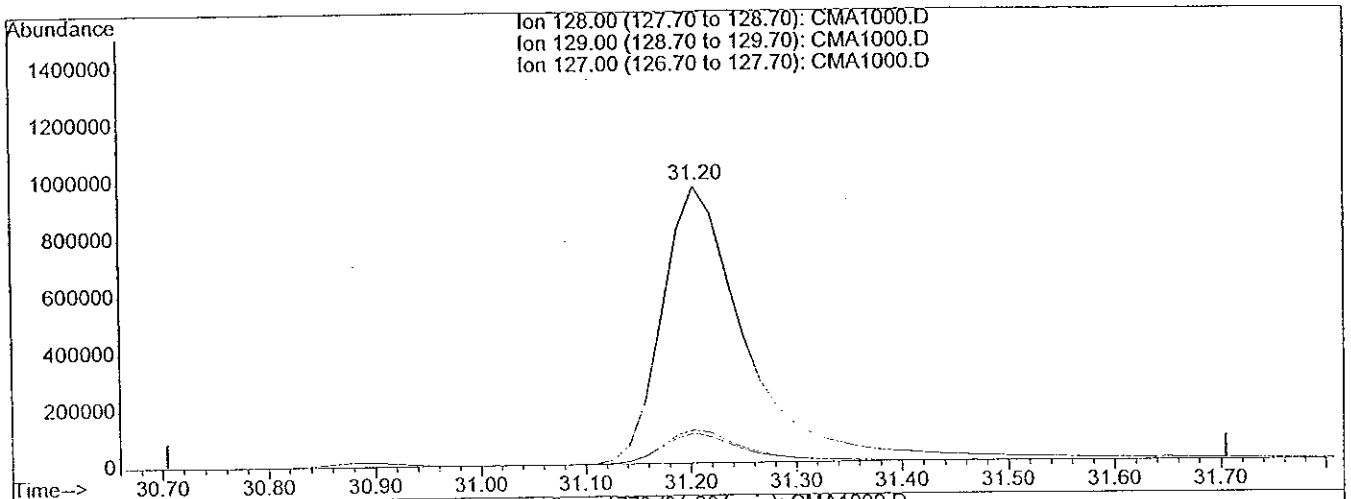
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5286344m	915.23	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

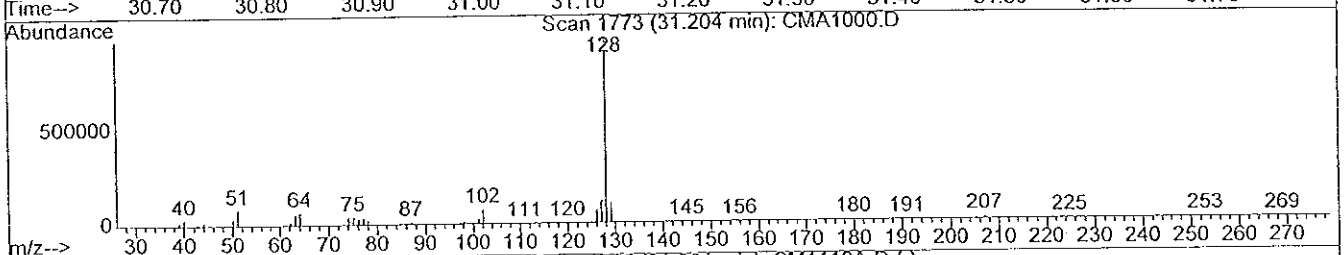
(#) = qualifier out of range (m) = manual integration

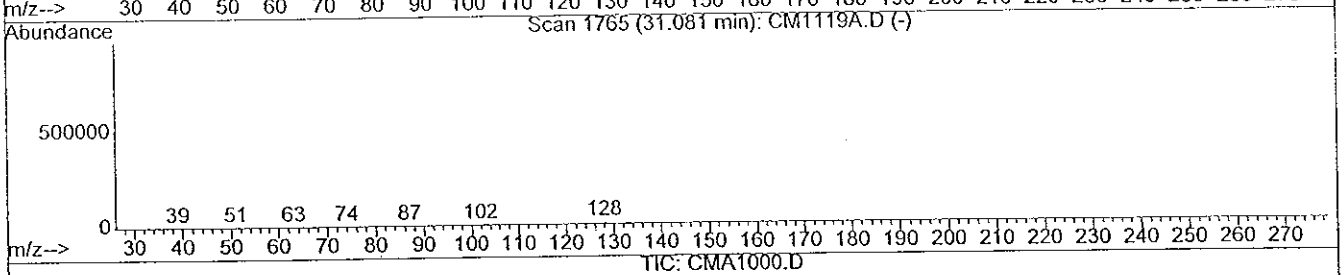
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration







TIC: CMA1000.D

(56) Napthalene

31.20min 951.28ng

response 5494553

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

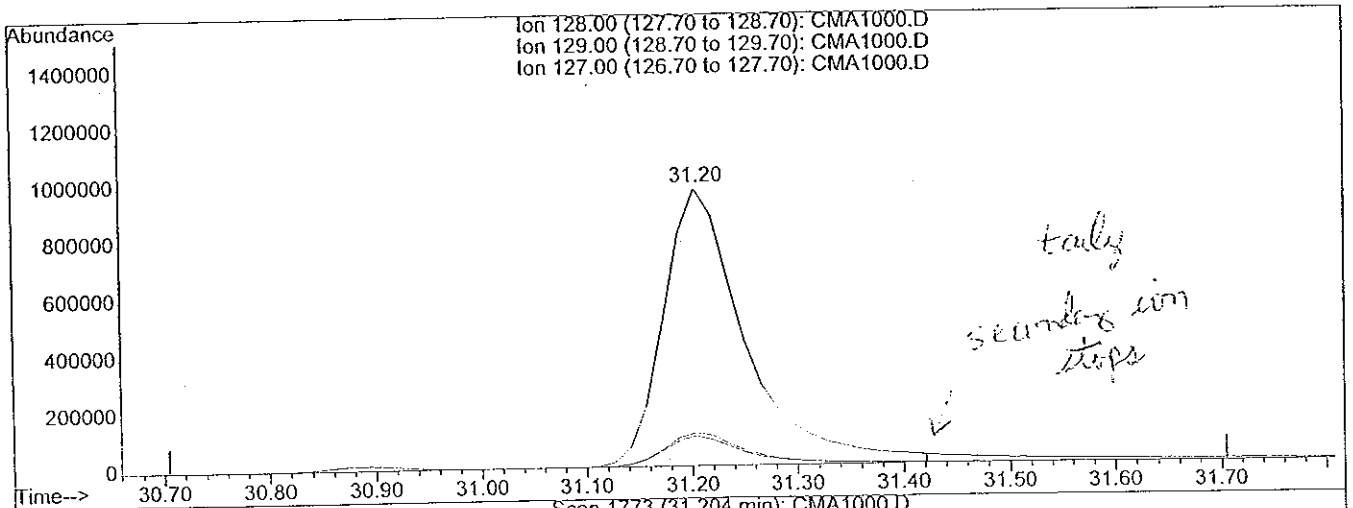
Before (tailing)

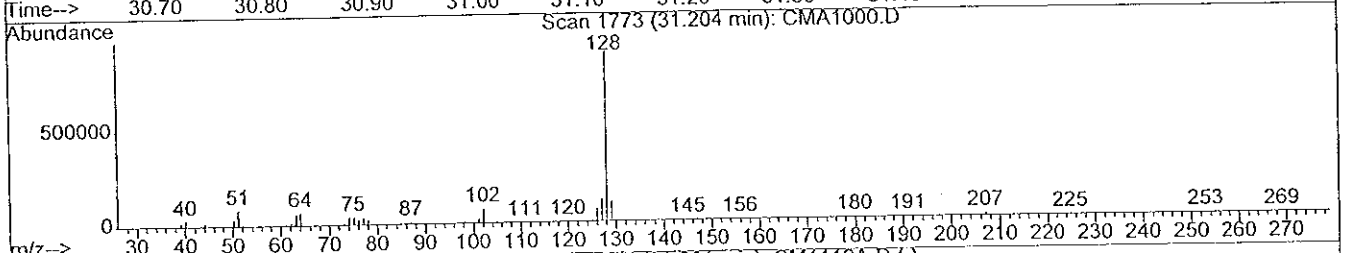
CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

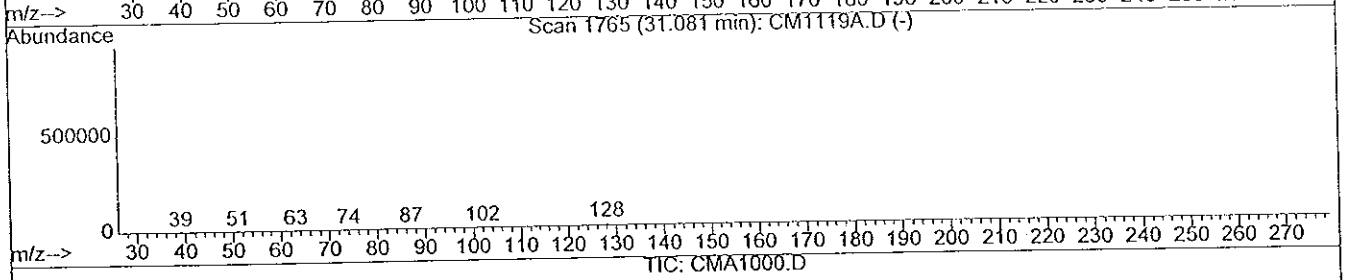
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration







TIC: CMA1000.D

(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

after
B 11/22/01

11-24-01

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng	-0.03 269.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#						
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng	99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	# 43
4) Chloromethane	4.34	50	2269279	718.82	ng	# 96
5) Vinyl chloride	4.56	62	2177757	766.87	ng	96
6) Bromomethane	5.40	94	3658163	942.87	ng	# 97
7) Chloroethane	5.49	64	1503351	904.74	ng	96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng	82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng	86
12) Methylene chloride	8.10	49	3782190	684.28	ng	97
13) Carbon disulfide	8.26	76	8103282	879.86	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng	98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng	90
16) n-Hexane	8.77	57	2872334	772.51	ng	# 1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng	98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng	89
19) Chloroform	11.07	83	6416217	761.83	ng	98
20) Isooctane	12.03	57	9902255	718.87	ng	95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng	89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng	97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	# 97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng	98
27) Benzene	12.84	78	7380435	918.40	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20 ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33) Toluene	17.09	92	4788893	977.79 ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26 ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79 ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58 ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13 ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70 ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60 ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72 ng		93
42) o-Xylene	22.21	106	3660995	1038.48 ng		94
43) Styrene	22.29	104	5744605	1028.38 ng		96
44) Bromoform	23.25	173	4989717	1094.16 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60 ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11 ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78 ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29 ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07 ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14 ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69 ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88 ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68 ng		99
56) Napthalene	31.20	128	5494553	951.28 ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71 ng		99

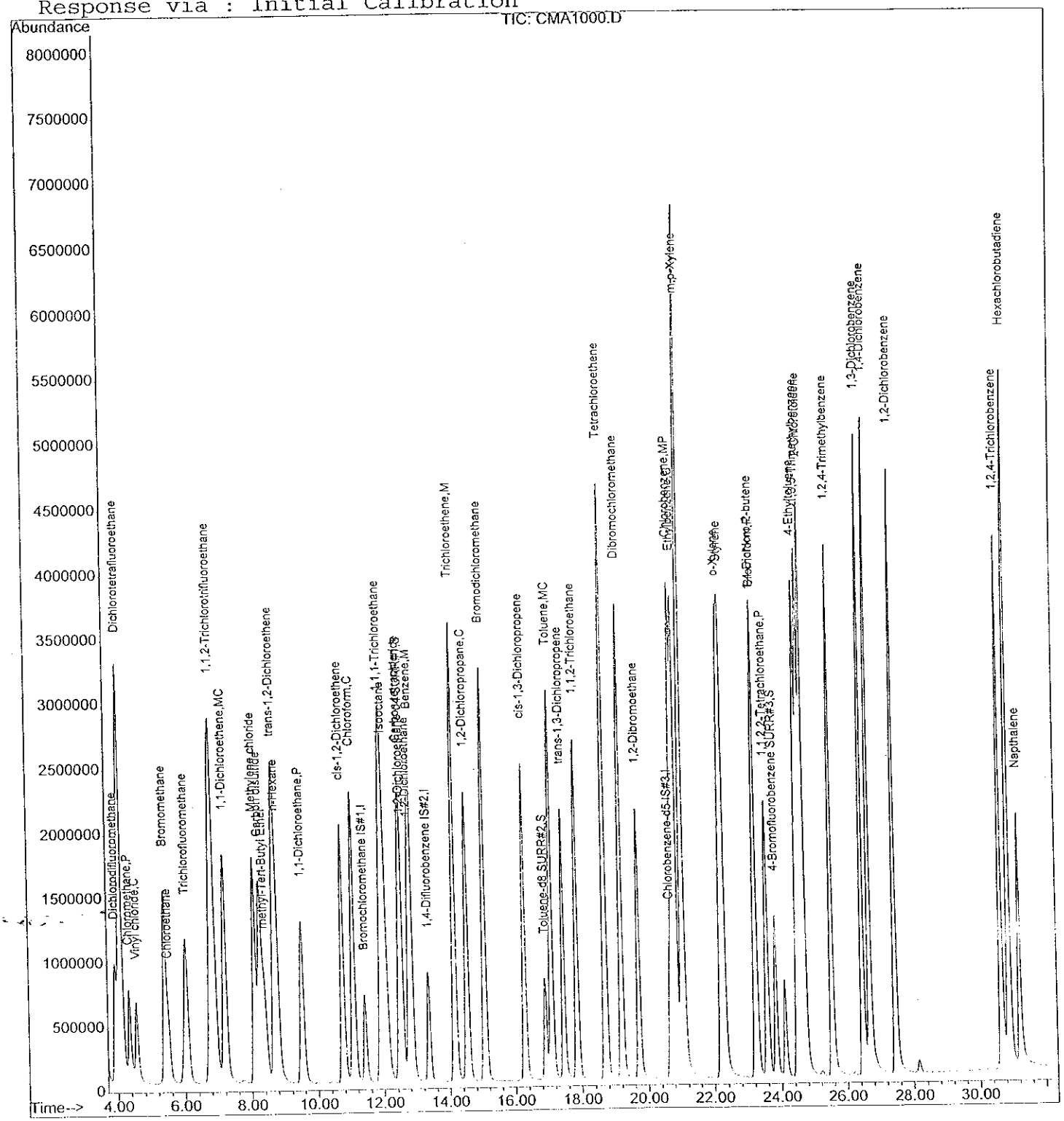
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	634249	250.00 ng	-0.02 290.39%
26) 1,4-Difluorobenzene IS#2	13.36	114	2600798	250.00 ng	-0.03 274.40%
36) Chlorobenzene-d5 IS#3	20.69	117	1981283	250.00 ng	-0.02 276.07%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	632851	134.29 ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.72%#					
32) Toluene-d8 SURR#2	16.92	98	1970807	229.09 ng	-0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 91.64%					
46) 4-Bromofluorobenzene SURR#	23.84	95	1740302	225.18 ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.07%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.94	85	4935791	935.33 ng		100
3) Dichlorotetrafluoroethane	4.09	135	7446198	1449.32 ng	#	44
4) Chloromethane	4.36	50	3382343	1059.28 ng	#	96
5) Vinyl chloride	4.56	62	3168424	1103.09 ng		97
6) Bromomethane	5.41	94	5426495	1382.82 ng	#	98
7) Chloroethane	5.51	64	2270536	1350.98 ng		96
8) Trichlorofluoromethane	6.05	101	7232899	1236.76 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	8477979	1721.01 ng		81
10) 1,1-Dichloroethene	7.20	96	4596546	1576.05 ng		86
12) Methylene chloride	8.10	49	5698090	1019.24 ng		96
13) Carbon disulfide	8.27	76	12272113	1317.43 ng		100
14) methyl-Tert-Butyl Ether	8.38	73	5104092	1089.43 ng		98
15) trans-1,2-Dichloroethene	8.69	96	4769897	1458.61 ng		90
16) n-Hexane	8.78	57	4342794	1154.77 ng	#	1
17) 1,1-Dichloroethane	9.53	63	7860477	1163.70 ng		98
18) cis-1,2-Dichloroethene	10.76	61	6258103	1116.90 ng		88
19) Chloroform	11.08	83	9812958	1151.95 ng		98
20) Isooctane	12.04	57	14645922	1051.21 ng		95
21) 1,1,1-Trichloroethane	11.95	97	7963993	1057.12 ng		89
22) Carbon tetrachloride	12.51	117	8783308	1134.03 ng		97
24) 1,2-Dichloroethane	12.77	62	4388761	821.89 ng	#	97
25) 1,2-Dibromoethane	19.74	107	7240589	1350.63 ng		98
27) Benzene	12.85	78	11283448	1355.23 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88	ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29	ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55	ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10	ng		96
33) Toluene	17.10	92	7379692	1454.35	ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58	ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29	ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63	ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36	ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47	ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02	ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70	ng		95
42) o-Xylene	22.23	106	5544185	1534.89	ng		94
43) Styrene	22.32	104	8782292	1534.41	ng		96
44) Bromoform	23.27	173	7134144	1526.83	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88	ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33	ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18	ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11777874	1430.04	ng		89
50) 2-Chlorotoluene	24.71	91	14289331	1288.09	ng		94
51) 1,2,4-Trimethylbenzene	25.55	105	11726608	1369.68	ng		96
52) 1,3-Dichlorobenzene	26.48	146	9865243	1591.80	ng	#	94
53) 1,4-Dichlorobenzene	26.70	146	10428453	1607.89	ng	#	93
54) 1,2-Dichlorobenzene	27.46	146	8892199	1547.37	ng	#	94
55) 1,2,4-Trichlorobenzene	30.66	180	6219579	1537.66	ng		99
56) Napthalene	31.22	128	6912312	1167.99	ng	#	92
57) Hexachlorobutadiene	30.89	225	4486552	1298.56	ng		99

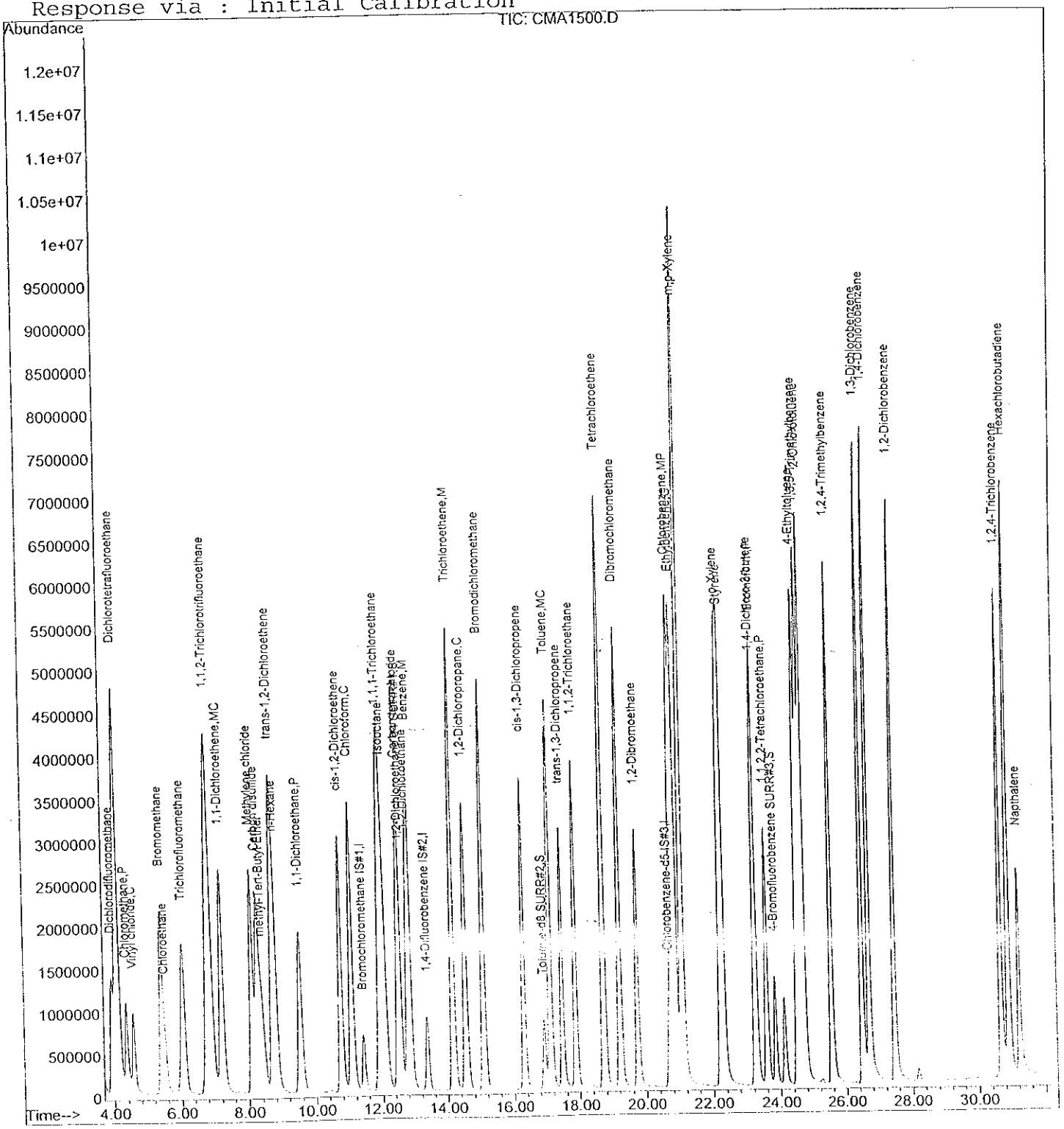
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1128A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

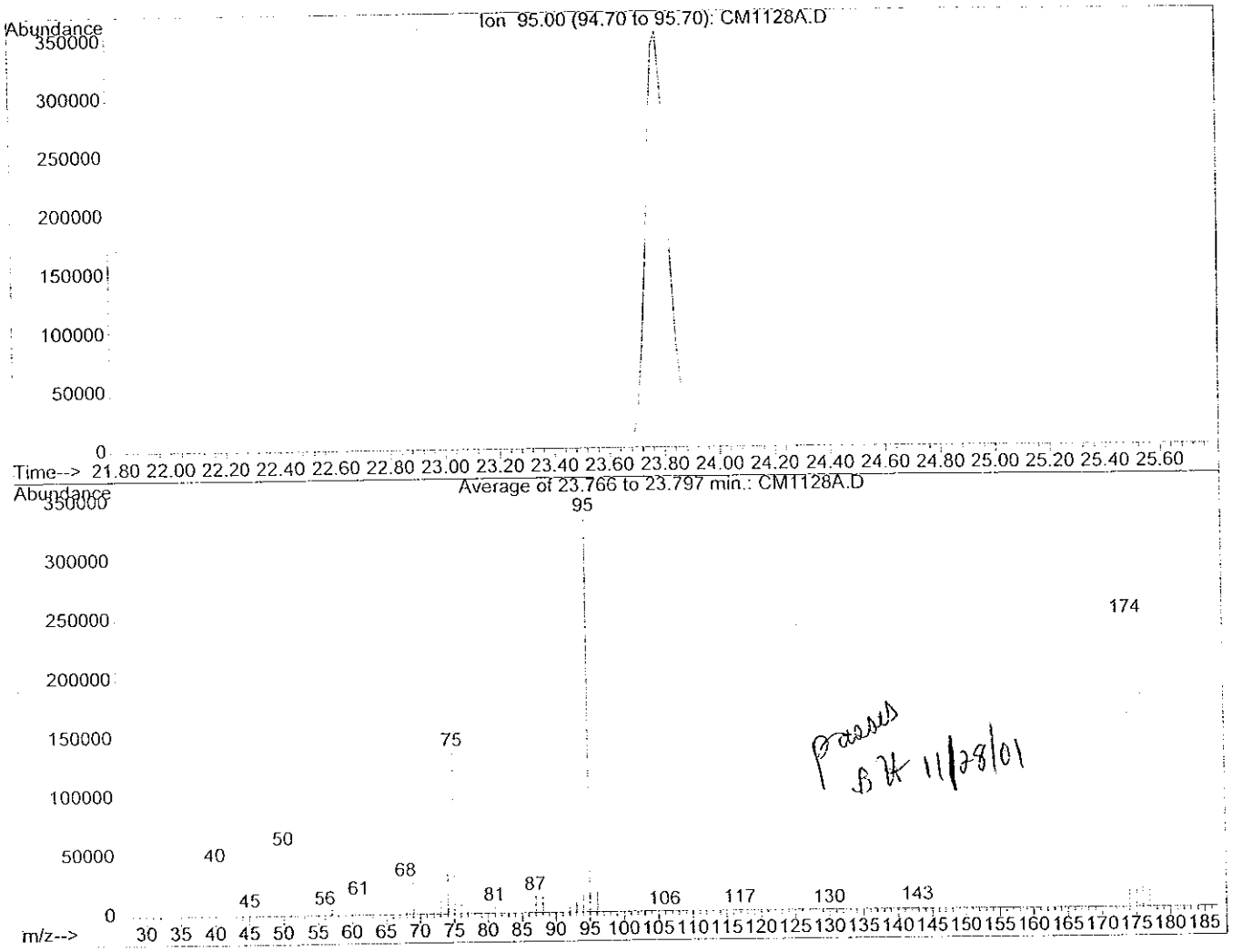
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM1128A	TO14S	VSTD050\DAILY CALIB. CHECK 50
2	Sample	15	MA241ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
3	Sample	16	MA241LCS	TO14S	VLCSMA\BATCH #241 LCS 50ppb/
4	Sample	1	BLKTUBE	BFBSTL	POS.#1 SKIP
5	Sample	2	115861	TO14S	11586-1 X500 1.0ml
6	Sample	3	115521	TO14S	11552-1 X500 1.0ml
7	Sample	4	115522	TO14S	11552-2 X500 1.0ml
8	Sample	5	115523	TO14S	11552-3 X500 1.0ml
9	Sample	1	115561	TO14S	062SVEEA11200118\11556-1 ST.
10	Sample	1	115571	TO14S	062SVEEA11200122\11557-1 ST.
11	Sample	1	QC228	TO14S	QC CAN CHECK #228 ST. 500mls

BFB

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



passes
BH 11/28/01

Spectrum Information: Average of 23.766 to 23.797 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	55064	PASS
75	95	30	60	41.0	137088	PASS
95	95	100	100	100.0	334208	PASS
96	95	5	9	6.6	22080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.9	243499	PASS
175	174	5	9	7.1	17264	PASS
176	174	95	101	98.0	238571	PASS
177	176	5	9	6.3	15082	PASS

CM1128A.D TO14S.M Wed Nov 28 10:29:38 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

Passes BH 11/28/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

BH 11/28/01

used for Tun

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00 ng	-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00 ng	-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00 ng	-0.05 103.08%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	781052m	237.19 ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.88%		
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57 ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.03%		
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53 ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.41%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88 ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19 ng	#	42
4) Chloromethane	4.33	50	680166	253.25 ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32 ng		97
6) Bromomethane	5.38	94	1022044	235.63 ng	#	99
7) Chloroethane	5.49	64	431451	248.53 ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58 ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95 ng		85
12) Methylene chloride	8.07	49	1119090	249.74 ng		98
13) Carbon disulfide	8.23	76	2406192	257.52 ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65 ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14 ng		90
16) n-Hexane	8.72	57	857489	240.98 ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75 ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09 ng		88
19) Chloroform	11.04	83	1909764	246.72 ng		98
20) Isooctane	11.98	57	2704757	225.82 ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39 ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68 ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96 ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09 ng		98
27) Benzene	12.79	78	2240715	252.47 ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.12	130	1253283	251.50 ng		93
29)	1,2-Dichloropropane	14.50	63	909704	244.44 ng		97
30)	Bromodichloromethane	15.04	83	2107004	245.96 ng		99
31)	cis-1,3-Dichloropropene	16.25	75	1340162	247.87 ng		98
33)	Toluene	17.06	92	1419152	249.16 ng		99
34)	trans-1,3-Dichloropropene	17.42	75	1040475	249.76 ng		99
35)	1,1,2-Trichloroethane	17.82	97	847991	244.92 ng		96
37)	Tetrachloroethene	18.67	164	1192234	256.92 ng		93
38)	Dibromochloromethane	19.16	127	1494788	246.43 ng		97
39)	Chlorobenzene	20.72	112	2114458	253.11 ng		93
40)	Ethylbenzene	20.82	106	828084	246.86 ng		99
41)	m,p-Xylene	21.02	106	2192808	508.26 ng		92
42)	o-Xylene	22.17	106	1041833	248.47 ng		98
43)	Styrene	22.24	104	1662897	255.19 ng		97
44)	Bromoform	23.19	173	1392067	252.38 ng		99
45)	1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07 ng		99
47)	1,4-Dichloro-2-butene	23.18	75	236426	252.06 ng		91
48)	4-Ethyltoluene	24.45	105	2605946	232.33 ng		94
49)	1,3,5-Trimethylbenzene	24.54	105	2118334	245.40 ng		88
50)	2-Chlorotoluene	24.65	91	2752179	249.41 ng		95
51)	1,2,4-Trimethylbenzene	25.49	105	2247221	249.50 ng		95
52)	1,3-Dichlorobenzene	26.42	146	1912389m	257.41 ng		94
53)	1,4-Dichlorobenzene	26.62	146	2017612	257.73 ng	#	94
54)	1,2-Dichlorobenzene	27.40	146	1754592	258.27 ng	#	93
55)	1,2,4-Trichlorobenzene	30.58	180	1361919	285.69 ng		100
56)	Napthalene	31.13	128	1599490	283.12 ng	#	92
57)	Hexachlorobutadiene	30.81	225	1143710	278.03 ng		99

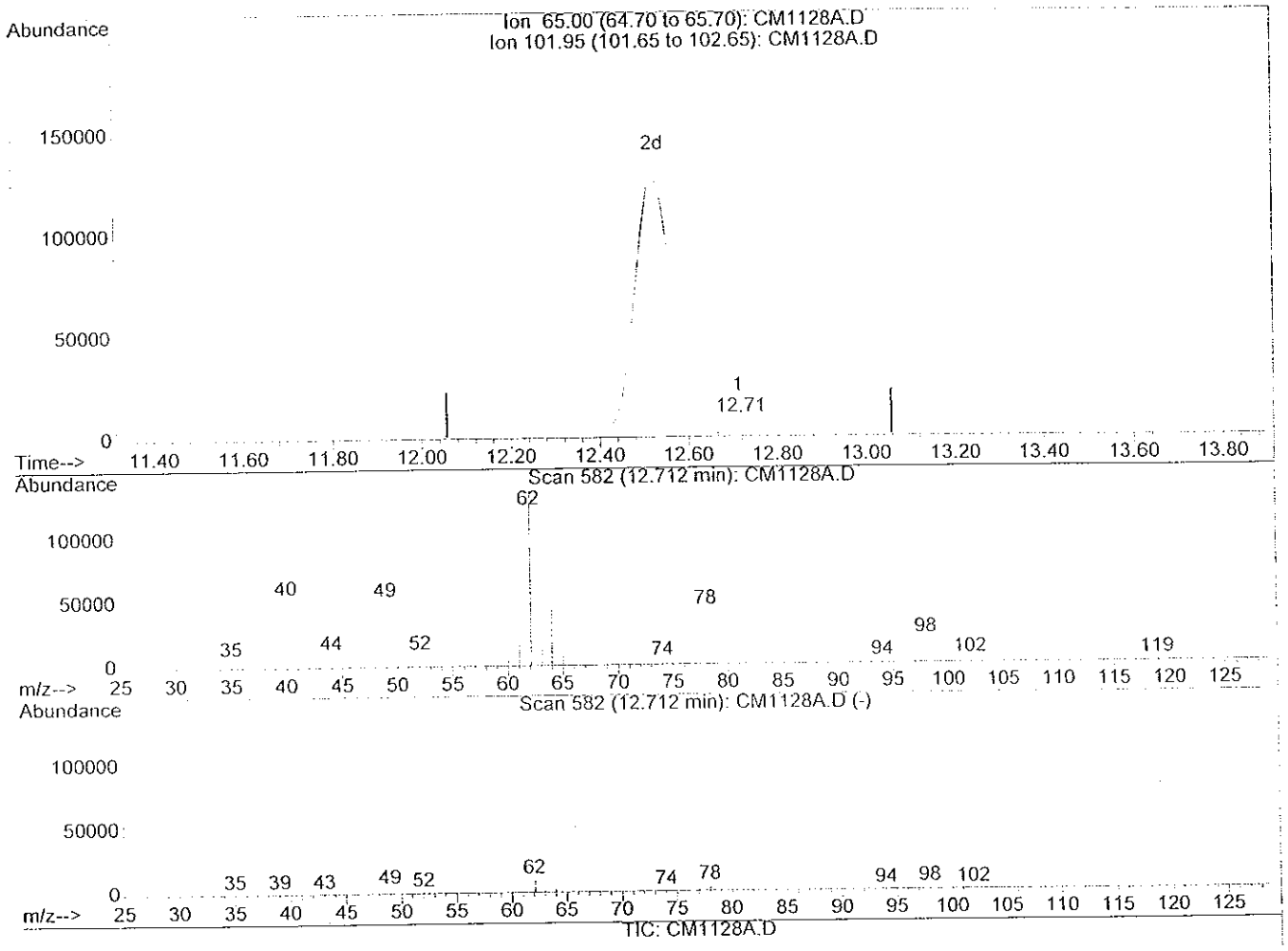
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.71min 15.95ng

response 52538

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.12
0.00	0.00	0.00
0.00	0.00	0.00

before (missed peak)

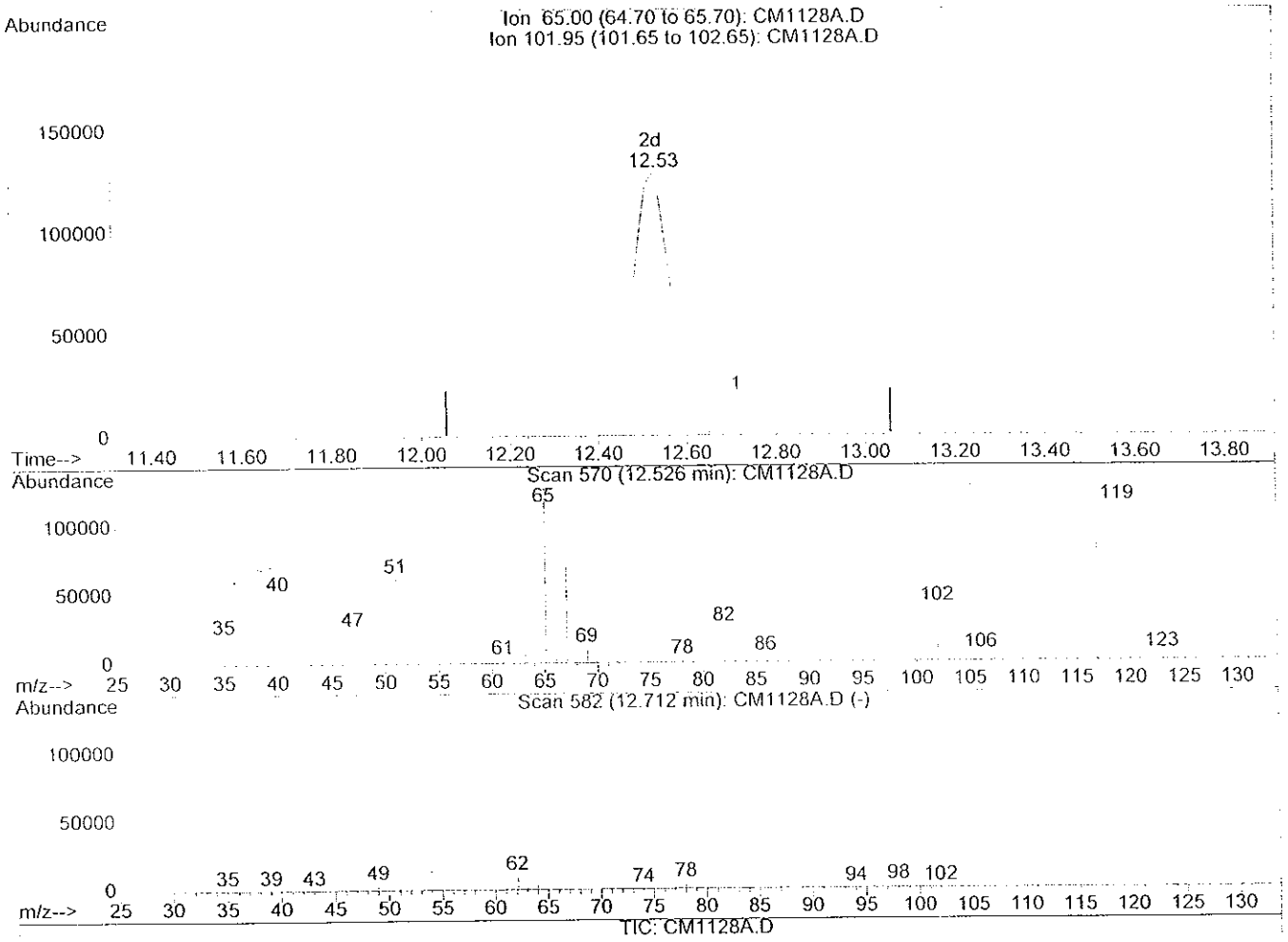
CM1128A.D TO14S.M Wed Nov 28 10:32:05 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.53min 237.19ng m

response 781052

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	1.76#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/28/01

11-29-01

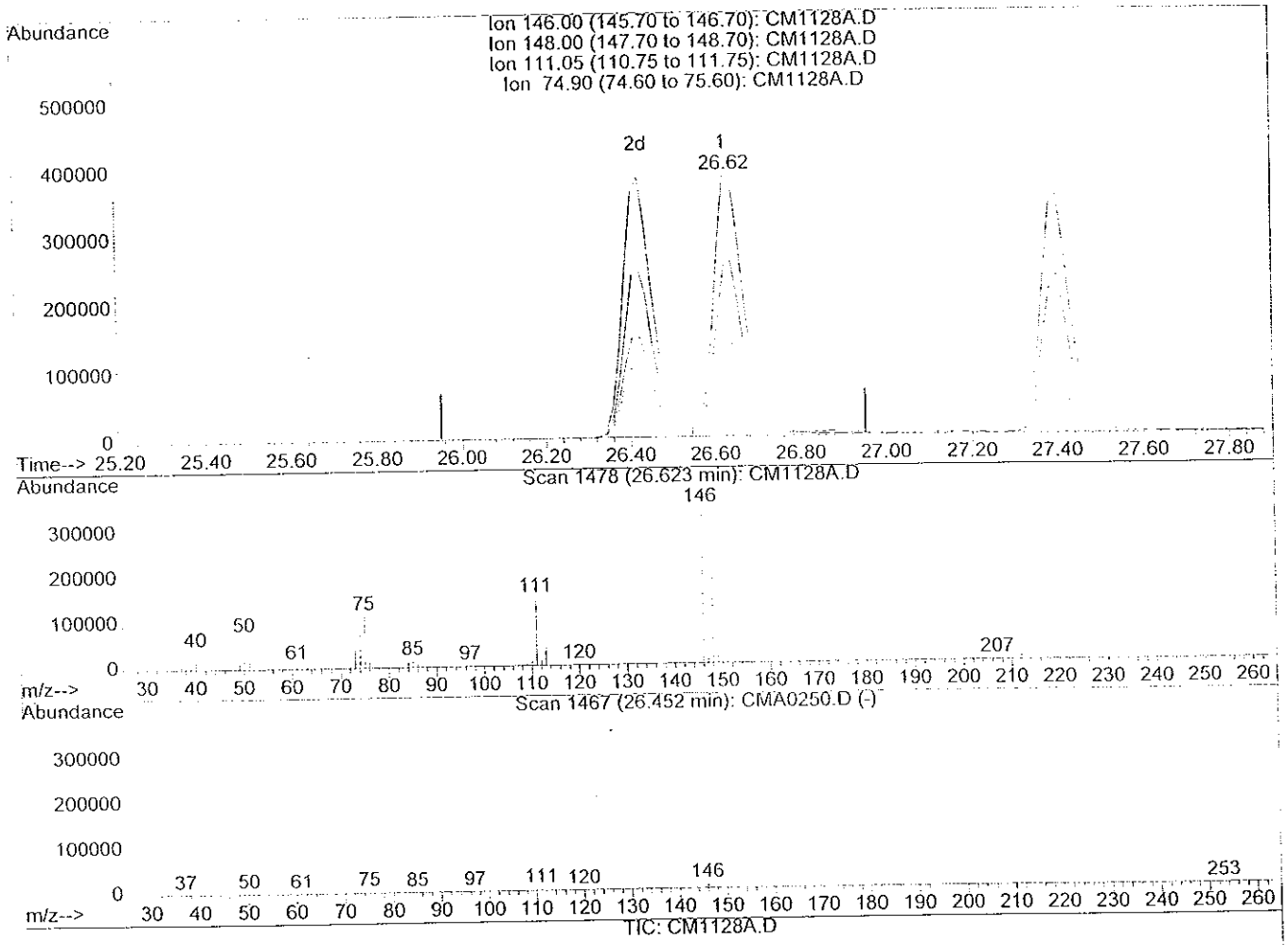
CM1128A.D TO14S.M Wed Nov 28 10:32:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.62min 261.46ng

response 1942471

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.45
111.05	44.40	37.81
74.90	35.60	28.58

before
(wrong peak)

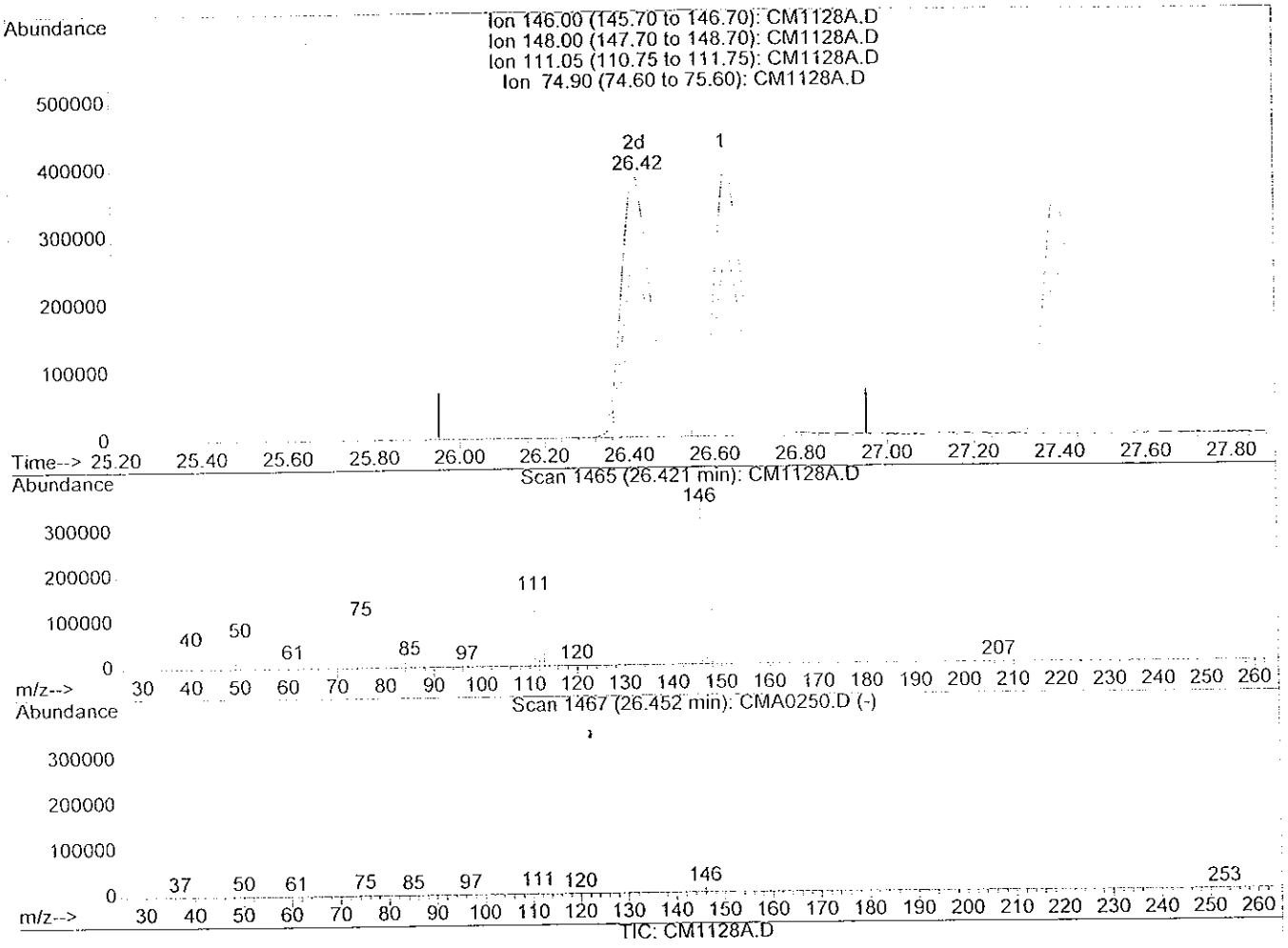
CM1128A.D TO14S.M Wed Nov 28 10:30:14 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.42min 257.41ng m

response 1912389

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	67.49
111.05	44.40	38.40
74.90	35.60	29.03

after
BDH 11/28/01

11-29-01

CM1128A.D TO14S.M Wed Nov 28 10:30:19 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00 ng	-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00 ng	-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00 ng	-0.05 103.08%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.71	65	52538	15.95 ng	0.16
Spiked Amount 250.000 Range 61 - 140 Recovery = 6.38%#					
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.03%					
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.41%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88 ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19 ng	#	42
4) Chloromethane	4.33	50	680166	253.25 ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32 ng		97
6) Bromomethane	5.38	94	1022044	235.63 ng	#	99
7) Chloroethane	5.49	64	431451	248.53 ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58 ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95 ng		85
12) Methylene chloride	8.07	49	1119090	249.74 ng		98
13) Carbon disulfide	8.23	76	2406192	257.52 ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65 ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14 ng		90
16) n-Hexane	8.72	57	857489	240.98 ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75 ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09 ng		88
19) Chloroform	11.04	83	1909764	246.72 ng		98
20) Isooctane	11.98	57	2704757	225.82 ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39 ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68 ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96 ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09 ng		98
27) Benzene	12.79	78	2240715	252.47 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.12	130	1253283	251.50 ng		93
29) 1,2-Dichloropropane	14.50	63	909704	244.44 ng		97
30) Bromodichloromethane	15.04	83	2107004	245.96 ng		99
31) cis-1,3-Dichloropropene	16.25	75	1340162	247.87 ng		98
33) Toluene	17.06	92	1419152	249.16 ng		99
34) trans-1,3-Dichloropropene	17.42	75	1040475	249.76 ng		99
35) 1,1,2-Trichloroethane	17.82	97	847991	244.92 ng		96
37) Tetrachloroethene	18.67	164	1192234	256.92 ng		93
38) Dibromochloromethane	19.16	127	1494788	246.43 ng		97
39) Chlorobenzene	20.72	112	2114458	253.11 ng		93
40) Ethylbenzene	20.82	106	828084	246.86 ng		99
41) m,p-Xylene	21.02	106	2192808	508.26 ng		92
42) o-Xylene	22.17	106	1041833	248.47 ng		98
43) Styrene	22.24	104	1662897	255.19 ng		97
44) Bromoform	23.19	173	1392067	252.38 ng		99
45) 1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07 ng		99
47) 1,4-Dichloro-2-butene	23.18	75	236426	252.06 ng		91
48) 4-Ethyltoluene	24.45	105	2605946	232.33 ng		94
49) 1,3,5-Trimethylbenzene	24.54	105	2118334	245.40 ng		88
50) 2-Chlorotoluene	24.65	91	2752179	249.41 ng		95
51) 1,2,4-Trimethylbenzene	25.49	105	2247221	249.50 ng		95
52) 1,3-Dichlorobenzene	26.62	146	1942471	261.46 ng		94
53) 1,4-Dichlorobenzene	26.62	146	2017612	257.73 ng	#	94
54) 1,2-Dichlorobenzene	27.40	146	1754592	258.27 ng	#	93
55) 1,2,4-Trichlorobenzene	30.58	180	1361919	285.69 ng		100
56) Napthalene	31.13	128	1599490	283.12 ng	#	92
57) Hexachlorobutadiene	30.81	225	1143710	278.03 ng		99

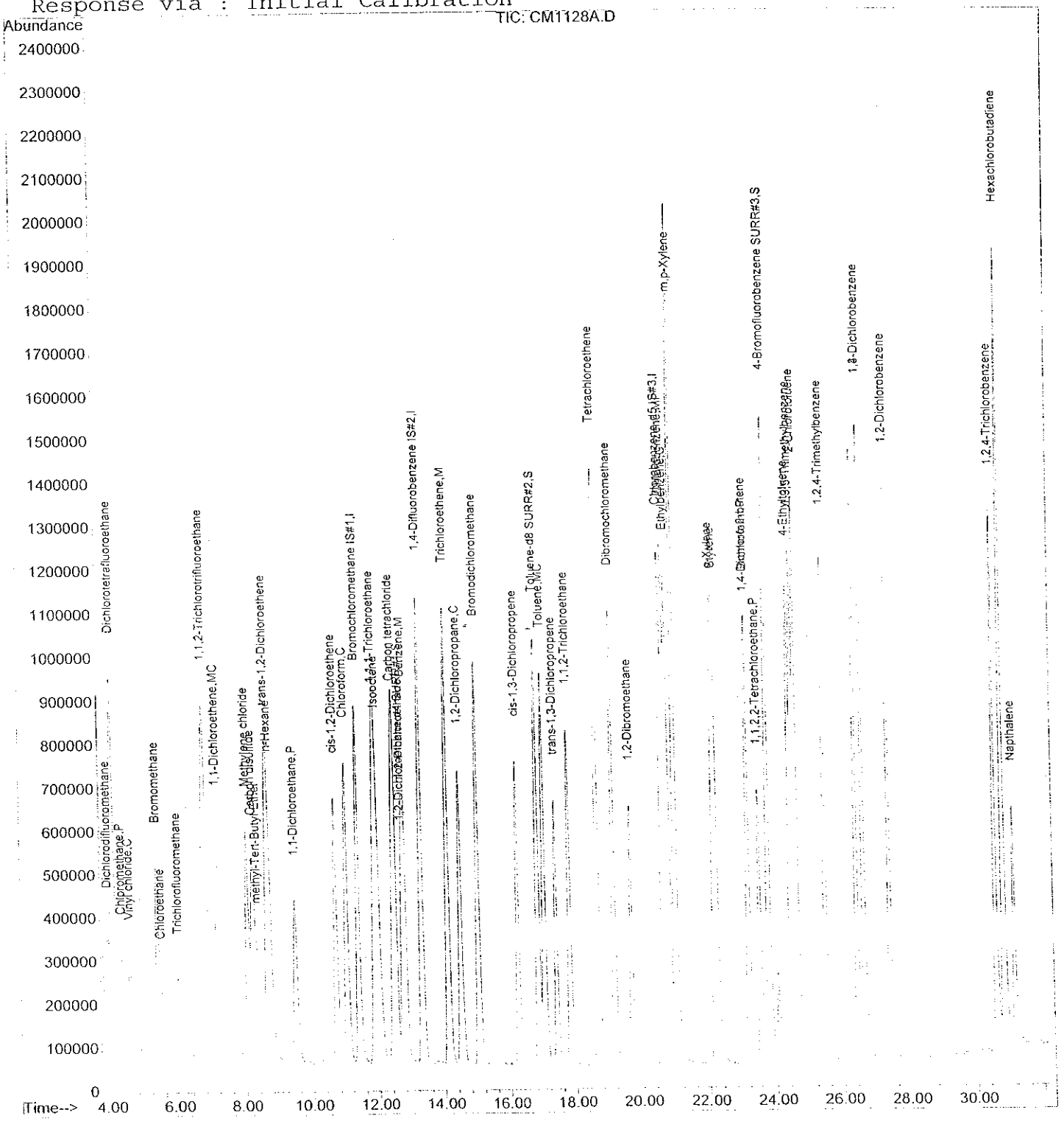
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:38 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00 ng	0.03 93.25%
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00 ng	0.05 90.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00 ng	0.03 91.10%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11 ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%		
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79 ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%		
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%		

Target Compounds Qvalue

no hits

(#) = qualifier out of range (m) = manual integration
MA241ABK.D TO14S.M Wed Nov 28 11:38:13 2001

Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards

	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00 ng	0.03 93.25%
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00 ng	0.05 90.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00 ng	0.03 91.10%

System Monitoring Compounds

ng report

23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11 ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%		
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79 ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%		
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%		

Target Compounds

					Qvalue
4) Chloromethane	4.56	50	1964	0.78 ng	# 7
6) Bromomethane	5.35	94	2142	0.53 ng	# 9
14) methyl-Tert-Butyl Ether	8.41	73	1082	0.28 ng	# 52
24) 1,2-Dichloroethane	12.79	62	1013	0.30 ng	# 49
27) Benzene	12.81	78	3036	0.38 ng	# 54
39) Chlorobenzene	20.75	112	3314	0.44 ng	# 20
55) 1,2,4-Trichlorobenzene	30.64	180	5001	1.15 ng	# 83
56) Napthalene	31.19	128	25740	10.84 ng(c.o.)	# NR 64

CRL/NR/NSF

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

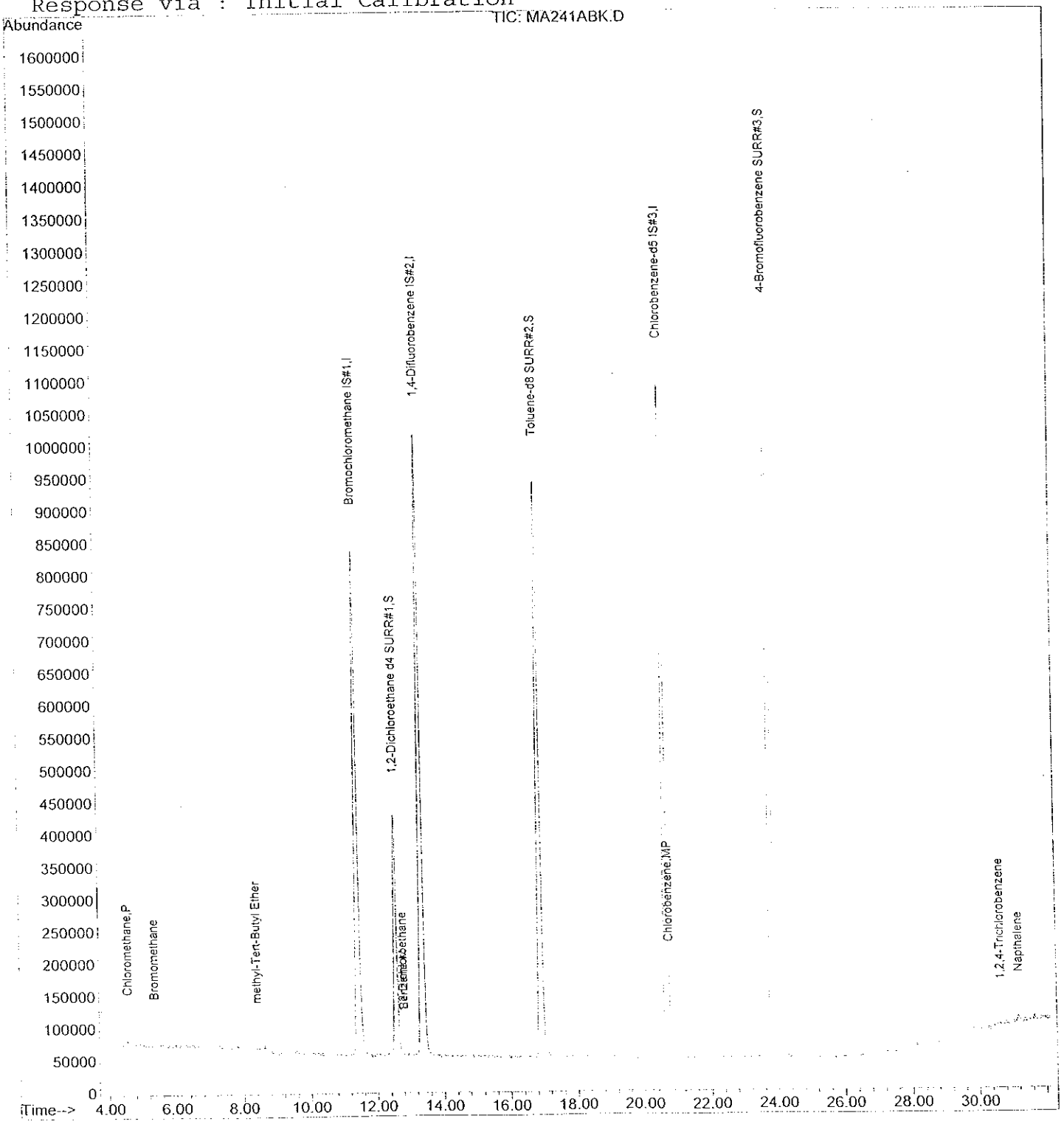
Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
Matrix: WATER
Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits
Thu Nov 29 09:22:01 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 13:27 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00 ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00 ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00 ng	0.04 101.06%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.50%					
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.26%					
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.43%					

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.19	96	816654	231.01 ng	86
27) Benzene	12.83	78	2347061	260.31 ng	98
28) Trichloroethene	14.14	130	1347269	266.13 ng	93
33) Toluene	17.09	92	1528943	264.23 ng	98
39) Chlorobenzene	20.76	112	2277420	269.75 ng #	85

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00 ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00 ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00 ng	0.04 101.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.50%					
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.26%					
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.43%					

Target Compounds						Qvalue
4) Chloromethane	4.57	50	940	0.34 ng	#	11
6) Bromomethane	5.45	94	5513	1.25 ng	#	9
10) 1,1-Dichloroethene	7.19	96	816654	231.01 ng		86
14) methyl-Tert-Butyl Ether	8.37	73	10536	2.50 ng	#	52
24) 1,2-Dichloroethane	12.81	62	19716	5.28 ng	#	49
25) 1,2-Dibromoethane	19.72	107	7064	1.21 ng		85
27) Benzene	12.83	78	2347061	260.31 ng		98
28) Trichloroethene	14.14	130	1347269	266.13 ng		93
33) Toluene	17.09	92	1528943	264.23 ng		98
34) trans-1,3-Dichloropropene	17.08	75	13103	3.10 ng	#	1
35) 1,1,2-Trichloroethane	17.86	97	1093	0.31 ng	#	14
39) Chlorobenzene	20.76	112	2277420	269.75 ng	#	85
44) Bromoform	23.23	173	13171	2.36 ng	#	64
45) 1,1,2,2-Tetrachloroethane	23.55	83	25476	5.10 ng	#	94
48) 4-Ethyltoluene	24.58	105	972	0.09 ng	#	46
49) 1,3,5-Trimethylbenzene	24.58	105	972	0.11 ng	#	30
50) 2-Chlorotoluene	24.70	91	1970	0.18 ng	#	47
51) 1,2,4-Trimethylbenzene	25.91	105	9172	1.01 ng	#	31
52) 1,3-Dichlorobenzene	26.46	146	940	0.13 ng	#	27
53) 1,4-Dichlorobenzene	26.67	146	1049	0.13 ng	#	27
54) 1,2-Dichlorobenzene	27.43	146	3680	0.54 ng	#	55
55) 1,2,4-Trichlorobenzene	30.63	180	24674	5.12 ng	#	90
56) Napthalene	31.18	128	87878	21.02 ng	#	87

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
57) Hexachlorobutadiene	30.87	225	52072	12.53 ng	96

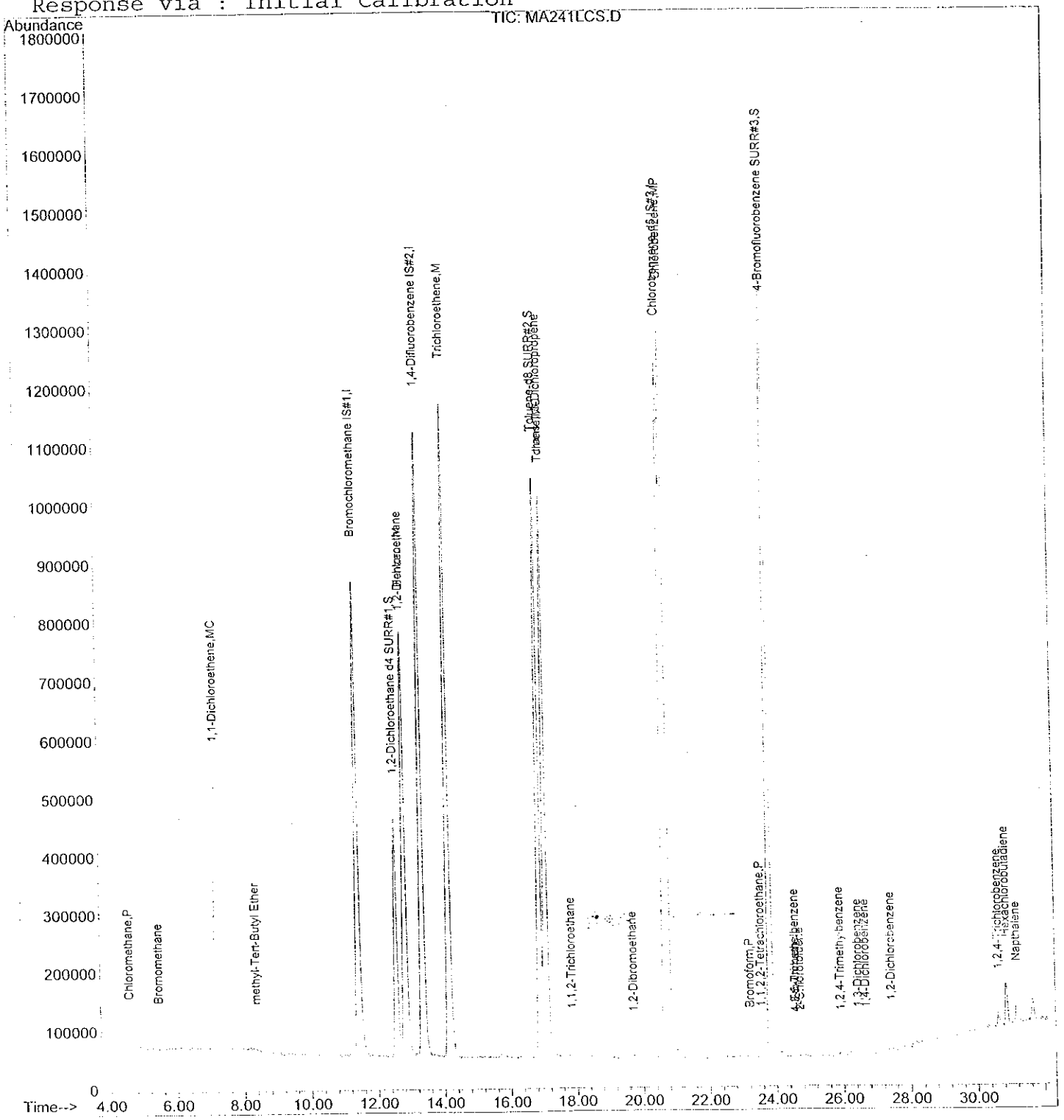
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : ~~GC/MS~~ Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration BH 11/28/01
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00 ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00 ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00 ng	0.00 107.67%

mg/m3 report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.14%					
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58 ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.83%					
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28 ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.11%					

Target Compounds					Qvalue
20) Isooctane	11.94	57	133954	NR-0.04 ng < MDL	81
27) Benzene	12.80	78	32453	0.01 ng x #↓	72
33) Toluene	17.06	92	70159	0.05 ng ✓ #	97 F
41) m,p-Xylene	21.03	106	57137	0.05 ng < MDL	99 F
42) o-Xylene	22.17	106	14664	0.01 ng x < MDL	92
48) 4-Ethyltoluene	24.40	105	31777	0.01 ng x < MDL	81
56) Napthalene	31.09	128	10078	NR 0.03 ng ✓ # NR	64 F

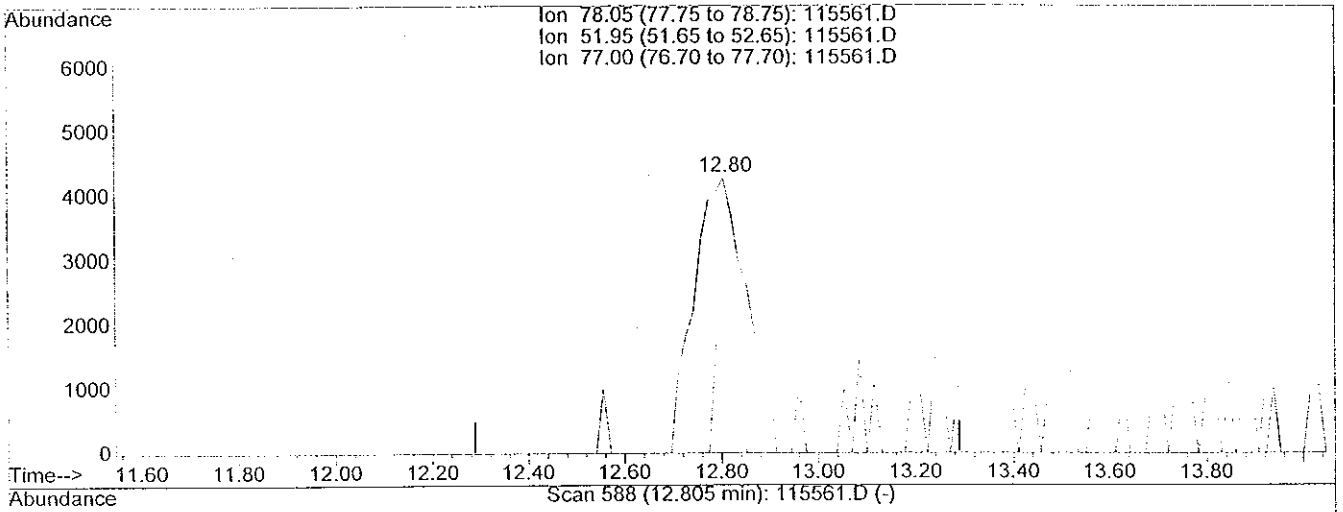
(#) = qualifier out of range (m) = manual integration
115561.D TO14S.M Wed Nov 28 16:03:11 2001

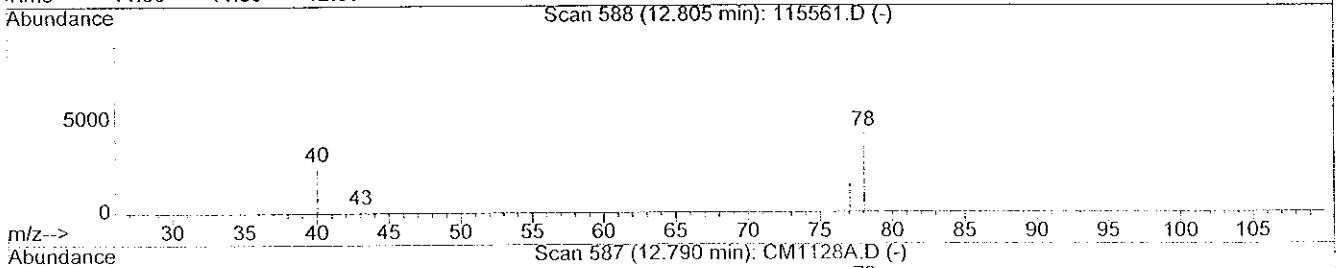
Quantitation Report (Qedit)

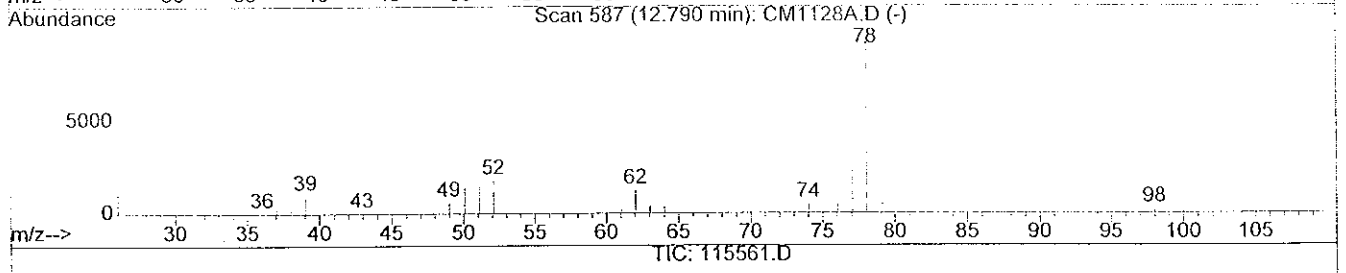
Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration







TIC: 115561.D

(27) Benzene (M)

12.80min 3.42ng

response 32453

Ion	Exp%	Act%
78.05	100	100
51.95	18.10	0.00#
77.00	24.80	15.51#
0.00	0.00	0.00

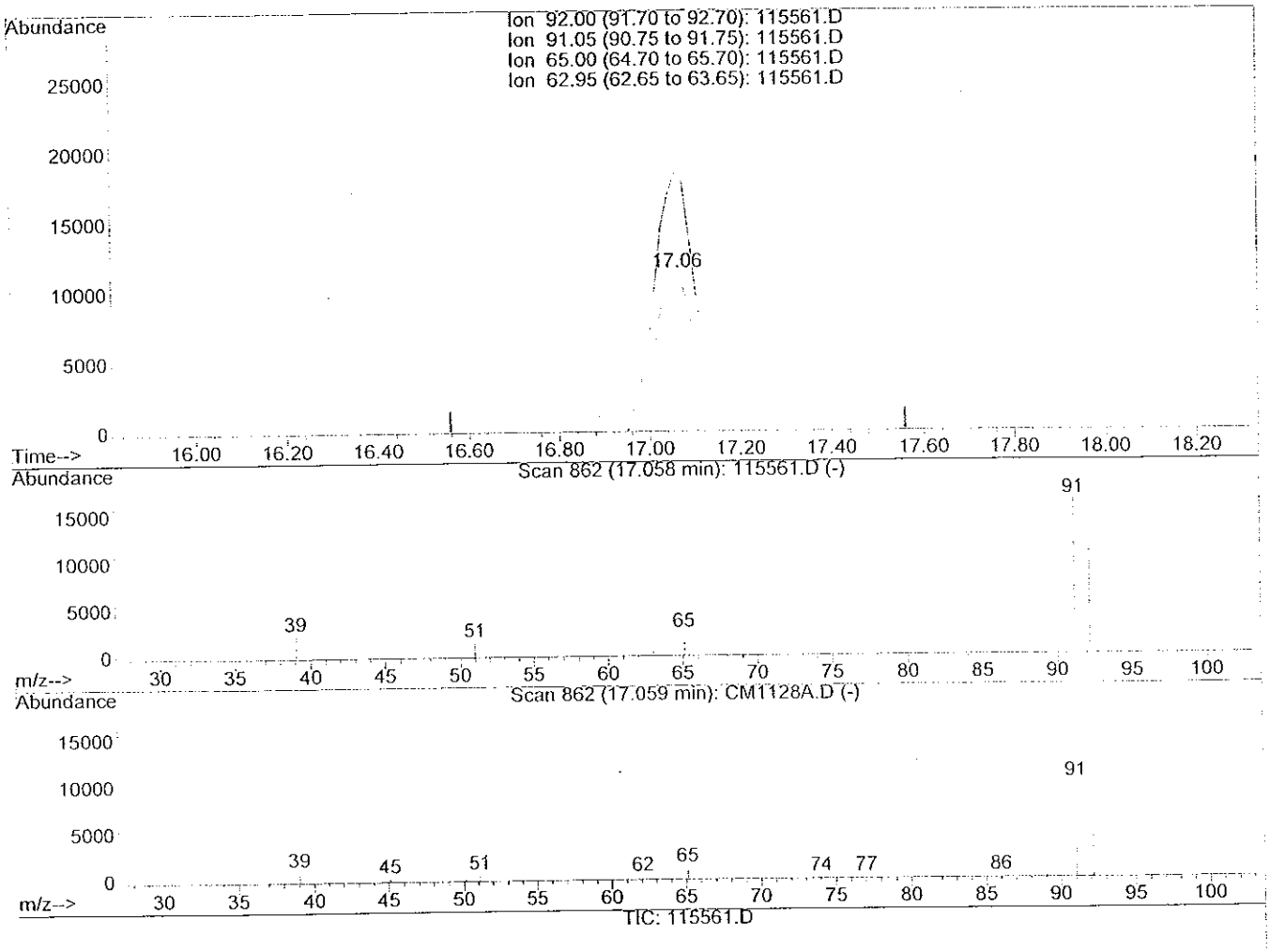
115561.D TO14S.M Wed Nov 28 16:01:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(33) Toluene (MC)

17.06min 11.53ng

response 70159

Ion	Exp%	Act%
92.00	100	100
91.05	165.10	167.52
65.00	20.80	19.74
62.95	14.20	8.83#

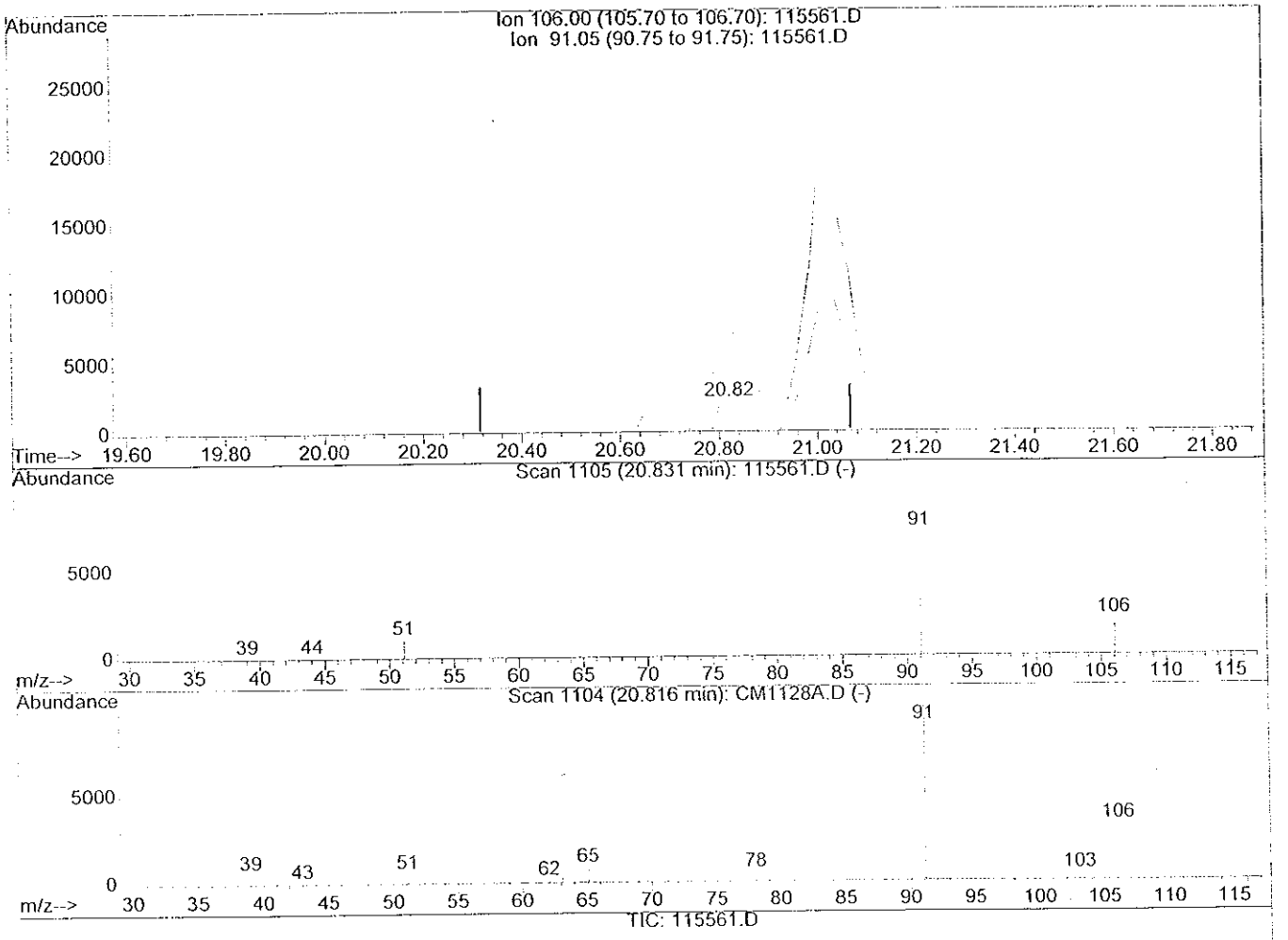
115561.D TO14S.M Wed Nov 28 16:01:22 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(40) Ethylbenzene (C)

20.82min 2.27ng

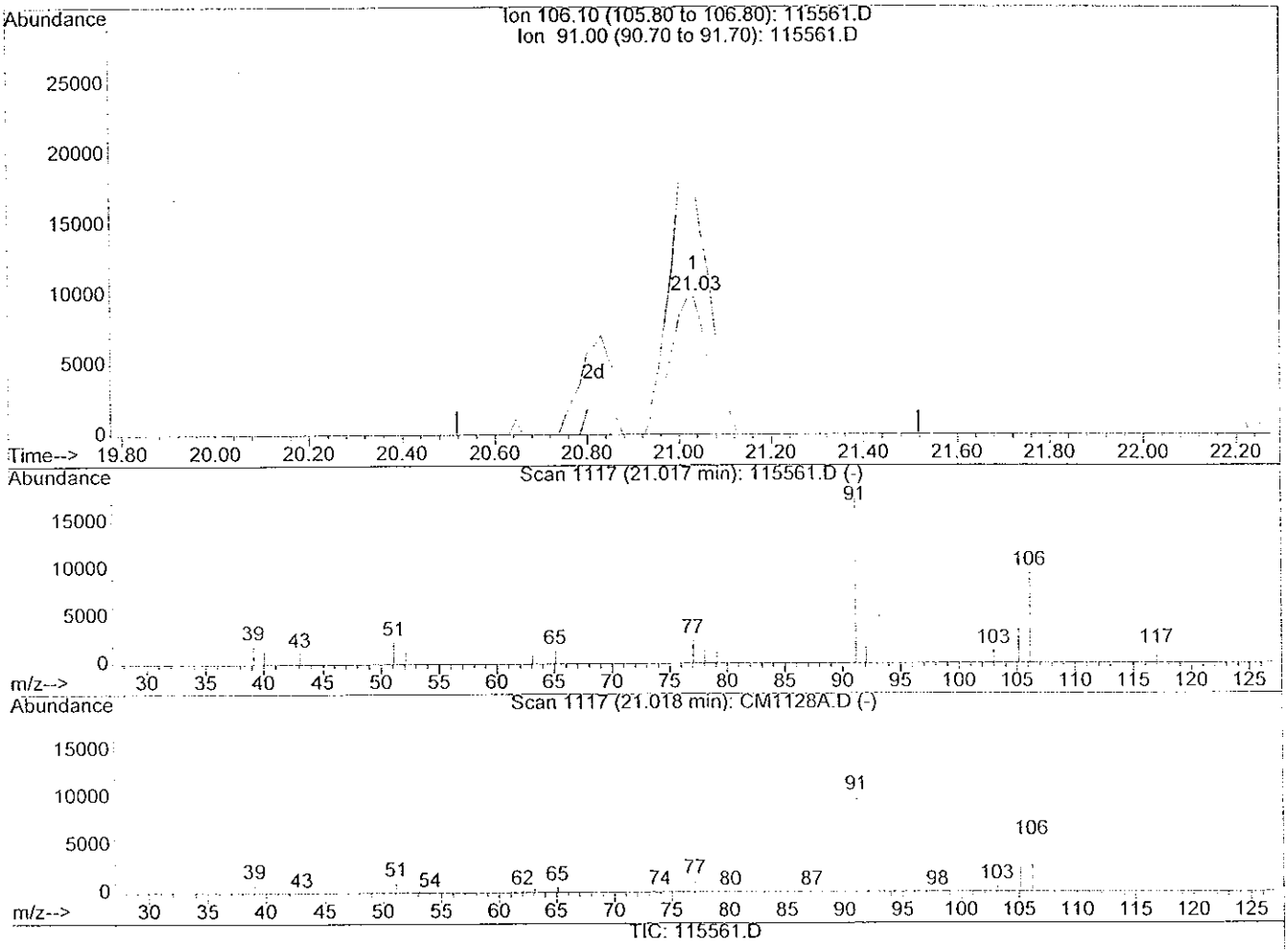
response 8193

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	486.26#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(41) m,p-Xylene

21.03min 12.30ng

response 57137

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	206.95
0.00	0.00	0.00
0.00	0.00	0.00

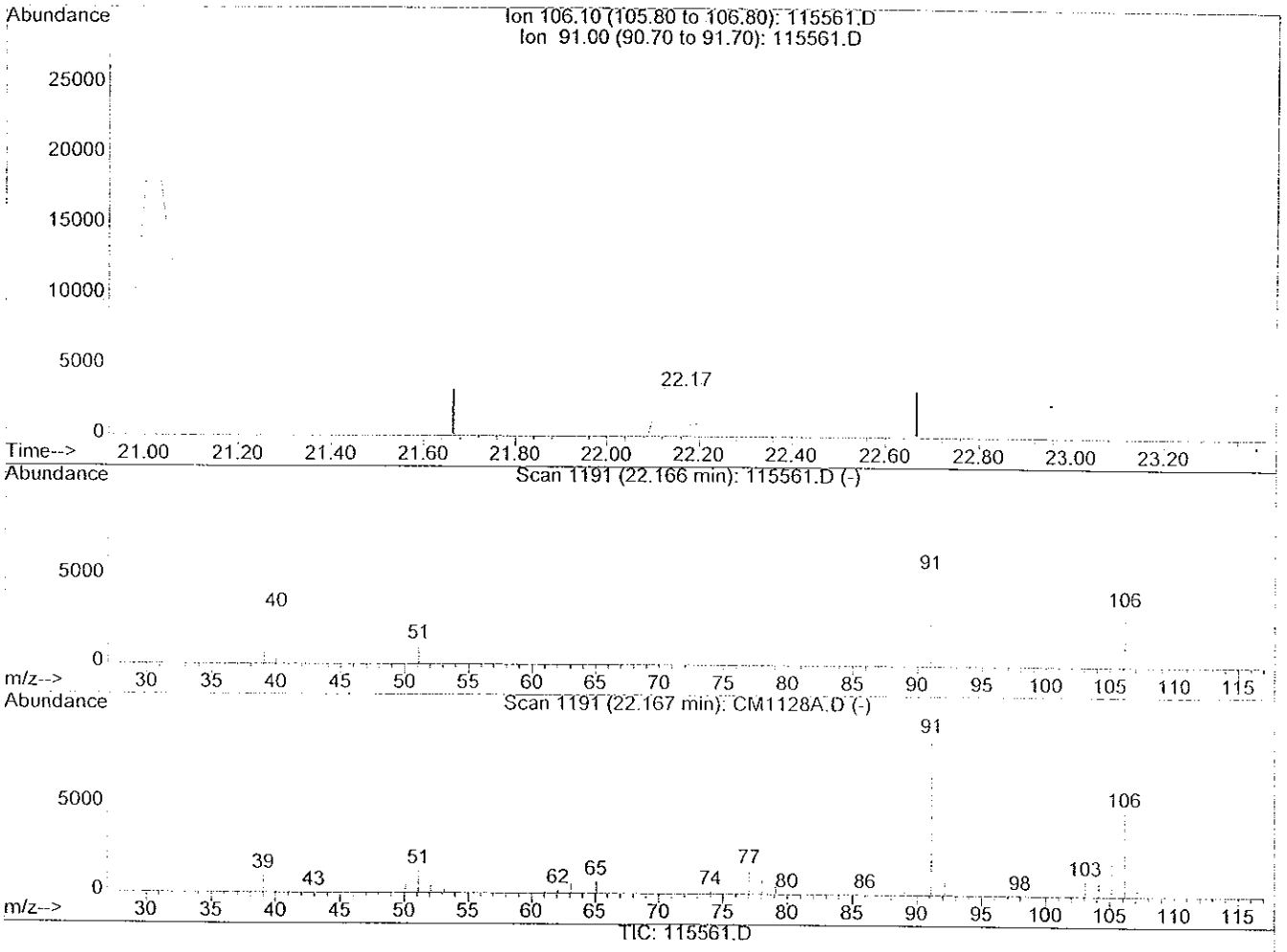
115561.D TO14S.M Wed Nov 28 16:01:45 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.17min 3.25ng

response 14664

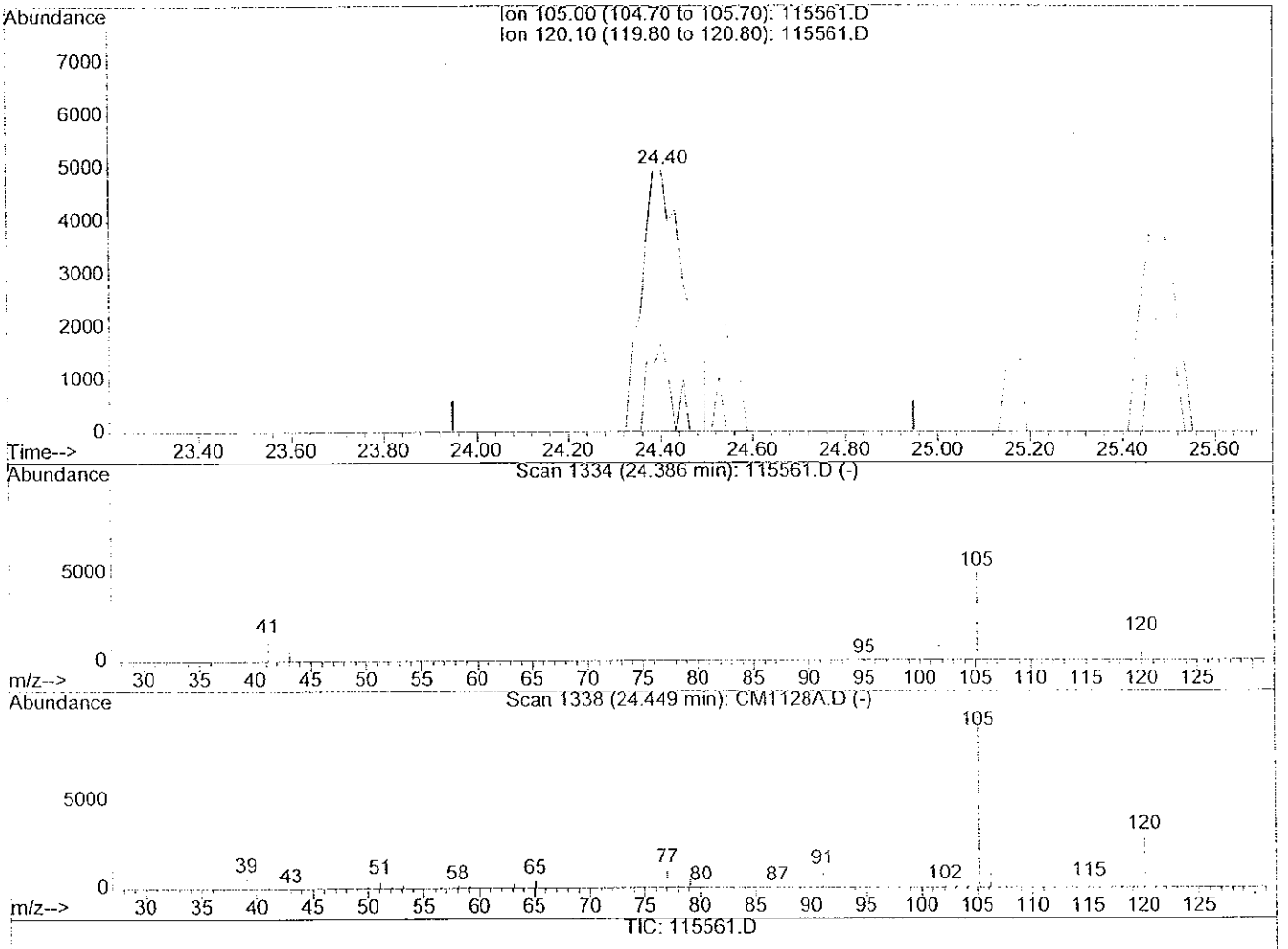
Ion	Exp%	Act%
106.10	100	100
91.00	215.80	229.19
0.00	0.00	0.00
0.00	0.00	0.00

115561.D TO14S.M Wed Nov 28 16:01:55 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.40min 2.63ng

response 31777

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

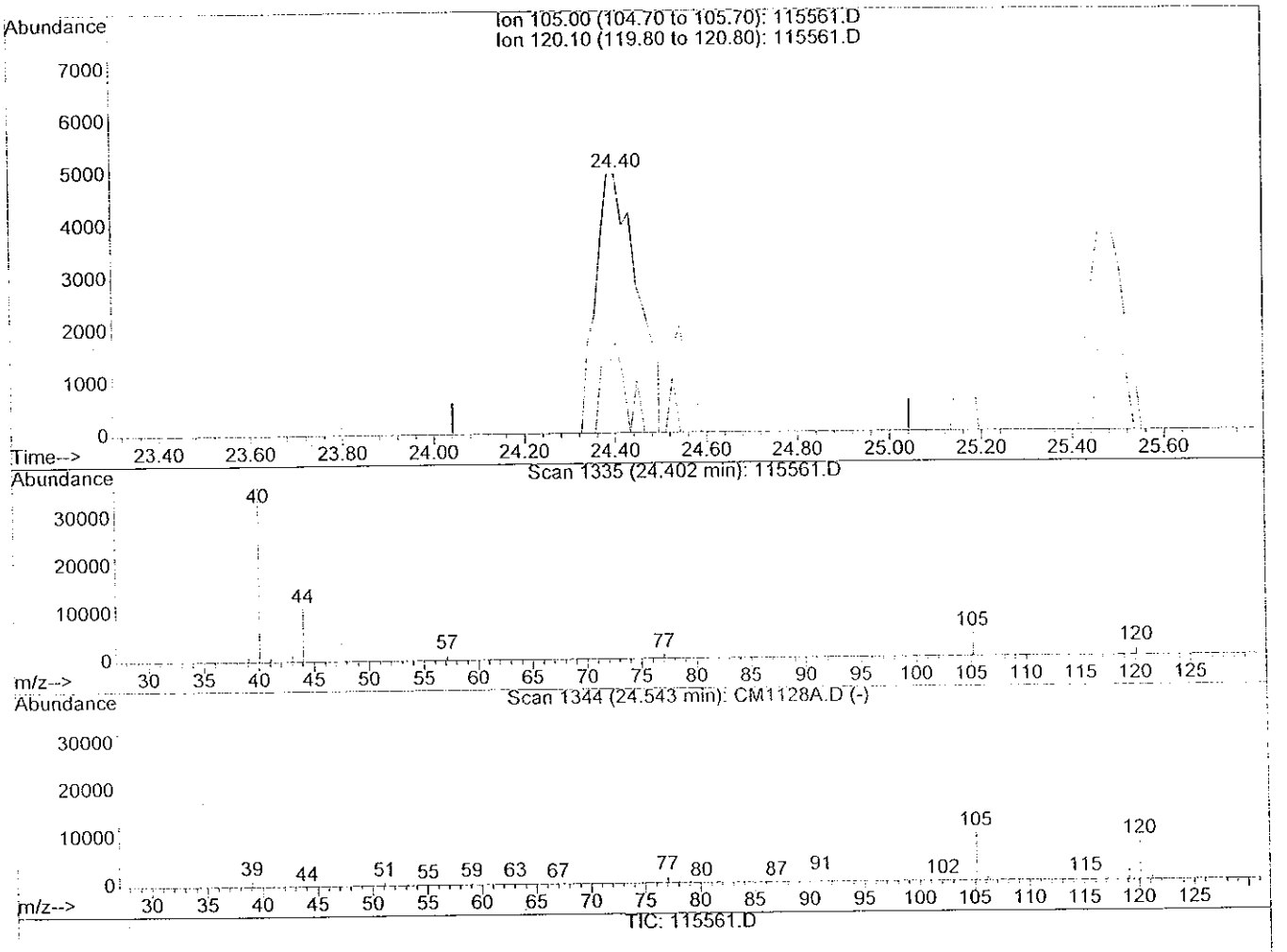
115561.D TO14S.M Wed Nov 28 16:02:05 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.40min 3.42ng

response 31777

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

before (wrong peak)

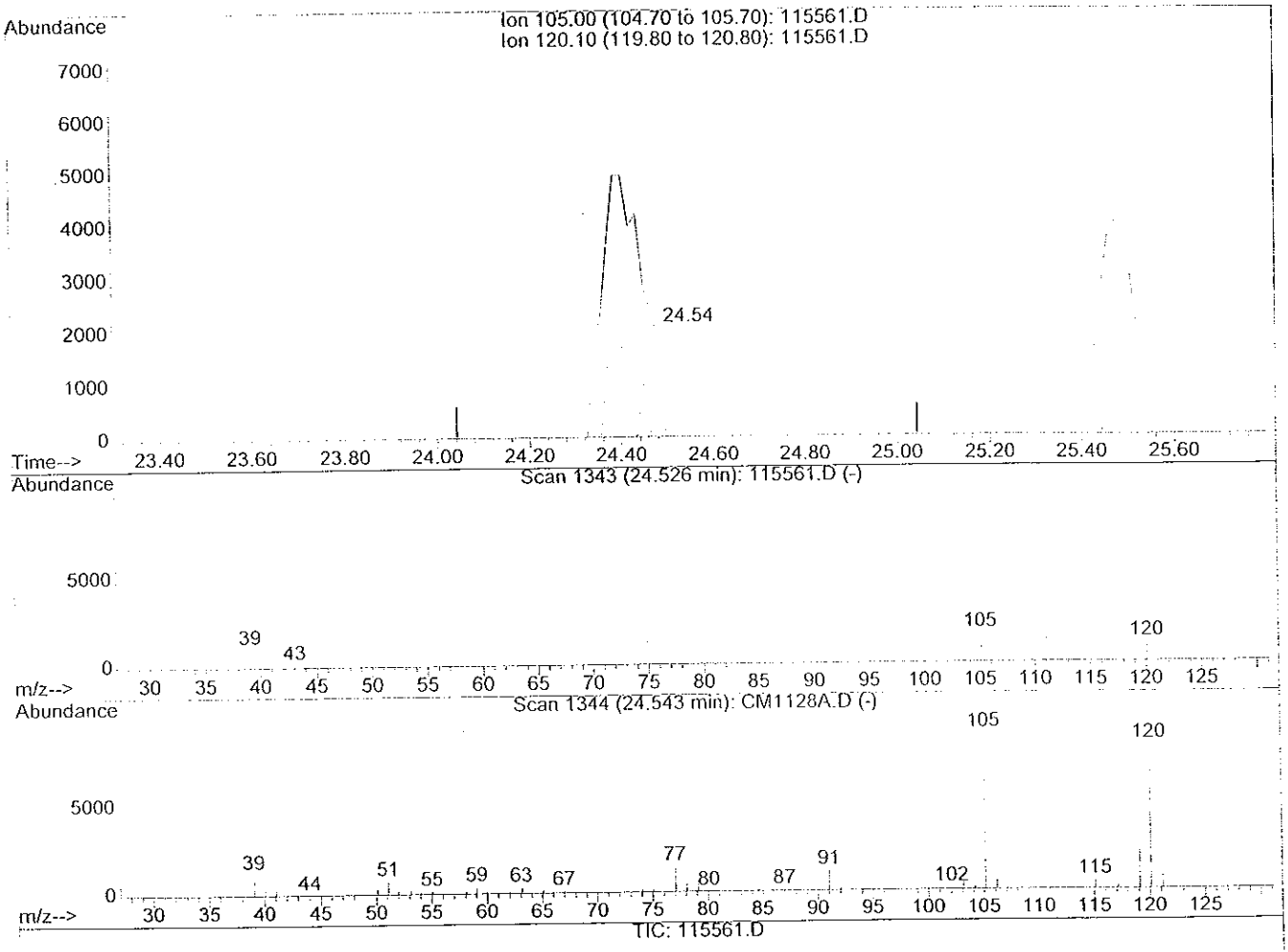
115561.D TO14S.M Wed Nov 28 16:02:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.54min 0.74ng m

response 6857

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	87.62#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/28/01

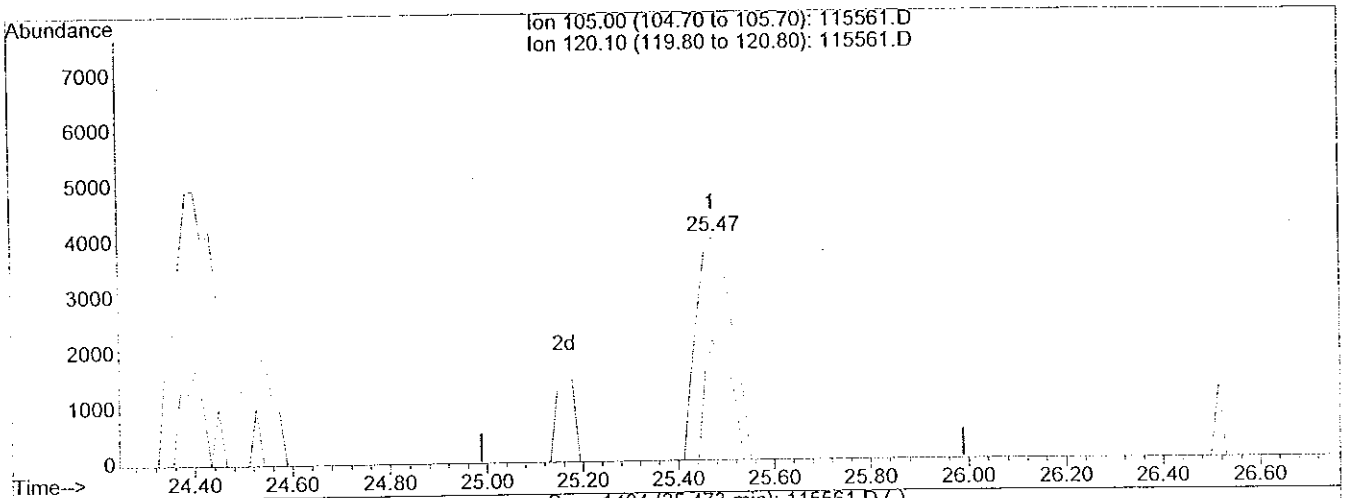
115561.D TO14S.M Wed Nov 28 16:02:27 2001

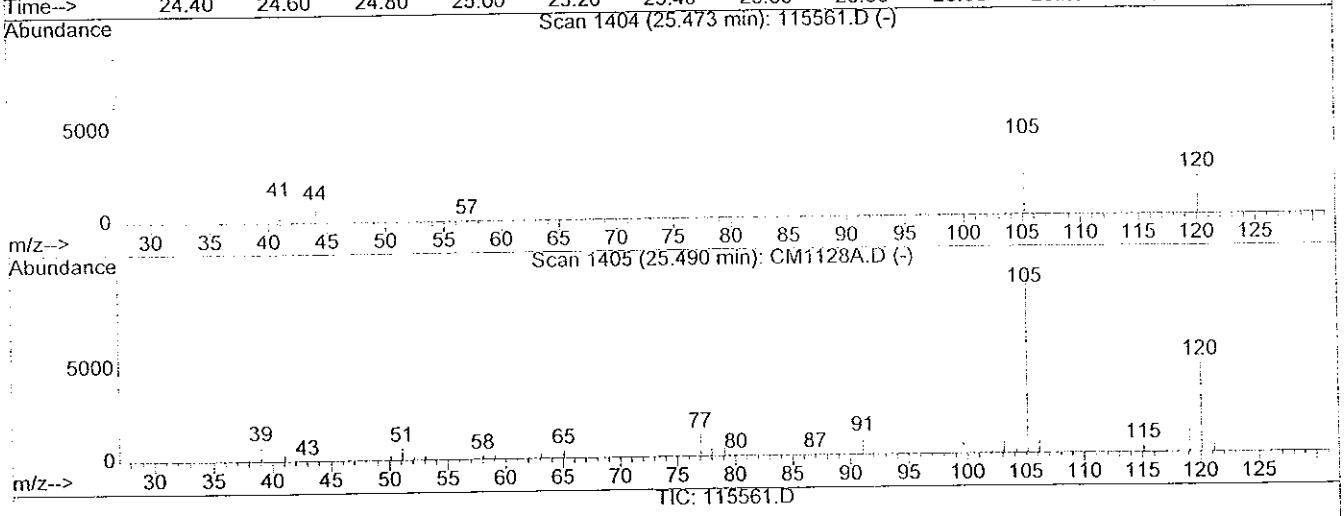
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration





(51) 1,2,4-Trimethylbenzene

25.47min 2.11ng

response 20485

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	37.51
0.00	0.00	0.00
0.00	0.00	0.00

115561.D TO14S.M Wed Nov 28 16:02:36 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 15:56 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00	ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00	ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00	ng	0.00 107.67%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.14%						
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.83%						
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28	ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.11%						

Target Compounds						Qvalue
6) Bromomethane	5.40	94	1218	0.25	ng	# 9
10) 1,1-Dichloroethene	7.17	96	978	0.25	ng	# 1
15) trans-1,2-Dichloroethene	8.92	96	952	0.23	ng	# 1
16) n-Hexane	8.72	57	39205	9.90	ng	# 3
20) Isooctane	11.94	57	133954	10.05	ng	81
24) 1,2-Dichloroethane	12.74	62	1936	0.47	ng	# 49
27) Benzene	12.80	78	32453	3.42	ng	# 72
33) Toluene	17.06	92	70159	11.53	ng	# 97
40) Ethylbenzene	20.82	106	8193	2.27	ng	# 27
41) m,p-Xylene	21.03	106	57137	12.30	ng	99
42) o-Xylene	22.17	106	14664	3.25	ng	92
48) 4-Ethyltoluene	24.40	105	31777	2.63	ng	# 81
49) 1,3,5-Trimethylbenzene	24.40	105	31777	3.42	ng	# 58
51) 1,2,4-Trimethylbenzene	25.47	105	20485	2.11	ng	89
56) Napthalene	31.09	128	10078	7.57	ng	# 64

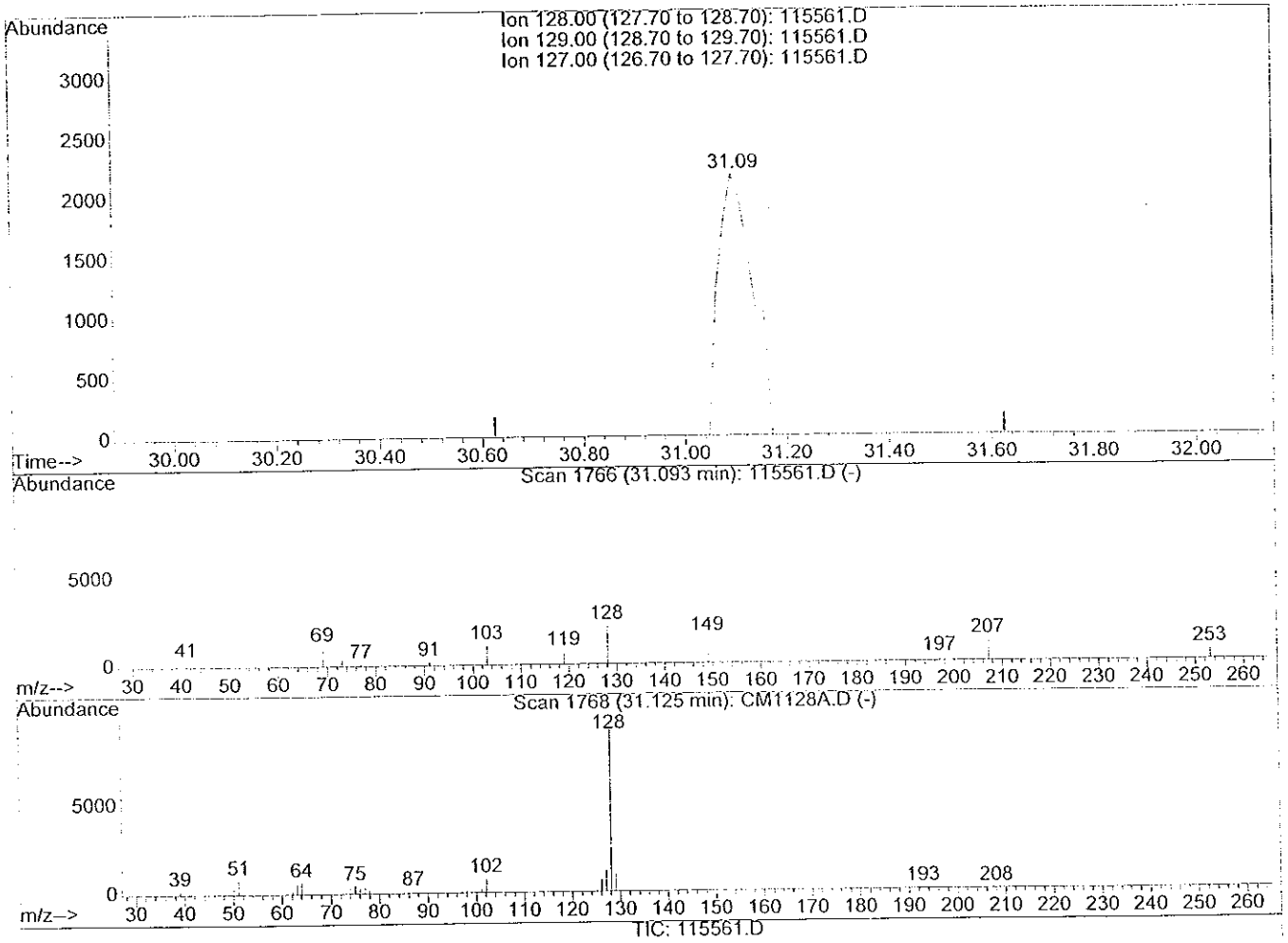
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.09min 7.57ng

response 10078

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	0.00#
127.00	15.10	0.00#
0.00	0.00	0.00

115561.D TO14S.M Wed Nov 28 16:02:54 2001

STL Pensacola / GCMS Volatiles Run Log

ate 11-28-01
atch MA8241 1 2 3
S# 8 -MSW- 26 - 3
FB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 23 - 3
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:31	14	TO14S.im	CM 1128A	50ppb		Y N	W	YES	BOH	Daily Cal Check/bfb tune/95 ion area = 2,063,000
10:59	15		MA241A BK	ST		Y N				Daily Method Blank
11:36	16		MA241 LCS	50ppb		Y N				Batch# 241 LCS
:	1		QC228	ST.		Y N	A (TO14)			500mls QC CAN check # 228
12:31	2		11586-1	X500		Y N		YES		1.0ml
13:08	3		11552-1	X500		Y N				1.0ml
13:42	4		-2			Y N				re-run X50
14:16	5		-3			Y N				
15:23	1		11556-1	ST		Y N				500mls
:	1		11557-1	ST.		Y N				
:	1		QC228	ST.		Y N				
14:50	6		11552-2R	X50		Y N				10mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis nd relinquished sample(s) back to the sample storage refrigerator.
...ally using the software and generic Forms II and VIII that are located in the daily folder.

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD | Maint. ___

Batch MA8235 1 2 3 | Batch ___ 1 2 3 | Batch ___ 1 2 3 | Sequence cont. on page

CS# 8 -MSW- 26 - 3 | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 23 - 3

BFB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- -

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47	13	BFBSTL	BFM11221	50ppb		Y N	W		BAA	Daily BFB Tune 1,136,000
15:25		TO14.m	CM	50ppb		Y N		Yes		Daily Cal Check/bfb tune (95 ion area =
13:34	15		MA235A BK	ST		Y N				Daily Method Blank
18:48	7		MA235 LCS	50ppb		Y N				Batch# 235 LCS
14:11	14		CMA0025	5ppb		Y N				25 ng. ICAL
14:48	15		CMA0100	20ppb		Y N				100 ng
15:25	16		CMA0250	50ppb		Y N				250 ng
16:03	1		CMA0500	100ppb		Y N				500 ng
16:36	2	BFBSTL	BULKTUBE	—		Y N	—			MPM Carry-over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000 ng ICAL
17:31	4	BFBSTL	BULKTUBE	—		Y N	—			MPM Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300 ng ICAL
18:26	6	BFBSTL	BULKTUBE	—		Y N	—			MPM C.O. cleanup
18:46	7	TO14.m	MA235LCS	50ppb		Y N	W			Batch #235 LCS
19:25	8		11447 -1	X10		Y N	A(TO14)			50mls - BAA
20:07	9		-2			Y N				
20:40	10		-3			Y N				
21:17	11		-4			Y N				
21:54	12		-5			Y N				
22:32	13		11511-1			Y N				
23:09	14		-2			Y N				
:						Y N				
:						Y N				BAA 11/22/01
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

** Int and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

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AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst/Date Rec'd ~~DATE OPENED~~	LOG I.D.	#o impi
502C	A304036	Acc STD	2000µg/ml	7/1999	DWD 5/18/98	7-VN 2-1	3
502A-R	A704070	Acc STD	2000µg/ml	7/1999	DWD 5/28/98	7-VN 2-2	4
8260 SURR	A11095	Restek	2500µg/ml	5/2001	AW 5/28/98	7-VN 2-3	1(
8260 IS	A9457	Restek	2500µg/ml	9/2000	DWD 5/29/98	7-VN 2-4	1(
Custom Keytones	A011115	Restek	2000µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	1(
1,4-Dioxane	A007204	Restek	2000µg/ml	2/1999	DWD 6/16/98	7-VN 2-6	1
Custom TO14 Mix	LA76943	Supelco	2500ug/ml	7/31/99	BH 7/21/98	7-VN 2-7	1(
Acrolein/Acrylonitrile	A011483	Restek	2500µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LMO~~ ~~BH~~ 7/29/98	7-VN 2-9	
8260 SURR	A11795	Restek	2500µg/ml	8/2001	DWD 10/6/98	7-VN 2-10	1(
8260 IS	A11206	Restek	2500µg/ml	6/2001	DWD 10/6/98	7-VN 2-11	1(
Matrix Spike	LA76420	Supelco	25µg/ml	8/2000	DWD 10/7/98	7-VN 2-12	1(
VOA Kit	LA78761	Supelco	2000µg/l	6/1999	DWD 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Varies	6/2000	DWD 11/1/98	7-VN 2-14	1
Benzene-d6	072-191	AccuSTD.	2000µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	1(
2-Chloroethyl vinyl ether	A8070342-20	Accustandard	200.1µg/ml	9/99	BD 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000µg/ml	4/2000	DWD 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000µg/ml	4/2000	DWD 3/9/99	7-VN 2-19	1
Custom Keytone Mix	A011115	Restek	2000µg/ml	3/2000	DWD 3/10/99	7-VN 2-20	5
8260 Calibrate Kit	Varies	Restek	Varies	6/2001	DWD 3/10/99	7-VN 2-21	
8260 Cali. Mix 1	LA80338	Supelco	2000µg/ml	12/2000	DWD 5/10/99	7-VN 2-22	
VOC Mix 6	LA80488	Supelco	2000µg/ml	4/2000	DWD 5/10/99	7-VN 2-23	
8260 Keytones	LA80762	Supelco	2000µg/ml	4/2000	DWD 5/10/99	7-VN 2-24	
Equity 8260 Cal mix 2	LA81849	Supelco	2000µg/ml	3/2000	DWD 5/14/99	7-VN 2-25	
Custom TO14 VOA Mix	LA82949	Supelco	2500µg/ml	6/2000	BDH 6/3/99	7-VN 2-26	
Equity Keytones	LA83438	Supelco	2000µg/ml	9/2000	DWD 6/9/99	7-VN 2-27	
Toluene Mix	LA81867	Supelco	2000	4/2000	DWD 6/29/99	7-VN 2-28	

* To be used if neat standard is to be kept after container is opened.

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NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	MG 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	MG 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	MG 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MG 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	MG 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varian	Varian 2002 date	DWB 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ # Ampules	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA85560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014215	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88505	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90442	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016355	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/ml	7/1/2001	6/13/03 ~~5~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016543	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810028 A810028	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Std	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	2-each	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0 mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000 µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add-ed	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01 ~~4/2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Tolueneth	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 µg/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 µg/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: BAH

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23. 1
Location: MS018 - Freezer
Solvent: MeOH - V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SUM
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SUM	A017773	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: B.D.H

Standard I.D.: 8 -MSW23 -3
Location: MS018 - Std Freezer
Solvent: MEOH - Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C112630
Project: CH2M Hill Constructors
CTO-0062, Cecil Field 103rd Street

Client Sample ID	STL Sample ID
062-SVE-E-A-1220-01-19	C112630-1

The above-referenced sample was received in good condition at STL Pensacola on December 22, 2001. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

See volatiles forms package for more detail information concerning data package.

Rick Hayes

Rick Hayes
Senior Project Manager

1/4/02

CCI NAVY RAC PMO
JAN 7 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	111 %
Surrogate - Toluene-d8	102 %
Surrogate - 4-Bromofluorobenzene	99 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
Dilution Factor	1
Prep Date	12.26.01
Prep Time	16:04
Analysis Date	12.26.01
Analysis Time	16:17
Batch ID	MAB258
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5568	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5493	110 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4733	95 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5602	112 %	86-113

SEVERN TRENT SERVICES

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REPORT OF RESULTS

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12630-3	Lab Control Standard True Value	
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12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

QC REPORT FOR AIR SAMPLES

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5459	109 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	111 %	0.5000	0.5613	112 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.5120	102 %	90-109
Surrogate - 4-Bromofluorobenzene	102 %	0.5000	0.4980	100 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	12.26.01	---	12.26.01	---	---
Prep Time	12:28	---	13:03	---	---
Analysis Date	12.26.01	---	12.26.01	---	---
Analysis Time	12:41	---	13:16	---	---
Batch ID	MAB258	MAB258	MAB258	MAB258	MAB258
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
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12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C112630 Date Received: 12-22-01

1. Was there a Chain of Custody? **Yes** No♣
2. Was Chain of Custody properly filled out and relinquished? **Yes** No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No♣ **N/A**
4. Were all samples properly labeled and identified? **Yes** No♣
5. Did samples require splitting or compositing♦? Req By: PM Client Other♦ Yes♣ **No**
6. Were samples received in proper containers for analysis requested? **Yes** No♣
7. Were all sample containers received intact? **Yes** No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ **N/A**
9. Is there sufficient volume for analysis requested? Yes No♣ **N/A (Can)**
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) Yes No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No **N/A**
12. If sent, were matrix spike bottles returned? Yes No♣ **N/A**
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ **N/A**

Airbill Number(s): 7911 6608 8822

Shipped By: FedEX

Cooler Number(s): Box CANIT 066

Shipping Charges: N/A

Cooler Weight(s): 16 #

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 12-22-01 Logged By: JC Date: 12-22-01

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C11263J

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-024

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1220-01-19	SVE Effluent	AIR	12/20/01	16:20	III/C	14 Day	1										Grab	Summa Canister	066
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK #791166088822.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	12/21/01	11:00	Federal Express	12/21/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon Sandra A Dixon	12-22-01	1025
Printed Name and Signature:			Printed Name and Signature:		

Cecil Field CTO-0062

STL Pensacola

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

C110630

Print 1 copy of this Shipping Label (using the PRINT feature from your browser) and pla.. Page 1 of 1

From: RANDY N DUMAOP (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 AUTHORITY AVE

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 21DEC01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7911 6608 8822 FORM 0201

32514-FL-US

BFM

F3 PNSA

WED
AA
Deliver by:
26DEC01

10
STL-Pensacola

Cecil Field CTO-0062

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: a
Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C112630
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	SAD	12-22-01	1526
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

\excel\sampctrl\smpcklst.xls July 13, 2001

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags are limited to X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

SEVERN TRENT SERVICES
STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks; [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL <u>and</u> analyte is not detected <u>or</u> surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

Revised 06/19/01

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension granted

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Florida, Radioactive Materials License No. G0733-1, no expiration date assigned

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01

Louisiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

State of New Jersey, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04
\word\certlist\condcert.lst revised 12/12/01

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 112630
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Dec. 22, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1220-01-19	112630-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Jan. 3, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Contract : NA
Project : NA
Site : NA
Location : NA
Group : NA
Lab File ID (Standard): CM1226A.D
Date Analyzed : 26 Dec 2001
Instrument ID : GC/MS Ins
Time Analyzed : 12:06
GC Column : CAP
ID : MARI
Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
126301	062SVEEA1220011	111	102	99	0	0	0	0
MA258ABK	VBLKMA\ DAILY M	111	100	102	0	0	0	0
MA258LCS	VLCSMA\BATCH #2	112	102	100	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Jan 03 13:53:40 2002
Response via : Multiple Level Calibration

Compound Name	Conc	Added	Recv(%)	QC Range	Q
10) MC 1,1-Dichloroethene	236.66	250.00	94.66	58 to 138%	[ ]
27) M Benzene	278.40	250.00	111.36	87 to 116%	[ ]
28) M Trichloroethene	272.93	250.00	109.17	85 to 116%	[ ]
33) MC Toluene	280.09	250.00	112.04	86 to 113%	[ ]
39) MP Chlorobenzene	274.66	250.00	109.86	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	112630					
Batch	MAB258	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		278.4	0.5000	0.5568	111%	87-116%
Chlorobenzene		274.66	0.5000	0.5493	110%	88-111%
1,1-Dichloroethene		236.66	0.5000	0.4733	95%	58-138%
Toluene		280.09	0.5000	0.5602	112%	86-113%
Trichloroethene		272.93	0.5000	0.5459	109%	85-116%
1,2-Dichloroethane-d4		280.63	0.5000	0.5613	112%	61-140%
Toluene-d8		256.02	0.5000	0.5120	102%	90-109%
4-Bromofluorobenzene		249.02	0.5000	0.4980	100%	87-112%

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: MA258ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 12/26/01 Time Analyzed: 12:41

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\BATCH #258 L	MA258LCS.D	13:16
02	SVEEA	062SVEEA12200119\126	126301.D	16:17

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: BFM1122P.D BFB Injection Date: 11/22/01

Instrument ID: MARILYN BFB Injection Time: 12:47

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.3
75	30.0 - 66.0% of mass 95	44.3
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 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.6 (6.8)1
176	93.0 - 101.0% of mass 174	67.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	11/22/01	[illegible]
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	11/22/01	14:48
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	11/22/01	15:25
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	11/22/01	16:03
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	11/22/01	16:58
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	11/22/01	17:53

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: BFM1226A.D BFB Injection Date: 12/26/01

Instrument ID: MARILYN BFB Injection Time: 11:44

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.4
75	30.0 - 66.0% of mass 95	45.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.1
175	4.0 - 9.0% of mass 174	4.5 (7.2)1
176	93.0 - 101.0% of mass 174	62.2 (98.6)1
177	5.0 - 9.0% of mass 176	4.8 (7.8)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	VSTD0250MA	VSTD050\DAILY CALIB.	CM1226A.D	12/26/01	12:06
02	VBLKMA	VBLKMA\ DAILY METHO	MA258ABK.D	12/26/01	12:41
03	LCS AND 2ND	VLCSMA\BATCH #258 L	MA258LCS.D	12/26/01	13:16
04	SVEEA	062SVEEA12200119\126	126301.D	12/26/01	16:17

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed Jan 02 13:16:02 2002
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
							L	M= 1.933	R^2=0.998	
								B= -0.311		
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

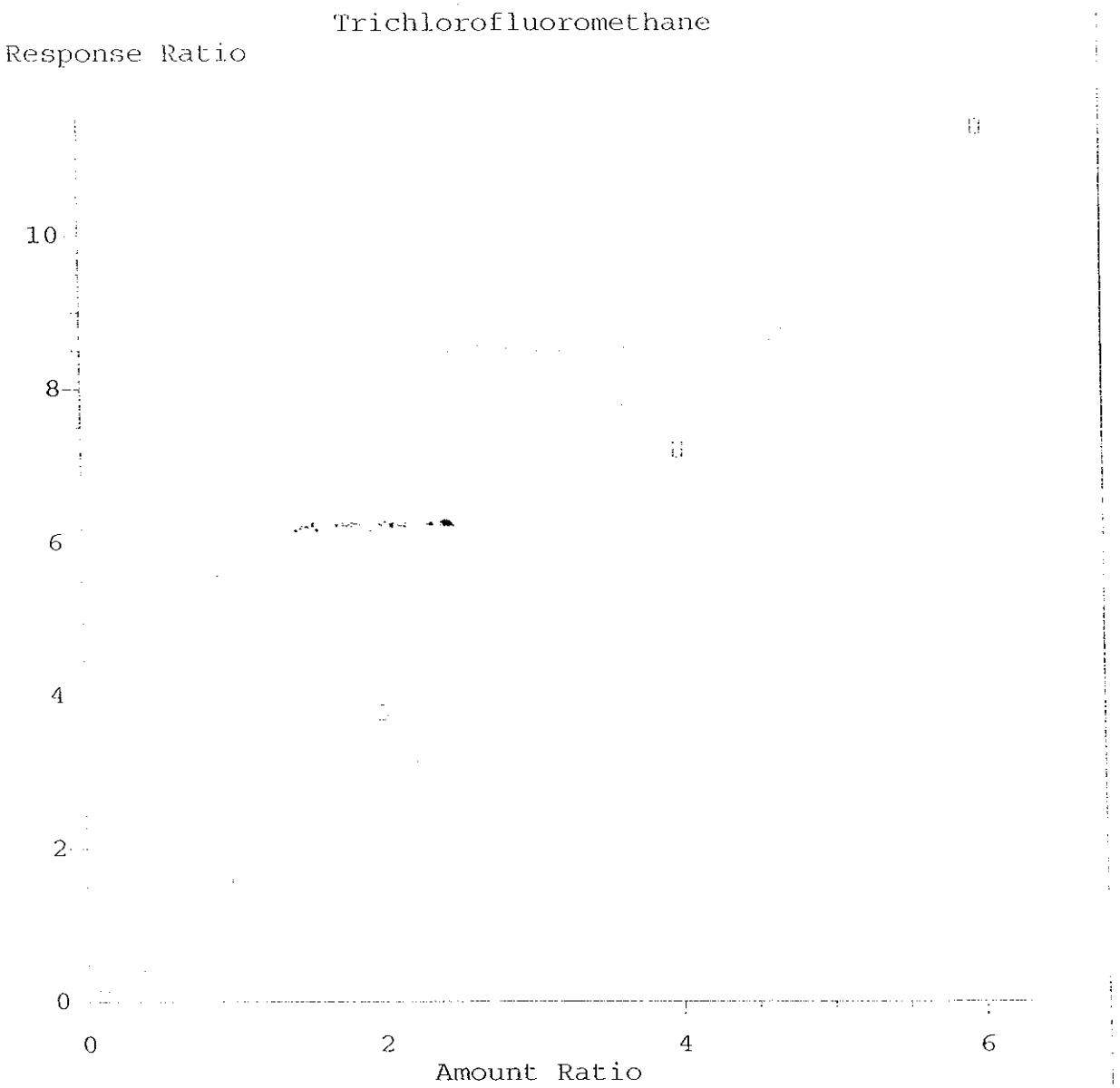
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed Jan 02 13:16:02 2002
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

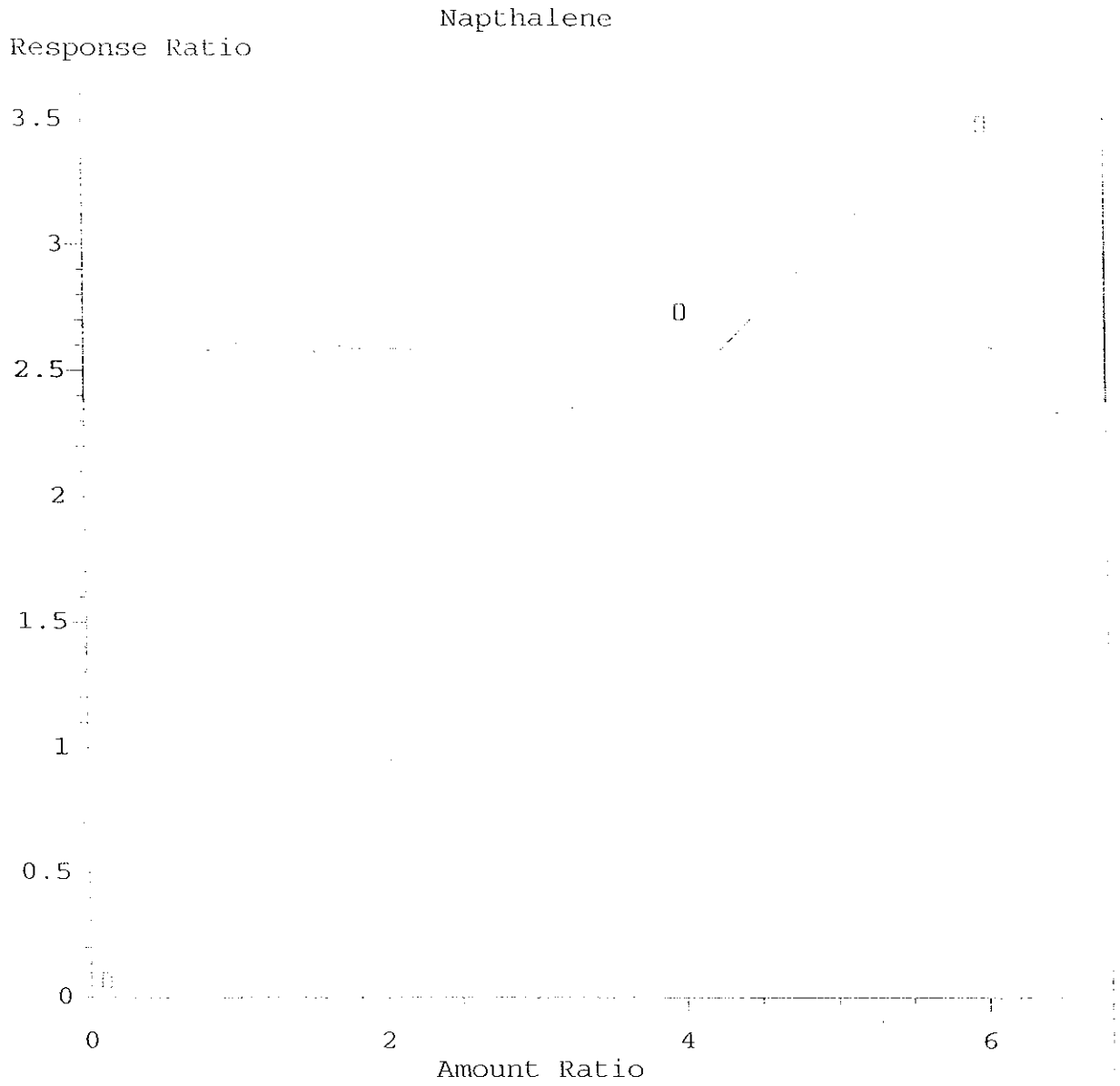
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Resp Ratio = 1.93e+000 * Amt - 3.11e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Wed Jan 02 13:16:02 2002



Resp Ratio = 6.05e-001 * Amt + 1.57e-003
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Wed Jan 02 13:16:02 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	87	0.00
2		Dichlorodifluoromethane	1.212	1.103	9.0#	87	0.00
3		Dichlorotetrafluoroethane	1.827	1.533	16.1#	72	0.00
4	P	Chloromethane	0.869	0.851	2.1#	83	0.00
5	C	Vinyl chloride	0.833	0.871	-4.6#	85	0.00
6		Bromomethane	1.404	1.298	7.5#	80	0.00
7		Chloroethane	0.562	0.569	-1.2	84	0.00
8		Trichlorofluoromethane	1.456	1.502	-3.2#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	1.957	5.6#	80	0.00
10	MC	1,1-Dichloroethene	1.123	1.097	2.3#	81	0.00
11		Iodomethane	0.000	0.000	0.0	126	0.00
12		Methylene chloride	1.450	1.606	-10.8#	90	0.00
13		Carbon disulfide	3.024	3.077	-1.8	85	0.00
14		methyl-Tert-Butyl Ether	1.340	1.656	-23.6#	99	0.00
15		trans-1,2-Dichloroethene	1.202	1.194	0.7	81	0.00
16		n-Hexane	1.152	1.060	8.0#	77	0.00
17	P	1,1-Dichloroethane	1.981	2.044	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	1.581	1.707	-8.0#	89	0.00
19	C	Chloroform	2.506	2.706	-8.0#	88	0.00
20		Isooctane	3.877	3.649	5.9#	81	0.00
21		1,1,1-Trichloroethane	2.095	2.259	-7.8#	88	[illegible]
22		Carbon tetrachloride	2.252	2.397	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.221	-14.5#	97	0.00
24		1,2-Dichloroethane	1.186	1.414	-19.2#	93	0.00
25		1,2-Dibromoethane	1.854	2.169	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	86	0.00
27	M	Benzene	0.713	0.766	-7.4#	85	0.00
28	M	Trichloroethene	0.400	0.414	-3.5#	82	0.00
29	C	1,2-Dichloropropane	0.299	0.325	-8.7#	85	0.00
30		Bromodichloromethane	0.688	0.801	-16.4#	90	0.00
31		cis-1,3-Dichloropropene	0.434	0.491	-13.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.774	0.785	-1.4	87	0.00
33	MC	Toluene	0.458	0.477	-4.1#	82	0.00
34		trans-1,3-Dichloropropene	0.335	0.408	-21.8#	92	0.00
35		1,1,2-Trichloroethane	0.278	0.328	-18.0#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.489	0.491	-0.4	80	0.00
38		Dibromochloromethane	0.639	0.740	-15.8#	88	0.00
39	MP	Chlorobenzene	0.880	0.926	-5.2#	83	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.366	-3.7#	82	0.00
41		m,p-Xylene	0.454	0.472	-4.0#	82	0.00
42		o-Xylene	0.442	0.461	-4.3#	82	0.00
43		Styrene	0.686	0.730	-6.4#	83	0.00
44	P	Bromoform	0.581	0.695	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.682	-31.2#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.906	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	0.099	0.136	-37.4#	98	0.00
48		4-Ethyltoluene	1.181	1.159	1.9	81	0.00
49		1,3,5-Trimethylbenzene	0.909	0.951	-4.6#	87	0.00
50		2-Chlorotoluene	1.162	1.253	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	0.949	1.004	-5.8#	83	0.00
52		1,3-Dichlorobenzene	0.782	0.825	-5.5#	82	0.00
53		1,4-Dichlorobenzene	0.824	0.867	-5.2#	82	0.00
54		1,2-Dichlorobenzene	0.715	0.781	-9.2#	85	0.00
55		1,2,4-Trichlorobenzene	0.502	0.562	-12.0#	89	0.00
56		Napthalene	0.601	0.764	-27.1#	98	0.00
57		Hexachlorobutadiene	0.433	0.465	-7.4#	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	87	0.00
2		Dichlorodifluoromethane	250.000	227.418	9.0#	87	0.00
3		Dichlorotetrafluoroethane	250.000	209.806	16.1#	72	0.00
4	P	Chloromethane	250.000	244.848	2.1#	83	0.00
5	C	Vinyl chloride	250.000	261.263	-4.5#	85	0.00
6		Bromomethane	250.000	231.084	7.6#	80	0.00
7		Chloroethane	250.000	253.060	-1.2	84	0.00
8		Trichlorofluoromethane	250.000	230.745	7.7#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	235.976	5.6#	80	0.00
10	MC	1,1-Dichloroethene	250.000	244.118	2.4#	81	0.00
11		Iodomethane	-1.000	0.000	0.0	126	0.00
12		Methylene chloride	250.000	276.893	-10.8#	90	0.00
13		Carbon disulfide	250.000	254.356	-1.7	85	0.00
14		methyl-Tert-Butyl Ether	250.000	308.871	-23.5#	99	0.00
15		trans-1,2-Dichloroethene	250.000	248.256	0.7	81	0.00
16		n-Hexane	250.000	230.038	8.0#	77	0.00
17	P	1,1-Dichloroethane	250.000	257.884	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	250.000	269.897	-8.0#	89	0.00
19	C	Chloroform	250.000	270.016	-8.0#	88	0.00
20		Isooctane	250.000	235.305	5.9#	81	0.00
21		1,1,1-Trichloroethane	250.000	269.634	-7.9#	88	0.00
22		Carbon tetrachloride	250.000	266.121	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	286.405	-14.6#	97	0.00
24		1,2-Dichloroethane	250.000	298.001	-19.2#	93	0.00
25		1,2-Dibromoethane	250.000	292.421	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	86	0.00
27	M	Benzene	250.000	268.645	-7.5#	85	0.00
28	M	Trichloroethene	250.000	258.595	-3.4#	82	0.00
29	C	1,2-Dichloropropane	250.000	271.914	-8.8#	85	0.00
30		Bromodichloromethane	250.000	290.840	-16.3#	90	0.00
31		cis-1,3-Dichloropropene	250.000	282.581	-13.0#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.461	-1.4	87	0.00
33	MC	Toluene	250.000	260.569	-4.2#	82	0.00
34		trans-1,3-Dichloropropene	250.000	304.788	-21.9#	92	0.00
35		1,1,2-Trichloroethane	250.000	294.723	-17.9#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	250.938	-0.4	80	0.00
38		Dibromochloromethane	250.000	289.495	-15.8#	88	0.00
39	MP	Chlorobenzene	250.000	263.269	-5.3#	83	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.212	-3.7#	82	0.00
41		m,p-Xylene	500.000	519.173	-3.8#	82	0.00
42		o-Xylene	250.000	261.066	-4.4#	82	0.00
43		Styrene	250.000	265.785	-6.3#	83	0.00
44	P	Bromoform	250.000	298.993	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	327.851	-31.1#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	256.527	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	250.000	343.424	-37.4#	98	0.00
48		4-Ethyltoluene	250.000	245.225	1.9	81	0.00
49		1,3,5-Trimethylbenzene	250.000	261.435	-4.6#	87	0.00
50		2-Chlorotoluene	250.000	269.620	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	250.000	264.727	-5.9#	83	0.00
52		1,3-Dichlorobenzene	250.000	263.632	-5.5#	82	0.00
53		1,4-Dichlorobenzene	250.000	262.914	-5.2#	82	0.00
54		1,2-Dichlorobenzene	250.000	272.841	-9.1#	85	0.00
55		1,2,4-Trichlorobenzene	250.000	279.641	-11.9#	89	0.00
56		Napthalene	250.000	320.069	-28.0#	98	0.00
57		Hexachlorobutadiene	250.000	268.495	-7.4#	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID (Standard): CM1226A.D Date Analyzed: 12/26/01

Instrument ID: MARILYN Time Analyzed: 12:06

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	653005	11.33	2555779	13.28	1973430	20.59
	UPPER LIMIT	1306010	11.83	5111558	13.78	3946860	21.09
	LOWER LIMIT	326503	10.83	1277890	12.78	986715	20.09
	EPA SAMPLE NO.						
01	VBLKMA	592443	11.35	2281050	13.29	1754873	20.59
02	LCS AND 2ND	775359	11.36	3018922	13.29	2352924	20.59
03	SVEEA	829999	11.38	3343793	13.29	2589434	20.58

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01
Batch MA235 1 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

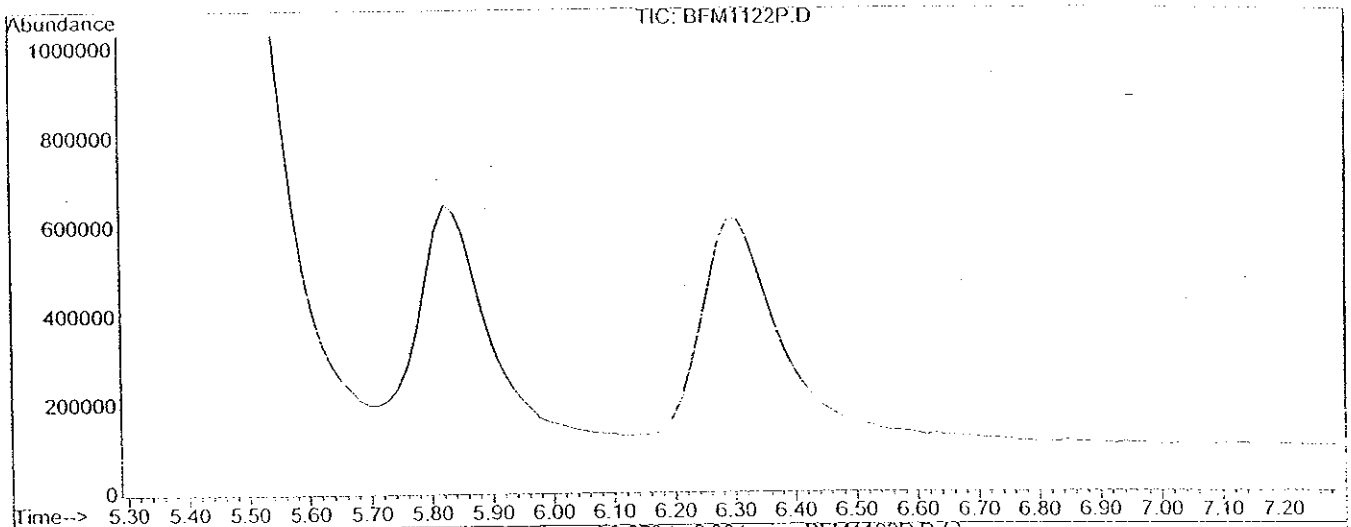
Method TO14 /8260AIR /8260WATER /624MOD
Batch 1 2 3
AIR-SPK 8 -MSW- 23 - 3
W-SPK -MSW- -

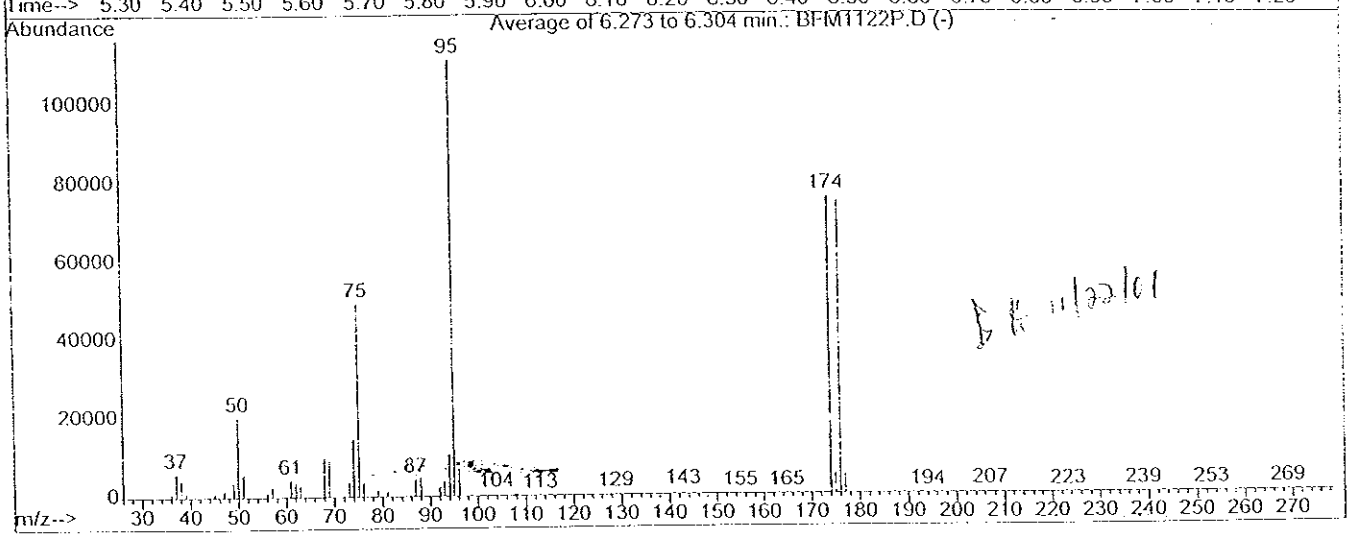
Maint. ___
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47			BFM1220	50ppb			W			Daily BFB Tune 1,136,000
15:25		TO14.m	CM	50ppb		Y N		Yes		Daily Cal Check/bfb tune 95 ion area =
13:34	15		MA235A BK	ST		Y N				Daily Method Blank
18:48	7		MA235 LCS	50ppb		Y N				Batch# 235 LCS
14:11	14		CMA0025	5ppb		Y N				25 ng. ICAL
14:48	15		CMA0100	20ppb		Y N				100 ng
15:25	16		CMA0250	50ppb		Y N				250 ng
16:03	1		CMA0500	100ppb		Y N				500 ng
16:36	2	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000 ng ICAL
17:31	4	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300 ng ICAL
18:26	6	BFBSTL	BLKTUBE	—		Y N	—			MPM C.O. cleanup
18:48	7	TO14.m	MA235LCS	50ppb		Y N	W			Batch #235 LCS
19:25	8		11447 -1	X10		Y N	A(TO14)			50mb - BAG
20:02	9		-2			Y N				
20:40	10		-3			Y N				
21:17	11		-4			Y N				
21:54	12		-5			Y N				
22:32	13		11519-1			Y N				
23:09	14		-2			Y N				
:						Y N				
:						Y N				BH 11/22/01
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and returned back to the sample storage refrigerator.

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst. : GC/MS I
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 49 (6.29 min)
Average of 3 scans: 48,49,50 minus background scan 29 (5.98 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	20396	PASS
75	95	30	60	44.3	49232	PASS
95	95	100	100	100.0	111169	PASS
96	95	5	9	6.3	7014	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.3	75908	PASS
175	174	5	9	6.8	5127	PASS
176	174	95	101	98.8	75024	PASS
177	176	5	9	6.6	4948	PASS

BFM1122P.D TO14S.M Thu Nov 22 12:55:43 2001

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1075	61.00	4393	86.95	4439	176.95	4948
37.05	6063	62.05	3859	88.00	4999		
38.05	4536	63.00	3038	92.00	2494		
39.05	1246	68.00	10184	93.00	3964		
45.00	1133	69.00	9431	94.05	10828		
46.95	1809	73.05	3941	95.00	111169		
48.95	3843	74.00	14781	96.05	7014		
49.95	20396	75.05	49232	142.90	715		
51.00	5842	76.00	3752	173.95	75908		
56.05	1288	79.00	1925	174.95	5127		
57.05	2719	81.00	1490	175.95	75024		

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

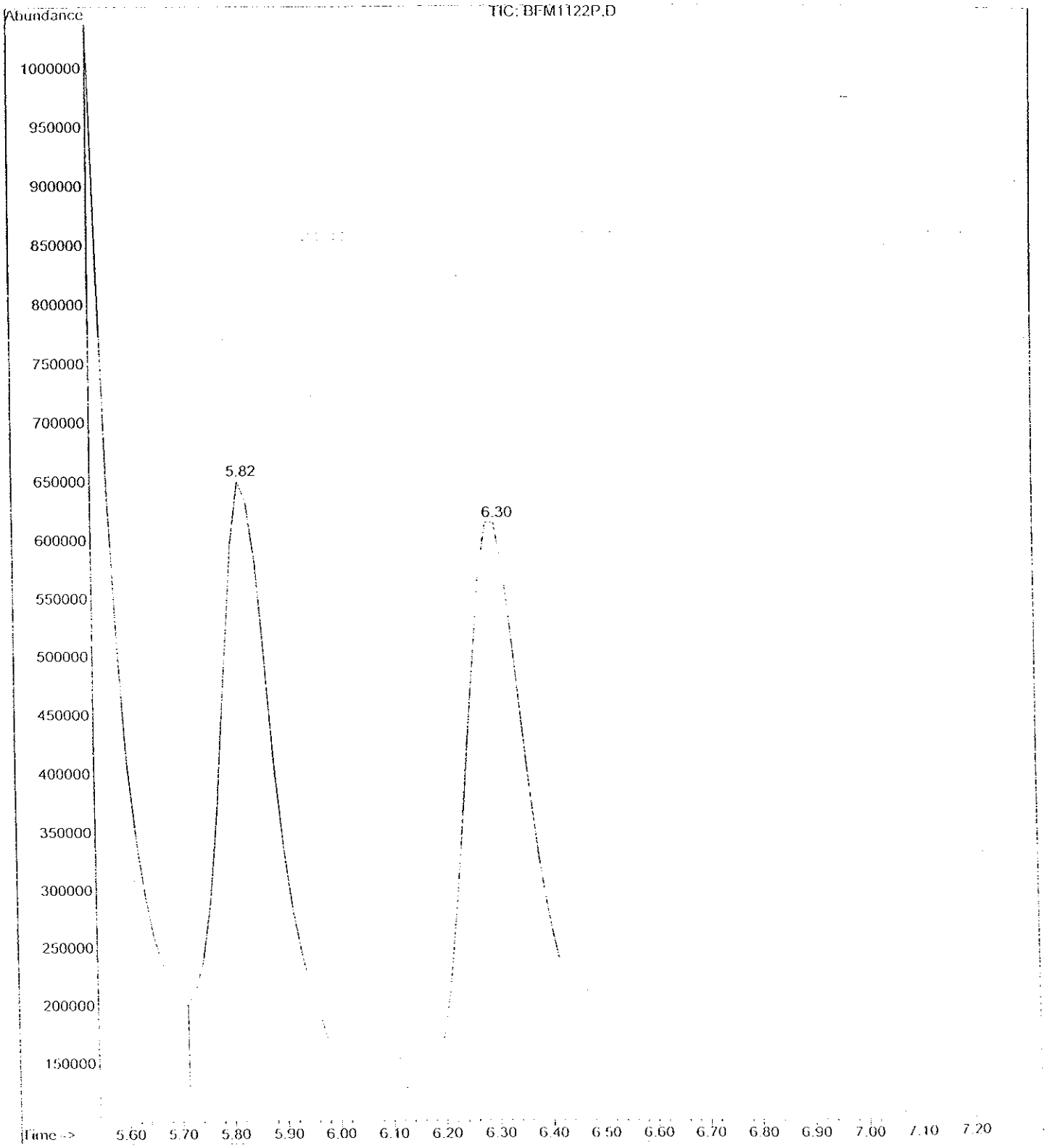
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

Sum of corrected areas: 8872066

BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240



BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:03 2001
Response via : Multiple Level Calibration

passed BH 11/23/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	1.212	1.108	8.6#	100	0.00
3		Dichlorotetrafluoroethane	1.827	1.858	-1.7	100	0.00
4	P	Chloromethane	0.869	0.893	-2.8#	100	0.00
5	C	Vinyl chloride	0.833	0.893	-7.2#	100	0.00
6		Bromomethane	1.404	1.415	-0.8	100	0.00
7		Chloroethane	0.562	0.594	-5.7#	100	0.00
8		Trichlorofluoromethane	1.456	1.497	-2.8#	100	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.144	-3.4#	100	0.00
10	MC	1,1-Dichloroethene	1.123	1.177	-4.8#	100	0.00
11		Iodomethane	0.000	0.000	0.0	100	0.00
12		Methylene chloride	1.450	1.566	-8.0#	100	0.00
13		Carbon disulfide	3.024	3.165	-4.7#	100	0.00
14		methyl-Tert-Butyl Ether	1.340	1.457	-8.7#	100	0.00
15		trans-1,2-Dichloroethene	1.202	1.291	-7.4#	100	0.00
16		n-Hexane	1.152	1.205	-4.6#	100	0.00
17	P	1,1-Dichloroethane	1.981	2.101	-6.1#	100	0.00
18		cis-1,2-Dichloroethene	1.581	1.682	-6.4#	100	0.00
19	C	Chloroform	2.506	2.674	-6.7#	100	0.00
20		Isooctane	3.877	3.920	-1.1	100	0.00
21		1,1,1-Trichloroethane	2.095	2.242	-7.0#	100	0.00
22		Carbon tetrachloride	2.252	2.407	-6.9#	100	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.098	-3.0#	100	0.00
24		1,2-Dichloroethane	1.186	1.331	-12.2#	100	0.00
25		1,2-Dibromoethane	1.854	2.139	-15.4#	100	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	100	0.00
27	M	Benzene	0.713	0.773	-8.4#	100	0.00
28	M	Trichloroethene	0.400	0.434	-8.5#	100	0.00
29	C	1,2-Dichloropropane	0.299	0.328	-9.7#	100	0.00
30		Bromodichloromethane	0.688	0.770	-11.9#	100	0.00
31		cis-1,3-Dichloropropene	0.434	0.485	-11.8#	100	0.00
32	S	Toluene-d8 SURR#2	0.774	0.779	-0.6	100	0.00
33	MC	Toluene	0.458	0.501	-9.4#	100	0.00
34		trans-1,3-Dichloropropene	0.335	0.383	-14.3#	100	0.00
35		1,1,2-Trichloroethane	0.278	0.325	-16.9#	100	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	100	0.00
37		Tetrachloroethene	0.489	0.524	-7.2#	100	0.00
38		Dibromochloromethane	0.639	0.724	-13.3#	100	0.00
39	MP	Chlorobenzene	0.880	0.953	-8.3#	100	0.00

(#) = Out of Range
CMA0250.D TO14S.M Fri Nov 23 07:45:12 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:03 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.382	-8.2#	100	0.00
41		m,p-Xylene	0.454	0.491	-8.1#	100	0.00
42		o-Xylene	0.442	0.481	-8.8#	100	0.00
43		Styrene	0.686	0.752	-9.6#	100	0.00
44	P	Bromoform	0.581	0.679	-16.9#	100	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.624	-20.0#	100	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.908	-2.8#	100	0.00
47		1,4-Dichloro-2-butene	0.099	0.118	-19.2#	100	0.00
48		4-Ethyltoluene	1.181	1.226	-3.8#	100	0.00
49		1,3,5-Trimethylbenzene	0.909	0.934	-2.8#	100	0.00
50		2-Chlorotoluene	1.162	1.276	-9.8#	100	0.00
51		1,2,4-Trimethylbenzene	0.949	1.036	-9.2#	100	0.00
52		1,3-Dichlorobenzene	0.782	0.857	-9.6#	100	0.00
53		1,4-Dichlorobenzene	0.824	0.901	-9.3#	100	0.00
54		1,2-Dichlorobenzene	0.715	0.791	-10.6#	100	0.00
55		1,2,4-Trichlorobenzene	0.502	0.543	-8.2#	100	0.00
56		Napthalene	0.601	0.666	-10.8#	100	0.00
57		Hexachlorobutadiene	0.433	0.464	-7.2#	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14.
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

BA 11/22/01

Calibration Files

25	=CMA0025.D	250	=CMA0250.D	1500	=CMA1500.D
1000	=CMA1000.D	100	=CMA0100.D	500	=CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%R
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.3
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.7
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.6
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.8
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.2
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.4
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
							L	M= 1.933	R^2=0.9	
								B= -0.311		
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.1
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.3
11)		Iodomethane							0.000	-1.0
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.0
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.3
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.1
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.7
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.1
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.9
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.9
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.4
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.4
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.5
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.5
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.3
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.7
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.3
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.2
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.2
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.1
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.1
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.5
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.2
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.8
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.5
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.6
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.4
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.4
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.4

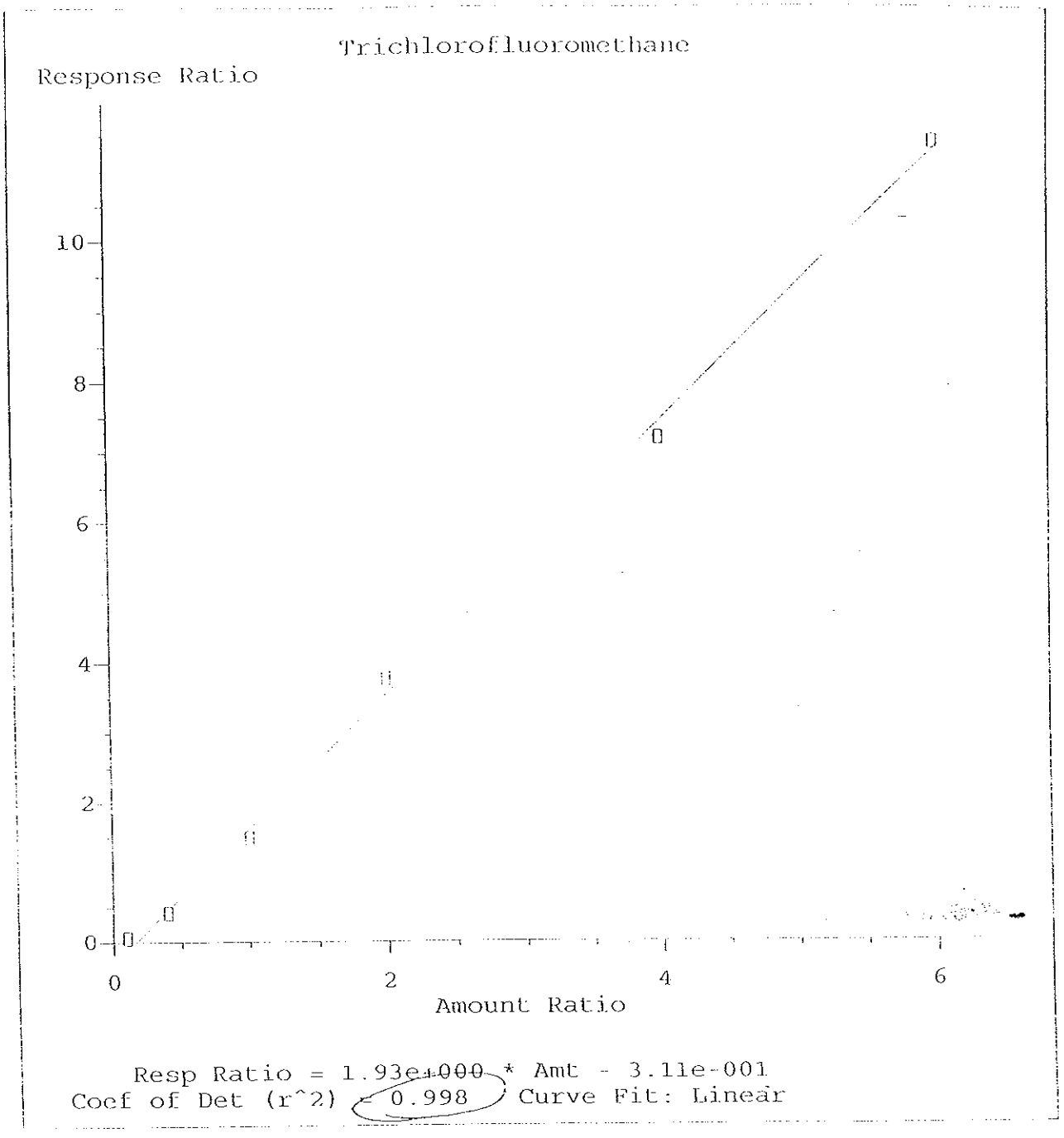
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

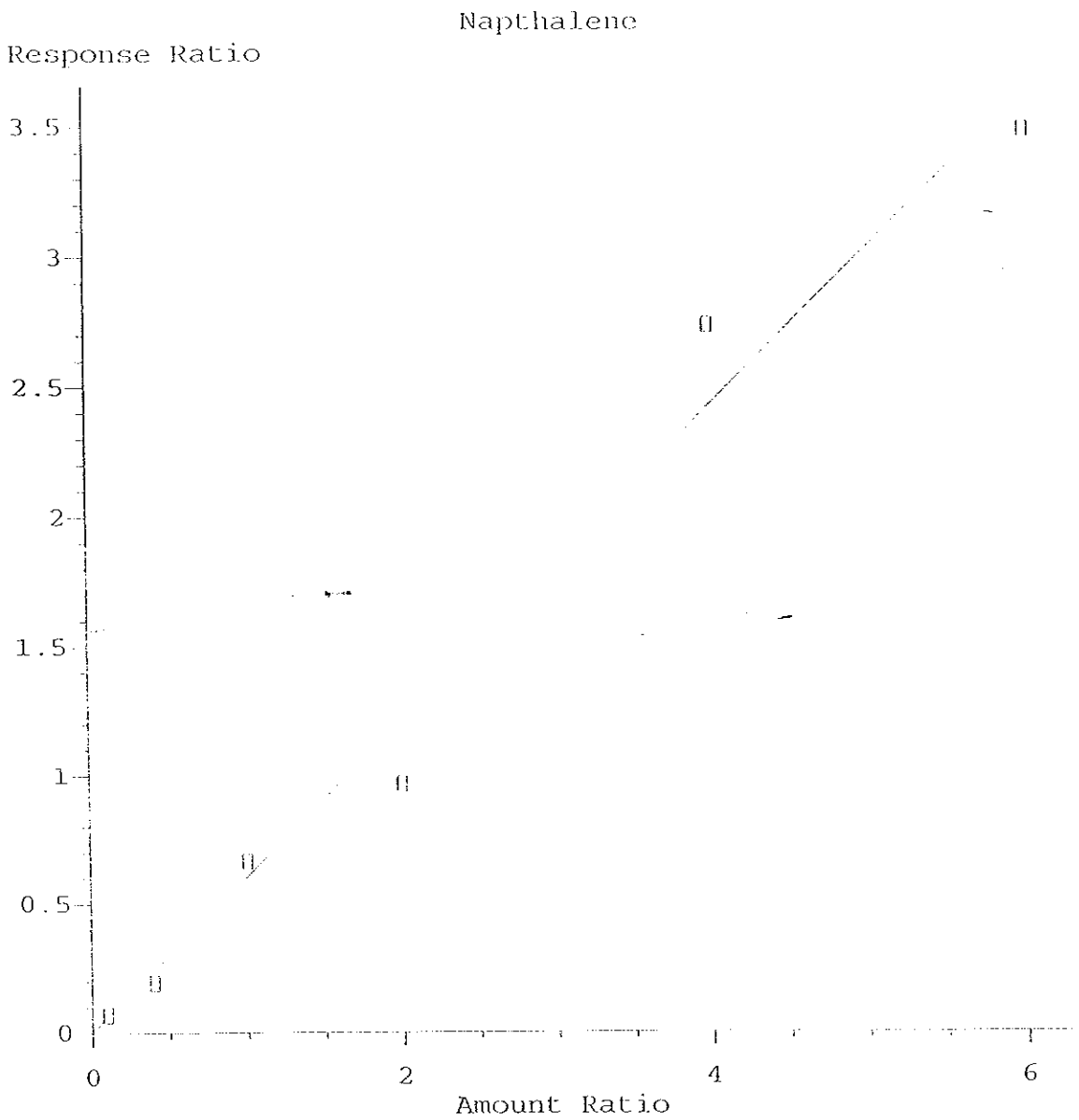
		Compound	25	250	1500	1000	100	500	Avg	%RS
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M=	0.605	R^2=0.98
								B=	0.002	
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 20:58:58 2001

BJ 11-22-01



Resp Ratio = 6.05e-001 * Amt + 1.57e-003
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00	ng	-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00	ng	-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00	ng	-0.03 282.19%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 59.36%#						
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68	ng	-0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.27%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.08%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67	ng	98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58	ng #	45
4) Chloromethane	4.36	50	54217	16.33	ng #	92
5) Vinyl chloride	4.59	62	51362	17.20	ng #	87
6) Bromomethane	5.42	94	98746	24.20	ng #	82
7) Chloroethane	5.54	64	32840	18.79	ng #	89
8) Trichlorofluoromethane	6.04	101	39870	6.56	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29	ng	83
10) 1,1-Dichloroethene	7.20	96	66093	21.79	ng	85
12) Methylene chloride	8.12	49	91249	15.70	ng #	94
13) Carbon disulfide	8.27	76	181220	18.71	ng #	93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60	ng #	85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71	ng	89
16) n-Hexane	8.78	57	80570	20.60	ng #	1
17) 1,1-Dichloroethane	9.51	63	119239	16.98	ng #	98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26	ng	92
19) Chloroform	11.08	83	153161	17.29	ng	98
20) Isooctane	12.03	57	303517	20.95	ng	97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80	ng	89
22) Carbon tetrachloride	12.51	117	137597	17.08	ng	99
24) 1,2-Dichloroethane	12.77	62	78090	14.06	ng	98
25) 1,2-Dibromoethane	19.75	107	111469	20.00	ng	97
27) Benzene	12.85	78	179158	21.12	ng	99

(#) = qualifier out of range (m) = manual integration
CMA0025.D TO14S.M Thu Nov 22 14:43:44 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

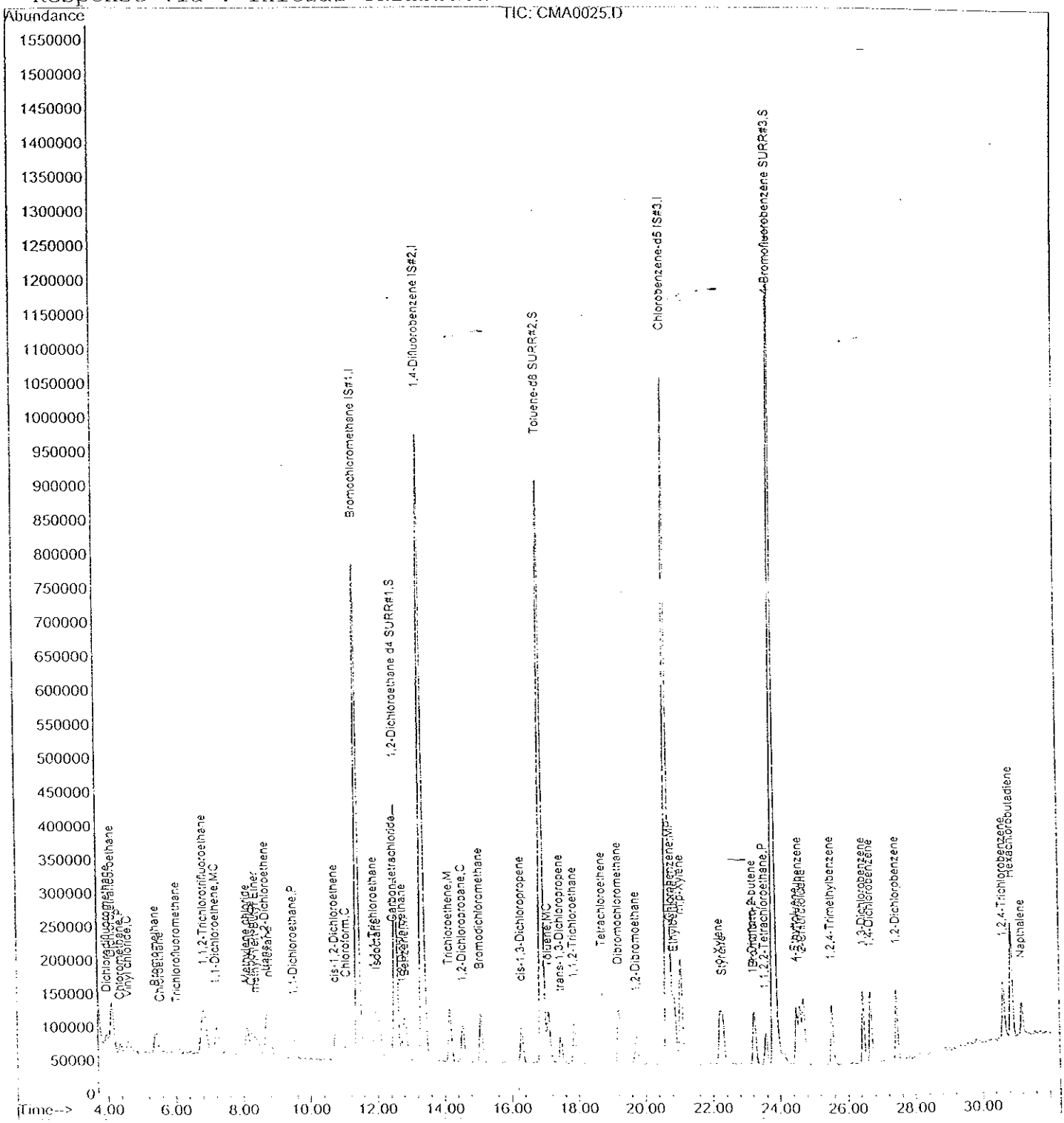
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	95845	23.30 ng		96
29)	1,2-Dichloropropane	14.56	63	72859	19.13 ng		95
30)	Bromodichloromethane	15.07	83	169881	17.23 ng		99
31)	cis-1,3-Dichloropropene	16.30	75	105593	18.65 ng		94
33)	Toluene	17.11	92	110233	21.32 ng	#	95
34)	trans-1,3-Dichloropropene	17.46	75	79087	16.48 ng	#	82
35)	1,1,2-Trichloroethane	17.87	97	67774	20.88 ng		98
37)	Tetrachloroethene	18.72	164	87289	23.66 ng		95
38)	Dibromochloromethane	19.22	127	120192	20.80 ng	#	94
39)	Chlorobenzene	20.79	112	160392	21.82 ng		92
40)	Ethylbenzene	20.88	106	65807	22.17 ng		99
41)	m,p-Xylene	21.07	106	165326	42.60 ng		99
42)	o-Xylene	22.21	106	78495	21.26 ng		99
43)	Styrene	22.31	104	119668	20.45 ng		95
44)	Bromoform	23.25	173	108489	22.72 ng		99
45)	1,1,2,2-Tetrachloroethane	23.56	83	107840	20.51 ng	#	99
47)	1,4-Dichloro-2-butene	23.22	75	17978	18.55 ng	#	90
48)	4-Ethyltoluene	24.50	105	227968	22.22 ng		95
49)	1,3,5-Trimethylbenzene	24.59	105	165409	19.65 ng		90
50)	2-Chlorotoluene	24.70	91	215651	19.02 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	173761	19.86 ng		98
52)	1,3-Dichlorobenzene	26.47	146	145028	22.89 ng		94
53)	1,4-Dichlorobenzene	26.69	146	152149	22.95 ng	#	93
54)	1,2-Dichlorobenzene	27.45	146	133248	22.68 ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	99718	24.12 ng		97
56)	Napthalene	31.19	128	143146	23.66 ng	#	89
57)	Hexachlorobutadiene	30.88	225	107311	30.39 ng		99

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

Data File : D:\HPCHEM\1\DATA01\MI122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

B.A. 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.18%						
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.79%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.22%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28	ng	# 97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122F\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

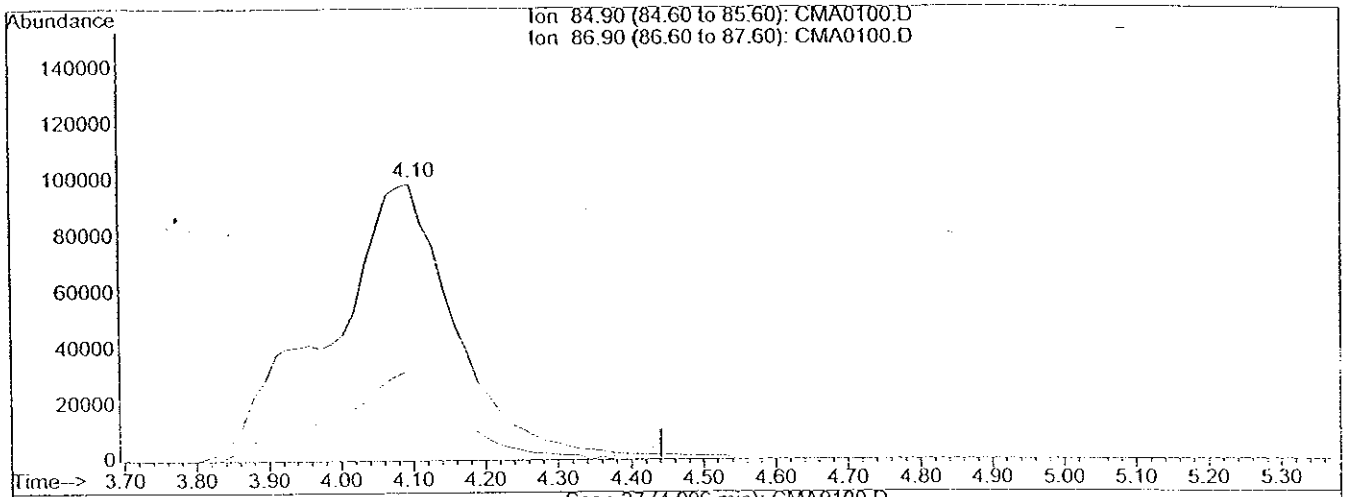
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01 ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33)	Toluene	17.11	92	471365	81.74 ng		99
34)	trans-1,3-Dichloropropene	17.46	75	347511	64.94 ng		93
35)	1,1,2-Trichloroethane	17.87	97	290510	80.27 ng		96
37)	Tetrachloroethene	18.72	164	379057	91.16 ng		94
38)	Dibromochloromethane	19.20	127	507313	77.89 ng		98
39)	Chlorobenzene	20.77	112	690880	83.38 ng		97
40)	Ethylbenzene	20.88	106	269786	80.64 ng		100
41)	m,p-Xylene	21.07	106	715119	163.47 ng		99
42)	o-Xylene	22.21	106	335595	80.64 ng		98
43)	Styrene	22.29	104	516712	78.36 ng		99
44)	Bromoform	23.24	173	450088	83.61 ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50 ng		98
47)	1,4-Dichloro-2-butene	23.22	75	73033	66.86 ng		92
48)	4-Ethyltoluene	24.50	105	858314	74.21 ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	696312	73.38 ng	#	82
50)	2-Chlorotoluene	24.70	91	896136	70.12 ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	729184	73.93 ng		98
52)	1,3-Dichlorobenzene	26.47	146	593003	83.05 ng		95
53)	1,4-Dichlorobenzene	26.67	146	638300	85.42 ng		94
54)	1,2-Dichlorobenzene	27.45	146	563906	85.17 ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	374964	80.46 ng		98
56)	Napthalene	31.19	128	442169	64.85 ng	#	90
57)	Hexachlorobutadiene	30.88	225	334628	84.07 ng		99

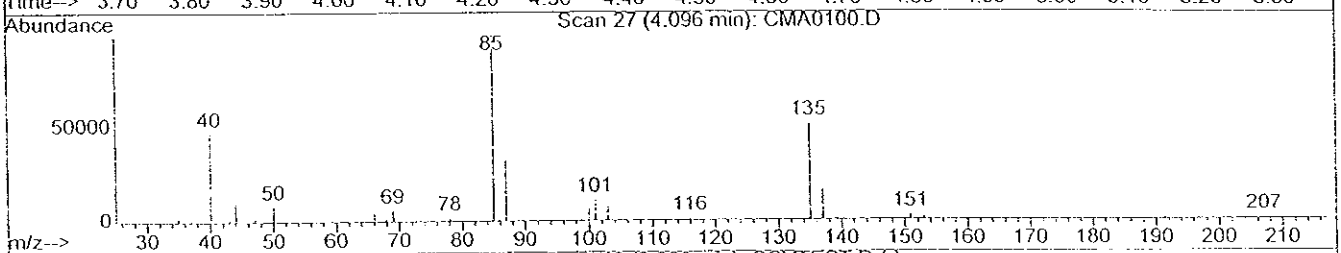
(#) = qualifier out of range (m) = manual integration

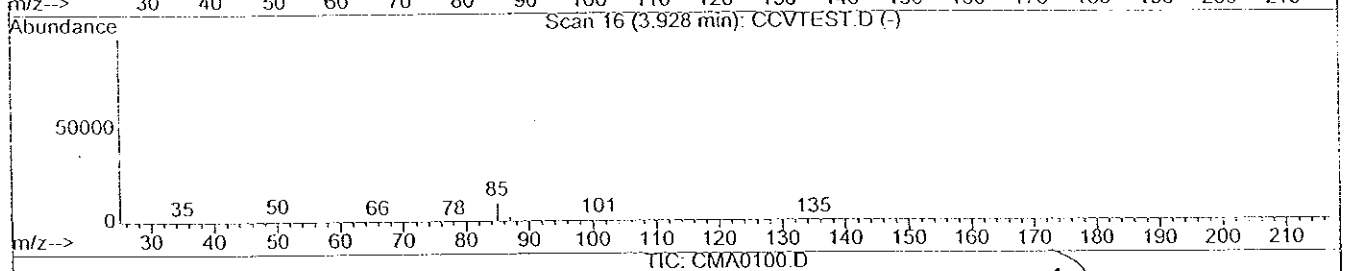
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS I
Multiplr: 1.00
Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration







TIC: CMA0100.D

(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

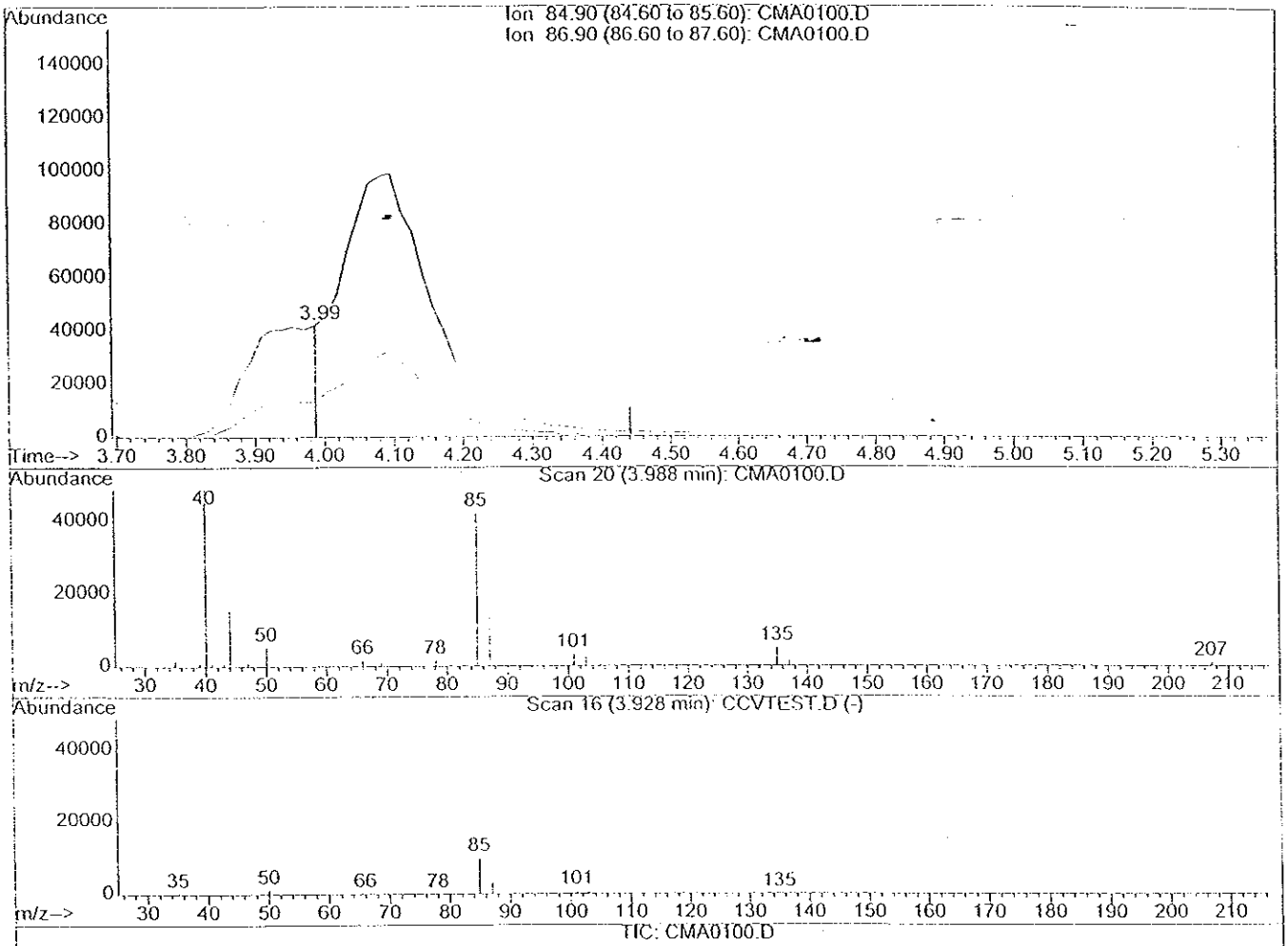
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

before (mis-integ / coeluted)

CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS D
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.99min 47.28ng m

response 296446

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	131.84#
0.00	0.00	0.00
0.00	0.00	0.00

after
11-22-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.18%						
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.79%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.22%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng		97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	#	26
4) Chloromethane	4.34	50	234313	61.77	ng	#	95
5) Vinyl chloride	4.58	62	216303	63.39	ng		96
6) Bromomethane	5.40	94	354015	75.93	ng	#	93
7) Chloroethane	5.51	64	139656	69.94	ng		99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng		82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng		87
12) Methylene chloride	8.09	49	356949	53.74	ng		97
13) Carbon disulfide	8.27	76	759303	68.61	ng		97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng		97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng		92
16) n-Hexane	8.75	57	281184	62.93	ng	#	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng		99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng		91
19) Chloroform	11.07	83	642388	63.47	ng		99
20) Isooctane	12.03	57	896151	54.14	ng		98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng		92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng		97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng		98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng		99
27) Benzene	12.84	78	744820	78.71	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

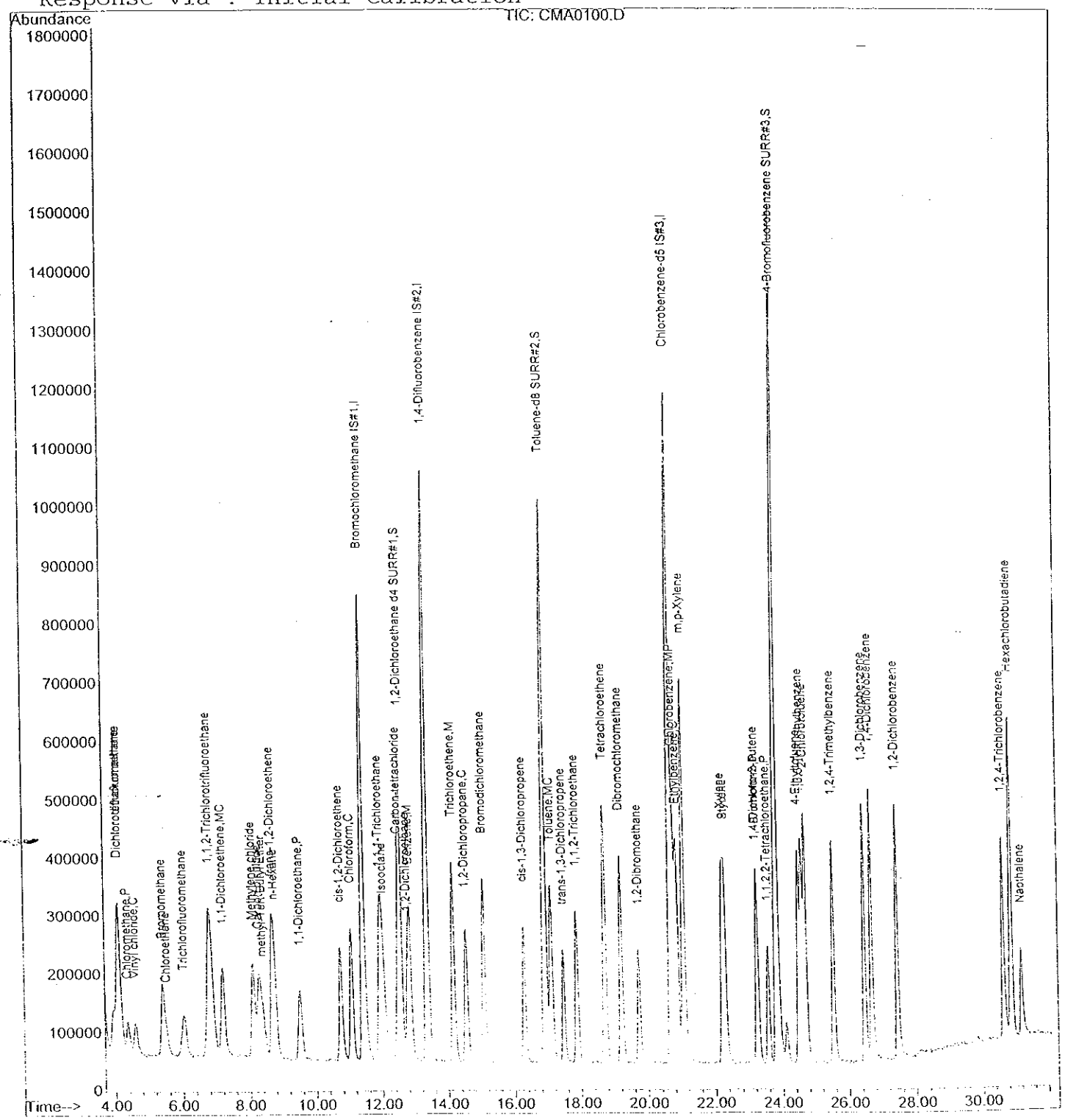
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01 ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30) Bromodichloromethane	15.07	83	723015	65.75 ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33) Toluene	17.11	92	471365	81.74 ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94 ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27 ng		96
37) Tetrachloroethene	18.72	164	379057	91.16 ng		94
38) Dibromochloromethane	19.20	127	507313	77.89 ng		98
39) Chlorobenzene	20.77	112	690880	83.38 ng		97
40) Ethylbenzene	20.88	106	269786	80.64 ng		100
41) m,p-Xylene	21.07	106	715119	163.47 ng		99
42) o-Xylene	22.21	106	335595	80.64 ng		98
43) Styrene	22.29	104	516712	78.36 ng		99
44) Bromoform	23.24	173	450088	83.61 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50 ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86 ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21 ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38 ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12 ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93 ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05 ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42 ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17 ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46 ng		98
56) Napthalene	31.19	128	442169	64.85 ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001 Original
Response via : Initial Calibration SH 11/22/01
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	747317	250.00	ng	-0.03 342.15%
26) 1,4-Difluorobenzene IS#2	13.36	114	2968219	250.00	ng	-0.03 313.17%
36) Chlorobenzene-d5 IS#3	20.68	117	2302990	250.00	ng	-0.03 320.90%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	820411	147.75	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 59.10%#						
32) Toluene-d8 SURR#2	16.90	98	2311670	235.45	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.18%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2090630	232.72	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 93.09%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	827926	133.15	ng		90
3) Dichlorotetrafluoroethane	4.10	135	1388168	229.31	ng	#	38
4) Chloromethane	4.36	50	667704	177.47	ng		97
5) Vinyl chloride	4.58	62	667727	197.30	ng		97
6) Bromomethane	5.40	94	1057285	228.66	ng	#	96
7) Chloroethane	5.49	64	444066	224.24	ng		97
8) Trichlorofluoromethane	6.02	101	1119090	162.40	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.81	151	1602469	276.08	ng		84
10) 1,1-Dichloroethene	7.19	96	879523	255.94	ng		88
12) Methylene chloride	8.09	49	1170582	177.71	ng		99
13) Carbon disulfide	8.27	76	2364904	215.47	ng		95
14) methyl-Tert-Butyl Ether	8.37	73	1088522	197.18	ng		99
15) trans-1,2-Dichloroethene	8.68	96	964847	250.40	ng		92
16) n-Hexane	8.75	57	900365	203.19	ng	#	1
17) 1,1-Dichloroethane	9.51	63	1569813	197.24	ng		99
18) cis-1,2-Dichloroethene	10.74	61	1256735	190.36	ng		90
19) Chloroform	11.07	83	1998117	199.07	ng		99
20) Isooctane	12.03	57	2929672	178.46	ng		97
21) 1,1,1-Trichloroethane	11.92	97	1675247	188.72	ng		90
22) Carbon tetrachloride	12.49	117	1799050	197.14	ng		97
24) 1,2-Dichloroethane	12.76	62	994608	158.08	ng	#	98
25) 1,2-Dibromoethane	19.73	107	1598340	253.04	ng		98
27) Benzene	12.84	78	2294603	241.48	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0250.D TO14S.M Thu Nov 22 15:58:02 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

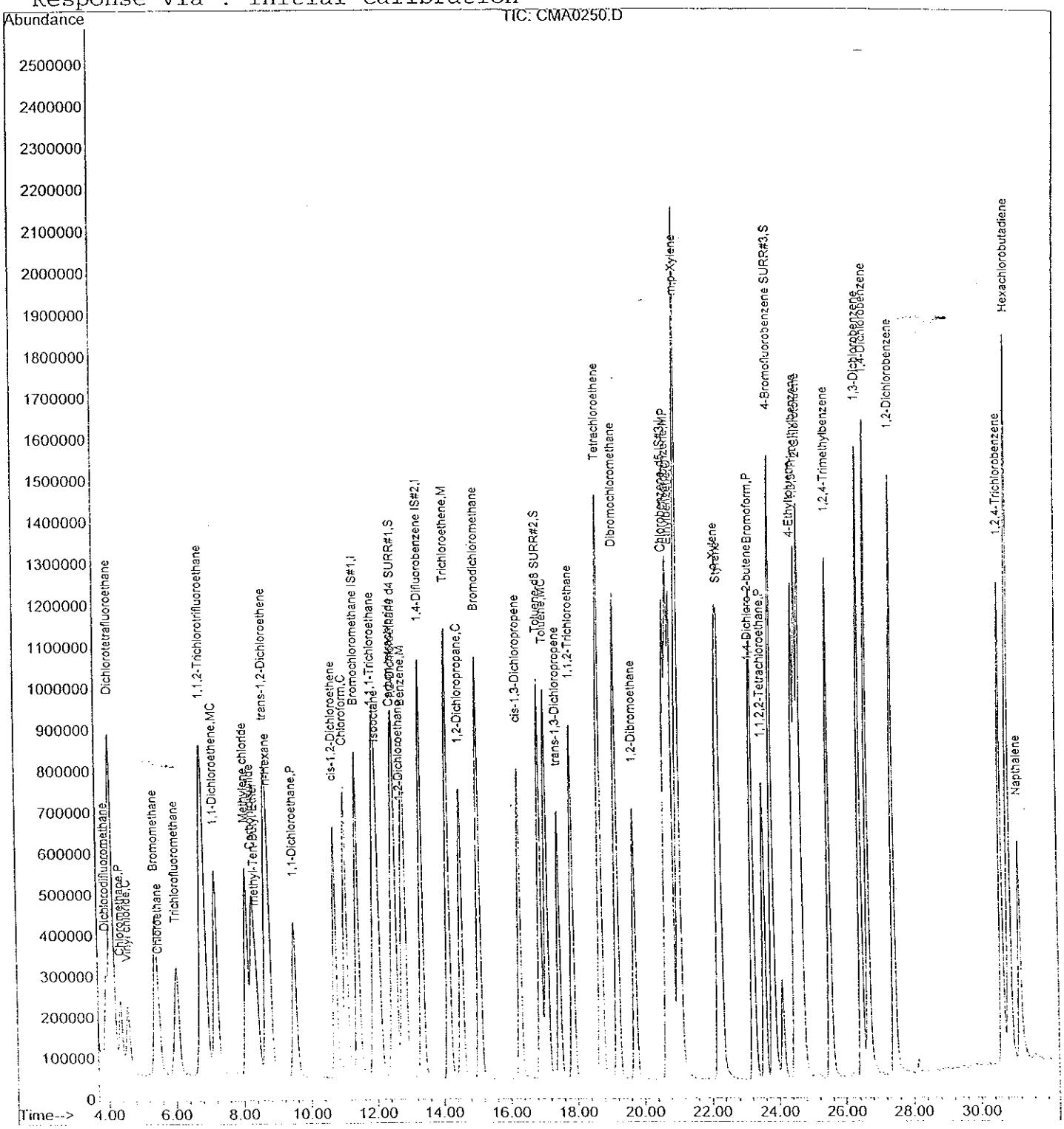
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	1288590	279.77 ng		95
29)	1,2-Dichloropropane	14.54	63	972142	227.89 ng		98
30)	Bromodichloromethane	15.07	83	2284620	206.89 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	1439679	227.09 ng		99
33)	Toluene	17.09	92	1486003	256.60 ng		99
34)	trans-1,3-Dichloropropene	17.46	75	1137293	211.64 ng		96
35)	1,1,2-Trichloroethane	17.87	97	966109	265.81 ng		97
37)	Tetrachloroethene	18.72	164	1207383	287.81 ng		95
38)	Dibromochloromethane	19.20	127	1667056	253.68 ng		98
39)	Chlorobenzene	20.77	112	2194379	262.49 ng		95
40)	Ethylbenzene	20.86	106	878711	260.33 ng		97
41)	m,p-Xylene	21.07	106	2263755	512.90 ng		98
42)	o-Xylene	22.21	106	1107267	263.72 ng		97
43)	Styrene	22.29	104	1732542	260.42 ng		97
44)	Bromoform	23.24	173	1563705	287.91 ng		99
45)	1,1,2,2-Tetrachloroethane	23.56	83	1438178	240.48 ng		99
47)	1,4-Dichloro-2-butene	23.21	75	272354	247.14 ng		92
48)	4-Ethyltoluene	24.50	105	2824082	242.01 ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	2149970	224.58 ng	#	77
50)	2-Chlorotoluene	24.70	91	2938488	227.88 ng		96
51)	1,2,4-Trimethylbenzene	25.54	105	2386166	239.77 ng		96
52)	1,3-Dichlorobenzene	26.45	146	1974072	274.03 ng		95
53)	1,4-Dichlorobenzene	26.67	146	2075315	275.28 ng	#	94
54)	1,2-Dichlorobenzene	27.43	146	1821255	272.65 ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	1250003	265.87 ng		100
56)	Napthalene	31.17	128	1532679	222.80 ng	#	92
57)	Hexachlorobutadiene	30.88	225	1068702	266.11 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 57.07%#						
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 93.88%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 88.53%						

Target Compounds						Qvalue	
2) Dichlorodifluoromethane	4.00	85	1844056m	320.89	ng	#	98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: TO14S.RES

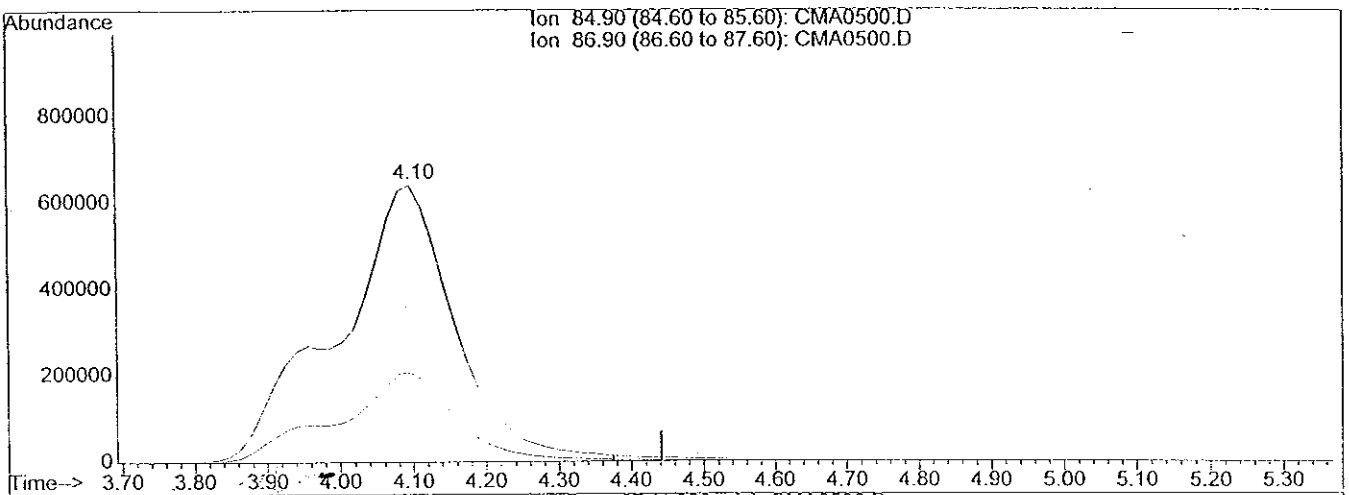
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

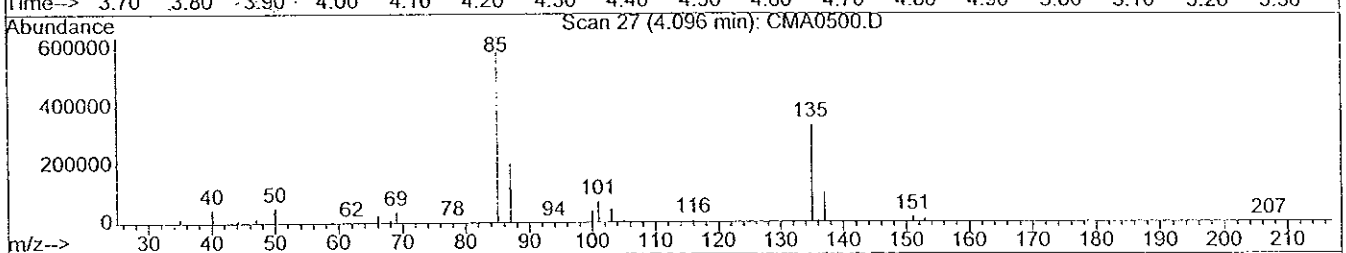
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70 ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33)	Toluene	17.11	92	2870951	492.12 ng		98
34)	trans-1,3-Dichloropropene	17.46	75	1946542	359.58 ng		98
35)	1,1,2-Trichloroethane	17.87	97	1581503	431.94 ng		97
37)	Tetrachloroethene	18.72	164	2362211	575.17 ng		95
38)	Dibromochloromethane	19.20	127	2829227	439.77 ng		98
39)	Chlorobenzene	20.77	112	4188342	511.74 ng		94
40)	Ethylbenzene	20.88	106	1693683	512.53 ng		99
41)	m,p-Xylene	21.07	106	4383149	1014.39 ng		96
42)	o-Xylene	22.21	106	2136548	519.78 ng		95
43)	Styrene	22.29	104	3277411	503.19 ng		97
44)	Bromoform	23.25	173	2400417	451.44 ng		100
45)	1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	387280	358.97 ng		92
48)	4-Ethyltoluene	24.50	105	5829345	510.26 ng		95
49)	1,3,5-Trimethylbenzene	24.61	105	4420240	471.62 ng		89
50)	2-Chlorotoluene	24.70	91	5571099	441.31 ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	4502643	462.15 ng		95
52)	1,3-Dichlorobenzene	26.47	146	3614890	512.56 ng		94
53)	1,4-Dichlorobenzene	26.69	146	3720955	504.15 ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	3135068	479.40 ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	2085615	453.11 ng		99
56)	Napthalene	31.19	128	2175497	323.03 ng	#	92
57)	Hexachlorobutadiene	30.88	225	1885829	479.65 ng		98

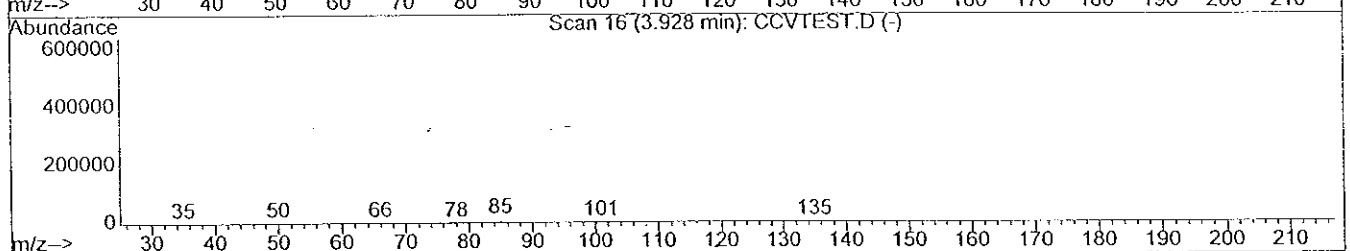
(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 20:48:42 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

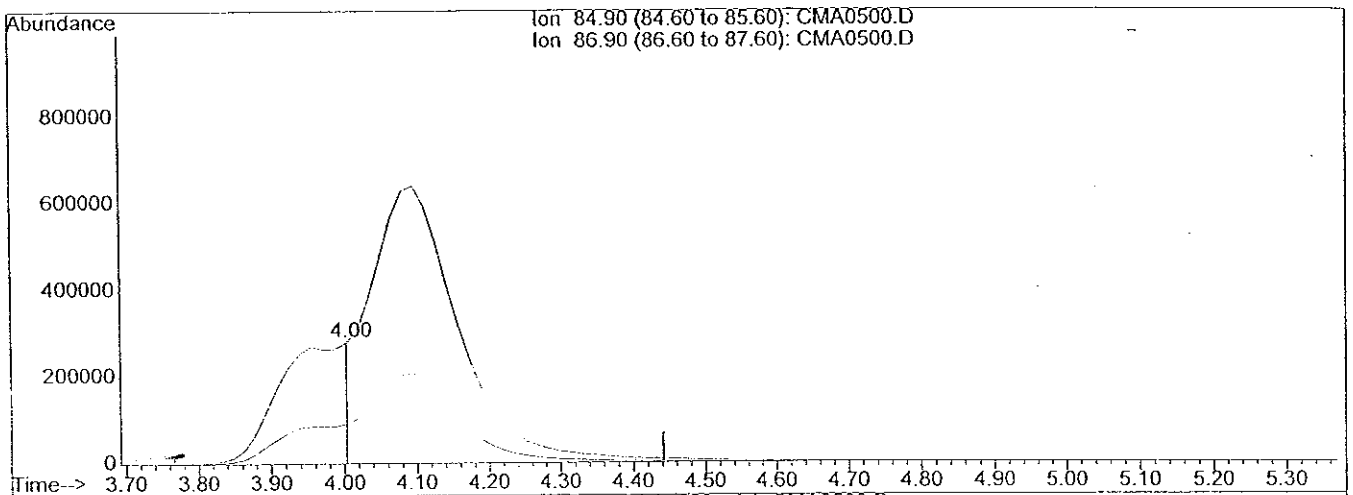
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

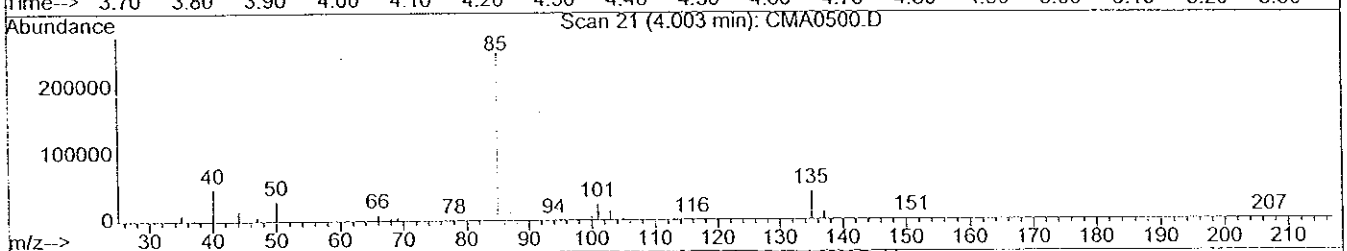
Defined (misintg | co-elated)

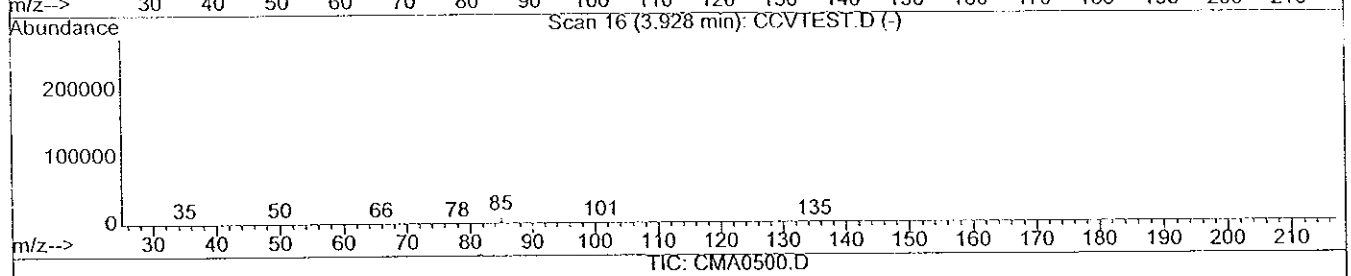
CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.27#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/28/01

11-29-01

CMA0500.D TO14S.M Thu Nov 22 20:48:14 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 57.07%#						
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 93.88%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 88.53%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40	ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 16:35:21 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

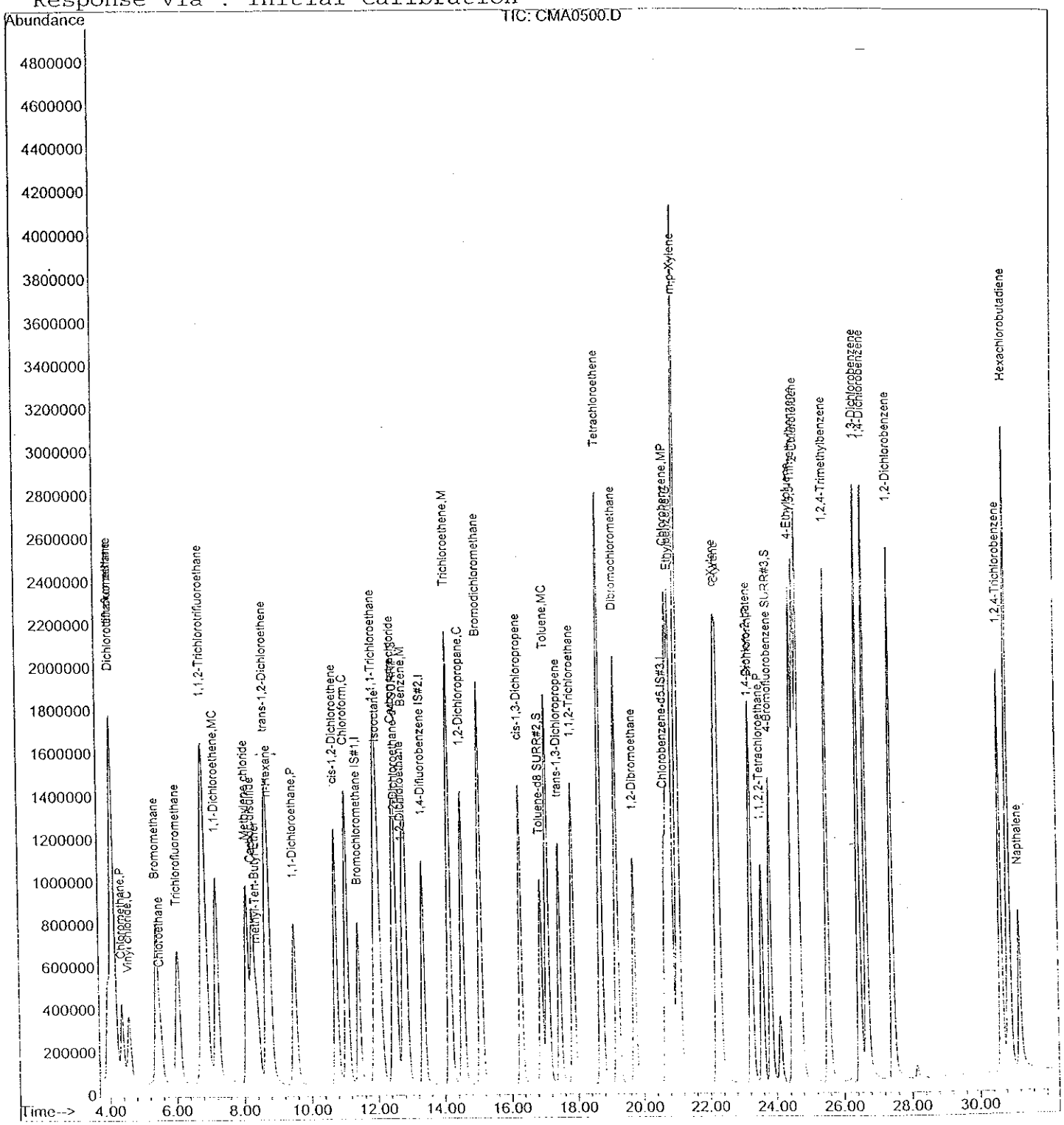
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70 ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33)	Toluene	17.11	92	2870951	492.12 ng		98
34)	trans-1,3-Dichloropropene	17.46	75	1946542	359.58 ng		98
35)	1,1,2-Trichloroethane	17.87	97	1581503	431.94 ng		97
37)	Tetrachloroethene	18.72	164	2362211	575.17 ng		95
38)	Dibromochloromethane	19.20	127	2829227	439.77 ng		98
39)	Chlorobenzene	20.77	112	4188342	511.74 ng		94
40)	Ethylbenzene	20.88	106	1693683	512.53 ng		99
41)	m,p-Xylene	21.07	106	4383149	1014.39 ng		96
42)	o-Xylene	22.21	106	2136548	519.78 ng		95
43)	Styrene	22.29	104	3277411	503.19 ng		97
44)	Bromoform	23.25	173	2400417	451.44 ng		100
45)	1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	387280	358.97 ng		92
48)	4-Ethyltoluene	24.50	105	5829345	510.26 ng		95
49)	1,3,5-Trimethylbenzene	24.61	105	4420240	471.62 ng		89
50)	2-Chlorotoluene	24.70	91	5571099	441.31 ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	4502643	462.15 ng		95
52)	1,3-Dichlorobenzene	26.47	146	3614890	512.56 ng		94
53)	1,4-Dichlorobenzene	26.69	146	3720955	504.15 ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	3135068	479.40 ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	2085615	453.11 ng		99
56)	Napthalene	31.19	128	2175497	323.03 ng	#	92
57)	Hexachlorobutadiene	30.88	225	1885829	479.65 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng	-0.03 269.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#						
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

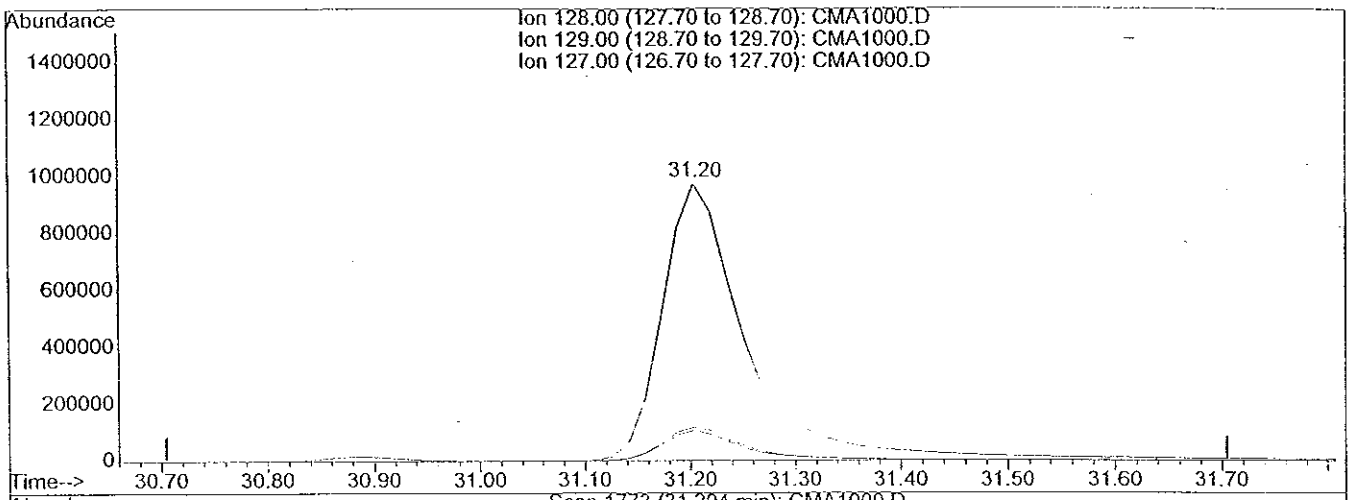
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

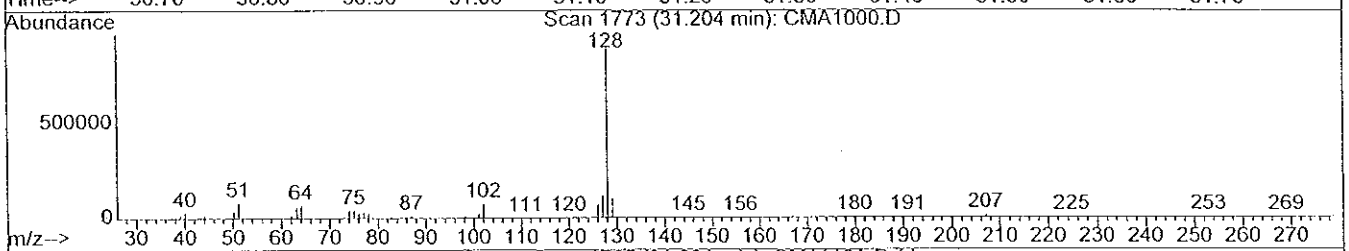
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20 ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33) Toluene	17.09	92	4788893	977.79 ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26 ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79 ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58 ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13 ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70 ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60 ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72 ng		93
42) o-Xylene	22.21	106	3660995	1038.48 ng		94
43) Styrene	22.29	104	5744605	1028.38 ng		96
44) Bromoform	23.25	173	4989717	1094.16 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60 ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11 ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78 ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29 ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07 ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14 ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69 ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88 ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68 ng		99
56) Napthalene	31.20	128	5286344m	915.23 ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71 ng		99

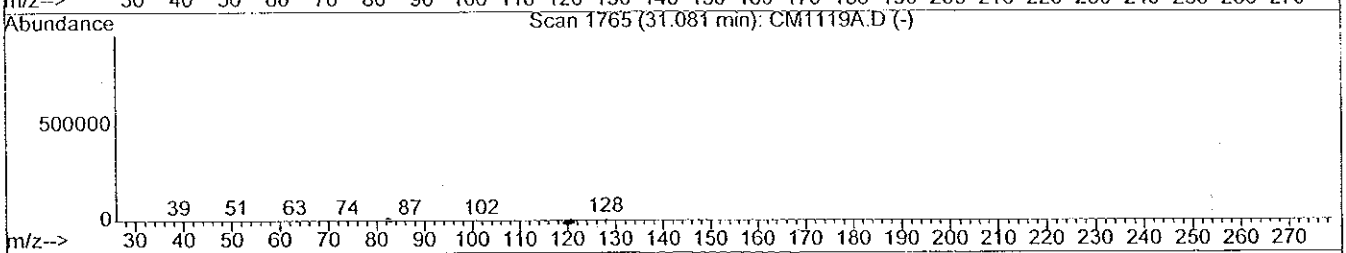
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS In.
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration







TIC: CMA1000.D

(56) Napthalene

31.20min ~~96~~1.28ng

response 5494553

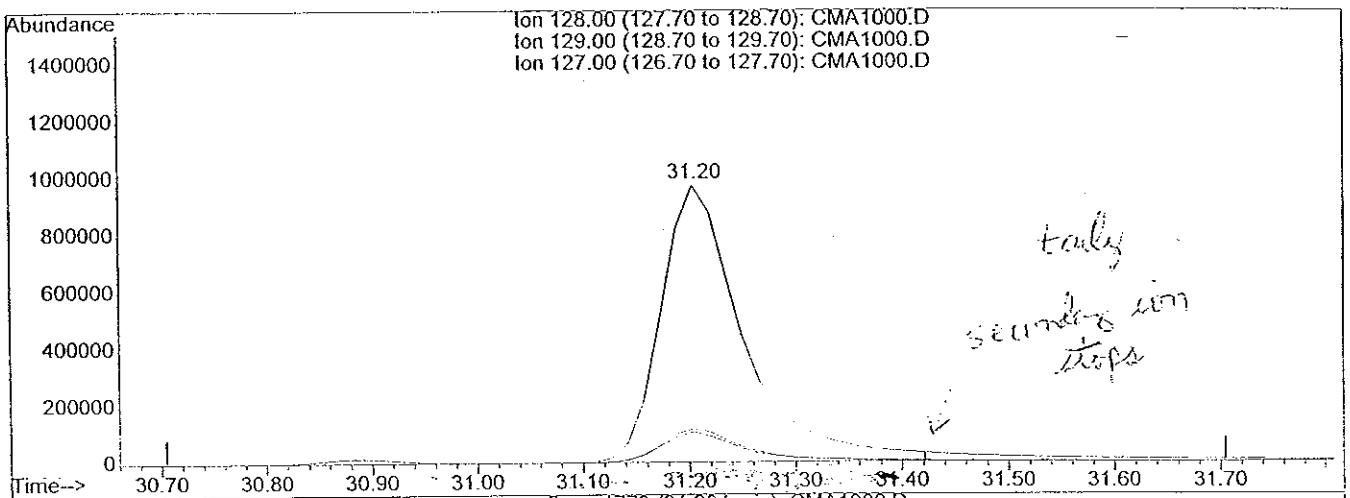
Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

Before (tailing)

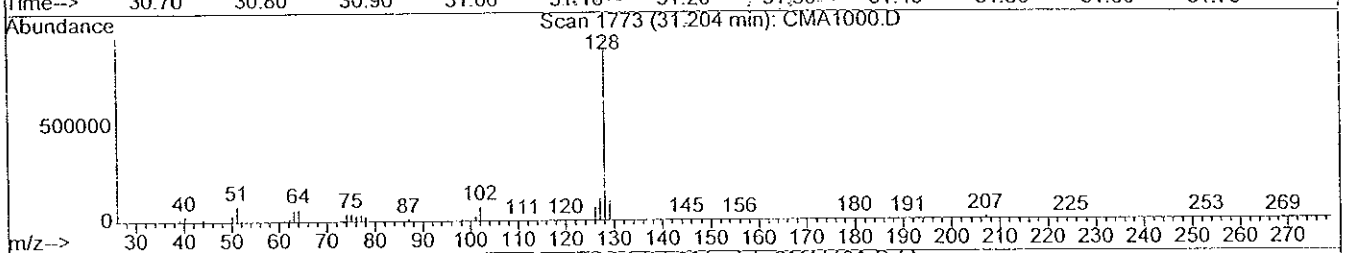
CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

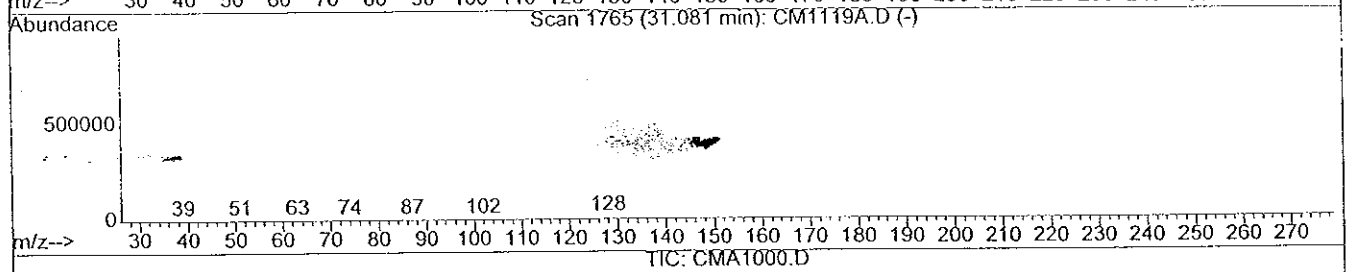
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



tally seeming on tops





TIC: CMA1000.D

(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

after

B 11/22/01

11-24-01

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng	-0.03 269.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#						
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng	99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng #	43
4) Chloromethane	4.34	50	2269279	718.82	ng #	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng	96
6) Bromomethane	5.40	94	3658163	942.87	ng #	97
7) Chloroethane	5.49	64	1503351	904.74	ng	96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng	82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng	86
12) Methylene chloride	8.10	49	3782190	684.28	ng	97
13) Carbon disulfide	8.26	76	8103282	879.86	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng	98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng	90
16) n-Hexane	8.77	57	2872334	772.51	ng #	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng	98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng	89
19) Chloroform	11.07	83	6416217	761.83	ng	98
20) Isooctane	12.03	57	9902255	718.87	ng	95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng	89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng	97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng #	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng	98
27) Benzene	12.84	78	7380435	918.40	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

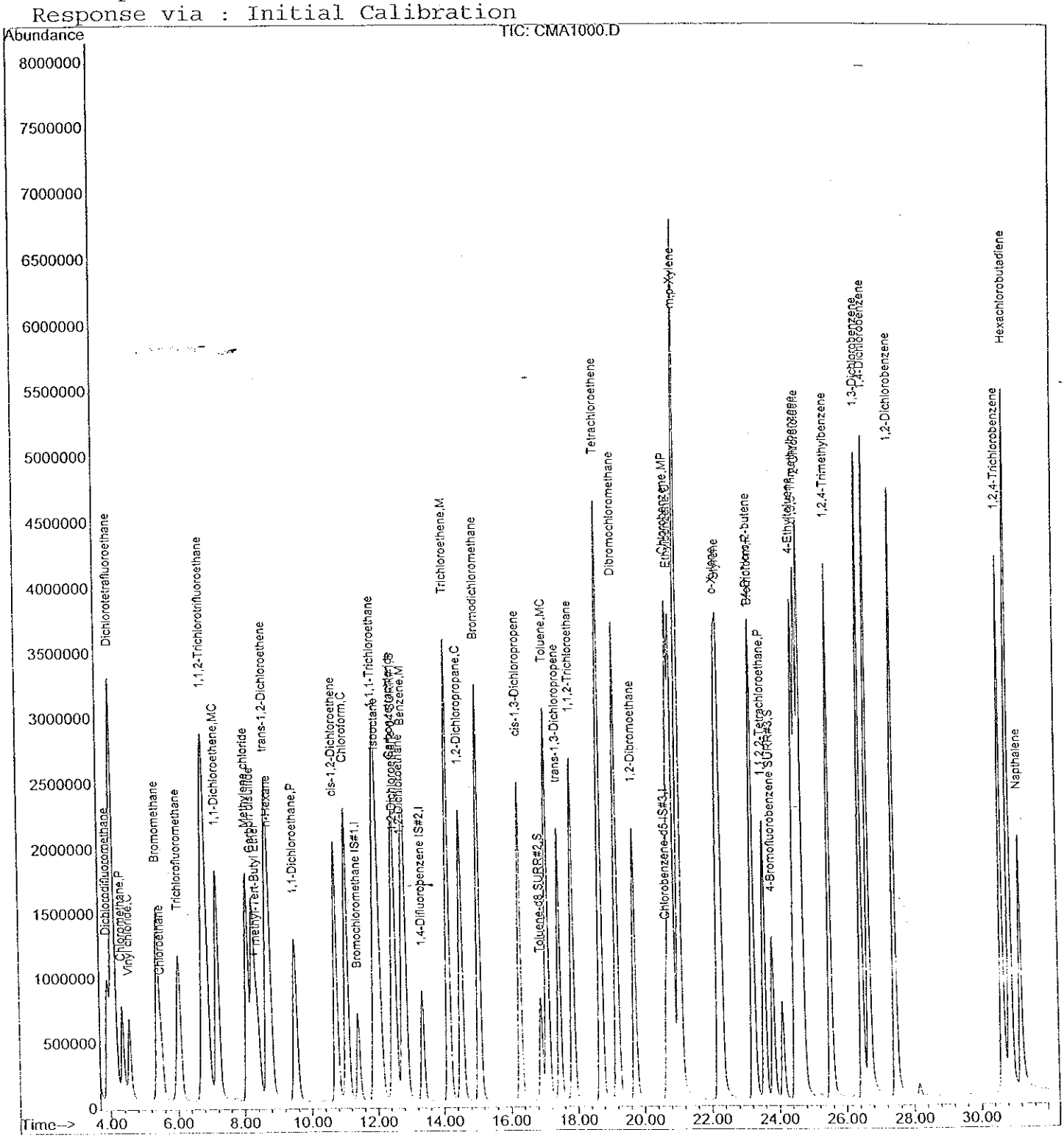
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	4254495	1092.20 ng		93
29)	1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30)	Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31)	cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33)	Toluene	17.09	92	4788893	977.79 ng		98
34)	trans-1,3-Dichloropropene	17.45	75	3641504	801.26 ng		99
35)	1,1,2-Trichloroethane	17.87	97	2987120	971.79 ng		97
37)	Tetrachloroethene	18.71	164	4017560	1140.58 ng		94
38)	Dibromochloromethane	19.20	127	5253498	952.13 ng		97
39)	Chlorobenzene	20.77	112	7185799	1023.70 ng		92
40)	Ethylbenzene	20.86	106	2850047	1005.60 ng		99
41)	m,p-Xylene	21.07	106	7392219	1994.72 ng		93
42)	o-Xylene	22.21	106	3660995	1038.48 ng		94
43)	Styrene	22.29	104	5744605	1028.38 ng		96
44)	Bromoform	23.25	173	4989717	1094.16 ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	889767	961.60 ng		89
48)	4-Ethyltoluene	24.50	105	9838320	1004.11 ng		96
49)	1,3,5-Trimethylbenzene	24.61	105	7505974	933.78 ng		88
50)	2-Chlorotoluene	24.70	91	9379260	866.29 ng		94
51)	1,2,4-Trimethylbenzene	25.54	105	7838457	938.07 ng		97
52)	1,3-Dichlorobenzene	26.47	146	6497173	1074.14 ng	#	94
53)	1,4-Dichlorobenzene	26.69	146	6904103	1090.69 ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	6056662	1079.88 ng	#	94
55)	1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68 ng		99
56)	Napthalene	31.20	128	5494553	951.28 ng	#	92
57)	Hexachlorobutadiene	30.89	225	3428403	1016.71 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



CMA1000.D TO14S.M Thu Nov 22 17:30:24 2001 Page 3

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	634249	250.00	ng	-0.02 290.39%
26) 1,4-Difluorobenzene IS#2	13.36	114	2600798	250.00	ng	-0.03 274.40%
36) Chlorobenzene-d5 IS#3	20.69	117	1981283	250.00	ng	-0.02 276.07%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	632851	134.29	ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.72%#						
32) Toluene-d8 SURR#2	16.92	98	1970807	229.09	ng	-0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 91.64%						
46) 4-Bromofluorobenzene SURR#	23.84	95	1740302	225.18	ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.07%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.94	85	4935791	935.33	ng	
3) Dichlorotetrafluoroethane	4.09	135	7446198	1449.32	ng	# 44
4) Chloromethane	4.36	50	3382343	1059.28	ng	# 96
5) Vinyl chloride	4.56	62	3168424	1103.09	ng	97
6) Bromomethane	5.41	94	5426495	1382.82	ng	# 98
7) Chloroethane	5.51	64	2270536	1350.98	ng	96
8) Trichlorofluoromethane	6.05	101	7232899	1236.76	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	8477979	1721.01	ng	81
10) 1,1-Dichloroethene	7.20	96	4596546	1576.05	ng	86
12) Methylene chloride	8.10	49	5698090	1019.24	ng	96
13) Carbon disulfide	8.27	76	12272113	1317.43	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	5104092	1089.43	ng	98
15) trans-1,2-Dichloroethene	8.69	96	4769897	1458.61	ng	90
16) n-Hexane	8.78	57	4342794	1154.77	ng	# 1
17) 1,1-Dichloroethane	9.53	63	7860477	1163.70	ng	98
18) cis-1,2-Dichloroethene	10.76	61	6258103	1116.90	ng	88
19) Chloroform	11.08	83	9812958	1151.95	ng	98
20) Isooctane	12.04	57	14645922	1051.21	ng	95
21) 1,1,1-Trichloroethane	11.95	97	7963993	1057.12	ng	89
22) Carbon tetrachloride	12.51	117	8783308	1134.03	ng	97
24) 1,2-Dichloroethane	12.77	62	4388761	821.89	ng	# 97
25) 1,2-Dibromoethane	19.74	107	7240589	1350.63	ng	98
27) Benzene	12.85	78	11283448	1355.23	ng	98

(#) = qualifier out of range (m) = manual integration
CMA1500.D TO14S.M Thu Nov 22 18:25:29 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

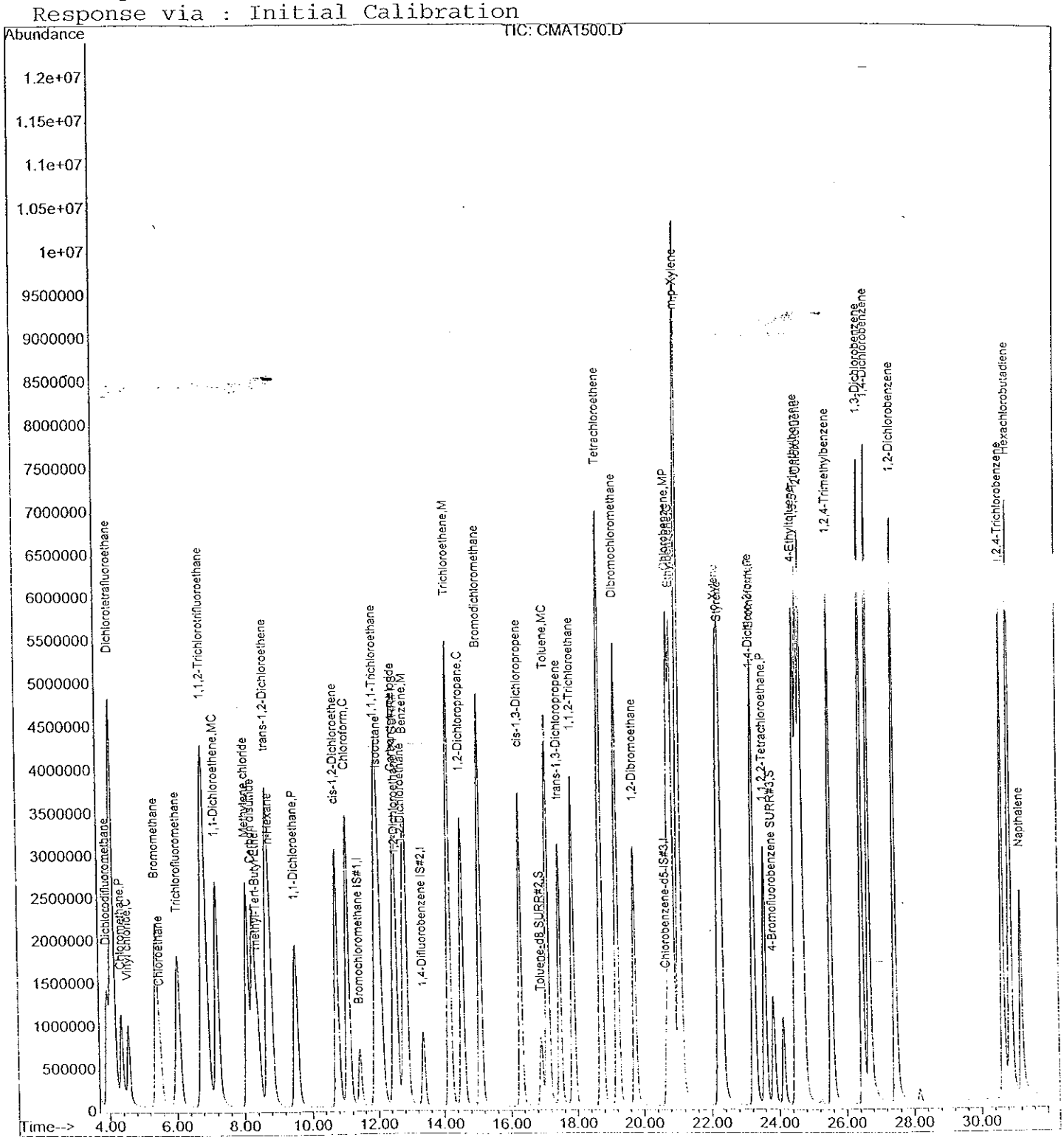
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88 ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29 ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55 ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10 ng		96
33) Toluene	17.10	92	7379692	1454.35 ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58 ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29 ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63 ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36 ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47 ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02 ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70 ng		95
42) o-Xylene	22.23	106	5544185	1534.89 ng		94
43) Styrene	22.32	104	8782292	1534.41 ng		96
44) Bromoform	23.27	173	7134144	1526.83 ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88 ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33 ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18 ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11[illegible]	[illegible] ng		[illegible]
50) 2-Chlorotoluene	24.71	91	14289333	1288.09 ng		94
51) 1,2,4-Trimethylbenzene	25.55	105	11726608	1369.68 ng		96
52) 1,3-Dichlorobenzene	26.48	146	9865243	1591.80 ng	#	94
53) 1,4-Dichlorobenzene	26.70	146	10428453	1607.89 ng	#	93
54) 1,2-Dichlorobenzene	27.46	146	8892199	1547.37 ng	#	94
55) 1,2,4-Trichlorobenzene	30.66	180	6219579	1537.66 ng		99
56) Napthalene	31.22	128	6912312	1167.99 ng	#	92
57) Hexachlorobutadiene	30.89	225	4486552	1298.56 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 12-26-01
Batch MA8258 (1) 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method (TO14) /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:44	#3	BFB TO	BFM1226A	50ppb			W			Daily 12hr. BFB Tune
12:06	14	TO14.m	CM 1226A	50ppb		Y N	W		BAH	Daily Cal Check/bfb tune/95 ion area = 965,000
12:41	15		MA258A BK	ST		Y N				Daily Method Blank
13:51	16	BA 12/26 16	MA258 LCS	50ppb		Y N				Batch# 258 LCS
13:51	1		QC008	ST.		Y N	A (TO14)			QC Can check #008 ST. 500mls - passed
14:29	1		12300-1R	ST.	✓	Y N				500mls
15:06	1		12611-1	ST		Y N				
15:40	1		-2			Y N				
16:17	1		12630-1	ST.		Y N				
16:54	1		12633-1			Y N				
17:31	2		12604-3	X10		Y N				50mls
18:08	3		-4	X1000		Y N				0.5ml re-run X100
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BA 12/26/01
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis

Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1226A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

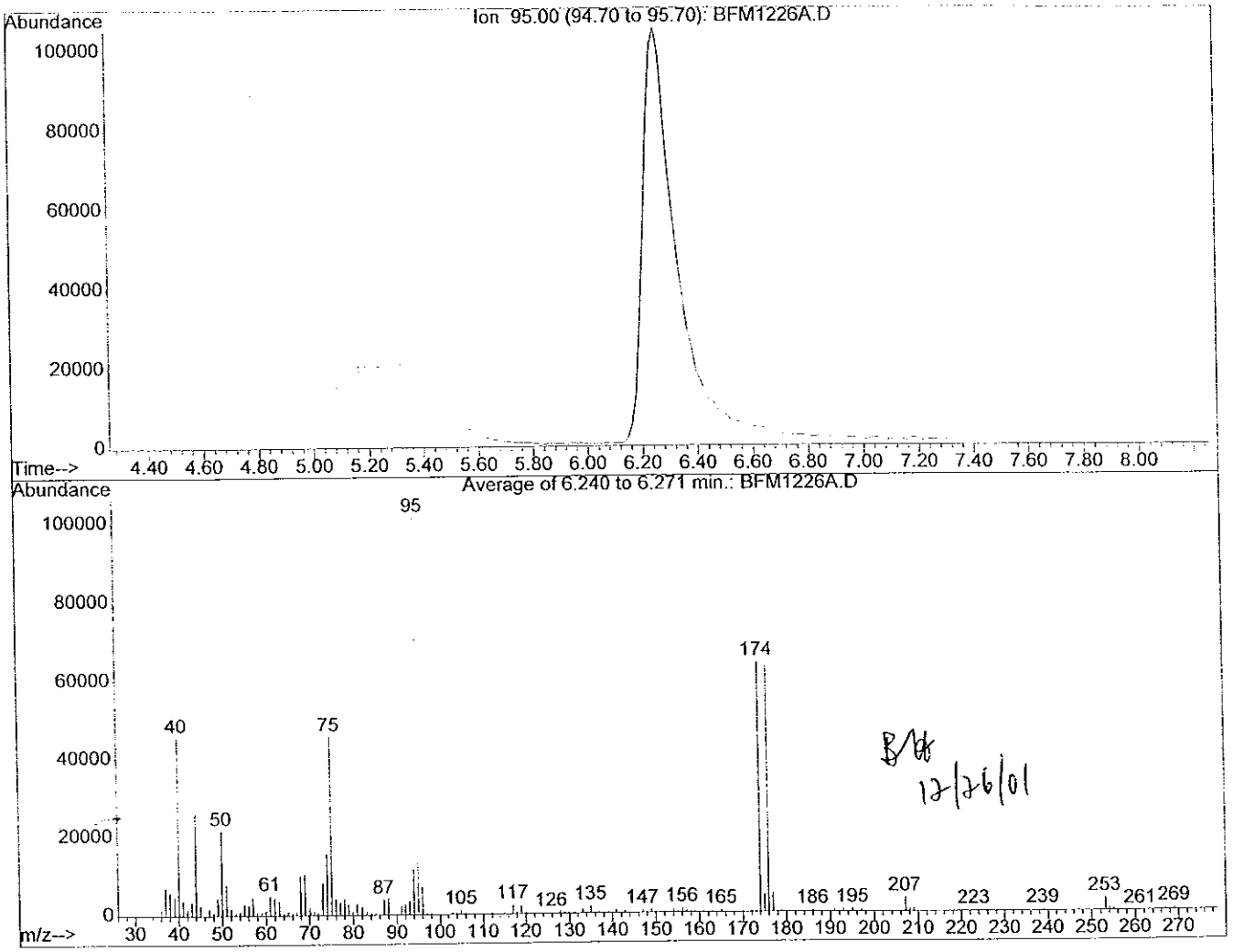
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1226A	BFBSTL	BFB050\DAILY 12 HR. BFB TUNE.
2	Sample	14	CM1226A	TO14S	VSTD050\DAILY CALIB. CHECK 50
3	Sample	15	MA256ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
4	Sample	16	MA256LCS	TO14S	VLCSMA\BATCH #258 LCS 50ppb/
5	Sample	1	QC008	TO14S	QC CAN CHECK #008 ST. 500mls
6	Sample	1	123001R	TO14S	12300-1 ST. 500mls
7	Sample	1	126111	TO14S	063SVE1061IA12200145\12611-1
8	Sample	1	126112	TO14S	063SVE1062IA12200145\12611-2
9	Sample	1	126301	TO14S	062SVEEA12200119\12630-1 ST.
10	Sample	1	126331	TO14S	063SVE1780IA12200144\12633-1
11	Sample	1	126332	TO14S	063SVE2780IA12200144\12633-2
12	Sample	1	126333	TO14S	063ASI780EA12200144\12633-3 S
13	Sample	1	126334	TO14S	063TMX780EA12200144\12633-4 S
14	Sample	2	126041	TO14S	12604-1 X100 5mls
15	Sample	3	126042	TO14S	12604-2 X100 5mls
16	Sample	4	126043	TO14S	12604-3 X100 5mls
17	Sample	5	126044	TO14S	12604-4 X100 5mls
18	Sample	6	126045	TO14S	12604-5 X100 5mls
19	Sample	7	126046	TO14S	12604-6 X100 5mls
20	Sample	8	126047	TO14S	12604-7 X100 5mls

BFB

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D
Acq On : 26 Dec 2001 11:44
Sample : BFB050\DAILY 12 HR. BFB TUNE.
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



Spectrum Information: Average of 6.240 to 6.271 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.4	21699	PASS
75	95	30	60	45.0	45659	PASS
95	95	100	100	100.0	101357	PASS
96	95	5	9	7.2	7289	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.1	63984	PASS
175	174	5	9	7.2	4598	PASS
176	174	95	101	98.6	63061	PASS
177	176	5	9	7.8	4915	PASS

BFM1226A.D TO14S.M Wed Dec 26 11:53:44 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D Vial: 13
Acq On : 26 Dec 2001 11:44 Operator: BDH
Sample : BFB050\DAILY 12 HR. BFB TUNE. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

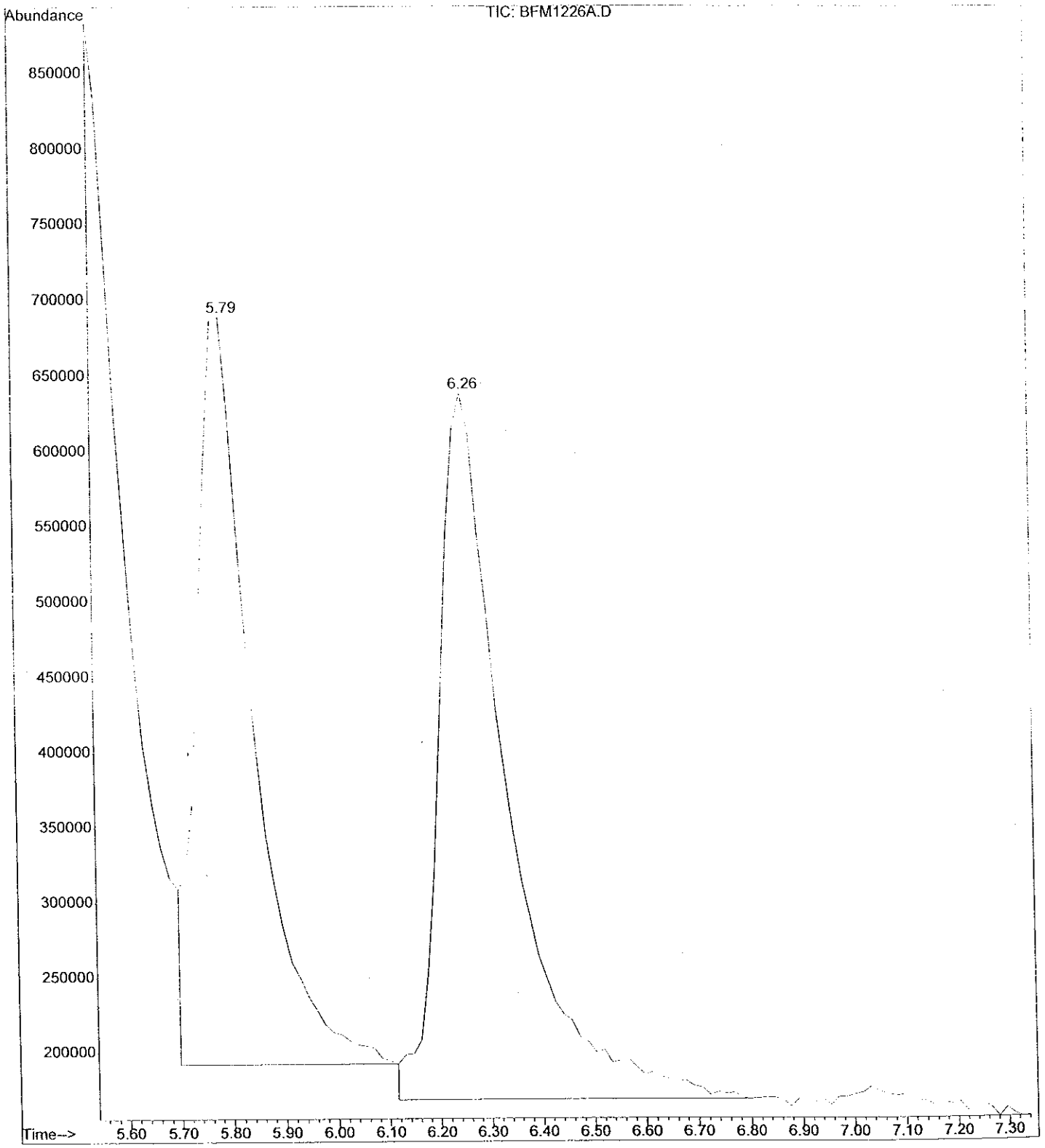
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.790	11	17	38	rVB	497037	3672681	84.36%	45.759%
2	6.256	38	47	82	rVB2	470031	4353495	100.00%	54.241%

Sum of corrected areas: 8026176

BFM1226A.D BFBSTL.M Wed Dec 26 11:51:47 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D Vial: 13
Acq On : 26 Dec 2001 11:44 Operator: BDH
Sample : BFB050\DAILY 12 HR. BFB TUNE. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240



BFM1226A.D BFBSTL.M Wed Dec 26 11:51:47 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D (21 Dec 2001 9:59)

original - passes BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	653005	250.00 ng	-0.02 89.14%
26) 1,4-Difluorobenzene IS#2	13.28	114	2555779	250.00 ng	-0.02 85.27%
36) Chlorobenzene-d5 IS#3	20.59	117	1973430	250.00 ng	-0.02 85.65%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.47	65	797376	286.40 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 114.56%					
32) Toluene-d8 SURR#2	16.82	98	2005558	253.46 ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.38%					
46) 4-Bromofluorobenzene SURR#	23.76	95	1788470	256.53 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.61%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.91	85	720006	227.42 ng		99
3) Dichlorotetrafluoroethane	4.05	135	1001146	209.81 ng	#	39
4) Chloromethane	4.30	50	555988	244.85 ng	#	97
5) Vinyl chloride	4.53	62	568696	261.26 ng		97
6) Bromomethane	5.36	94	847458	231.08 ng		99
7) Chloroethane	5.47	64	371426	253.06 ng		99
8) Trichlorofluoromethane	5.98	101	980576	230.74 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.77	151	1277731	235.98 ng		88
10) 1,1-Dichloroethene	7.14	96	716118	244.12 ng		94
12) Methylene chloride	8.03	49	1049047	276.89 ng		95
13) Carbon disulfide	8.18	76	2009365	254.36 ng		99
14) methyl-Tert-Butyl Ether	8.31	73	1081050	308.87 ng		97
15) trans-1,2-Dichloroethene	8.60	96	779376	248.26 ng		95
16) n-Hexane	8.70	57	692068	230.04 ng	#	1
17) 1,1-Dichloroethane	9.43	63	1334488	257.88 ng		99
18) cis-1,2-Dichloroethene	10.65	61	1114640	269.90 ng		96
19) Chloroform	10.98	83	1767104	270.02 ng		99
20) Isooctane	11.94	57	2382824	235.31 ng		99
21) 1,1,1-Trichloroethane	11.85	97	1475355	269.63 ng		91
22) Carbon tetrachloride	12.42	117	1565414	266.12 ng		97
24) 1,2-Dichloroethane	12.67	62	923490	298.00 ng		99
25) 1,2-Dibromoethane	19.63	107	1416265	292.42 ng		97
27) Benzene	12.75	78	1957891	268.65 ng		99

(#) = qualifier out of range (m) = manual integration
CM1226A.D TO14S.M Wed Dec 26 12:38:41 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

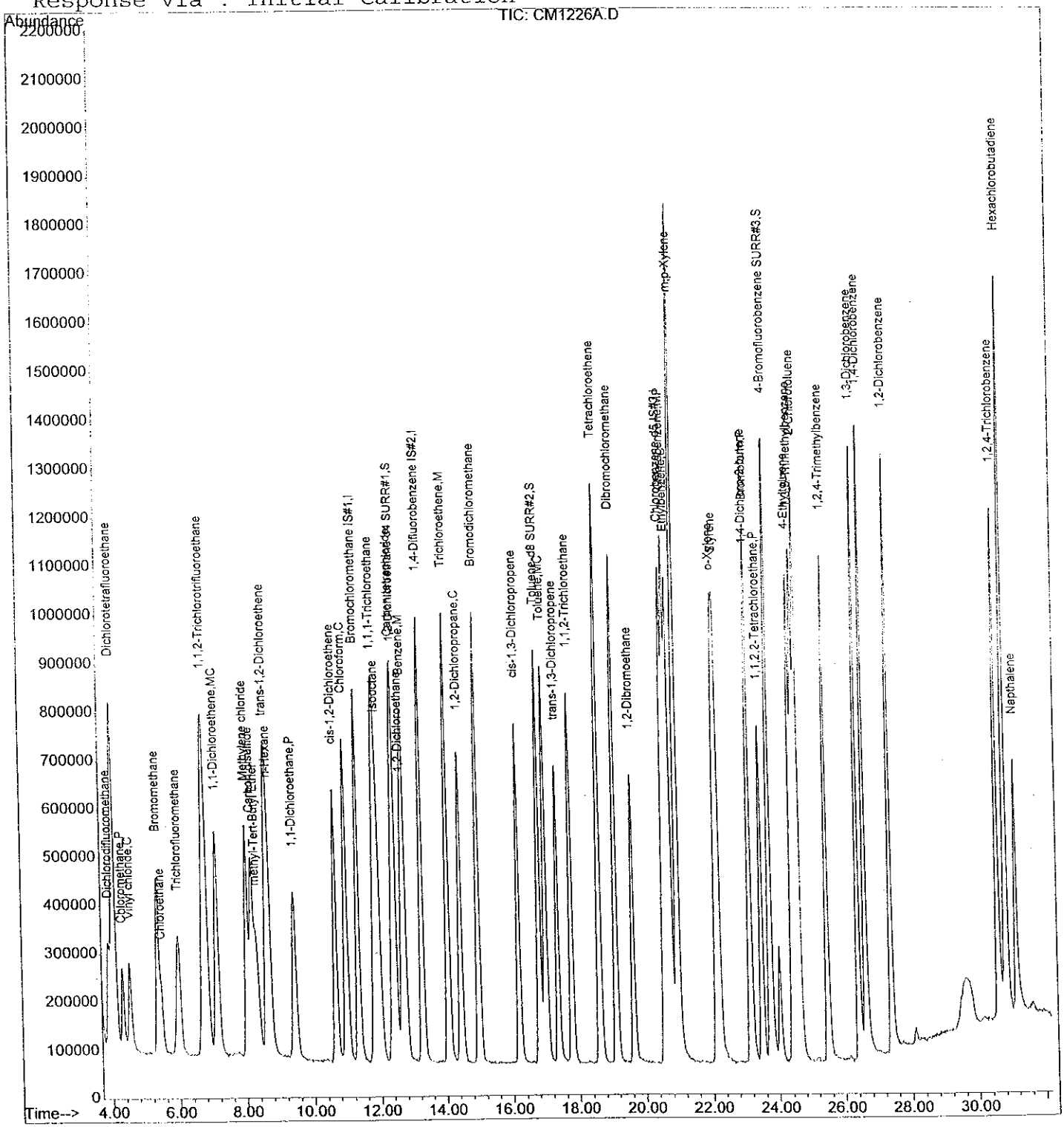
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	1058197	258.60 ng		96
29)	1,2-Dichloropropane	14.46	63	831006	271.91 ng		96
30)	Bromodichloromethane	14.98	83	2045960	290.84 ng		99
31)	cis-1,3-Dichloropropene	16.19	75	1254613	282.58 ng		95
33)	Toluene	17.00	92	1218759	260.57 ng		98
34)	trans-1,3-Dichloropropene	17.37	75	1042666	304.79 ng		94
35)	1,1,2-Trichloroethane	17.78	97	837962	294.72 ng		97
37)	Tetrachloroethene	18.62	164	968014	250.94 ng		96
38)	Dibromochloromethane	19.11	127	1459756	289.49 ng		99
39)	Chlorobenzene	20.68	112	1828326	263.27 ng		96
40)	Ethylbenzene	20.77	106	722821	259.21 ng		98
41)	m,p-Xylene	20.98	106	1861996	519.17 ng		100
42)	o-Xylene	22.13	106	909990	261.07 ng		100
43)	Styrene	22.20	104	1439742	265.78 ng		99
44)	Bromoform	23.17	173	1370944	298.99 ng		99
45)	1,1,2,2-Tetrachloroethane	23.49	83	1346380	327.85 ng		100
47)	1,4-Dichloro-2-butene	23.13	75	267783	343.42 ng		94
48)	4-Ethyltoluene	24.42	105	2286526	245.23 ng		93
49)	1,3,5-Trimethylbenzene	24.52	105	1876030	261.44 ng		88
50)	2-Chlorotoluene	24.62	91	2473225	269.62 ng		96
51)	1,2,4-Trimethylbenzene	25.48	105	1982111	264.73 ng		97
52)	1,3-Dichlorobenzene	26.41	146	1628169	263.63 ng		96
53)	1,4-Dichlorobenzene	26.63	146	1710985	262.91 ng		96
54)	1,2-Dichlorobenzene	27.39	146	1540888	272.84 ng		96
55)	1,2,4-Trichlorobenzene	30.59	180	1108193	279.64 ng		100
56)	Napthalene	31.15	128	1506883	320.07 ng	#	92
57)	Hexachlorobutadiene	30.83	225	918168	268.49 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D
Acq On : 26 Dec 2001 12:06
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:08 2001
Response via : Multiple Level Calibration

passed BH 12/26/01

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	87	0.00
2		Dichlorodifluoromethane	1.212	1.103	9.0#	87	0.00
3		Dichlorotetrafluoroethane	1.827	1.533	16.1#	72	0.00
4	P	Chloromethane	0.869	0.851	2.1#	83	0.00
5	C	Vinyl chloride	0.833	0.871	-4.6#	85	0.00
6		Bromomethane	1.404	1.298	7.5#	80	0.00
7		Chloroethane	0.562	0.569	-1.2	84	0.00
8		Trichlorofluoromethane	1.456	1.502	-3.2#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	1.957	5.6#	80	0.00
10	MC	1,1-Dichloroethene	1.123	1.097	2.3#	81	0.00
11		Iodomethane	0.000	0.000	0.0	126	0.00
12		Methylene chloride	1.450	1.606	-10.8#	90	0.00
13		Carbon disulfide	3.024	3.077	-1.8	85	0.00
14		methyl-Tert-Butyl Ether	1.340	1.656	-23.6#	99	0.00
15		trans-1,2-Dichloroethene	1.202	1.194	0.7	81	0.00
16		n-Hexane	1.152	1.060	8.0#	77	0.00
17	P	1,1-Dichloroethane	1.981	2.044	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	1.581	1.707	-8.0#	89	0.00
19	C	Chloroform	2.506	2.706	-8.0#	88	0.00
20		Isooctane	3.877	3.649	5.9#	81	0.00
21		1,1,1-Trichloroethane	2.095	2.259	-7.8#	88	0.00
22		Carbon tetrachloride	2.252	2.397	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.221	-14.5#	97	0.00
24		1,2-Dichloroethane	1.186	1.414	-19.2#	93	0.00
25		1,2-Dibromoethane	1.854	2.169	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	86	0.00
27	M	Benzene	0.713	0.766	-7.4#	85	0.00
28	M	Trichloroethene	0.400	0.414	-3.5#	82	0.00
29	C	1,2-Dichloropropane	0.299	0.325	-8.7#	85	0.00
30		Bromodichloromethane	0.688	0.801	-16.4#	90	0.00
31		cis-1,3-Dichloropropene	0.434	0.491	-13.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.774	0.785	-1.4	87	0.00
33	MC	Toluene	0.458	0.477	-4.1#	82	0.00
34		trans-1,3-Dichloropropene	0.335	0.408	-21.8#	92	0.00
35		1,1,2-Trichloroethane	0.278	0.328	-18.0#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.489	0.491	-0.4	80	0.00
38		Dibromochloromethane	0.639	0.740	-15.8#	88	0.00
39	MP	Chlorobenzene	0.880	0.926	-5.2#	83	0.00

(#) = Out of Range
CM1226A.D TO14S.M Wed Dec 26 12:42:15 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D
Acq On : 26 Dec 2001 12:06
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:08 2001
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.366	-3.7#	82	0.00
41		m,p-Xylene	0.454	0.472	-4.0#	82	0.00
42		o-Xylene	0.442	0.461	-4.3#	82	0.00
43		Styrene	0.686	0.730	-6.4#	83	0.00
44	P	Bromoform	0.581	0.695	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.682	-31.2#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.906	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	0.099	0.136	-37.4#	98	0.00
48		4-Ethyltoluene	1.181	1.159	1.9	81	0.00
49		1,3,5-Trimethylbenzene	0.909	0.951	-4.6#	87	0.00
50		2-Chlorotoluene	1.162	1.253	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	0.949	1.004	-5.8#	83	0.00
52		1,3-Dichlorobenzene	0.782	0.825	-5.5#	82	0.00
53		1,4-Dichlorobenzene	0.824	0.867	-5.2#	82	0.00
54		1,2-Dichlorobenzene	0.715	0.781	-9.2#	85	0.00
55		1,2,4-Trichlorobenzene	0.502	0.562	-12.0#	89	0.00
56		Napthalene	0.601	0.764	-27.1#	98	0.00
57		Hexachlorobutadiene	0.433	0.465	-7.4#	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK renamed Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00	ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00	ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00	ng	0.00 88.93%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%			
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%			

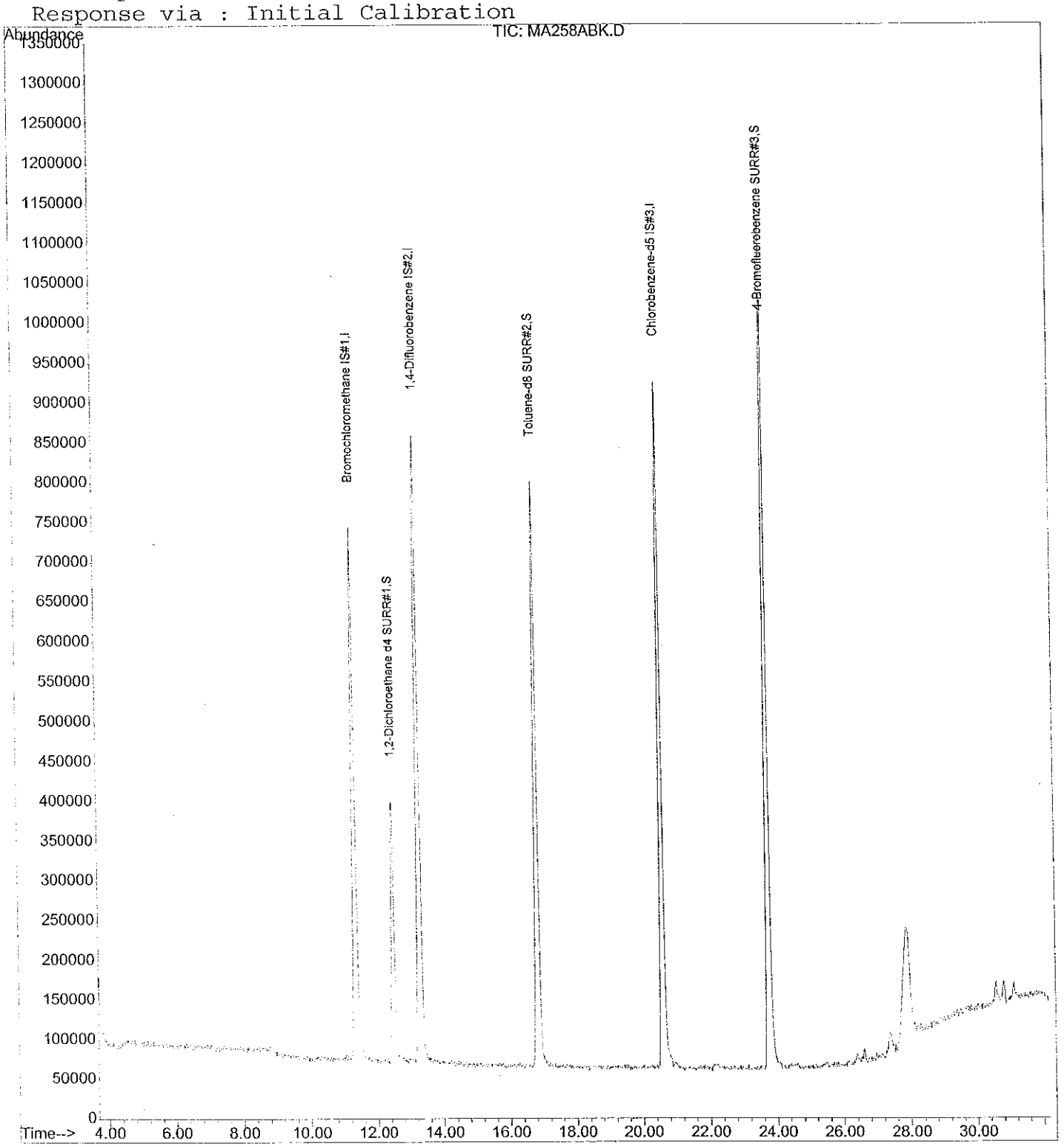
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:45 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D
Acq On : 26 Dec 2001 12:41
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Rename to proper Batch ID

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00 ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00 ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00 ng	0.00 88.93%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56 ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%		
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%		
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07 ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA256ABK.D TO14S.M Wed Dec 26 13:33:49 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:14 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00	ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00	ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00	ng	0.00 88.93%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%			
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%			

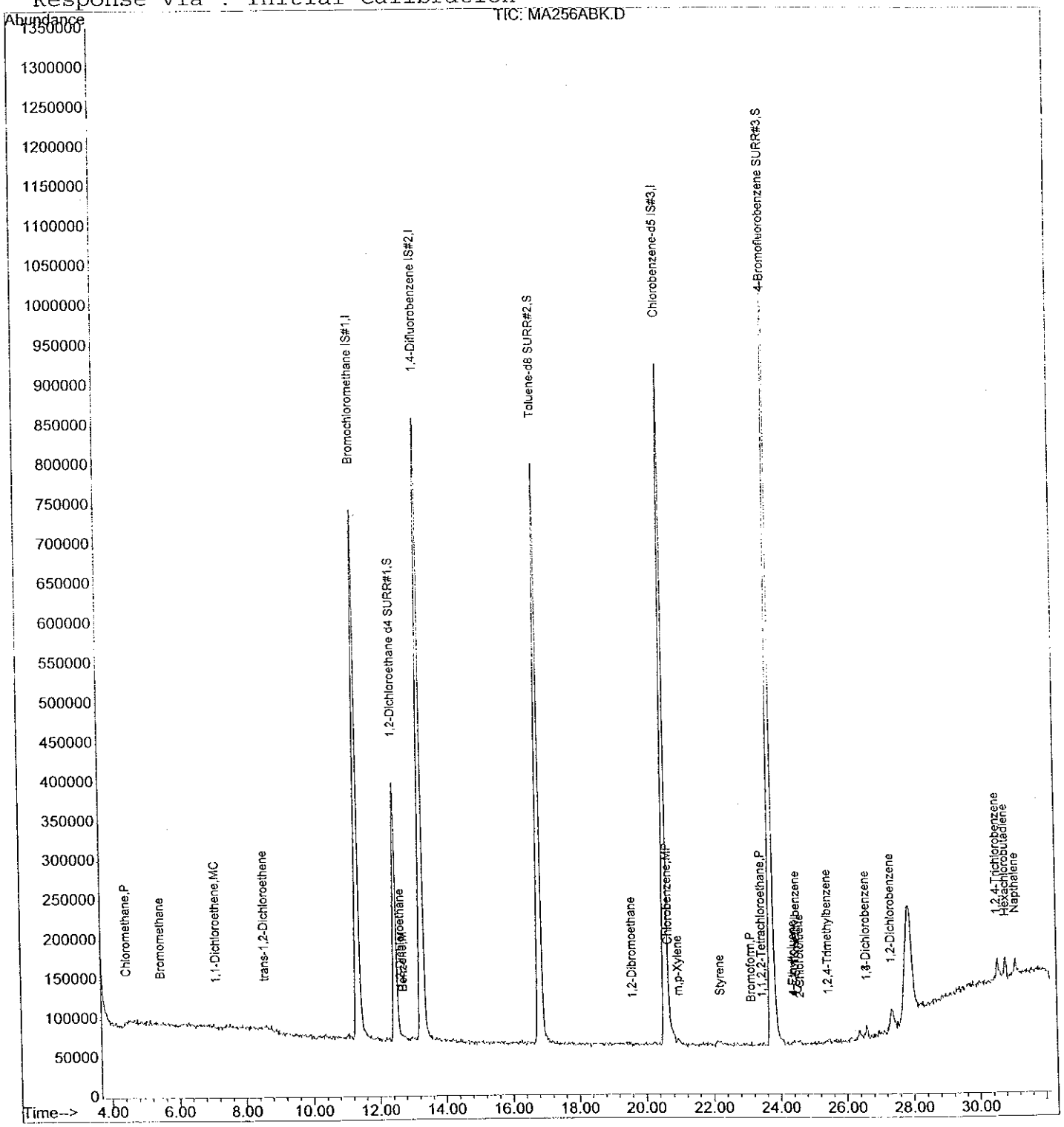
Target Compounds

						Qvalue
4) Chloromethane	4.44	50	1073	0.52	ng	# 46
6) Bromomethane	5.47	94	1087	0.33	ng	# 9
10) 1,1-Dichloroethene	7.13	96	1932	0.73	ng	# 1
15) trans-1,2-Dichloroethene	8.57	96	1070	0.38	ng	# 1
24) 1,2-Dichloroethane	12.67	62	1133	0.40	ng	# 49
25) 1,2-Dibromoethane	19.62	107	992	0.23	ng	# 3
27) Benzene	12.73	78	5932	0.91	ng	# 54
39) Chlorobenzene	20.70	112	4711	0.76	ng	# 1
41) m,p-Xylene	20.98	106	3536	1.11	ng	# 1
43) Styrene	22.22	104	3598	0.75	ng	# 1
44) Bromoform	23.15	173	1893	0.46	ng	# 32
45) 1,1,2,2-Tetrachloroethane	23.47	83	3143	0.86	ng	# 30
48) 4-Ethyltoluene	24.41	105	16008	1.93	ng	# 46
49) 1,3,5-Trimethylbenzene	24.51	105	10437	1.64	ng	# 60
50) 2-Chlorotoluene	24.62	91	16575	2.03	ng	# 47
51) 1,2,4-Trimethylbenzene	25.46	105	15109	2.27	ng	# 70
52) 1,3-Dichlorobenzene	26.61	146	17365	3.16	ng	93
53) 1,4-Dichlorobenzene	26.61	146	17365	3.00	ng	93
54) 1,2-Dichlorobenzene	27.37	146	13205	2.63	ng	92
55) 1,2,4-Trichlorobenzene	30.55	180	26715	7.58	ng	# 92
56) Napthalene	31.11	128	56117	19.10	ng	# 84
57) Hexachlorobutadiene	30.82	225	18537	6.10	ng	92

(#) = qualifier out of range (m) = manual integration <RL|NR|NSF
MA256ABK.D TO14S.M Wed Dec 26 13:14:04 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:14 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Jan 03 13:53:40 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	236.66	250.00	94.66	58 to 138%	[ ]
27)	M	Benzene	278.40	250.00	111.36	87 to 116%	[ ]
28)	M	Trichloroethene	272.93	250.00	109.17	85 to 116%	[ ]
33)	MC	Toluene	280.09	250.00	112.04	86 to 113%	[ ]
39)	MP	Chlorobenzene	274.66	250.00	109.86	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	112630					
Batch	MAB258	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		278.4	0.5000	0.5568	111%	87-116%
Chlorobenzene		274.66	0.5000	0.5493	110%	88-111%
1,1-Dichloroethene		236.66	0.5000	0.4733	95%	58-138%
Toluene		280.09	0.5000	0.5602	112%	86-113%
Trichloroethene		272.93	0.5000	0.5459	109%	85-116%
1,2-Dichloroethane-d4		280.63	0.5000	0.5613	112%	61-140%
Toluene-d8		256.02	0.5000	0.5120	102%	90-109%
4-Bromofluorobenzene		249.02	0.5000	0.4980	100%	87-112%

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Renared Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00 ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00 ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00 ng	0.00 119.23%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.25%					
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02 ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.41%					
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02 ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.61%					

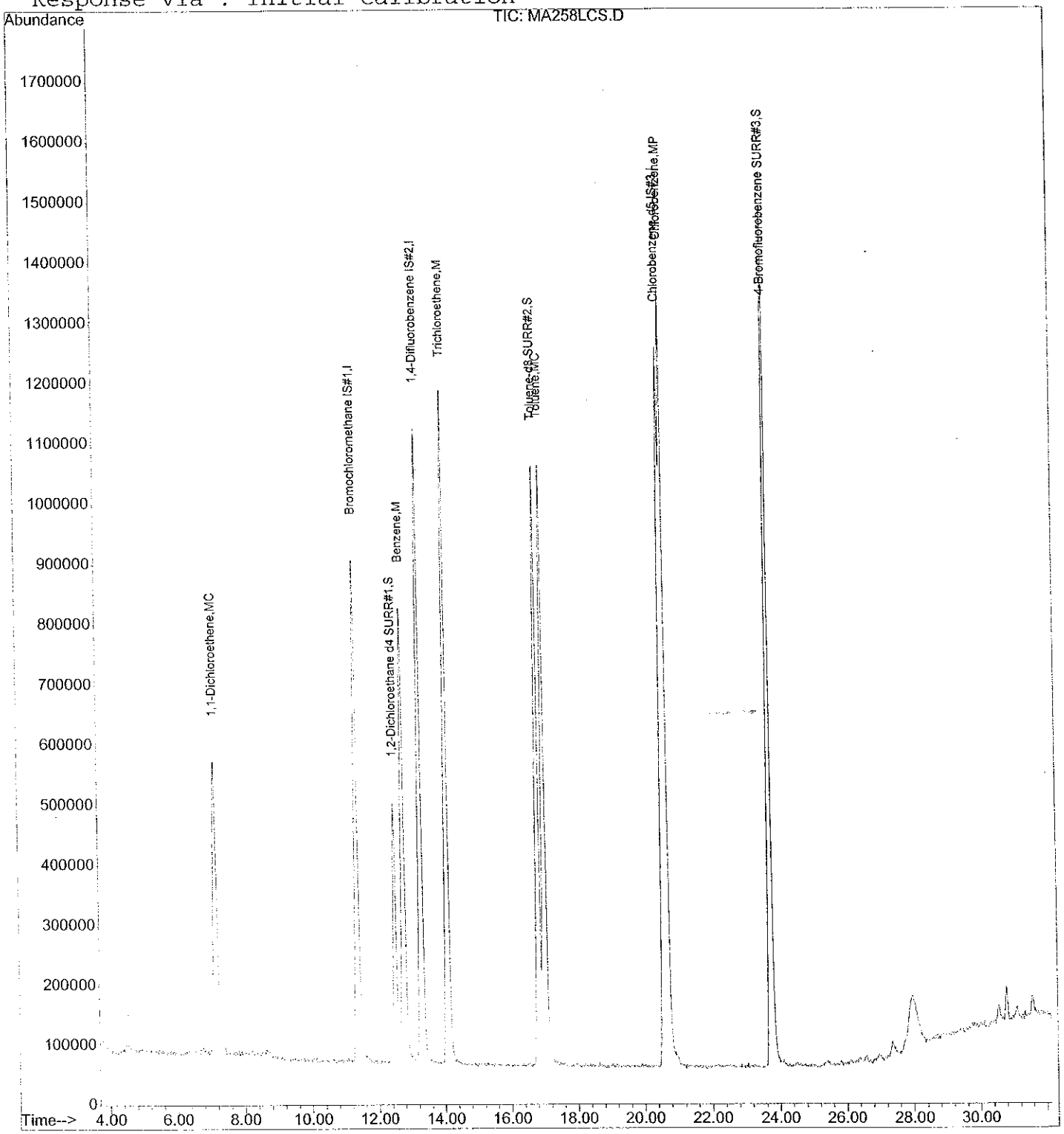
Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.14	96	824324	236.66 ng	91
27) Benzene	12.76	78	2396679	278.40 ng	99
28) Trichloroethene	14.10	130	1319254	272.93 ng	95
33) Toluene	17.01	92	1547455	280.09 ng	98
39) Chlorobenzene	20.68	112	2274250	274.66 ng	87

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:45 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D
Acq On : 26 Dec 2001 13:16
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Rename to proper Batch ID

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

B W 12/26/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00 ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00 ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00 ng	0.00 119.23%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.25%		
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.41%		
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02 ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.61%		

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.14	96	824324	236.66 ng	91
27) Benzene	12.76	78	2396679	278.40 ng	99
28) Trichloroethene	14.10	130	1319254	272.93 ng	95
33) Toluene	17.01	92	1547455	280.09 ng	98
39) Chlorobenzene	20.68	112	2274250	274.66 ng	87

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Wed Dec 26 14:57:06 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D
Acq On : 26 Dec 2001 13:16
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00 ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00 ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00 ng	0.00 119.23%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.25%		
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.41%		
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02 ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.61%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.88	85	7326	1.95 ng	#	41
4) Chloromethane	4.42	50	2032	0.75 ng	#	46
6) Bromomethane	5.39	94	1192	0.27 ng	#	9
9) 1,1,2-Trichlorotrifluoroet	6.74	151	8979	1.40 ng	#	72
10) 1,1-Dichloroethene	7.14	96	824324	236.66 ng		91
13) Carbon disulfide	8.18	76	11263	1.20 ng	#	93
15) trans-1,2-Dichloroethene	8.65	96	6677	1.79 ng	#	1
16) n-Hexane	8.71	57	16121	4.51 ng	#	1
22) Carbon tetrachloride	12.40	117	3095	0.44 ng	#	85
24) 1,2-Dichloroethane	12.73	62	20588	5.60 ng	#	49
27) Benzene	12.76	78	2396679	278.40 ng		99
28) Trichloroethene	14.10	130	1319254	272.93 ng		95
29) 1,2-Dichloropropane	14.07	63	2046	0.57 ng	#	1
33) Toluene	17.01	92	1547455	280.09 ng		98
34) trans-1,3-Dichloropropene	17.01	75	14689	3.64 ng	#	1
37) Tetrachloroethene	18.63	164	1101	0.24 ng	#	42
39) Chlorobenzene	20.68	112	2274250	274.66 ng		87
41) m,p-Xylene	20.99	106	5318	1.24 ng	#	1
43) Styrene	22.20	104	2925	0.45 ng	#	45
48) 4-Ethyltoluene	24.50	105	19455	1.75 ng	#	89
49) 1,3,5-Trimethylbenzene	24.50	105	19455	2.27 ng	#	64
50) 2-Chlorotoluene	24.61	91	15759	1.44 ng	#	59
51) 1,2,4-Trimethylbenzene	25.45	105	13164	1.47 ng		88

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

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001 Quant Results File: TO14S.RES

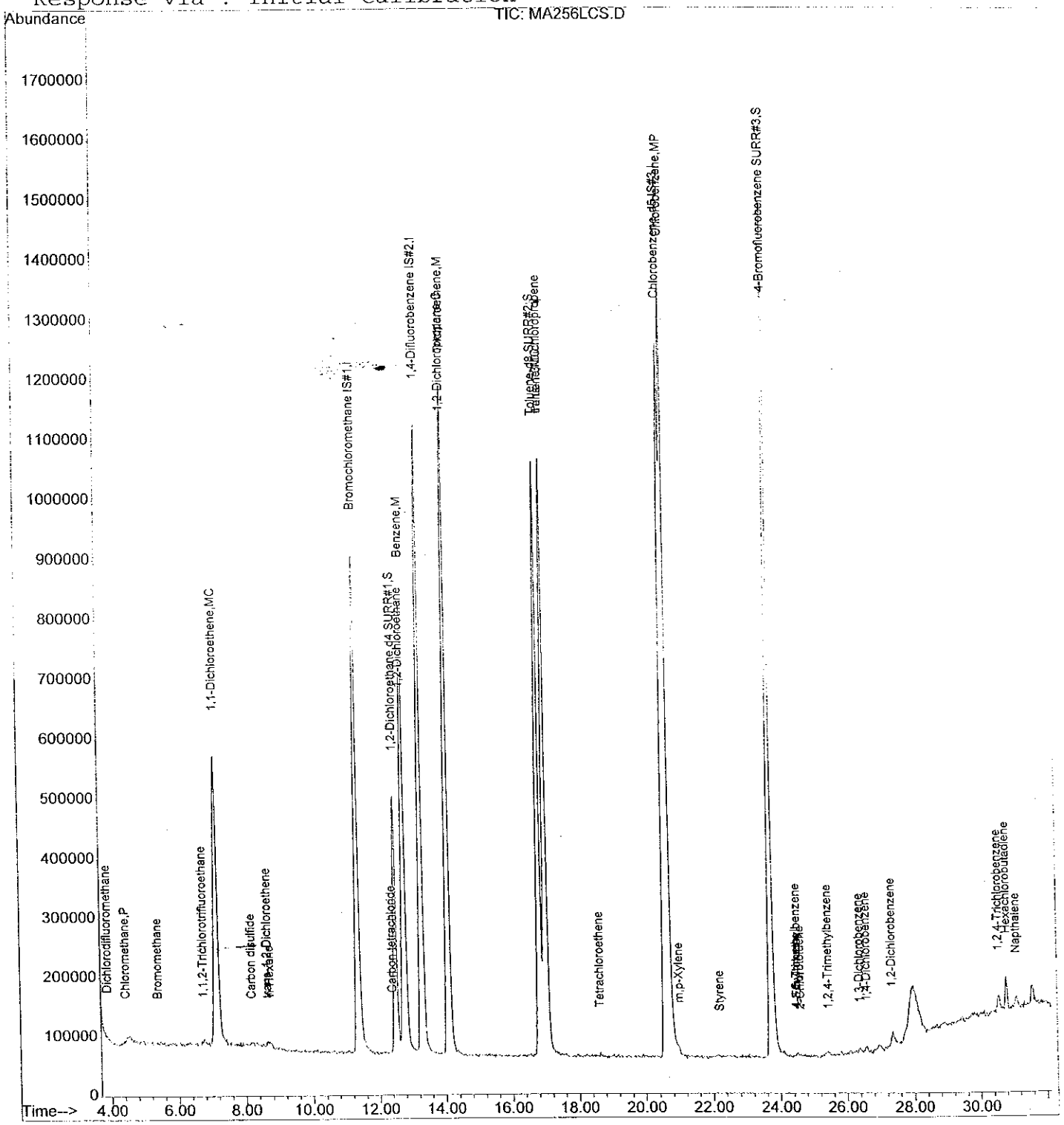
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
52) 1,3-Dichlorobenzene	26.39	146	12047	1.64 ng	#	60
53) 1,4-Dichlorobenzene	26.59	146	11805	1.52 ng	#	66
54) 1,2-Dichlorobenzene	27.35	146	11022	1.64 ng	#	80
55) 1,2,4-Trichlorobenzene	30.55	180	29998	6.35 ng	#	86
56) Napthalene	31.10	128	52505	15.13 ng	#	78
57) Hexachlorobutadiene	30.80	225	33665	8.26 ng		93

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Wed Dec 26 13:48:30 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D
Acq On : 26 Dec 2001 16:17
Sample : 062SVEEA12200119\12630-1 ST. 500mls
Misc : Pi/Pf=2 MA258ABK
MS Integration Params: rteint.p
Quant Time: Dec 26 17:01 2001

Vial: 1
Operator: BDH
Inst : ~~GC/MS~~ Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	829999	250.00 ng	0.04 127.10%
26) 1,4-Difluorobenzene IS#2	13.29	114	3343793	250.00 ng	0.01 130.83%
36) Chlorobenzene-d5 IS#3	20.58	117	2589434	250.00 ng	0.00 131.21%

mg/m3 report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	985626	278.53 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 111.41%		
32) Toluene-d8 SURR#2	16.83	98	2632894	254.33 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.73%		
46) 4-Bromofluorobenzene SURR#	23.72	95	2270326	248.17 ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.27%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
126301.D TO14S.M Wed Dec 26 17:02:11 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D
Acq On : 26 Dec 2001 16:17
Sample : 062SVEEA12200119\12630-1 ST. 500mls
Misc : Pi/Pf=2 MA25~~6~~ABK 54 12/26
MS Integration Params: rteint.p
Quant Time: Dec 26 16:49 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	829999	250.00	ng	0.04 127.10%
26) 1,4-Difluorobenzene IS#2	13.29	114	3343793	250.00	ng	0.01 130.83%
36) Chlorobenzene-d5 IS#3	20.58	117	2589434	250.00	ng	0.00 131.21%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	985626	278.53	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 111.41%			
32) Toluene-d8 SURR#2	16.83	98	2632894	254.33	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.73%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2270326	248.17	ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.27%			

Target Compounds

						Qvalue
6) Bromomethane	5.34	94	1156	0.25	ng	# 9
12) Methylene chloride	8.07	49	1104	0.23	ng	# 13
15) trans-1,2-Dichloroethene	8.64	96	5499	1.38	ng	# 1
24) 1,2-Dichloroethane	12.70	62	3279	0.83	ng	# 49
27) Benzene	12.79	78	1900	0.20	ng	# 54
37) Tetrachloroethene	18.61	164	986	0.19	ng	# 1
41) m,p-Xylene	20.97	106	2287	0.49	ng	# 1
45) 1,1,2,2-Tetrachloroethane	23.52	83	37142	6.89	ng	# 30
48) 4-Ethyltoluene	24.37	105	25008	2.04	ng	# 69
49) 1,3,5-Trimethylbenzene	24.51	105	16737	1.78	ng	90
50) 2-Chlorotoluene	24.48	91	976	0.08	ng	# 47
51) 1,2,4-Trimethylbenzene	25.44	105	29114	2.96	ng	92
56) Napthalene	31.09	128	3358	6.48	ng	# 64

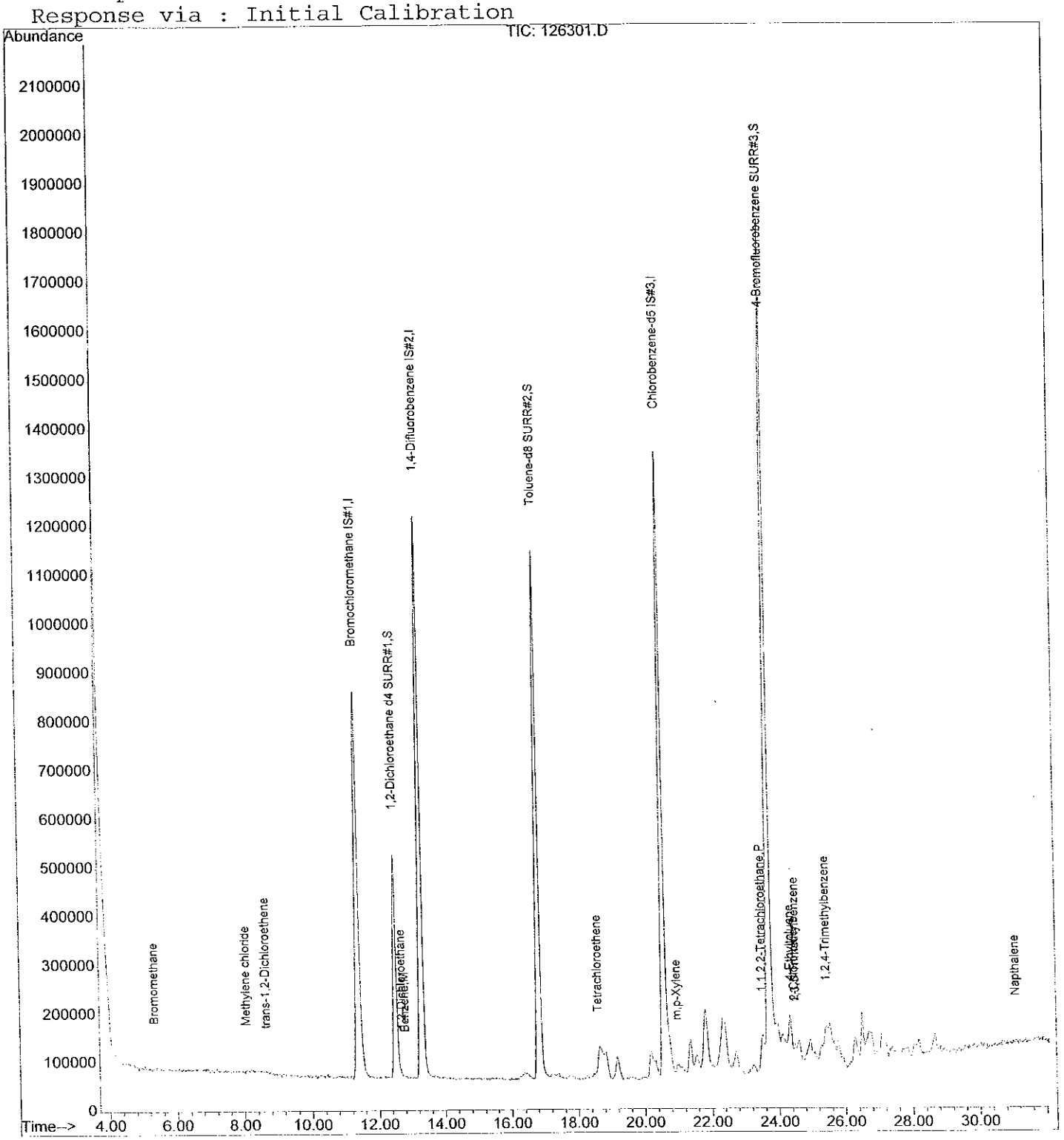
G1

(#) = qualifier out of range (m) = manual integration
126301.D TO14S.M Wed Dec 26 16:49:17 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D
Acq On : 26 Dec 2001 16:17
Sample : 062SVEEA12200119\12630-1 ST. 500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 26 16:49 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date R-P	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DKW 5/15/98	7-VN 2-1
502A-R	A704037	Acc STD	2000 µg/ml	7/1999	DKW 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AW 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DKW 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKW 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BAH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BAH 7/23/98	7-VN 2-8
VOC 8260 mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LAD~~ ~~BAH~~ 7/28/98	7-VN 2-9
8260 SURR	A11795	Restek	2500 µg/ml	8/2001	DKW 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKW 10/6/98	7-VN 2-11
Matrix Spike	LA76200	Supelco	25 µg/ml	8/2000	DKW 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DKW 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Various	6/2000	DKW 11/10/98	7-VN 2-14
Benzene d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8080942-38	Accustandard	200.1 µg/ml	9/99	BD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKW 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKW 3/9/99	7-VN 2-19
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	DKW 3/10/99	7-VN 2-20
8260 Calibration Kit	Various	Restek	Various	6/2001	DKW 3/10/99	7-VN 2-21
8260 Calib. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKW 5/10/99	7-VN 2-22
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DKW 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKW 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKW 5/14/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BAH 6/3/99	7-VN 2-26
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DKW 6/9/99	7-VN 2-27
Idomethane	LA81867	Supelco	2000	4/2000	DKW 6/29/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl NAphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDH 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	AVG 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	AVG 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	AVG 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 date	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SURR	A014215	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Vitrea	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90442	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016259	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/02 ~~5~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89947	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016378	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810028 A810028	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	drench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0 mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000 µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various 4/16/01	4/16/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-To14	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Tetrahydrofuran	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW 26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: [illegible]

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8-MSW23-1
Location: MS018-Freezer
Solvent: MEOH-V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SURR
Date: 6/20/01
Analyst:

Standard I.D.: 8-MSW23-2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SUR	A017773	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: To14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8-MSW23-3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (To14 Custom)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C202062
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field

Client Sample ID	STL Sample ID
063-SVE-E-A-0130-02-20	C202062-1

The above-referenced sample was received in good condition at STL Pensacola on February 4, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of samples.

Please refer to "CLP Data Qualifiers" or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes
Senior Project Manager

2/19/02

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
Received: 04 FEB 02
Reported: 18 FEB 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02062-1	063-SVE-E-A-0130-02-20	01-30-02/09:20

PARAMETER	02062-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
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Reported: 18 FEB 02

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CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02062-1	063-SVE-E-A-0130-02-20	01-30-02/09:20

PARAMETER	02062-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	97 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	103 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02062-1	063-SVE-E-A-0130-02-20	01-30-02/09:20

PARAMETER	02062-1
Dilution Factor	1
Prep Date	02.13.02
Prep Time	14:27
Analysis Date	02.13.02
Analysis Time	14:40
Batch ID	MAB025
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
Received: 04 FEB 02
Reported: 18 FEB 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02062-2	Method Blank	
02062-3	Lab Control Standard True Value	
02062-4	Lab Control Standard Result	
02062-5	Lab Control Standard % Recovery	
02062-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02062-2	02062-3	02062-4	02062-5	02062-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4878	98 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5026	101 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
Received: 04 FEB 02
Reported: 18 FEB 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02062-2	Method Blank	
02062-3	Lab Control Standard True Value	
02062-4	Lab Control Standard Result	
02062-5	Lab Control Standard % Recovery	
02062-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02062-2	02062-3	02062-4	02062-5	02062-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4186	84 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5002	100 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
Received: 04 FEB 02
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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02062-2	Method Blank	
02062-3	Lab Control Standard True Value	
02062-4	Lab Control Standard Result	
02062-5	Lab Control Standard % Recovery	
02062-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02062-2	02062-3	02062-4	02062-5	02062-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4857	97 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	99 %	0.5000	0.5050	101 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5073	101 %	90-109
Surrogate - 4-Bromofluorobenzene	101 %	0.5000	0.5042	101 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	02.13.02	---	02.13.02	---	---
Prep Time	11:10	---	11:47	---	---
Analysis Date	02.13.02	---	02.13.02	---	---
Analysis Time	11:23	---	12:00	---	---
Batch ID	MAB025	MAB025	MAB025	MAB025	MAB025
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02062
Received: 04 FEB 02
Reported: 18 FEB 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 092820218

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02062-2	Method Blank	
02062-3	Lab Control Standard True Value	
02062-4	Lab Control Standard Result	
02062-5	Lab Control Standard % Recovery	
02062-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02062-2	02062-3	02062-4	02062-5	02062-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C202062 Date Received: 2/4/02

1. Was there a Chain of Custody? (Yes) No♣
2. Was Chain of Custody properly filled out and relinquished? (Yes) No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No♣ (N/A)
4. Were all samples properly labeled and identified? (Yes) No♣
5. Did samples require splitting or compositing♦? Yes♣ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No♣
7. Were all sample containers received intact? (Yes) No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ (N/A)
9. Is there sufficient volume for analysis requested? Yes No♣ (N/A) *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No♣ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ (N/A)

Airbill Number(s): 7902 9318 3216

Shipped By: FedEx

Cooler Number(s): Box CLAW # 300

Shipping Charges: N/A

Cooler Weight(s): 16 H

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 2/4/02 Logged By: PAE Date: 2/4/02

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

WORD\ELKINS\SAMPCTR\PSIF.DOC November 28, 2000

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C2020 62

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-025

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0130-02-20	SVE Effluent	AIR	01/30/02	9:20	III/C	14 Day	1										Grab	Summa Canister 300	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK #791767107695.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	1/31/02	11:00	Federal Express	1/31/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	2/4/02	0915
Printed Name and Signature:			Printed Name and Signature:		

[ ] Laboratory (To be returned with Analytical Report): [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC001 Rev 02/00

NAS Cecil Field, CTO-0062

STL Pensacola

6

From: RANDY N DUMAOP (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 AUTHORITY AVE

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
Severn Trent Labs
3355 McLemore Dr

Pensacola, FL, 325147045

SHIP DATE: 31JAN02
WEIGHT: 16 LBS

C 202062

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 9318 3216 FORM 0201

BFM

MON
AA
Deliver by:
04FEB02

32514-FL-US

F3 PNSA

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1. Use the 'Print' feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Attach one file label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: [illegible]
Labeled by: MHS
Delivered by: MHS

CH2M-CONST-GA C202062
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MHS	2/4/02	1130
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on single Form I).

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags are limited to X, Y, and Z

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagge with a "W" and no further action is required.

\+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field fc an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

California Department of Health Services, NELAP Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL). Extension granted

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, NELAP Laboratory ID No. 250501 (Wastewater), expires 08/16/02

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

New York State Department of Health, NELAP Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 202062
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Feb. 4, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0130-02-20	202062-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Feb. 14, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0213A.D Date Analyzed : 13 Feb 2002
Instrument ID : MARILYN Time Analyzed : 10:11 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
020621	063SVEEA0130022	97	100	103	0	0	0	0
MA025ABK	VBLKMA\ DAILY M	99	99	101	0	0	0	0
MA025LCS	VLCSMA\ BATCH #	101	101	101	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	202062					
Batch	MAB025	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		243.91	0.5000	0.4878	98%	87-116%
Chlorobenzene		251.3	0.5000	0.5026	101%	88-111%
1,1-Dichloroethene		209.32	0.5000	0.4186	84%	58-138%
Toluene		250.1	0.5000	0.5002	100%	86-113%
Trichloroethene		242.87	0.5000	0.4857	97%	85-116%
1,2-Dichloroethane-d4		252.51	0.5000	0.5050	101%	61-140%
Toluene-d8		253.64	0.5000	0.5073	101%	90-109%
4-Bromofluorobenzene		252.09	0.5000	0.5042	101%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 pm Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 14 16:06:16 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	209.32	250.00	83.73	58 to 138%	[ ]
27)	M	Benzene	243.91	250.00	97.56	87 to 116%	[ ]
28)	M	Trichloroethene	242.87	250.00	97.15	85 to 116%	[ ]
33)	MC	Toluene	250.10	250.00	100.04	86 to 113%	[ ]
39)	MP	Chlorobenzene	251.30	250.00	100.52	88 to 111%	[ ]

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202062

Lab File ID: MA025ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 2/13/02 Time Analyzed: 11:23

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #025 L	MA025LCS.D	12:00
02	SVEEA	063SVEEA01300220\ 02	020621.D	14:40

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202062

Lab File ID: CM0125A.D BFB Injection Date: 1/25/02

Instrument ID: MARILYN BFB Injection Time: 11:34

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	43.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.4
175	4.0 - 9.0% of mass 174	4.9 (6.9)1
176	93.0 - 101.0% of mass 174	68.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0250	VSTD0250 250NG	0250M125.D	1/25/02	14:33
02	VSTD0500	VSTD0500 500NG	0500M125.D	1/25/02	15:09
03	VSTD1000	VSTD1000 1000NG	1000M125.D	1/25/02	15:46
04	VSTD1500	VSTD1500 1500NG	1500M125.D	1/25/02	16:24
05	VSTD0025	VSTD0025 25NG	0025R125.D	1/25/02	17:43
06	VSTD0100	VSTD0100 100NG	0100R125.D	1/25/02	18:20

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202062

Lab File ID: BFM0213A.D BFB Injection Date: 2/13/02

Instrument ID: MARILYN BFB Injection Time: 9:49

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.9
75	30.0 - 66.0% of mass 95	43.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	50.0 - 120.0% of mass 95	65.7
175	4.0 - 9.0% of mass 174	4.9 (7.4)1
176	93.0 - 101.0% of mass 174	64.3 (97.9)1
177	5.0 - 9.0% of mass 176	4.0 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0213A.D	2/13/02	10:11
02	VBLKMA	VBLKMA\ DAILY METHO	MA025ABK.D	2/13/02	11:23
03	LCS AND 2ND	VLCSMA\ BATCH #025 L	MA025LCS.D	2/13/02	12:00
04	SVEEA	063SVEEA01300220\ 02	020621.D	2/13/02	14:40

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.843	R^2=0.981	
								B= 0.088		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.712	R^2=0.998	
								B= -0.369		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

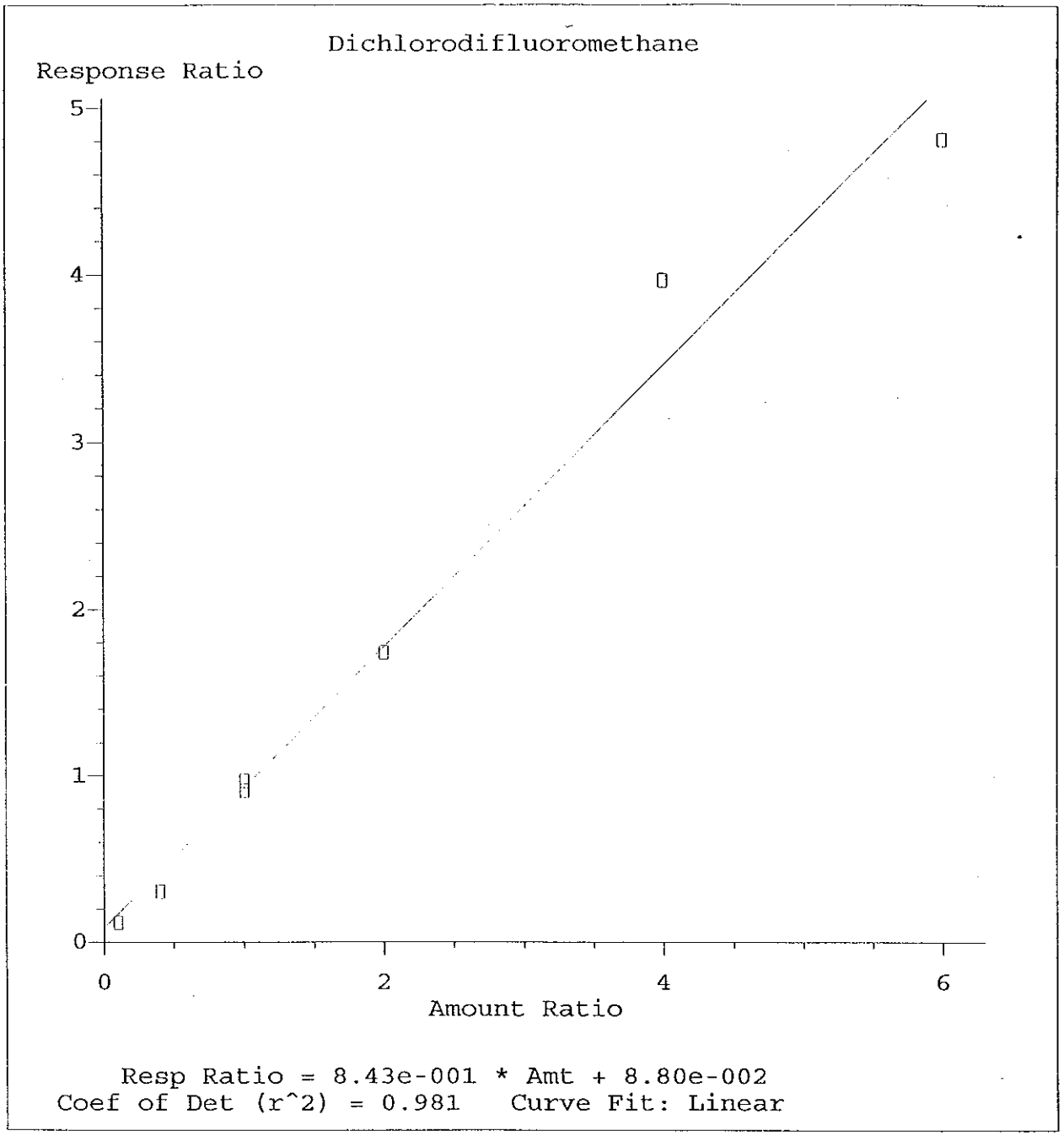
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration

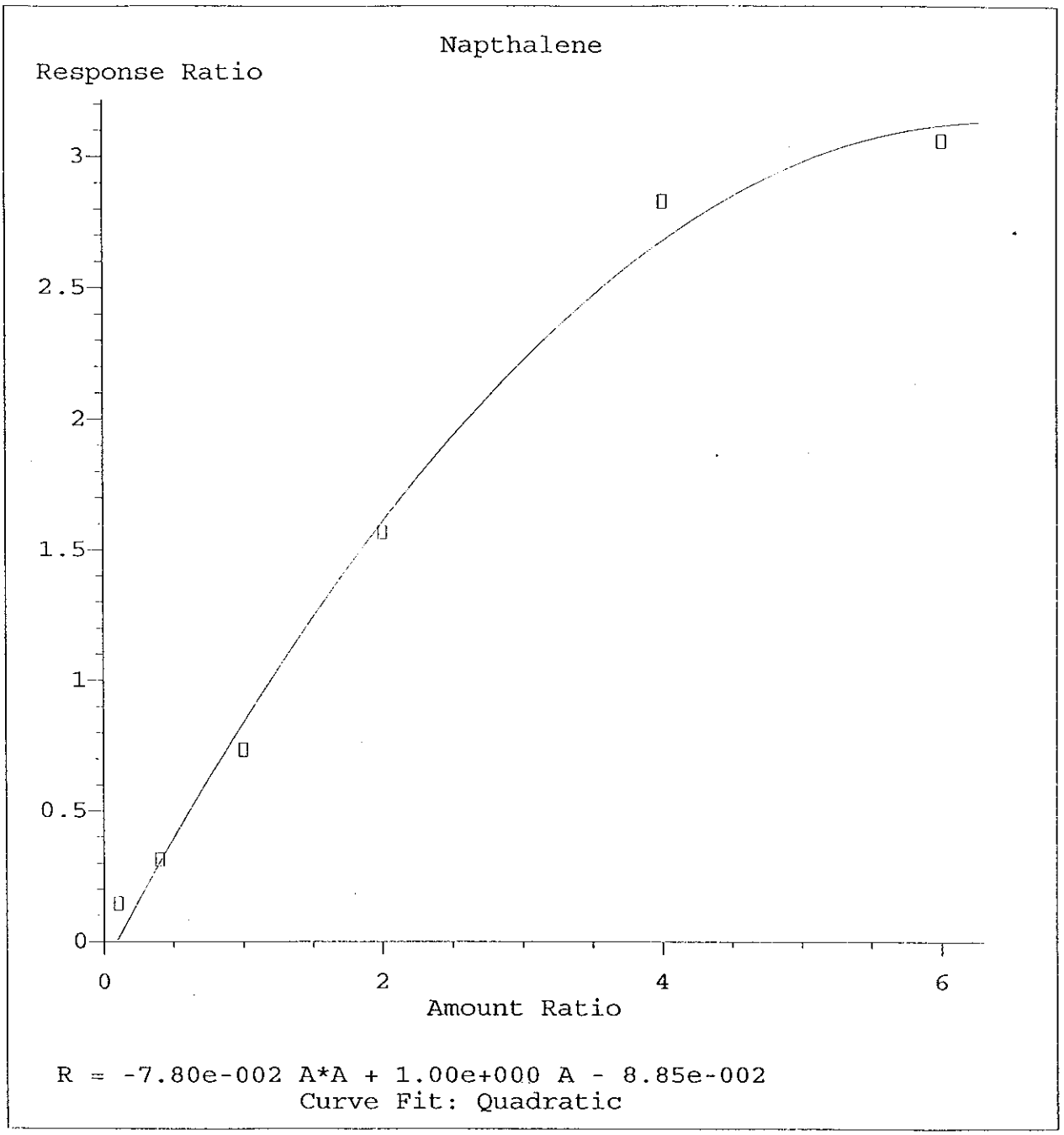
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.991	
								B= 0.777		
								C= -0.094		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.089		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.987	
								B= 0.646		
								C= -0.061		

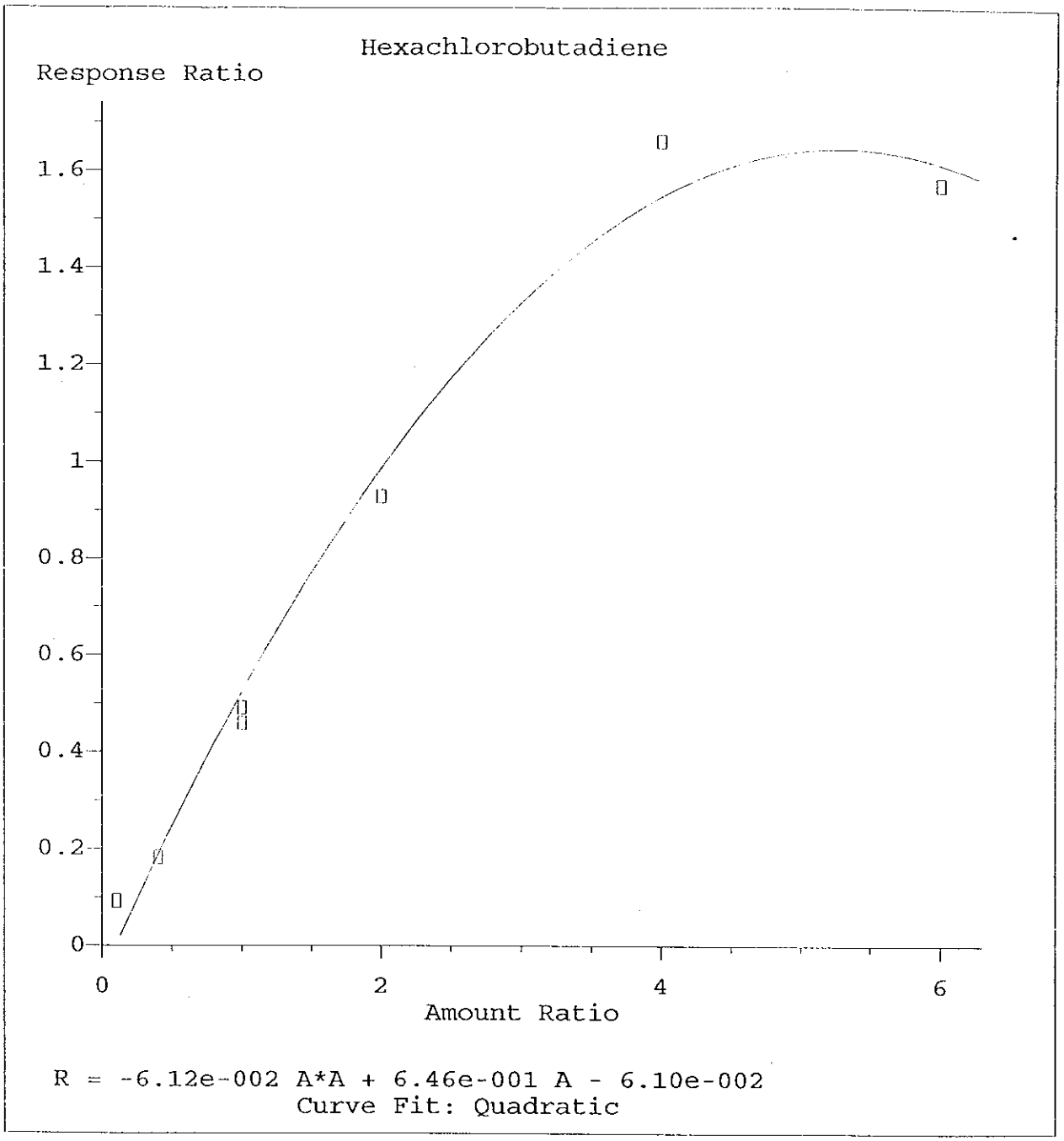
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Thu Feb 14 14:25:14 2002



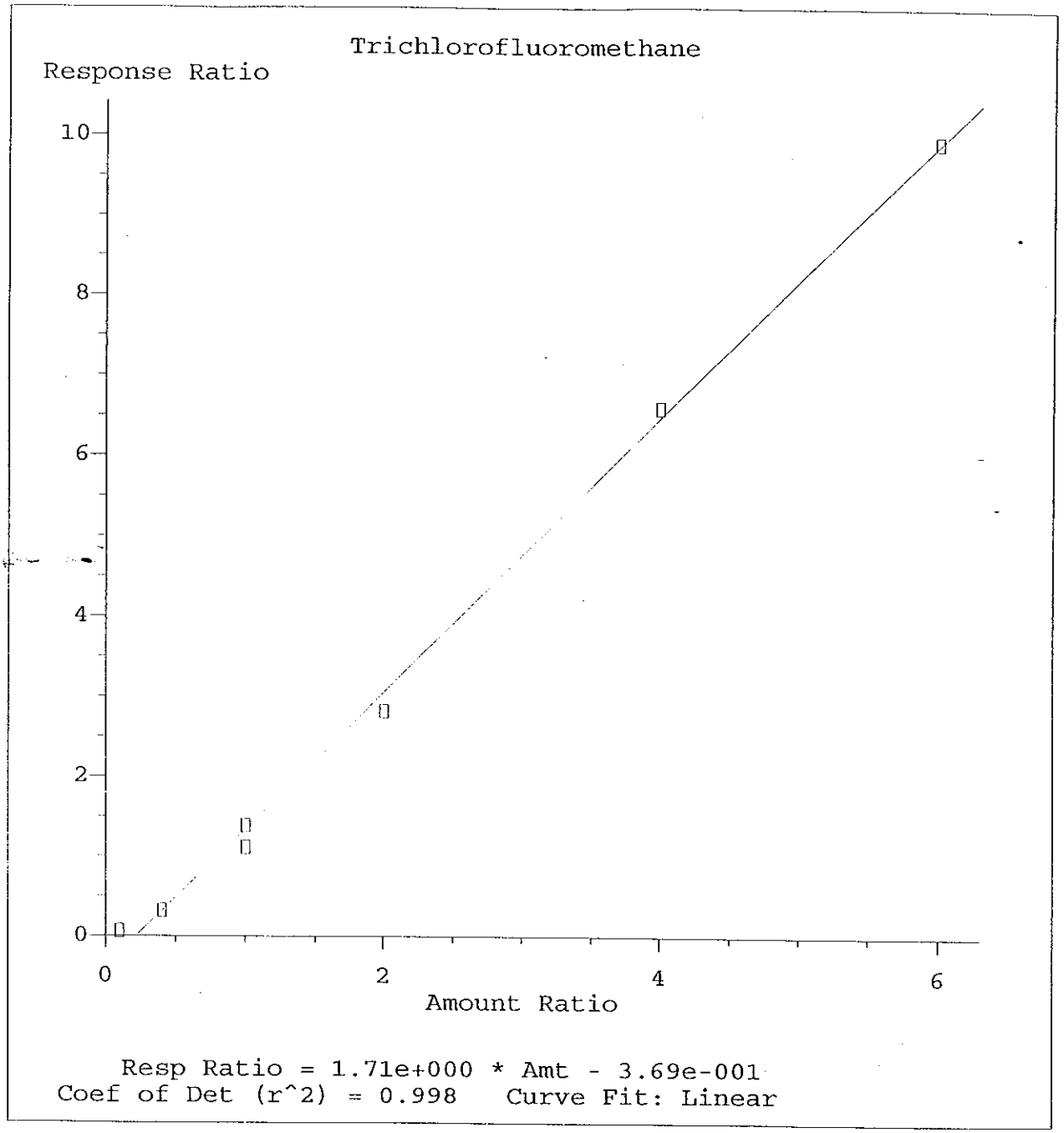
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



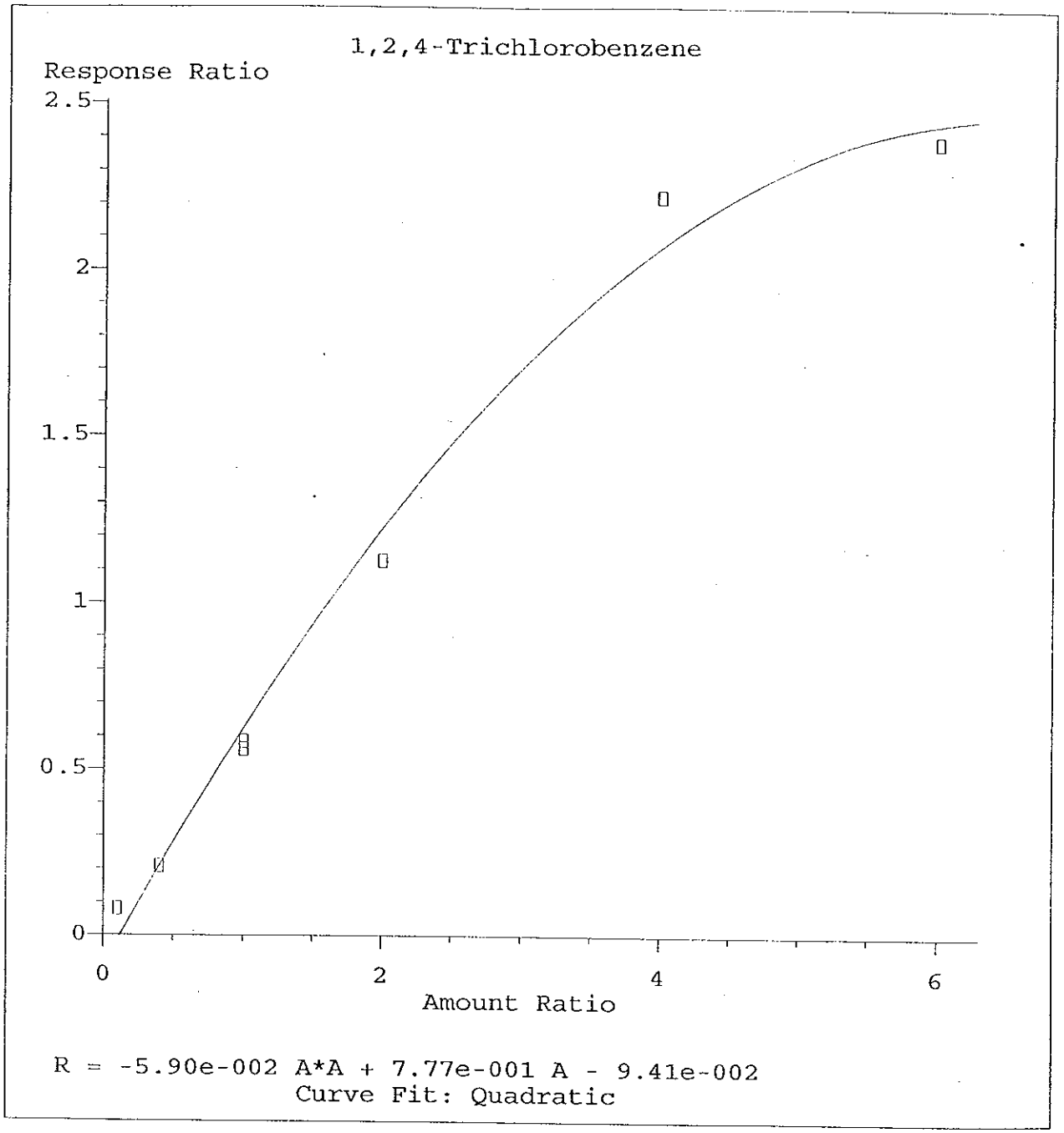
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrat
Title : TO14
Last Update : Thu Feb 14 16:22:28 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	0.919	0.851	7.4#	93	0.00
3		Dichlorotetrafluoroethane	1.446	1.311	9.3#	86	0.00
4	P	Chloromethane	0.788	0.698	11.4#	90	0.00
5	C	Vinyl chloride	0.727	0.690	5.1#	90	0.00
6		Bromomethane	1.180	1.098	6.9#	98	0.00
7		Chloroethane	0.530	0.495	6.6#	92	0.00
8		Trichlorofluoromethane	1.261	1.164	7.7#	83	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.779	4.8#	95	0.00
10	MC	1,1-Dichloroethene	1.064	0.983	7.6#	91	0.00
11		Iodomethane	0.000	0.000	0.0	224#	0.00
12		Methylene chloride	1.431	1.428	0.2	95	0.00
13		Carbon disulfide	2.862	2.720	5.0#	97	0.00
14		methyl-Tert-Butyl Ether	1.551	1.555	-0.3	96	0.00
15		trans-1,2-Dichloroethene	1.194	1.104	7.5#	92	0.00
16		n-Hexane	1.089	1.027	5.7#	92	0.00
17	P	1,1-Dichloroethane	1.944	1.895	2.5#	95	0.00
18		cis-1,2-Dichloroethene	1.576	1.586	-0.6	97	0.00
19	C	Chloroform	2.454	2.458	-0.2#	95	0.00
20		Isooctane	3.653	3.633	0.5	98	0.00
21		1,1,1-Trichloroethane	2.085	1.982	4.9#	91	0.00
22		Carbon tetrachloride	2.195	2.077	5.4#	90	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.123	4.5#	89	0.00
24		1,2-Dichloroethane	1.321	1.294	2.0#	90	0.00
25		1,2-Dibromoethane	2.124	2.031	4.4#	93	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	97	0.00
27	M	Benzene	0.733	0.734	-0.1	97	0.00
28	M	Trichloroethene	0.407	0.408	-0.2	95	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	97	0.00
30		Bromodichloromethane	0.755	0.787	-4.2#	95	0.00
31		cis-1,3-Dichloropropene	0.469	0.493	-5.1#	99	0.00
32	S	Toluene-d8 SURR#2	0.781	0.775	0.8	95	0.00
33	MC	Toluene	0.463	0.465	-0.4#	95	0.00
34		trans-1,3-Dichloropropene	0.402	0.415	-3.2#	95	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	98	0.00
37		Tetrachloroethene	0.488	0.474	2.9#	95	0.00
38		Dibromochloromethane	0.722	0.735	-1.8	96	0.00
39	MP	Chlorobenzene	0.891	0.902	-1.2	96	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrat
Title : TO14
Last Update : Thu Feb 14 16:22:28 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.350	1.7#	93	0.00
41		m,p-Xylene	0.459	0.452	1.5	94	0.00
42		o-Xylene	0.439	0.440	-0.2	95	0.00
43		Styrene	0.771	0.784	-1.7	97	0.00
44	P	Bromoform	0.713	0.686	3.8#	92	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.589	8.0#	89	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.904	-1.5	98	0.00
47		1,4-Dichloro-2-butene	0.130	0.115	11.5#	88	0.00
48		4-Ethyltoluene	1.157	1.094	5.4#	92	0.00
49		1,3,5-Trimethylbenzene	0.912	0.892	2.2#	96	0.00
50		2-Chlorotoluene	1.191	1.171	1.7	93	0.00
51		1,2,4-Trimethylbenzene	0.961	0.963	-0.2	93	0.00
52		1,3-Dichlorobenzene	0.782	0.791	-1.2	93	0.00
53		1,4-Dichlorobenzene	0.825	0.837	-1.5	92	0.00
54		1,2-Dichlorobenzene	0.758	0.755	0.4	92	0.00
55		1,2,4-Trichlorobenzene	0.568	0.583	-2.6#	101	0.00
56		Napthalene	0.830	0.739	11.0#	98	0.00
57		Hexachlorobutadiene	0.495	0.447	9.7#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6
CM0213A.D TO14S.M Thu Feb 14 16:23:14 2002

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 14 14:30:39 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	100	0.00
2		Dichlorodifluoromethane	250.000	228.898	8.4#	93	0.00
3		Dichlorotetrafluoroethane	250.000	226.761	9.3#	86	0.00
4	P	Chloromethane	250.000	221.461	11.4#	90	0.00
5	C	Vinyl chloride	250.000	237.143	5.1#	90	0.00
6		Bromomethane	250.000	232.679	6.9#	98	0.00
7		Chloroethane	250.000	233.528	6.6#	92	0.00
8		Trichlorofluoromethane	250.000	216.105	13.6#	83	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	237.995	4.8#	95	0.00
10	MC	1,1-Dichloroethene	250.000	231.001	7.6#	91	0.00
11		Iodomethane	-1.000	0.000	0.0	224	0.00
12		Methylene chloride	250.000	249.535	0.2	95	0.00
13		Carbon disulfide	250.000	237.602	5.0#	97	0.00
14		methyl-Tert-Butyl Ether	250.000	250.752	-0.3	96	0.00
15		trans-1,2-Dichloroethene	250.000	231.107	7.6#	92	0.00
16		n-Hexane	250.000	235.883	5.6#	92	0.00
17	P	1,1-Dichloroethane	250.000	243.802	2.5#	95	0.00
18		cis-1,2-Dichloroethene	250.000	251.532	-0.6	97	0.00
19	C	Chloroform	250.000	250.423	-0.2#	95	0.00
20		Isooctane	250.000	248.679	0.5	98	0.00
21		1,1,1-Trichloroethane	250.000	237.664	4.9#	91	0.00
22		Carbon tetrachloride	250.000	236.526	5.4#	90	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	238.574	4.6#	89	0.00
24		1,2-Dichloroethane	250.000	244.913	2.0#	90	0.00
25		1,2-Dibromoethane	250.000	239.029	4.4#	93	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	97	0.00
27	M	Benzene	250.000	250.371	-0.1	97	0.00
28	M	Trichloroethene	250.000	250.604	-0.2	95	0.00
29	C	1,2-Dichloropropane	250.000	256.246	-2.5#	97	0.00
30		Bromodichloromethane	250.000	260.567	-4.2#	95	0.00
31		cis-1,3-Dichloropropene	250.000	262.471	-5.0#	99	0.00
32	S	Toluene-d8 SURR#2	250.000	248.061	0.8	95	0.00
33	MC	Toluene	250.000	251.254	-0.5#	95	0.00
34		trans-1,3-Dichloropropene	250.000	258.107	-3.2#	95	0.00
35		1,1,2-Trichloroethane	250.000	247.732	0.9	93	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	98	0.00
37		Tetrachloroethene	250.000	243.259	2.7#	95	0.00
38		Dibromochloromethane	250.000	254.452	-1.8	96	0.00
39	MP	Chlorobenzene	250.000	253.184	-1.3	96	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 14 14:30:39 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	245.680	1.7#	93	0.00
41		m,p-Xylene	500.000	492.392	1.5	94	0.00
42		o-Xylene	250.000	250.902	-0.4	95	0.00
43		Styrene	250.000	254.310	-1.7	97	0.00
44	P	Bromoform	250.000	240.736	3.7#	92	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	230.116	8.0#	89	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	253.600	-1.4	98	0.00
47		1,4-Dichloro-2-butene	250.000	221.362	11.5#	88	0.00
48		4-Ethyltoluene	250.000	236.304	5.5#	92	0.00
49		1,3,5-Trimethylbenzene	250.000	244.649	2.1#	96	0.00
50		2-Chlorotoluene	250.000	245.856	1.7	93	0.00
51		1,2,4-Trimethylbenzene	250.000	250.592	-0.2	93	0.00
52		1,3-Dichlorobenzene	250.000	253.089	-1.2	93	0.00
53		1,4-Dichlorobenzene	250.000	253.632	-1.5	92	0.00
54		1,2-Dichlorobenzene	250.000	248.926	0.4	92	0.00
55		1,2,4-Trichlorobenzene	250.000	231.216	7.5#	101	0.00
56		Napthalene	250.000	214.344	14.3#	98	0.00
57		Hexachlorobutadiene	250.000	210.235	15.9#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202062

Lab File ID (Standard): CM0213A.D Date Analyzed: 2/13/02

Instrument ID: MARILYN Time Analyzed: 10:11

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	802794	11.43	3043992	13.35	2350688	20.67
	UPPER LIMIT	1605588	11.93	6087984	13.85	4701376	21.17
	LOWER LIMIT	401397	10.93	1521996	12.85	1175344	20.17
	EPA SAMPLE NO.						
01	VBLKMA	751430	11.46	2926987	13.38	2236682	20.69
02	LCS AND 2ND	860085	11.47	3202283	13.40	2481433	20.73
03	SVEEA	972638	11.46	3721591	13.40	2846423	20.72

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

Method : TO14 / 8260AIR / 8260WATER / 624MOD

Date 1-25-02 | Instrument ID : MARILYN | Maint. ___

Batch MA8010 (1) 2 3 | Batch 1 2 3 | Batch 1 2 3 | Sequence cont. on page ___

S# 8 -MSW- 26 - 3 | TO14 8 -MSW- 32 - 1 | AIR-SPK 8 -MSW- 30 - 2

FB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- - -

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
										Daily Cal Check/bfb tune/95 ion area =
11:34	14		CM0125A	50ppb		Y N				Daily Method Blank
:			M BK	ST		Y N				Batch# LCS
:			M LCS	50ppb		Y N				bad 5ul syringe reboot
13:18	14		0025M125			Y N		X		
13:56	15		0100M125			Y N		Y		used a 25ul syring also tune
14:33	16		0250M125			Y N		✓		
15:09	14		0500M125			Y N		✓		
15:46	15		1000M125			Y N		✓		
16:24	16		1500M125			Y N		✓		used a 10ul syring
17:43	14		0025R125			Y N		✓		
18:20	15		0100R125			Y N		✓		
19:22	15		MA010ABK			Y N		✓		LCS + 2nd
19:59	16		MA010LCS			Y N		✓		P./PF = 2 X50 Run ST
20:36	16		01299-1X	X100		Y N		✓		
21:10	2		01493-2			Y N		✓		high Iso octane
21:14	2		01299-1			Y N		✓		
22:20	2		01493-1			Y N		✓		rerun ST - ~~out of 12 hrs~~ BH 1/26/02
22:56	2	out BH 1/26	01493-1R			Y N		✓		re-run ST - BH 1/26 BAG
23:31	9		01546-2	X10		Y N		✓		
0:07	10		-4	X10		Y N		✓		Triple D.C.
0:44	11		-1	X10		Y N		✓		re-run Neat / X10 worked
1:21	12		-3	X10		Y N		✓		re-run X50 / out of Tune time
1:58	13		-1X	X50		Y N				
2:35	out 14		-3X	X50		Y N				
3:12	out 15		-2X	X50		Y N				not Neat - X50 worked
23:49	out 16		-4X	X50		Y N				

the analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis

...k to the sample storage refrigerator.

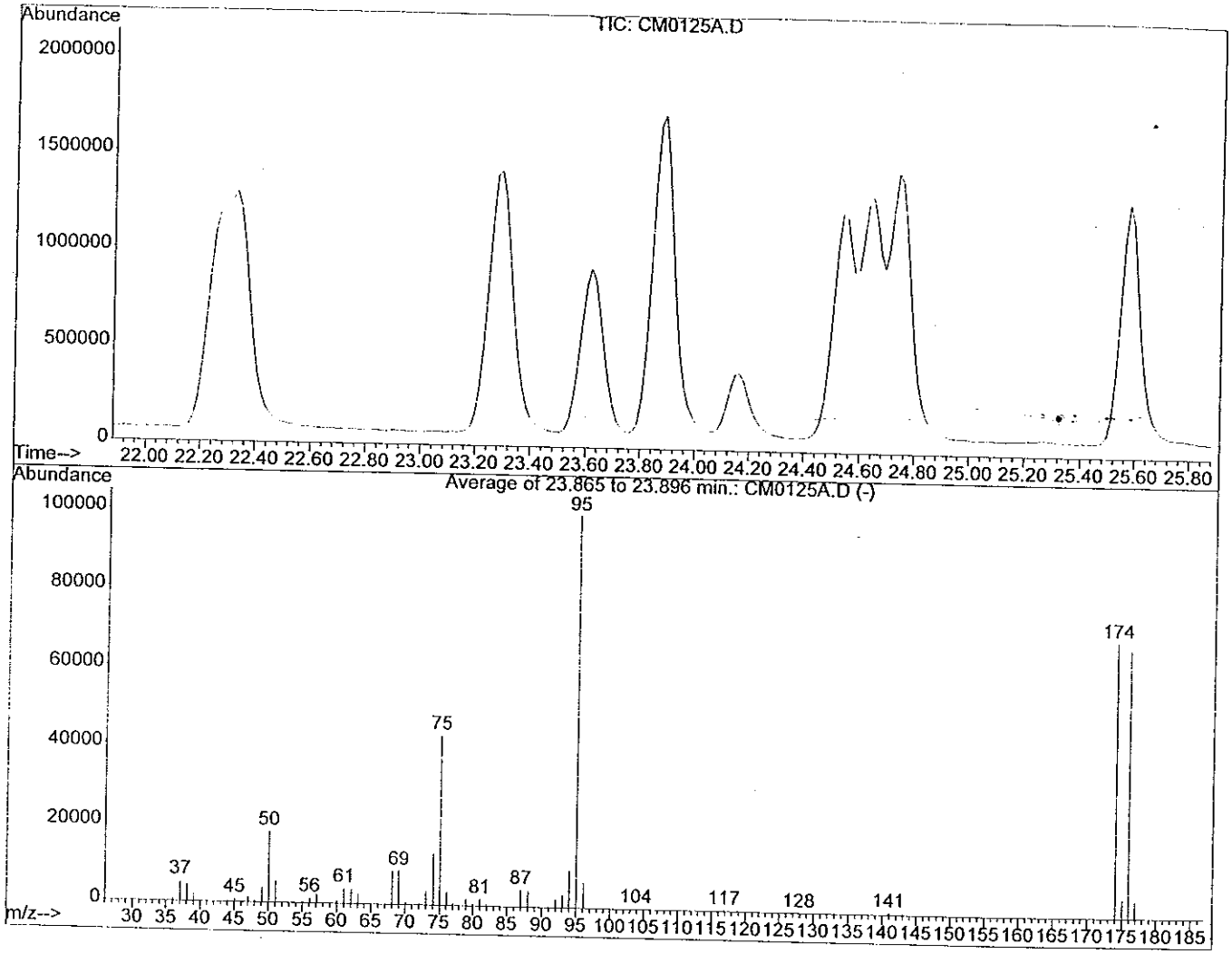
...ftware and generic Forms II and VIII that are located in the daily folder

BFB

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D
Acq On : 25 Jan 2002 11:34
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

1-25-02



Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6586	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

Calibration Files

1-25-02

25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

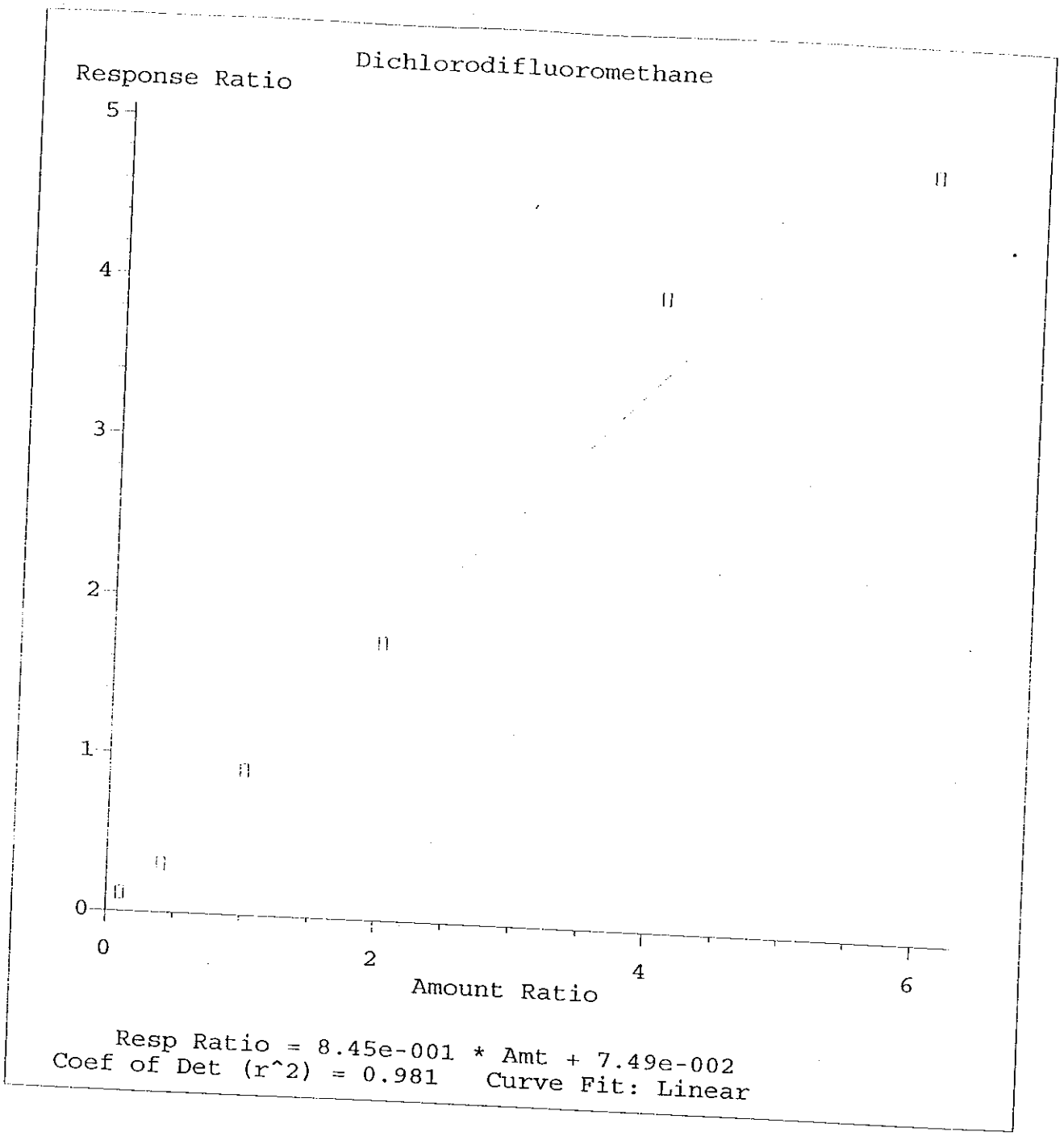
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Fri Jan 25 19:04:23 2002

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

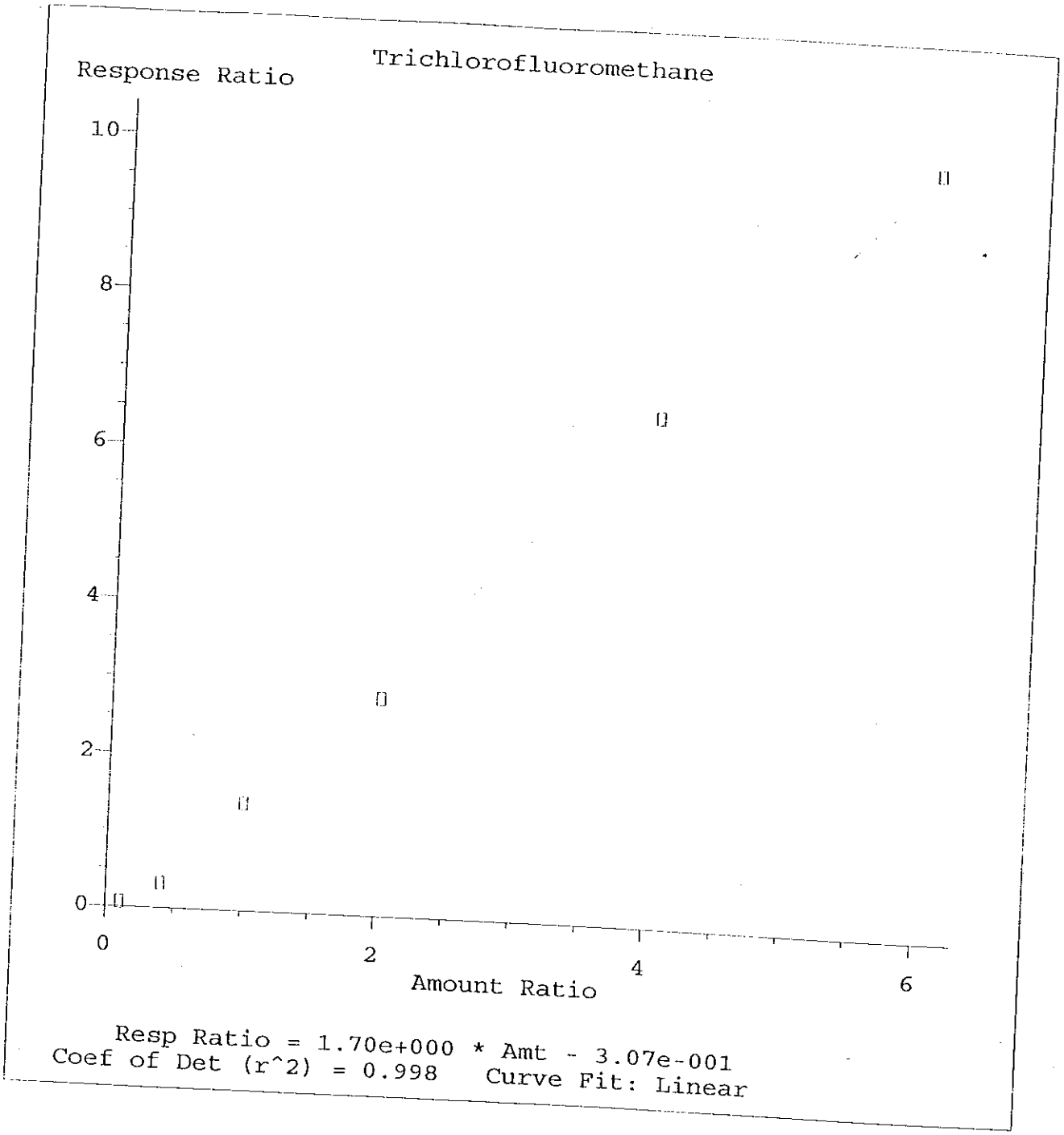
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 18:55:22 2002



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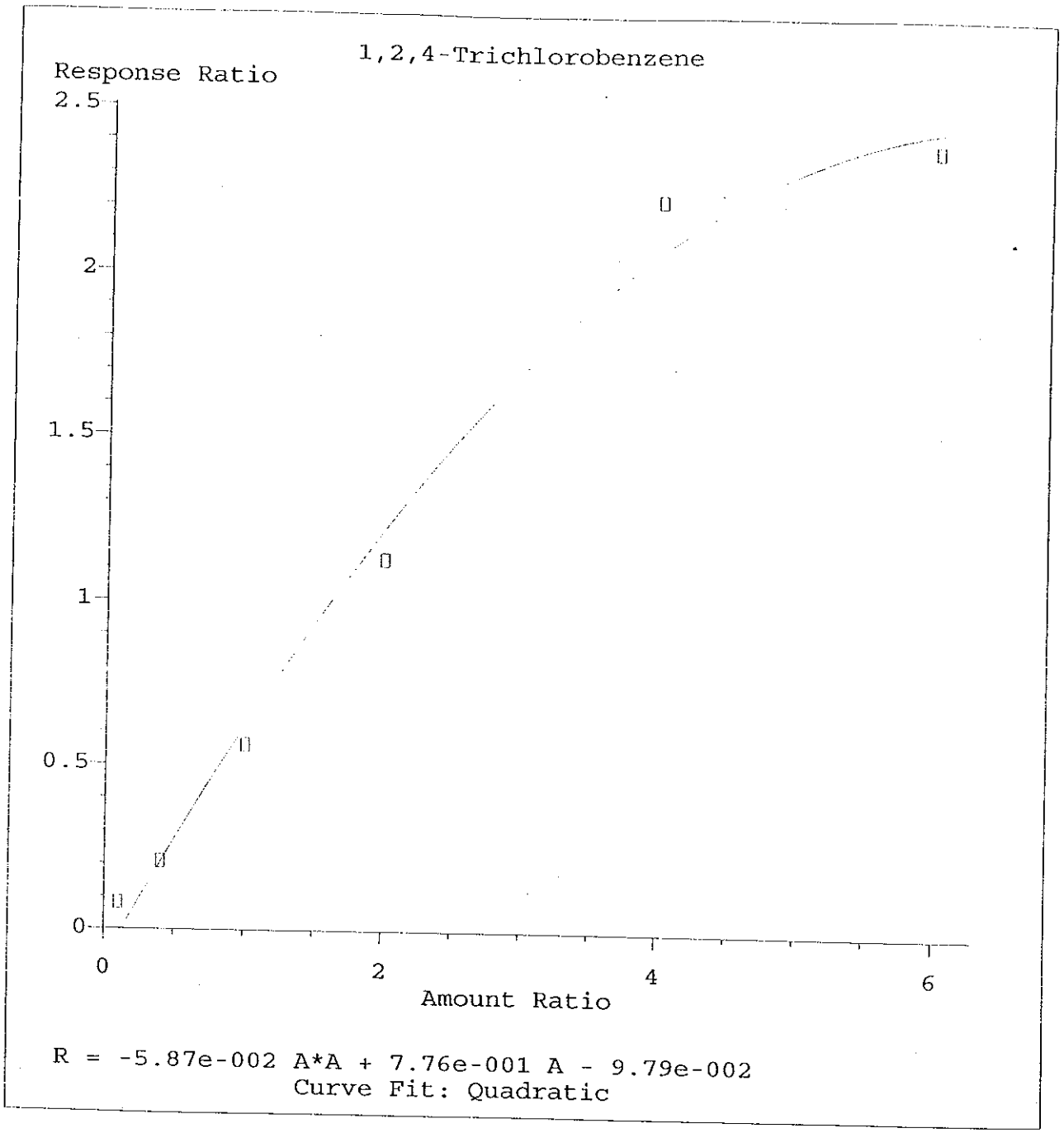
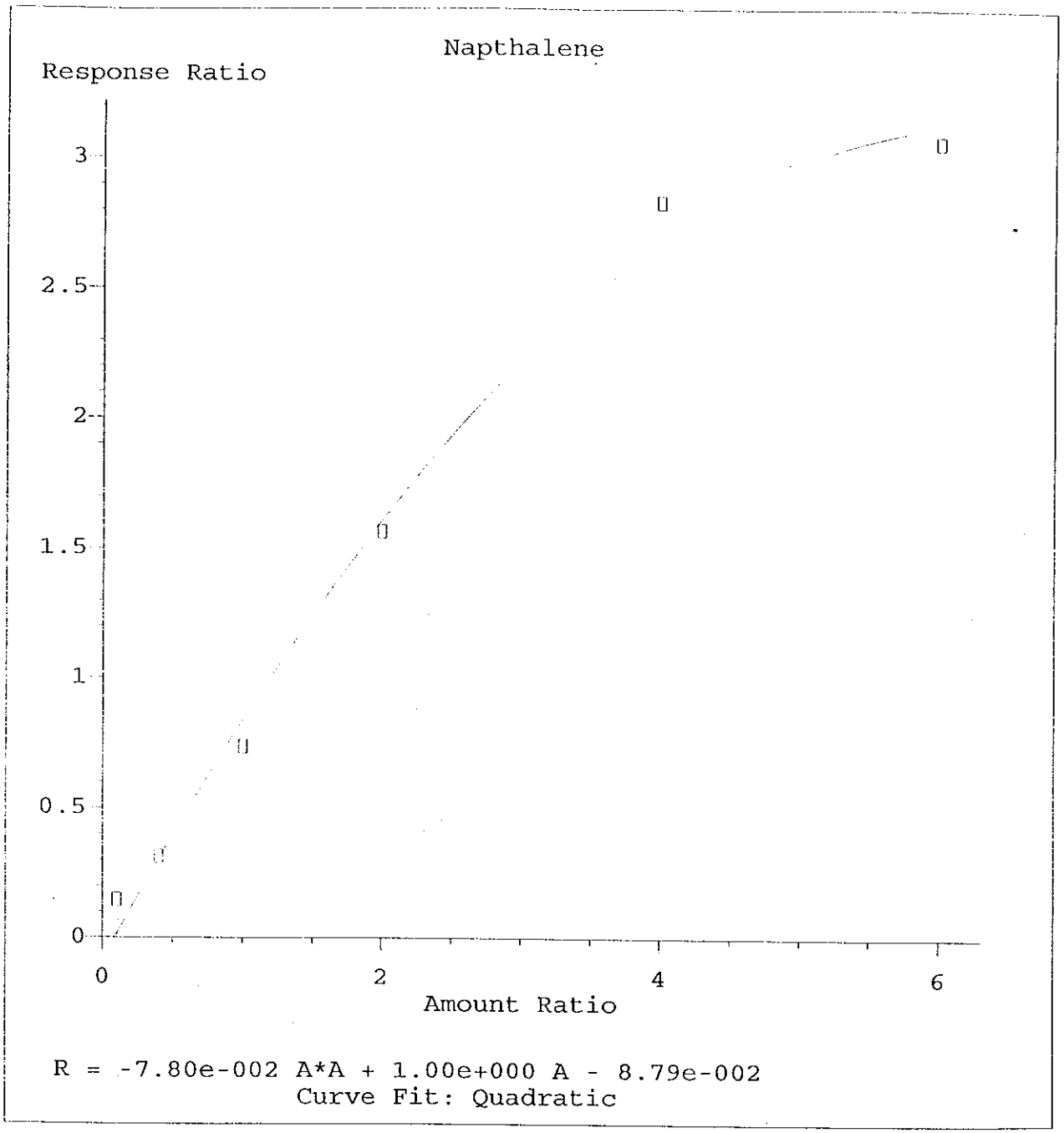
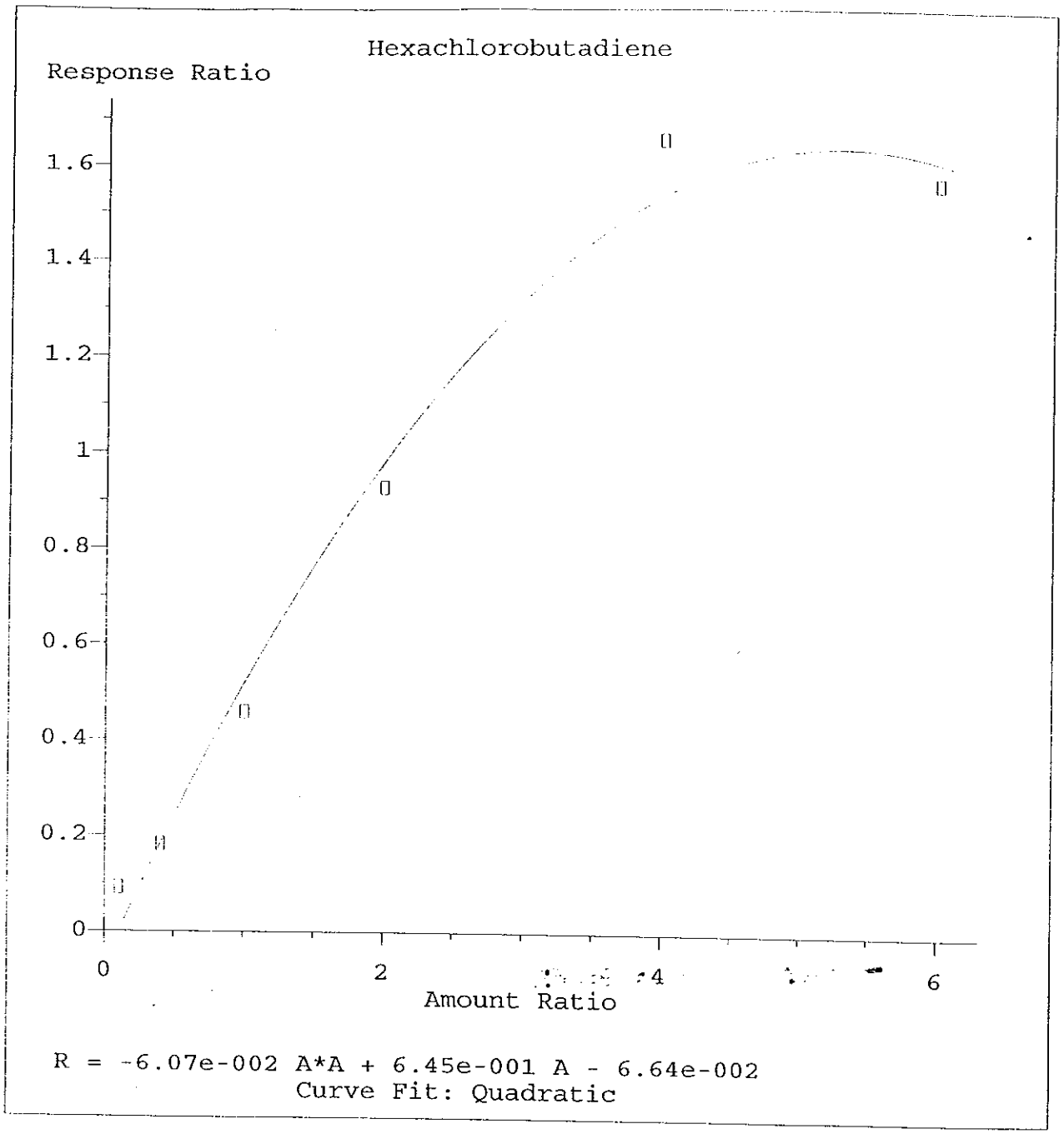
Calibration Table Last Updated: Fri Jan 25 18:59:32 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 18:59:45 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 19:00:27 2002



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 19:00:38 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 89.60%		
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 97.58%		
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%		

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	82
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		97
20) Isooctane	12.03	57	301718	45.51 ng		98
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

(#) = qualifier out of range (m) = manual integration
0025R125.D TO14S.M Fri Jan 25 18:22:16 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

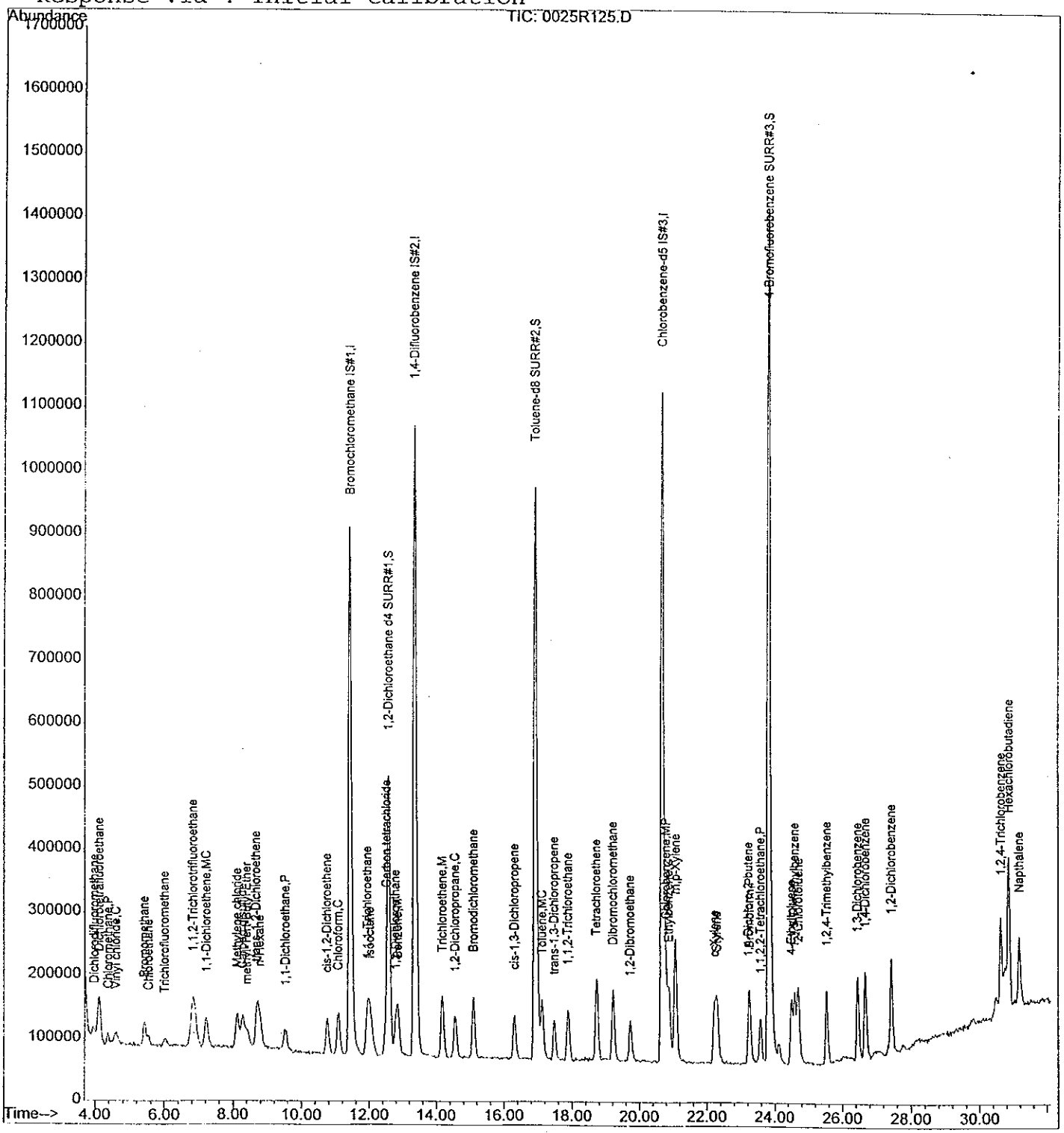
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.19	130	116164	39.83 ng		97
29) 1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30) Bromodichloromethane	15.11	83	210160	37.15 ng		98
31) cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33) Toluene	17.13	92	132700	40.00 ng		95
34) trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35) 1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37) Tetrachloroethene	18.73	164	107951	42.67 ng		95
38) Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39) Chlorobenzene	20.81	112	191266	40.04 ng		93
40) Ethylbenzene	20.88	106	77354	42.58 ng		99
41) m,p-Xylene	21.09	106	199516	83.10 ng		96
42) o-Xylene	22.23	106	92327	40.91 ng		93
43) Styrene	22.30	104	161761	40.88 ng		95
44) Bromoform	23.26	173	153138	40.51 ng		99
45) 1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47) 1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48) 4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49) 1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50) 2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51) 1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52) 1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53) 1,4-Dichlorobenzene	26.67	146	171427	36.21 ng		98
54) 1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55) 1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56) Napthalene	31.18	128	311685	67.28 ng	#	92
57) Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration

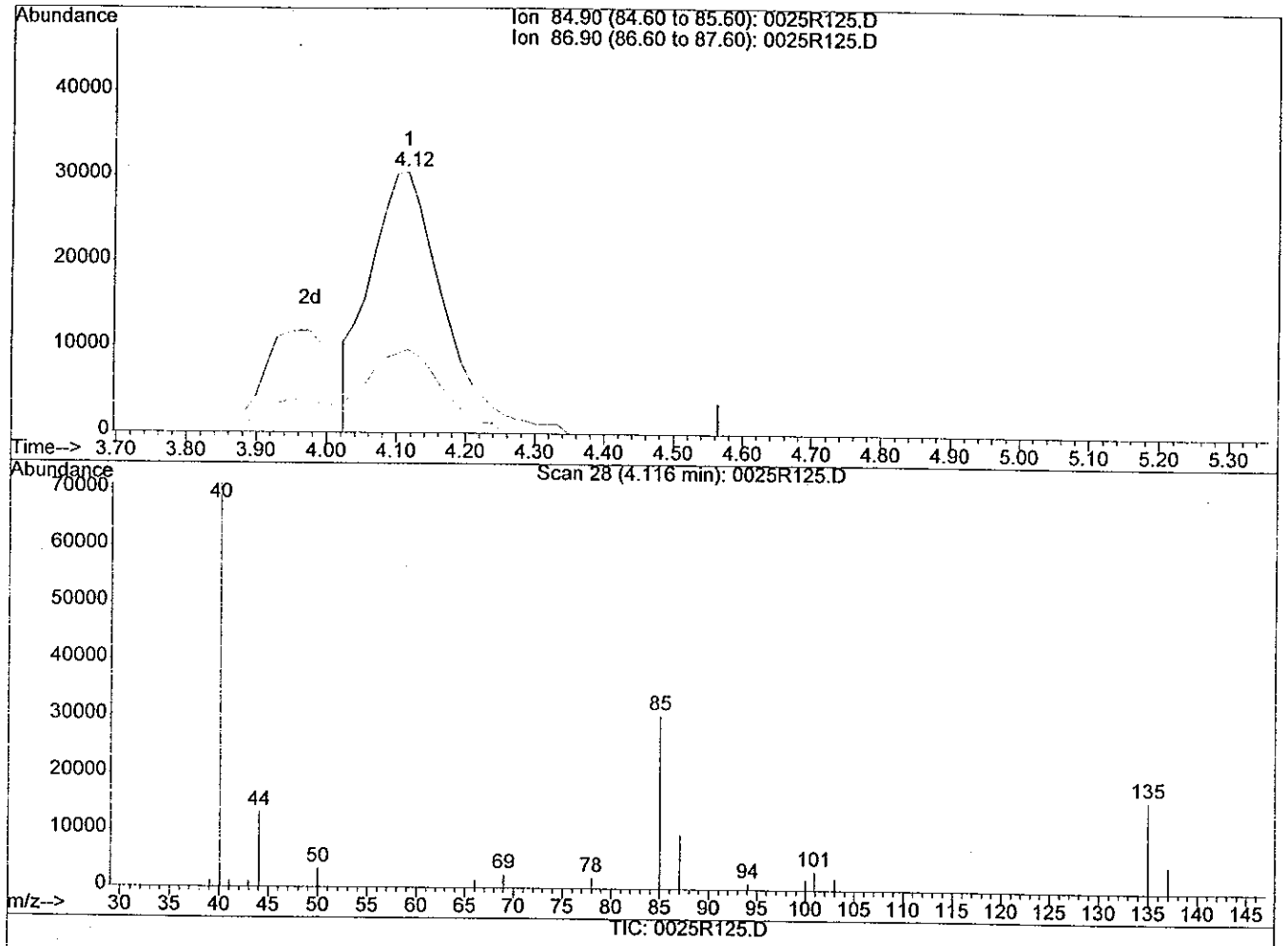


Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

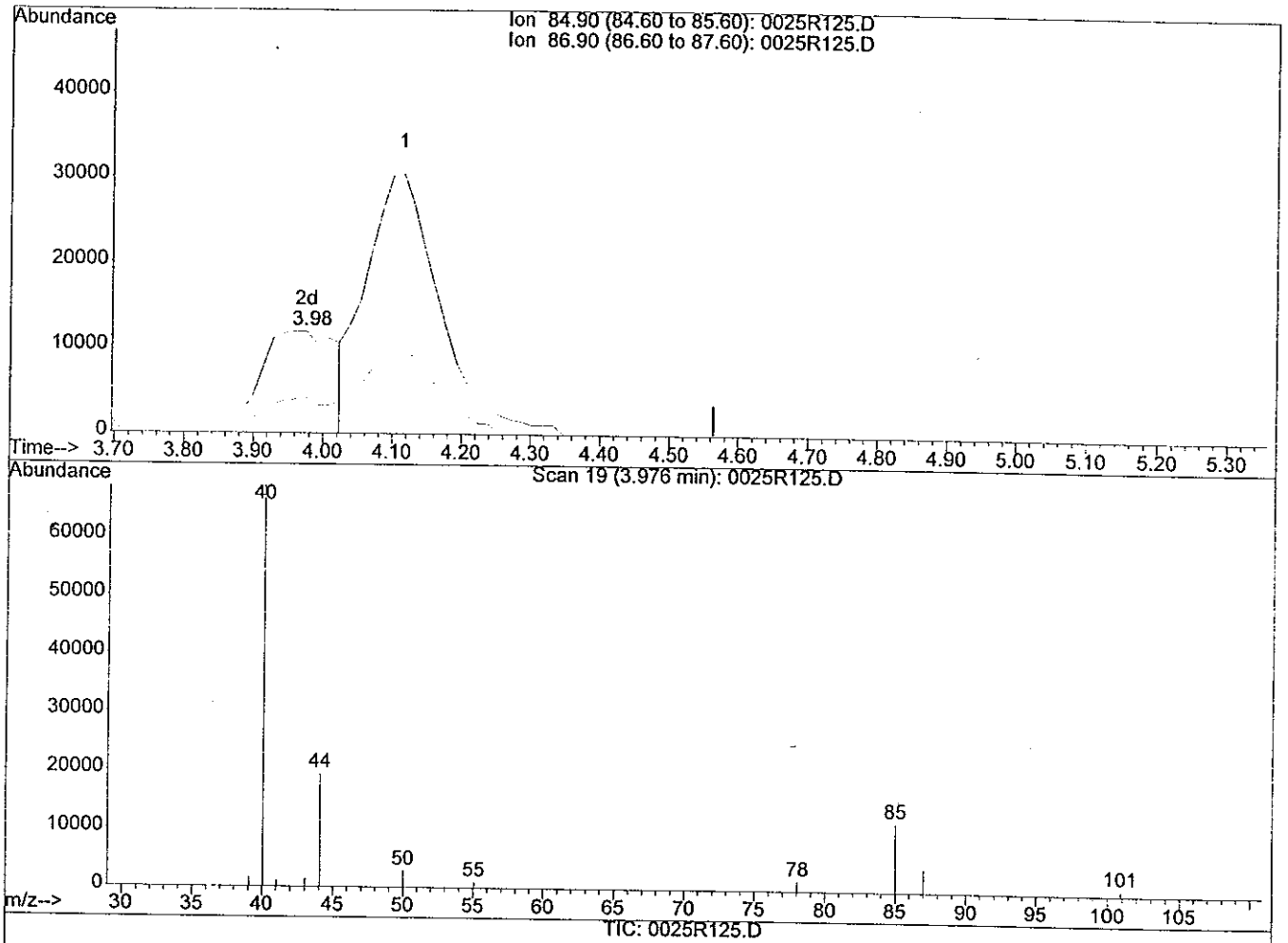
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

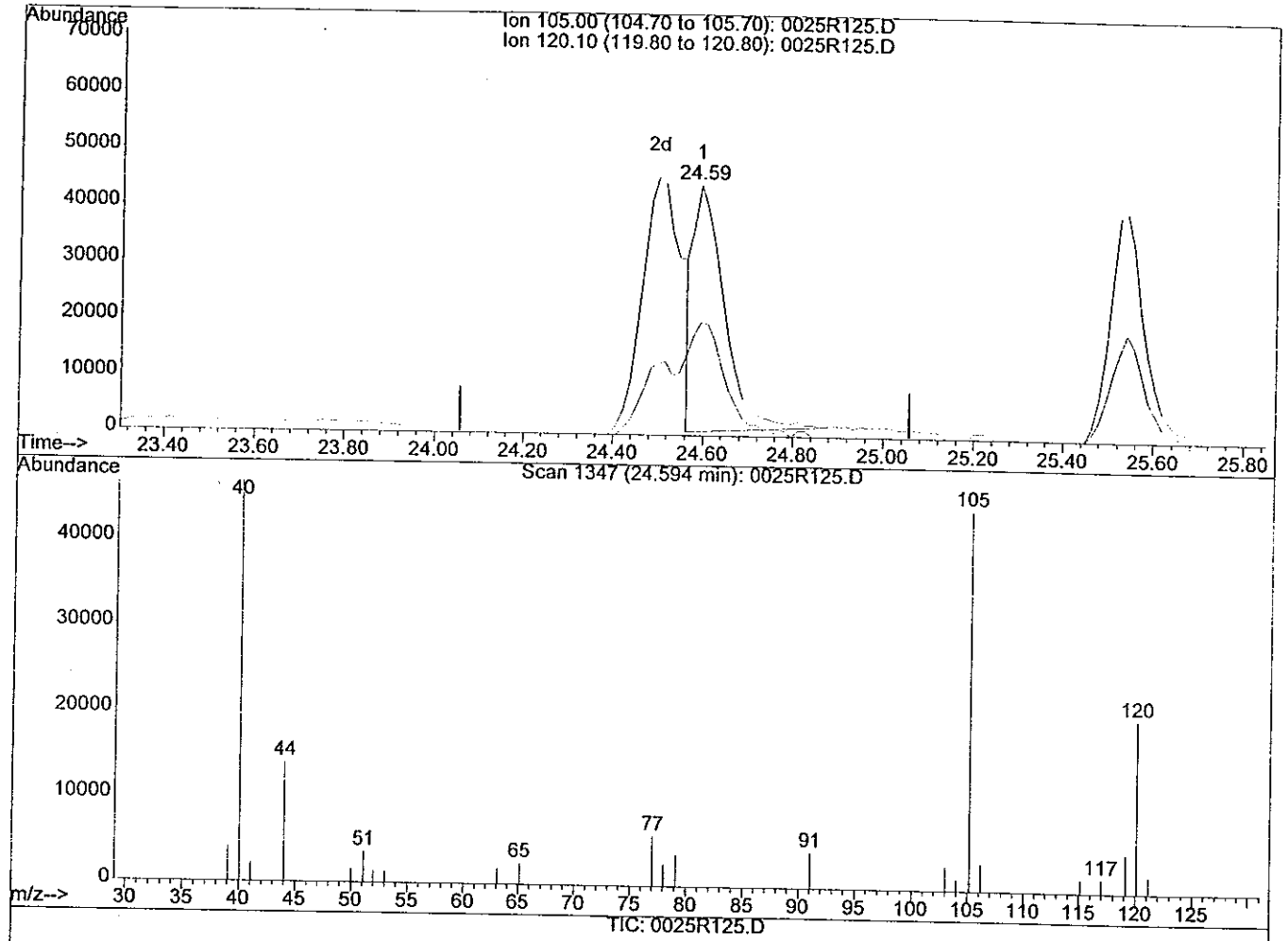
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.59min 34.11ng

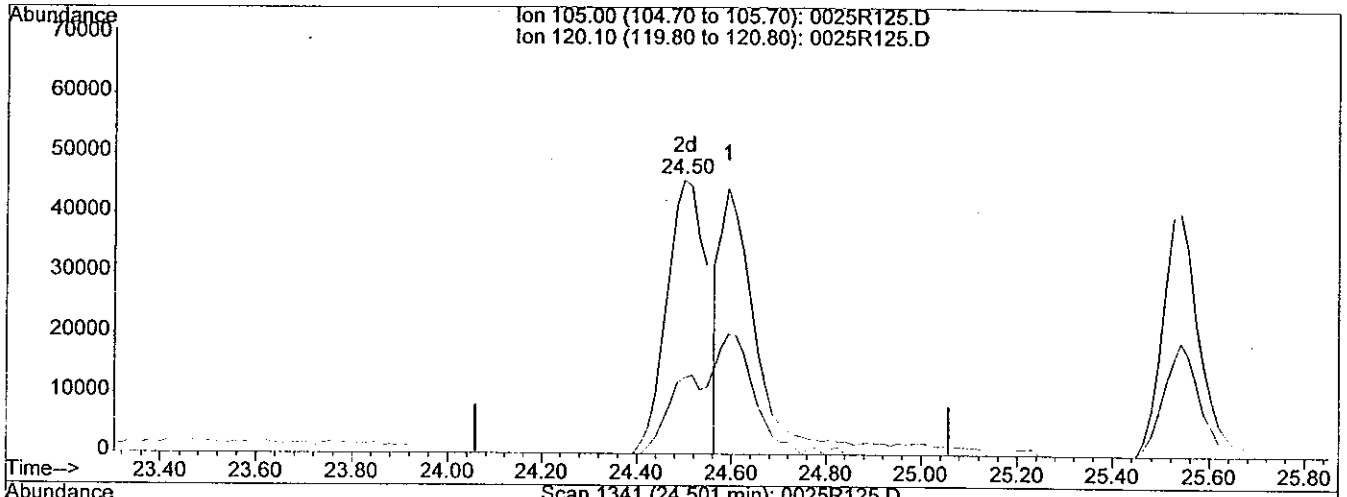
response 208705

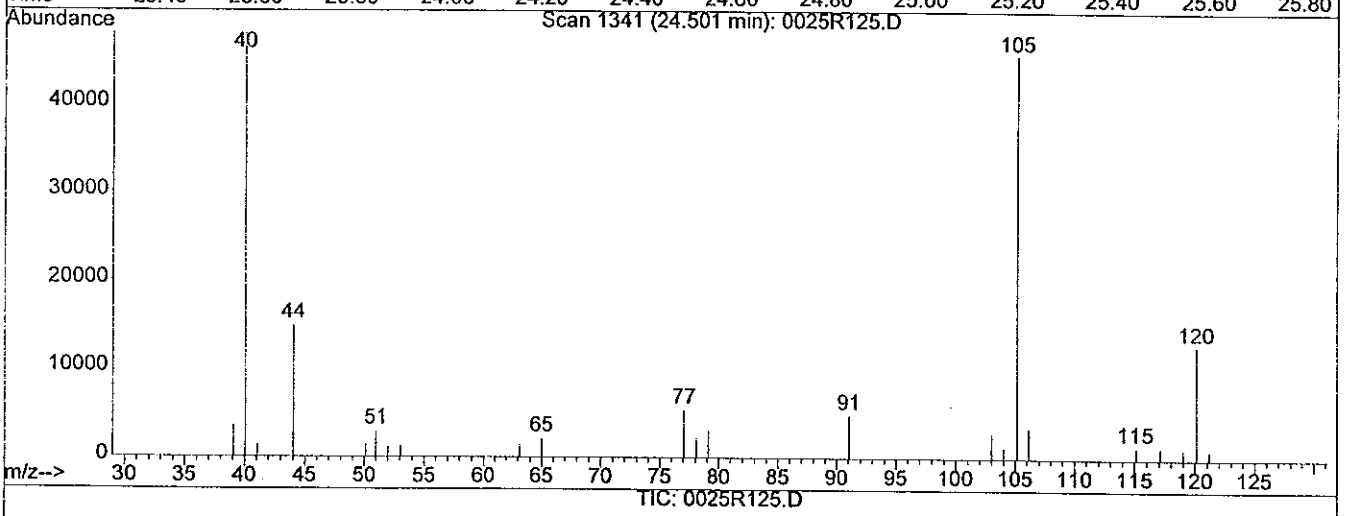
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:19 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00	ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00	ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00	ng	-0.05 95.76%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%						
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03	ng	# 99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54	ng	# 40
4) Chloromethane	4.41	50	230623	128.25	ng	# 95
5) Vinyl chloride	4.62	62	197828	123.13	ng	99
6) Bromomethane	5.46	94	343058	125.48	ng	# 95
7) Chloroethane	5.56	64	147945	134.89	ng	99
8) Trichlorofluoromethane	6.08	101	258267	122.07	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53	ng	87
10) 1,1-Dichloroethene	7.25	96	312183	142.33	ng	83
12) Methylene chloride	8.15	49	406623	130.28	ng	97
13) Carbon disulfide	8.32	76	785720	130.09	ng	97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26	ng	97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25	ng	87
16) n-Hexane	8.82	57	320526	148.87	ng	# 1
17) 1,1-Dichloroethane	9.55	63	548504	135.74	ng	100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39	ng	91
19) Chloroform	11.10	83	704271	136.93	ng	98
20) Isooctane	12.05	57	1160036	162.95	ng	98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36	ng	91
22) Carbon tetrachloride	12.53	117	617093	137.29	ng	98
24) 1,2-Dichloroethane	12.79	62	386406	132.71	ng	98
25) 1,2-Dibromoethane	19.75	107	625053	145.43	ng	99
27) Benzene	12.87	78	806884	143.11	ng	100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

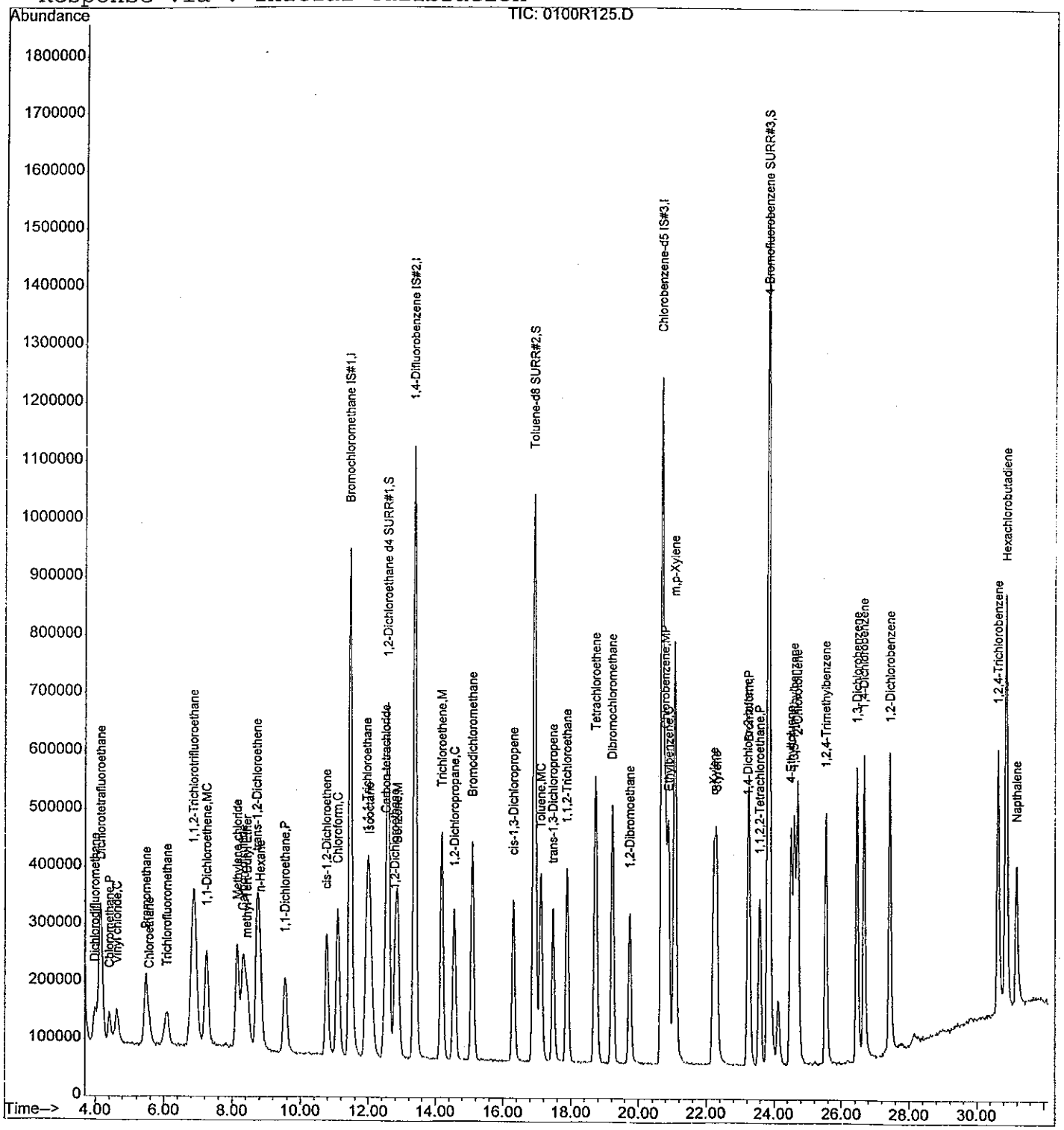
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	448788	144.70 ng		96
29)	1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30)	Bromodichloromethane	15.10	83	843245	140.20 ng		99
31)	cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33)	Toluene	17.12	92	496011	140.63 ng		98
34)	trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35)	1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37)	Tetrachloroethene	18.74	164	406137	149.07 ng		96
38)	Dibromochloromethane	19.22	127	618919	147.64 ng		99
39)	Chlorobenzene	20.79	112	747778	145.37 ng		96
40)	Ethylbenzene	20.90	106	291472	148.99 ng		100
41)	m,p-Xylene	21.08	106	760694	294.22 ng		98
42)	o-Xylene	22.23	106	361372	148.70 ng		98
43)	Styrene	22.31	104	629732	147.78 ng		99
44)	Bromoform	23.26	173	626335	153.87 ng		100
45)	1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48)	4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49)	1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50)	2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51)	1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52)	1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53)	1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54)	1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55)	1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56)	Napthalene	31.19	128	724021	145.13 ng	#	92
57)	Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

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

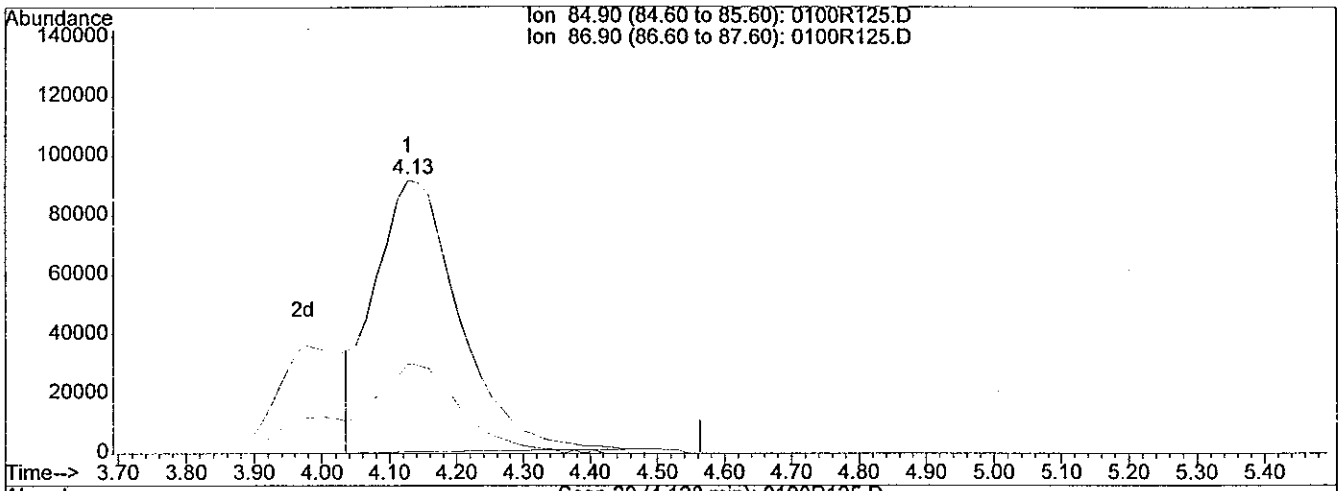
Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

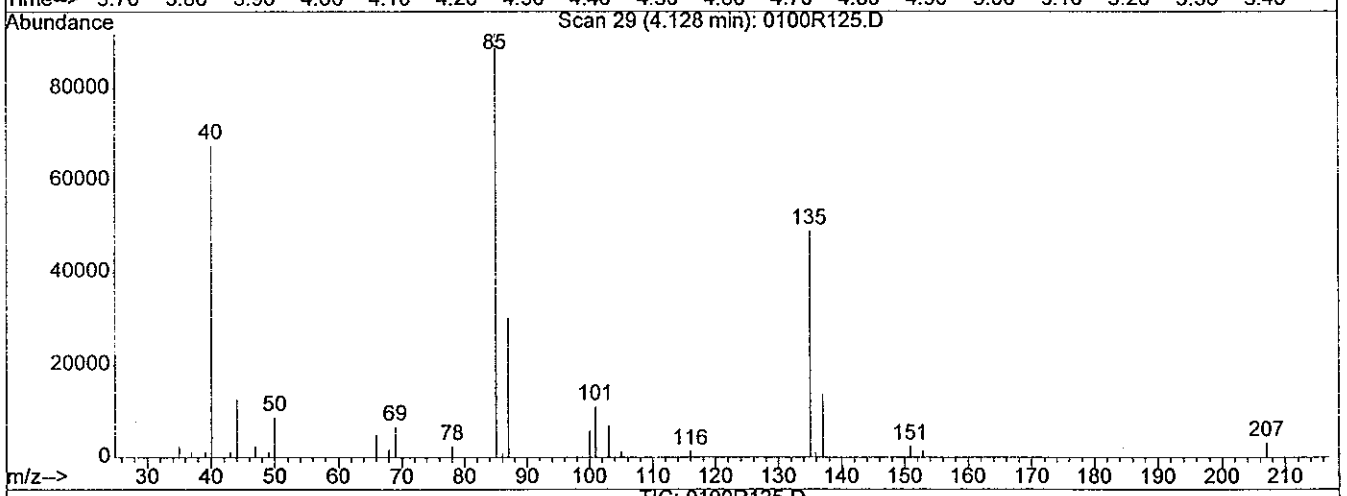
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





TIC: 0100R125.D

(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

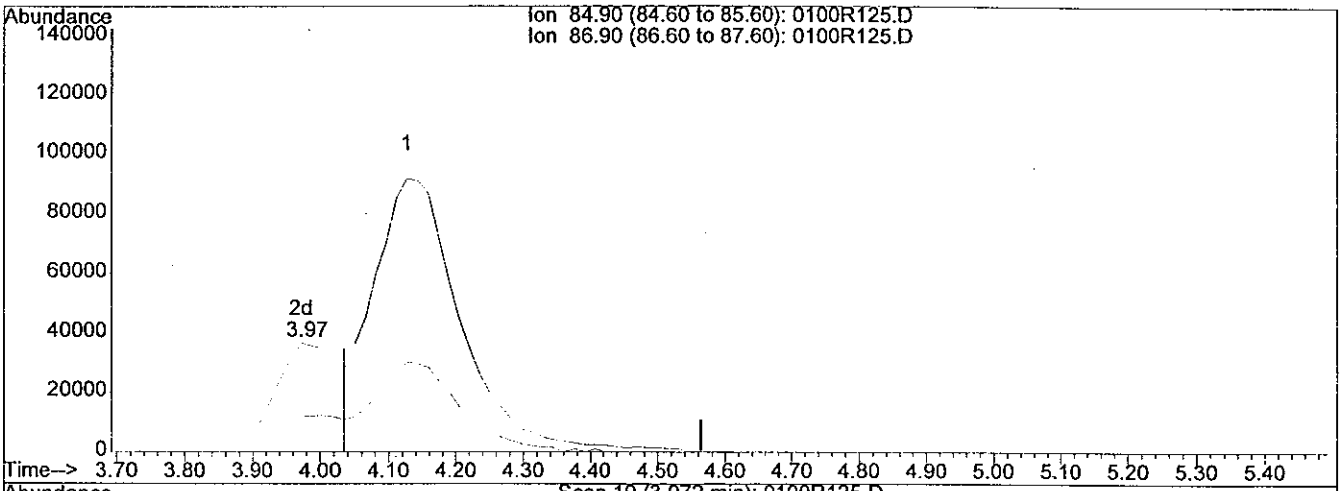
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

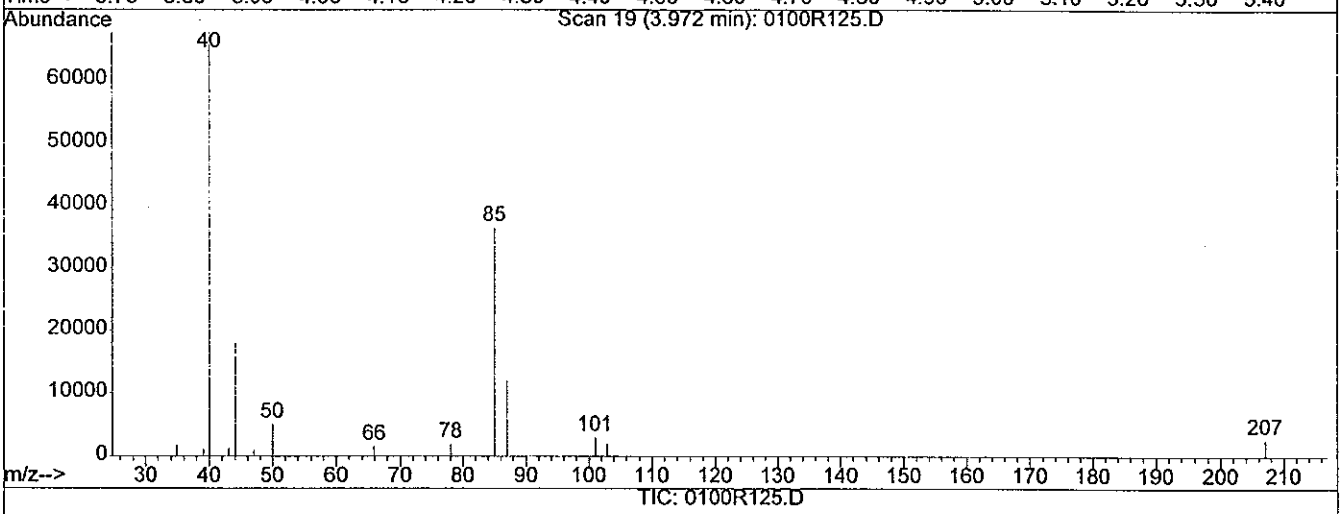
coelution
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





TIC: 0100R125.D

(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

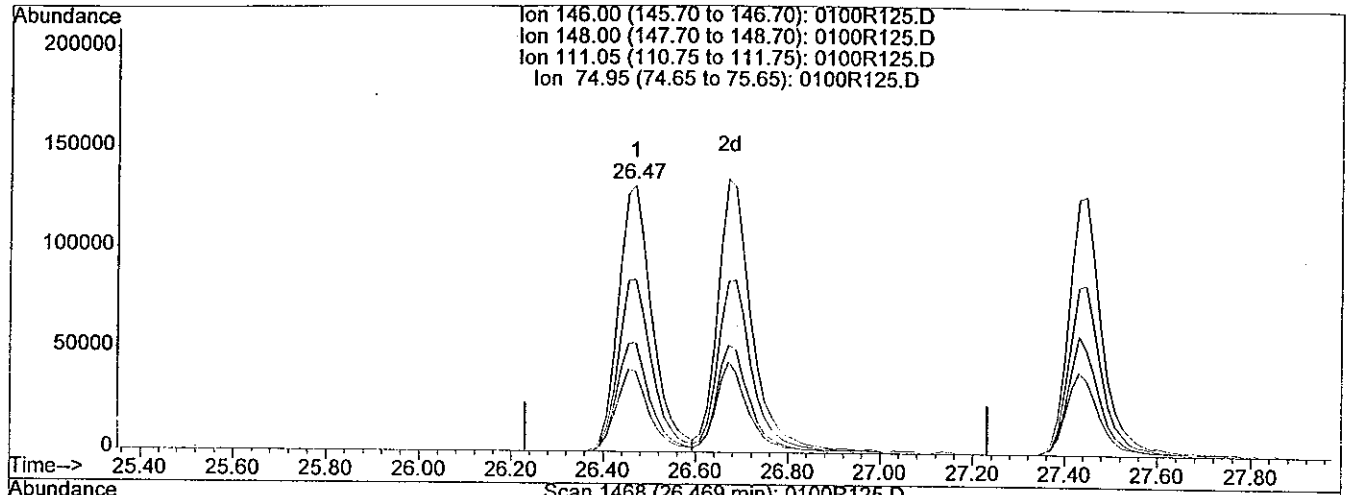
1-28-02

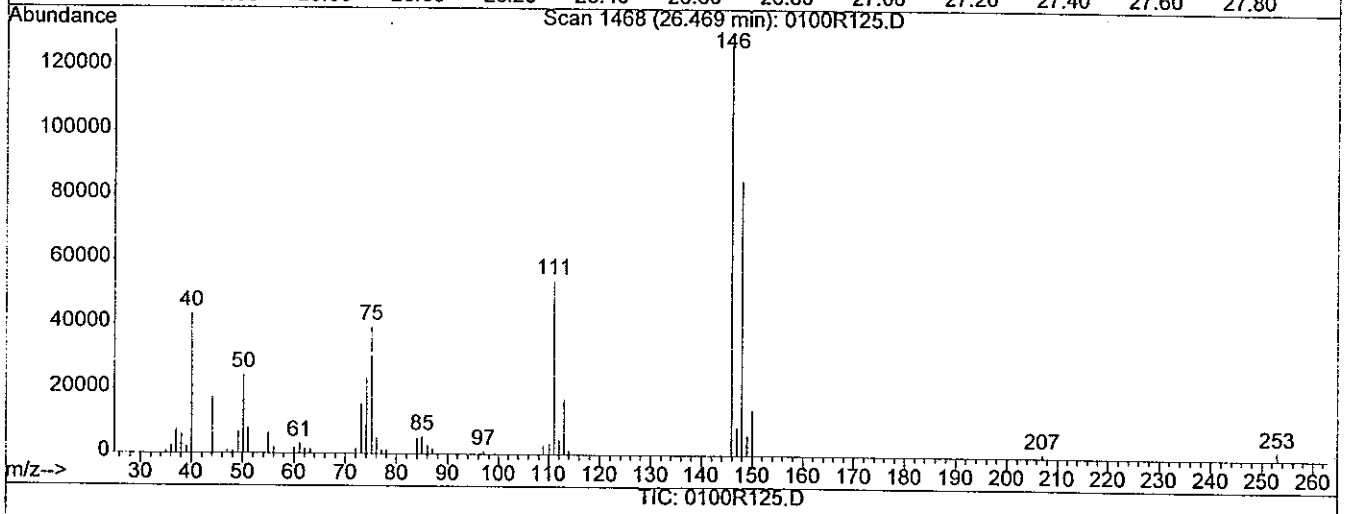
0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

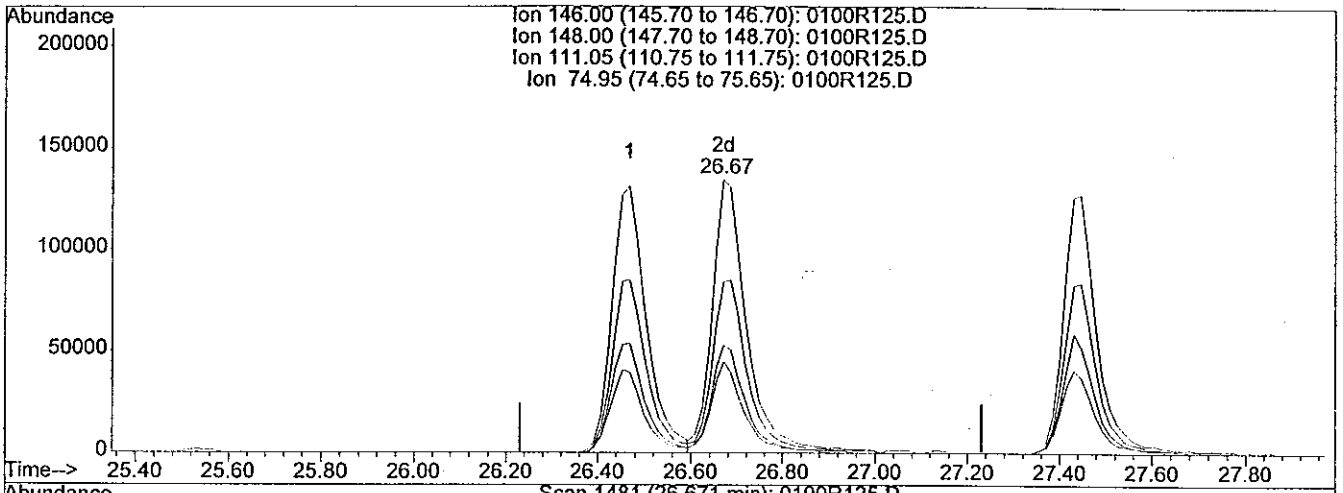
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

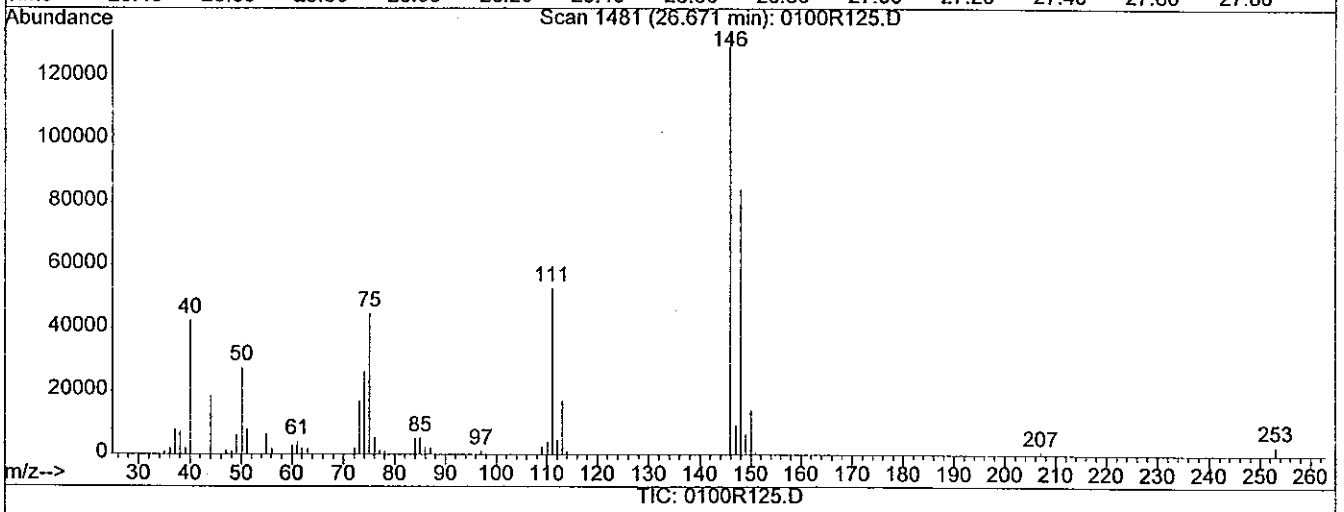
wrong peaks

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

B 1-25-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

TM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00 ng	0.04 99.81%
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00 ng	0.04 100.02%
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00 ng	0.02 99.67%

System Monitoring Compounds	R.T.	QIon	Response	Conc Units	Dev(Min)
23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 118.28%					
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.29%					
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.25%					

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97 ng	#	98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25 ng	#	26
4) Chloromethane	4.44	50	621320	222.28 ng		99
5) Vinyl chloride	4.65	62	614874	229.48 ng		97
6) Bromomethane	5.49	94	897640	198.84 ng		98
7) Chloroethane	5.60	64	431748	238.96 ng		98
8) Trichlorofluoromethane	6.13	101	1119931	239.23 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47 ng		87
10) 1,1-Dichloroethene	7.29	96	864615	239.44 ng		92
12) Methylene chloride	8.18	49	1205948	258.58 ng		96
13) Carbon disulfide	8.36	76	2260074	232.41 ng		100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18 ng		97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60 ng		95
16) n-Hexane	8.86	57	892820	241.08 ng	#	1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39 ng		98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57 ng		96
19) Chloroform	11.16	83	2068510	256.77 ng		99
20) Isooctane	12.11	57	2982558	239.27 ng		99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23 ng		91
22) Carbon tetrachloride	12.59	117	1861531	257.08 ng		98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59 ng		99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52 ng		98
27) Benzene	12.93	78	2293017	257.50 ng		99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 ng		98
34)	trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35)	1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37)	Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38)	Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39)	Chlorobenzene	20.85	112	2203630	260.18 ng		96
40)	Ethylbenzene	20.94	106	882384	259.46 ng		99
41)	m,p-Xylene	21.13	106	2264418	517.69 ng		99
42)	o-Xylene	22.29	106	1090444	256.51 ng		100
43)	Styrene	22.37	104	1906972	288.65 ng		97
44)	Bromoform	23.32	173	1752285	313.35 ng		99
45)	1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47)	1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48)	4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49)	1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50)	2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51)	1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52)	1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53)	1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54)	1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56)	Napthalene	31.25	128	1772393	306.50 ng	#	92
57)	Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

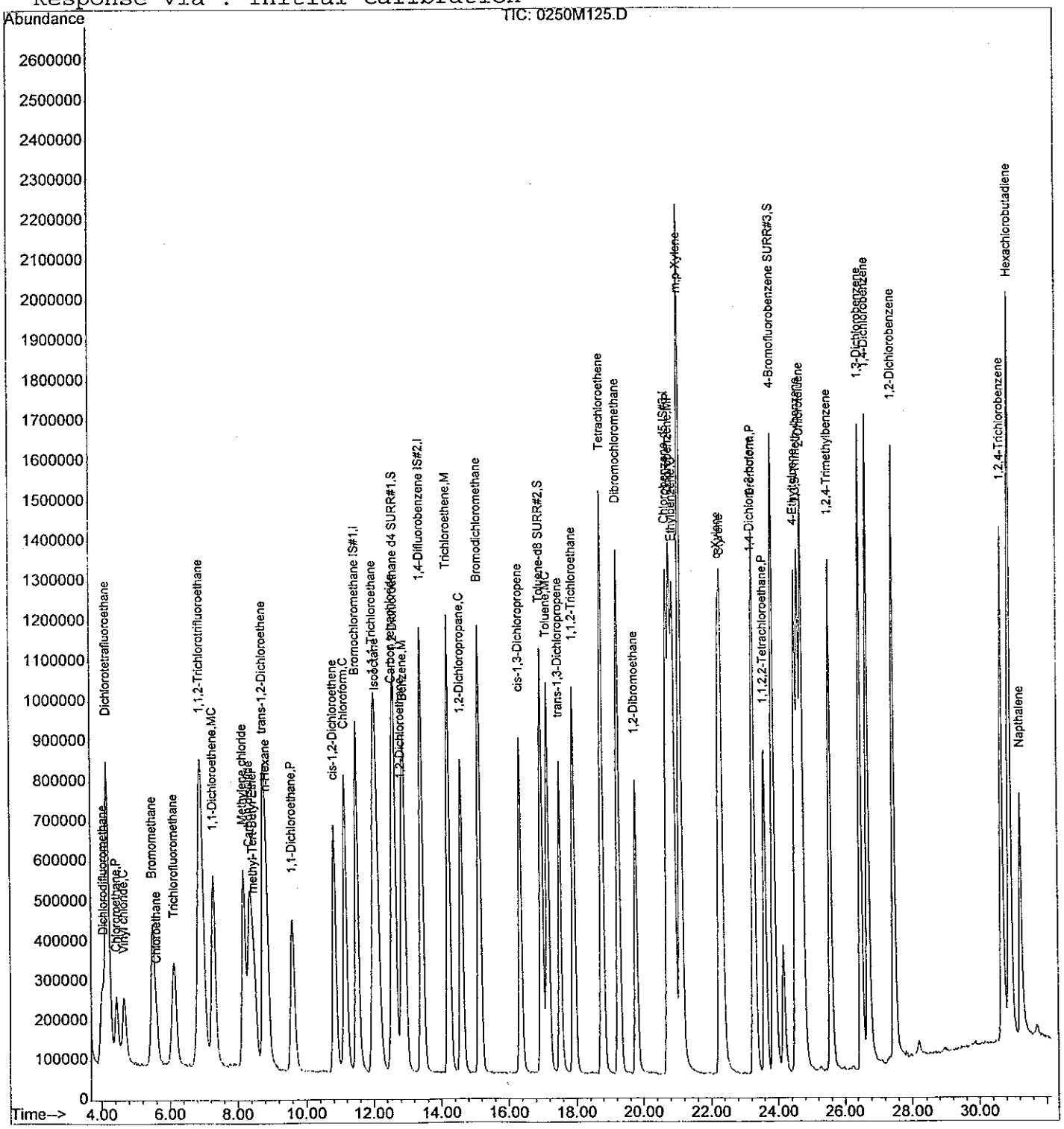
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration

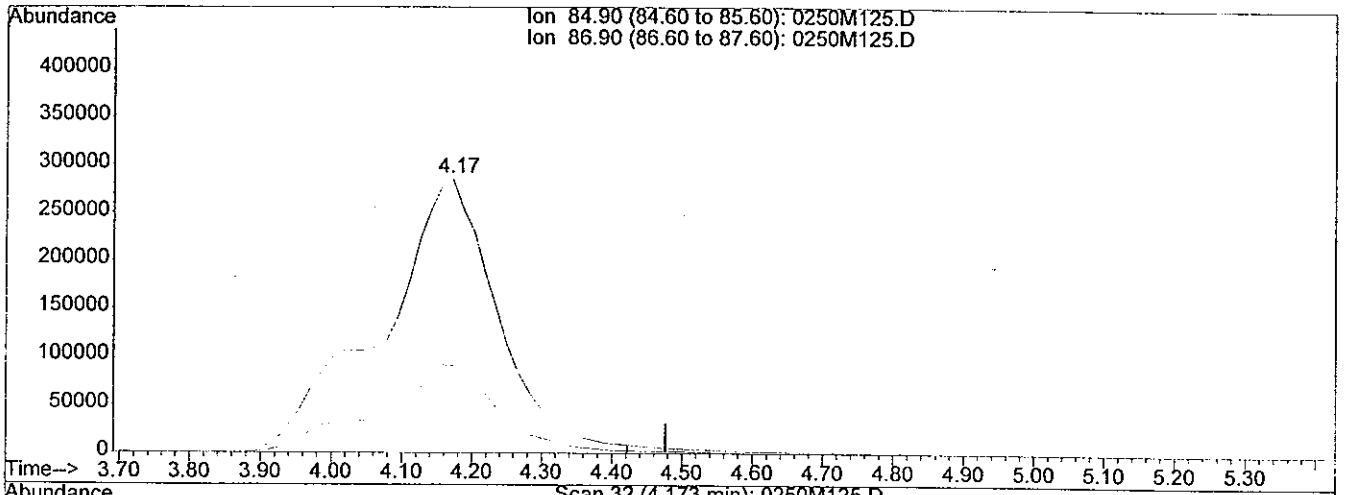


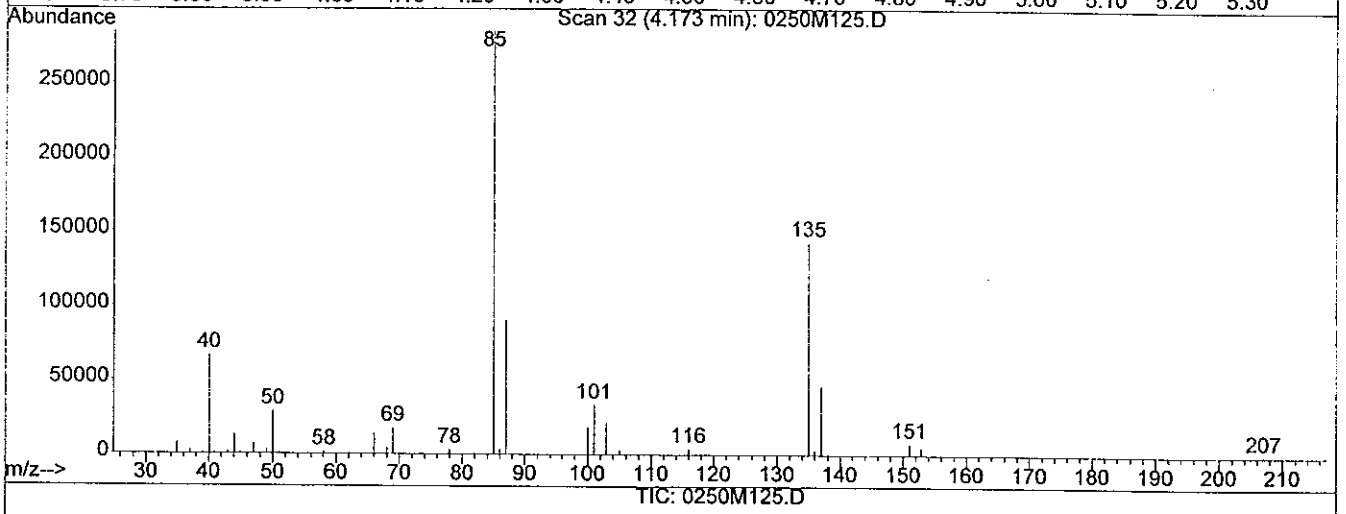
Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

response 3299163

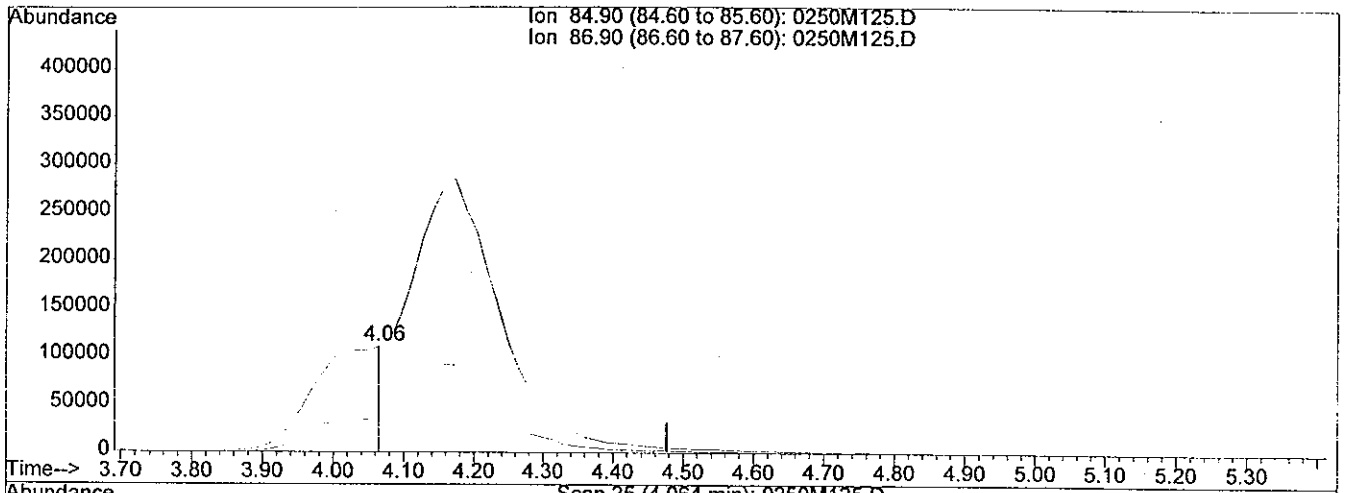
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

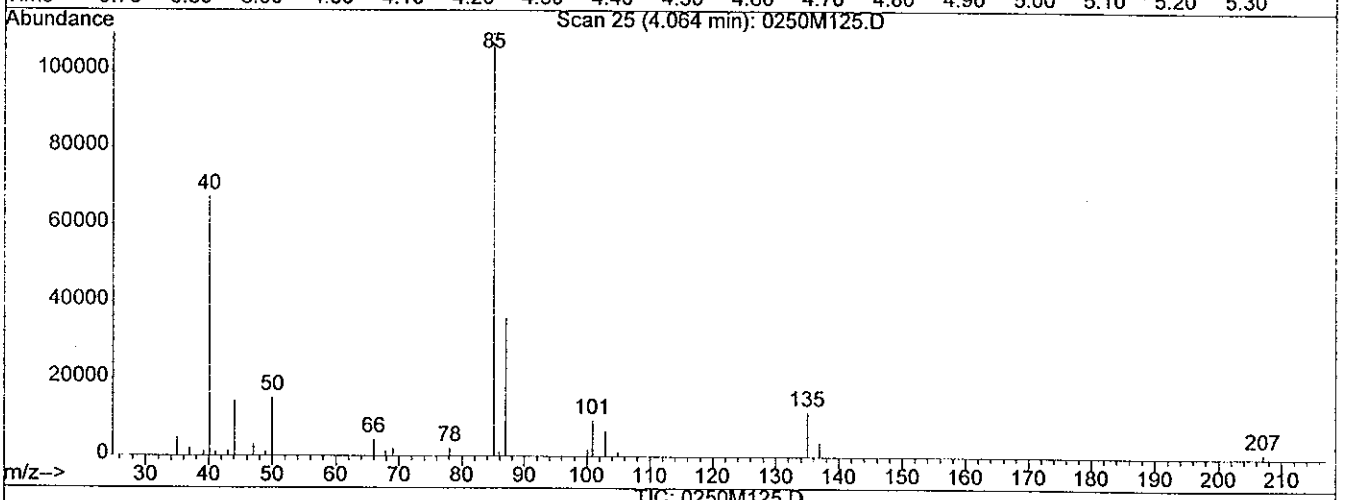
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





TIC: 0250M125.D

(2) Dichlorodifluoromethane

4.06min 187.97ng m

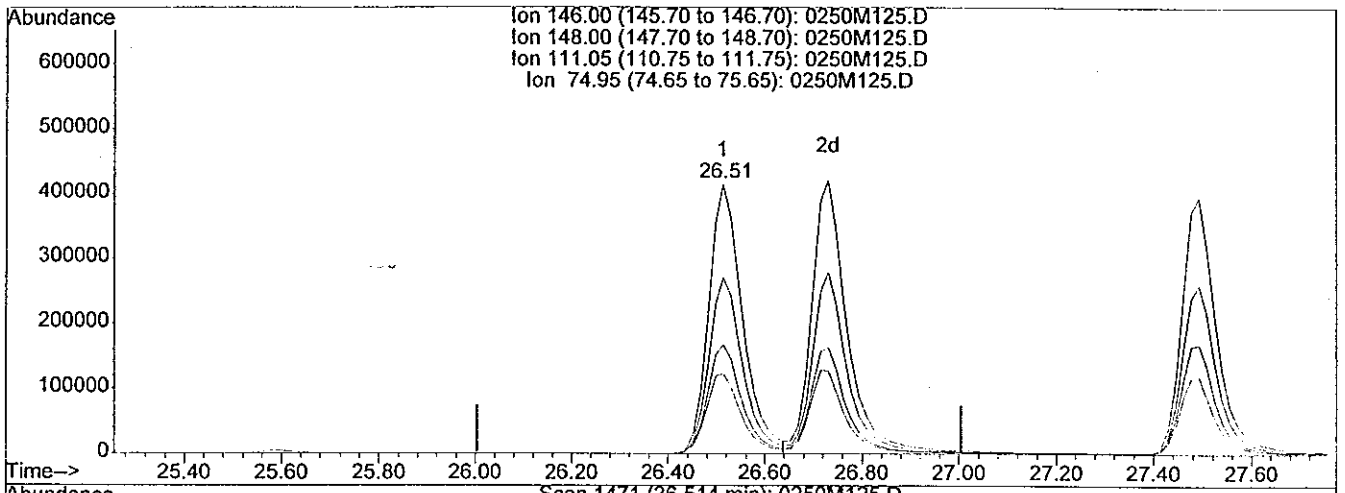
response 732577

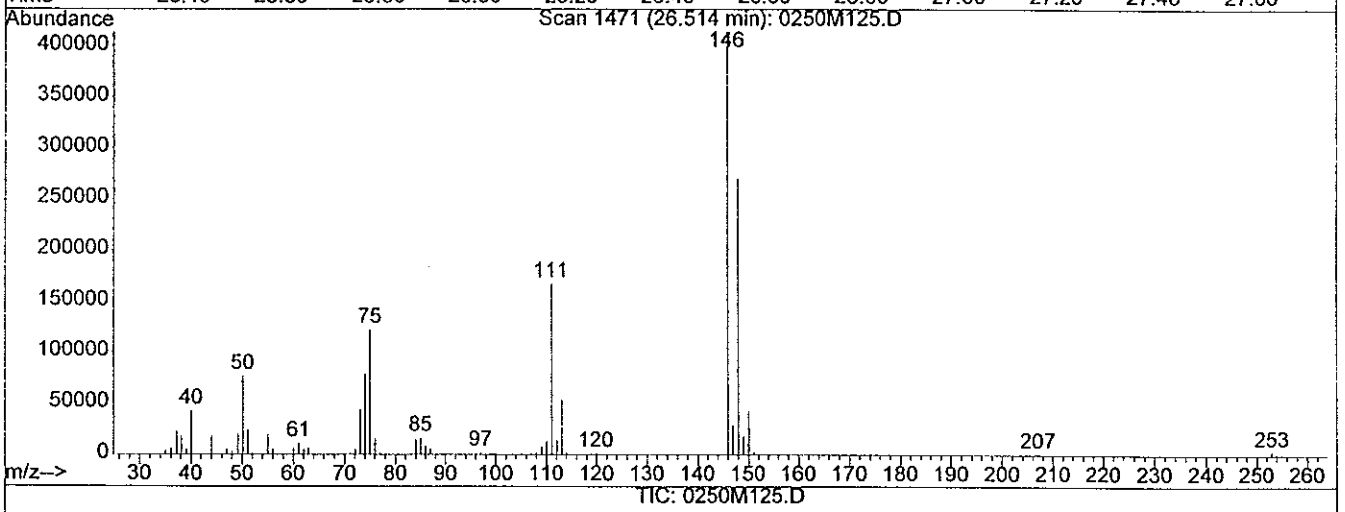
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

response 2001409

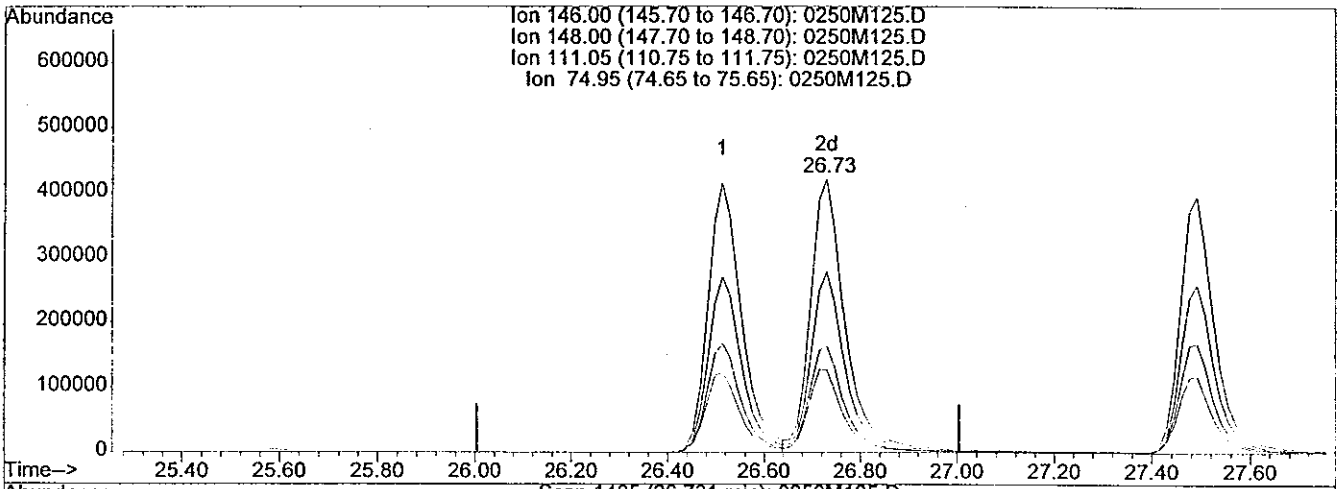
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

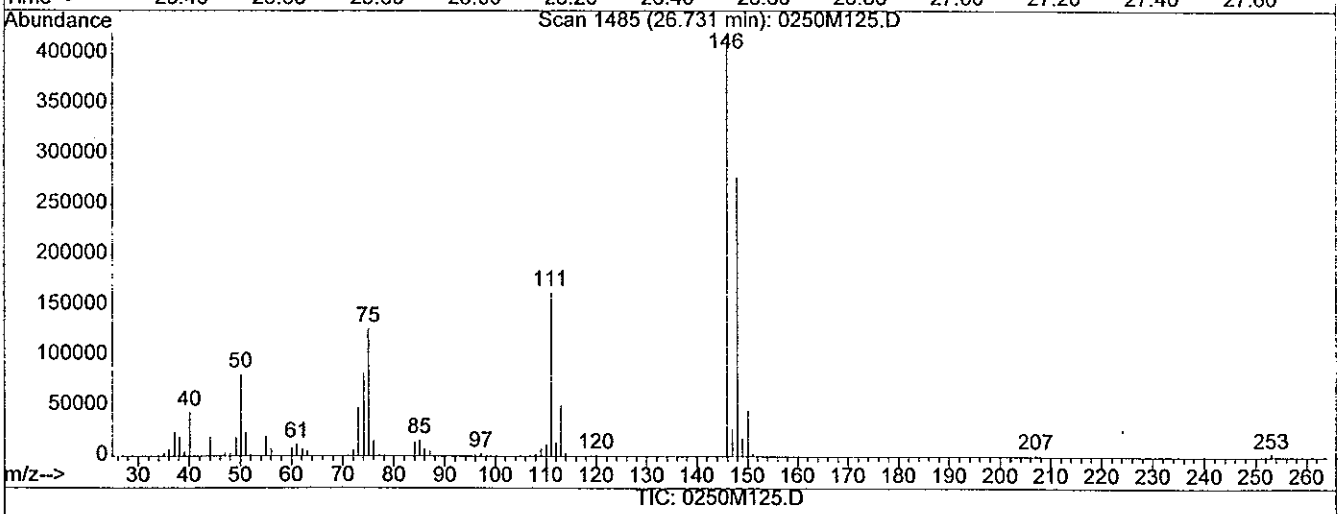
0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





TIC: 0250M125.D

(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

MY 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00	ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02 85.65%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

(#) = qualifier out of range (m) = manual integration
0500M125.D TO14S.M Fri Jan 25 15:41:51 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

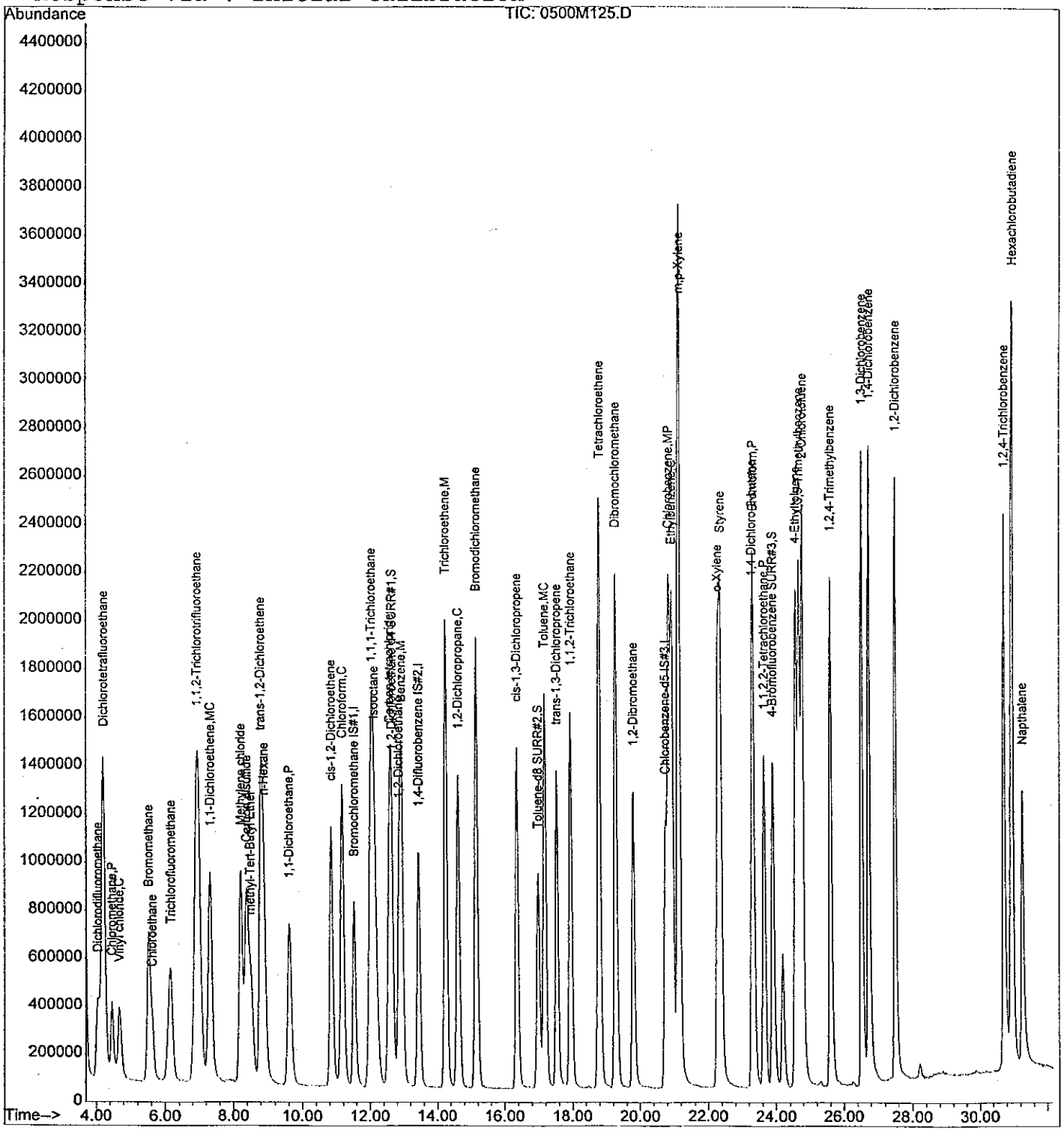
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39 ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67 ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03 ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68 ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98 ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70 ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12 ng		99
42)	o-Xylene	22.29	106	1850077	851.14 ng		97
43)	Styrene	22.37	104	3243356	851.00 ng		97
44)	Bromoform	23.33	173	2899555	796.41 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67 ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21 ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52 ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53 ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21 ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31 ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02 ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99 ng		99
56)	Napthalene	31.27	128	3229812	723.84 ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39 ng		100

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

MJ 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng	92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng #	41
4) Chloromethane	4.44	50	2133139	1351.49	ng #	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng	96
6) Bromomethane	5.51	94	3162736	1317.96	ng #	99
7) Chloroethane	5.60	64	1530589	1589.88	ng	97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng	84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng	90
12) Methylene chloride	8.20	49	3993235	1457.56	ng	99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng	100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng	99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng	93
16) n-Hexane	8.88	57	2940178	1555.79	ng #	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng	98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng	93
19) Chloroform	11.18	83	6940397	1537.33	ng	99
20) Isooctane	12.12	57	9654037	1544.96	ng	97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng	91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng	97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng	98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng	98
27) Benzene	12.95	78	7976775	1559.00	ng	99

(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.25	130	4575596	1625.70 ng		95
29)	1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30)	Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31)	cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33)	Toluene	17.18	92	5201962	1625.17 ng		98
34)	trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35)	1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37)	Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38)	Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39)	Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40)	Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41)	m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42)	o-Xylene	22.31	106	3789454	1709.97 ng		96
43)	Styrene	22.39	104	6680678	1719.31 ng		96
44)	Bromoform	23.33	173	6162140	1660.10 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48)	4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49)	1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50)	2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52)	1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53)	1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54)	1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56)	Napthalene	31.25	128	5947012	1307.26 ng	#	93
57)	Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002

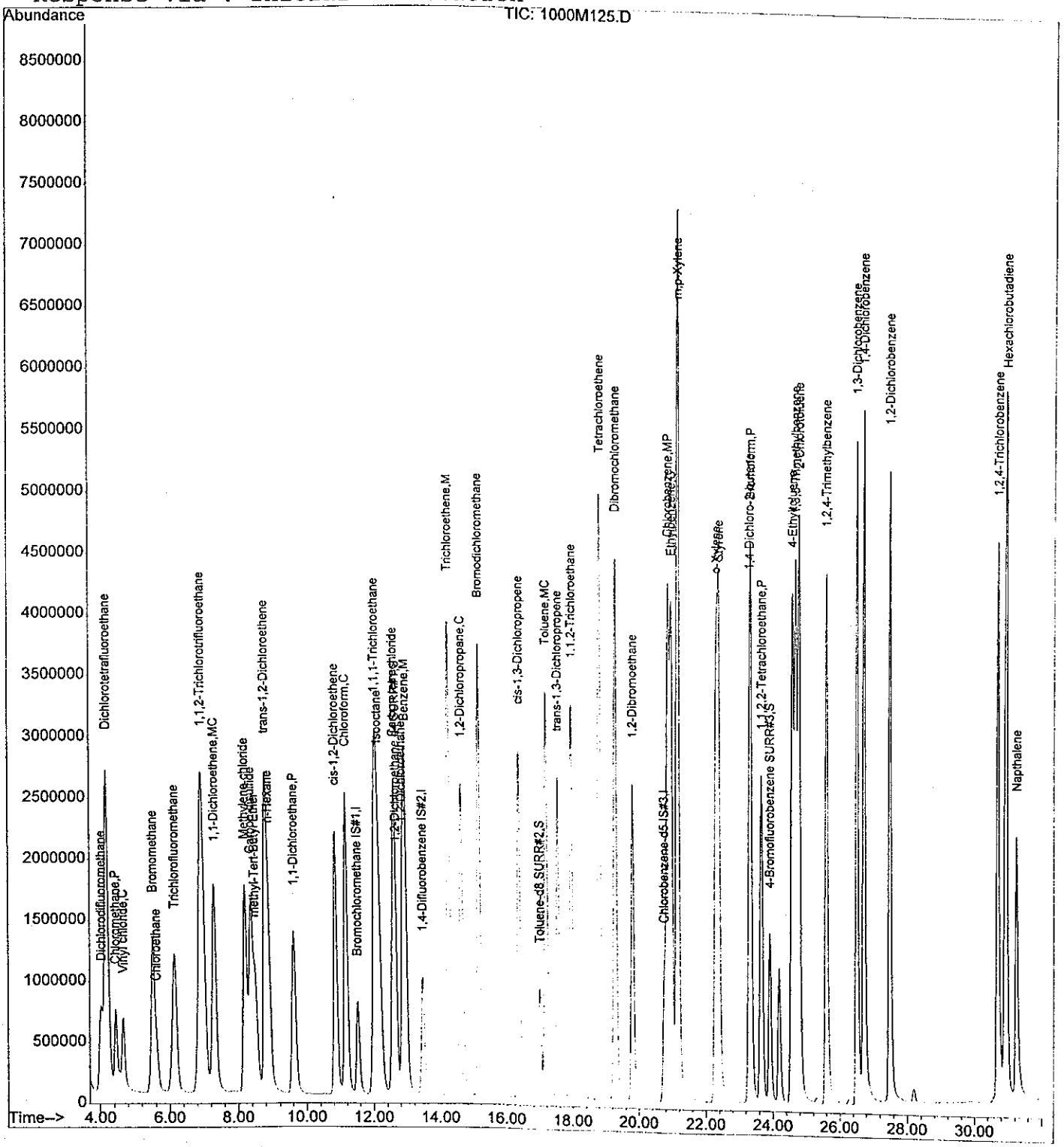
Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration



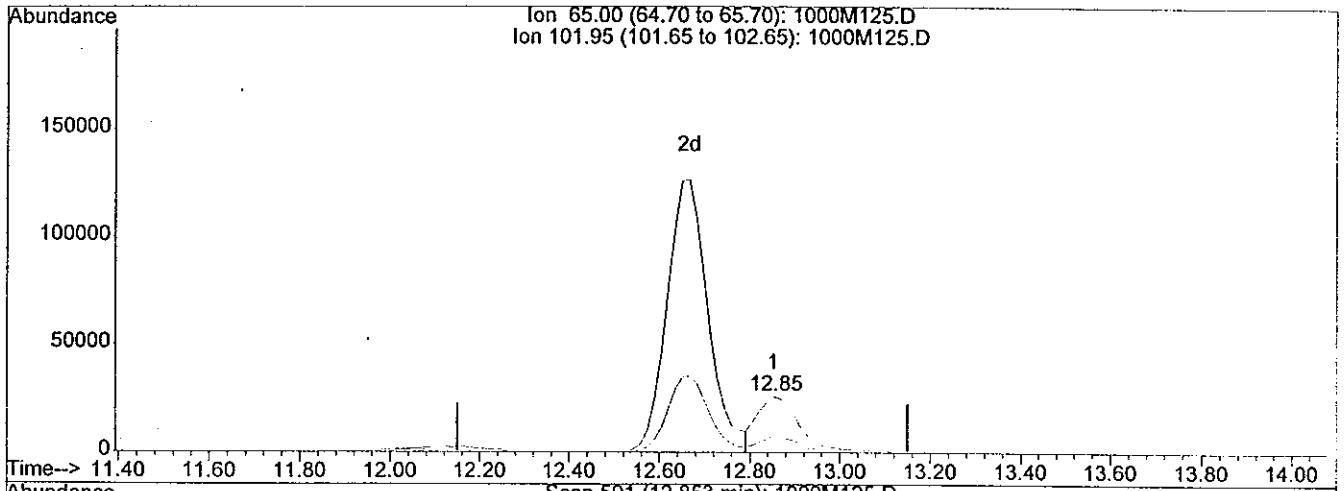
1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

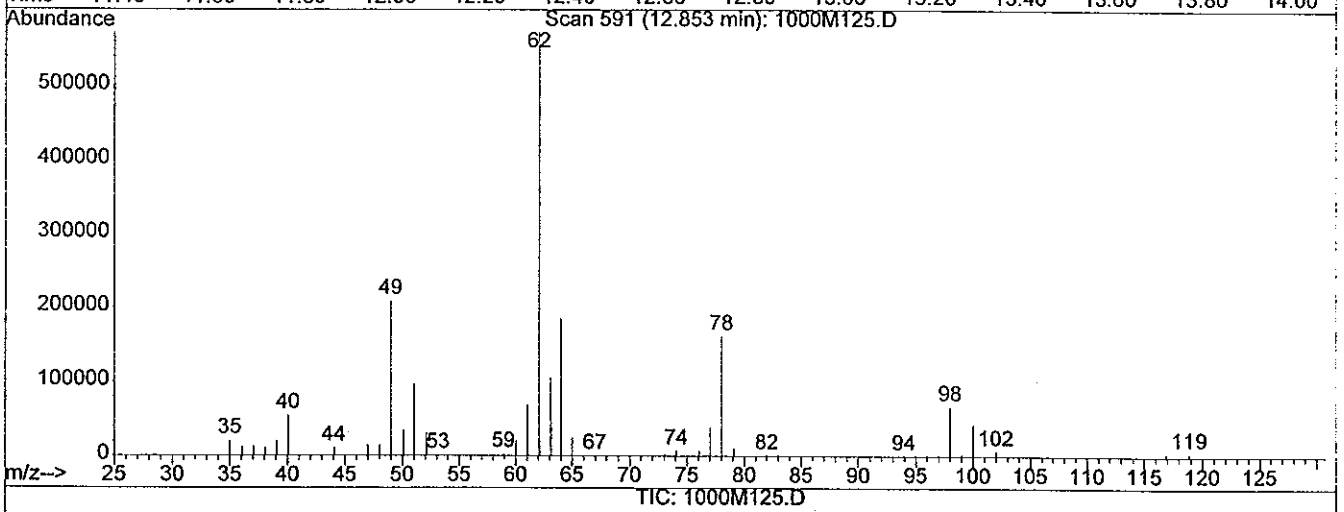
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

response 171340

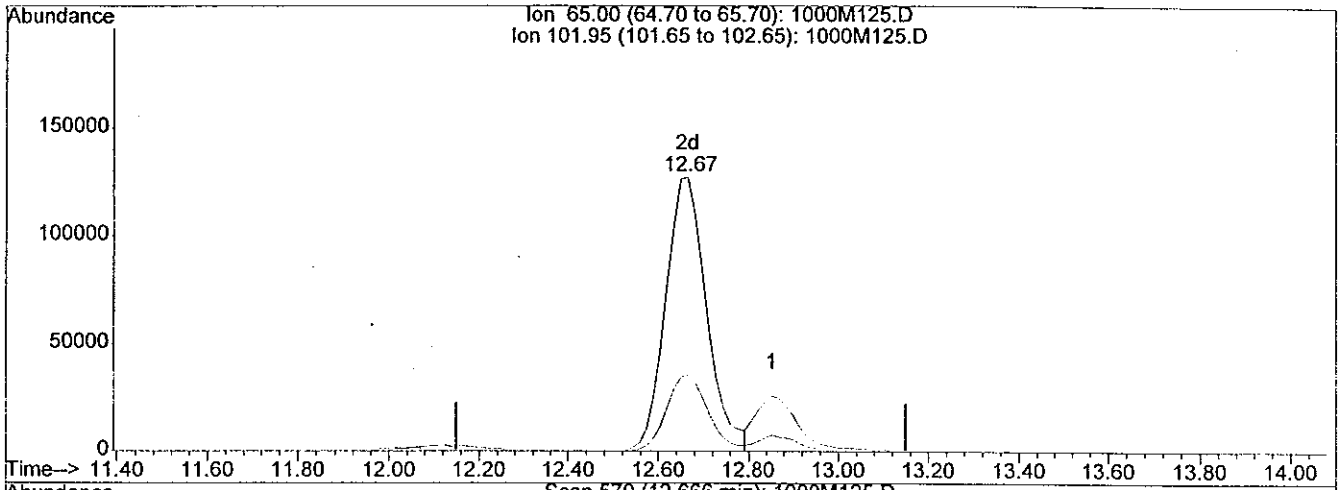
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

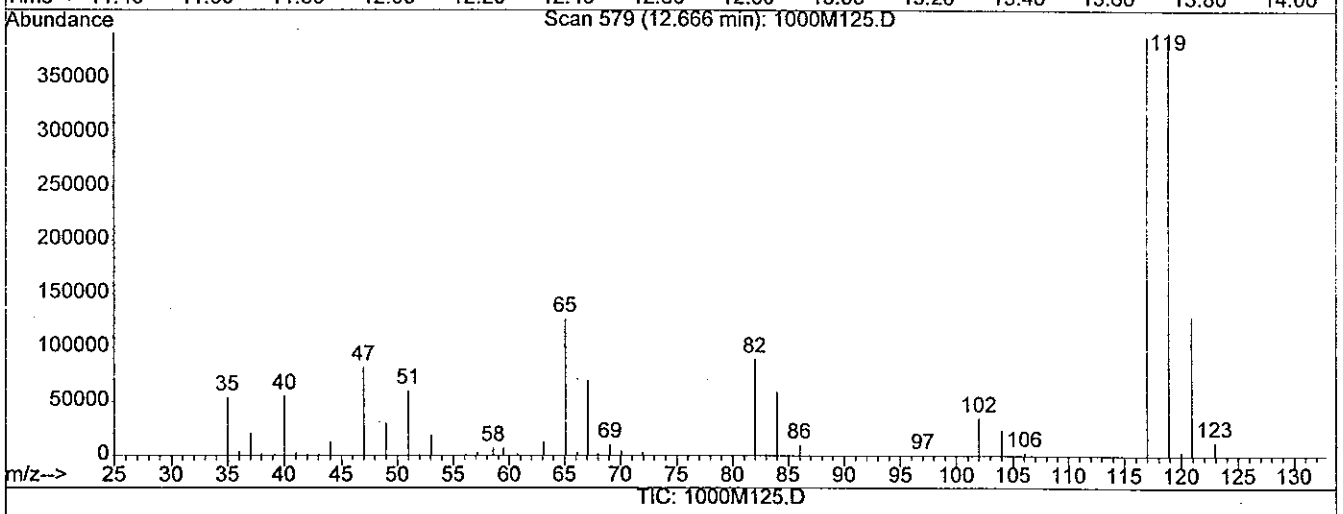
1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng	91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng #	40
4) Chloromethane	4.44	50	3972848	2058.56	ng #	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng	98
6) Bromomethane	5.48	94	5976813	2036.94	ng #	99
7) Chloroethane	5.59	64	2892614	2457.35	ng	98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng	84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng	90
12) Methylene chloride	8.18	49	7493461	2236.94	ng	99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng	99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng	99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng	93
16) n-Hexane	8.85	57	5552938	2403.09	ng #	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng	98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng	92
19) Chloroform	11.15	83	13101131	2373.35	ng	99
20) Isooctane	12.11	57	17221498	2253.97	ng	96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng	91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng	97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng #	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng	99
27) Benzene	12.92	78	15415352	2393.38	ng	99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42 ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33)	Toluene	17.17	92	10065682	2498.13 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42)	o-Xylene	22.28	106	7218929	2597.06 ng		97
43)	Styrene	22.35	104	12826497	2631.72 ng		96
44)	Bromoform	23.32	173	11319346	2431.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022666	2176.84 ng		95
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56)	Napthalene	31.24	128	8081624	1416.32 ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

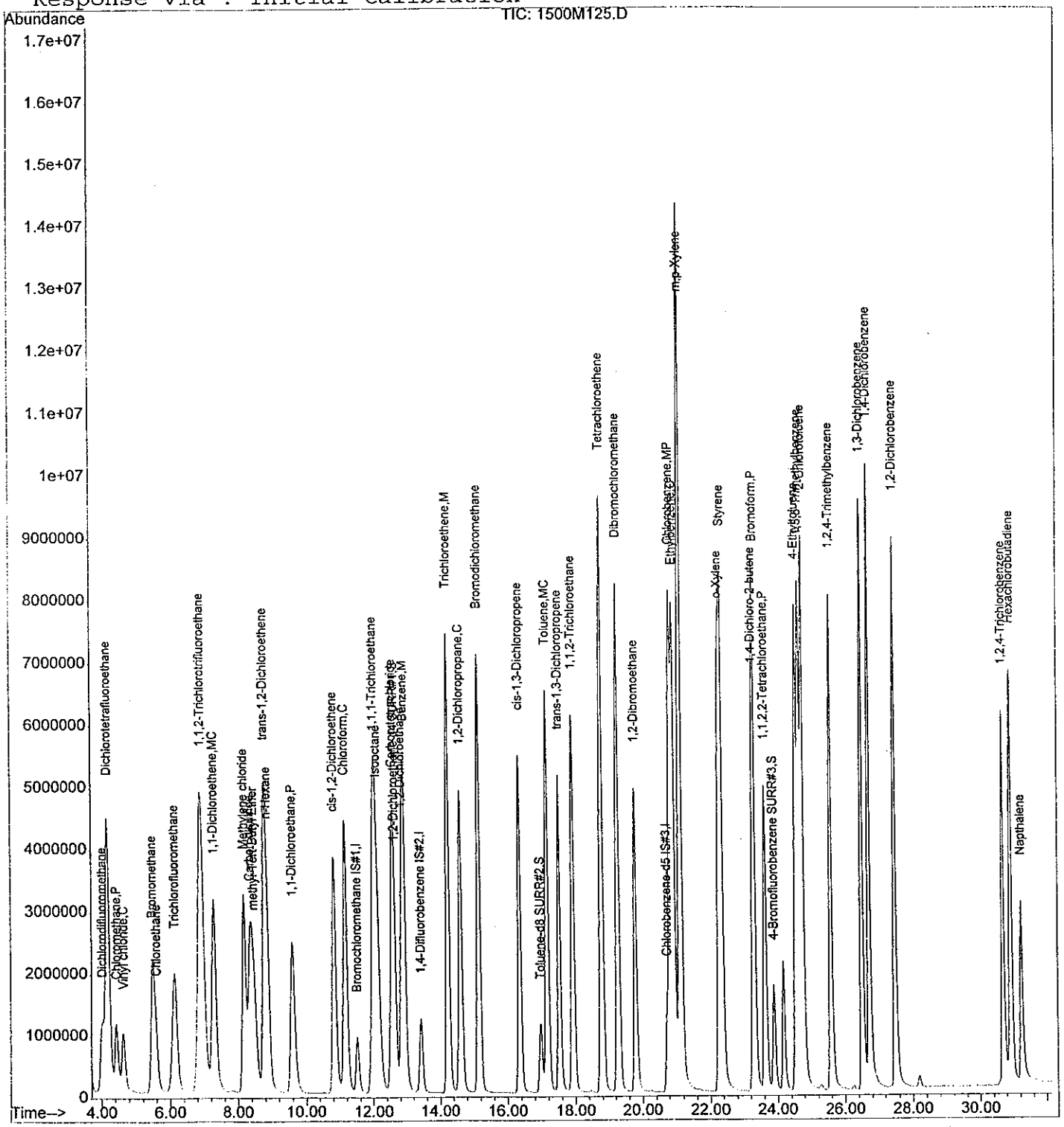
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 2-13-02
Batch MAB025 (1) 2 3
IS# 8 -MSW- 26 -3
BFB 8 -MSW- 26 -3

Instrument ID : MARILYN
Batch 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- -

Method : (TO14) /8260AIR /8260WATER /624MOD
Batch 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

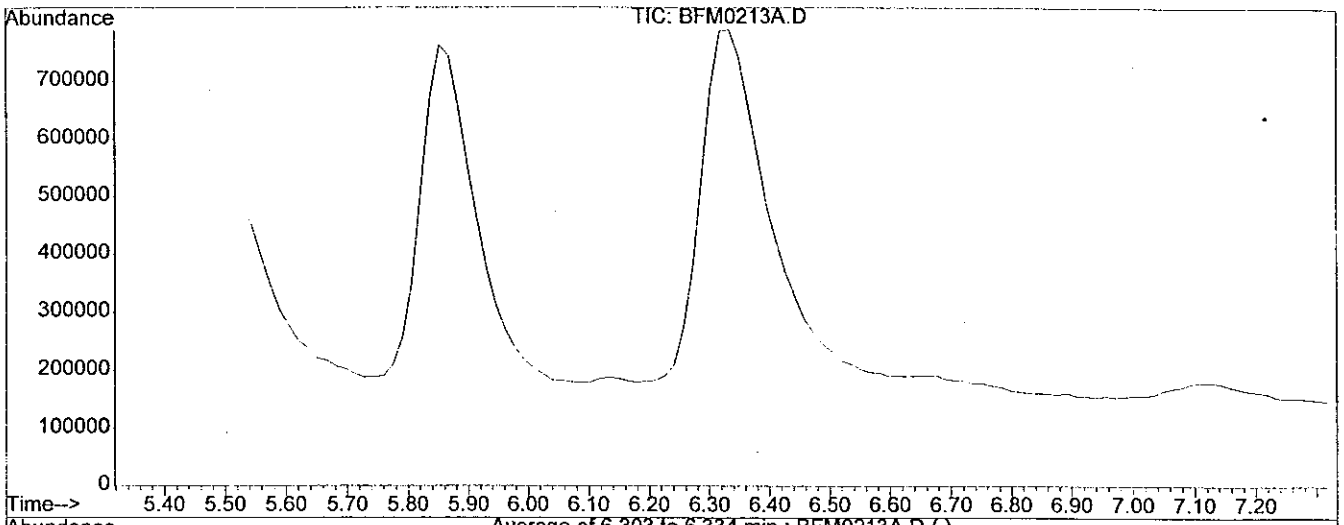
Maint. ___
Sequence cont. on page ___

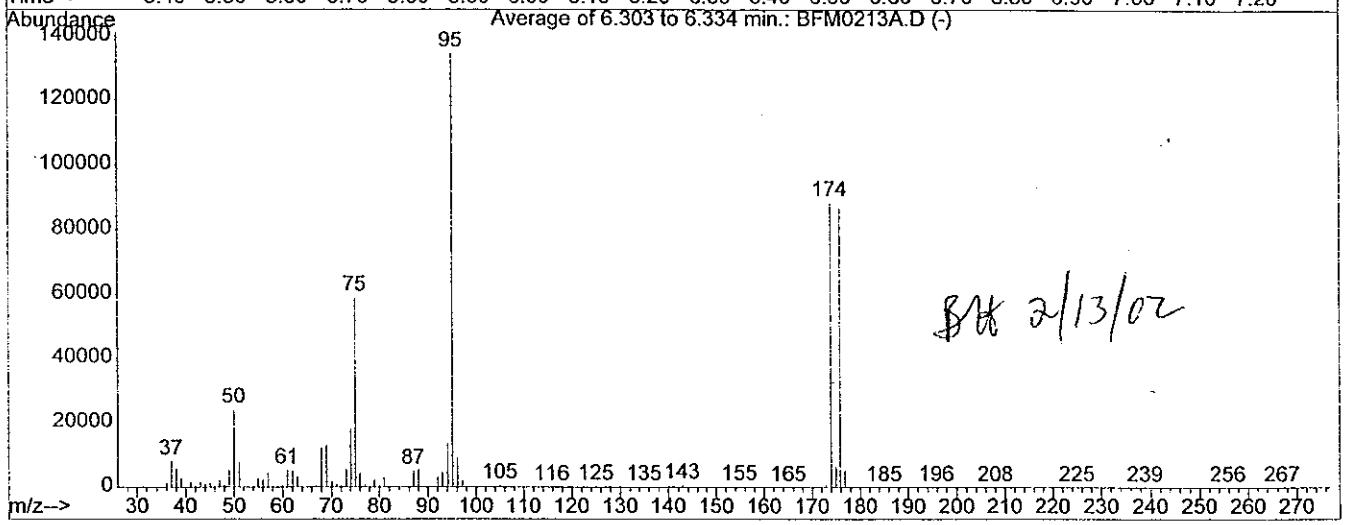
TIME	POS	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVE D	MATRIX	QC PASS**	*INIT	COMMENTS
09:49	1#3	BFB512	BFM0213A	50ppb			W		BH	Daily 12 hr. BFB Tune
10:11	14	To14S.m	CM 0213A	50ppb		Y N	W	YES	BH	Daily Cal Check/bfb tune/95 ion area =
11:23	15	↓	MA025A BK	ST		Y N	↓	↓	↓	Daily Method Blank
12:00	16	↓	MA025 LCS	50ppb		Y N	↓	↓	↓	Batch# 025 LCS
13:	2	↓	QC024	ST.		Y N	A (TO14)	↓	↓	500mls
13:05	2	↓	02061-1	ST.		Y N	↓	↓	↓	500mls
14:40	2	↓	02067-1	ST.		Y N	↓	↓	↓	500mls
13:42	3	↓	02103-4	X20		Y N	↓	↓	↓	25mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 2/13/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				screened water samples 02285(1-5) + 02283(1-2)
:						Y N				@ X100 dilution

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA02\M0213A\BFM0213A.D Vial: 13
Acq On : 13 Feb 2002 9:49 Operator: BDH
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14





BH 2/13/02

Peak Apex is scan: 51 (6.32 min)
Average of 3 scans: 50,51,52 minus background scan 31 (6.01 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	24169	PASS
75	95	30	60	43.9	59083	PASS
95	95	100	100	100.0	134654	PASS
96	95	5	9	6.8	9182	PASS
173	174	0	2	1.2	1017	PASS
174	95	50	100	65.7	88424	PASS
175	174	5	9	7.4	6557	PASS
176	174	95	101	97.9	86605	PASS
177	176	5	9	6.1	5325	PASS

BFM0213A.D TO14S.M Wed Feb 13 10:04:06 2002

BFBSTD050\ DAILY 12 HR. TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1296	50.00	24169	70.05	2042	88.00	5567
37.00	8097	51.05	7683	71.05	1092	92.05	3276
38.05	5795	55.05	2832	72.00	682	92.95	4555
39.05	2890	56.05	2393	73.05	5607	94.05	13784
41.05	1596	57.05	4607	74.05	18226	95.05	134654
43.05	1719	59.95	1040	75.05	59083	96.10	9182
44.05	976	60.95	5290	76.00	4250	97.10	2251
45.05	1266	62.10	5182	77.00	932	140.95	731
47.05	2303	63.00	3428	79.00	2359	142.90	790
48.00	702	68.00	12139	81.00	3063	172.90	1017
49.00	5224	69.00	12902	86.95	5135	174.00	88424

Average of 6.303 to 6.334 min.: BFM0213A.D

BFBSTD050\ DAILY 12 HR. TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.00	6557						
175.95	86605						
176.95	5325						

Data File : D:\HPCHEM\1\DATA02\M0212A\BFM0213A.D Vial: 13
Acq On : 13 Feb 2002 9:49 Operator: BDH
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

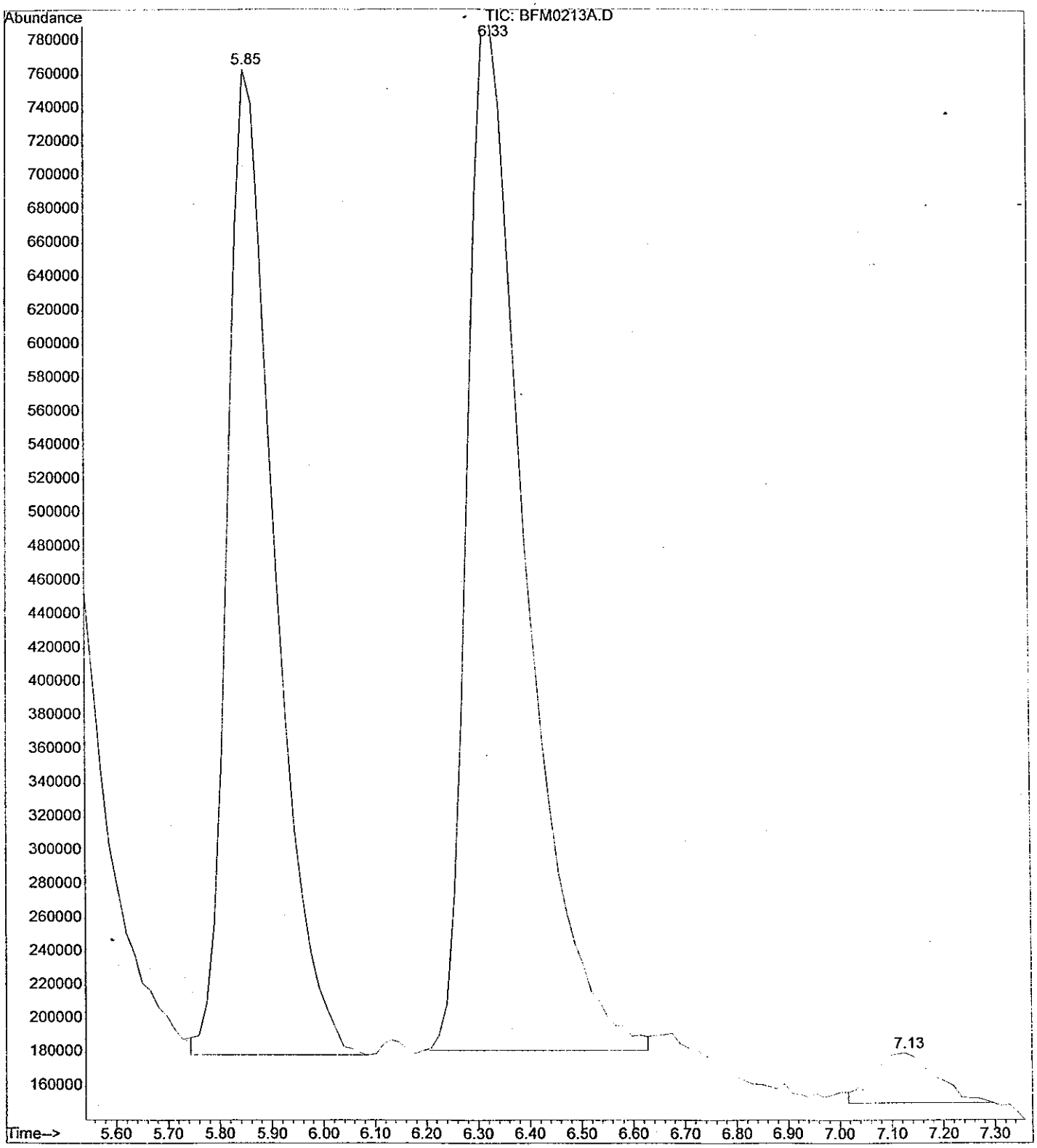
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.853	14	21	36	rVB	584710	3709517	77.61%	42.463%
2	6.334	43	52	71	rBV	607629	4779479	100.00%	54.711%
3	7.126	96	103	114	rVB6	29285	246816	5.16%	2.825%

Sum of corrected areas: 8735812

BFM0213A.D BFBSTL.M Wed Feb 13 09:57:03 2002

Area Percent Report

Data File : D:\HPCHEM\1\DATA02\M0212A\BFM0213A.D Vial: 13
Acq On : 13 Feb 2002 9:49 Operator: BDH
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240



BFM0213A.D BFBSTL.M Wed Feb 13 09:57:03 2002

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:53 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	0.919	0.851	7.4#	93	0.00
3		Dichlorotetrafluoroethane	1.446	1.311	9.3#	86	0.00
4	P	Chloromethane	0.788	0.698	11.4#	90	0.00
5	C	Vinyl chloride	0.727	0.690	5.1#	90	0.00
6		Bromomethane	1.180	1.098	6.9#	98	0.00
7		Chloroethane	0.530	0.495	6.6#	92	0.00
8		Trichlorofluoromethane	1.261	1.164	7.7#	83	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.779	4.8#	95	0.00
10	MC	1,1-Dichloroethene	1.064	0.983	7.6#	91	0.00
11		Iodomethane	0.000	0.000	0.0	224#	0.00
12		Methylene chloride	1.431	1.428	0.2	95	0.00
13		Carbon disulfide	2.862	2.720	5.0#	97	0.00
14		methyl-Tert-Butyl Ether	1.551	1.555	-0.3	96	0.00
15		trans-1,2-Dichloroethene	1.194	1.104	7.5#	92	0.00
16		n-Hexane	1.089	1.027	5.7#	92	0.00
17	P	1,1-Dichloroethane	1.944	1.895	2.5#	95	0.00
18		cis-1,2-Dichloroethene	1.576	1.586	-0.6	97	0.00
19	C	Chloroform	2.454	2.458	-0.2#	95	0.00
20		Isooctane	3.653	3.633	0.5	98	0.00
21		1,1,1-Trichloroethane	2.085	1.982	4.9#	91	0.00
22		Carbon tetrachloride	2.195	2.077	5.4#	90	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.123	4.5#	89	0.00
24		1,2-Dichloroethane	1.321	1.294	2.0#	90	0.00
25		1,2-Dibromoethane	2.124	2.031	4.4#	93	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	97	0.00
27	M	Benzene	0.733	0.734	-0.1	97	0.00
28	M	Trichloroethene	0.407	0.408	-0.2	95	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	97	0.00
30		Bromodichloromethane	0.755	0.787	-4.2#	95	0.00
31		cis-1,3-Dichloropropene	0.469	0.493	-5.1#	99	0.00
32	S	Toluene-d8 SURR#2	0.781	0.775	0.8	95	0.00
33	MC	Toluene	0.463	0.465	-0.4#	95	0.00
34		trans-1,3-Dichloropropene	0.402	0.415	-3.2#	95	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	98	0.00
37		Tetrachloroethene	0.488	0.474	2.9#	95	0.00
38		Dibromochloromethane	0.722	0.735	-1.8	96	0.00
39	MP	Chlorobenzene	0.891	0.902	-1.2	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:53 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.350	1.7#	93	0.00
41		m,p-Xylene	0.459	0.452	1.5	94	0.00
42		o-Xylene	0.439	0.440	-0.2	95	0.00
43		Styrene	0.771	0.784	-1.7	97	0.00
44	P	Bromoform	0.713	0.686	3.8#	92	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.589	8.0#	89	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.904	-1.5	98	0.00
47		1,4-Dichloro-2-butene	0.130	0.115	11.5#	88	0.00
48		4-Ethyltoluene	1.157	1.094	5.4#	92	0.00
49		1,3,5-Trimethylbenzene	0.912	0.892	2.2#	96	0.00
50		2-Chlorotoluene	1.191	1.171	1.7	93	0.00
51		1,2,4-Trimethylbenzene	0.961	0.963	-0.2	93	0.00
52		1,3-Dichlorobenzene	0.782	0.791	-1.2	93	0.00
53		1,4-Dichlorobenzene	0.825	0.837	-1.5	92	0.00
54		1,2-Dichlorobenzene	0.758	0.755	0.4	92	0.00
55		1,2,4-Trichlorobenzene	0.568	0.583	-2.6#	101	0.00
56		Napthalene	0.830	0.739	11.0#	98	0.00
57		Hexachlorobutadiene	0.495	0.447	9.7#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0207A\CM0207A.D (7 Feb 2002 9:49)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.43	128	802794	250.00	ng	-0.01 108.72%
26) 1,4-Difluorobenzene IS#2	13.35	114	3043992	250.00	ng	-0.03 103.39%
36) Chlorobenzene-d5 IS#3	20.67	117	2350688	250.00	ng	-0.04 102.26%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	901166	238.57	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.43%						
32) Toluene-d8 SURR#2	16.89	98	2359132	248.06	ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2125467	253.60	ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.44%						

Target Compounds						Qvalue	
2) Dichlorodifluoromethane	3.98	85	682856m	228.90	ng	#	98
3) Dichlorotetrafluoroethane	4.13	135	1052639	226.76	ng	#	40
4) Chloromethane	4.38	50	560167	221.46	ng		96
5) Vinyl chloride	4.61	62	553871	237.14	ng		96
6) Bromomethane	5.44	94	881648	232.68	ng	#	95
7) Chloroethane	5.53	64	397087	233.53	ng		99
8) Trichlorofluoromethane	6.06	101	934366	216.11	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.85	151	1427858	238.00	ng		86
10) 1,1-Dichloroethene	7.22	96	788996	231.00	ng		90
12) Methylene chloride	8.11	49	1146700	249.53	ng		98
13) Carbon disulfide	8.26	76	2183791	237.60	ng		98
14) methyl-Tert-Butyl Ether	8.39	73	1248691	250.75	ng		99
15) trans-1,2-Dichloroethene	8.70	96	886096	231.11	ng		92
16) n-Hexane	8.77	57	824714	235.88	ng	#	1
17) 1,1-Dichloroethane	9.52	63	1521685	243.80	ng		98
18) cis-1,2-Dichloroethene	10.75	61	1273080	251.53	ng		94
19) Chloroform	11.07	83	1973333	250.42	ng		99
20) Isooctane	12.02	57	2916859	248.68	ng		97
21) 1,1,1-Trichloroethane	11.94	97	1591189	237.66	ng		91
22) Carbon tetrachloride	12.50	117	1667021	236.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1038718	244.91	ng		97
25) 1,2-Dibromoethane	19.72	107	1630152	239.03	ng		98
27) Benzene	12.83	78	2235445	250.37	ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

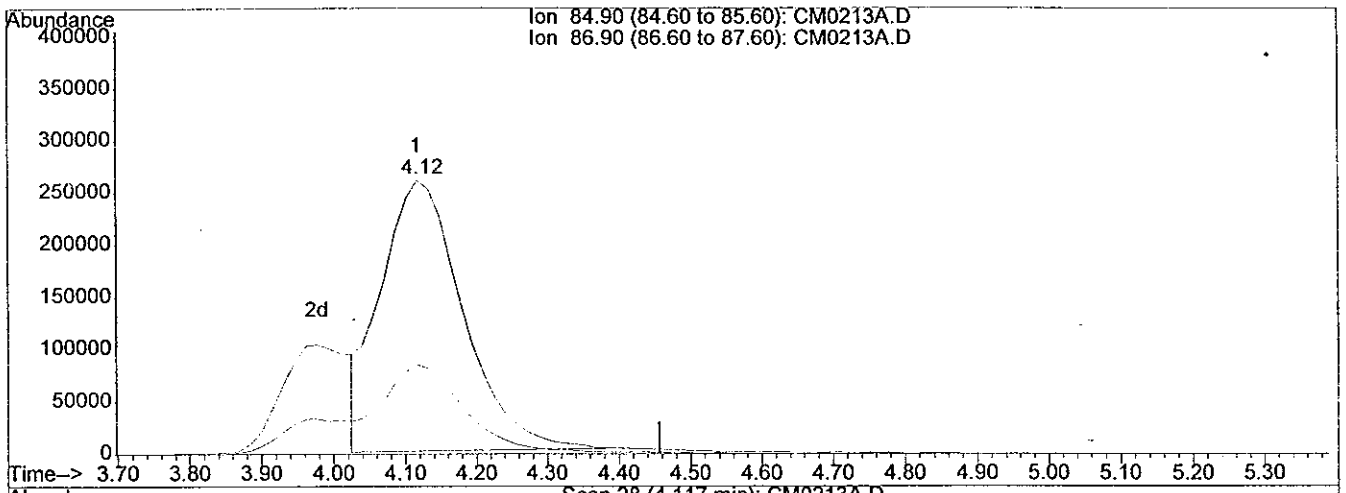
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.15	130	1242865	250.60 ng		95
29)	1,2-Dichloropropane	14.53	63	967926	256.25 ng		98
30)	Bromodichloromethane	15.06	83	2394422	260.57 ng		100
31)	cis-1,3-Dichloropropene	16.27	75	1500124	262.47 ng		99
33)	Toluene	17.10	92	1416850	251.25 ng		98
34)	trans-1,3-Dichloropropene	17.45	75	1262344	258.11 ng		98
35)	1,1,2-Trichloroethane	17.86	97	971759	247.73 ng		97
37)	Tetrachloroethene	18.71	164	1115196	243.26 ng		96
38)	Dibromochloromethane	19.19	127	1727120	254.45 ng		99
39)	Chlorobenzene	20.76	112	2121371	253.18 ng		95
40)	Ethylbenzene	20.87	106	823303	245.68 ng		100
41)	m,p-Xylene	21.06	106	2124980	492.39 ng		99
42)	o-Xylene	22.22	106	1035064	250.90 ng		98
43)	Styrene	22.30	104	1842701	254.31 ng		96
44)	Bromoform	23.24	173	1612822	240.74 ng		100
45)	1,1,2,2-Tetrachloroethane	23.57	83	1384135	230.12 ng		100
47)	1,4-Dichloro-2-butene	23.21	75	271304	221.36 ng		94
48)	4-Ethyltoluene	24.50	105	2570990	236.30 ng		100
49)	1,3,5-Trimethylbenzene	24.60	105	2097844	244.65 ng		90
50)	2-Chlorotoluene	24.70	91	2752901	245.86 ng		96
51)	1,2,4-Trimethylbenzene	25.54	105	2263911	250.59 ng		99
52)	1,3-Dichlorobenzene	26.47	146	1860283	253.09 ng		96
53)	1,4-Dichlorobenzene	26.69	146	1966706	253.63 ng		96
54)	1,2-Dichlorobenzene	27.45	146	1775077	248.93 ng		95
55)	1,2,4-Trichlorobenzene	30.67	180	1370630	231.22 ng		100
56)	Napthalene	31.22	128	1737485	214.34 ng	#	92
57)	Hexachlorobutadiene	30.91	225	1050565	210.24 ng		99

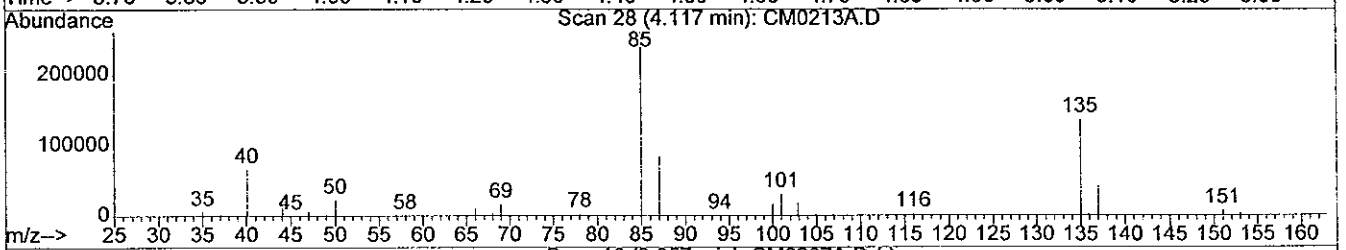
(#) = qualifier out of range (m) = manual integration

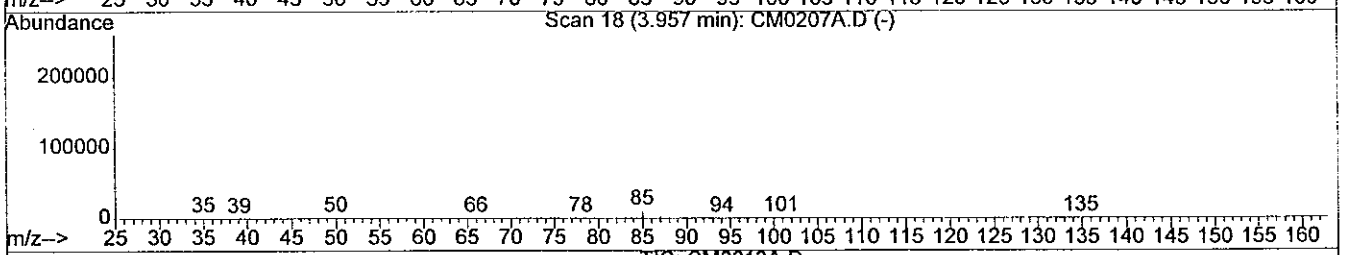
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Multiple Level Calibration







TIC: CM0213A.D

(2) Dichlorodifluoromethane

4.12min 745.20ng

response 2083156

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.11
0.00	0.00	0.00
0.00	0.00	0.00

before (co-eluting)

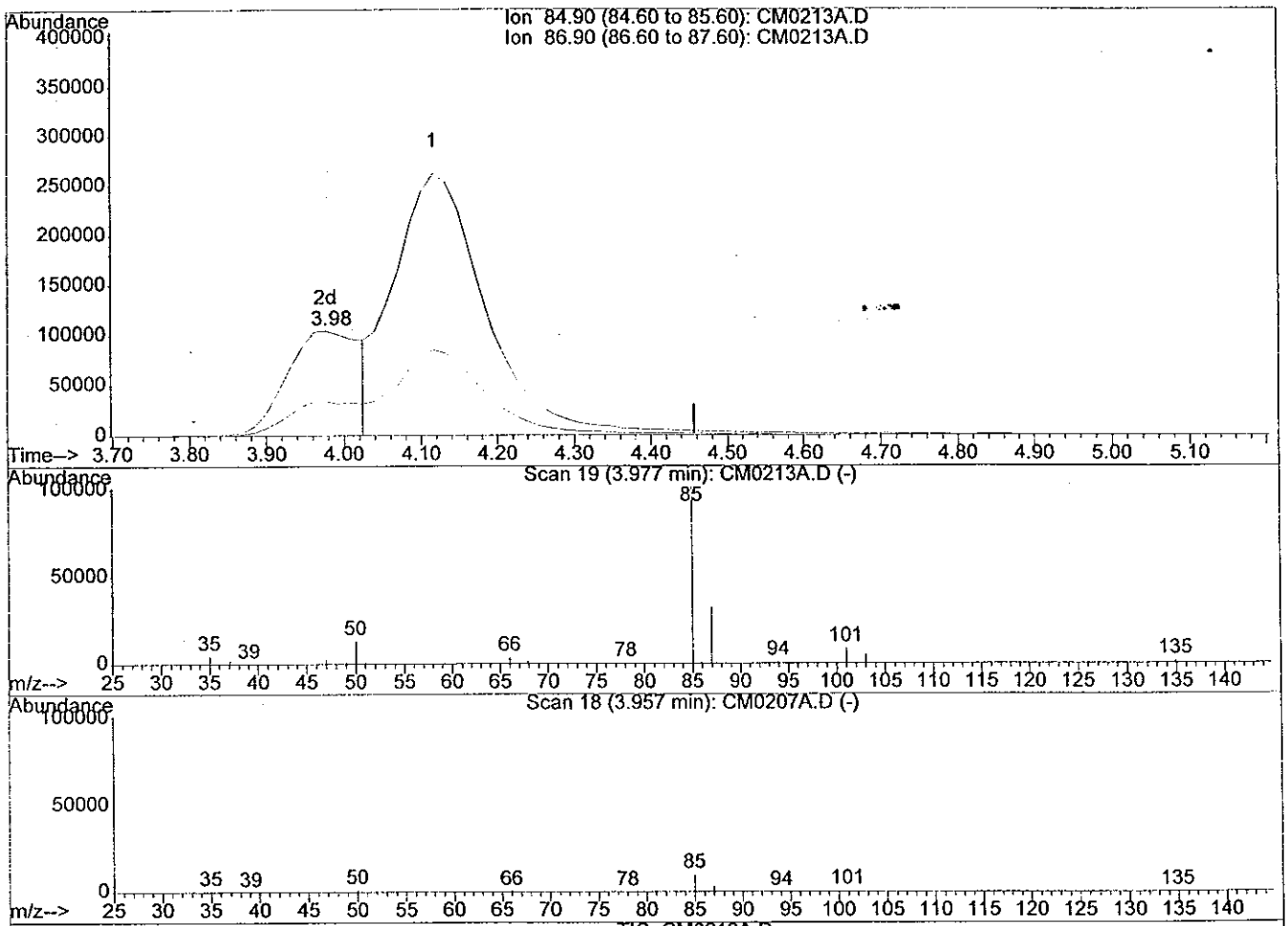
CM0213A.D TO14S.M Wed Feb 13 10:49:20 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.98min 228.90ng m

response 682856

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	97.95#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH 2/13/02

CM0213A.D TO14S.M Wed Feb 13 10:50:36 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0207A\CM0207A.D (7 Feb 2002 9:49)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.43	128	802794	250.00	ng	-0.01 108.72%
26) 1,4-Difluorobenzene IS#2	13.35	114	3043992	250.00	ng	-0.03 103.39%
36) Chlorobenzene-d5 IS#3	20.67	117	2350688	250.00	ng	-0.04 102.26%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	901166	238.57	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.43%						
32) Toluene-d8 SURR#2	16.89	98	2359132	248.06	ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2125467	253.60	ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.44%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.12	85	2083156	745.20	ng		98
3) Dichlorotetrafluoroethane	4.13	135	1052639	226.76	ng	#	40
4) Chloromethane	4.38	50	560167	221.46	ng		96
5) Vinyl chloride	4.61	62	553871	237.14	ng		96
6) Bromomethane	5.44	94	881648	232.68	ng	#	95
7) Chloroethane	5.53	64	397087	233.53	ng		99
8) Trichlorofluoromethane	6.06	101	934366	216.11	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.85	151	1427858	238.00	ng		86
10) 1,1-Dichloroethene	7.22	96	788996	231.00	ng		90
12) Methylene chloride	8.11	49	1146700	249.53	ng		98
13) Carbon disulfide	8.26	76	2183791	237.60	ng		98
14) methyl-Tert-Butyl Ether	8.39	73	1248691	250.75	ng		99
15) trans-1,2-Dichloroethene	8.70	96	886096	231.11	ng		92
16) n-Hexane	8.77	57	824714	235.88	ng	#	1
17) 1,1-Dichloroethane	9.52	63	1521685	243.80	ng		98
18) cis-1,2-Dichloroethene	10.75	61	1273080	251.53	ng		94
19) Chloroform	11.07	83	1973333	250.42	ng		99
20) Isooctane	12.02	57	2916859	248.68	ng		97
21) 1,1,1-Trichloroethane	11.94	97	1591189	237.66	ng		91
22) Carbon tetrachloride	12.50	117	1667021	236.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1038718	244.91	ng		97
25) 1,2-Dibromoethane	19.72	107	1630152	239.03	ng		98
27) Benzene	12.83	78	2235445	250.37	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

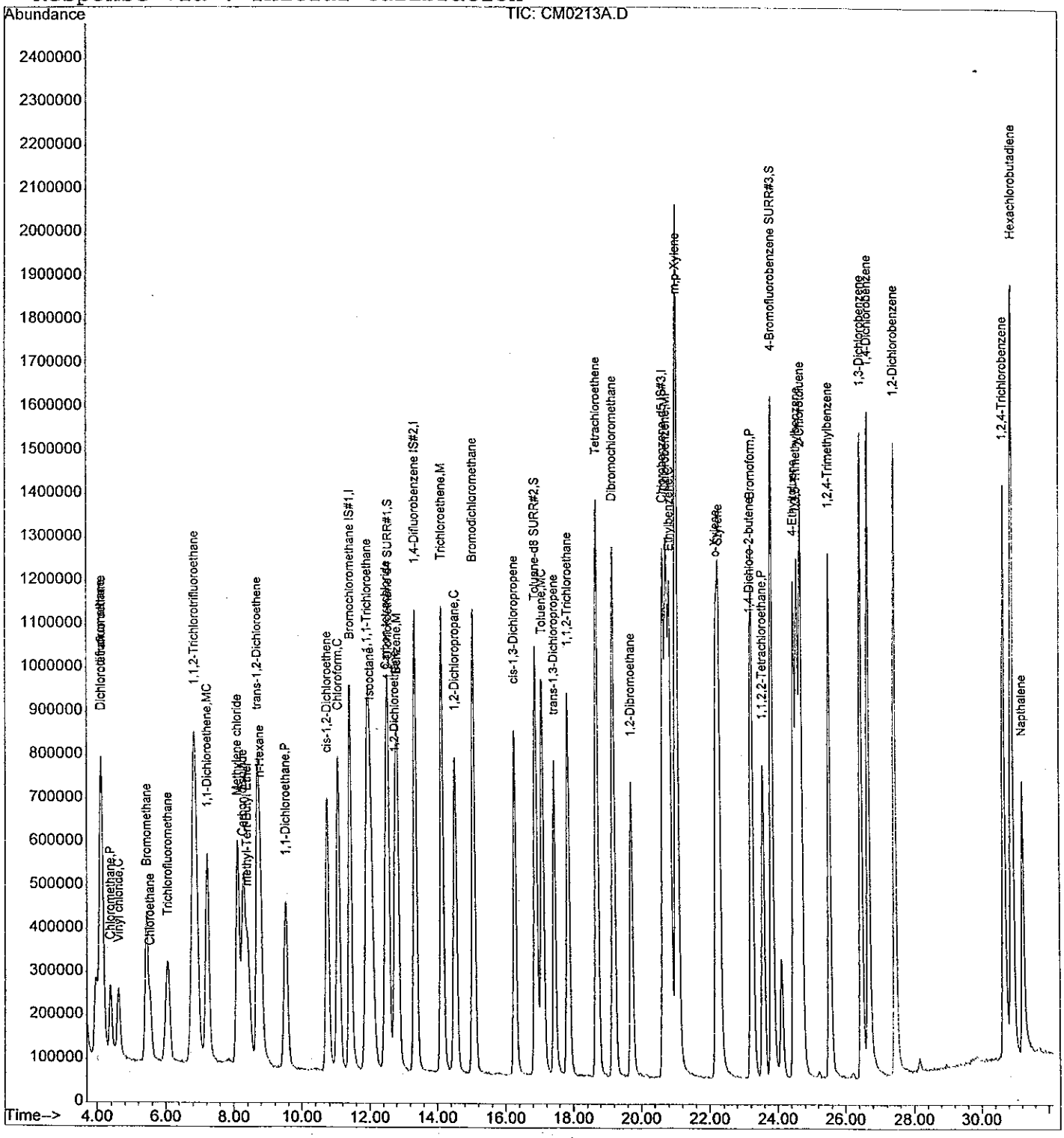
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.15	130	1242865	250.60 ng		95
29)	1,2-Dichloropropane	14.53	63	967926	256.25 ng		98
30)	Bromodichloromethane	15.06	83	2394422	260.57 ng		100
31)	cis-1,3-Dichloropropene	16.27	75	1500124	262.47 ng		99
33)	Toluene	17.10	92	1416850	251.25 ng		98
34)	trans-1,3-Dichloropropene	17.45	75	1262344	258.11 ng		98
35)	1,1,2-Trichloroethane	17.86	97	971759	247.73 ng		97
37)	Tetrachloroethene	18.71	164	1115196	243.26 ng		96
38)	Dibromochloromethane	19.19	127	1727120	254.45 ng		99
39)	Chlorobenzene	20.76	112	2121371	253.18 ng		95
40)	Ethylbenzene	20.87	106	823303	245.68 ng		100
41)	m,p-Xylene	21.06	106	2124980	492.39 ng		99
42)	o-Xylene	22.22	106	1035064	250.90 ng		98
43)	Styrene	22.30	104	1842701	254.31 ng		96
44)	Bromoform	23.24	173	1612822	240.74 ng		100
45)	1,1,2,2-Tetrachloroethane	23.57	83	1384135	230.12 ng		100
47)	1,4-Dichloro-2-butene	23.21	75	271304	221.36 ng		94
48)	4-Ethyltoluene	24.50	105	2570990	236.30 ng		100
49)	1,3,5-Trimethylbenzene	24.60	105	2097844	244.65 ng		90
50)	2-Chlorotoluene	24.70	91	2752901	245.86 ng		96
51)	1,2,4-Trimethylbenzene	25.54	105	2263911	250.59 ng		99
52)	1,3-Dichlorobenzene	26.47	146	1860283	253.09 ng		96
53)	1,4-Dichlorobenzene	26.69	146	1966706	253.63 ng		96
54)	1,2-Dichlorobenzene	27.45	146	1775077	248.93 ng		95
55)	1,2,4-Trichlorobenzene	30.67	180	1370630	231.22 ng		100
56)	Napthalene	31.22	128	1737485	214.34 ng	#	92
57)	Hexachlorobutadiene	30.91	225	1050565	210.24 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D Vial: 15
Acq On : 13 Feb 2002 11:23 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	751430	250.00 ng	0.02 101.76%
26) 1,4-Difluorobenzene IS#2	13.38	114	2926987	250.00 ng	0.00 99.42%
36) Chlorobenzene-d5 IS#3	20.69	117	2236682	250.00 ng	-0.02 97.30%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	873757	247.13 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.85%		
32) Toluene-d8 SURR#2	16.94	98	2265045	247.69 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.08%		
46) 4-Bromofluorobenzene SURR#	23.86	95	2015003	252.67 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.07%		

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D Vial: 15
Acq On : 13 Feb 2002 11:23 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 11:55 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	751430	250.00 ng	0.02 101.76%
26) 1,4-Difluorobenzene IS#2	13.38	114	2926987	250.00 ng	0.00 99.42%
36) Chlorobenzene-d5 IS#3	20.69	117	2236682	250.00 ng	-0.02 97.30%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	873757	247.13 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.85%					
32) Toluene-d8 SURR#2	16.94	98	2265045	247.69 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.08%					
46) 4-Bromofluorobenzene SURR#	23.86	95	2015003	252.67 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.07%					

Target Compounds					Qvalue
4) Chloromethane	4.52	50	1065	0.45 ng	# 46
6) Bromomethane	5.43	94	4304	1.21 ng	# 9
27) Benzene	12.85	78	3153	0.37 ng	# 54
39) Chlorobenzene	20.79	112	972	0.12 ng	# 1
55) 1,2,4-Trichlorobenzene	30.66	180	945	27.99 ng	# 12
56) Napthalene	31.22	128	12914	18.14 ng	# 64

NSF

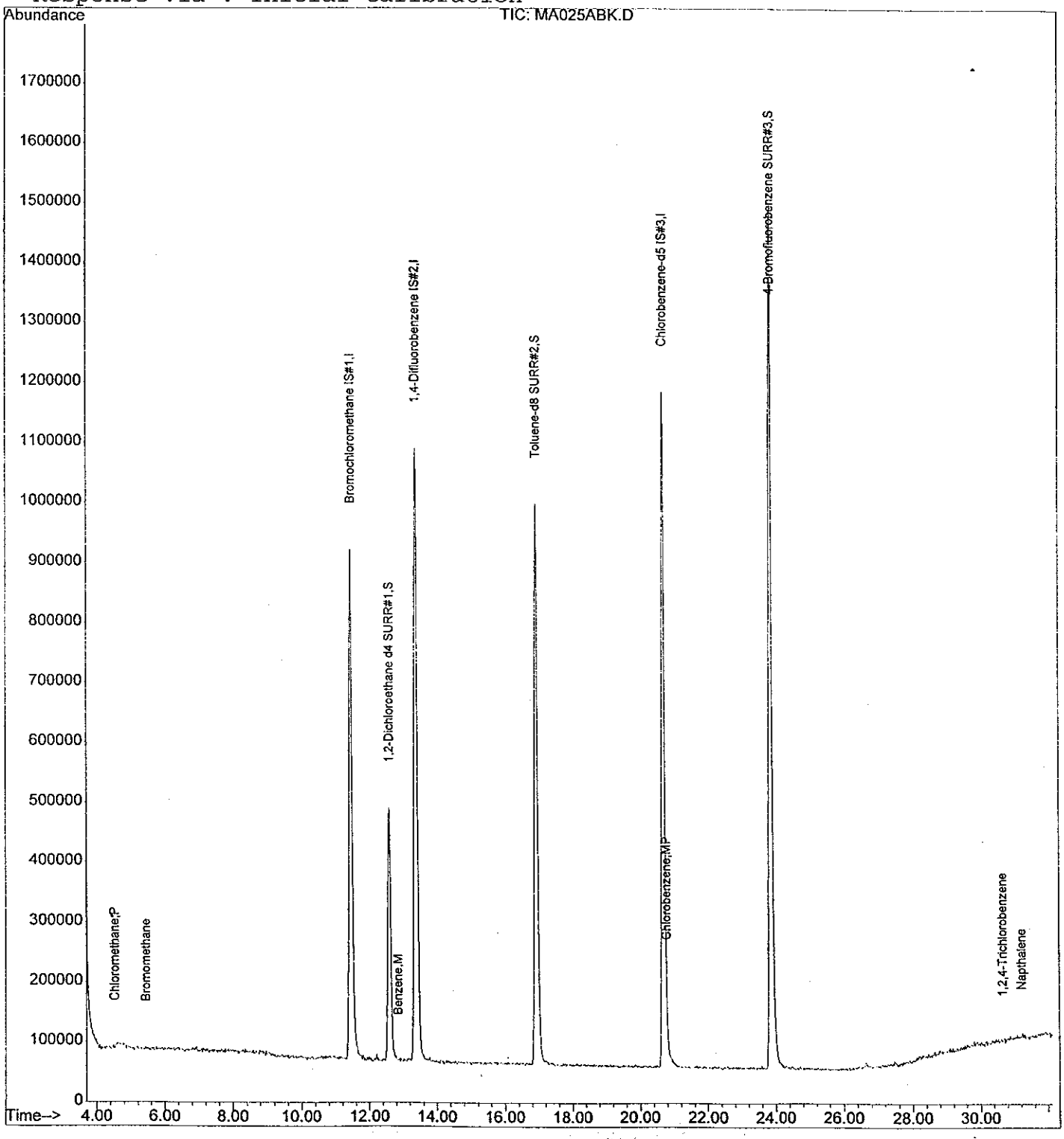
(#) = qualifier out of range (m) = manual integration
MA025ABK.D TO14S.M Wed Feb 13 11:56:01 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D
Acq On : 13 Feb 2002 11:23
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 11:55 2002

Vial: 15
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 13:02 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BA 2/13/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	860085	250.00	ng	0.03 116.48%
26) 1,4-Difluorobenzene IS#2	13.40	114	3202283	250.00	ng	0.02 108.77%
36) Chlorobenzene-d5 IS#3	20.73	117	2481433	250.00	ng	0.02 107.95%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.59	65	1021882	252.51	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.00%						
32) Toluene-d8 SURR#2	16.95	98	2537635	253.64	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.46%						
46) 4-Bromofluorobenzene SURR#	23.88	95	2230301	252.09	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.84%						

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.23	96	765953	209.32	ng	91
27) Benzene	12.87	78	2290988	243.91	ng	99
28) Trichloroethene	14.19	130	1267124	242.87	ng	96
33) Toluene	17.14	92	1483664	250.10	ng	97
39) Chlorobenzene	20.82	112	2222689	251.30	ng #	87

(#) = qualifier out of range (m) = manual integration
MA025LCS.D TO14S.M Wed Feb 13 13:02:13 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:33 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	860085	250.00	ng	0.03 116.48%
26) 1,4-Difluorobenzene IS#2	13.40	114	3202283	250.00	ng	0.02 108.77%
36) Chlorobenzene-d5 IS#3	20.73	117	2481433	250.00	ng	0.02 107.95%

System Monitoring Compounds

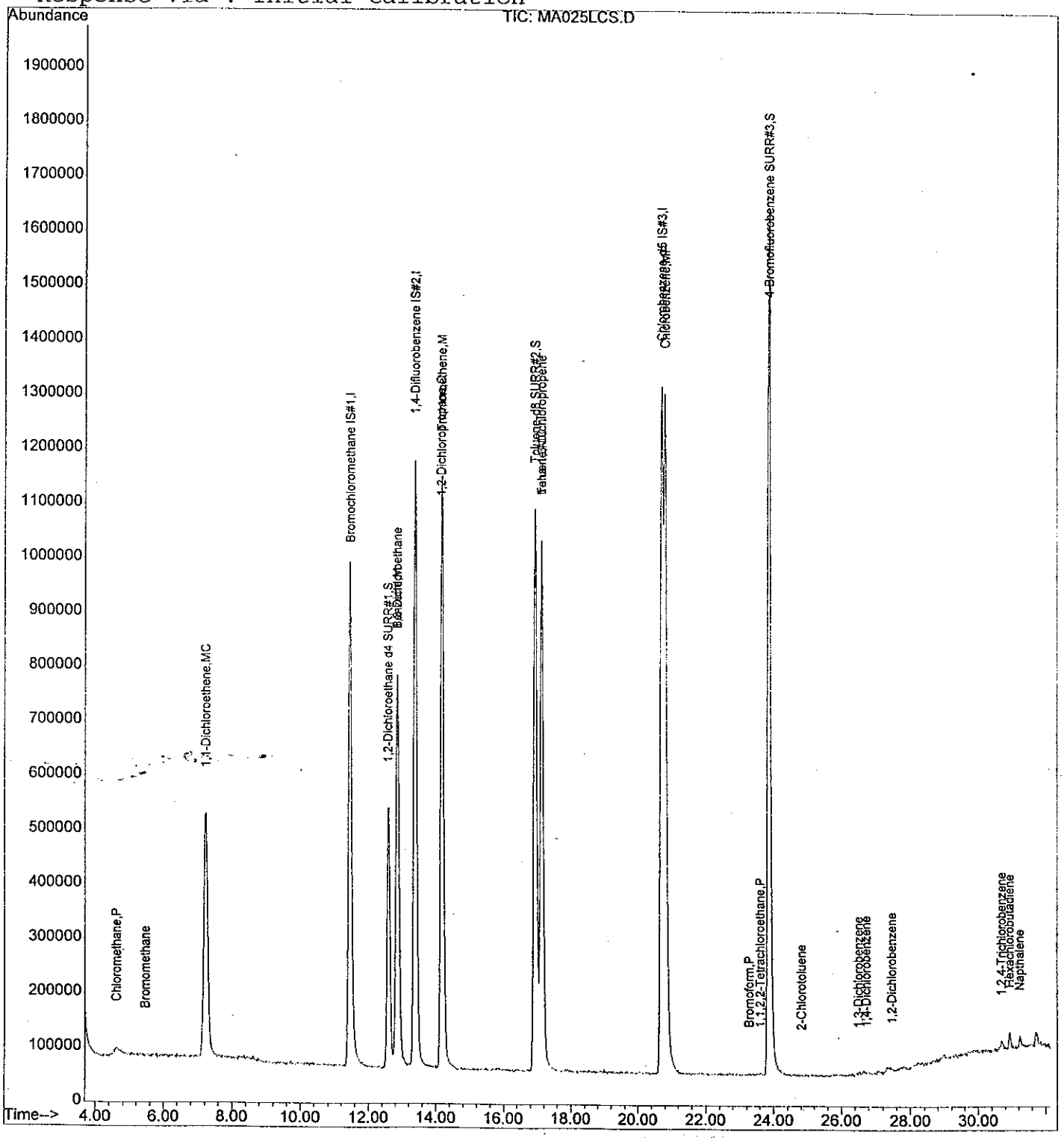
23) 1,2-Dichloroethane d4 SURR	12.59	65	1021882	252.51	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.00%						
32) Toluene-d8 SURR#2	16.95	98	2537635	253.64	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.46%						
46) 4-Bromofluorobenzene SURR#	23.88	95	2230301	252.09	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.84%						

Target Compounds						Qvalue
4) Chloromethane	4.61	50	5647	2.08	ng	# 44
6) Bromomethane	5.46	94	1089	0.27	ng	# 9
10) 1,1-Dichloroethene	7.23	96	765953	209.32	ng	91
24) 1,2-Dichloroethane	12.87	62	21862	4.81	ng	# 49
27) Benzene	12.87	78	2290988	243.91	ng	99
28) Trichloroethene	14.19	130	1267124	242.87	ng	96
29) 1,2-Dichloropropane	14.17	63	2008	0.51	ng	# 1
33) Toluene	17.14	92	1483664	250.10	ng	97
34) trans-1,3-Dichloropropene	17.14	75	11849	2.30	ng	# 1
39) Chlorobenzene	20.82	112	2222689	251.30	ng	# 87
44) Bromoform	23.29	173	3502	0.50	ng	# 32
45) 1,1,2,2-Tetrachloroethane	23.61	83	9562	1.51	ng	# 75
50) 2-Chlorotoluene	24.83	91	1092	0.09	ng	# 47
52) 1,3-Dichlorobenzene	26.52	146	1027	0.13	ng	# 27
53) 1,4-Dichlorobenzene	26.73	146	3006	0.37	ng	# 27
54) 1,2-Dichlorobenzene	27.48	146	1994	0.26	ng	# 26
55) 1,2,4-Trichlorobenzene	30.69	180	13954	29.69	ng	# 89
56) Napthalene	31.24	128	55637	22.32	ng	# 79
57) Hexachlorobutadiene	30.93	225	18650	24.05	ng	90

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

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:33 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\020621.D Vial: 2
Acq On : 13 Feb 2002 14:40 Operator: BDH
Sample : 063SVEEA01300220\ 02062-1 ST. 500mls Inst : ~~MARILYN~~
Misc : AIR DF=2 Pi/Pf=2 CAN MAB025ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Feb 13 15:19 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	972638	250.00 ng	0.02 131.72%
26) 1,4-Difluorobenzene IS#2	13.40	114	3721591	250.00 ng	0.02 126.41%
36) Chlorobenzene-d5 IS#3	20.72	117	2846423	250.00 ng	0.02 123.82%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	1107922	242.09 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 96.84%		
32) Toluene-d8 SURR#2	16.95	98	2911589	250.41 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.16%		
46) 4-Bromofluorobenzene SURR#	23.88	95	2603637	256.55 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 102.62%		

Target Compounds

					Qvalue
49) 1,3,5-Trimethylbenzene	24.64	105	99974	~~0.04 ng~~ <MDL	100

BH 2/13/02

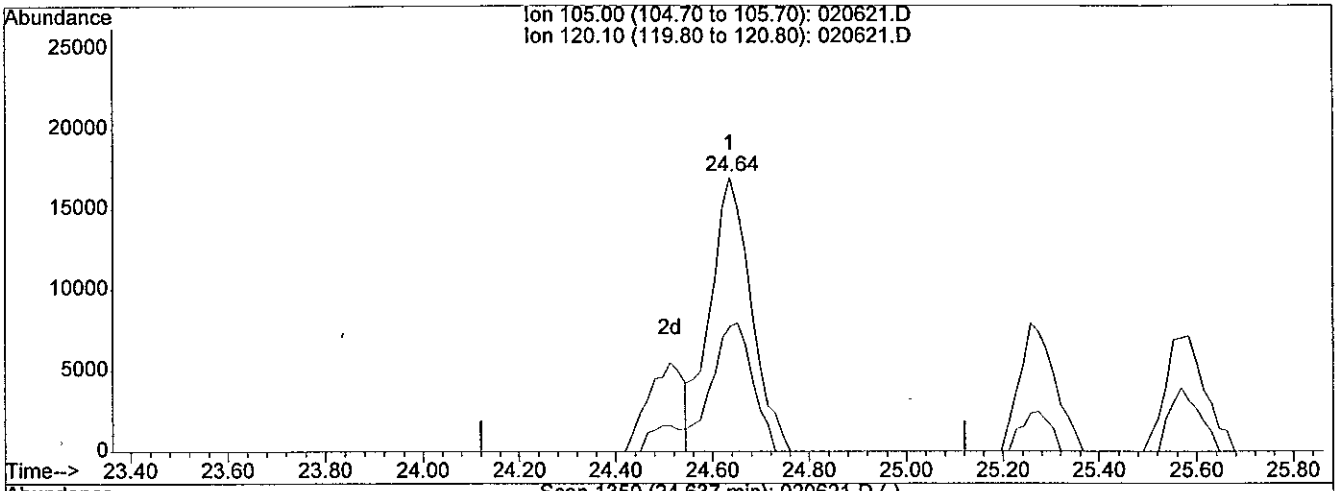
(#) = qualifier out of range (m) = manual integration
020621.D TO14S.M Wed Feb 13 15:19:48 2002 Page 1

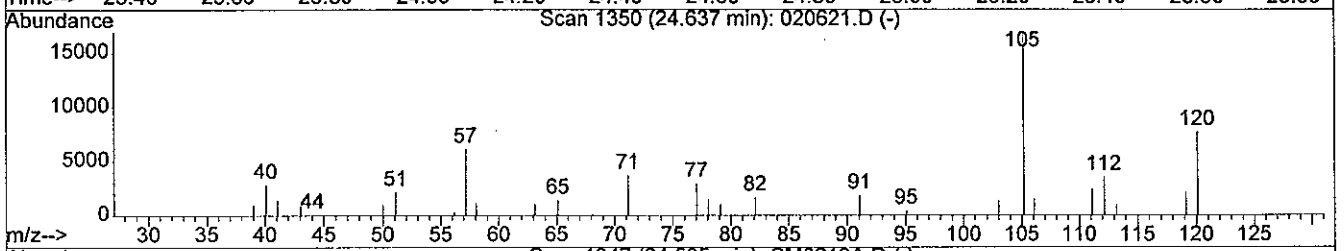
NAS Cecil Field CTO 0062

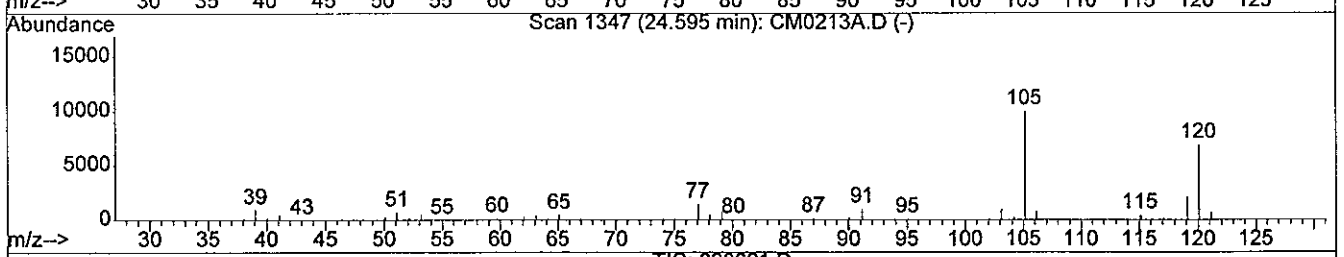
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0213A\020621.D Vial: 2
Acq On : 13 Feb 2002 14:40 Operator: BDH
Sample : 063SVEEA01300220\ 02062-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 15:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Multiple Level Calibration







TIC: 020621.D

(49) 1,3,5-Trimethylbenzene

24.64min 9.63ng

response 99974

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	46.52
0.00	0.00	0.00
0.00	0.00	0.00

9.76 = MDL

020621.D TO14S.M Wed Feb 13 15:19:23 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\020621.D Vial: 2
Acq On : 13 Feb 2002 14:40 Operator: BDH
Sample : 063SVEEA01300220\ 02062-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 15:12 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

Original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	972638	250.00	ng	0.02 131.72%
26) 1,4-Difluorobenzene IS#2	13.40	114	3721591	250.00	ng	0.02 126.41%
36) Chlorobenzene-d5 IS#3	20.72	117	2846423	250.00	ng	0.02 123.82%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	1107922	242.09	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.84%						
32) Toluene-d8 SURR#2	16.95	98	2911589	250.41	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.16%						
46) 4-Bromofluorobenzene SURR#	23.88	95	2603637	256.55	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.62%						

Target Compounds

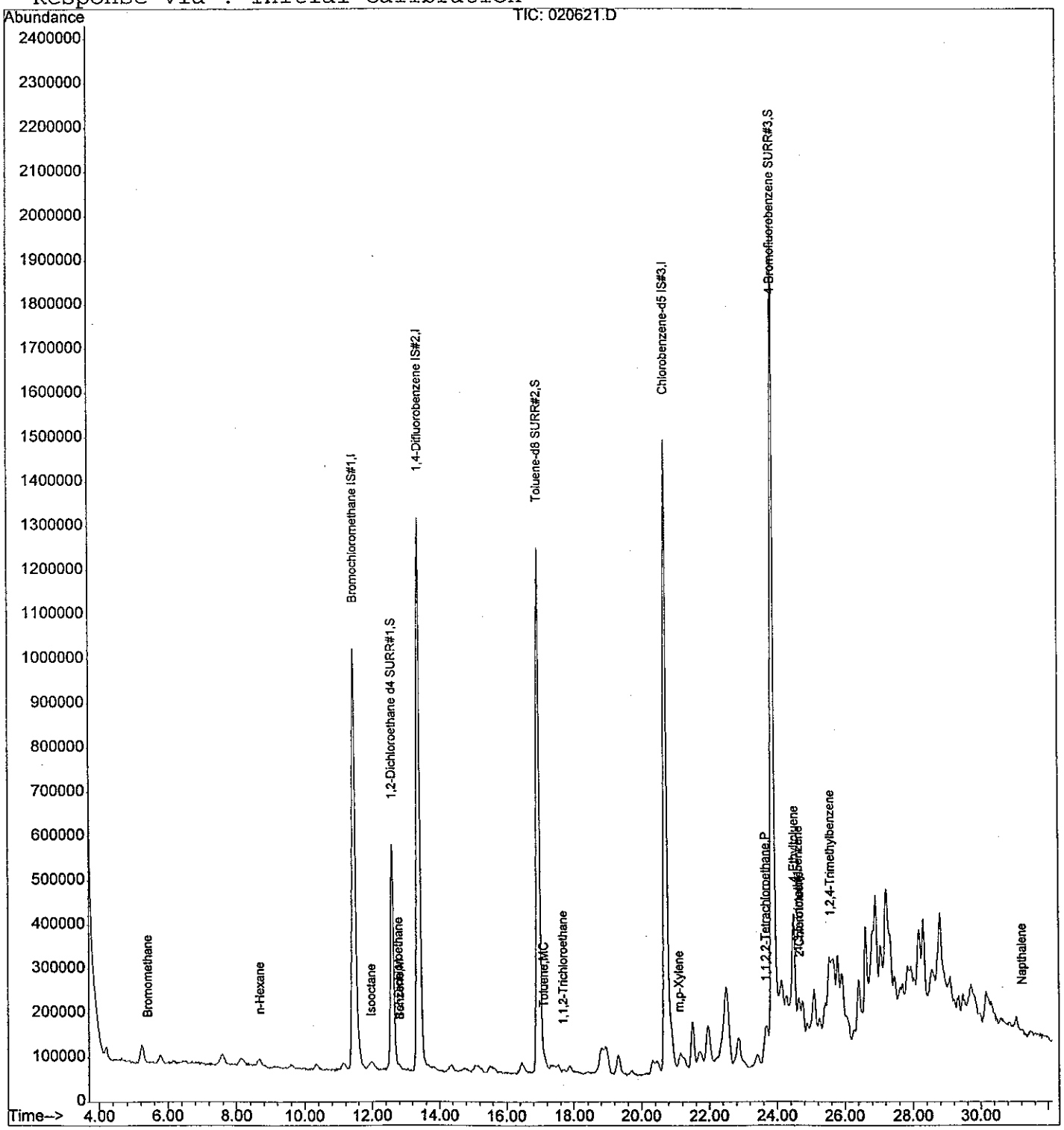
						Qvalue
6) Bromomethane	5.42	94	4034	0.88	ng	# 9
16) n-Hexane	8.69	57	23360	5.51	ng	# 31
20) Isooctane	11.98	57	88008	6.19	ng	79
24) 1,2-Dichloroethane	12.79	62	1220	0.24	ng	# 49
27) Benzene	12.82	78	24120	2.21	ng	# 59
33) Toluene	17.11	92	26838	3.89	ng	# 85
35) 1,1,2-Trichloroethane	17.68	97	8537	1.78	ng	# 14
41) m,p-Xylene	21.11	106	7993	1.53	ng	# 64
45) 1,1,2,2-Tetrachloroethane	23.67	83	43624	5.99	ng	# 30
48) 4-Ethyltoluene	24.51	105	28374	2.15	ng	89
49) 1,3,5-Trimethylbenzene	24.64	105	99974	9.63	ng	100
50) 2-Chlorotoluene	24.67	91	12872	0.95	ng	# 47
51) 1,2,4-Trimethylbenzene	25.58	105	40078	3.66	ng	95
56) Napthalene	31.24	128	7950	17.39	ng	# 64

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\020621.D Vial: 2
Acq On : 13 Feb 2002 14:40 Operator: BDH
Sample : 063SVEEA01300220\ 02062-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 15:12 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration



020621.D TO14S.M Wed Feb 13 15:18:14 2002 Page 2

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: KTD

Standard I.D.: 8 -MSW 32- 1
Location: MSU 18-Std Freezer
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	1/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 8 H 2/5/02

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX - B
Date: 12-12-01
Analyst: [illegible]

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-VN2-21 (IS)~~						
~~8-VN3-1 (5~~						
8-VN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/28/01

Sol. Name: ASAHIKLIN AK-225 Stock
Date: 12-28-01
Analyst: LAM

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/18/02	1000 000	100	10	10 000

Comments: exp 6/28/02

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: MC

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW 26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: TO14 IS/SURT
Date: 10-12-01
Analyst: SAA

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A012265	11/01	2500 ug/ml	500 uls	50 uls	25 ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst/Date Rec'd ~~* DATE OPENED~~	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DWY 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DWY 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWY 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWY 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 µg/ml	3/2000	~~LAD~~ ~~7/29/98~~	7-VN 2-9
8260 SURR	A117K	Restek	2500 µg/ml	8/2001	DWY 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWY 10/6/98	7-VN 2-11
Matrix Spike	LA76220	Supelco	25 µg/ml	8/2000	DWY 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DWY 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Various	6/2000	DWY 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A9080042-JB	Accustandard	200.1 µg/ml	9/99	BD 1/27/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWY 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWY 3/9/99	7-VN 2-19
Custom Keytones Mix	EA011115	Restek	2000 µg/ml	3/2000	DWY 3/10/99	7-VN 2-20
8260 Calibration Kit	Various	Restek	Various	6/2001	DWY 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWY 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DWY 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWY 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWY 5/14/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DWY 6/9/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	DWY 6/9/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst Date Recd ~~DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA88367	Supelco	2000 µg/ml	4/2001	DWS 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	[illegible] 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	WB 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	WB 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	WB 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 date	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short List Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014275	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000 µg/ml	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8560S	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/05 ~~5~~ 4	8-VN 1-26
VOA Short list Matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Run TK 4-13

* To be used if neat standard is to be kept after container is opened.

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C202536
Project: CH2M Hill Constructors
CTO-0062, Cecil Field, 103rd Street

Client Sample ID	STL Sample ID
062-SVE-E-A-0219-02-21	C202536-1

The above-referenced sample was received in good condition at STL Pensacola on February 22, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

See volatiles forms package for more detail information concerning data package.

Rick Hayes

Rick Hayes
Senior Project Manager

3/6/02

MAR 1

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02536-1	063-SVE-E-A-0219-02-21	02-19-02/14:40

PARAMETER	02536-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02536-1	063-SVE-E-A-0219-02-21	02-19-02/14:40

PARAMETER	02536-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	111 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	103 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02536-1	063-SVE-E-A-0219-02-21	02-19-02/14:40

PARAMETER	02536-1
Dilution Factor	1
Prep Date	03.03.02
Prep Time	12:56
Analysis Date	03.03.02
Analysis Time	13:09
Batch ID	MAB041
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02536-2	Method Blank	
02536-3	Lab Control Standard True Value	
02536-4	Lab Control Standard Result	
02536-5	Lab Control Standard % Recovery	
02536-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02536-2	02536-3	02536-4	02536-5	02536-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4984	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5166	103 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02536-2	Method Blank	
02536-3	Lab Control Standard True Value	
02536-4	Lab Control Standard Result	
02536-5	Lab Control Standard % Recovery	
02536-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02536-2	02536-3	02536-4	02536-5	02536-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4977	100 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5057	101 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02536-2	Method Blank	
02536-3	Lab Control Standard True Value	
02536-4	Lab Control Standard Result	
02536-5	Lab Control Standard % Recovery	
02536-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02536-2	02536-3	02536-4	02536-5	02536-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4980	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	110 %	0.5000	0.5435	109 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5037	101 %	90-109
Surrogate - 4-Bromofluorobenzene	101 %	0.5000	0.4961	99 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	03.03.02	---	03.03.02	---	---
Prep Time	11:48	---	12:22	---	---
Analysis Date	03.03.02	---	03.03.02	---	---
Analysis Time	12:01	---	12:35	---	---
Batch ID	MAB041	MAB041	MAB041	MAB041	MAB041
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02536
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02536-2	Method Blank	
02536-3	Lab Control Standard True Value	
02536-4	Lab Control Standard Result	
02536-5	Lab Control Standard % Recovery	
02536-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02536-2	02536-3	02536-4	02536-5	02536-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

FedEx | Ship Manager | Label7903 1507 4949

C 202 536

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 20FEB02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7903 1507 4949 FORM 0201

FRI
AA
Deliver by:
22FEB02

BFM

32514-FL-US

F3 PNSA

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C202 536 Date Received: 2-22-02

1.	Was there a Chain of Custody?	Yes	No♣	8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+	Yes	No♣	N/A
2.	Was Chain of Custody properly filled out and relinquished?	Yes	No♣	9.	Is there sufficient volume for analysis requested?	Yes	No♣	N/A (Can)
3.	Were samples received cold? (Criteria: 2° - 6°C: STL-SOP	Yes	No♣	N/A	10.	Were samples received within Holding Time? (REFER TO STL-SOP 1040)	Yes	No♣	
4.	Were all samples properly labeled and identified?	Yes	No♣	11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes♣	No	N/A
5.	Did samples require splitting or compositing♦? Req By: PM Client Other♦	Yes♣	No	12.	If sent, were matrix spike bottles returned?	Yes	No♣	N/A
6.	Were samples received in proper containers for analysis requested?	Yes	No♣	13.	Was Project Manager notified of problems? (initials:_____)	Yes	No♣	N/A
7.	Were all sample containers received intact?	Yes	No♣					

Airbill Number(s): 7903 1502 4949

Shipped By: 2nd Ex

Cooler Number(s): BOX CAN #'S 093, 113

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: JC **Date:** 2-22-02 **Logged By:** BG **Date:** 2/22/2

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

STL Pensacola

Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C202536
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1		2-22-02	
ir Bag											
ne/Cartridge											
ic Bag											
nowledgment											
NTS											

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

3355 McLemore Drive • Pensacola, FL 32514• Tel: 850 474 1001 • Fax: 850 478 2671• www.stl-inc.com
STL Pensacola is part of Severn Trent Laboratories, Inc.

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags **are limited to** X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C202536

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-028

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL- Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0219-02-21	SVE Effluent	AIR	02/19/02	14:40	III/C	14 Day	1										Grab	Summa Canister	113
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Sean Smith
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK # 7903 1507 4949

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	2/20/02	11:00	Printed Name and Signature: Federal Express	2/20/02	11:00
Printed Name and Signature:			Printed Name and Signature: [illegible]	2-22-02	0921
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File, [ ] Copy 2 - PMO

Form CC001, Rev 02/00

SEVERN TRENT SERVICES

STL Pensacola

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/03

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

California Department of Health Services, NELAP Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL). Extension granted

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, NELAP Laboratory ID No. 250501 (Wastewater), expires 08/16/02

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

New York State Department of Health, NELAP Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condeert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 202536
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Feb. 22, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0219-02-21	202536-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Mar. 4, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0303A.D Date Analyzed : 3 Mar 2002
Instrument ID : MARILYN Time Analyzed : 11:11 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
025361	063SVEEA0219022	111	100	103	0	0	0	0
MA041LCS	VLCSMA\ BATCH #	109	101	99	0	0	0	0
MAB41ABK	VBLKMA\ DAILY M	110	99	101	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

TO-14 NG-MG/M3 CONVERSION

order # 202536

Batch MAB041

	Actual ng result	Sample # 3 mg/m3 TRUE	4 mg/m3 RESULT	5 % REC	6 rec limit
Benzene	249.19	0.5000	0.4984	100%	87-116%
Chlorobenzene	258.28	0.5000	0.5166	103%	88-111%
1,1-Dichloroethene	248.84	0.5000	0.4977	100%	58-138%
Toluene	252.84	0.5000	0.5057	101%	86-113%
Trichloroethene	248.98	0.5000	0.4980	100%	85-116%
1,2-Dichloroethane-d4	271.73	0.5000	0.5435	109%	61-140%
Toluene-d8	251.86	0.5000	0.5037	101%	90-109%
4-Bromofluorobenzene	248.04	0.5000	0.4961	99%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

	Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC 1,1-Dichloroethene	248.84	250.00	99.54	58 to 138%	[ ]
27)	M Benzene	249.19	250.00	99.68	87 to 116%	[ ]
28)	M Trichloroethene	248.98	250.00	99.59	85 to 116%	[ ]
33)	MC Toluene	252.84	250.00	101.14	86 to 113%	[ ]
39)	MP Chlorobenzene	258.28	250.00	103.31	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202536

Lab File ID: MAB41ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 3/3/02 Time Analyzed: 12:01

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #041 L	MA041LCS.D	12:35
02	SVEEA	063SVEEA02190221\ 02	025361.D	13:09

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202536

Lab File ID: CM0125A.D BFB Injection Date: 1/25/02

Instrument ID: MARILYN BFB Injection Time: 11:34

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	43.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.4
175	4.0 - 9.0% of mass 174	4.9 (6.9)1
176	93.0 - 101.0% of mass 174	68.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0250	VSTD0250 250NG	0250M125.D	1/25/02	14:33
02	VSTD0500	VSTD0500 500NG	0500M125.D	1/25/02	15:09
03	VSTD1000	VSTD1000 1000NG	1000M125.D	1/25/02	15:46
04	VSTD1500	VSTD1500 1500NG	1500M125.D	1/25/02	16:24
05	VSTD0025	VSTD0025 25NG	0025R125.D	1/25/02	17:43
06	VSTD0100	VSTD0100 100NG	0100R125.D	1/25/02	18:20

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202536

Lab File ID: BFM0303A.D BFB Injection Date: 3/3/02

Instrument ID: MARILYN BFB Injection Time: 10:51

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.6
75	30.0 - 66.0% of mass 95	47.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	50.0 - 120.0% of mass 95	63.9
175	4.0 - 9.0% of mass 174	4.9 (7.6)1
176	93.0 - 101.0% of mass 174	61.6 (96.4)1
177	5.0 - 9.0% of mass 176	4.5 (7.3)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	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0303A.D	3/3/02	11:11
02	VBLKMA	VBLKMA\ DAILY METHO	MAB41ABK.D	3/3/02	12:01
03	LCS AND 2ND	VLCSMA\ BATCH #041 L	MA041LCS.D	3/3/02	12:35
04	SVEEA	063SVEEA02190221\ 02	025361.D	3/3/02	13:09

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integratc
Title : TO14
Last Update : Mon Mar 04 09:06:07 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report MARILYN

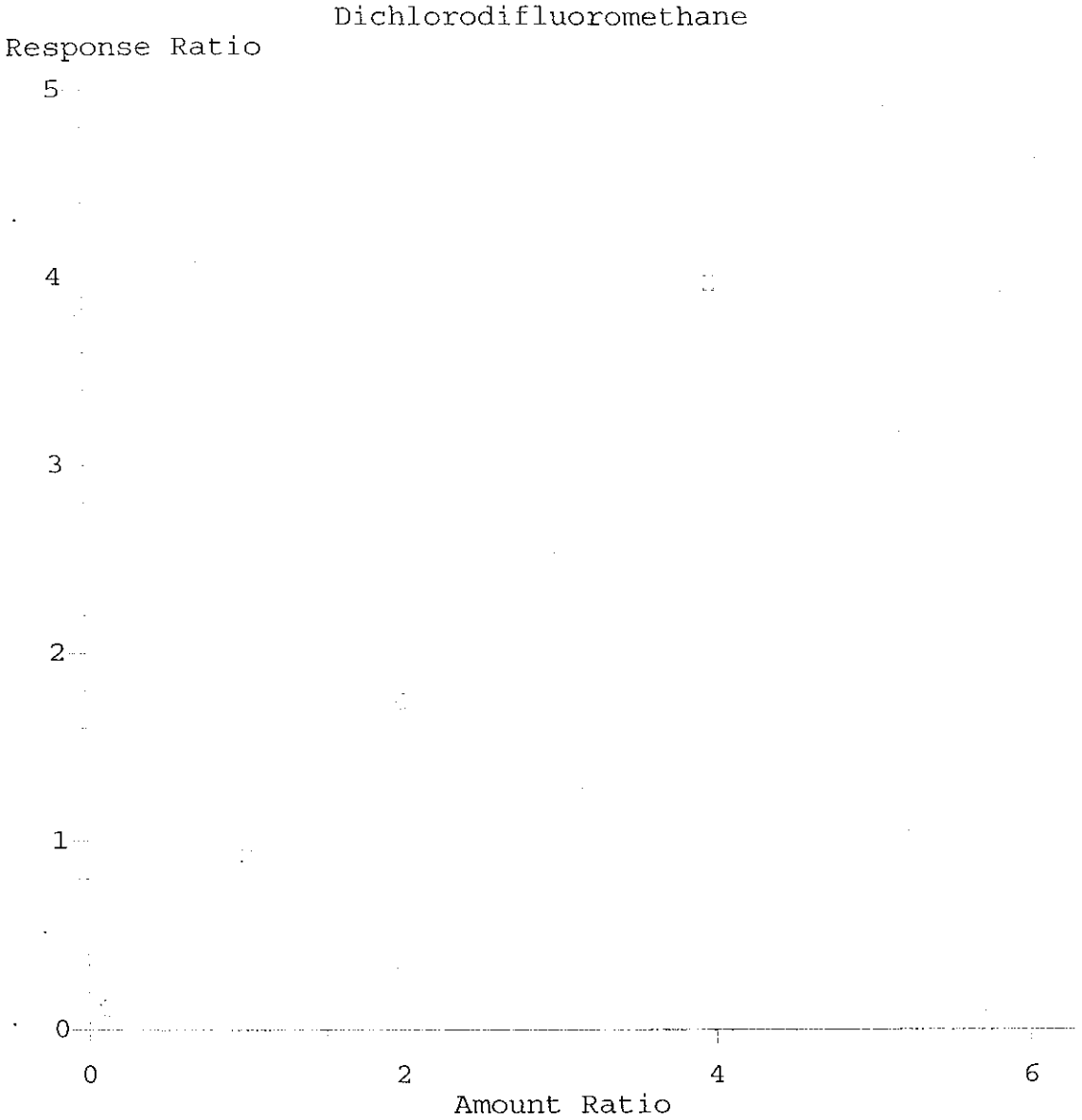
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integratc
Title : TO14
Last Update : Mon Mar 04 09:06:07 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

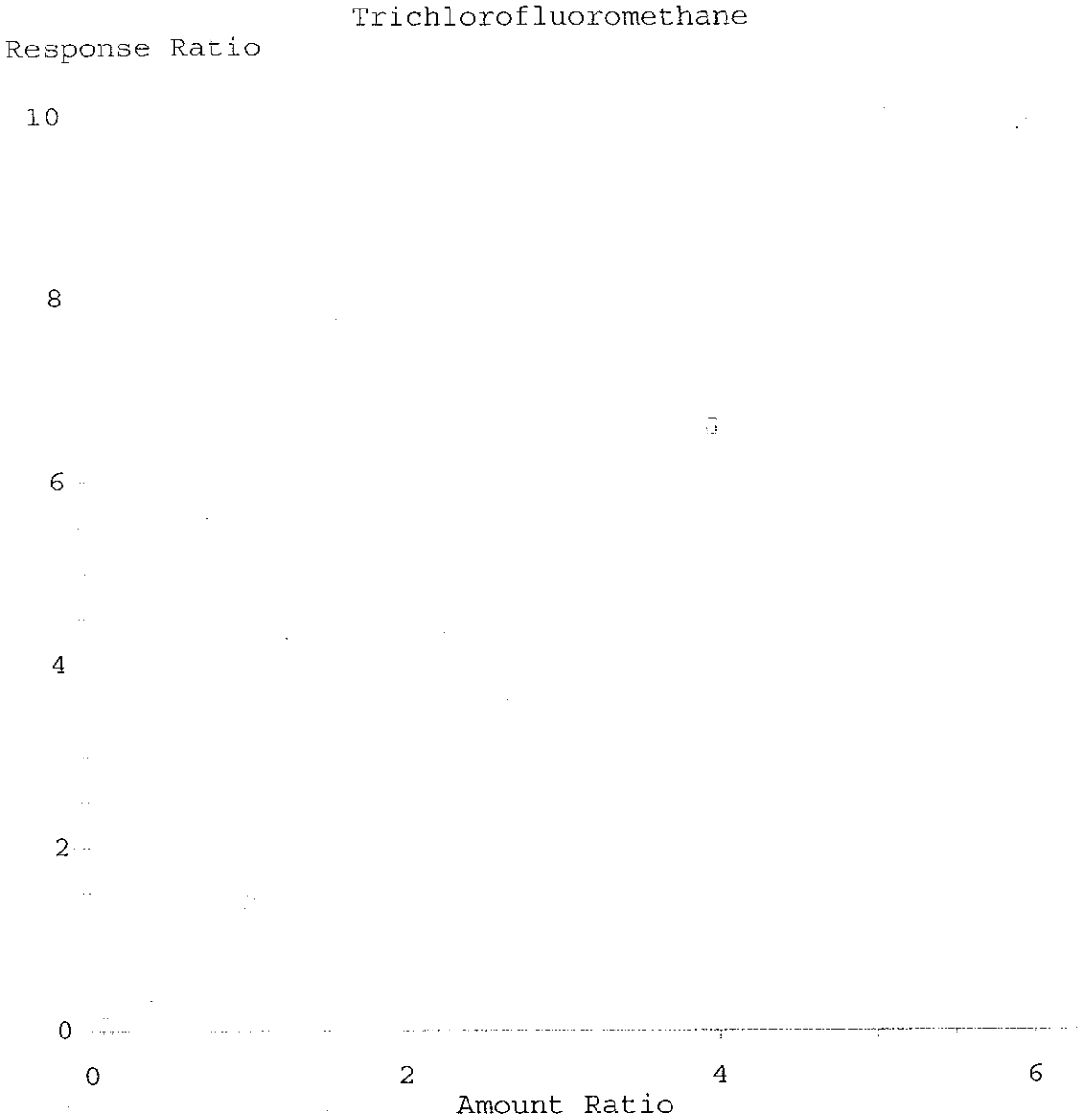
Dichlorodifluoromethane



Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

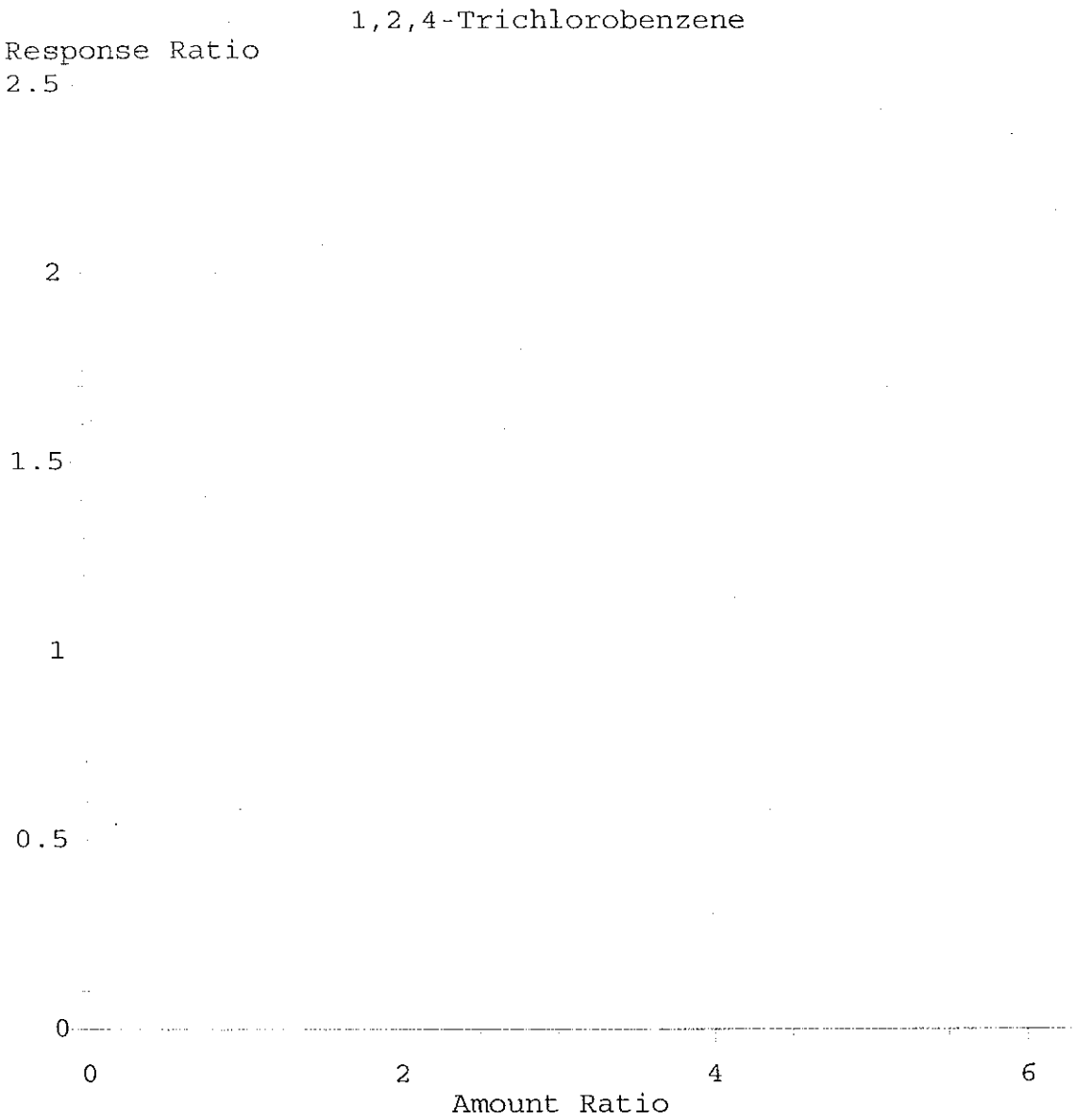
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002

Trichlorofluoromethane



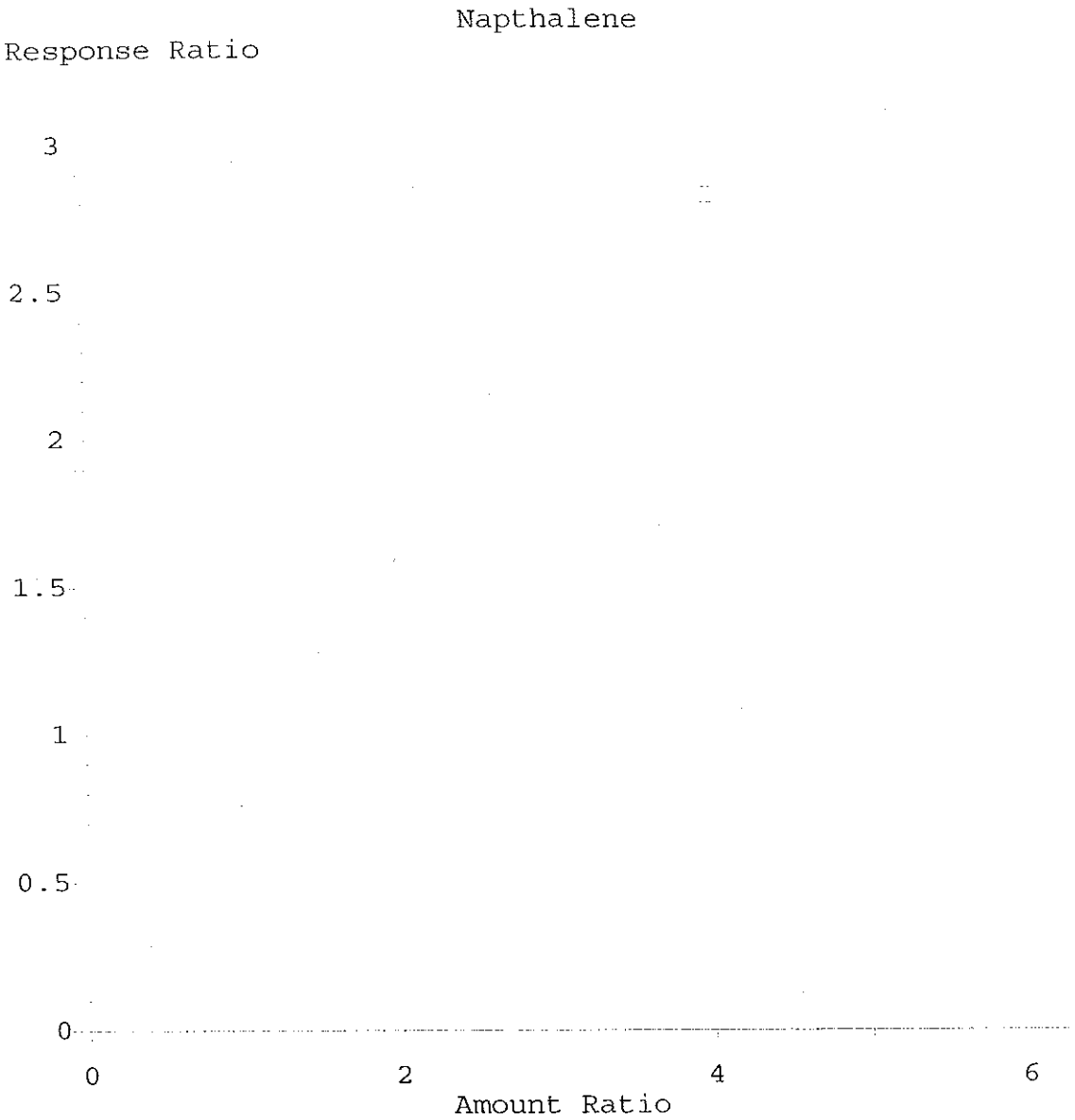
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002



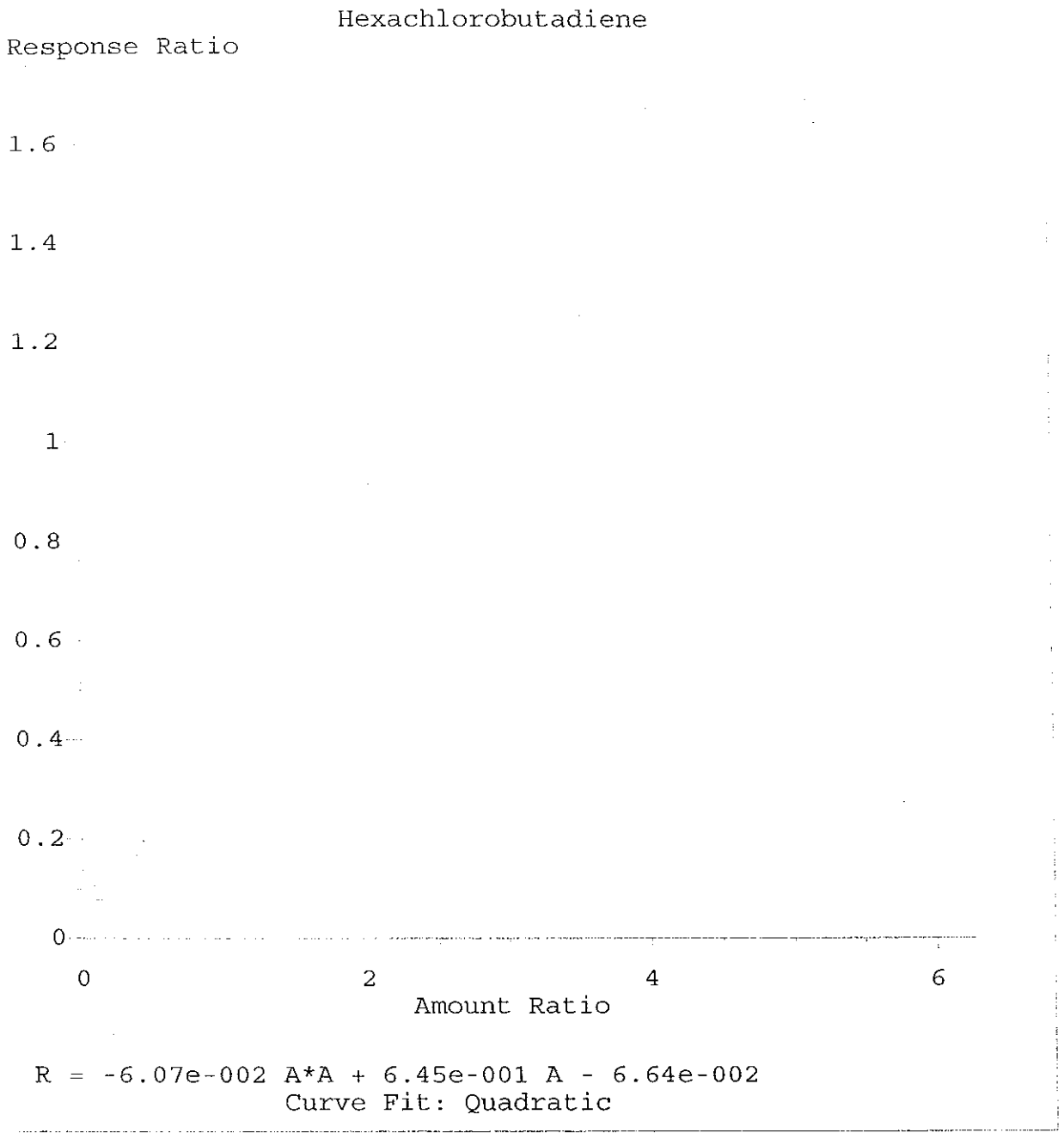
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	64	0.00
2		Dichlorodifluoromethane	0.919	0.836	9.0#	59	0.00
3		Dichlorotetrafluoroethane	1.446	1.426	1.4	60	0.00
4	P	Chloromethane	0.788	0.761	3.4#	63	0.00
5	C	Vinyl chloride	0.727	0.794	-9.2#	67	0.00
6		Bromomethane	1.180	1.271	-7.7#	73	0.00
7		Chloroethane	0.530	0.560	-5.7#	67	0.00
8		Trichlorofluoromethane	1.261	1.406	-11.5#	65	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	2.006	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	1.064	1.119	-5.2#	67	0.00
11		Iodomethane	0.000	0.000	0.0	88	0.00
12		Methylene chloride	1.431	1.681	-17.5#	72	0.00
13		Carbon disulfide	2.862	3.227	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	1.551	1.531	1.3	60	0.00
15		trans-1,2-Dichloroethene	1.194	1.268	-6.2#	68	0.00
16		n-Hexane	1.089	1.114	-2.3#	64	0.00
17	P	1,1-Dichloroethane	1.944	2.184	-12.3#	71	0.00
18		cis-1,2-Dichloroethene	1.576	1.801	-14.3#	71	0.00
19	C	Chloroform	2.454	2.885	-17.6#	72	0.00
20		Isooctane	3.653	3.636	0.5	63	0.00
21		1,1,1-Trichloroethane	2.085	2.510	-20.4#	74	0.00
22		Carbon tetrachloride	2.195	2.630	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.275	-8.4#	65	0.00
24		1,2-Dichloroethane	1.321	1.484	-12.3#	66	0.00
25		1,2-Dibromoethane	2.124	1.974	7.1#	58	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	66	0.00
27	M	Benzene	0.733	0.756	-3.1#	68	0.00
28	M	Trichloroethene	0.407	0.420	-3.2#	67	0.00
29	C	1,2-Dichloropropane	0.310	0.315	-1.6#	65	0.00
30		Bromodichloromethane	0.755	0.837	-10.9#	69	0.00
31		cis-1,3-Dichloropropene	0.469	0.482	-2.8#	66	0.00
32	S	Toluene-d8 SURR#2	0.781	0.785	-0.5	66	0.00
33	MC	Toluene	0.463	0.477	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	63	0.00
35		1,1,2-Trichloroethane	0.322	0.294	8.7#	58	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	66	0.00
37		Tetrachloroethene	0.488	0.506	-3.7#	69	0.00
38		Dibromochloromethane	0.722	0.707	2.1#	63	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.370	-3.9#	67	0.00
41		m,p-Xylene	0.459	0.484	-5.4#	68	0.00
42		o-Xylene	0.439	0.457	-4.1#	67	0.00
43		Styrene	0.771	0.799	-3.6#	67	0.00
44	P	Bromoform	0.713	0.638	10.5#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.547	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.940	-5.5#	69	0.00
47		1,4-Dichloro-2-butene	0.130	0.103	20.8#	53	0.00
48		4-Ethyltoluene	1.157	1.183	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	0.912	1.010	-10.7#	74	0.00
50		2-Chlorotoluene	1.191	1.320	-10.8#	72	0.00
51		1,2,4-Trimethylbenzene	0.961	1.079	-12.3#	71	0.00
52		1,3-Dichlorobenzene	0.782	0.853	-9.1#	68	0.00
53		1,4-Dichlorobenzene	0.825	0.888	-7.6#	66	0.00
54		1,2-Dichlorobenzene	0.758	0.805	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	0.568	0.563	0.9	67	0.00
56		Napthalene	0.830	0.655	21.1#	59	0.00
57		Hexachlorobutadiene	0.495	0.479	3.2#	69	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	64	0.00
2		Dichlorodifluoromethane	250.000	224.673	10.1#	59	0.00
3		Dichlorotetrafluoroethane	250.000	246.587	1.4	60	0.00
4	P	Chloromethane	250.000	241.527	3.4#	63	0.00
5	C	Vinyl chloride	250.000	273.076	-9.2#	67	0.00
6		Bromomethane	250.000	269.315	-7.7#	73	0.00
7		Chloroethane	250.000	264.248	-5.7#	67	0.00
8		Trichlorofluoromethane	250.000	251.612	-0.6	65	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	268.436	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	250.000	262.946	-5.2#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	88	0.00
12		Methylene chloride	250.000	293.659	-17.5#	72	0.00
13		Carbon disulfide	250.000	281.884	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	250.000	246.862	1.3	60	0.00
15		trans-1,2-Dichloroethene	250.000	265.576	-6.2#	68	0.00
16		n-Hexane	250.000	255.897	-2.4#	64	0.00
17	P	1,1-Dichloroethane	250.000	280.905	-12.4#	71	0.00
18		cis-1,2-Dichloroethene	250.000	285.650	-14.3#	71	0.00
19	C	Chloroform	250.000	293.919	-17.6#	72	0.00
20		Isooctane	250.000	248.889	0.4	63	0.00
21		1,1,1-Trichloroethane	250.000	300.923	-20.4#	74	0.00
22		Carbon tetrachloride	250.000	299.520	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	270.911	-8.4#	65	0.00
24		1,2-Dichloroethane	250.000	280.993	-12.4#	66	0.00
25		1,2-Dibromoethane	250.000	232.391	7.0#	58	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	66	0.00
27	M	Benzene	250.000	257.648	-3.1#	68	0.00
28	M	Trichloroethene	250.000	257.939	-3.2#	67	0.00
29	C	1,2-Dichloropropane	250.000	253.578	-1.4#	65	0.00
30		Bromodichloromethane	250.000	277.120	-10.8#	69	0.00
31		cis-1,3-Dichloropropene	250.000	256.836	-2.7#	66	0.00
32	S	Toluene-d8 SURR#2	250.000	251.110	-0.4	66	0.00
33	MC	Toluene	250.000	257.474	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	250.000	249.704	0.1	63	0.00
35		1,1,2-Trichloroethane	250.000	227.818	8.9#	58	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	66	0.00
37		Tetrachloroethene	250.000	259.338	-3.7#	69	0.00
38		Dibromochloromethane	250.000	244.767	2.1#	63	0.00
39	MP	Chlorobenzene	250.000	260.650	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.362	-3.7#	67	0.00
41		m,p-Xylene	500.000	527.744	-5.5#	68	0.00
42		o-Xylene	250.000	260.466	-4.2#	67	0.00
43		Styrene	250.000	259.047	-3.6#	67	0.00
44	P	Bromoform	250.000	223.941	10.4#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	213.687	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	263.539	-5.4#	69	0.00
47		1,4-Dichloro-2-butene	250.000	196.857	21.3#	53	0.00
48		4-Ethyltoluene	250.000	255.621	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	250.000	277.012	-10.8#	74	0.00
50		2-Chlorotoluene	250.000	277.162	-10.9#	72	0.00
51		1,2,4-Trimethylbenzene	250.000	280.825	-12.3#	71	0.00
52		1,3-Dichlorobenzene	250.000	272.684	-9.1#	68	0.00
53		1,4-Dichlorobenzene	250.000	269.078	-7.6#	66	0.00
54		1,2-Dichlorobenzene	250.000	265.513	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	250.000	223.600	10.6#	67	0.00
56		Napthalene	250.000	190.533	23.8#	59	0.00
57		Hexachlorobutadiene	250.000	225.060	10.0#	69	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202536

Lab File ID (Standard): CM0303A.D Date Analyzed: 3/3/02

Instrument ID: MARILYN Time Analyzed: 11:11

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM		IS2DFB		IS3CLB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	515501	11.30	2074142	13.26	1597660	20.57
	UPPER LIMIT	1031002	11.80	4148284	13.76	3195320	21.07
	LOWER LIMIT	257751	10.80	1037071	12.76	798830	20.07
	EPA SAMPLE NO.						
01	VBLKMA	526538	11.33	2132704	13.27	1623261	20.58
02	LCS AND 2ND	550074	11.36	2366863	13.30	1773259	20.58
03	SVEEA	464286	11.34	1807939	13.28	1399239	20.59

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

ate 1-25-02 | Instrument ID : MARILYN | Method : TO14 / 8260AIR / 8260WATER / 624MOD
atch MA8010 1 2 3 | Batch 1 2 3 | Batch 1 2 3 | Maint. ___
S# 8 -MSW- 26 - 3 | TO14 8 -MSW- 32 - 1 | AIR-SPK 8 -MSW- 30 - 2 | Sequence cont.
FB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- - | on page

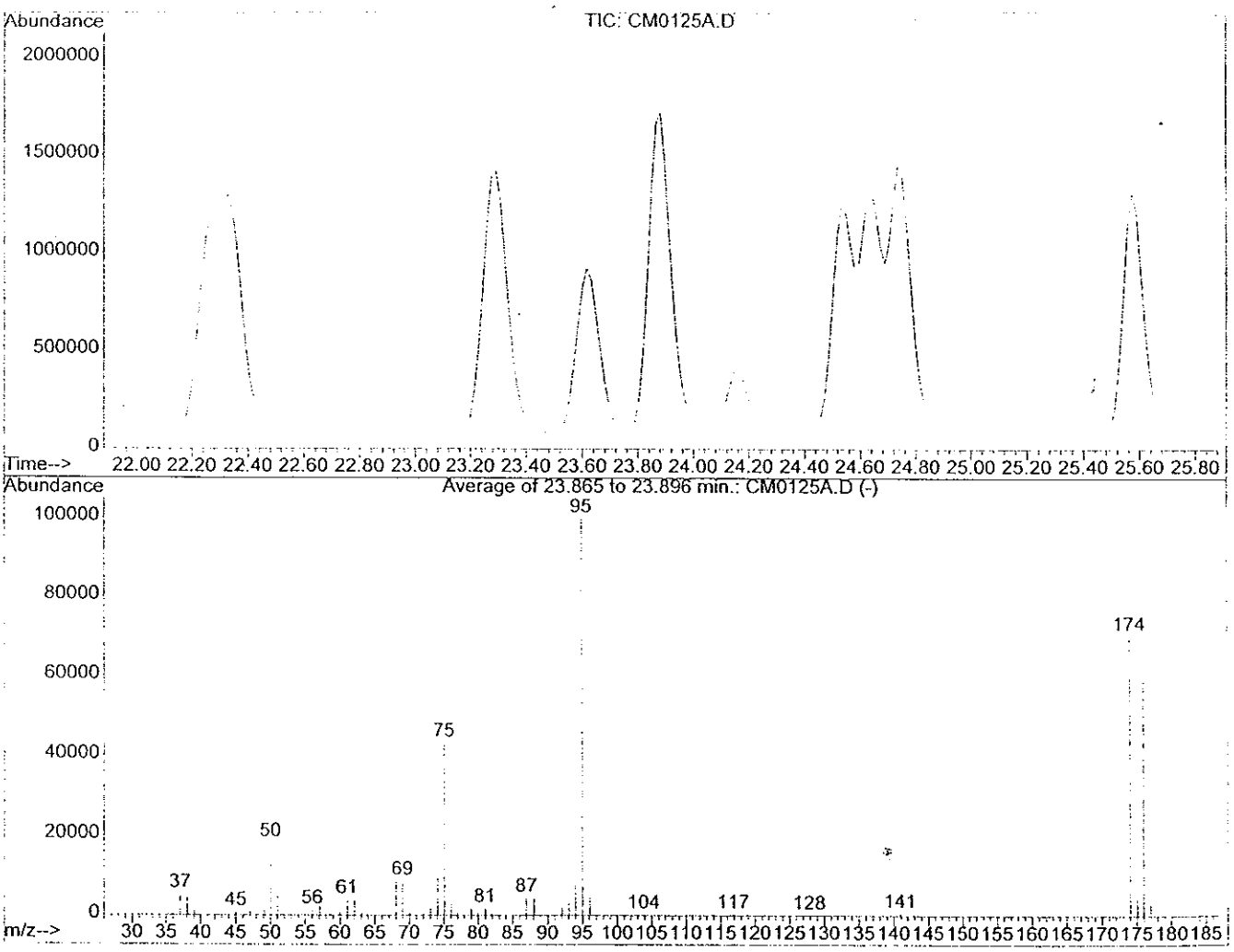
TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:34	14		CM0125A	50ppb		Y N				Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
13:18	14		0025M125			Y N		x		bad 5ml syringe reboot
3:56	15		0100M125			Y N		x		
4:33	16		0250M125			Y N		✓		used a 25ml syring also tune
5:09	14		0500M125			Y N				
5:46	15		1000M125			Y N		✓		
6:24	16		1500M125			Y N		✓		
7:43	14		0025R125			Y N		✓		used a 10ml syring
8:20	15		0100R125			Y N		✓		
9:22	15		MA010ABK			Y N		✓		
9:59	16		MA010LCS			Y N		✓		LCS + 2nd
10:36	16		01299-1X	X100		Y N		✓		P./PF = 2 X50 rerun ST
1:10	2		01493-2			Y N		✓		
1:14	2		01299-1			Y N		✓		high Isooctane
2:20	2		01493-1			Y N		✓		
2:56	2	out 8V1A6	01493-1R			Y N		✓		rerun ST - ~~out of 12 hrs~~ 8V1A6
3:31	9		01546-2	X10		Y N		✓		re-run ST. - BAC
4:07 / 4:44	10 / 11		-4 / -1	X10 / X10		Y N		✓		
5:21 / 5:58	12 / 13		-3 / -1 X	X10 / X50		Y N		✓ / ✓		Triple B.L. re-run X10 / out of tune time
6:35 - / 7:12 -	out 14 / out 15		-3 X / -2 X	X50 / X50		Y N				re-run X50 / out of tune time
8:49	out 16		-4 X	X50		Y N				not worked - X50 worked

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis
relinquished sample(s) back to the sample storage refrigerator.
Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

1-25-02



Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6586	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

1-25-02

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

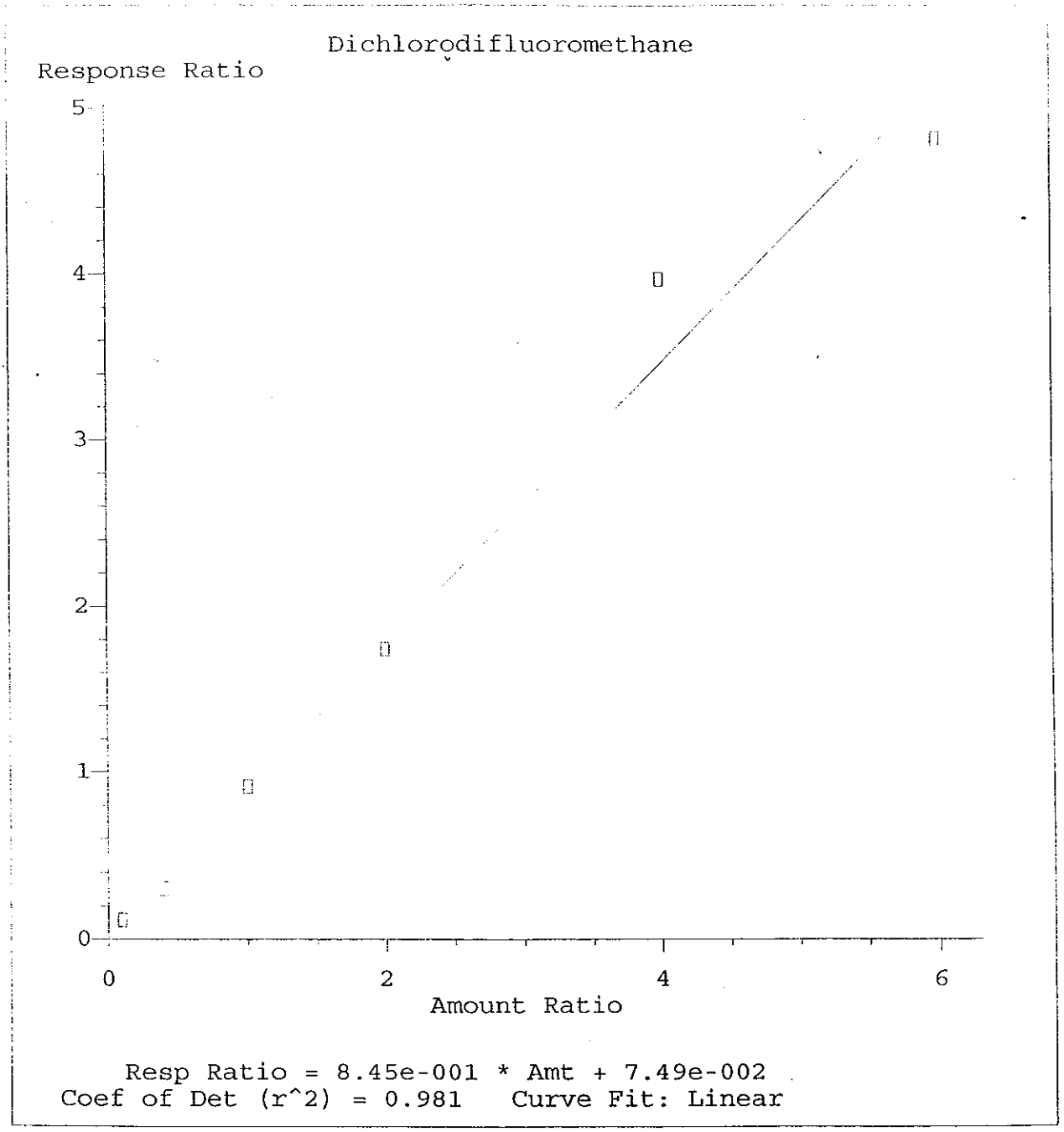
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

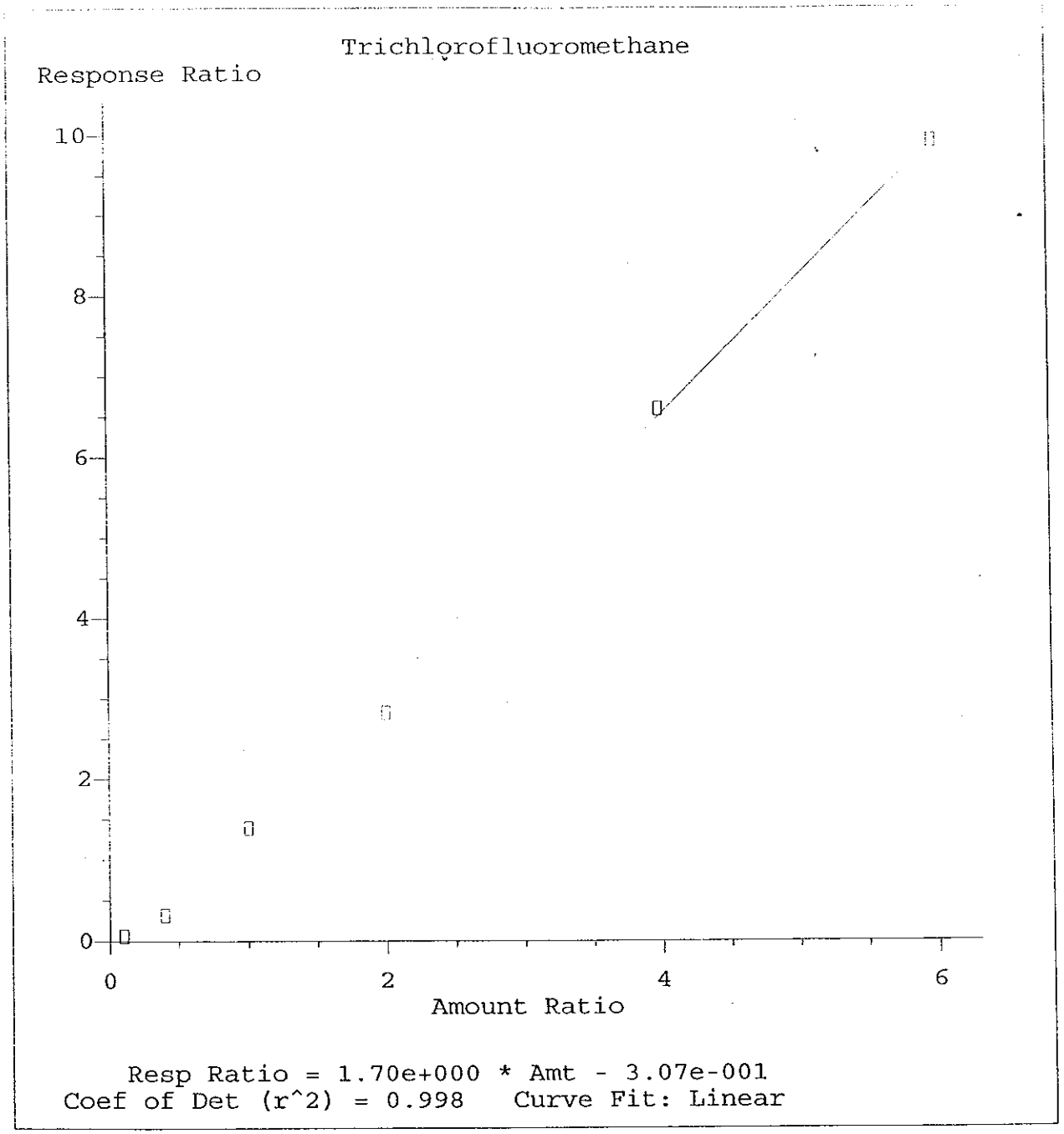
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

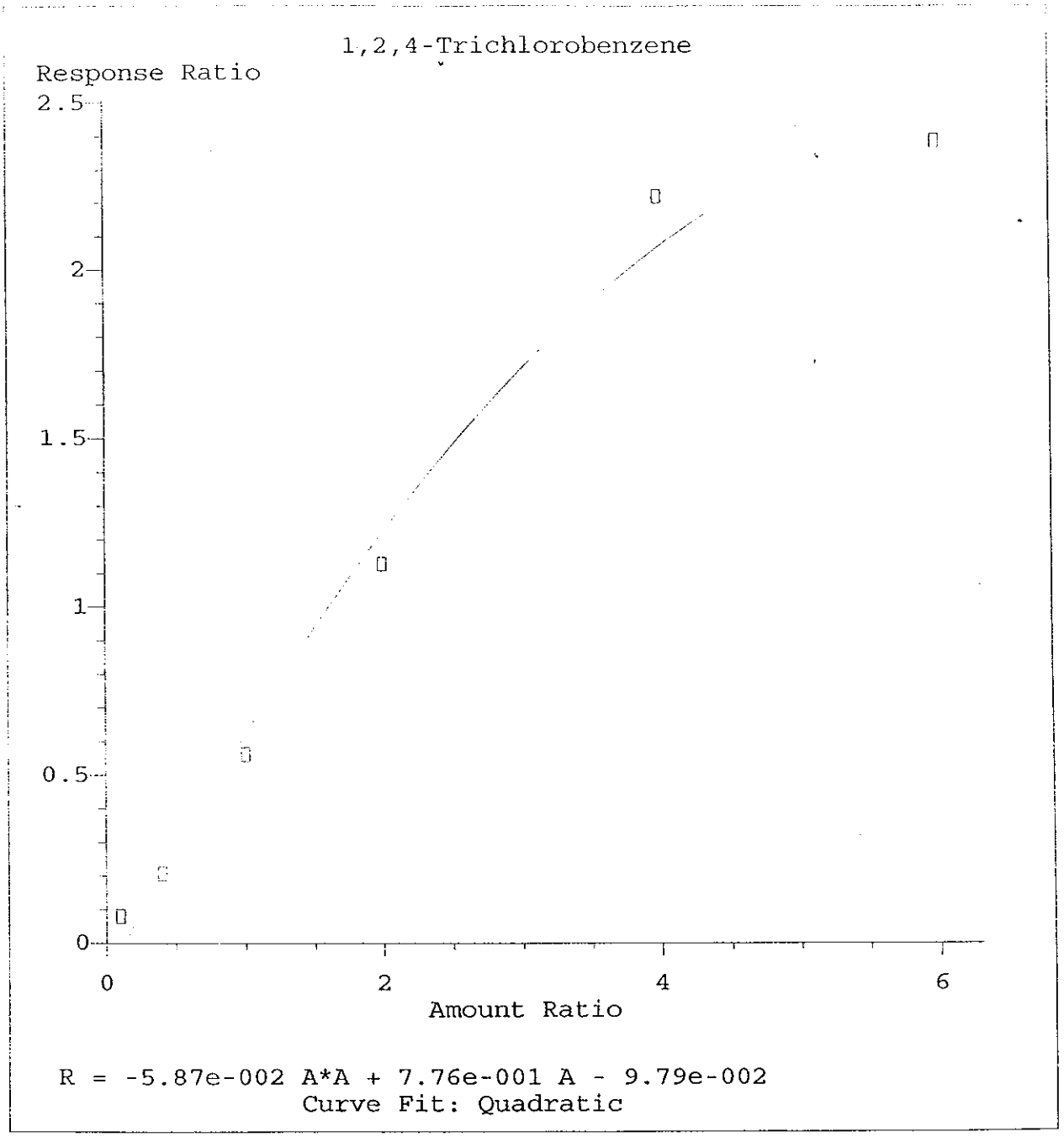
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



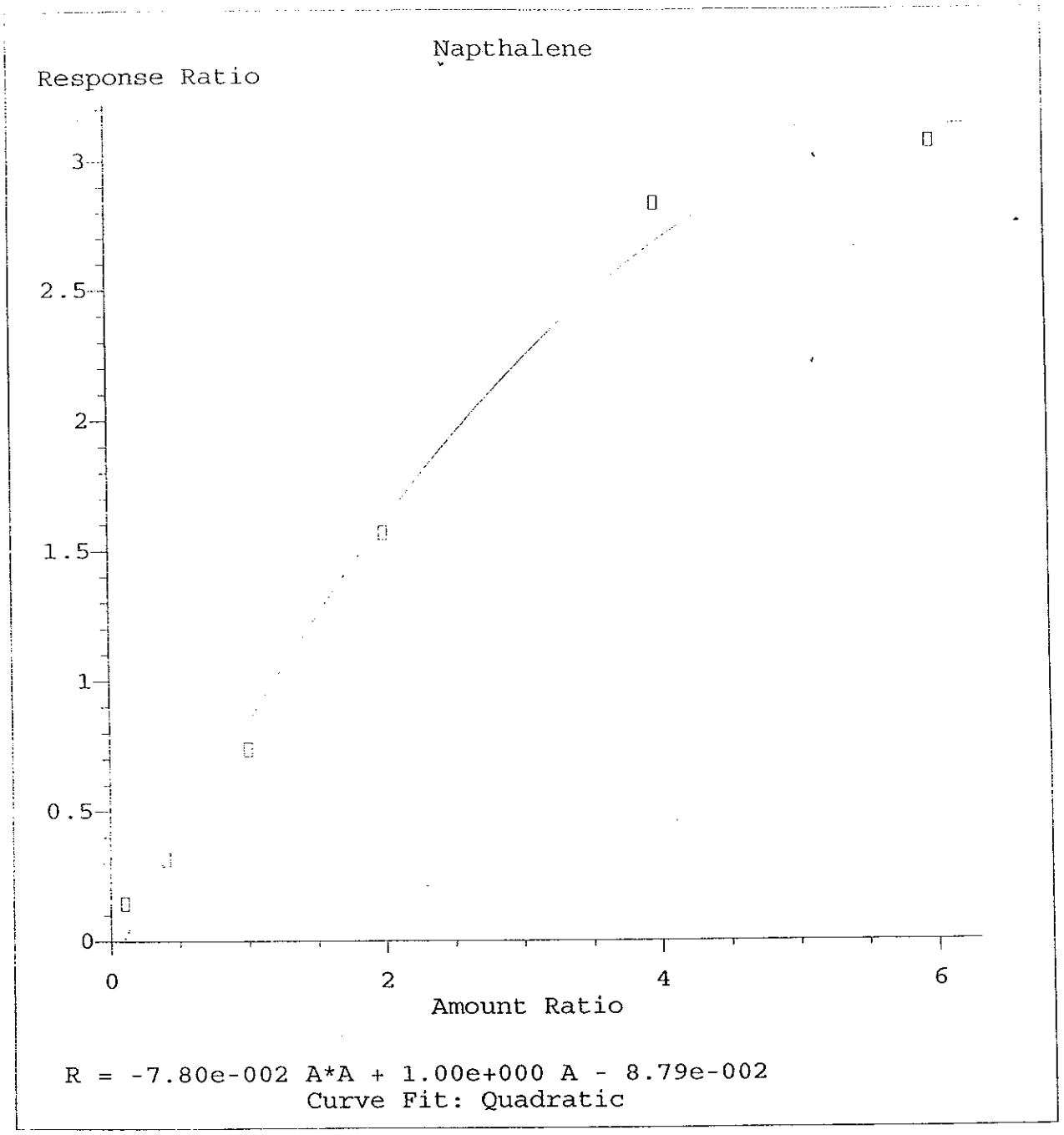
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



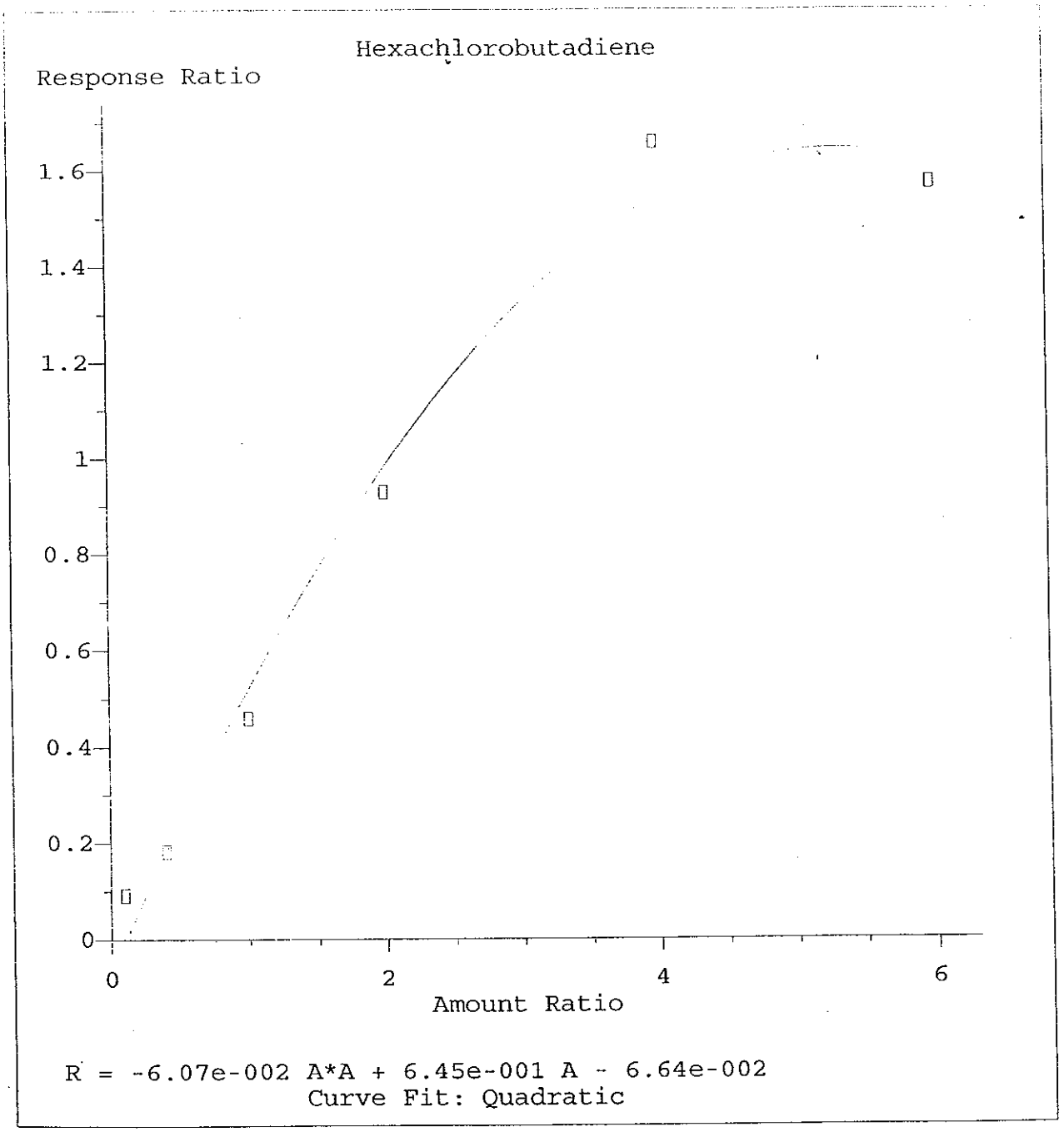
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.60%					
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.58%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.86%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	82
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		97
20) Isooctane	12.03	57	301718	45.51 ng		98
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

(#) = qualifier out of range (m) = manual integration
0025R125.D TO14S.M Fri Jan 25 18:22:16 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

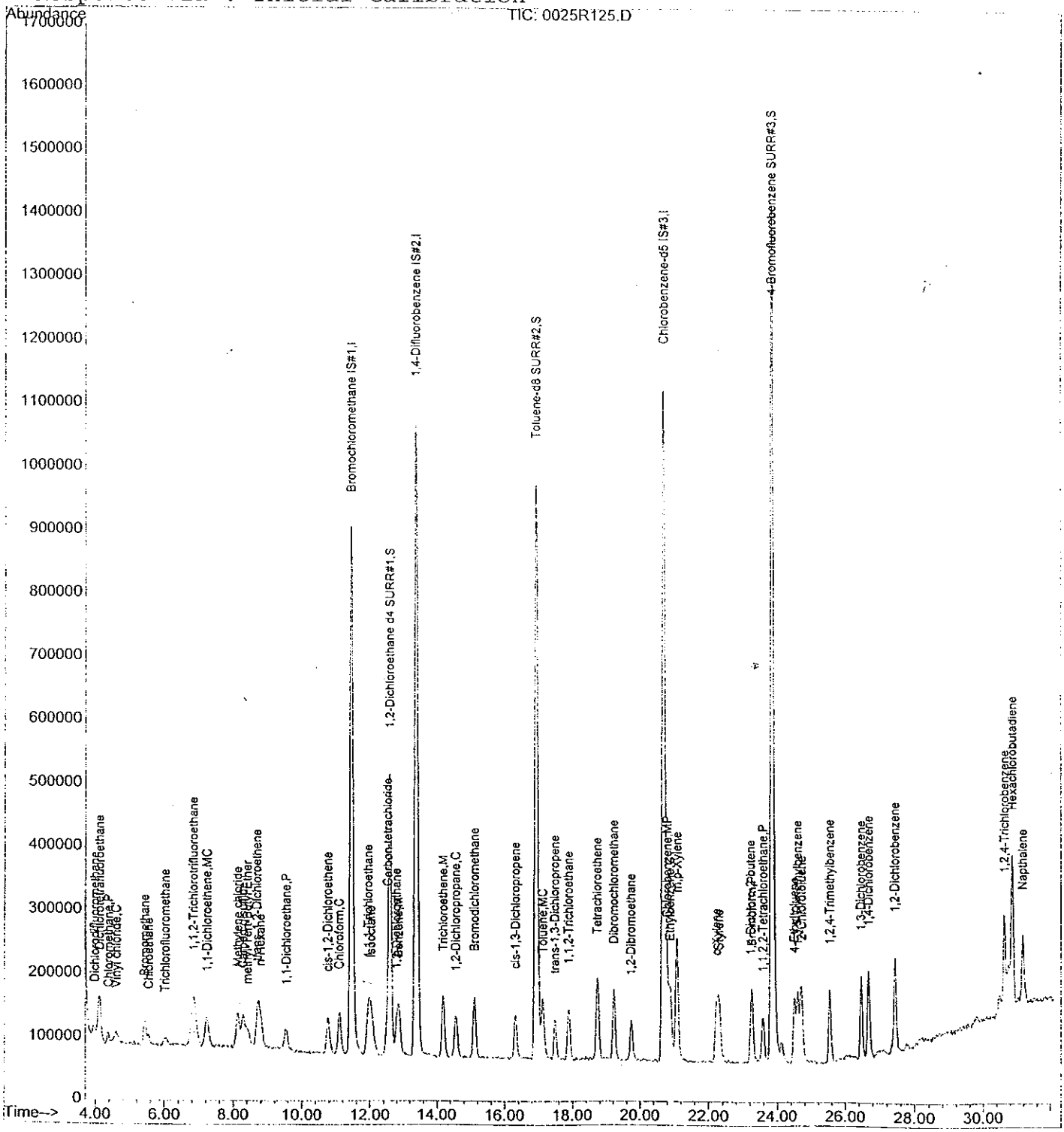
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	116164	39.83 ng		97
29)	1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30)	Bromodichloromethane	15.11	83	210160	37.15 ng		98
31)	cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33)	Toluene	17.13	92	132700	40.00 ng		95
34)	trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35)	1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37)	Tetrachloroethene	18.73	164	107951	42.67 ng		95
38)	Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39)	Chlorobenzene	20.81	112	191266	40.04 ng		93
40)	Ethylbenzene	20.88	106	77354	42.58 ng		99
41)	m,p-Xylene	21.09	106	199516	83.10 ng		96
42)	o-Xylene	22.23	106	92327	40.91 ng		93
43)	Styrene	22.30	104	161761	40.88 ng		95
44)	Bromoform	23.26	173	153138	40.51 ng		99
45)	1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47)	1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48)	4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49)	1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50)	2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52)	1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53)	1,4-Dichlorobenzene	26.67	146	171427	36.21 ng		98
54)	1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55)	1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56)	Napthalene	31.18	128	311685	67.28 ng	#	92
57)	Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

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

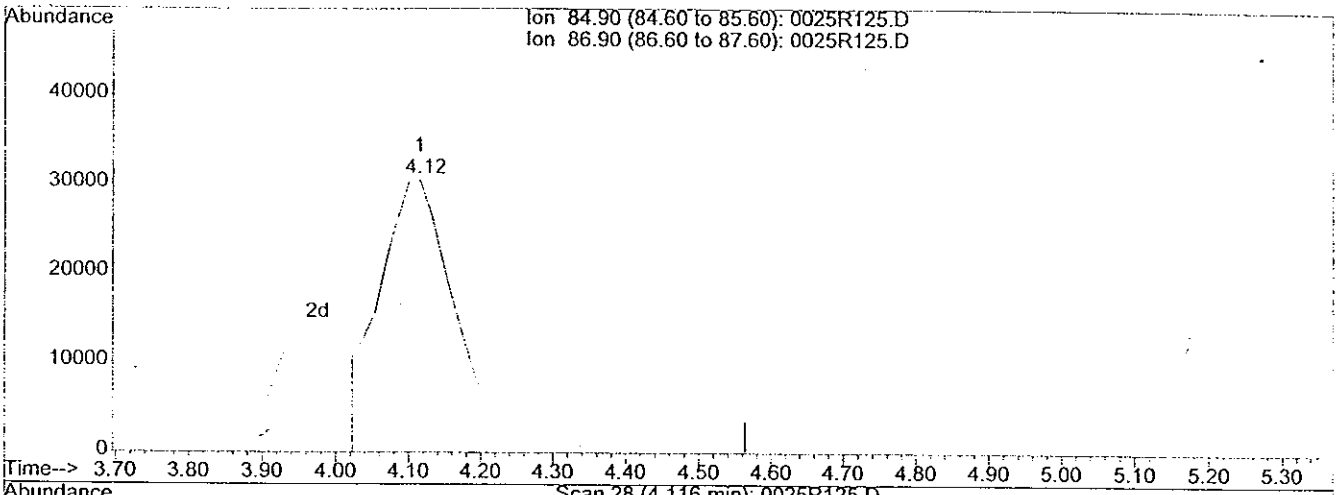
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

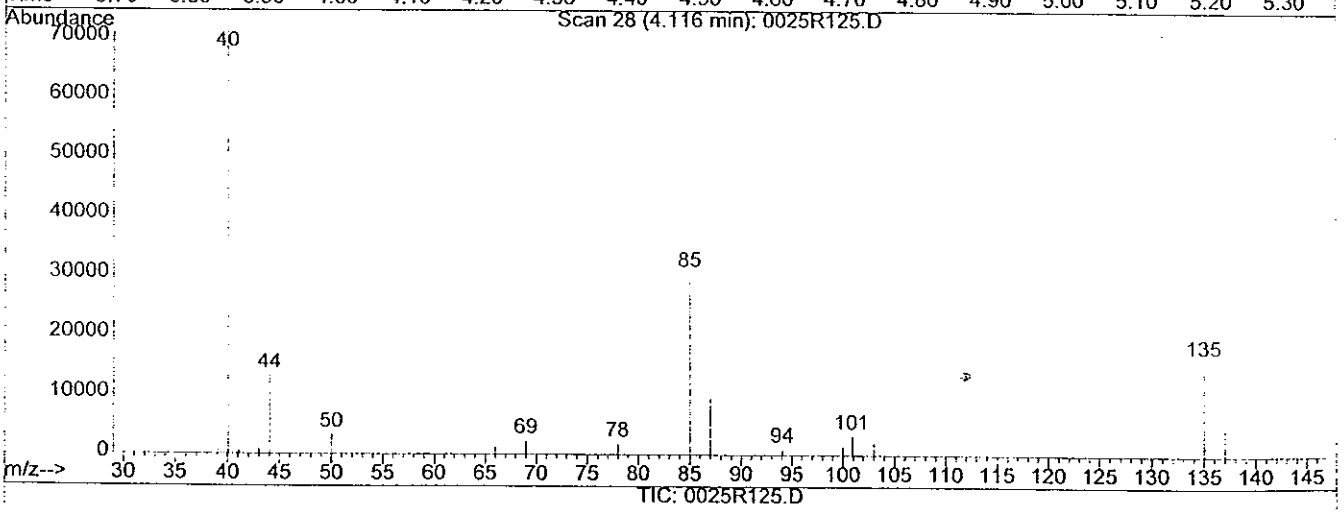
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

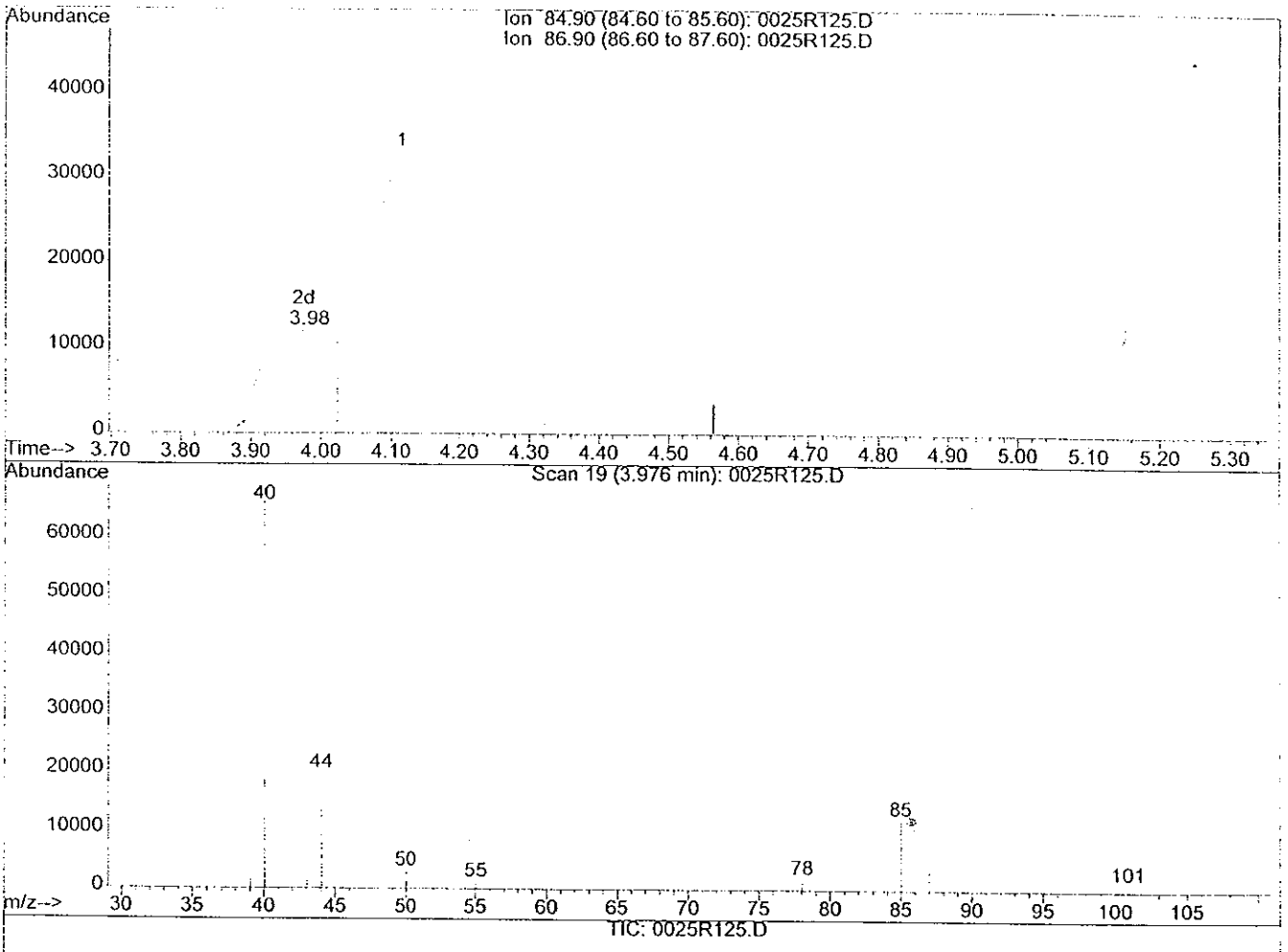
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

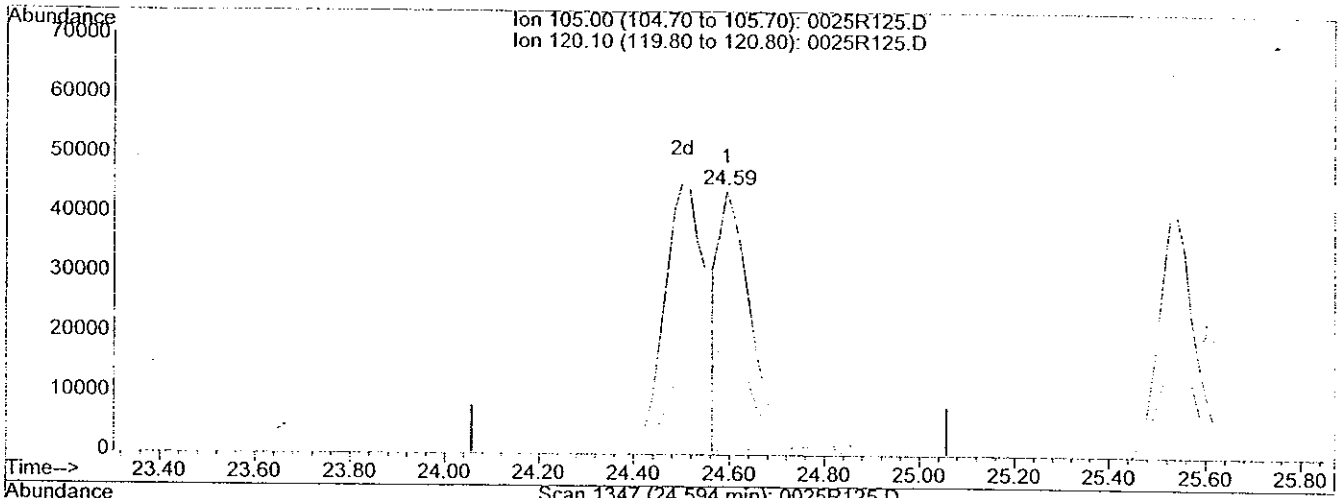
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

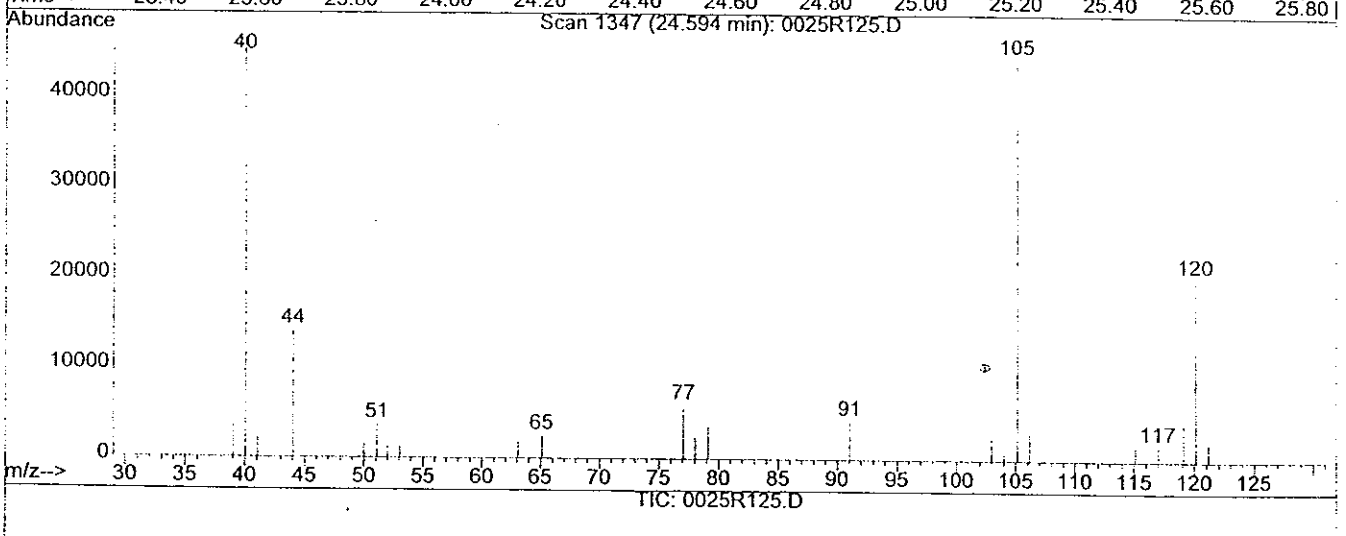
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

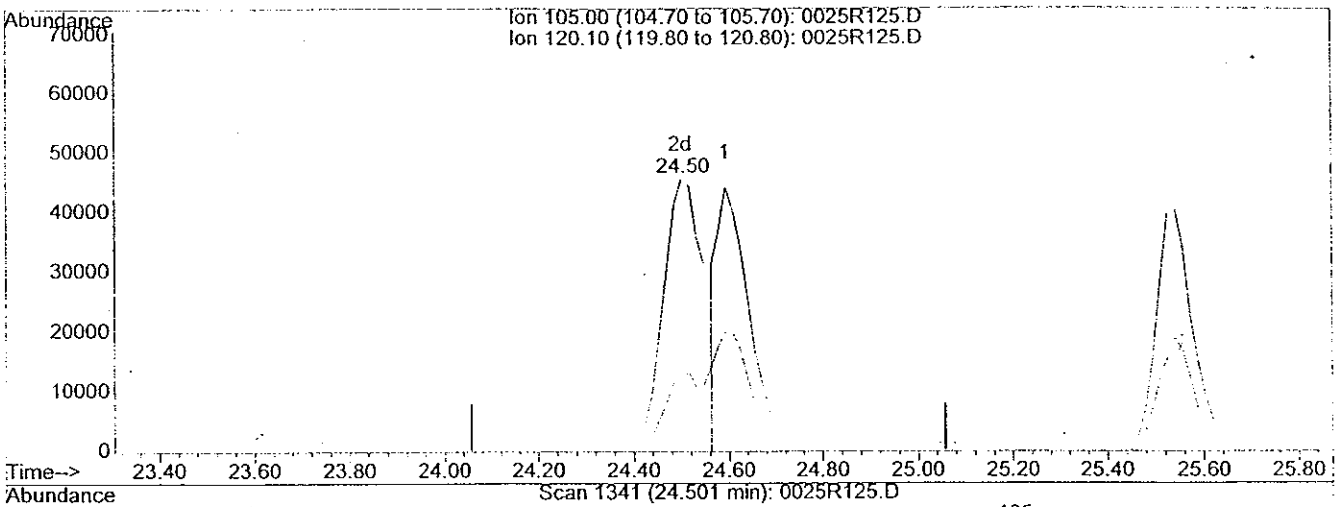
response 208705

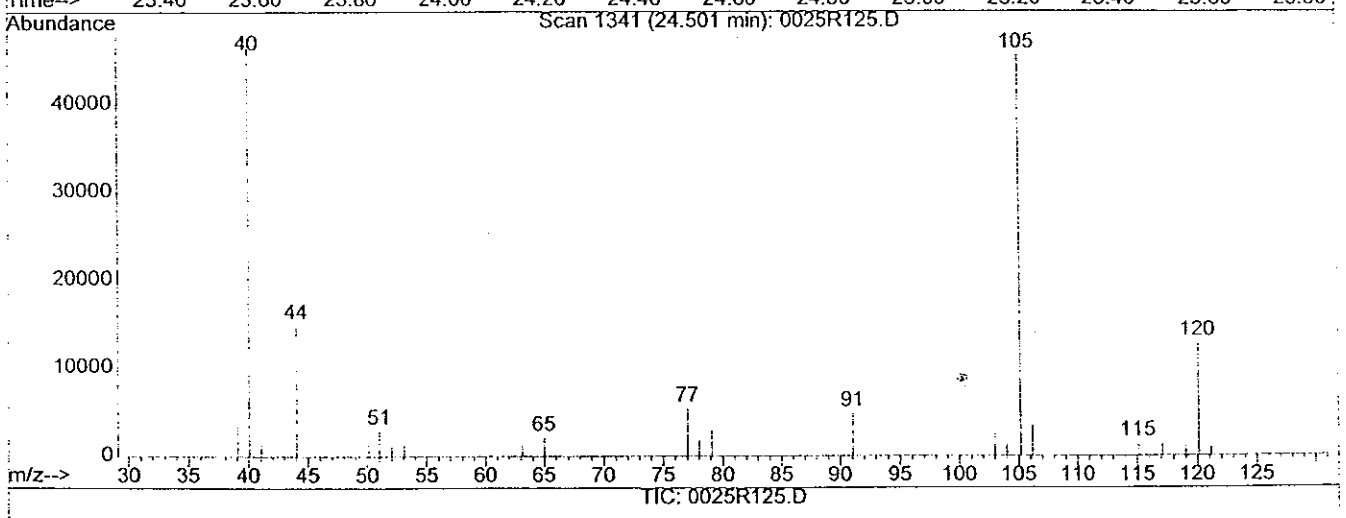
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:19 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00	ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00	ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00	ng	-0.05 95.76%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%						
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%						

Target Compounds						Qvalue	
2) Dichlorodifluoromethane	3.97	85	245011m	131.03	ng	#	99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54	ng	#	40
4) Chloromethane	4.41	50	230623	128.25	ng	#	95
5) Vinyl chloride	4.62	62	197828	123.13	ng		99
6) Bromomethane	5.46	94	343058	125.48	ng	#	95
7) Chloroethane	5.56	64	147945	134.89	ng		99
8) Trichlorofluoromethane	6.08	101	258267	122.07	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53	ng		87
10) 1,1-Dichloroethene	7.25	96	312183	142.33	ng		83
12) Methylene chloride	8.15	49	406623	130.28	ng		97
13) Carbon disulfide	8.32	76	785720	130.09	ng		97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26	ng		97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25	ng		87
16) n-Hexane	8.82	57	320526	148.87	ng	#	1
17) 1,1-Dichloroethane	9.55	63	548504	135.74	ng		100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39	ng		91
19) Chloroform	11.10	83	704271	136.93	ng		98
20) Isooctane	12.05	57	1160036	162.95	ng		98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36	ng		91
22) Carbon tetrachloride	12.53	117	617093	137.29	ng		98
24) 1,2-Dichloroethane	12.79	62	386406	132.71	ng		98
25) 1,2-Dibromoethane	19.75	107	625053	145.43	ng		99
27) Benzene	12.87	78	806884	143.11	ng		100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

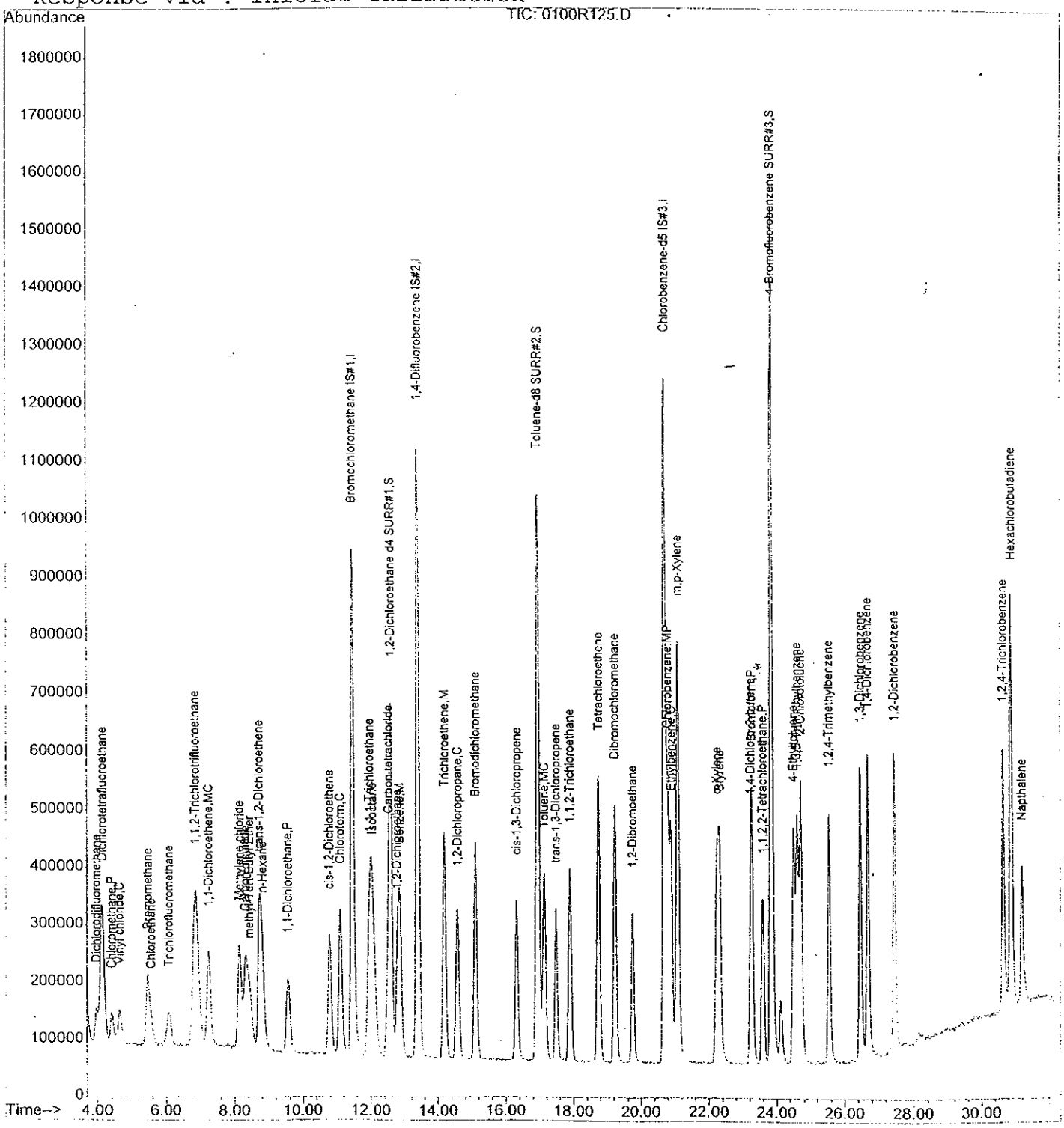
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	448788	144.70 ng		96
29)	1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30)	Bromodichloromethane	15.10	83	843245	140.20 ng		99
31)	cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33)	Toluene	17.12	92	496011	140.63 ng		98
34)	trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35)	1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37)	Tetrachloroethene	18.74	164	406137	149.07 ng		96
38)	Dibromochloromethane	19.22	127	618919	147.64 ng		99
39)	Chlorobenzene	20.79	112	747778	145.37 ng		96
40)	Ethylbenzene	20.90	106	291472	148.99 ng		100
41)	m,p-Xylene	21.08	106	760694	294.22 ng		98
42)	o-Xylene	22.23	106	361372	148.70 ng		98
43)	Styrene	22.31	104	629732	147.78 ng		99
44)	Bromoform	23.26	173	626335	153.87 ng		100
45)	1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48)	4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49)	1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50)	2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51)	1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52)	1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53)	1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54)	1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55)	1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56)	Napthalene	31.19	128	724021	145.13 ng	#	92
57)	Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration

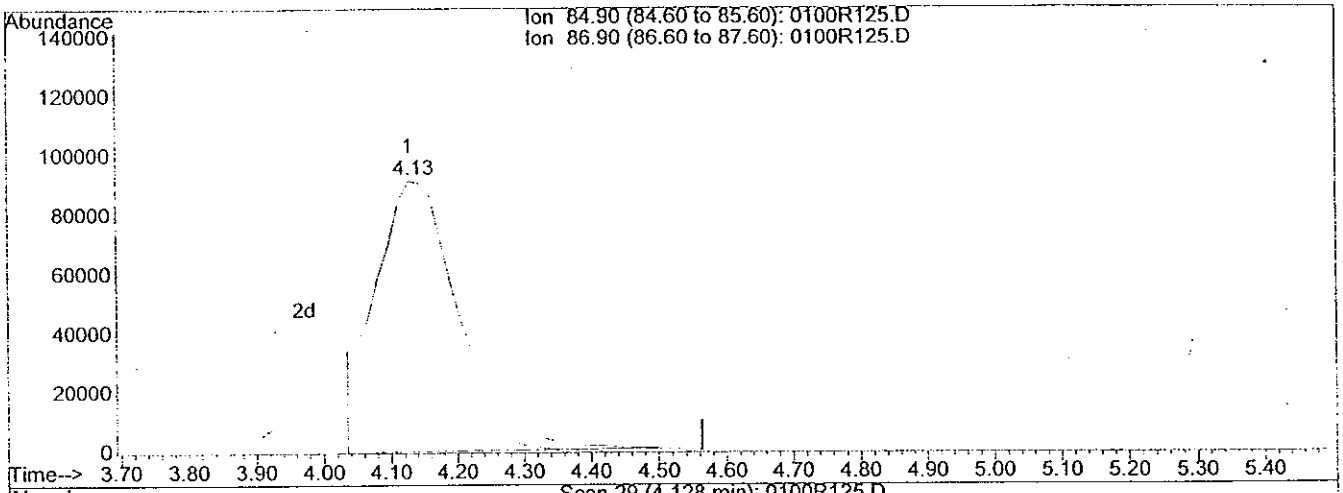


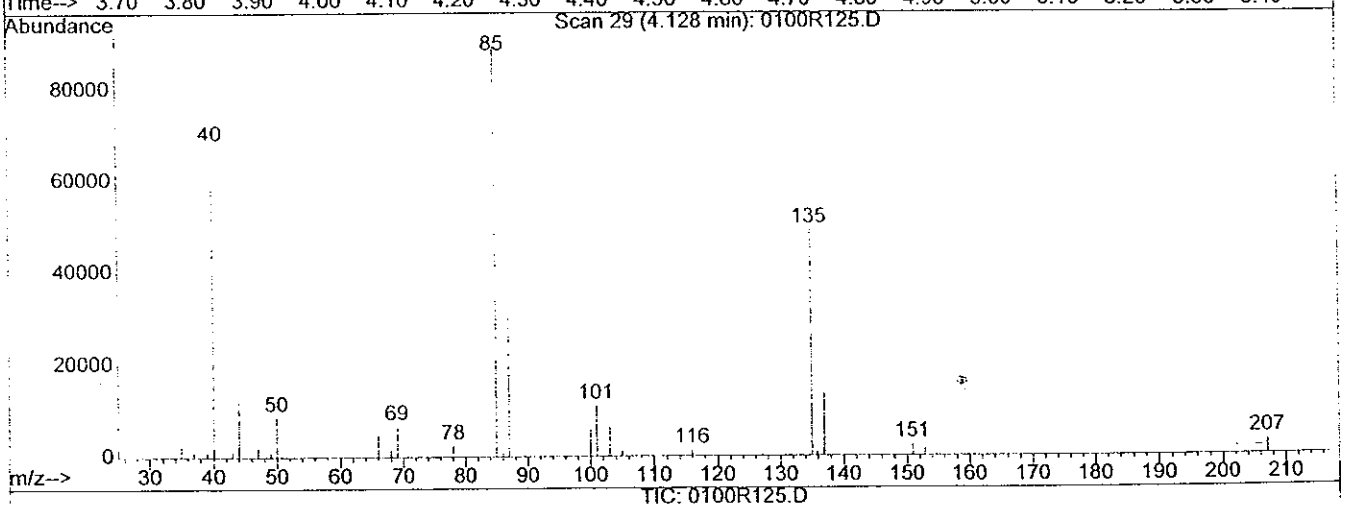
0100R125.D TO14S.M Fri Jan 25 18:55:14 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

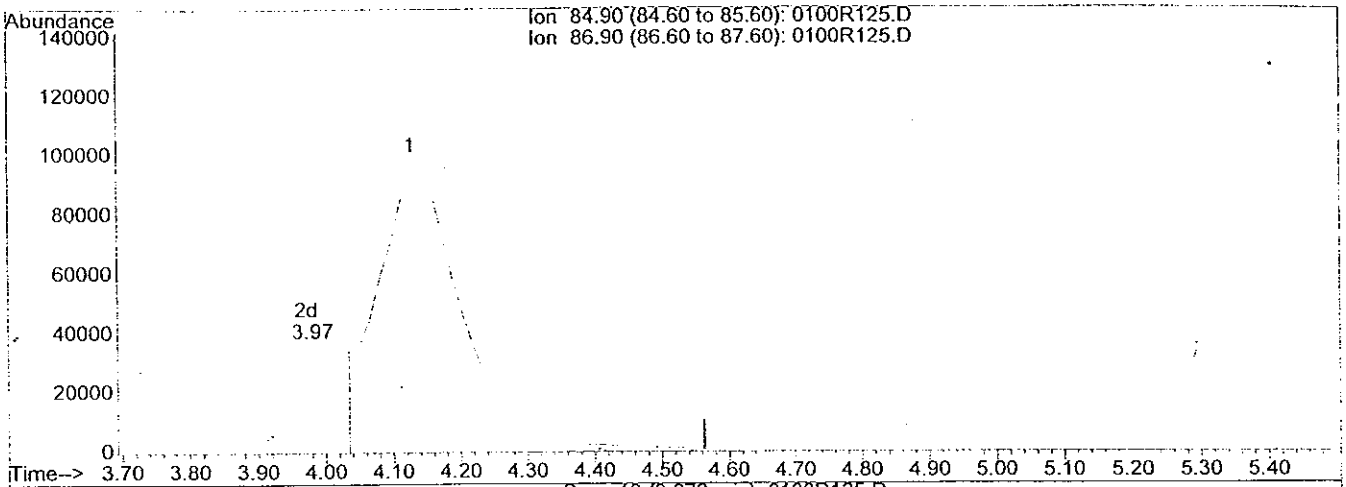
coelution
wrong peak

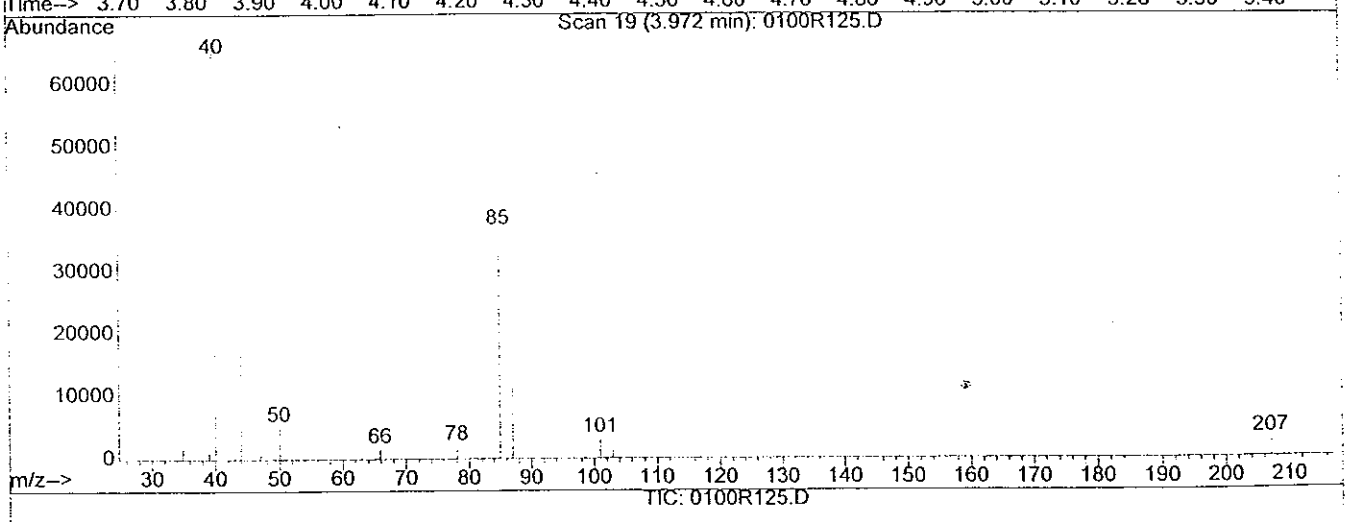
0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

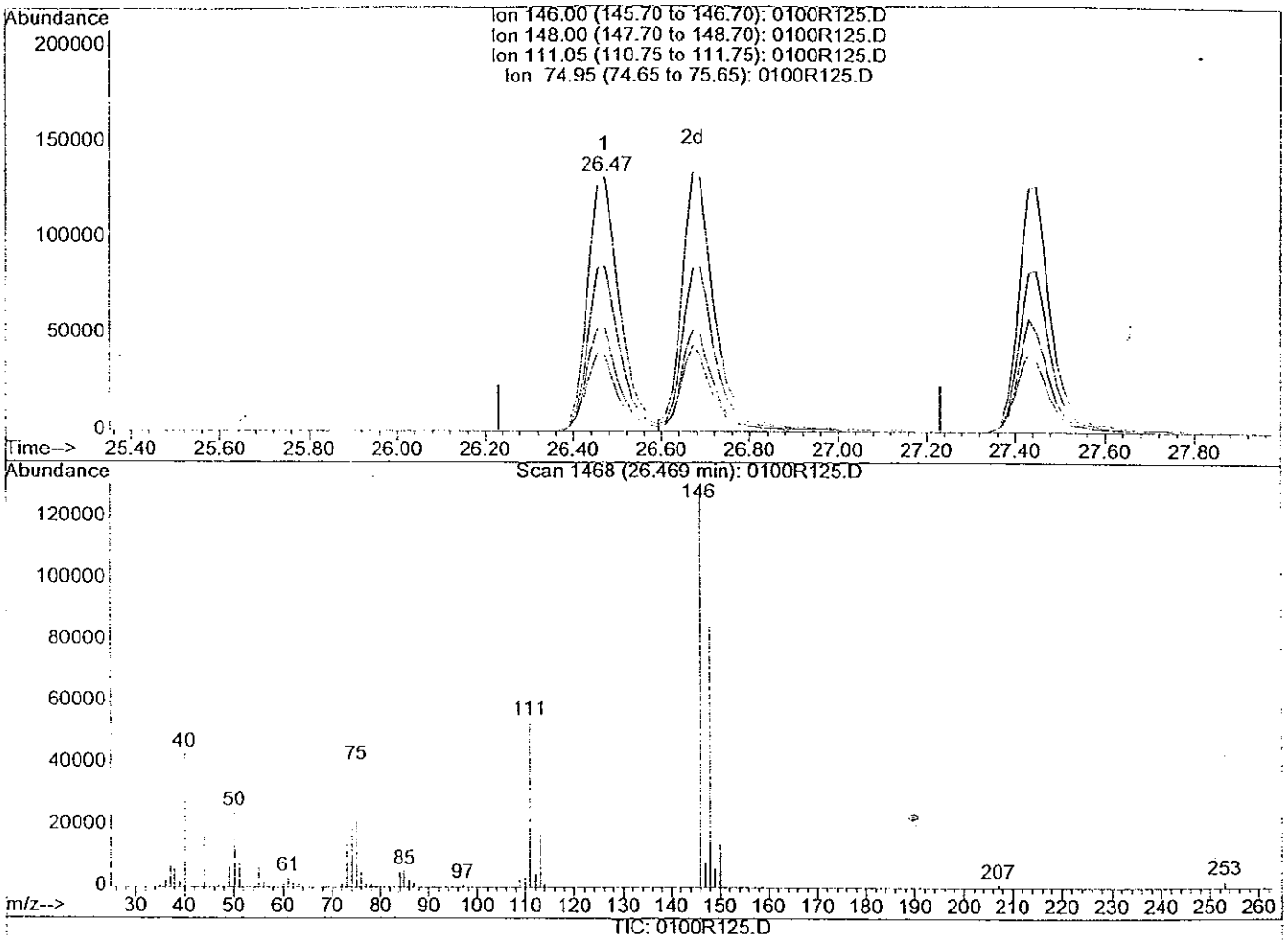
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

1-25-02

0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

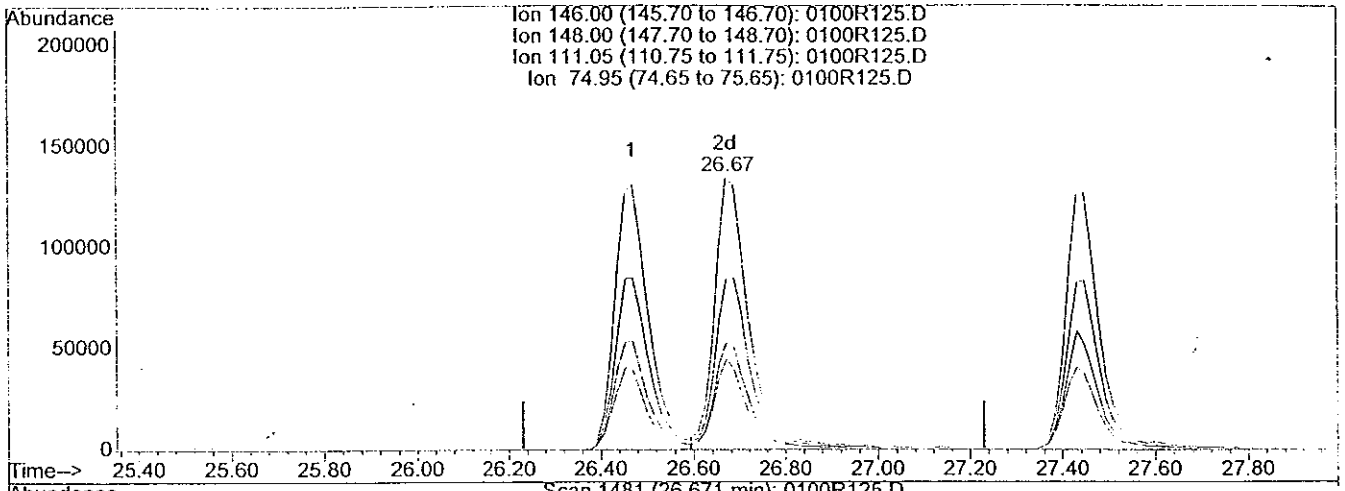
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

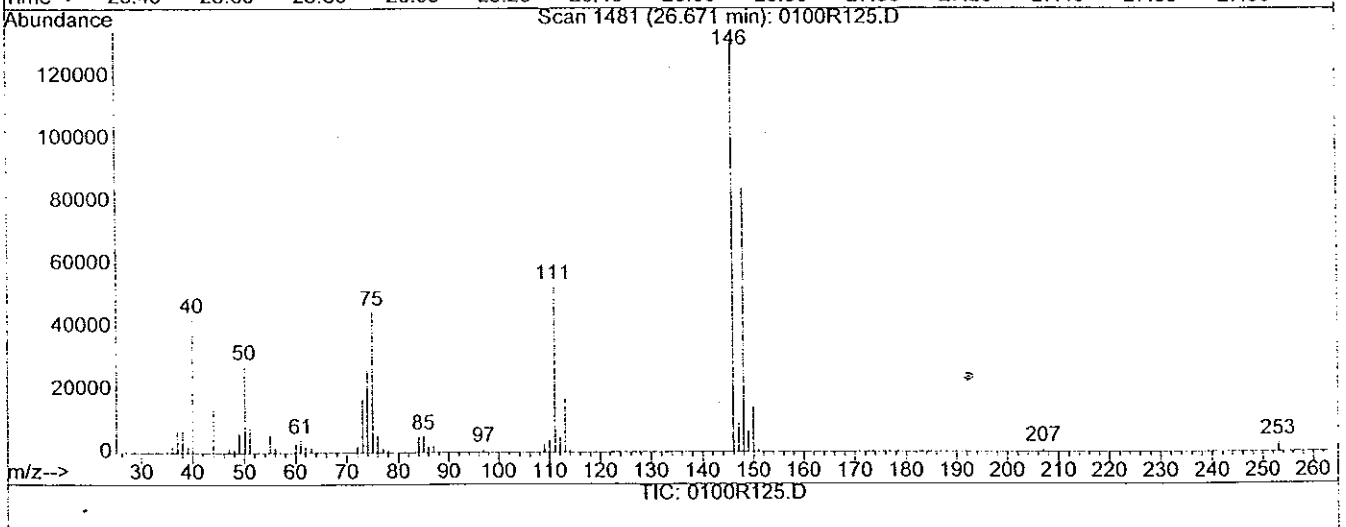
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-29-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

TM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00	ng	0.04
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00	ng	99.81% 0.04
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00	ng	100.02% 0.02
						99.67%

System Monitoring Compounds

ng reprod

23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 118.28%						
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.29%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.25%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97	ng	# 98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25	ng	# 26
4) Chloromethane	4.44	50	621320	222.28	ng	99
5) Vinyl chloride	4.65	62	614874	229.48	ng	97
6) Bromomethane	5.49	94	897640	198.84	ng	98
7) Chloroethane	5.60	64	431748	238.96	ng	98
8) Trichlorofluoromethane	6.13	101	1119931	239.23	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47	ng	87
10) 1,1-Dichloroethene	7.29	96	864615	239.44	ng	92
12) Methylene chloride	8.18	49	1205948	258.58	ng	96
13) Carbon disulfide	8.36	76	2260074	232.41	ng	100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18	ng	97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60	ng	95
16) n-Hexane	8.86	57	892820	241.08	ng	# 1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39	ng	98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57	ng	96
19) Chloroform	11.16	83	2068510	256.77	ng	99
20) Isooctane	12.11	57	2982558	239.27	ng	99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23	ng	91
22) Carbon tetrachloride	12.59	117	1861531	257.08	ng	98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59	ng	99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52	ng	98
27) Benzene	12.93	78	2293017	257.50	ng	99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 ng		98
34)	trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35)	1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37)	Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38)	Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39)	Chlorobenzene	20.85	112	2203630	260.18 ng		96
40)	Ethylbenzene	20.94	106	882384	259.46 ng		99
41)	m,p-Xylene	21.13	106	2264418	517.69 ng		99
42)	o-Xylene	22.29	106	1090444	256.51 ng		100
43)	Styrene	22.37	104	1906972	288.65 ng		97
44)	Bromoform	23.32	173	1752285	313.35 ng		99
45)	1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47)	1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48)	4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49)	1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50)	2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51)	1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52)	1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53)	1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54)	1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56)	Napthalene	31.25	128	1772393	306.50 ng	#	92
57)	Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

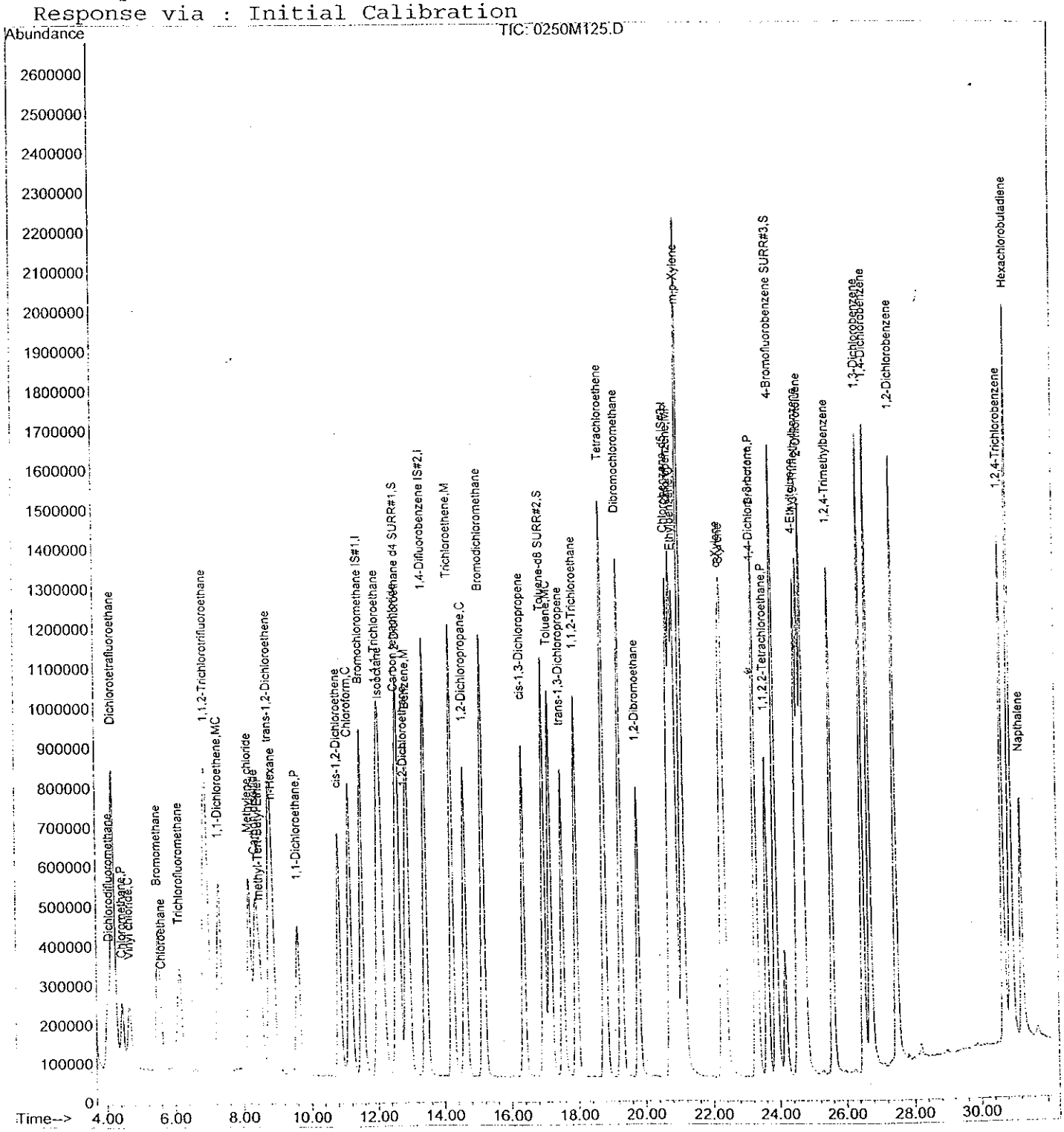
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

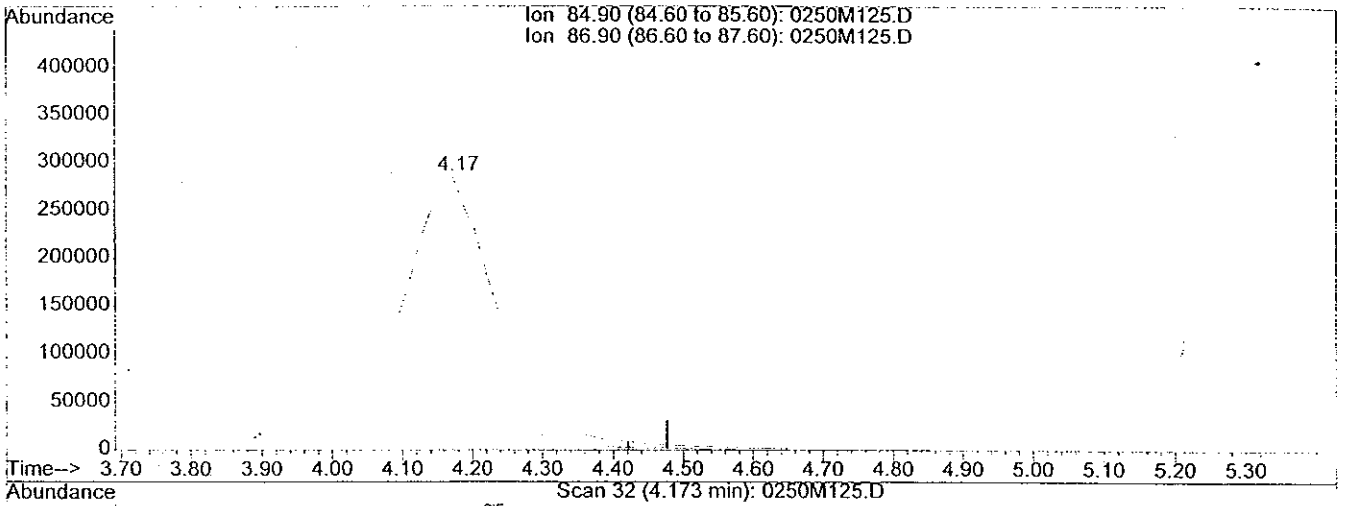
Quant Results File: TO14S.RES

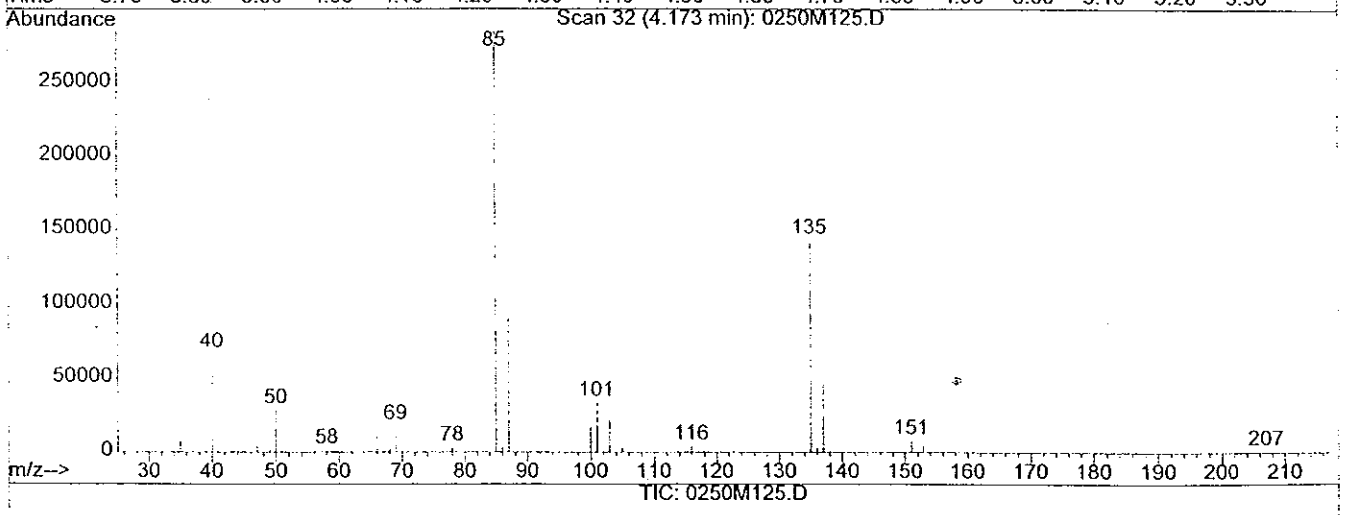
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

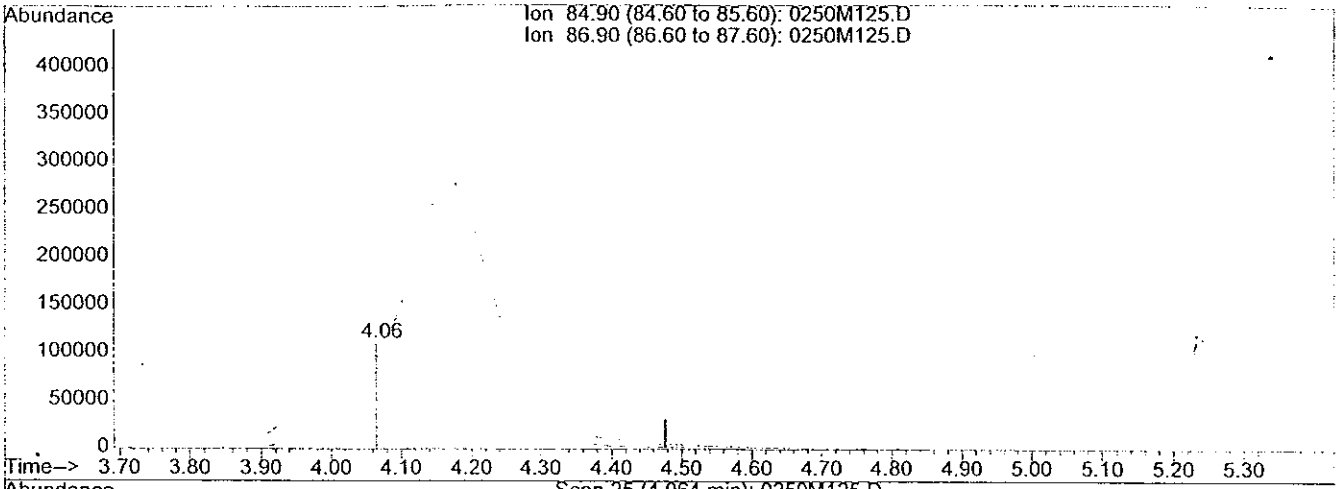
response 3299163

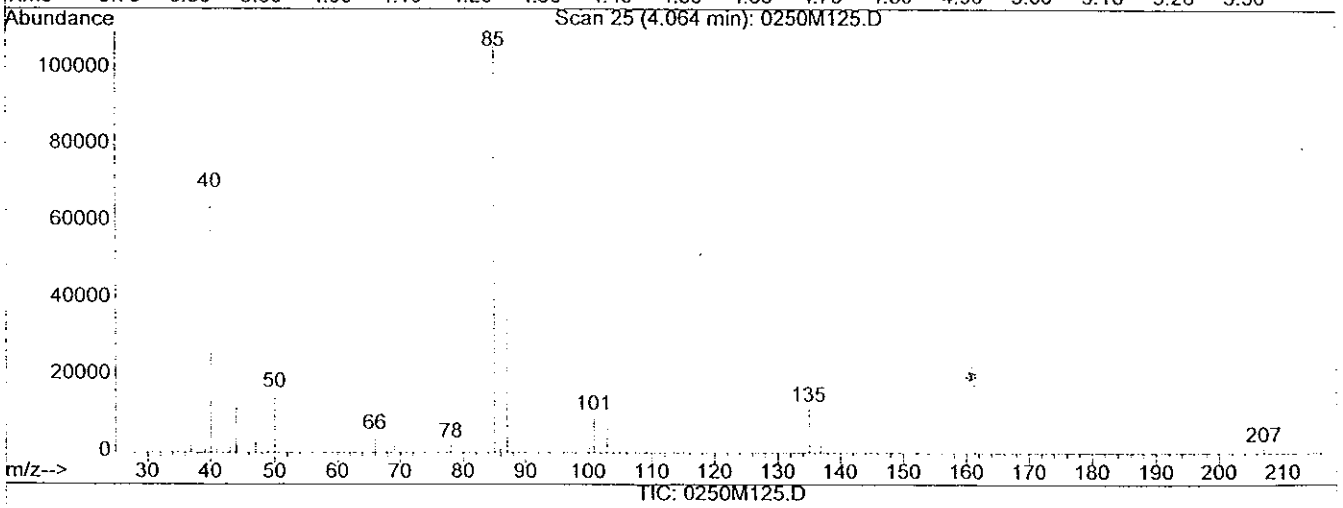
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.06min 187.97ng m

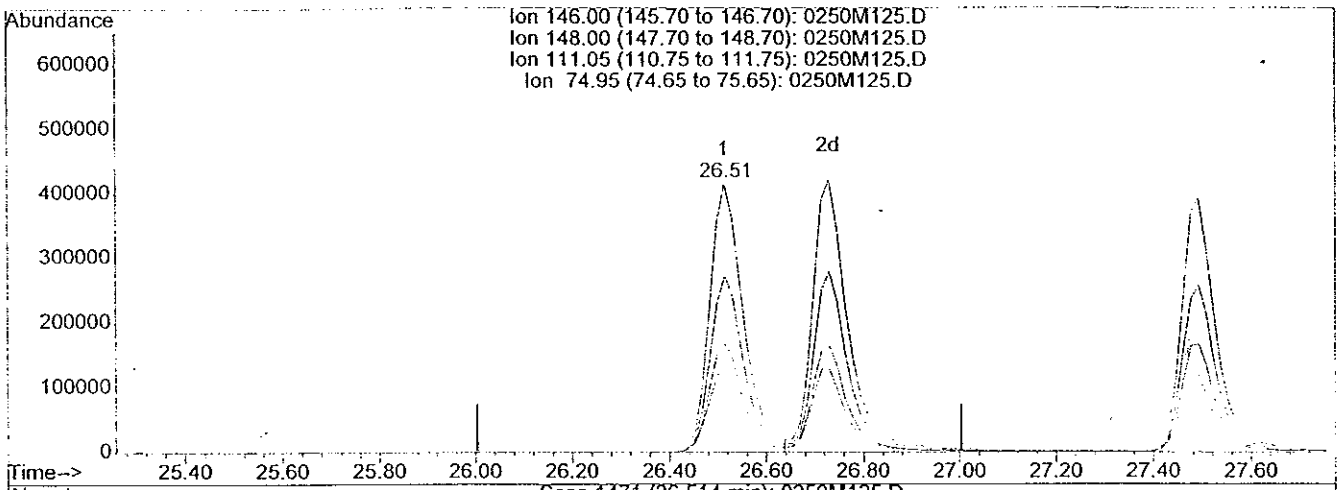
response 732577

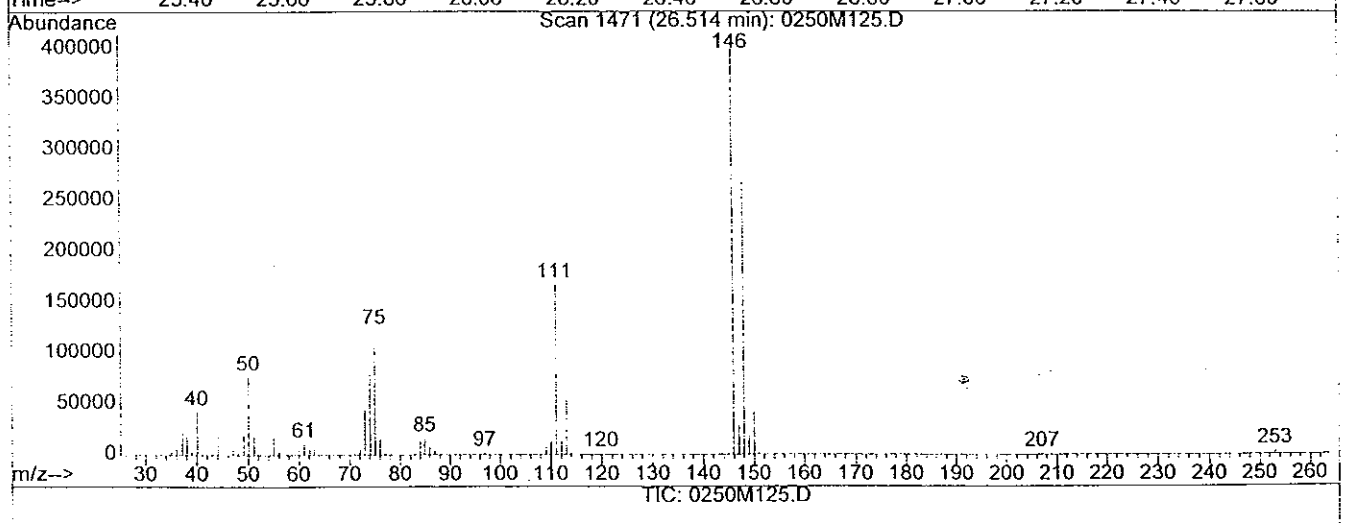
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

response 2001409

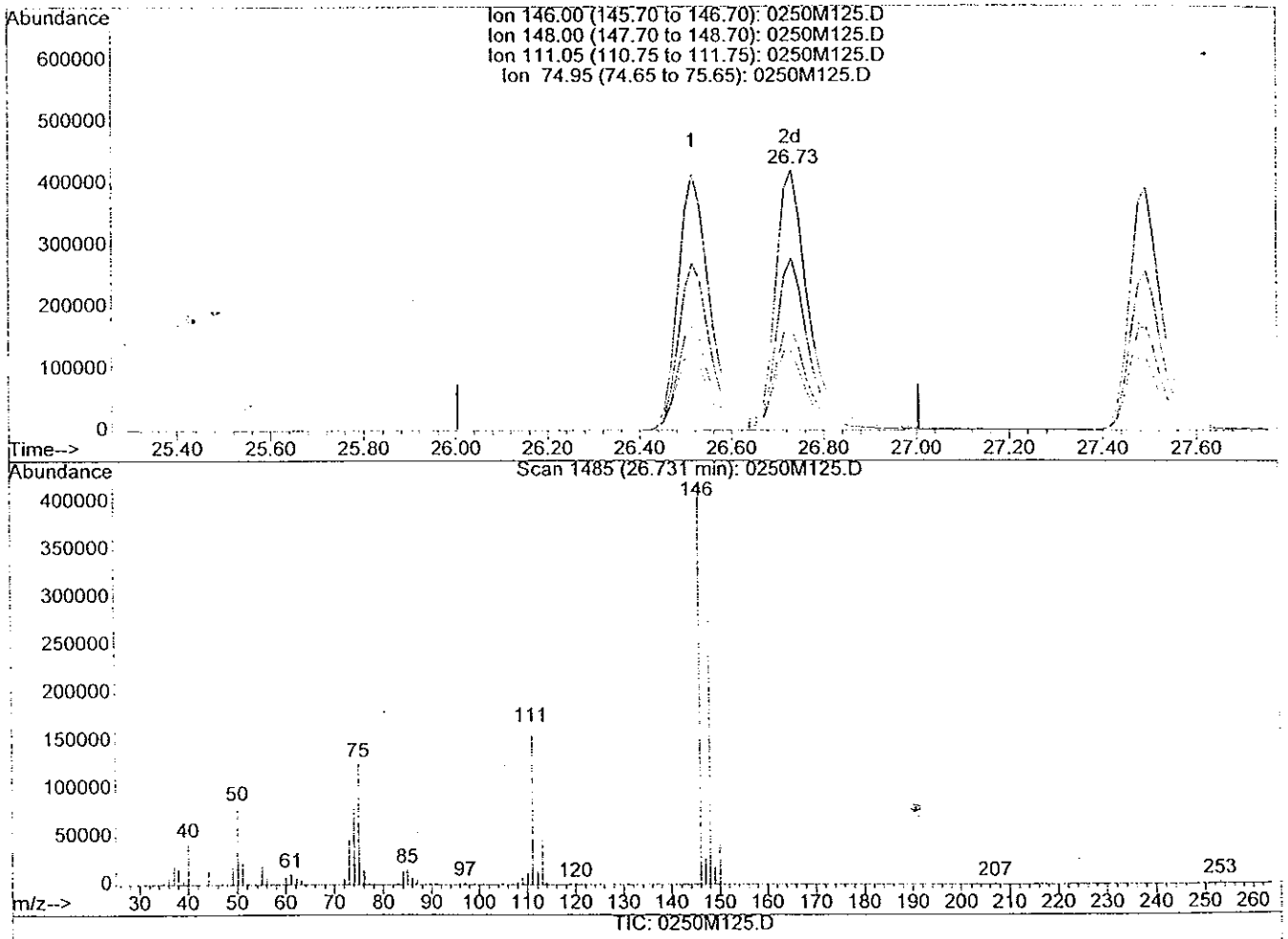
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

my 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00	ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02 85.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

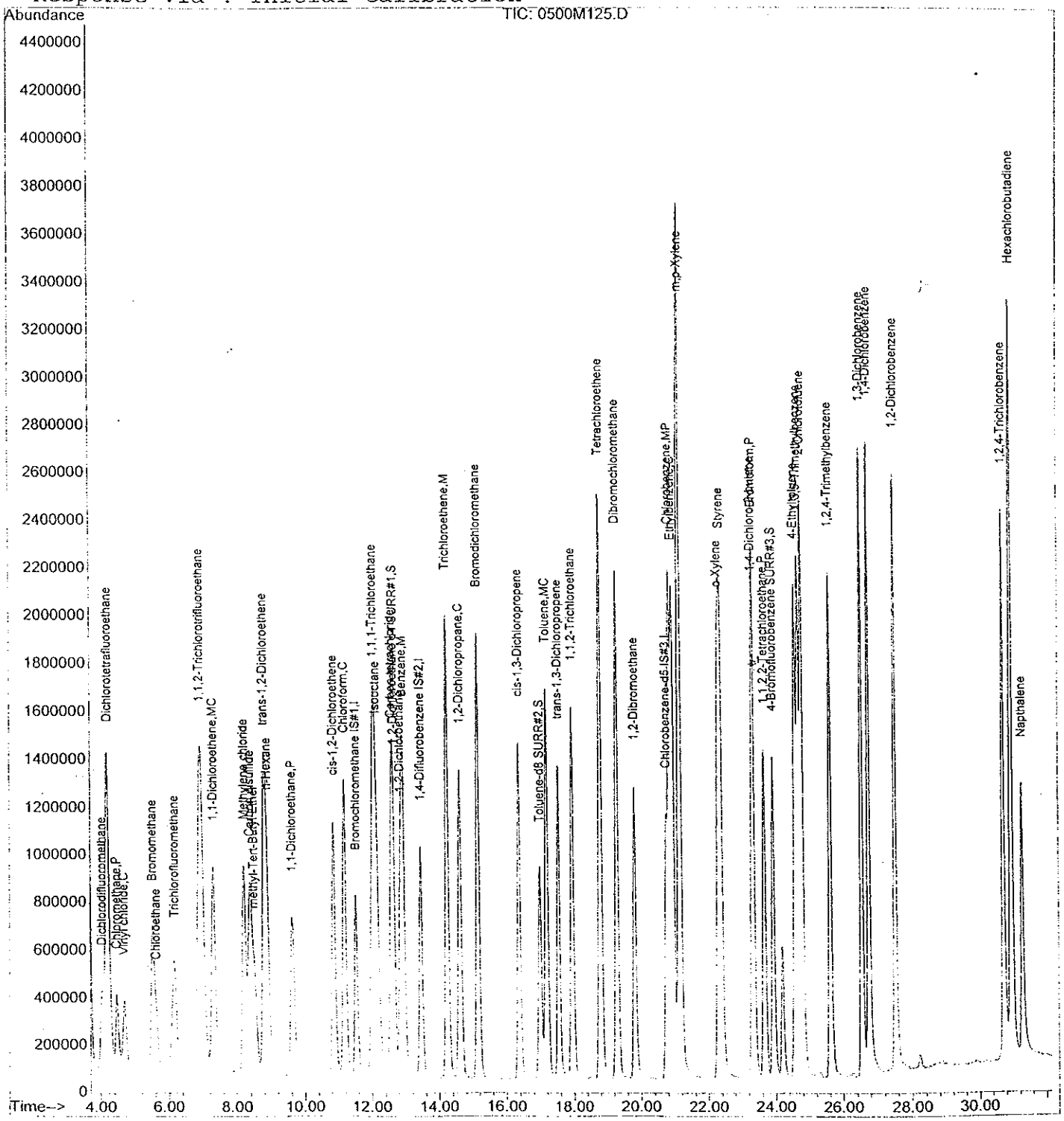
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39 ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67 ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03 ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68 ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98 ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70 ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12 ng		99
42)	o-Xylene	22.29	106	1850077	851.14 ng		97
43)	Styrene	22.37	104	3243356	851.00 ng		97
44)	Bromoform	23.33	173	2899555	796.41 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67 ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21 ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52 ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53 ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21 ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31 ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02 ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99 ng		99
56)	Napthalene	31.27	128	3229812	723.84 ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng		92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng	#	41
4) Chloromethane	4.44	50	2133139	1351.49	ng	#	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng		96
6) Bromomethane	5.51	94	3162736	1317.96	ng	#	99
7) Chloroethane	5.60	64	1530589	1589.88	ng		97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng		84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng		90
12) Methylene chloride	8.20	49	3993235	1457.56	ng		99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng		100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng		99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng		93
16) n-Hexane	8.88	57	2940178	1555.79	ng	#	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng		98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng		93
19) Chloroform	11.18	83	6940397	1537.33	ng		99
20) Isooctane	12.12	57	9654037	1544.96	ng		97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng		91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng		97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng		98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng		98
27) Benzene	12.95	78	7976775	1559.00	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.25	130	4575596	1625.70 ng		95
29)	1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30)	Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31)	cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33)	Toluene	17.18	92	5201962	1625.17 ng		98
34)	trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35)	1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37)	Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38)	Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39)	Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40)	Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41)	m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42)	o-Xylene	22.31	106	3789454	1709.97 ng		96
43)	Styrene	22.39	104	6680678	1719.31 ng		96
44)	Bromoform	23.33	173	6162140	1660.10 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48)	4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49)	1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50)	2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52)	1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53)	1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54)	1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56)	Napthalene	31.25	128	5947012	1307.26 ng	#	93
57)	Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

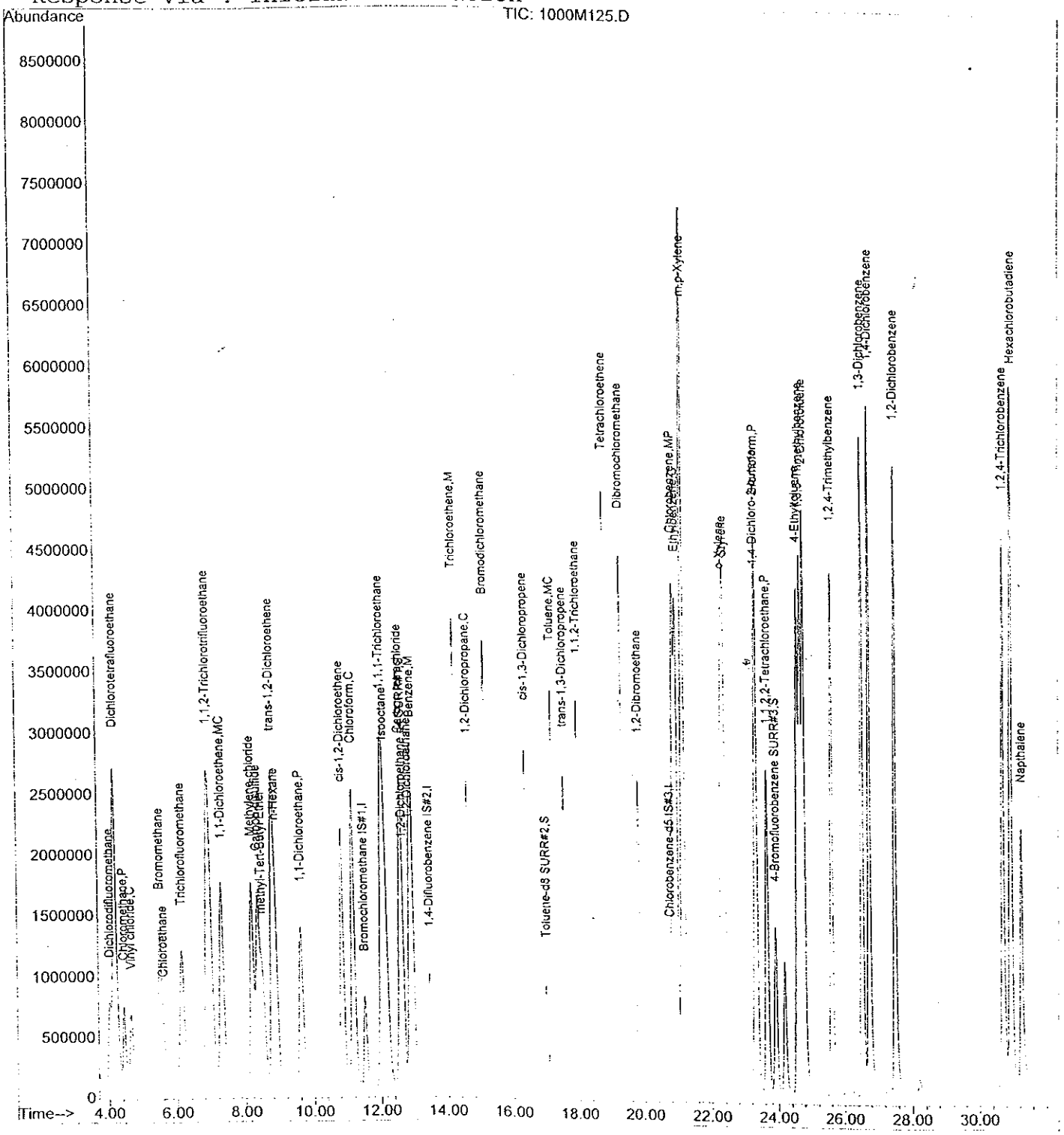
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

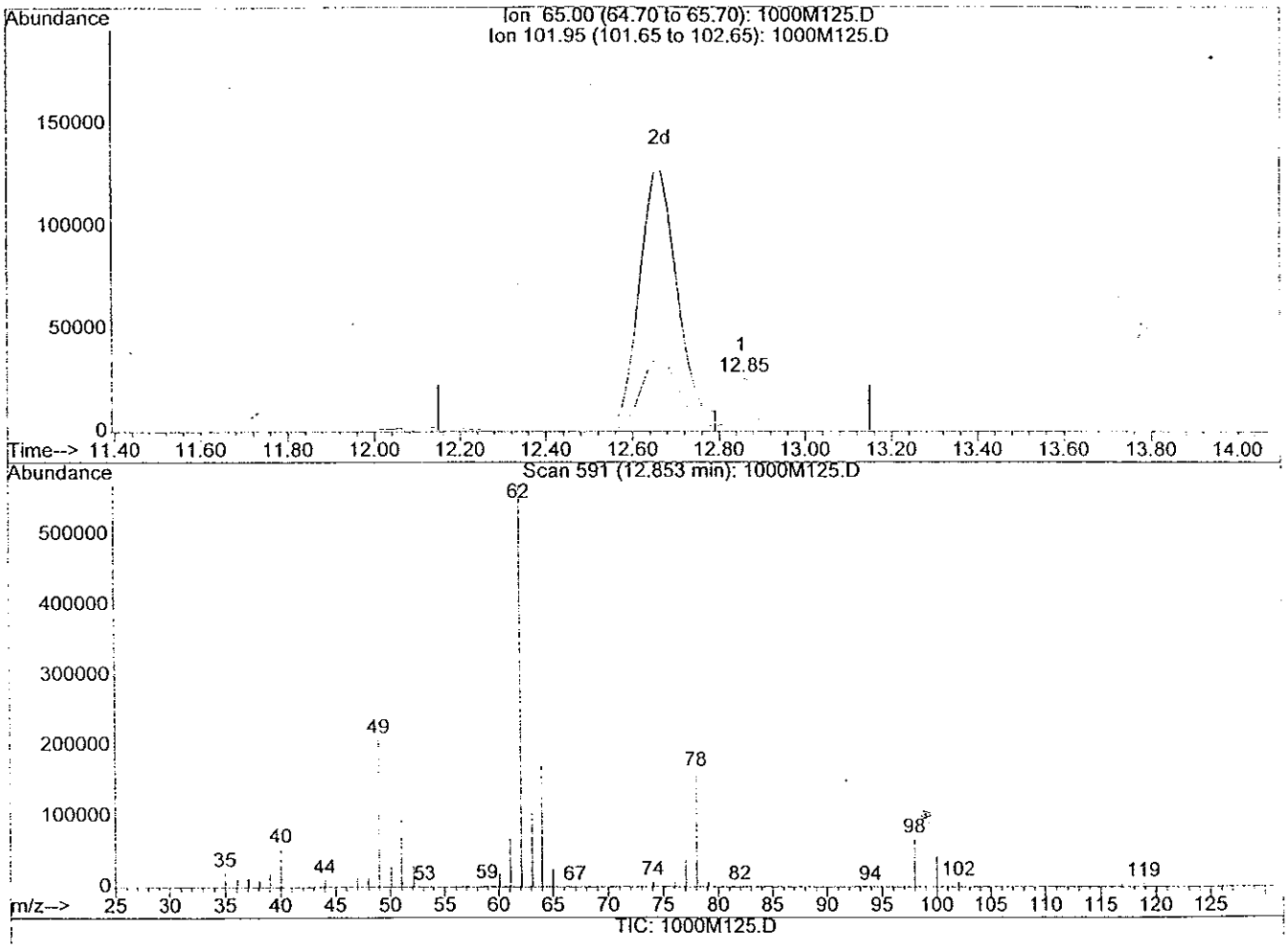
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

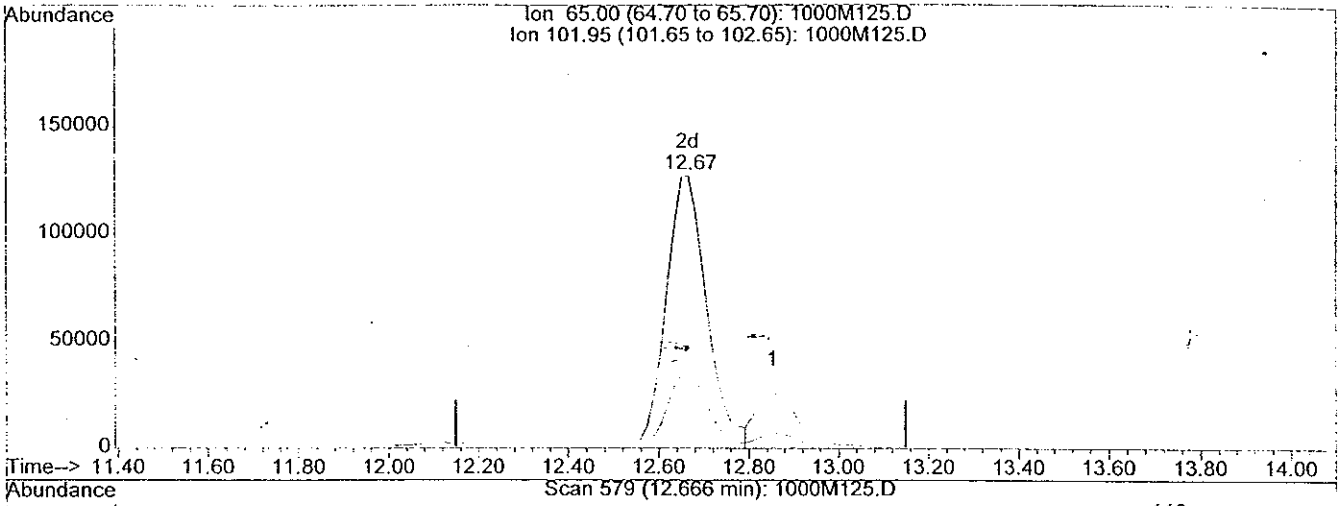
response 171340

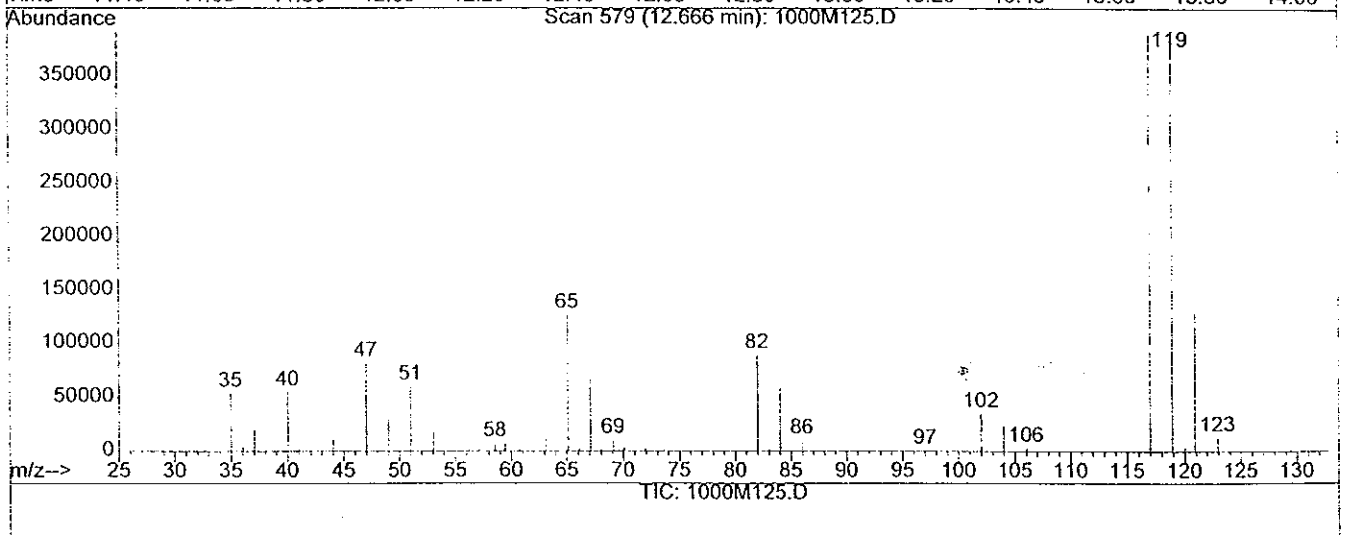
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng		91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng	#	40
4) Chloromethane	4.44	50	3972848	2058.56	ng	#	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng		98
6) Bromomethane	5.48	94	5976813	2036.94	ng	#	99
7) Chloroethane	5.59	64	2892614	2457.35	ng		98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng		84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng		90
12) Methylene chloride	8.18	49	7493461	2236.94	ng		99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng		99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng		99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng		93
16) n-Hexane	8.85	57	5552938	2403.09	ng	#	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng		98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng		92
19) Chloroform	11.15	83	13101131	2373.35	ng		99
20) Isooctane	12.11	57	17221498	2253.97	ng		96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng		91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng		97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng	#	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng		99
27) Benzene	12.92	78	15415352	2393.38	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42	ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72	ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57	ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62	ng		99
33)	Toluene	17.17	92	10065682	2498.13	ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11	ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75	ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18	ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49	ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67	ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11	ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22	ng		98
42)	o-Xylene	22.28	106	7218929	2597.06	ng		97
43)	Styrene	22.35	104	12826497	2631.72	ng		96
44)	Bromoform	23.32	173	11319346	2431.22	ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15	ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77	ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41	ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21	ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51	ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99	ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88	ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22	ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022666	2176.84	ng		95
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98	ng		99
56)	Napthalene	31.24	128	8081624	1416.32	ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62	ng		100

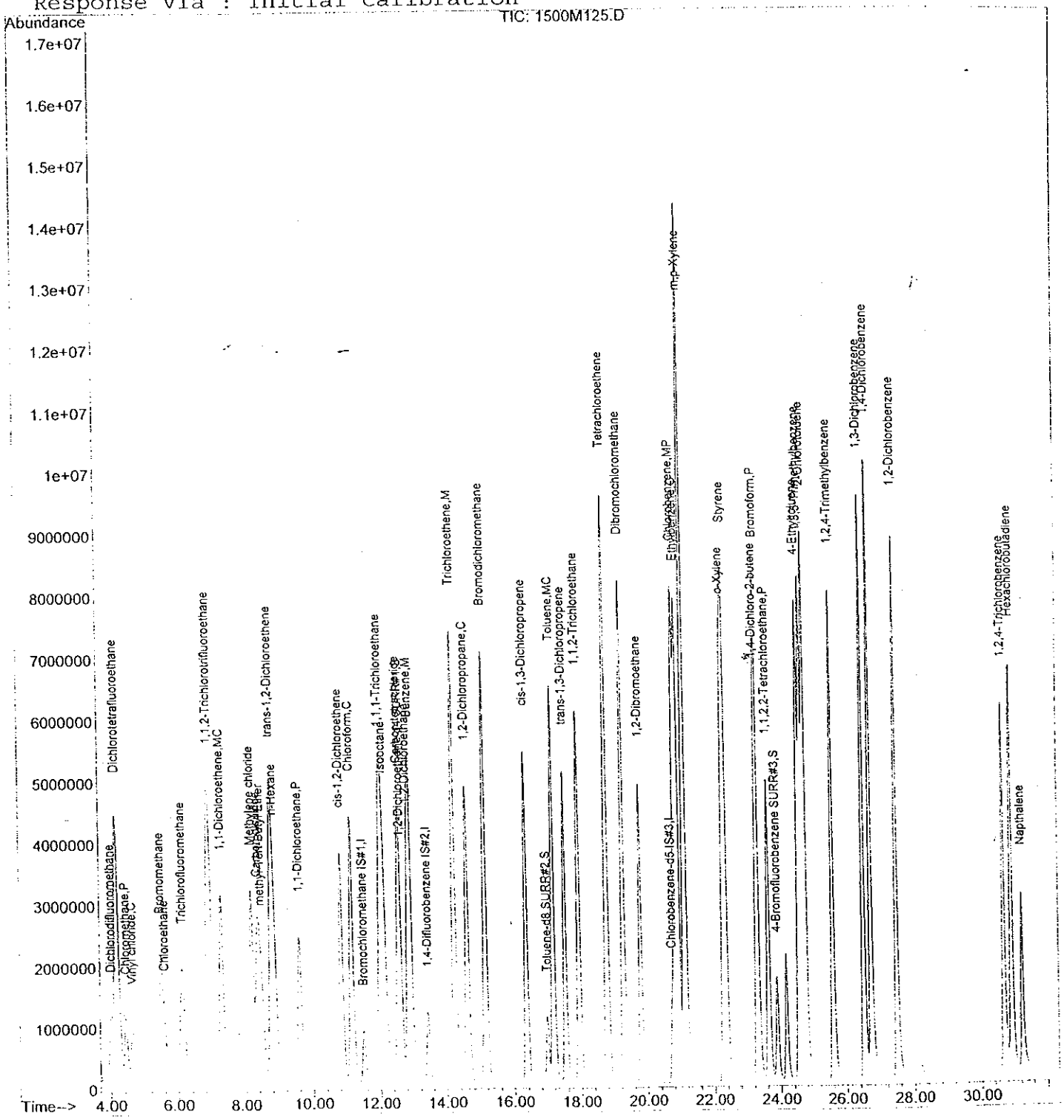
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



1500M125.D TO14S.M Fri Jan 25 16:56:35 2002

STL Pensacola / GCMS Volatiles Run Log

Date 3-3-02
Batch MAB041 (1) 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- -

Method (TO14) /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS 13#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
10:51		BFBSTL	BFM0303A	50ppb			W	YES	BOV	Daily 12 Hour BFB Tune 657,000
11:11	14	TO14S.m	CM 0303A	50ppb		Y N	W	Yes	BOV	Daily Cal Check/bfb tune/95 ion area =
12:01	15		M AB41A BK	ST		Y N				Daily Method Blank
12:35	16		M A041 LCS	50ppb		Y N				Batch# 041 LCS
13:09	2		02536-1	ST.		Y N	A (TO14)			500mls
13:43	2		02537-1			Y N				
14:16	2		02414-1			Y N				
:	2		02531-1			Y N				
:	2		-2			Y N				
:	2		-3			Y N				
:	9		-4	X10		Y N				50mls
:	10		-5			Y N				
:	11		-6	X100		Y N				5mls
:	12		-7	X50		Y N				10mls
:	13	8260Wa	02599-7S	X100		Y N	W (8260)			50mls screens only
:	14		-8S			Y N				
:	15		-9S			Y N				
:	16		-10S			Y N				
:	1		-11S			Y N				
:	2		-12S			Y N				
:	3		-13S			Y N				
:						Y N				
:						Y N				BV 3/3/02
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

[illegible] automatically using the software and generic Forms II and VIII that are located in the daily folder

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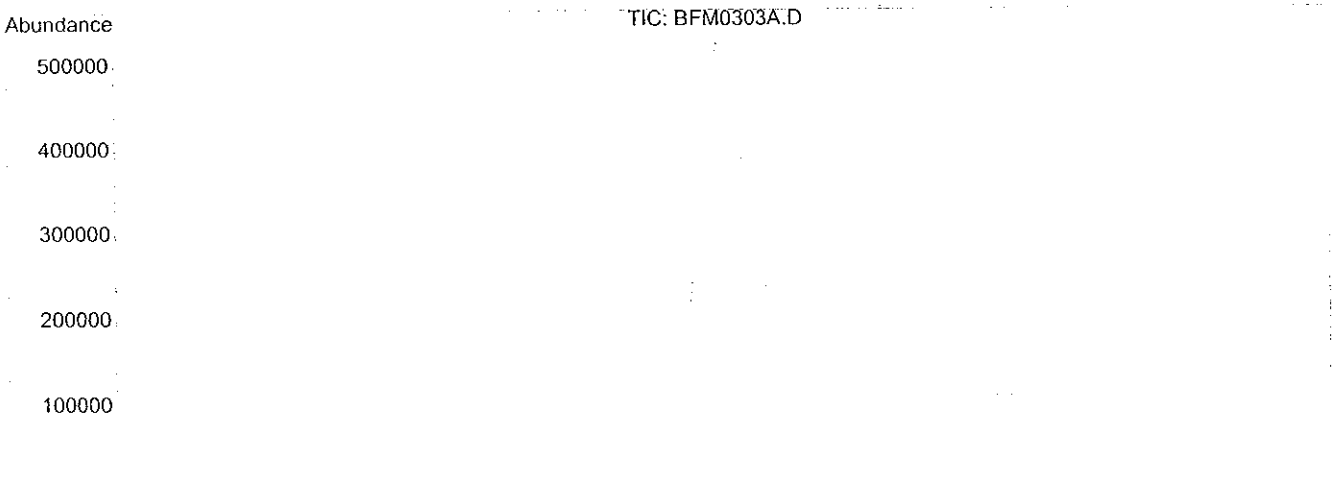
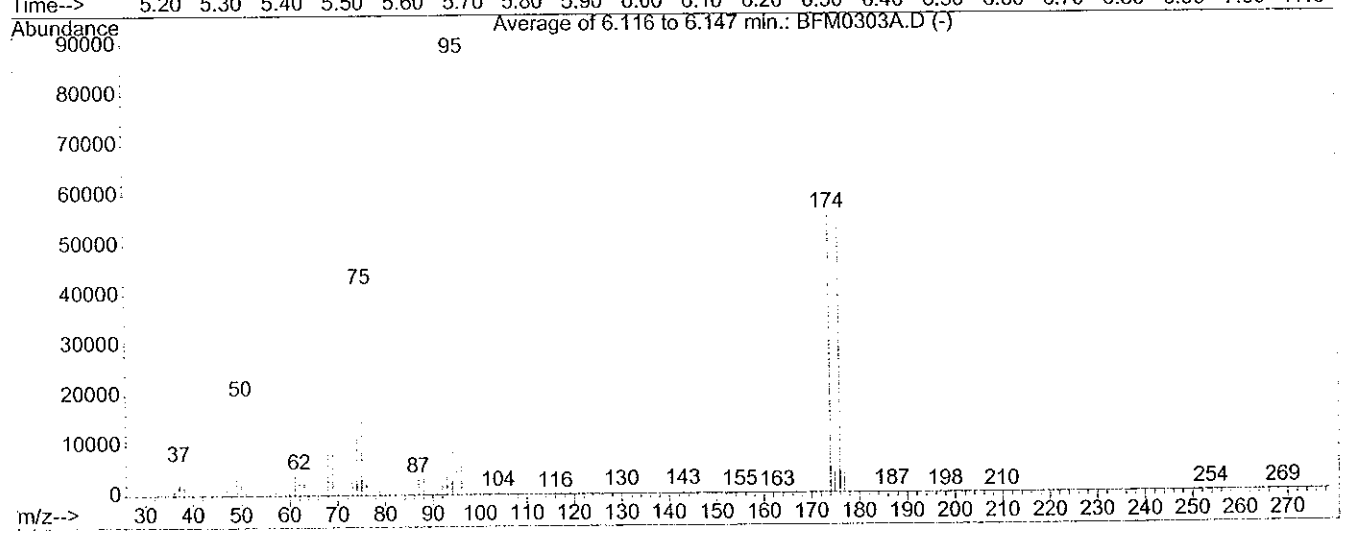
STL Pensacola
NAS Cecil Field, CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\BFM0303A.D Vial: 13
Acq On : 3 Mar 2002 10:51 am Operator: BDH
Sample : DAILY 12 HR. BFB TUNE 50ppb Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 39 (6.13 min)
Average of 3 scans: 38,39,40 minus background scan 19 (5.82 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	18769	PASS
75	95	30	60	47.3	41107	PASS
95	95	100	100	100.0	86937	PASS
96	95	5	9	6.6	5752	PASS
173	174	0	2	0.2	122	PASS
174	95	50	100	63.9	55568	PASS
175	174	5	9	7.6	4244	PASS
176	174	95	101	96.4	53581	PASS
177	176	5	9	7.3	3918	PASS

BFM0303A.D TO14S.M Mon Mar 04 10:17:30 2002

Average of 6.116 to 6.147 min.: BFM0303A.D
DAILY 12 HR. BFB TUNE 50ppb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	951	56.05	997	74.00	13426	94.05	8964
37.00	5759	57.05	2310	75.00	41107	95.00	86937
38.05	4564	59.90	570	76.05	3344	96.05	5752
39.05	1167	61.00	3981	78.95	2105	142.95	500
44.05	1275	62.00	4065	79.95	601	174.00	55568
45.00	859	63.00	2423	80.95	2055	174.95	4244
47.00	1351	68.00	8828	86.90	3235	176.00	53581
47.95	588	69.00	8627	88.00	3443	176.95	3918
49.00	3902	70.05	733	91.00	455		
50.00	18769	72.05	487	92.00	2122		
51.00	5435	73.05	3148	93.00	3627		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	64	0.00
2		Dichlorodifluoromethane	0.919	0.836	9.0#	59	0.00
3		Dichlorotetrafluoroethane	1.446	1.426	1.4	60	0.00
4	P	Chloromethane	0.788	0.761	3.4#	63	0.00
5	C	Vinyl chloride	0.727	0.794	-9.2#	67	0.00
6		Bromomethane	1.180	1.271	-7.7#	73	0.00
7		Chloroethane	0.530	0.560	-5.7#	67	0.00
8		Trichlorofluoromethane	1.261	1.406	-11.5#	65	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	2.006	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	1.064	1.119	-5.2#	67	0.00
11		Iodomethane	0.000	0.000	0.0	88	0.00
12		Methylene chloride	1.431	1.681	-17.5#	72	0.00
13		Carbon disulfide	2.862	3.227	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	1.551	1.531	1.3	60	0.00
15		trans-1,2-Dichloroethene	1.194	1.268	-6.2#	68	0.00
16		n-Hexane	1.089	1.114	-2.3#	64	0.00
17	P	1,1-Dichloroethane	1.944	2.184	-12.3#	71	0.00
18		cis-1,2-Dichloroethene	1.576	1.801	-14.3#	71	0.00
19	C	Chloroform	2.454	2.885	-17.6#	72	0.00
20		Isooctane	3.653	3.636	0.5	63	0.00
21		1,1,1-Trichloroethane	2.085	2.510	-20.4#	74	0.00
22		Carbon tetrachloride	2.195	2.630	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.275	-8.4#	65	0.00
24		1,2-Dichloroethane	1.321	1.484	-12.3#	66	0.00
25		1,2-Dibromoethane	2.124	1.974	7.1#	58	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	66	0.00
27	M	Benzene	0.733	0.756	-3.1#	68	0.00
28	M	Trichloroethene	0.407	0.420	-3.2#	67	0.00
29	C	1,2-Dichloropropane	0.310	0.315	-1.6#	65	0.00
30		Bromodichloromethane	0.755	0.837	-10.9#	69	0.00
31		cis-1,3-Dichloropropene	0.469	0.482	-2.8#	66	0.00
32	S	Toluene-d8 SURR#2	0.781	0.785	-0.5	66	0.00
33	MC	Toluene	0.463	0.477	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	63	0.00
35		1,1,2-Trichloroethane	0.322	0.294	8.7#	58	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	66	0.00
37		Tetrachloroethene	0.488	0.506	-3.7#	69	0.00
38		Dibromochloromethane	0.722	0.707	2.1#	63	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.370	-3.9#	67	0.00
41		m,p-Xylene	0.459	0.484	-5.4#	68	0.00
42		o-Xylene	0.439	0.457	-4.1#	67	0.00
43		Styrene	0.771	0.799	-3.6#	67	0.00
44	P	Bromoform	0.713	0.638	10.5#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.547	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.940	-5.5#	69	0.00
47		1,4-Dichloro-2-butene	0.130	0.103	20.8#	53	0.00
48		4-Ethyltoluene	1.157	1.183	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	0.912	1.010	-10.7#	74	0.00
50		2-Chlorotoluene	1.191	1.320	-10.8#	72	0.00
51		1,2,4-Trimethylbenzene	0.961	1.079	-12.3#	71	0.00
52		1,3-Dichlorobenzene	0.782	0.853	-9.1#	68	0.00
53		1,4-Dichlorobenzene	0.825	0.888	-7.6#	66	0.00
54		1,2-Dichlorobenzene	0.758	0.805	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	0.568	0.563	0.9	67	0.00
56		Napthalene	0.830	0.655	21.1#	59	0.00
57		Hexachlorobutadiene	0.495	0.479	3.2#	69	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	64	0.00
2		Dichlorodifluoromethane	250.000	224.673	10.1#	59	0.00
3		Dichlorotetrafluoroethane	250.000	246.587	1.4	60	0.00
4	P	Chloromethane	250.000	241.527	3.4#	63	0.00
5	C	Vinyl chloride	250.000	273.076	-9.2#	67	0.00
6		Bromomethane	250.000	269.315	-7.7#	73	0.00
7		Chloroethane	250.000	264.248	-5.7#	67	0.00
8		Trichlorofluoromethane	250.000	251.612	-0.6	65	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	268.436	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	250.000	262.946	-5.2#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	88	0.00
12		Methylene chloride	250.000	293.659	-17.5#	72	0.00
13		Carbon disulfide	250.000	281.884	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	250.000	246.862	1.3	60	0.00
15		trans-1,2-Dichloroethene	250.000	265.576	-6.2#	68	0.00
16		n-Hexane	250.000	255.897	-2.4#	64	0.00
17	P	1,1-Dichloroethane	250.000	280.905	-12.4#	71	0.00
18		cis-1,2-Dichloroethene	250.000	285.650	-14.3#	71	0.00
19	C	Chloroform	250.000	293.919	-17.6#	72	0.00
20		Isooctane	250.000	248.889	0.4	63	0.00
21		1,1,1-Trichloroethane	250.000	300.923	-20.4#	74	0.00
22		Carbon tetrachloride	250.000	299.520	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	270.911	-8.4#	65	0.00
24		1,2-Dichloroethane	250.000	280.993	-12.4#	66	0.00
25		1,2-Dibromoethane	250.000	232.391	7.0#	58	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	66	0.00
27	M	Benzene	250.000	257.648	-3.1#	68	0.00
28	M	Trichloroethene	250.000	257.939	-3.2#	67	0.00
29	C	1,2-Dichloropropane	250.000	253.578	-1.4#	65	0.00
30		Bromodichloromethane	250.000	277.120	-10.8#	69	0.00
31		cis-1,3-Dichloropropene	250.000	256.836	-2.7#	66	0.00
32	S	Toluene-d8 SURR#2	250.000	251.110	-0.4	66	0.00
33	MC	Toluene	250.000	257.474	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	250.000	249.704	0.1	63	0.00
35		1,1,2-Trichloroethane	250.000	227.818	8.9#	58	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	66	0.00
37		Tetrachloroethene	250.000	259.338	-3.7#	69	0.00
38		Dibromochloromethane	250.000	244.767	2.1#	63	0.00
39	MP	Chlorobenzene	250.000	260.650	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.362	-3.7#	67	0.00
41		m,p-Xylene	500.000	527.744	-5.5#	68	0.00
42		o-Xylene	250.000	260.466	-4.2#	67	0.00
43		Styrene	250.000	259.047	-3.6#	67	0.00
44	P	Bromoform	250.000	223.941	10.4#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	213.687	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	263.539	-5.4#	69	0.00
47		1,4-Dichloro-2-butene	250.000	196.857	21.3#	53	0.00
48		4-Ethyltoluene	250.000	255.621	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	250.000	277.012	-10.8#	74	0.00
50		2-Chlorotoluene	250.000	277.162	-10.9#	72	0.00
51		1,2,4-Trimethylbenzene	250.000	280.825	-12.3#	71	0.00
52		1,3-Dichlorobenzene	250.000	272.684	-9.1#	68	0.00
53		1,4-Dichlorobenzene	250.000	269.078	-7.6#	66	0.00
54		1,2-Dichlorobenzene	250.000	265.513	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	250.000	223.600	10.6#	67	0.00
56		Napthalene	250.000	190.533	23.8#	59	0.00
57		Hexachlorobutadiene	250.000	225.060	10.0#	69	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 13:00 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0302P\CM0302P.D (2 Mar 2002 12:44)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	515501	250.00	ng	0.00 92.02%
26) 1,4-Difluorobenzene IS#2	13.26	114	2074142	250.00	ng	0.00 94.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1597660	250.00	ng	0.02 95.10%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.45	65	657103	270.91	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.36%						
32) Toluene-d8 SURR#2	16.82	98	1627245	251.11	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.44%						
46) 4-Bromofluorobenzene SURR#	23.73	95	1501203	263.54	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.42%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.82	85	431126m	224.67	ng	# 100
3) Dichlorotetrafluoroethane	3.90	135	735033	246.59	ng	# 27
4) Chloromethane	4.16	50	392293	241.53	ng	96
5) Vinyl chloride	4.38	62	409550	273.08	ng	98
6) Bromomethane	5.22	94	655276	269.32	ng	95
7) Chloroethane	5.34	64	288525	264.25	ng	98
8) Trichlorofluoromethane	5.86	101	724571	251.61	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.66	151	1034148	268.44	ng	88
10) 1,1-Dichloroethene	7.04	96	576703	262.95	ng	98
12) Methylene chloride	7.95	49	866539	293.66	ng	93
13) Carbon disulfide	8.08	76	1663629	281.88	ng	99
14) methyl-Tert-Butyl Ether	8.25	73	789387	246.86	ng	# 93
15) trans-1,2-Dichloroethene	8.54	96	653855	265.58	ng	97
16) n-Hexane	8.67	57	574509	255.90	ng	# 1
17) 1,1-Dichloroethane	9.38	63	1125828	280.91	ng	99
18) cis-1,2-Dichloroethene	10.62	61	928372	285.65	ng	97
19) Chloroform	10.95	83	1487230	293.92	ng	97
20) Isooctane	11.93	57	1874600	248.89	ng	98
21) 1,1,1-Trichloroethane	11.83	97	1293717	300.92	ng	93
22) Carbon tetrachloride	12.39	117	1355547	299.52	ng	97
24) 1,2-Dichloroethane	12.66	62	765256	280.99	ng	99
25) 1,2-Dibromoethane	19.63	107	1017705	232.39	ng	99
27) Benzene	12.73	78	1567477	257.65	ng	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 13:00 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.05	130	871661	257.94 ng		97
29)	1,2-Dichloropropane	14.44	63	652667	253.58 ng	#	91
30)	Bromodichloromethane	14.98	83	1735176	277.12 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	1000221	256.84 ng	#	90
33)	Toluene	17.02	92	989327	257.47 ng		97
34)	trans-1,3-Dichloropropene	17.38	75	832144	249.70 ng	#	88
35)	1,1,2-Trichloroethane	17.78	97	608919	227.82 ng		96
37)	Tetrachloroethene	18.62	164	808051	259.34 ng		98
38)	Dibromochloromethane	19.11	127	1129173	244.77 ng		99
39)	Chlorobenzene	20.68	112	1484323	260.65 ng		97
40)	Ethylbenzene	20.78	106	590725	259.36 ng		99
41)	m,p-Xylene	20.98	106	1547947	527.74 ng		98
42)	o-Xylene	22.11	106	730304	260.47 ng		98
43)	Styrene	22.20	104	1275732	259.05 ng		98
44)	Bromoform	23.14	173	1019694	223.94 ng		99
45)	1,1,2,2-Tetrachloroethane	23.46	83	873574	213.69 ng		99
47)	1,4-Dichloro-2-butene	23.12	75	163981	196.86 ng		100
48)	4-Ethyltoluene	24.39	105	1890237	255.62 ng		99
49)	1,3,5-Trimethylbenzene	24.50	105	1614423	277.01 ng		91
50)	2-Chlorotoluene	24.59	91	2109272	277.16 ng		98
51)	1,2,4-Trimethylbenzene	25.45	105	1724318	280.82 ng		100
52)	1,3-Dichlorobenzene	26.36	146	1362242	272.68 ng		97
53)	1,4-Dichlorobenzene	26.58	146	1418088	269.08 ng		97
54)	1,2-Dichlorobenzene	27.34	146	1286835	265.51 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	898942	223.60 ng		100
56)	Napthalene	31.05	128	1047059	190.53 ng	#	92
57)	Hexachlorobutadiene	30.76	225	765220	225.06 ng		100

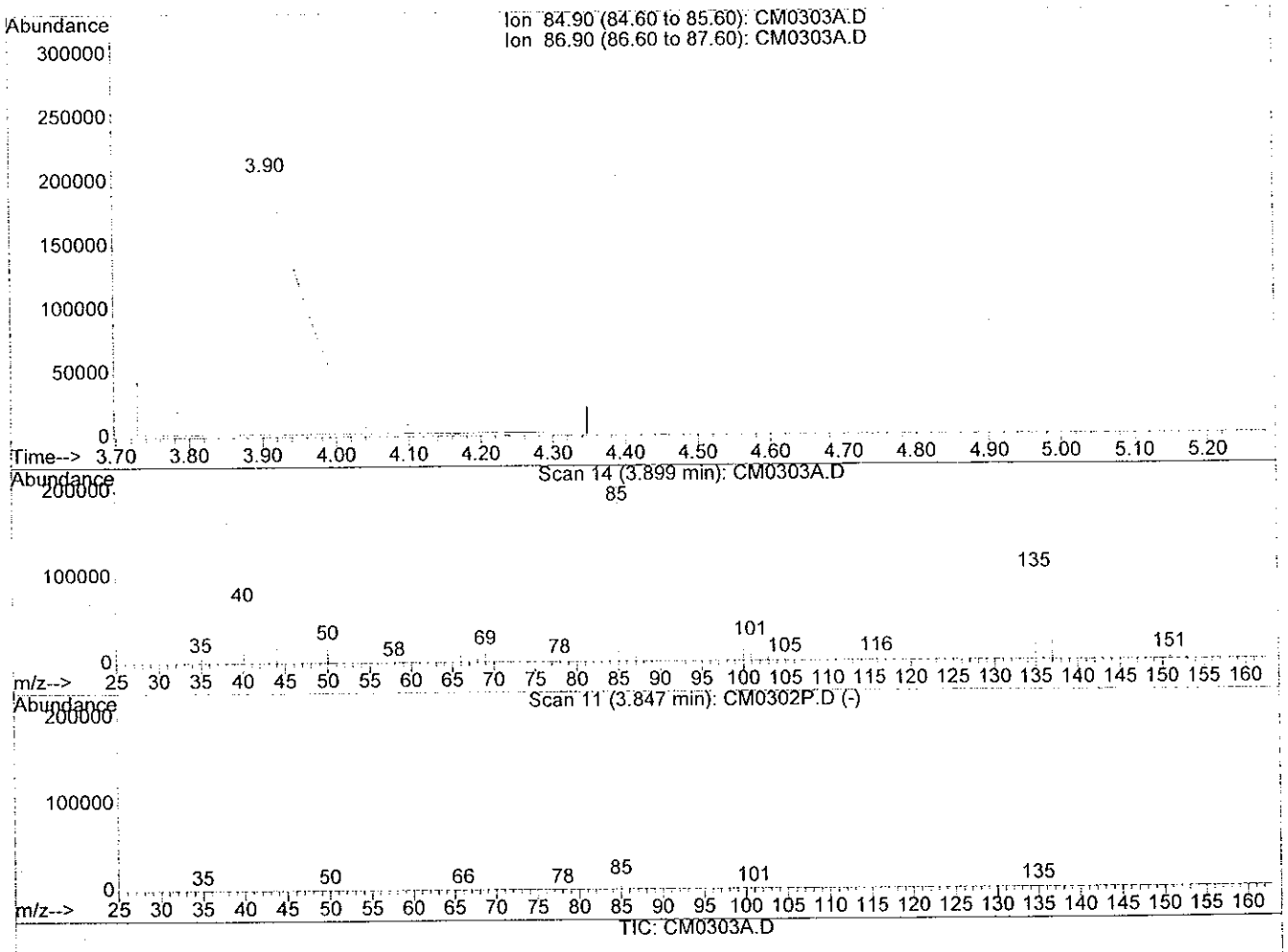
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.90min 1063.69ng

response 1892350

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.39
0.00	0.00	0.00
0.00	0.00	0.00

Defaul (mis-int.-coeluting)

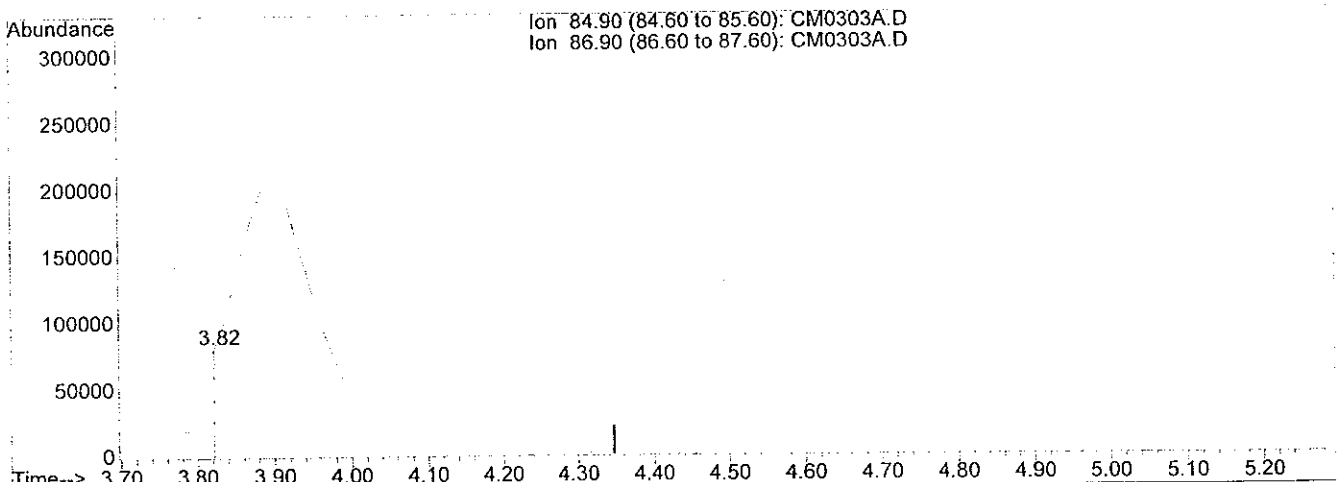
CM0303A.D TO14S.M Sun Mar 03 13:00:35 2002

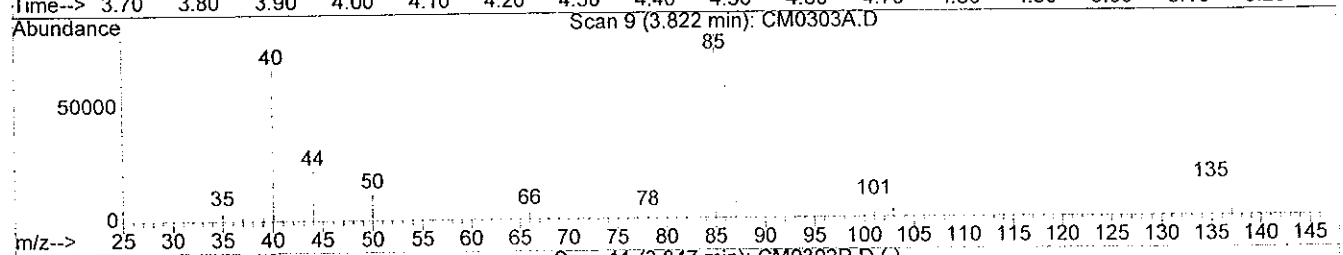
Quantitation Report (Qedit)

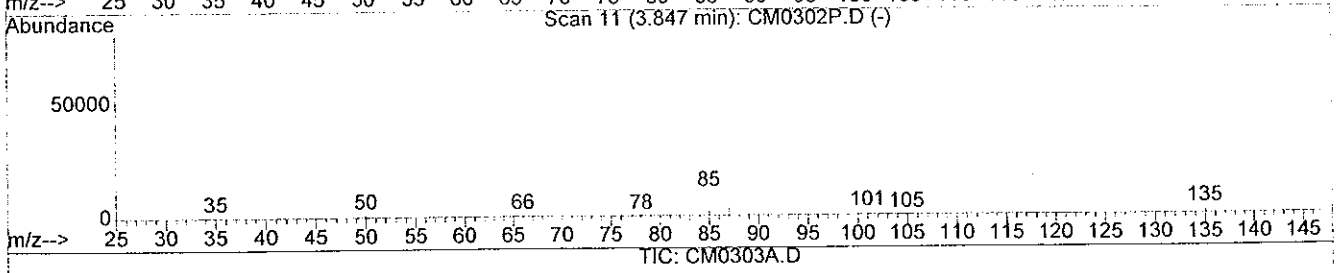
Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 13:00 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

3.82min 224.67ng m

response 431126

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.54#
0.00	0.00	0.00
0.00	0.00	0.00

3/3/02

CM0303A.D TO14S.M Sun Mar 03 13:00:53 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0302P\CM0302P.D (2 Mar 2002 12:44)

Original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	515501	250.00	ng	0.00 92.02%
26) 1,4-Difluorobenzene IS#2	13.26	114	2074142	250.00	ng	0.00 94.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1597660	250.00	ng	0.02 95.10%

ng wet

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.45	65	657103	270.91	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.36%						
32) Toluene-d8 SURR#2	16.82	98	1627245	251.11	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.44%						
46) 4-Bromofluorobenzene SURR#	23.73	95	1501203	263.54	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.42%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.90	85	1892350	1063.69	ng	100
3) Dichlorotetrafluoroethane	3.90	135	735033	246.59	ng #	27
4) Chloromethane	4.16	50	392293	241.53	ng	96
5) Vinyl chloride	4.38	62	409550	273.08	ng	98
6) Bromomethane	5.22	94	655276	269.32	ng	95
7) Chloroethane	5.34	64	288525	264.25	ng	98
8) Trichlorofluoromethane	5.86	101	724571	251.61	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.66	151	1034148	268.44	ng	88
10) 1,1-Dichloroethene	7.04	96	576703	262.95	ng	98
12) Methylene chloride	7.95	49	866539	293.66	ng	93
13) Carbon disulfide	8.08	76	1663629	281.88	ng	99
14) methyl-Tert-Butyl Ether	8.25	73	789387	246.86	ng #	93
15) trans-1,2-Dichloroethene	8.54	96	653855	265.58	ng	97
16) n-Hexane	8.67	57	574509	255.90	ng #	1
17) 1,1-Dichloroethane	9.38	63	1125828	280.91	ng	99
18) cis-1,2-Dichloroethene	10.62	61	928372	285.65	ng	97
19) Chloroform	10.95	83	1487230	293.92	ng	97
20) Isooctane	11.93	57	1874600	248.89	ng	98
21) 1,1,1-Trichloroethane	11.83	97	1293717	300.92	ng	93
22) Carbon tetrachloride	12.39	117	1355547	299.52	ng	97
24) 1,2-Dichloroethane	12.66	62	765256	280.99	ng	99
25) 1,2-Dibromoethane	19.63	107	1017705	232.39	ng	99
27) Benzene	12.73	78	1567477	257.65	ng	99

(#) = qualifier out of range (m) = manual integration
CM0303A.D TO14S.M Sun Mar 03 11:44:10 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.05	130	871661	257.94 ng		97
29) 1,2-Dichloropropane	14.44	63	652667	253.58 ng	#	91
30) Bromodichloromethane	14.98	83	1735176	277.12 ng		99
31) cis-1,3-Dichloropropene	16.20	75	1000221	256.84 ng	#	90
33) Toluene	17.02	92	989327	257.47 ng		97
34) trans-1,3-Dichloropropene	17.38	75	832144	249.70 ng	#	88
35) 1,1,2-Trichloroethane	17.78	97	608919	227.82 ng		96
37) Tetrachloroethene	18.62	164	808051	259.34 ng		98
38) Dibromochloromethane	19.11	127	1129173	244.77 ng		99
39) Chlorobenzene	20.68	112	1484323	260.65 ng		97
40) Ethylbenzene	20.78	106	590725	259.36 ng		99
41) m,p-Xylene	20.98	106	1547947	527.74 ng		98
42) o-Xylene	22.11	106	730304	260.47 ng		98
43) Styrene	22.20	104	1275732	259.05 ng		98
44) Bromoform	23.14	173	1019694	223.94 ng		99
45) 1,1,2,2-Tetrachloroethane	23.46	83	873574	213.69 ng		99
47) 1,4-Dichloro-2-butene	23.12	75	163981	196.86 ng		100
48) 4-Ethyltoluene	24.39	105	1890237	255.62 ng		99
49) 1,3,5-Trimethylbenzene	24.50	105	1614423	277.01 ng		91
50) 2-Chlorotoluene	24.59	91	2109272	277.16 ng		98
51) 1,2,4-Trimethylbenzene	25.45	105	1724318	280.82 ng		100
52) 1,3-Dichlorobenzene	26.36	146	1362242	272.68 ng		97
53) 1,4-Dichlorobenzene	26.58	146	1418088	269.08 ng		97
54) 1,2-Dichlorobenzene	27.34	146	1286835	265.51 ng		97
55) 1,2,4-Trichlorobenzene	30.51	180	898942	223.60 ng		100
56) Napthalene	31.05	128	1047059	190.53 ng	#	92
57) Hexachlorobutadiene	30.76	225	765220	225.06 ng		100

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

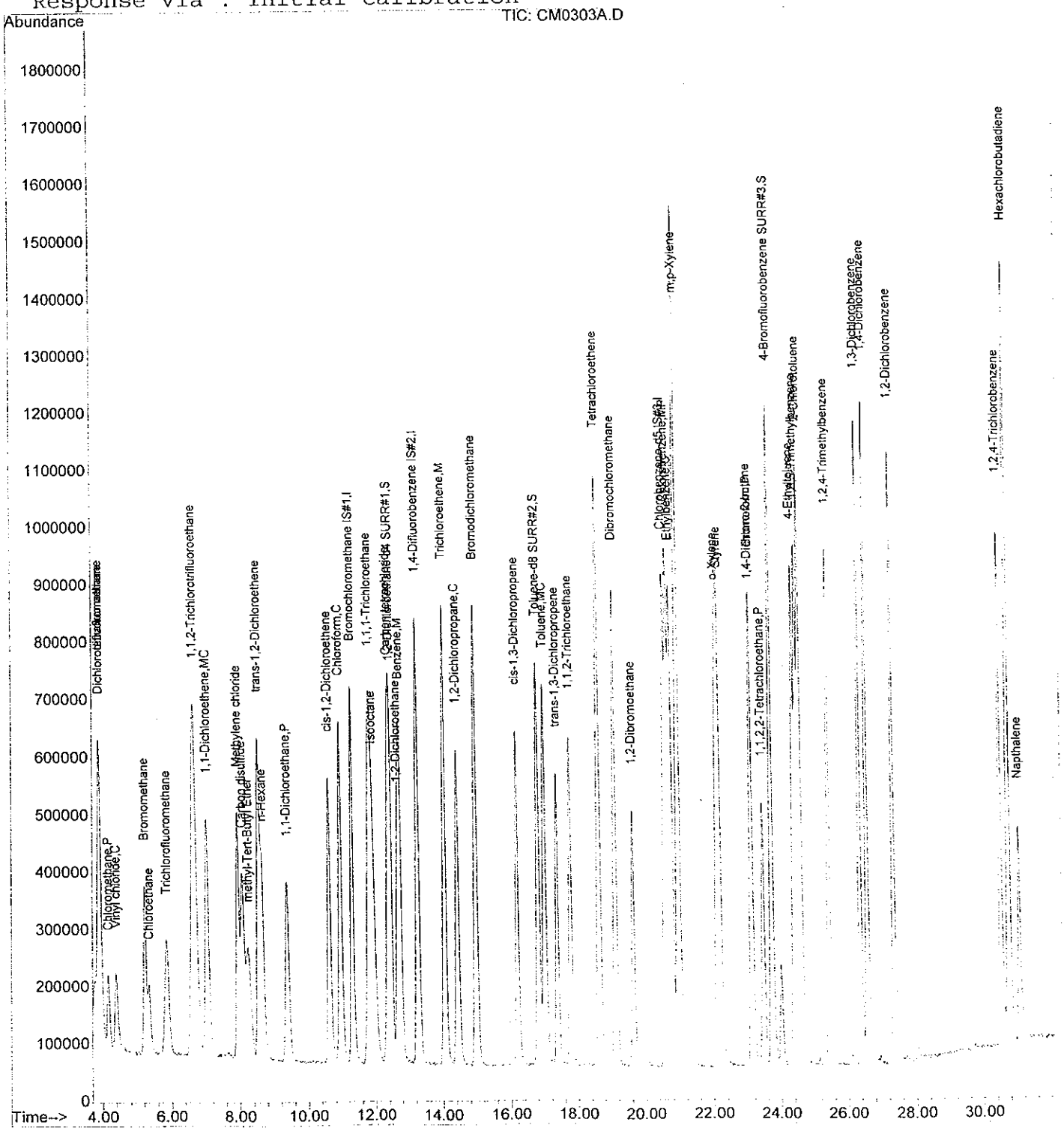
Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MAB41ABK.D Vial: 15
Acq On : 3 Mar 2002 12:01 pm Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK Multiplr: 0.002
MS Integration Params: rteint.p
Quant Time: Mar 4 10:33 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	526538	250.00 ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00 ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00 ng	0.00 101.60%

ng/m3 repeat

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	681882	275.23 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.09%		
32) Toluene-d8 SURR#2	16.83	98	1648473	247.40 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.96%		
46) 4-Bromofluorobenzene SURR#	23.72	95	1458091	251.93 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 100.77%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Mon Mar 04 10:34:08 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MAB41ABK.D
Acq On : 3 Mar 2002 12:01
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA41ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:05 2002

Vial: 15
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	123	526538	250.00	ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00	ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00	ng	0.00 101.60%

original ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR 12.48 65 681882 275.23 ng 0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.09%
32) Toluene-d8 SURR#2 16.83 98 1648473 247.40 ng 0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.96%
46) 4-Bromofluorobenzene SURR# 23.72 95 1458091 251.93 ng 0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.77%

Target Compounds

						Qvalue
56) Napthalene	31.05	128	5822	17.59	ng	# 64

NSF/NR

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Sun Mar 03 13:06:01 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MAB41ABK.D
Acq On : 3 Mar 2002 12:01
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA41ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:01 2002

Vial: 15
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	526538	250.00	ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00	ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00	ng	0.00 101.60%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	681882	275.23	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.09%			
32) Toluene-d8 SURR#2	16.83	98	1648473	247.40	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.96%			
46) 4-Bromofluorobenzene SURR#	23.72	95	1458091	251.93	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 100.77%			

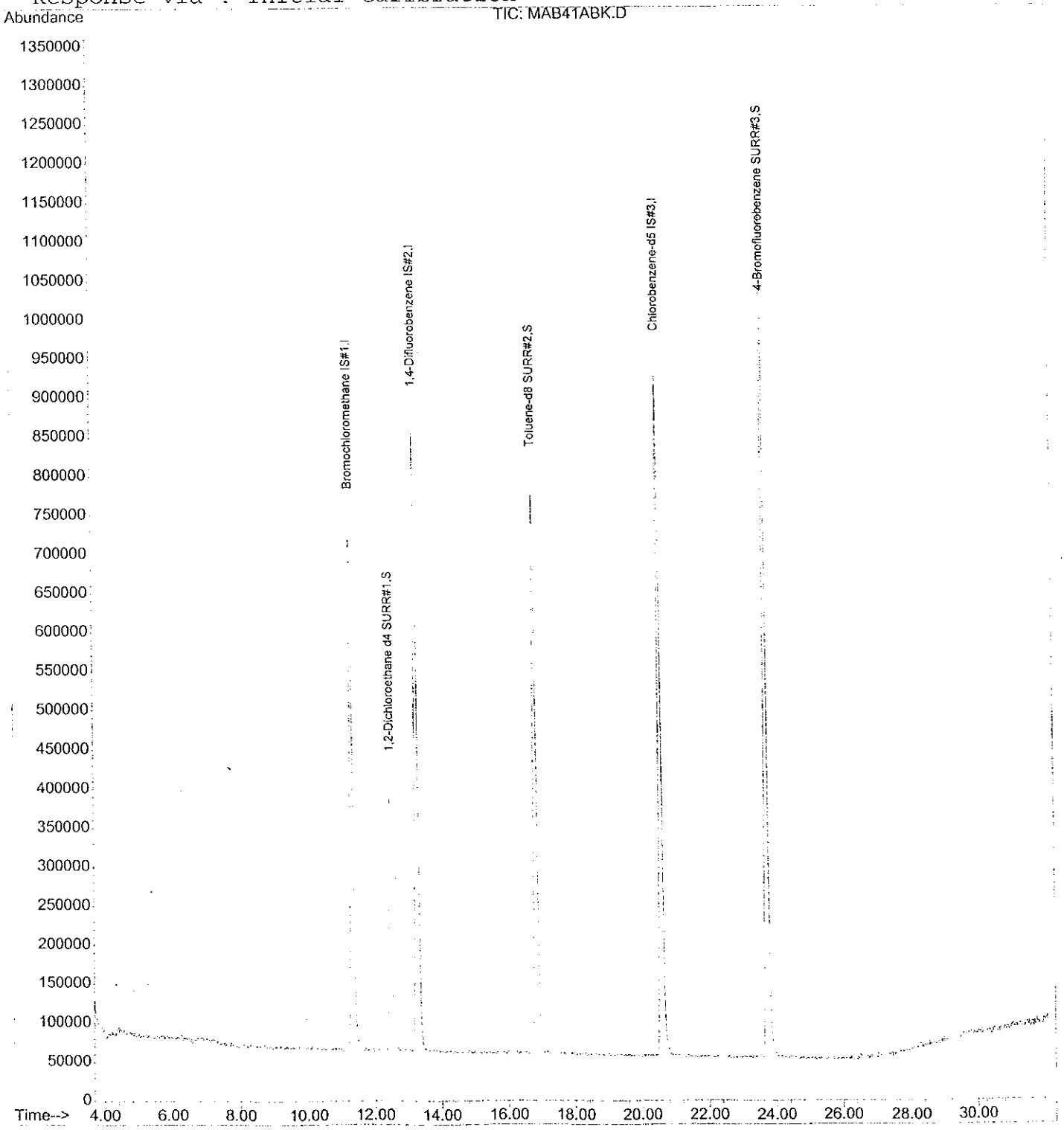
Target Compounds						Qvalue
4) Chloromethane	4.44	50	1985	1.20	ng	# 74
6) Bromomethane	5.21	94	954	0.38	ng	# 9
56) Napthalene NR/NSF	31.05	128	5822	17.59	ng	# 64

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Sun Mar 03 13:01:54 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MAB41ABK.D Vial: 15
Acq On : 3 Mar 2002 12:01 pm Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 4 10:33 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00	ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00	ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00	ng	0.01 110.99%

ng/m3

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.69%						
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.74%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.22%						

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.08	96	582367	0.50	ng	95
27) Benzene	12.78	78	1730003	0.50	ng	99
28) Trichloroethene	14.09	130	960148	0.50	ng	97
33) Toluene	17.03	92	1108632	0.51	ng	98
39) Chlorobenzene	20.69	112	1632478	0.52	ng	88

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MA041LCS.D
Acq On : 3 Mar 2002 12:35
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002

Vial: 16
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00 ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00 ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00 ng	0.01 110.99%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73 ng	0.04
Spiked Amount 250.000	Range 61 - 140		Recovery = 108.69%		
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86 ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.74%		
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.22%		

ng repeat

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.08	96	582367	248.84 ng	95
27) Benzene	12.78	78	1730003	249.19 ng	99
28) Trichloroethene	14.09	130	960148	248.98 ng	97
33) Toluene	17.03	92	1108632	252.84 ng	98
39) Chlorobenzene	20.69	112	1632478	258.28 ng	88

(#) = qualifier out of range (m) = manual integration
MA041LCS.D TO14S.M Sun Mar 03 13:18:39 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MA041LCS.D
Acq On : 3 Mar 2002 12:35
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Mar 3 13:08 2002

Vial: 16
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00	ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00	ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00	ng	0.01 110.99%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.69%						
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.74%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.22%						

Target Compounds

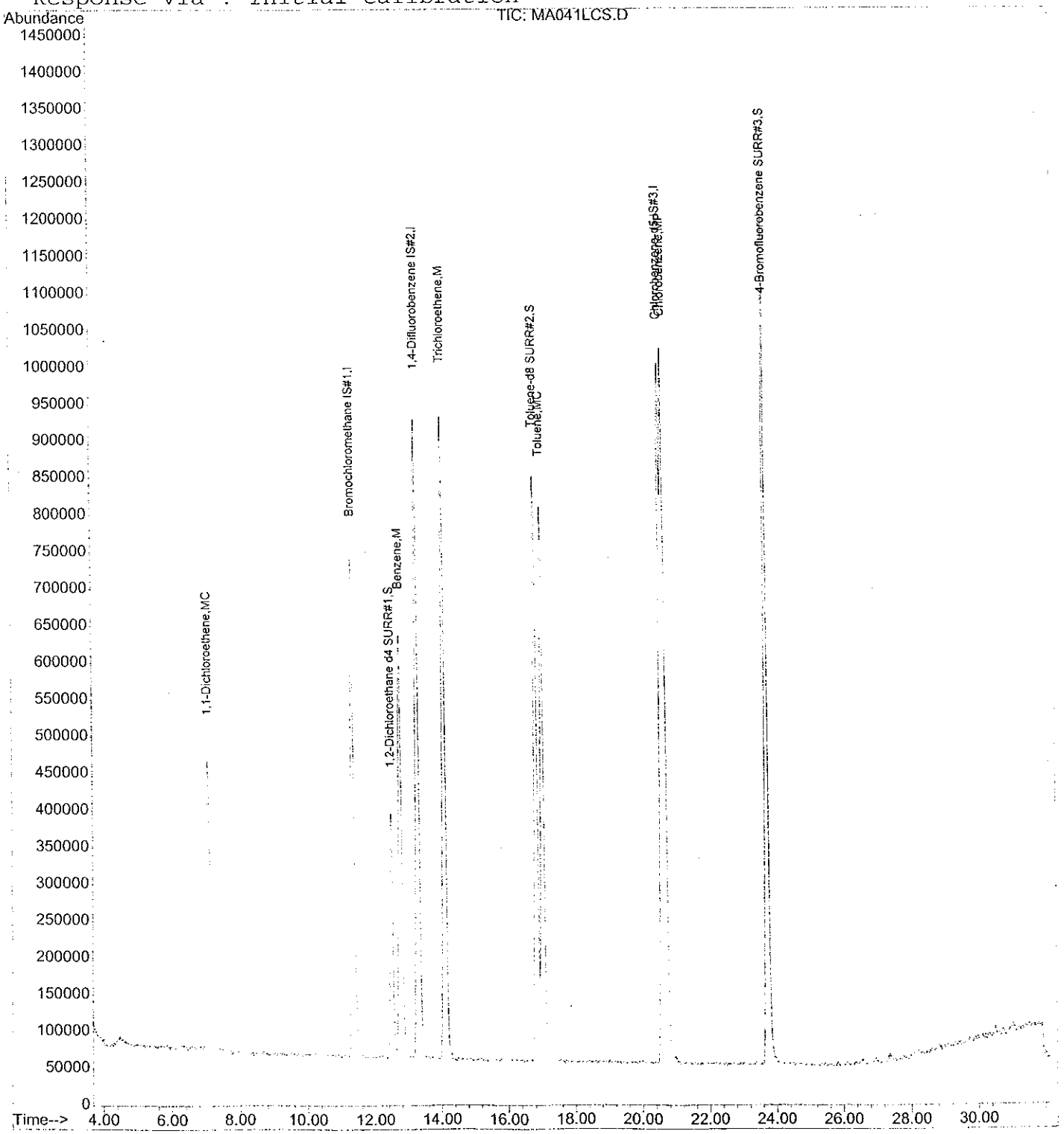
						Qvalue
4) Chloromethane	4.42	50	4177	2.41	ng	# 77
6) Bromomethane	5.23	94	1048	0.40	ng	# 9
10) 1,1-Dichloroethene	7.08	96	582367	248.84	ng	95
13) Carbon disulfide	8.15	76	1080	0.17	ng	# 1
16) n-Hexane	8.71	57	1995	0.83	ng	# 85
24) 1,2-Dichloroethane	12.78	62	15603	5.37	ng	# 49
27) Benzene	12.78	78	1730003	249.19	ng	99
28) Trichloroethene	14.09	130	960148	248.98	ng	97
33) Toluene	17.03	92	1108632	252.84	ng	98
34) trans-1,3-Dichloropropene	17.04	75	7578	1.99	ng	# 1
39) Chlorobenzene	20.69	112	1632478	258.28	ng	88
41) m,p-Xylene	20.97	106	3230	0.99	ng	# 36
48) 4-Ethyltoluene	24.50	105	4541	0.55	ng	# 46
49) 1,3,5-Trimethylbenzene	24.50	105	4541	0.70	ng	# 30
50) 2-Chlorotoluene	24.61	91	8268	0.98	ng	# 47
51) 1,2,4-Trimethylbenzene	25.43	105	5344	0.78	ng	# 31
52) 1,3-Dichlorobenzene	26.38	146	6692	1.21	ng	# 52
53) 1,4-Dichlorobenzene	26.59	146	6500	1.11	ng	# 49
54) 1,2-Dichlorobenzene	27.32	146	5762	1.07	ng	# 36
55) 1,2,4-Trichlorobenzene	30.51	180	8323	29.39	ng	# 79
56) Napthalene	31.03	128	13437	18.59	ng	# 64
57) Hexachlorobutadiene	30.75	225	7121	22.67	ng	# 79

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025361.D
Acq On : 3 Mar 2002 13:09
Sample : 063SVEEA02190221\ 02536-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:07 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	464286	250.00	ng	0.03 90.07%
26) 1,4-Difluorobenzene IS#2	13.28	114	1807939	250.00	ng	0.02 87.17%
36) Chlorobenzene-d5 IS#3	20.59	117	1399239	250.00	ng	0.02 87.58%

mg/m3 repeat

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR 12.49 65 607793 278.22 ng 0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.29%
32) Toluene-d8 SURR#2 16.83 98 1415072 250.52 ng 0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.21%
46) 4-Bromofluorobenzene SURR# 23.71 95 1283213 257.22 ng -0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.89%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
025361.D TO14S.M Sun Mar 03 14:07:45 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025361.D
Acq On : 3 Mar 2002 13:09
Sample : 063SVEEA02190221\ 02536-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:41 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	464286	250.00	ng	0.03 90.07%
26) 1,4-Difluorobenzene IS#2	13.28	114	1807939	250.00	ng	0.02 87.17%
36) Chlorobenzene-d5 IS#3	20.59	117	1399239	250.00	ng	0.02 87.58%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	607793	278.22	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.29%						
32) Toluene-d8 SURR#2	16.83	98	1415072	250.52	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.21%						
46) 4-Bromofluorobenzene SURR#	23.71	95	1283213	257.22	ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.89%						

Target Compounds

						Qvalue
6) Bromomethane	5.19	94	2106	0.96	ng #	9
10) 1,1-Dichloroethene	7.05	96	1025	0.52	ng #	1
51) 1,2,4-Trimethylbenzene	25.43	105	9045	1.68	ng #	48

<RL/NSF

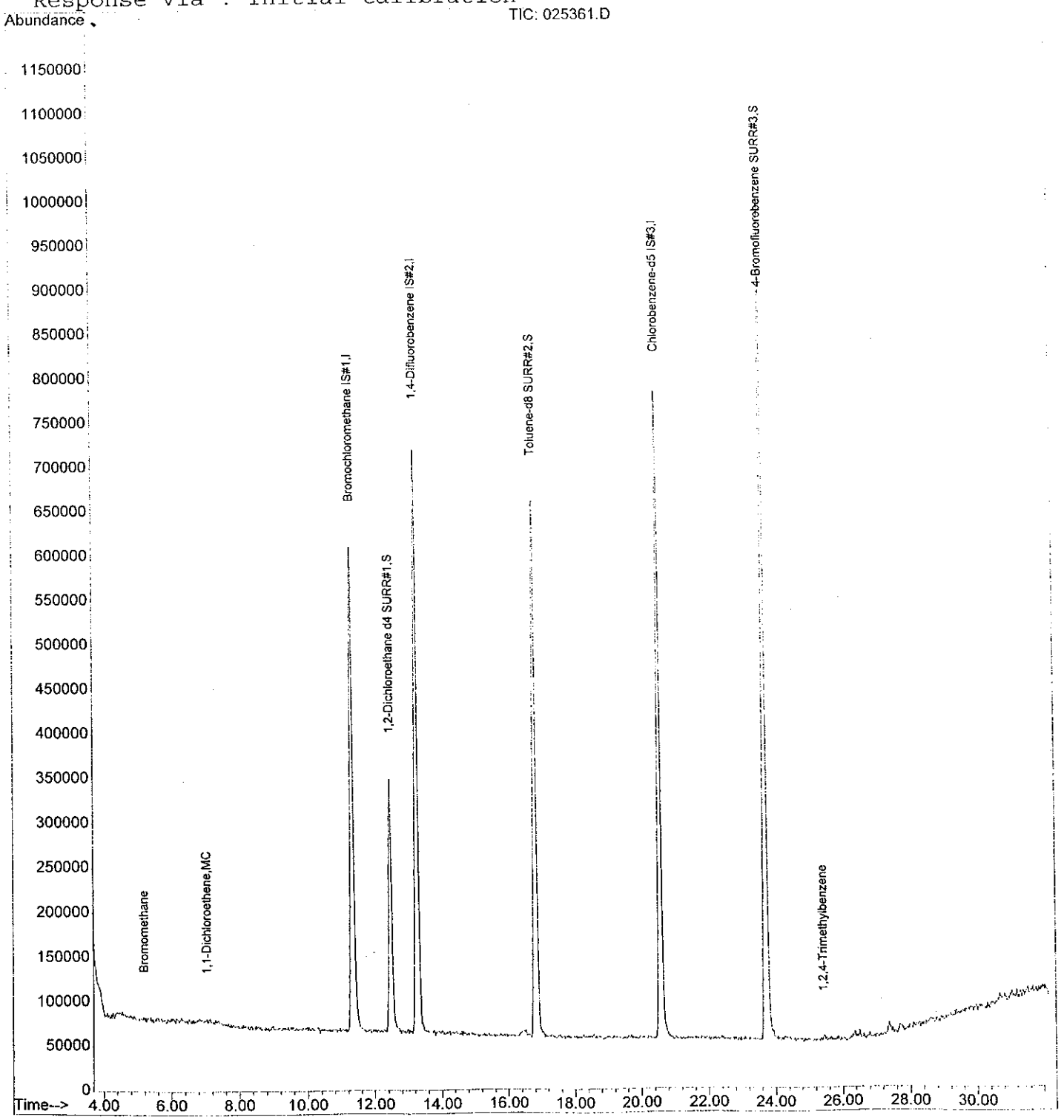
(#) = qualifier out of range (m) = manual integration
025361.D TO14S.M Sun Mar 03 13:41:31 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025361.D
Acq On : 3 Mar 2002 13:09
Sample : 063SVEEA02190221\ 02536-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:41 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration



STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW 32. 1
Location: [illegible] Std Fridge
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	1/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 8 H 2/5/02

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX-B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-VN2-21 (IS)~~						
~~8-VN3-1 (5~~						
8-VN3-7	LA97780	5-7-02	2000µg/ml	500µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/22/01

Sol. Name: ASAHIKLIN AK-225 Stock
Date: 12-28-01
Analyst: LAM

Standard I.D.: 8 -MSW30-3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/18/02	1000 000	100	10	10 000

Comments: exp 6/28/02

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW 26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: T014 IS/SURR
Date: 10-12-01
Analyst: [illegible]

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50uls	25ppm
7-VN-2-16	A012364	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DKJ 5/18/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKJ 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DKJ 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKJ 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 (2nd Source) mixture	M0219	Ultra	2000 ug/ml	3/2000	~~LAD~~ ~~BH~~ 7/24/98	7-VN 2-9
8260 SURR	A11795	Restek	2500 µg/ml	8/2001	DKJ 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKJ 10/6/98	7-VN 2-11
Matrix Spike	LA76220	Supleco	25 µg/ml	8/2000	DKJ 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DKJ 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKJ 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/02/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090042-OB	Accustandard	200.1 µg/ml	9/99	DKJ 1/09/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKJ 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKJ 3/9/99	7-VN 2-19
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	DKJ 3/10/99	7-VN 2-20
8260 Calibrate Kit	Varies	Restek	Varies	6/2001	DKJ 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKJ 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DKJ 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKJ 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKJ 5/18/99	7-VN 2-25
~~Custom TO14 VOA Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DKJ 6/19/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	DKJ 6/21/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NAS Cecil Field, CTO 0063

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst Date Recd ~~DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA88367	Supelco	2000 µg/ml	4/2001	MG 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	MG 6/9/99	7 -VN 3 - 2	1
Custom Ketone	A014022	Restek	2000 µg/ml	7/2000	MG 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MG 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	[illegible] 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDH 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MG 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 date	DWB 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	P-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	P-VN 1-2
Iodomethane	LA83977	Supelco	2000 µg/ml	6/2000	2	P-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	P-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	P-VN 1-5
APIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	P-VN 1-9
8260 SurR	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	P-VN 1-12
Equity 8260 Keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	P-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	P-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	P-VN 1-15
Custom Keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	P-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	P-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	P-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	P-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	P-VN 1-20
Carbon Disulfide	LA8605	Supelco	5000	10/2002	1	P-VN 1-21
1&2-Methyl-Naphthalene	LA90422	Supelco	2000	5/10/2001	3	P-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	P-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	P-VN 1-24
Volatile Mix 6	LA88817	Supelco	2000	7/2001	2	P-VN 1-25
Tol-E Custom Mix	A90324	Supelco	2500 µg/ml	7/1/2001	6/13/03 4	8-VN 1-26
VOA Short List Spike Matrix	A89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

To be used as neat standard is to be kept after container is opened.

SEVERN TRENT SERVICES

STL Pensacola

REMIT TO: W4305 SEVERN TRENT LABORATORIES,INC. P.O. Box 7777, Philadelphia, PA 19175-4305

Client PO.No.: 2916

Project: CTO-0062, 103RD STREET MONTHLY AIR

Contract No.: CT0-0062

Invoice No: 400-11141

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Invoice Amount: $200.00

Invoice Date: 26 MAR 2002

Terms: Net 30 Days

Federal Tax ID NO: 23-2919996

CODE: CH2M-CONST-GA-C-30RH

LOG NO: C203330

INVOICE

ITEM	SAMPLE IDENTIFICATION	MTRX	QTY	CAT NO	ANALYSIS	UNIT PRICE	PRICE/SAMP	TOTAL
1	062-SVE-E-A-0311-02-22	AI	1		Volatile Organic Compounds in Air (TO-14)	$165.00	$165.00	165.00
2	Method Blank Lab Control Standard True Value Lab Control Standard Result Lab Control Standard % Recovery LCS Accuracy Control Limit (%R)	QC-A QC-A QC-A QC-A QC-A	5		Volatile Organic Compounds in Air (TO-14)			
	1 Other Charges			Summa Canisters (MI)		$35.00	$35.00	35.00

TOTAL $200.00

REPORTED TO Ms. Tatiana Romanova CUSTOMER PHONE: 7706049182

For Proper Credit, please show INVOICE NUMBER on your remittance.

After 30 days, service charges of 1.5% per 30 days will be applied to unpaid balance.

NAVY RAC PM

APR - 1

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 : Fax No (770) 604-9282

C20330

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-033

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0311-02-22	SVE Effluent	AIR	03/11/02	11:10	III/C	14 Day	1									Grab	Summa Canister	Olde
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7920 0004 8884.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	3/12/02	11:00	Federal Express	3/12/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon Sandra A Dixon	3/14/02	0935
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

CECIL FIELD, CTO-0062

STL Pensacola

10

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C203330
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field, 103rd Street

Client Sample ID	STL Sample ID
062-SVE-E-A-0311-02-22	C203330-1

The above-referenced samples were received in good condition at STL Pensacola on March 14, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes

Rick Hayes
Senior Project Manager

3/28/02

BAC PMO
APR - 1 2002

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
Reported: 26 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
03330-1	062-SVE-E-A-0311-02-22	03-11-02/11:10

PARAMETER	03330-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
Reported: 26 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, AIR SAMPLES	DATE/ TIME SAMPLED
03330-1	062-SVE-E-A-0311-02-22	03-11-02/11:10

PARAMETER	03330-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060UR2
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.06
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	100 %
Surrogate - Toluene-d8	99 %
Surrogate - 4-Bromofluorobenzene	98 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
Reported: 26 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, AIR SAMPLES	DATE/ TIME SAMPLED
03330-1	062-SVE-E-A-0311-02-22	03-11-02/11:10

PARAMETER	03330-1
Dilution Factor	1
Prep Date	03.21.02
Prep Time	14:04
Analysis Date	03.02.02
Analysis Time	14:17
Batch ID	MAB054
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
Reported: 26 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03330-2	Method Blank	
03330-3	Lab Control Standard True Value	
03330-4	Lab Control Standard Result	
03330-5	Lab Control Standard % Recovery	
03330-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03330-2	03330-3	03330-4	03330-5	03330-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5063	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5276	106 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03330-2	Method Blank	
03330-3	Lab Control Standard True Value	
03330-4	Lab Control Standard Result	
03330-5	Lab Control Standard % Recovery	
03330-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03330-2	03330-3	03330-4	03330-5	03330-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4421	88 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5203	104 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
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CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION	DATE/ TIME SAMPLED
03330-2	Method Blank	
03330-3	Lab Control Standard True Value	
03330-4	Lab Control Standard Result	
03330-5	Lab Control Standard % Recovery	
03330-6	LCS Accuracy Control Limit (%R)	

QC REPORT FOR AIR SAMPLES

PARAMETER	03330-2	03330-3	03330-4	03330-5	03330-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4966	99 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	114 %	0.5000	0.5752	115 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5105	102 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.5027	101 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	03.21.02	---	03.21.02	---	---
Prep Time	10:11	---	10:48	---	---
Analysis Date	03.21.02	---	03.21.02	---	---
Analysis Time	10:24	---	11:01	---	---
Batch ID	MAB054	MAB054	MAB054	MAB054	MAB054
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03330
Received: 14 MAR 02
Reported: 26 MAR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03330-2	Method Blank	
03330-3	Lab Control Standard True Value	
03330-4	Lab Control Standard Result	
03330-5	Lab Control Standard % Recovery	
03330-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03330-2	03330-3	03330-4	03330-5	03330-6

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.
See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: L203330 Date Received: 3-14-02

1. Was there a Chain of Custody? (Yes) No*
2. Was Chain of Custody properly filled out and relinquished? (Yes) No*
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No* (N/A)
4. Were all samples properly labeled and identified? (Yes) No*
5. Did samples require splitting or compositing♦? Yes* (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No*
7. Were all sample containers received intact? (Yes) No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No* (N/A)
9. Is there sufficient volume for analysis requested? Yes No* (N/A) (Can)
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* (No) N/A
12. If sent, were matrix spike bottles returned? Yes No* (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No* (N/A)

Airbill Number(s): 7920 0004 8884

Shipped By: Fed EX

Cooler Number(s): B04

Shipping Charges: N/A

Cooler Weight(s): 16 #

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 3-14-02 Logged By: [illegible] Date: 3-14-02

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 11MAR02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7920 0004 8884 FORM 0201

WED
AA
Deliver by:
13MAR02

BFM

32514-FL-US **F3 PNSA**

C20333

11
STL Pensacola

CECIL FIELD, CTO-0062

Attach one file Label here

CH2M-CONST-GA C203330
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: JC
Labeled by: SAD
Delivered by: SAD

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	0	1			
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags are limited to X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

California Department of Health Services, NELAP Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL). Extension granted

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, NELAP Laboratory ID No. 250501 (Wastewater), expires 08/16/02

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

New York State Department of Health, NELAP Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 203330
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Mar. 14, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0311-02-22	203330-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Mar. 25, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Project : NA Site : NA
Lab File ID (Standard): CM0321A.D
Instrument ID : MARILYN
GC Column : CAP ID : MARI
Level :

Contract : NA
Location : NA Group : NA
Date Analyzed : 21 Mar 2002
Time Analyzed : 9:27 am
Heated Purge (Y:N) : N

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
33301	062SVEEA0311022	100	99	98	0	0	0	0
MAB54ABK	VBLKMA\ DAILY M	114	99	99	0	0	0	0
MAB54LCS	VLCSMA\ BATCH #	115	102	101	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

TO-14 NG-MG/M3 CONVERSION

order # 203330

Batch MAB054

	Actual ng result	Sample #	3 mg/m3 TRUE	4 mg/m3 RESULT	5 % REC	6 rec limit
Benzene	253.17		0.5000	0.5063	101%	87-116%
Chlorobenzene	263.8		0.5000	0.5276	106%	88-111%
1,1-Dichloroethene	221.03		0.5000	0.4421	88%	58-138%
Toluene	260.14		0.5000	0.5203	104%	86-113%
Trichloroethene	248.3		0.5000	0.4966	99%	85-116%
1,2-Dichloroethane-d4	287.6		0.5000	0.5752	115%	61-140%
Toluene-d8	255.23		0.5000	0.5105	102%	90-109%
4-Bromofluorobenzene	251.34		0.5000	0.5027	101%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Mar 25 23:12:17 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	221.03	250.00	88.41	58 to 138%	[ ]
27)	M	Benzene	253.17	250.00	101.27	87 to 116%	[ ]
28)	M	Trichloroethene	248.30	250.00	99.32	85 to 116%	[ ]
33)	MC	Toluene	260.14	250.00	104.06	86 to 113%	[ ]
39)	MP	Chlorobenzene	263.80	250.00	105.52	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203330

Lab File ID: MAB54ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 3/21/02 Time Analyzed: 10:24

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #054 L	MAB54LCS.D	11:01
02	SVEEA	062SVEEA03110222\333	33301.D	14:17

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203330

Lab File ID: CM0125A.D BFB Injection Date: 1/25/02

Instrument ID: MARILYN BFB Injection Time: 11:34

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	43.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.4
175	4.0 - 9.0% of mass 174	4.9 (6.9)1
176	93.0 - 101.0% of mass 174	68.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0250	VSTD0250 250NG	0250M125.D	1/25/02	14:33
02	VSTD0500	VSTD0500 500NG	0500M125.D	1/25/02	15:09
03	VSTD1000	VSTD1000 1000NG	1000M125.D	1/25/02	15:46
04	VSTD1500	VSTD1500 1500NG	1500M125.D	1/25/02	16:24
05	VSTD0025	VSTD0025 25NG	0025R125.D	1/25/02	17:43
06	VSTD0100	VSTD0100 100NG	0100R125.D	1/25/02	18:20

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203330

Lab File ID: BFM0321A.D BFB Injection Date: 3/21/02

Instrument ID: MARILYN BFB Injection Time: 9:06

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.8
75	30.0 - 66.0% of mass 95	46.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.7
175	4.0 - 9.0% of mass 174	4.9 (7.7)1
176	93.0 - 101.0% of mass 174	62.6 (98.2)1
177	5.0 - 9.0% of mass 176	4.0 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0321A.D	3/21/02	9:27
02	VBLKMA	VBLKMA\ DAILY METHO	MAB54ABK.D	3/21/02	10:24
03	LCS AND 2ND	VLCSMA\ BATCH #054 L	MAB54LCS.D	3/21/02	11:01
04	SVEEA	062SVEEA03110222\333	33301.D	3/21/02	14:17

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

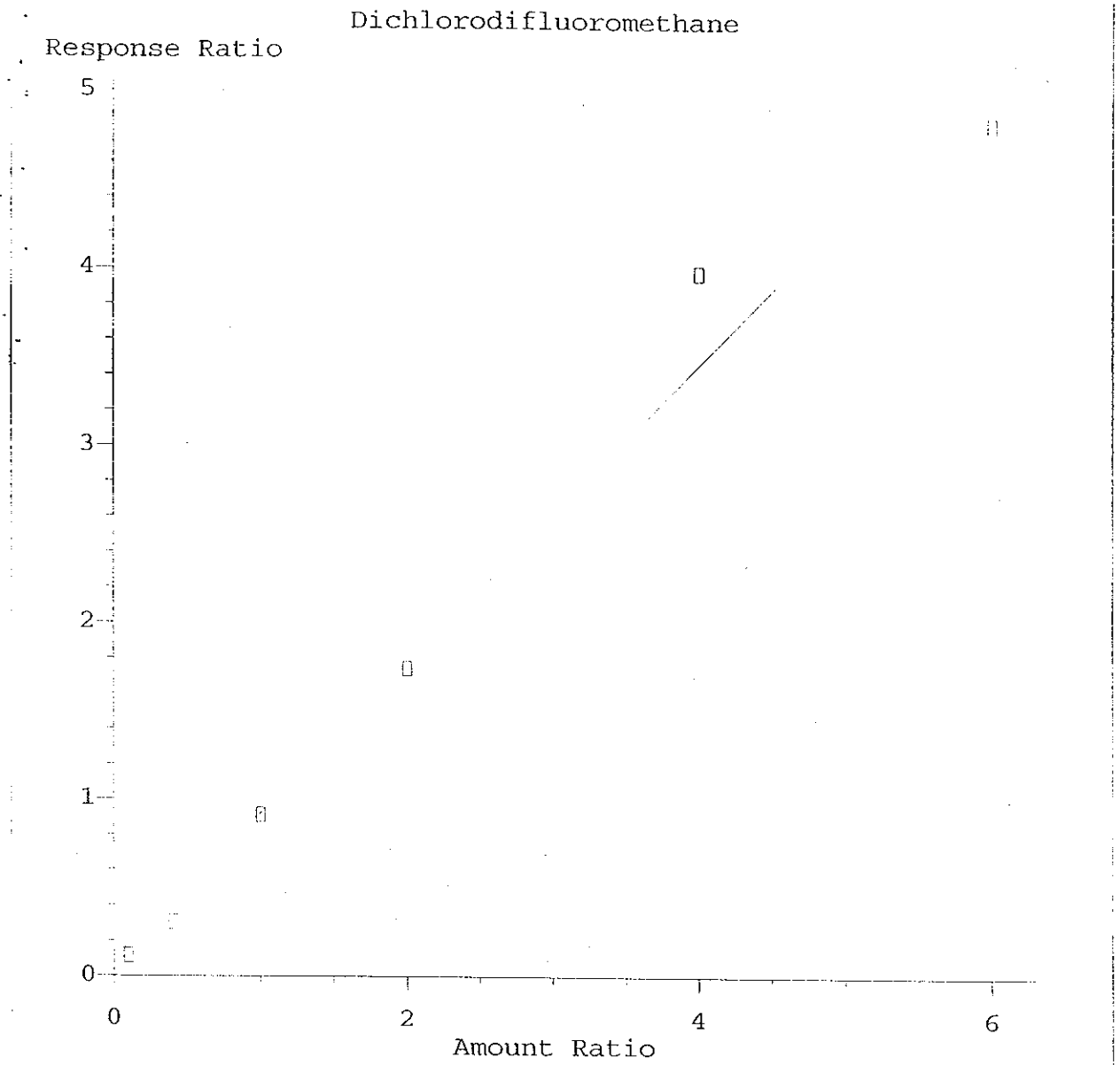
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrat
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

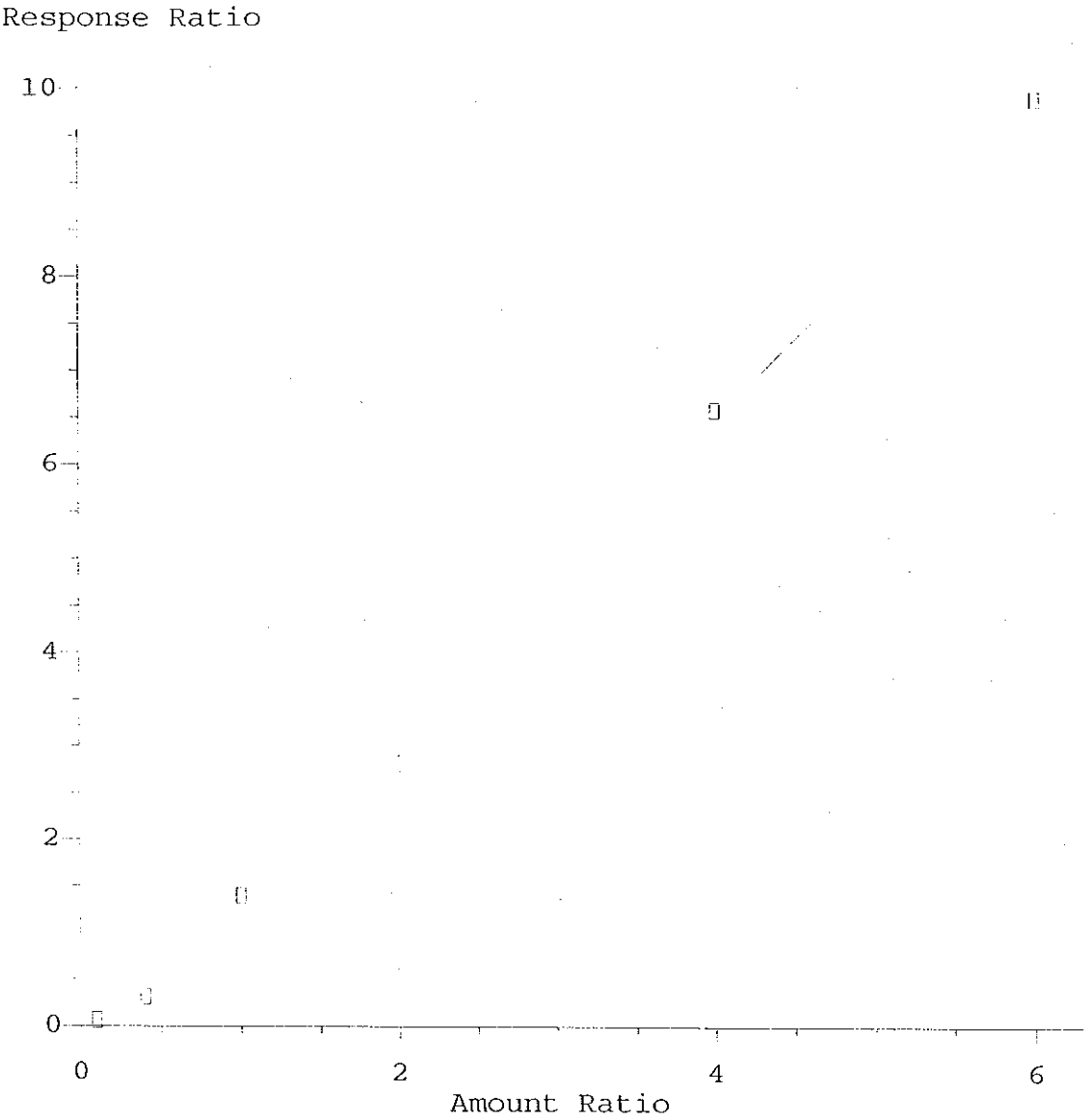
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Mon Mar 25 22:55:07 2002



Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

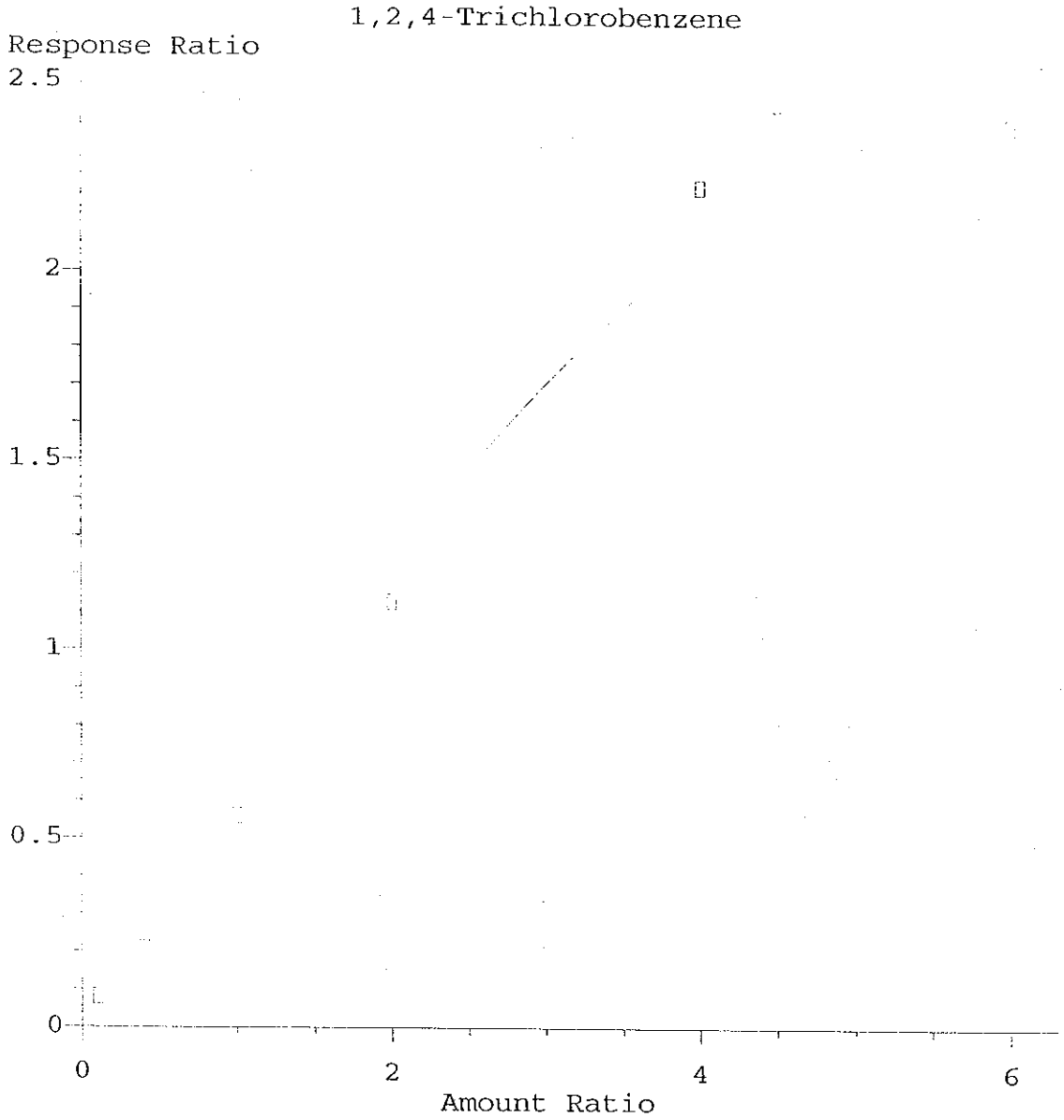
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002

Trichlorofluoromethane



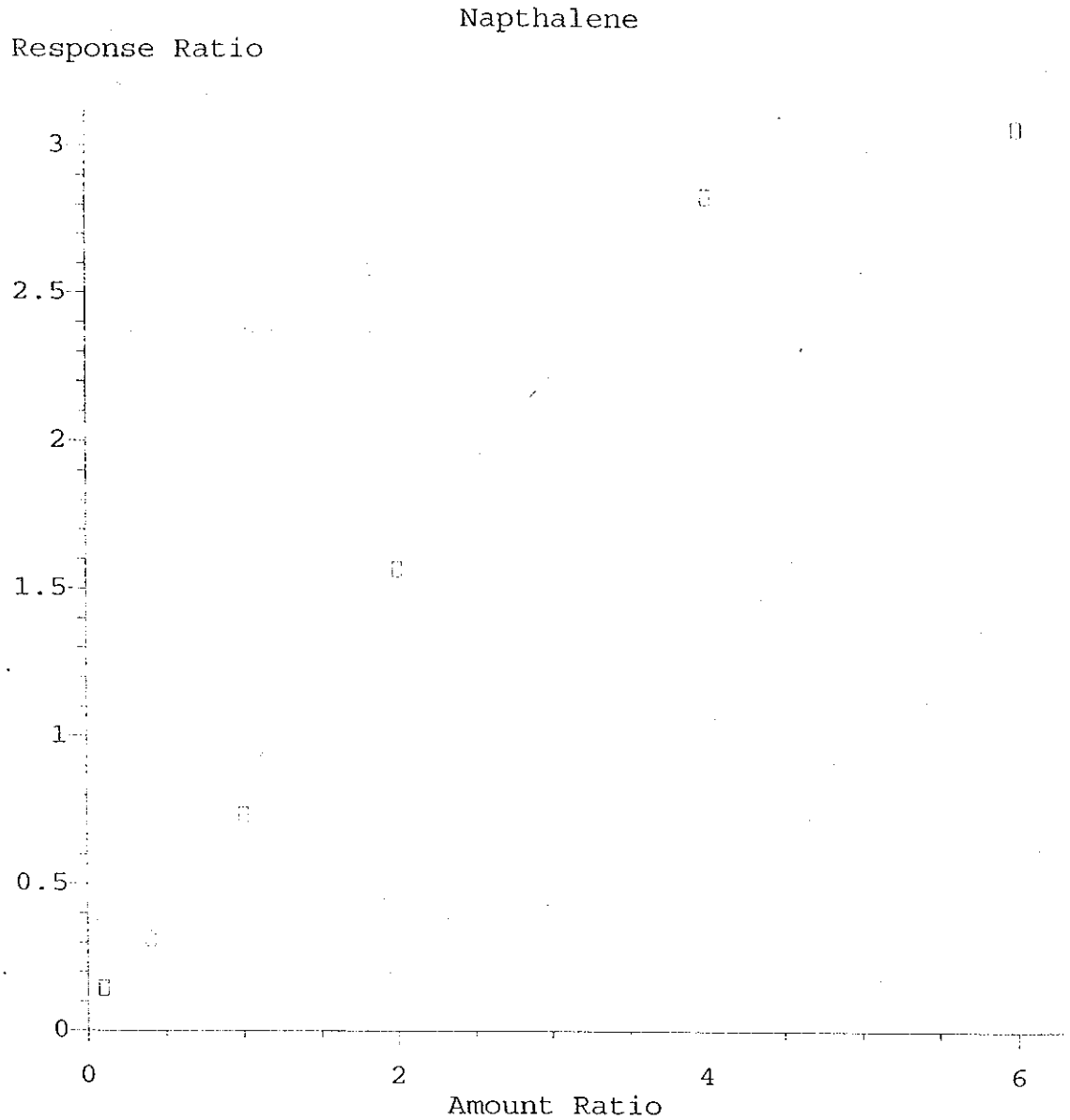
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



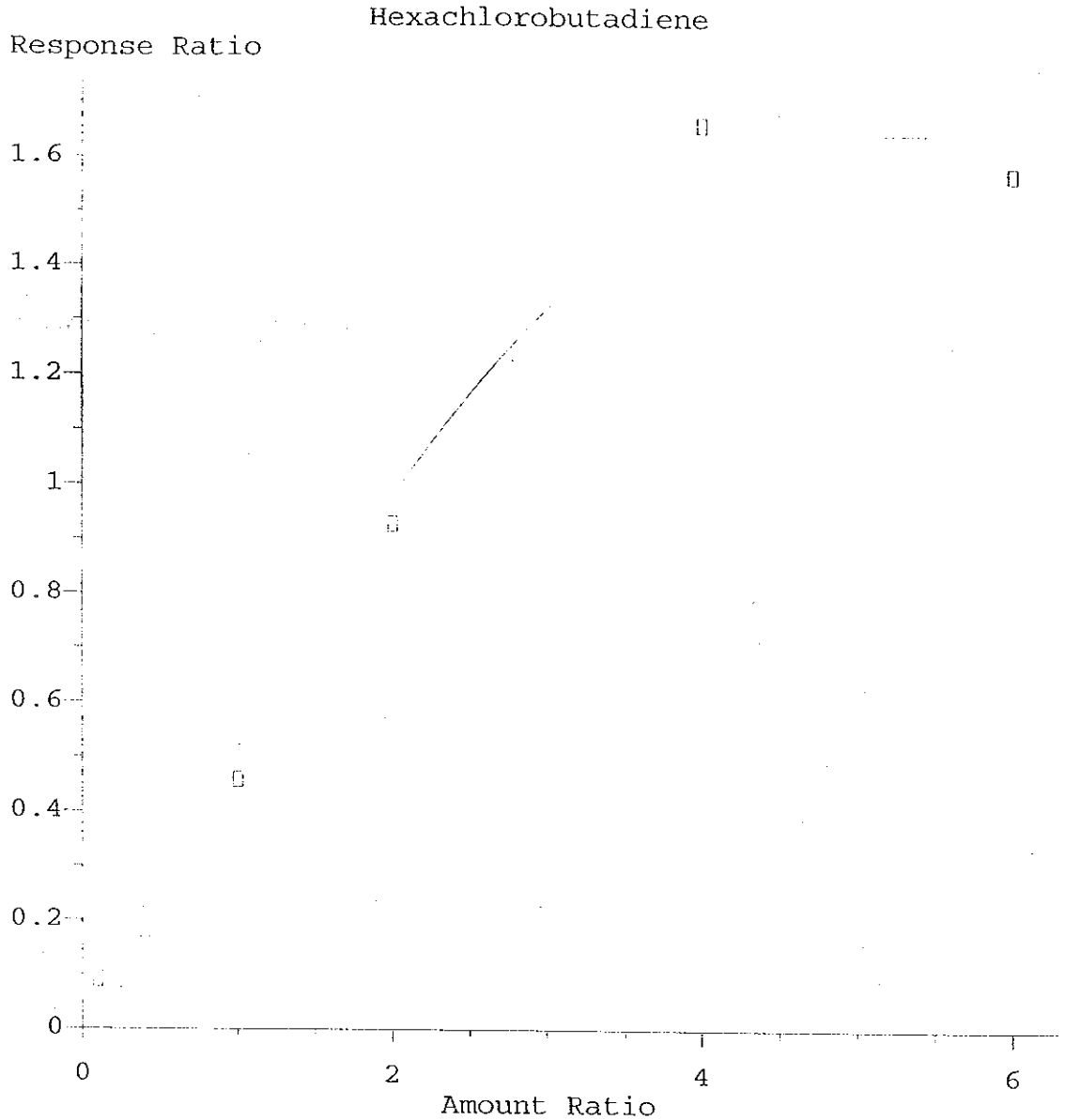
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	68	0.00
2		Dichlorodifluoromethane	0.919	0.774	15.8#	58	0.00
3		Dichlorotetrafluoroethane	1.446	1.333	7.8#	59	0.00
4	P	Chloromethane	0.788	0.676	14.2#	59	0.00
5	C	Vinyl chloride	0.727	0.736	-1.2#	65	0.00
6		Bromomethane	1.180	1.171	0.8	71	0.00
7		Chloroethane	0.530	0.528	0.4	67	0.00
8		Trichlorofluoromethane	1.261	0.698	44.6#	34#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.874	-0.3	68	0.00
10	MC	1,1-Dichloroethene	1.064	1.067	-0.3#	67	0.00
11		Iodomethane	0.000	0.000	0.0	70	0.00
12		Methylene chloride	1.431	1.639	-14.5#	74	0.00
13		Carbon disulfide	2.862	2.969	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	1.551	1.569	-1.2	66	0.00
15		trans-1,2-Dichloroethene	1.194	1.238	-3.7#	70	0.00
16		n-Hexane	1.089	1.096	-0.6	67	0.00
17	P	1,1-Dichloroethane	1.944	2.160	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	1.576	1.760	-11.7#	73	0.00
19	C	Chloroform	2.454	2.844	-15.9#	75	0.00
20		Isooctane	3.653	3.382	7.4#	62	0.00
21		1,1,1-Trichloroethane	2.085	2.425	-16.3#	76	0.00
22		Carbon tetrachloride	2.195	2.535	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.307	-11.1#	70	0.00
24		1,2-Dichloroethane	1.321	1.497	-13.3#	71	0.00
25		1,2-Dibromoethane	2.124	1.929	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	71	0.00
27	M	Benzene	0.733	0.741	-1.1	71	0.00
28	M	Trichloroethene	0.407	0.410	-0.7	70	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	70	0.00
30		Bromodichloromethane	0.755	0.831	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	70	0.00
32	S	Toluene-d8 SURR#2	0.781	0.788	-0.9	70	0.00
33	MC	Toluene	0.463	0.471	-1.7#	70	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	67	0.00
35		1,1,2-Trichloroethane	0.322	0.292	9.3#	62	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	70	0.00
37		Tetrachloroethene	0.488	0.486	0.4	70	0.00
38		Dibromochloromethane	0.722	0.692	4.2#	65	0.00
39	MP	Chlorobenzene	0.891	0.925	-3.8#	71	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.360	-1.1#	69	0.00
41		m,p-Xylene	0.459	0.472	-2.8#	71	0.00
42		o-Xylene	0.439	0.476	-8.4#	74	0.00
43		Styrene	0.771	0.816	-5.8#	73	0.00
44	P	Bromoform	0.713	0.630	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.587	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.938	-5.3#	73	0.00
47		1,4-Dichloro-2-butene	0.130	0.104	20.0#	57	0.00
48		4-Ethyltoluene	1.157	1.291	-11.6#	78	0.00
49		1,3,5-Trimethylbenzene	0.912	1.081	-18.5#	84	0.00
50		2-Chlorotoluene	1.191	1.333	-11.9#	77	0.00
51		1,2,4-Trimethylbenzene	0.961	1.091	-13.5#	76	0.00
52		1,3-Dichlorobenzene	0.782	0.861	-10.1#	73	0.00
53		1,4-Dichlorobenzene	0.825	0.909	-10.2#	72	0.00
54		1,2-Dichlorobenzene	0.758	0.806	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	0.568	0.554	2.5#	69	0.00
56		Napthalene	0.830	0.714	14.0#	68	0.00
57		Hexachlorobutadiene	0.495	0.423	14.5#	65	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	68	0.00
2		Dichlorodifluoromethane	250.000	206.257	17.5#	58	0.00
3		Dichlorotetrafluoroethane	250.000	230.564	7.8#	59	0.00
4	P	Chloromethane	250.000	214.595	14.2#	59	0.00
5	C	Vinyl chloride	250.000	253.103	-1.2#	65	0.00
6		Bromomethane	250.000	248.052	0.8	71	0.00
7		Chloroethane	250.000	249.161	0.3	67	0.00
8		Trichlorofluoromethane	250.000	147.604	41.0#	34	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	250.794	-0.3	68	0.00
10	MC	1,1-Dichloroethene	250.000	250.900	-0.4#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	70	0.00
12		Methylene chloride	250.000	286.323	-14.5#	74	0.00
13		Carbon disulfide	250.000	259.354	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	250.000	252.922	-1.2	66	0.00
15		trans-1,2-Dichloroethene	250.000	259.176	-3.7#	70	0.00
16		n-Hexane	250.000	251.548	-0.6	67	0.00
17	P	1,1-Dichloroethane	250.000	277.814	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	250.000	279.208	-11.7#	73	0.00
19	C	Chloroform	250.000	289.733	-15.9#	75	0.00
20		Isooctane	250.000	231.502	7.4#	62	0.00
21		1,1,1-Trichloroethane	250.000	290.741	-16.3#	76	0.00
22		Carbon tetrachloride	250.000	288.772	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	277.834	-11.1#	70	0.00
24		1,2-Dichloroethane	250.000	283.273	-13.3#	71	0.00
25		1,2-Dibromoethane	250.000	227.102	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	71	0.00
27	M	Benzene	250.000	252.655	-1.1	71	0.00
28	M	Trichloroethene	250.000	251.703	-0.7	70	0.00
29	C	1,2-Dichloropropane	250.000	256.005	-2.4#	70	0.00
30		Bromodichloromethane	250.000	275.213	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	250.000	255.057	-2.0#	70	0.00
32	S	Toluene-d8 SURR#2	250.000	252.097	-0.8	70	0.00
33	MC	Toluene	250.000	254.415	-1.8#	70	0.00
34		trans-1,3-Dichloropropene	250.000	249.364	0.3	67	0.00
35		1,1,2-Trichloroethane	250.000	226.610	9.4#	62	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	70	0.00
37		Tetrachloroethene	250.000	249.247	0.3	70	0.00
38		Dibromochloromethane	250.000	239.556	4.2#	65	0.00
39	MP	Chlorobenzene	250.000	259.386	-3.8#	71	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	252.821	-1.1#	69	0.00
41		m,p-Xylene	500.000	513.698	-2.7#	71	0.00
42		o-Xylene	250.000	271.426	-8.6#	74	0.00
43		Styrene	250.000	264.750	-5.9#	73	0.00
44	P	Bromoform	250.000	221.122	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	229.370	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	262.979	-5.2#	73	0.00
47		1,4-Dichloro-2-butene	250.000	199.754	20.1#	57	0.00
48		4-Ethyltoluene	250.000	278.840	-11.5#	78	0.00
49		1,3,5-Trimethylbenzene	250.000	296.468	-18.6#	84	0.00
50		2-Chlorotoluene	250.000	279.894	-12.0#	77	0.00
51		1,2,4-Trimethylbenzene	250.000	284.002	-13.6#	76	0.00
52		1,3-Dichlorobenzene	250.000	275.421	-10.2#	73	0.00
53		1,4-Dichlorobenzene	250.000	275.449	-10.2#	72	0.00
54		1,2-Dichlorobenzene	250.000	265.819	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	250.000	220.252	11.9#	69	0.00
56		Napthalene	250.000	207.216	17.1#	68	0.00
57		Hexachlorobutadiene	250.000	199.429	20.2#	65	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6
CM0321A.D TO14S.M Mon Mar 25 22:53:34 2002 Page 2

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203330

Lab File ID (Standard): CM0321A.D Date Analyzed: 3/21/02

Instrument ID: MARILYN Time Analyzed: 9:27

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	545778	11.27	2209181	13.21	1694454	20.52
	UPPER LIMIT	1091556	11.77	4418362	13.71	3388908	21.02
	LOWER LIMIT	272889	10.77	1104591	12.71	847227	20.02
	EPA SAMPLE NO.						
01	VBLKMA	583971	11.27	2373088	13.21	1777219	20.54
02	LCS AND 2ND	513167	11.29	2001743	13.23	1546733	20.54
03	SVEEA	312887	11.27	1236068	13.23	907496	20.53

IS1 BCM = Bromochloromethane IS#
IS2 DFB = 1,4-Difluorobenzene IS#2
IS3 CLB = Chlorobenzene-d5 IS#3

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

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

Date 1-25-02
Batch MAB010 (1) 2 3
S# 8 -MSW- 26 - 3
FB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- - -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- - -

Maint. ___
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:34	14		CM0125A	50ppb	.	Y N				Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
13:18	14		0025M125			Y N		x		bad 5ul syringe reboot
3:56	15		0100M125			Y N		✓		
4:33	16		0250M125			Y N		✓		used a 25ul syring also tune
5:09	14		0500M125			Y N				
5:46	15		1000M125			Y N		✓		
16:24	16		1500M125			Y N		✓		
17:43	14		0025R125			Y N		✓		used a 10ul syring
8:20	15		0100R125			Y N		✓		
19:22	15		MA010ABK			Y N		✓		
9:59	16		MA010LCS			Y N		✓		LCS + 2nd
20:36	16		01299-1X	X100		Y N		✓		P1/PF = 2 X50 run st
1:10	2		01493-2			Y N		✓		
1:14	2		01299-1			Y N		✓		high Iso octane
22:20	2		01493-1			Y N		✓		
22:56	2	out 8/1/26	01493-1R			Y N		✓		run st - ~~out of 12 hrs~~ 8/1/26 re-run st - 8/1/26
3:31	9		01546-2	X10		Y N		✓		
0:17	10		-4	X10		Y N		✓		
0:44	11		-1	X10						
:21	12		-3	X10		Y N		✓		Trip blk
:58	13		-1 X	X50				✓		not loaded / X10 worked
:35-	out 14		-3 X	X50		Y N				re-run X50 / out of time
12-	out 15		-2 X	X50						
3:49	out 16		-4 X	X50		Y N				not loaded - X50 worked

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis d relinquished sample(s) back to the sample storage refrigerator.
.Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

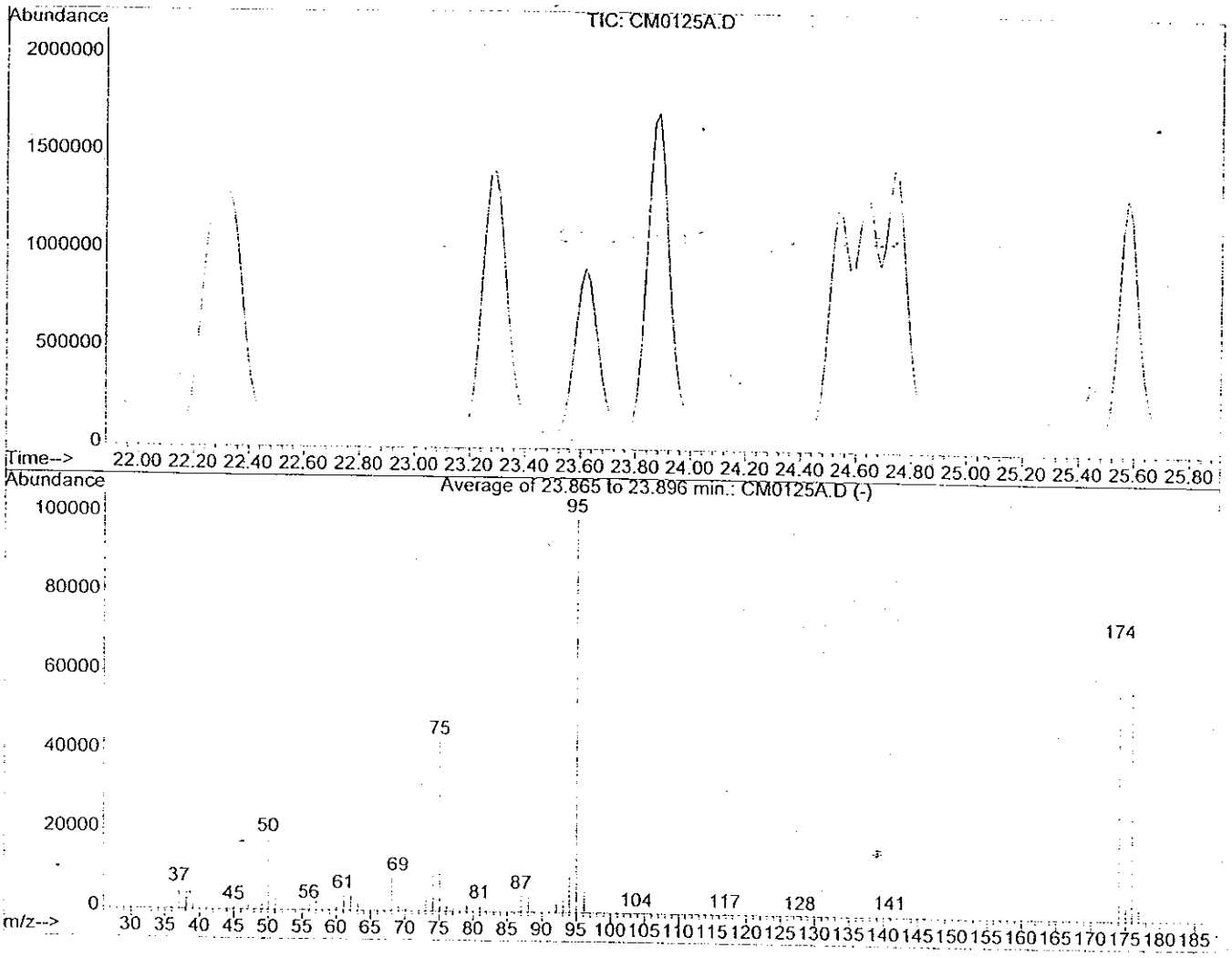
36
STL Pensacola
CECIL FIELD, CTO-0062
80

BFB

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D
Acq On : 25 Jan 2002 11:34
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

1-25-02



Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	[illegible]	[illegible]	[illegible]
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

1-25-02

Calibration Files

25	=0025R125.D	250	=0250M125.D	1500	=1500M125.D
1000	=1000M125.D	100	=0100R125.D	500	=0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.98	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	[illegible].83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	[illegible]	[illegible]
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Fri Jan 25 19:04:23 2002

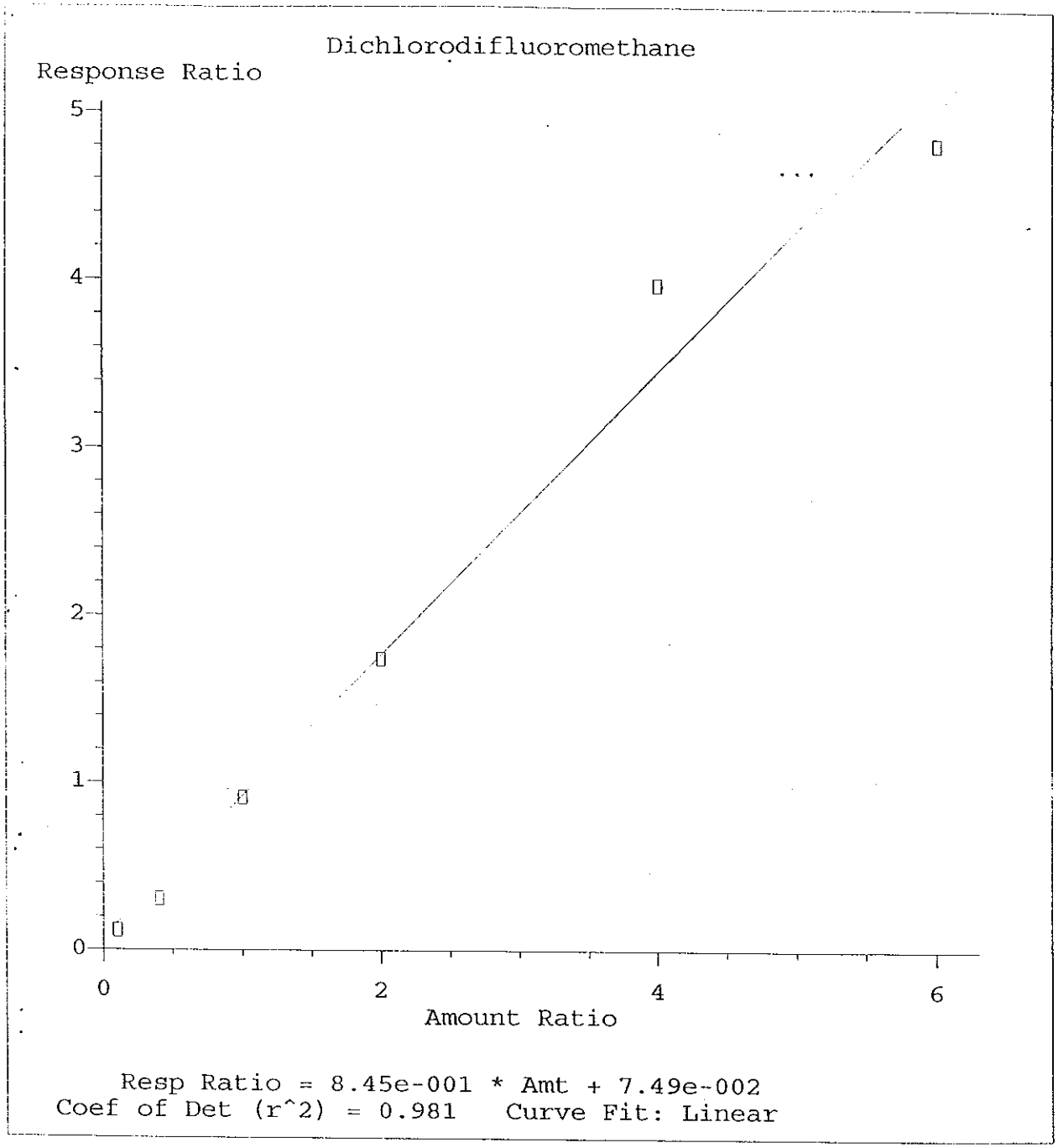
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

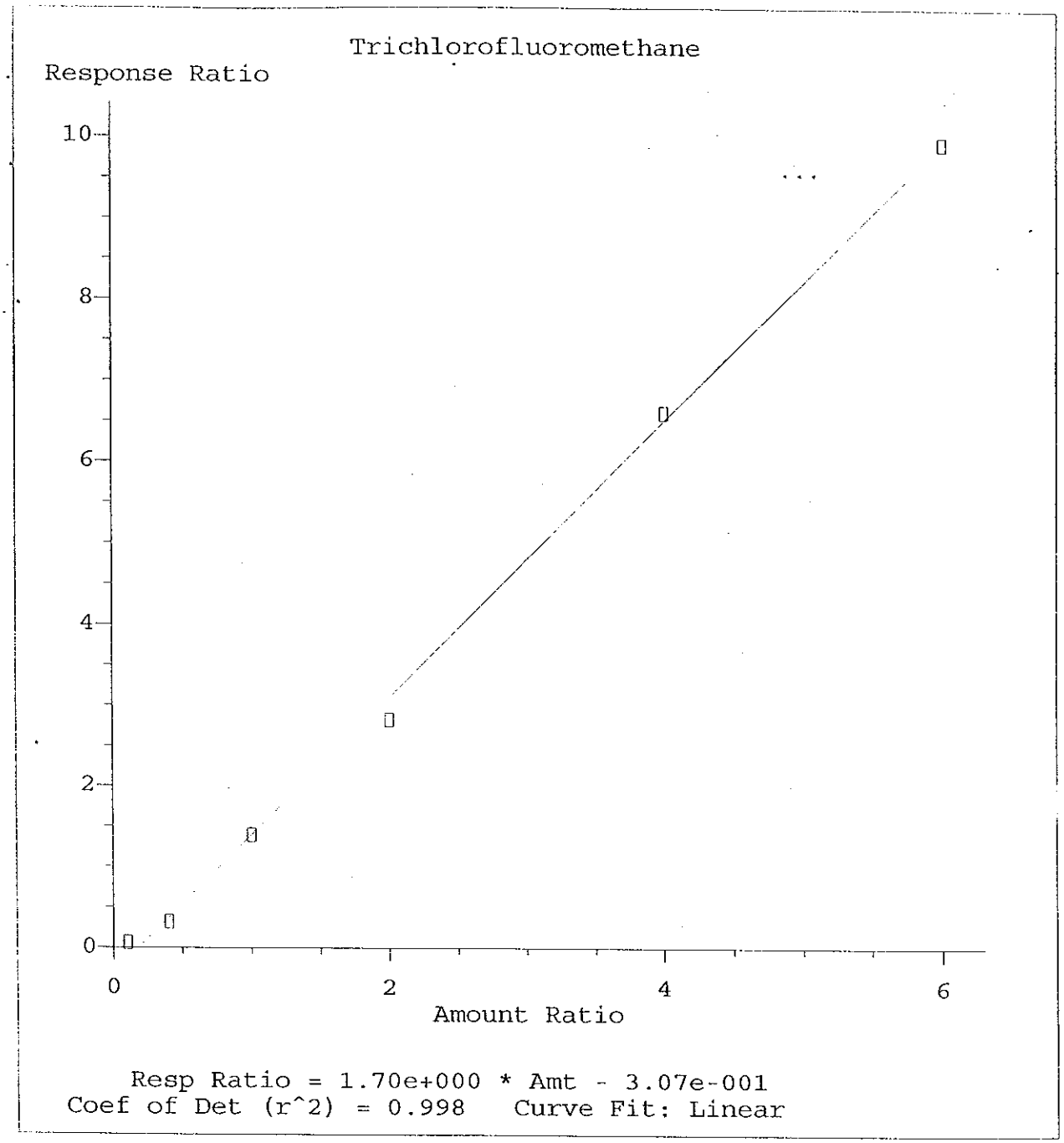
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RS
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.99(	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.99:	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.98(	
								B= 0.645		
								C= -0.066		

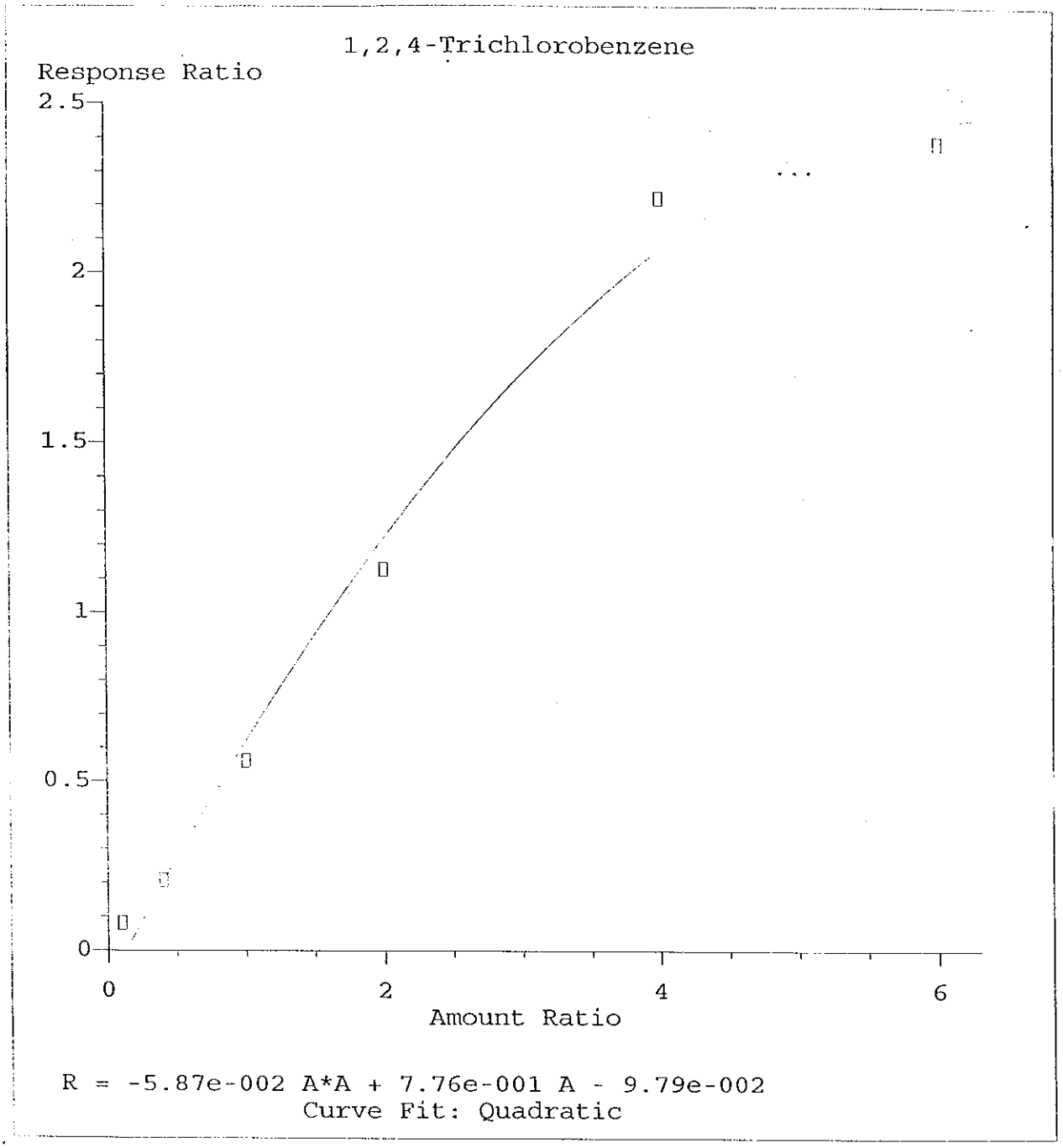
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Fri Jan 25 19:04:24 2002



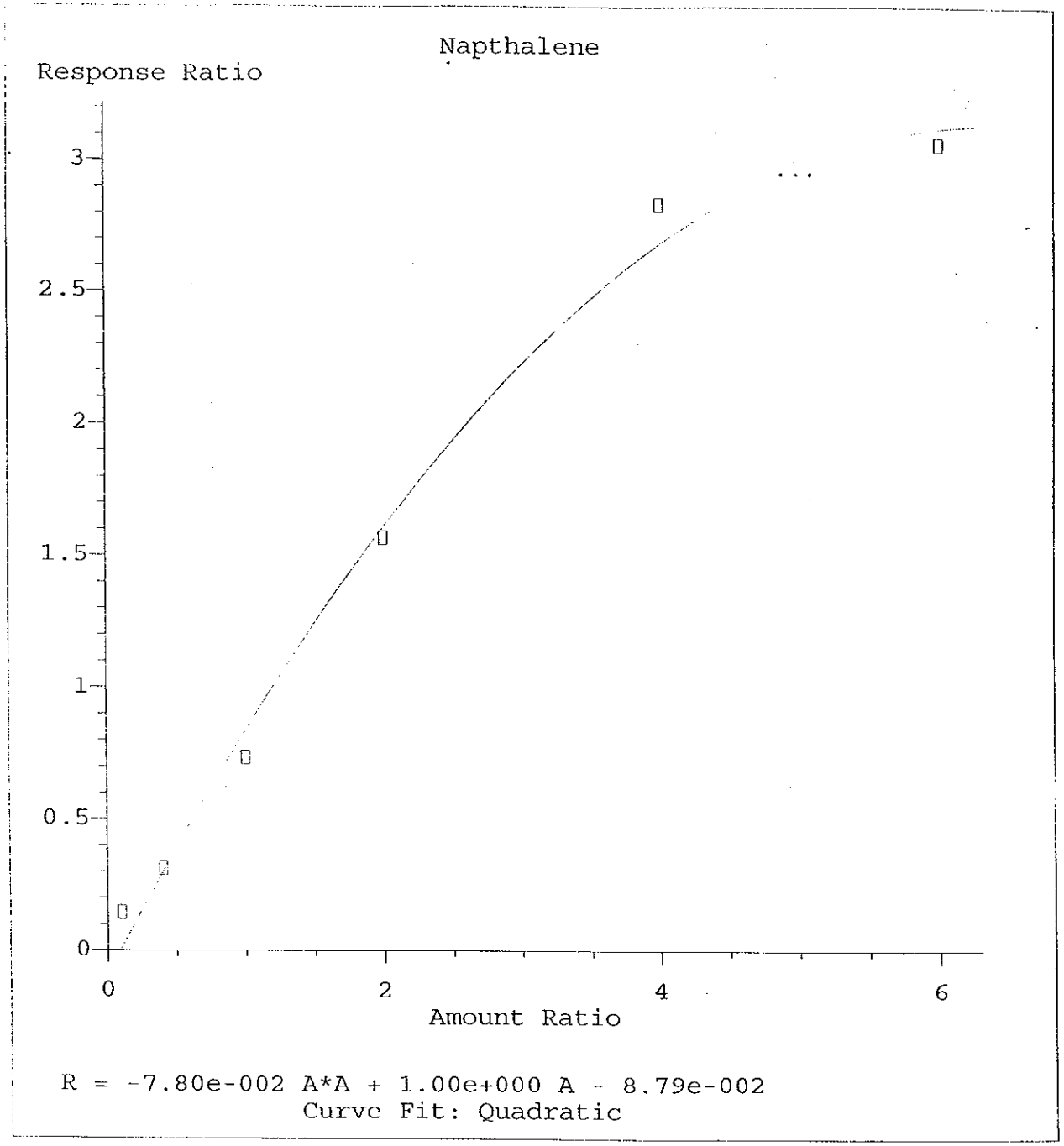
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



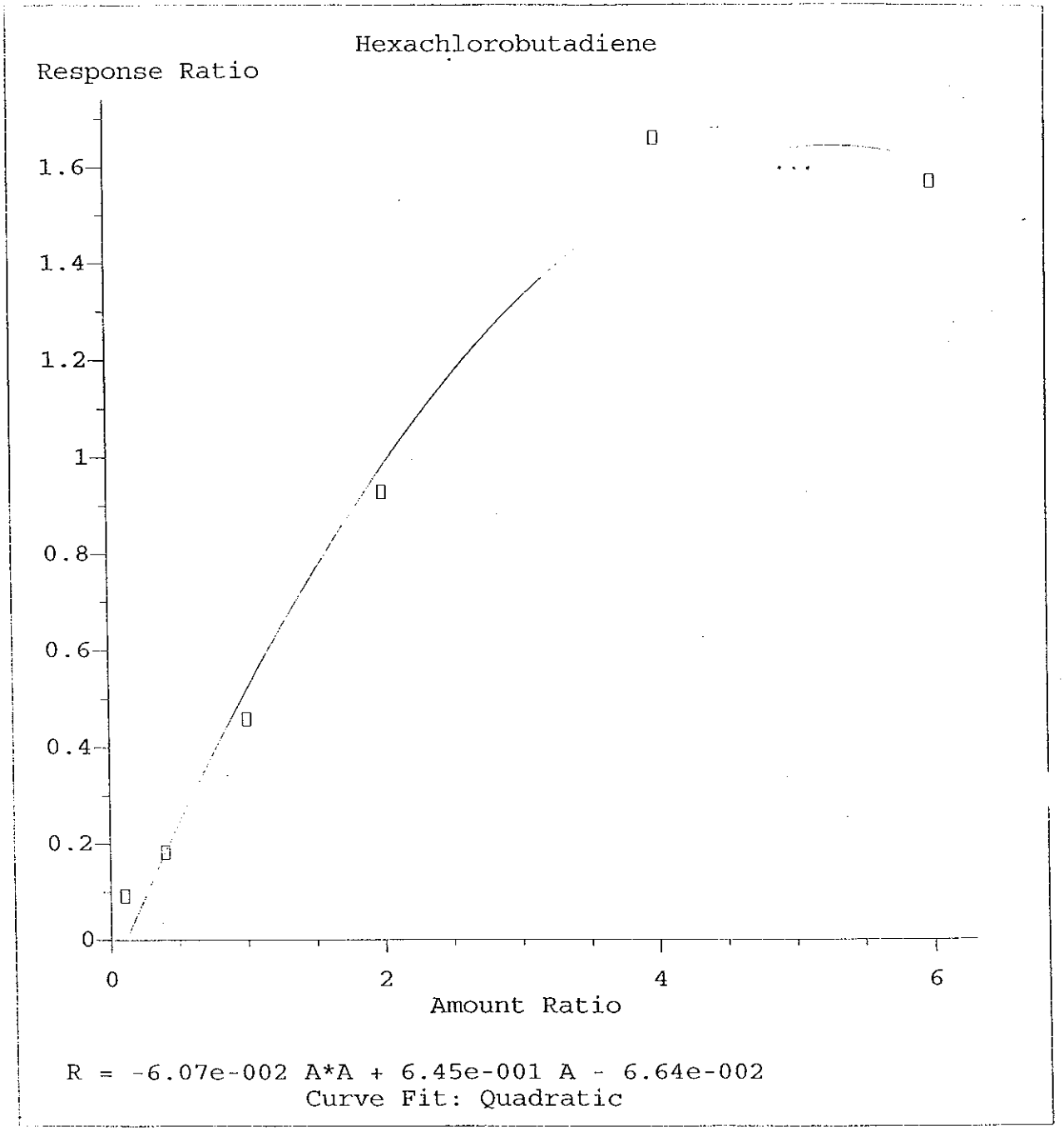
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00	ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00	ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00	ng	-0.04 88.92%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.60%						
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96	ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.58%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.86%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29	ng	# 99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69	ng	# 41
4) Chloromethane	4.38	50	68340	40.81	ng	# 90
5) Vinyl chloride	4.60	62	58732	39.26	ng	# 93
6) Bromomethane	5.42	94	107237	42.12	ng	# 82
7) Chloroethane	5.54	64	38862	38.05	ng	# 88
8) Trichlorofluoromethane	6.03	101	48812	24.78	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60	ng	85
10) 1,1-Dichloroethene	7.24	96	80528	39.43	ng	87
12) Methylene chloride	8.14	49	111866	38.49	ng	# 97
13) Carbon disulfide	8.29	76	232386	41.32	ng	95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97	ng	# 82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76	ng	91
16) n-Hexane	8.79	57	87122	43.45	ng	# 1
17) 1,1-Dichloroethane	9.55	63	145914	38.78	ng	98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39	ng	94
19) Chloroform	11.09	83	182078	38.0[illegible]	[illegible]	[illegible]
20) Isooctane	12.03	57	3017[illegible]	4[illegible]		
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97	ng	91
22) Carbon tetrachloride	12.53	117	162611	38.85	ng	96
24) 1,2-Dichloroethane	12.79	62	97516	35.97	ng	97
25) 1,2-Dibromoethane	19.73	107	158611	39.63	ng	99
27) Benzene	12.86	78	224998	42.43	ng	98

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	116164	39.83 ng		97
29)	1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30)	Bromodichloromethane	15.11	83	210160	37.15 ng		98
31)	cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33)	Toluene	17.13	92	132700	40.00 ng		95
34)	trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35)	1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37)	Tetrachloroethene	18.73	164	107951	42.67 ng		95
38)	Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39)	Chlorobenzene	20.81	112	191266	40.04 ng		93
40)	Ethylbenzene	20.88	106	77354	42.58 ng		99
41)	m,p-Xylene	21.09	106	199516	83.10 ng		96
42)	o-Xylene	22.23	106	92327	40.91 ng		93
43)	Styrene	22.30	104	161761	40.88 ng		95
44)	Bromoform	23.26	173	153138	40.51 ng		99
45)	1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47)	1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48)	4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49)	1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50)	2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52)	1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53)	1,4-Dichlorobenzene	26.67	146	171427	36.21 ng		98
54)	1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55)	1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56)	Napthalene	31.18	128	311685	67.28 ng	#	92
57)	Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

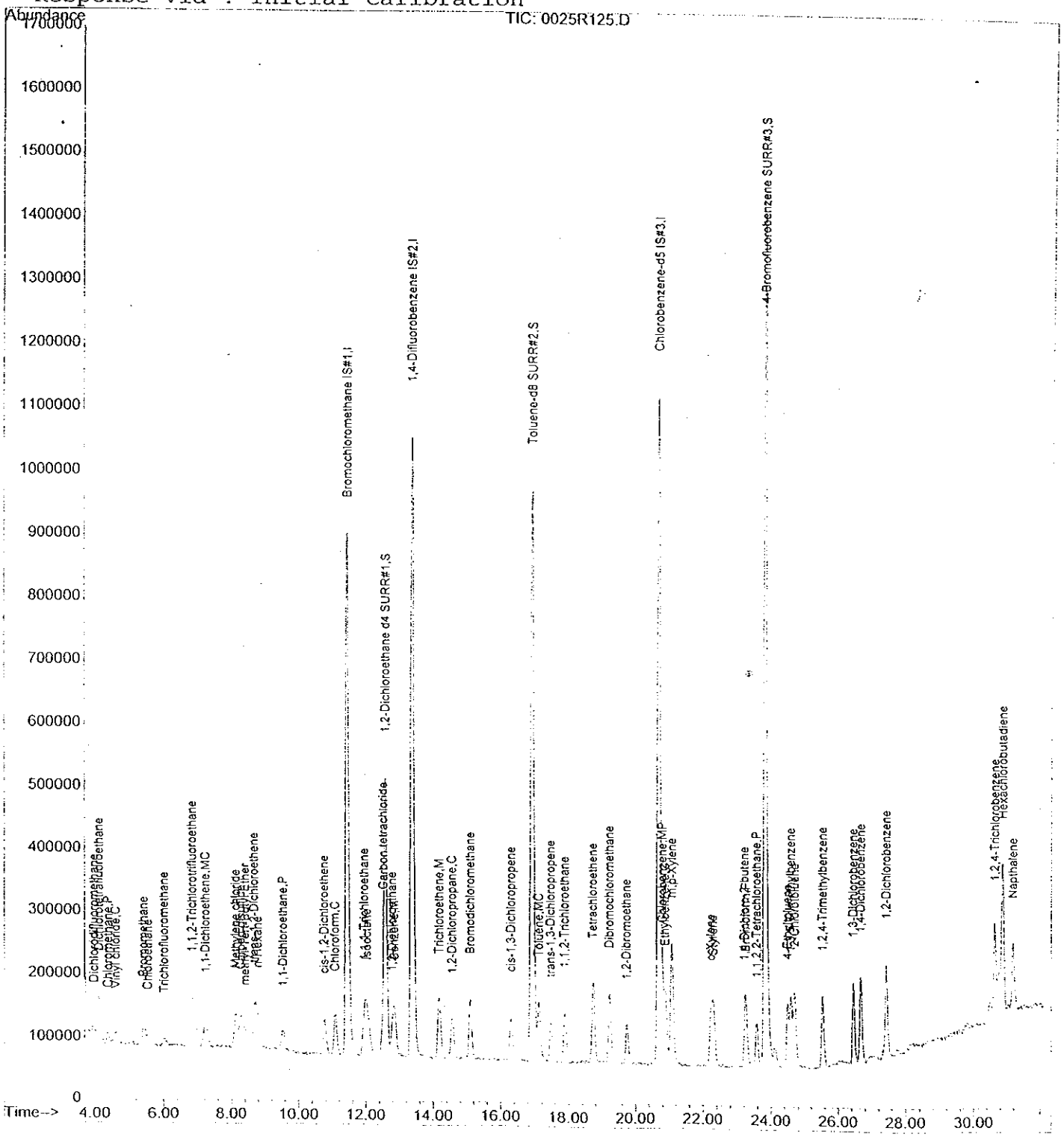
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



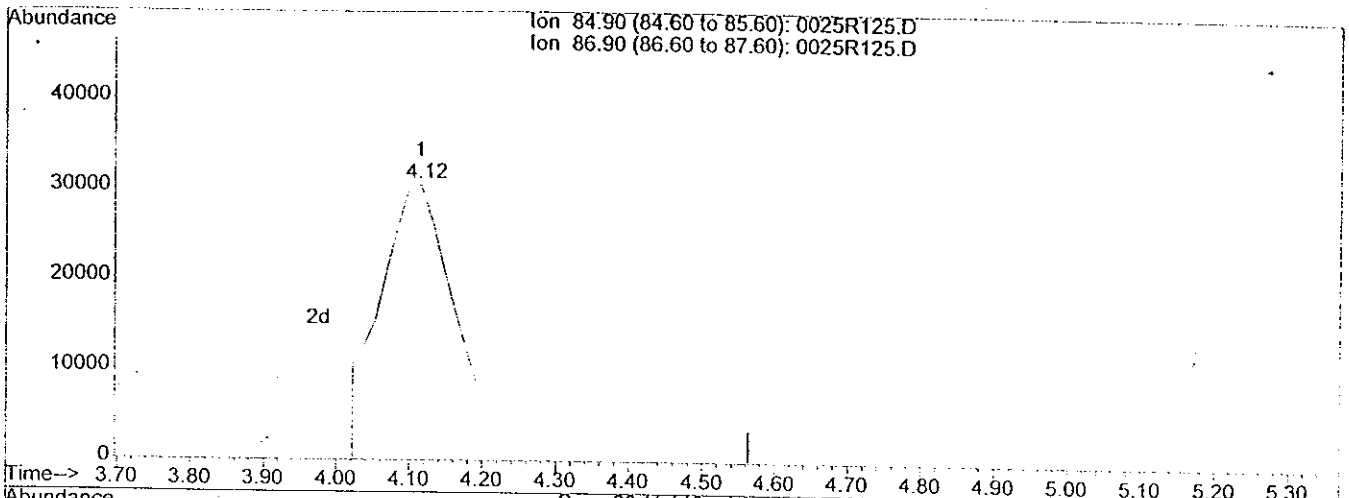
0025R125.D TO14S.M Fri Jan 25 18:22:19 2002

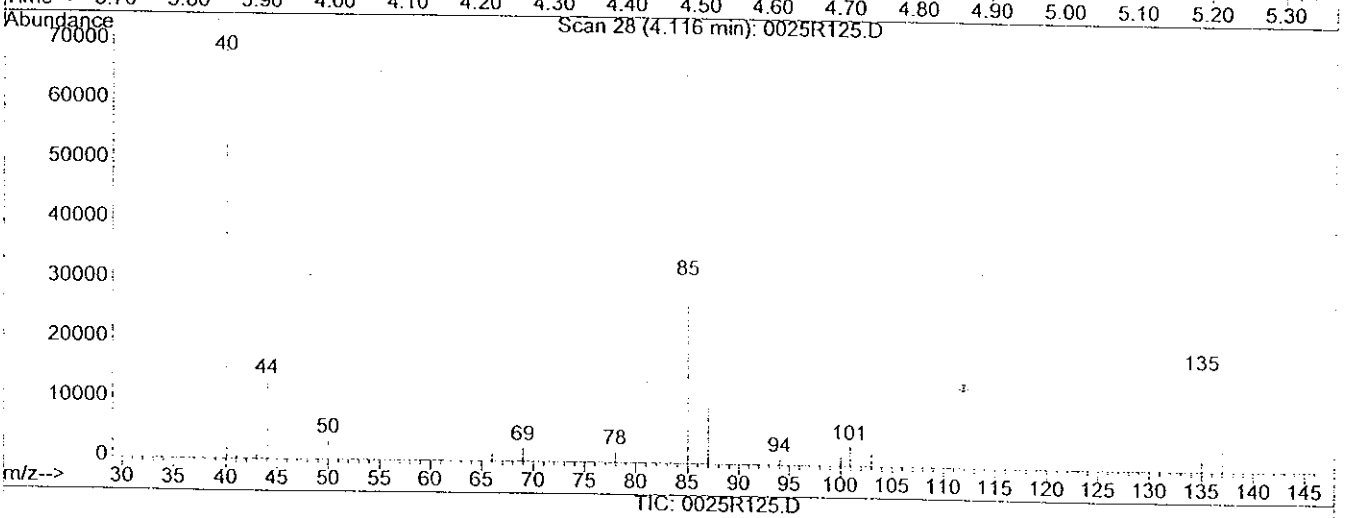
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

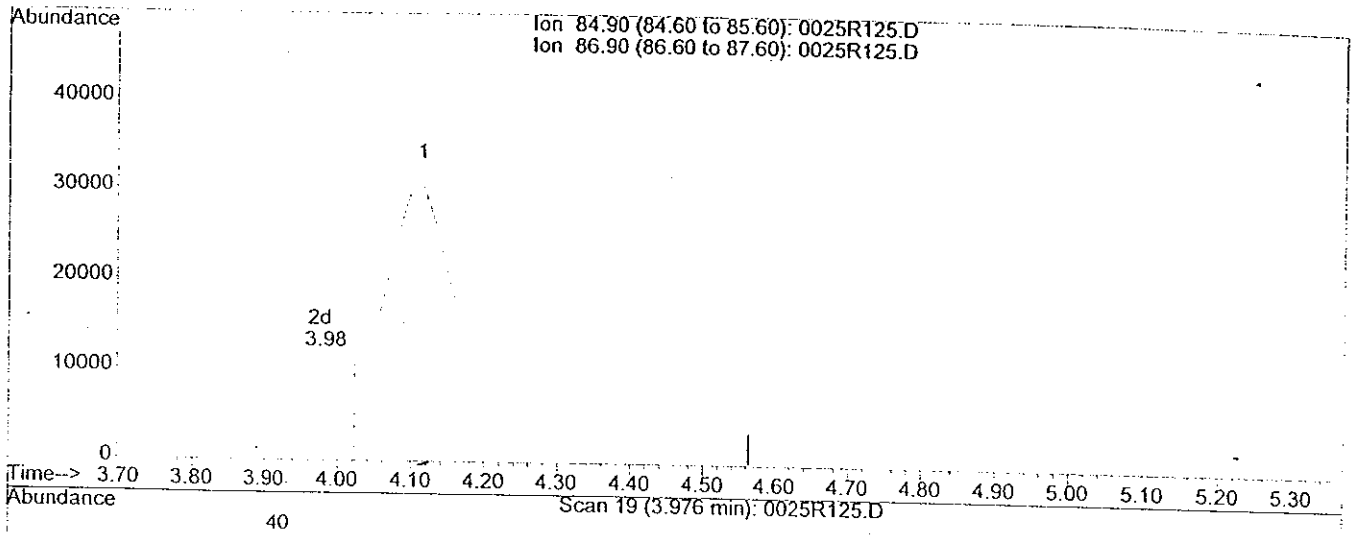
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

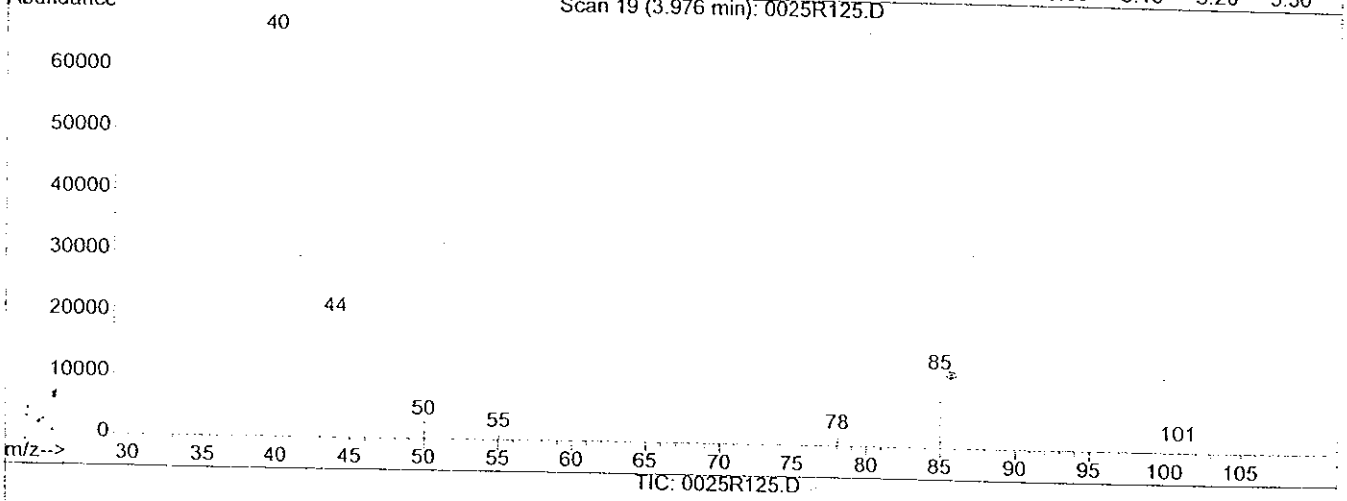
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

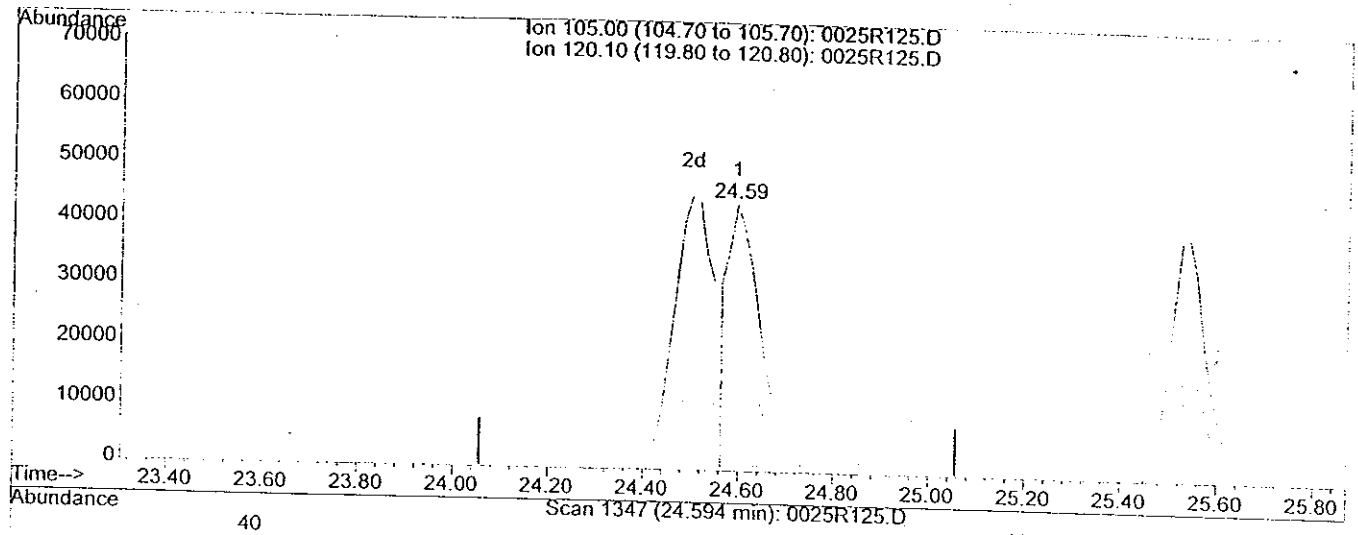
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

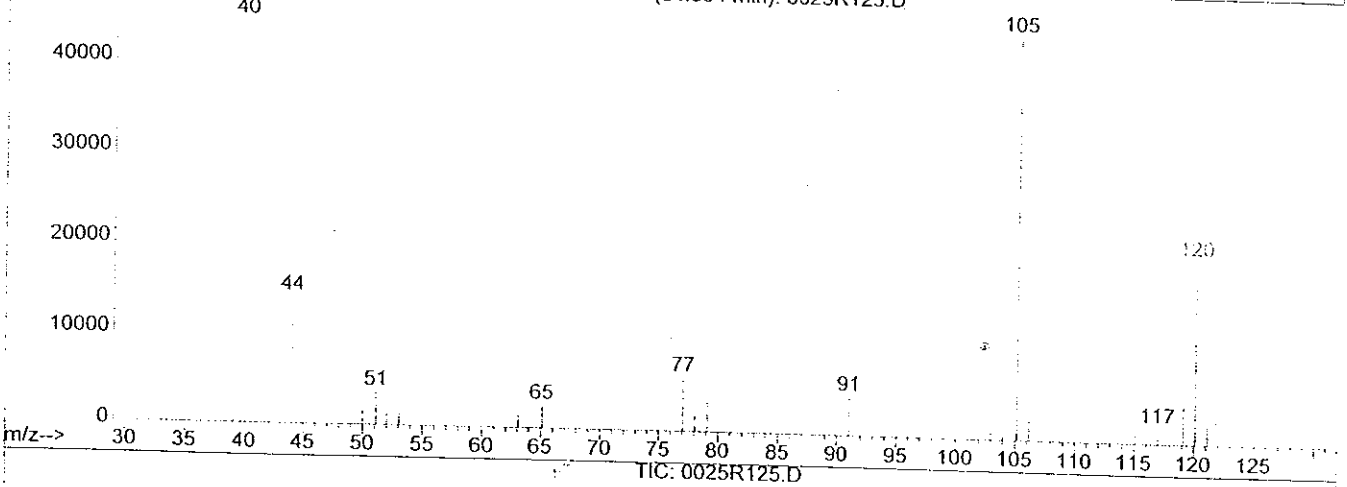
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

response 208705

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

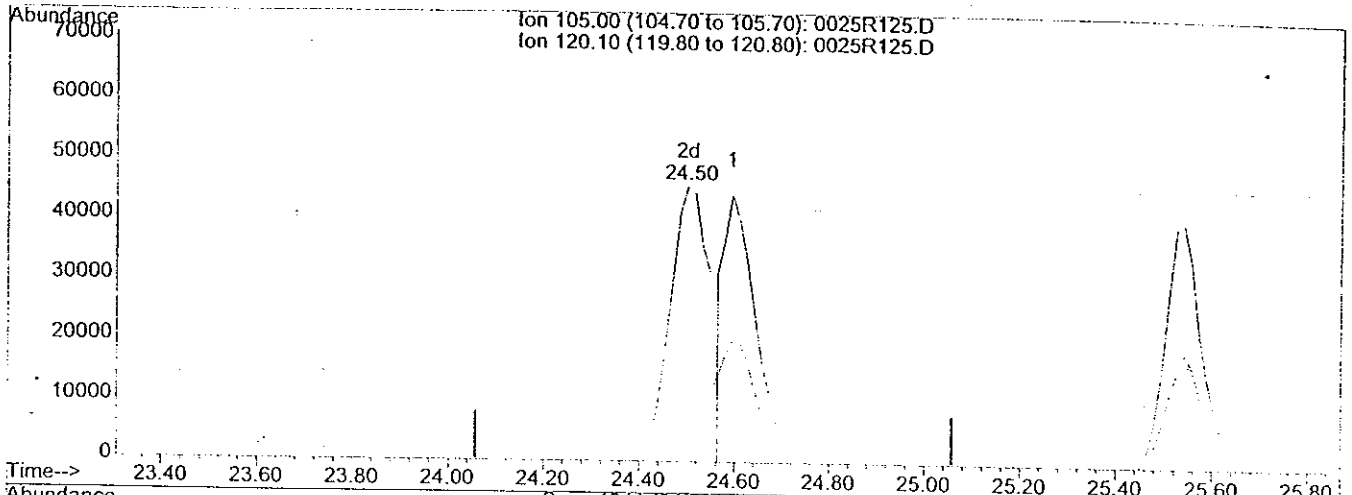
0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

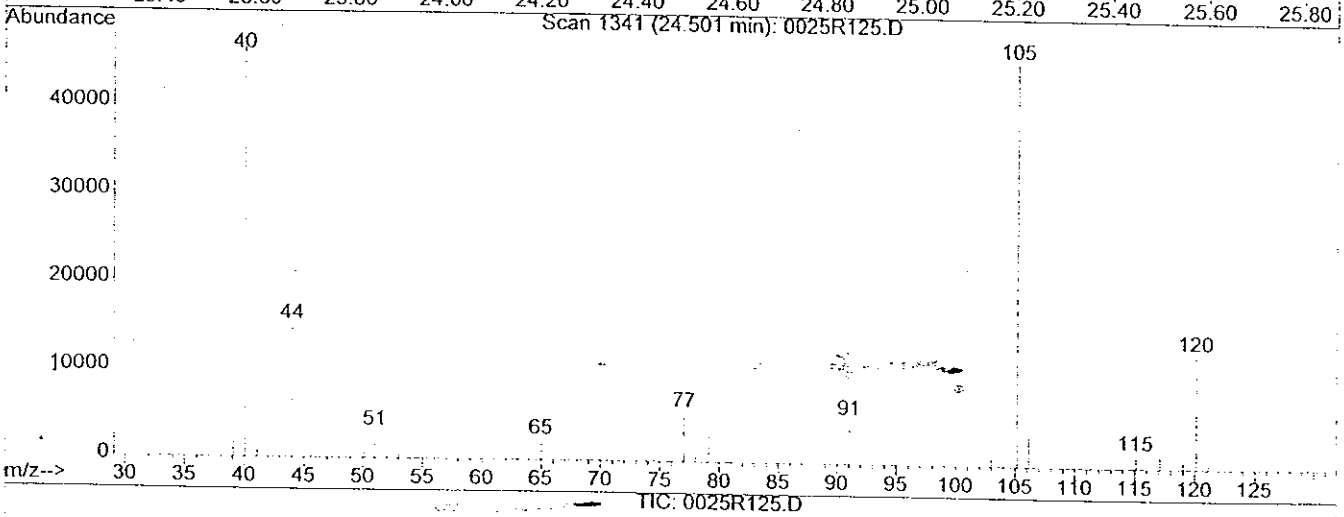
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:19 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TO 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00 ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00 ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00 ng	-0.05 95.76%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86 ng	-0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 97.54%		
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11 ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.04%		
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38 ng	-0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.75%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03 ng	#	99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54 ng	#	40
4) Chloromethane	4.41	50	230623	128.25 ng	#	95
5) Vinyl chloride	4.62	62	197828	123.13 ng		99
6) Bromomethane	5.46	94	343058	125.48 ng	#	95
7) Chloroethane	5.56	64	147945	134.89 ng		99
8) Trichlorofluoromethane	6.08	101	258267	122.07 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53 ng		87
10) 1,1-Dichloroethene	7.25	96	312183	142.33 ng		83
12) Methylene chloride	8.15	49	406623	130.28 ng		97
13) Carbon disulfide	8.32	76	785720	130.09 ng		97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26 ng		97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25 ng		87
16) n-Hexane	8.82	57	320526	148.87 ng	#	1
17) 1,1-Dichloroethane	9.55	63	548504	135.74 ng		100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39 ng		91
19) Chloroform	11.10	83	704271	136.93 ng		98
20) Isooctane	12.05	57	1160036	162.95 ng		98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36 ng		91
22) Carbon tetrachloride	12.53	117	617093	137.29 ng		98
24) 1,2-Dichloroethane	12.79	62	386406	132.71 ng		98
25) 1,2-Dibromoethane	19.75	107	625053	145.43 ng		99
27) Benzene	12.87	78	806884	143.11 ng		100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.19	130	448788	144.70 ng		96
29) 1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30) Bromodichloromethane	15.10	83	843245	140.20 ng		99
31) cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33) Toluene	17.12	92	496011	140.63 ng		98
34) trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35) 1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37) Tetrachloroethene	18.74	164	406137	149.07 ng		96
38) Dibromochloromethane	19.22	127	618919	147.64 ng		99
39) Chlorobenzene	20.79	112	747778	145.37 ng		96
40) Ethylbenzene	20.90	106	291472	148.99 ng		100
41) m,p-Xylene	21.08	106	760694	294.22 ng		98
42) o-Xylene	22.23	106	361372	148.70 ng		98
43) Styrene	22.31	104	629732	147.78 ng		99
44) Bromoform	23.26	173	626335	153.87 ng		100
45) 1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48) 4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49) 1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50) 2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51) 1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52) 1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53) 1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54) 1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55) 1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56) Napthalene	31.19	128	724021	145.13 ng	#	92
57) Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

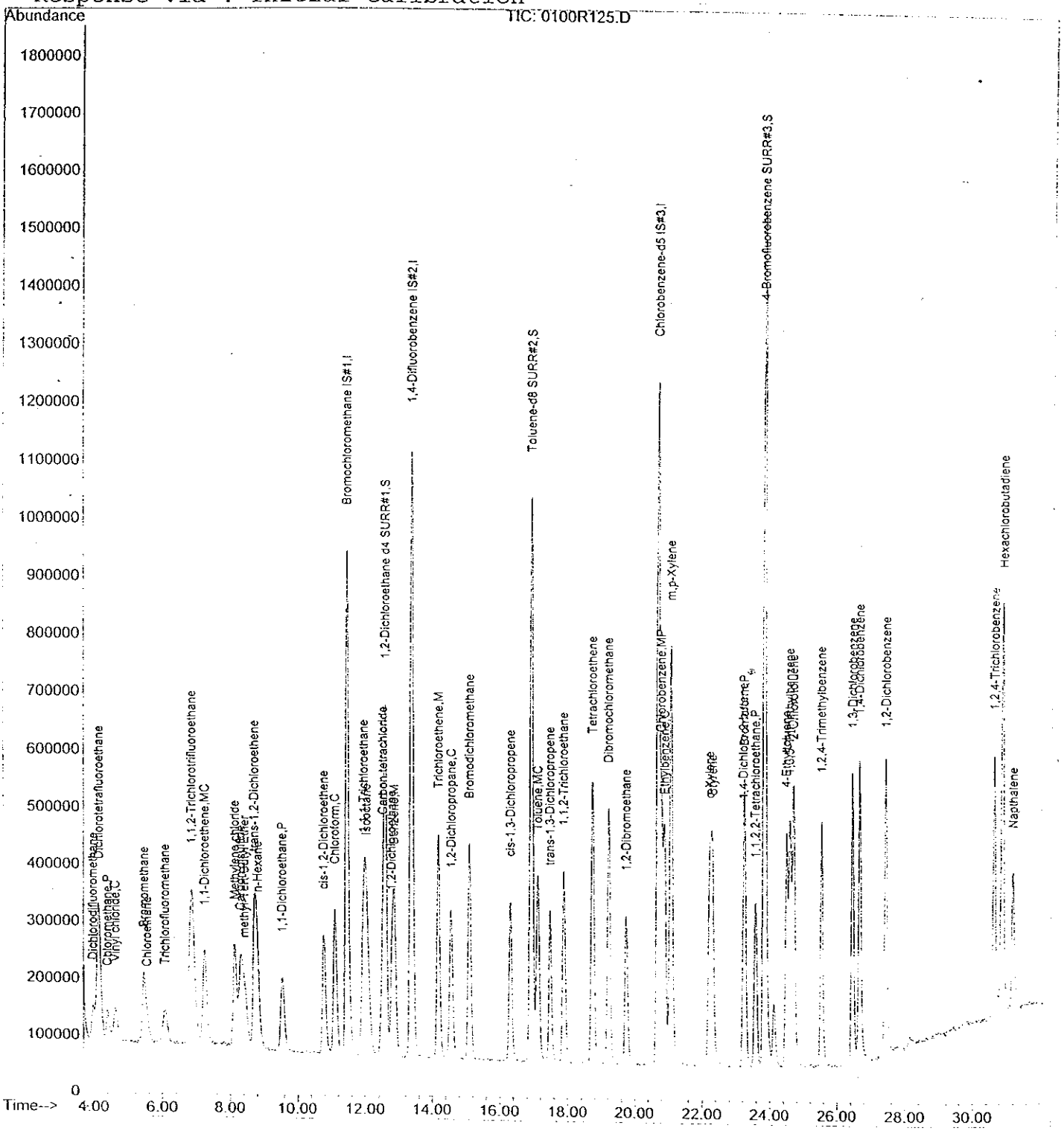
(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst. : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



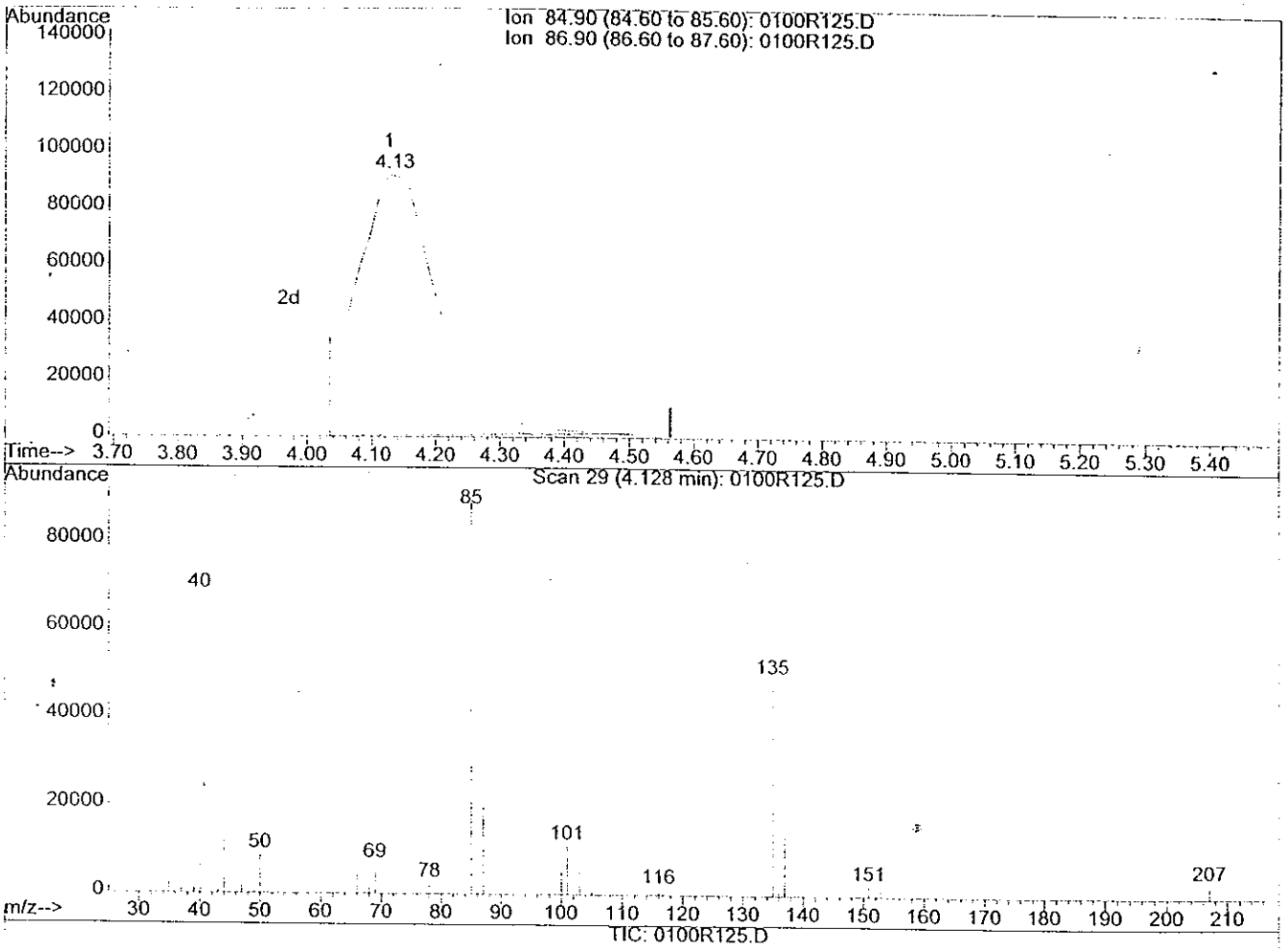
0100R125.D TO14S.M Fri Jan 25 18:55:14 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

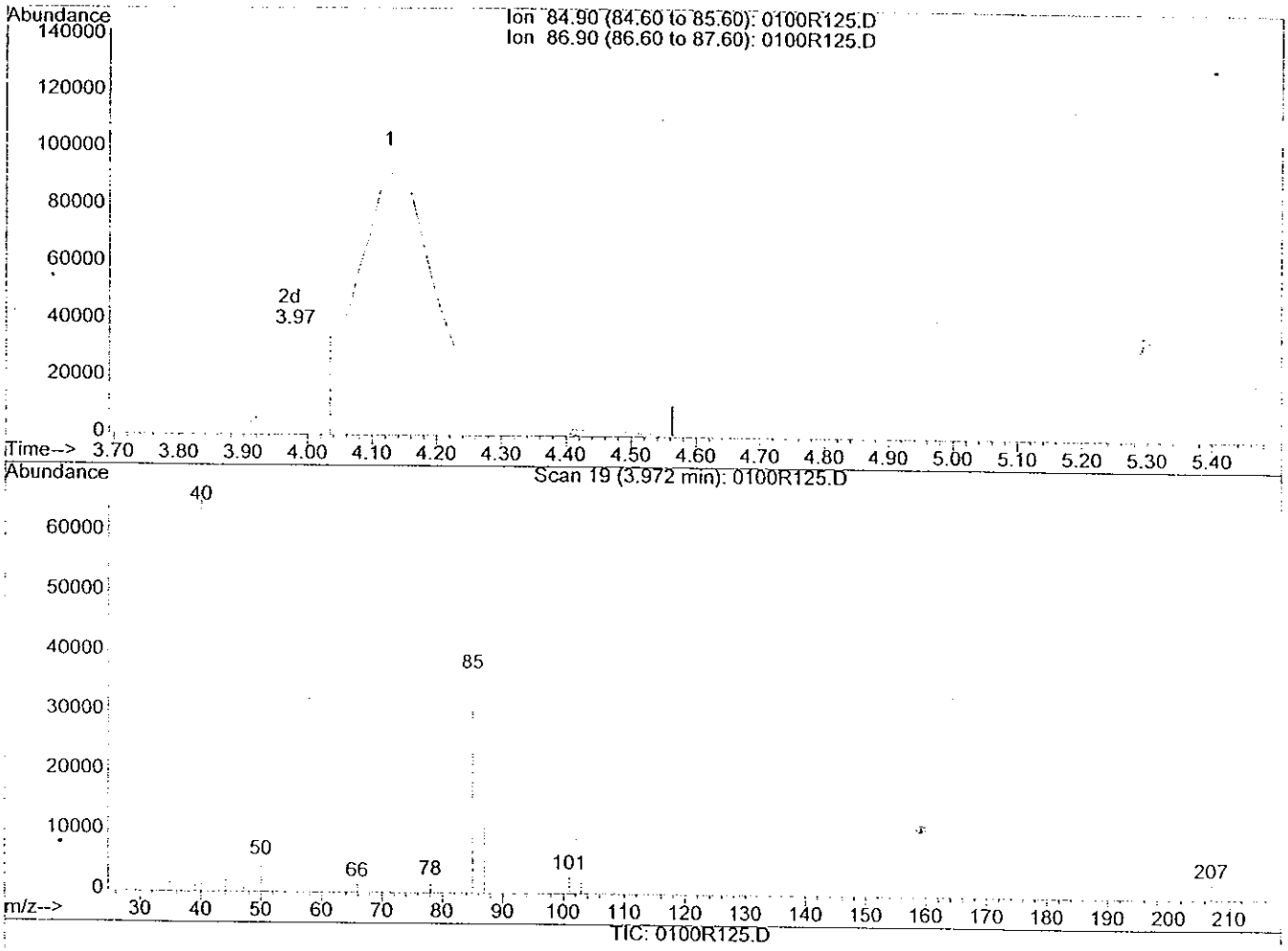
coelution
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

1-25-02

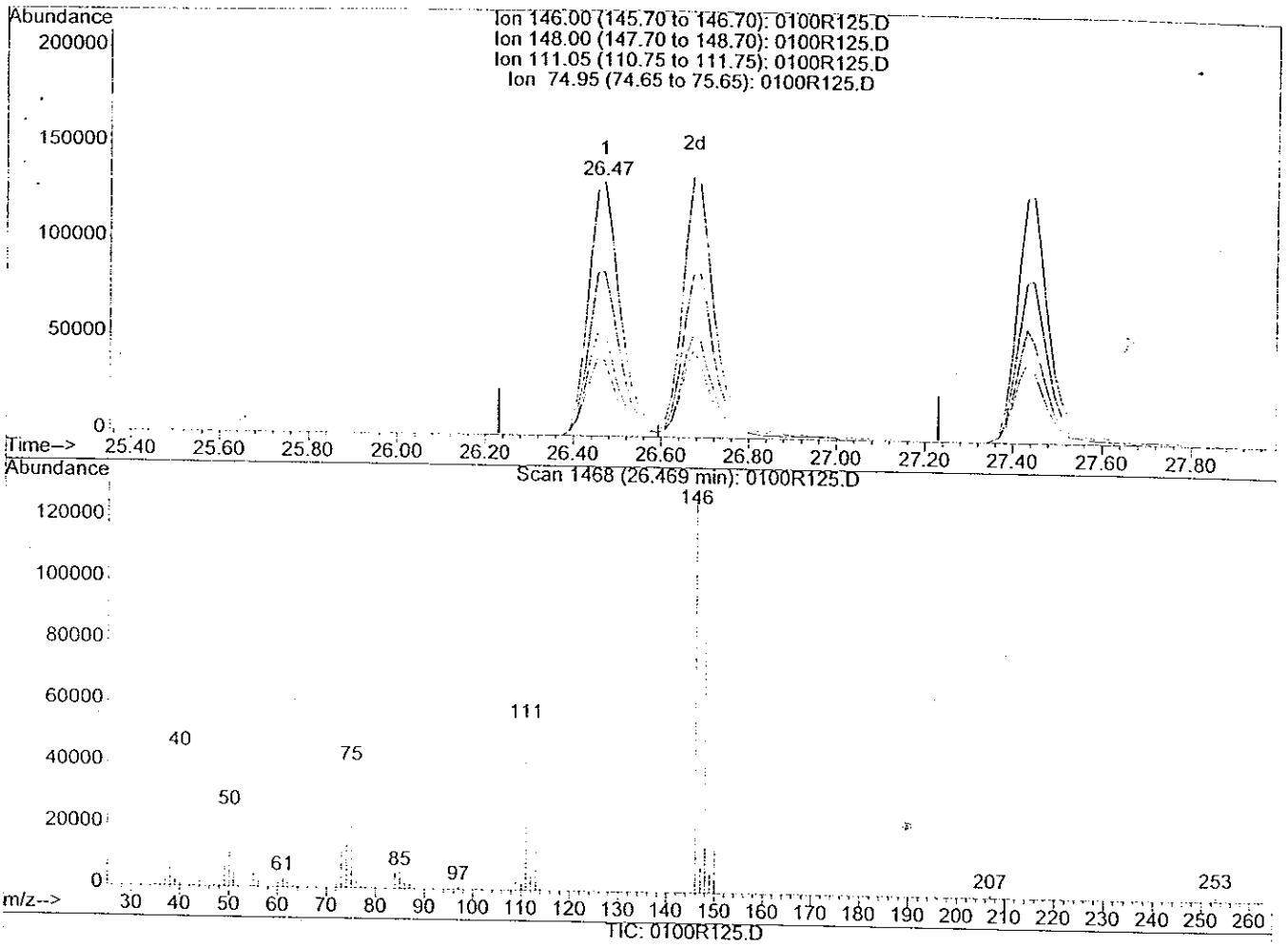
0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

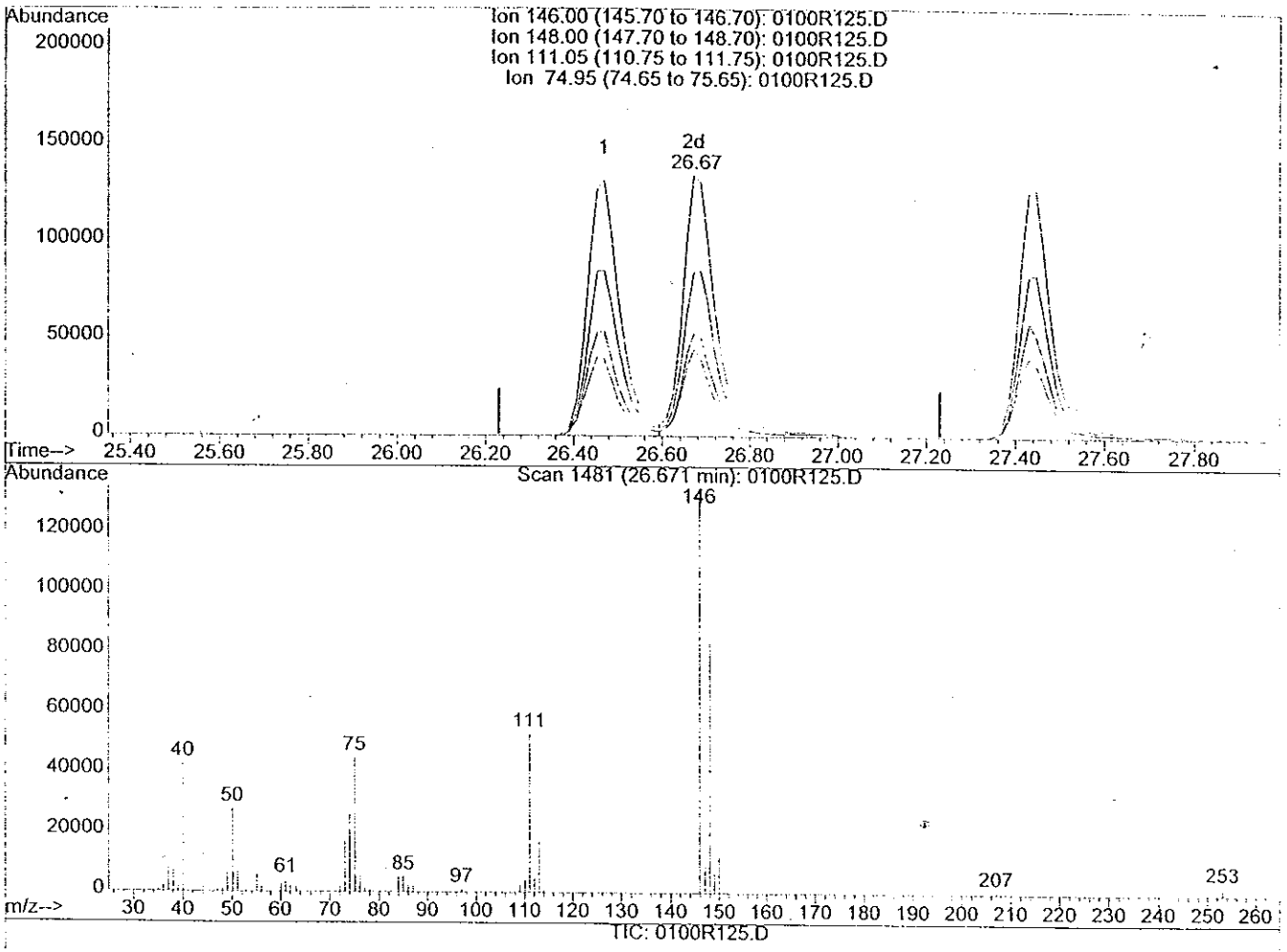
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-2-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

TM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00 ng	0.04
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00 ng	99.81% 0.04
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00 ng	100.02% 0.02
					99.67%
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71 ng	0.04
Spiked Amount 250.000 Range 61 - 140			Recovery	= 118.28%	
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73 ng	0.02
Spiked Amount 250.000 Range 90 - 109			Recovery	= 102.29%	
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63 ng	0.00
Spiked Amount 250.000 Range 87 - 112			Recovery	= 102.25%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97 ng	# 98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25 ng	# 26
4) Chloromethane	4.44	50	621320	222.28 ng	99
5) Vinyl chloride	4.65	62	614874	229.48 ng	97
6) Bromomethane	5.49	94	897640	198.84 ng	98
7) Chloroethane	5.60	64	431748	238.96 ng	98
8) Trichlorofluoromethane	6.13	101	1119931	239.23 ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47 ng	87
10) 1,1-Dichloroethene	7.29	96	864615	239.44 ng	92
12) Methylene chloride	8.18	49	1205948	258.58 ng	96
13) Carbon disulfide	8.36	76	2260074	232.41 ng	100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18 ng	97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60 ng	95
16) n-Hexane	8.86	57	892820	241.08 ng	# 1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39 ng	98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57 ng	96
19) Chloroform	11.16	83	2068510	256.77 ng	99
20) Isooctane	12.11	57	2982558	239.27 ng	99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23 ng	91
22) Carbon tetrachloride	12.59	117	1861531	257.08 ng	98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59 ng	99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52 ng	98
27) Benzene	12.93	78	2293017	257.50 ng	99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

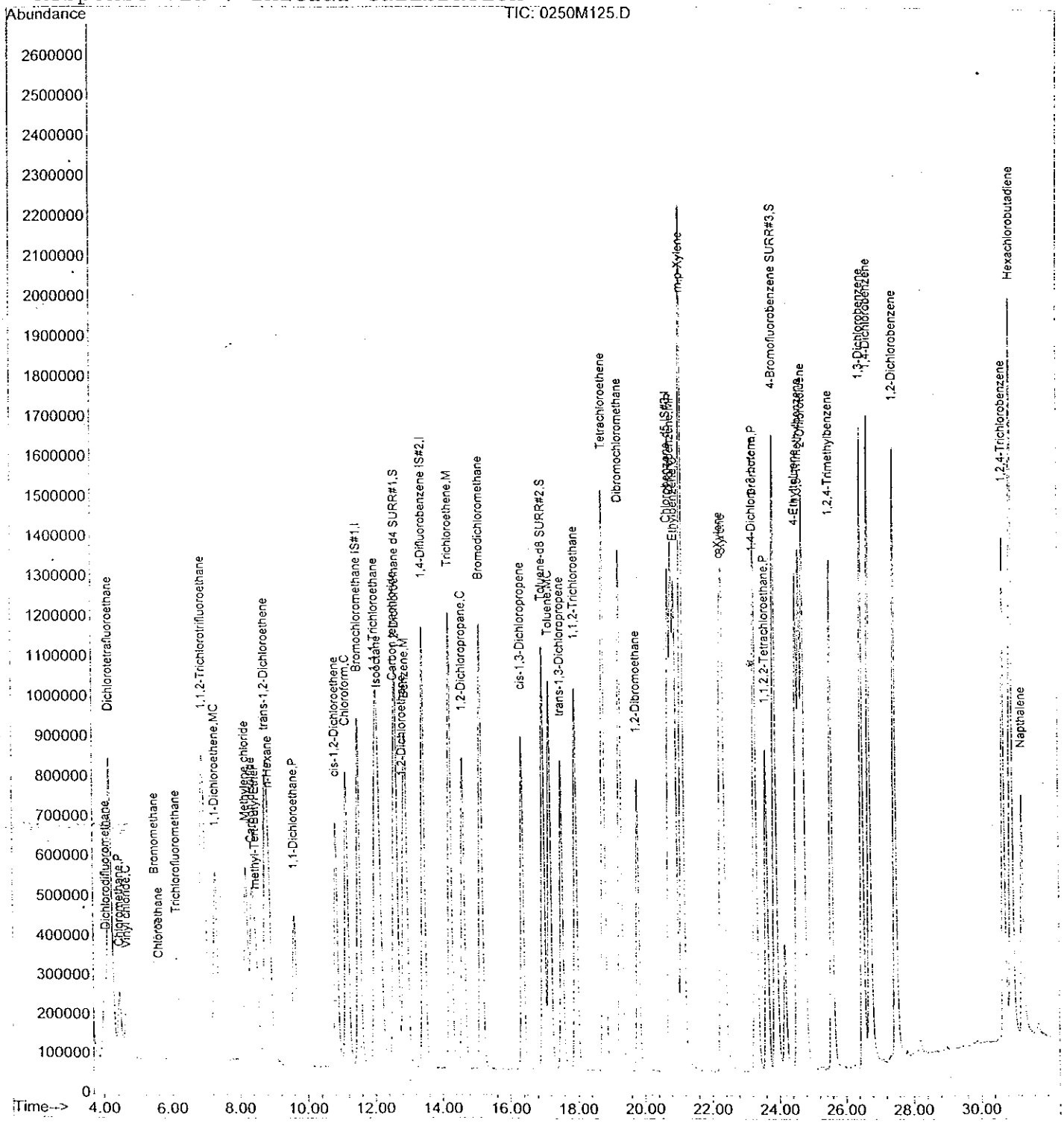
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.23	130	1303368	260.68 ng		96
29) 1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30) Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31) cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33) Toluene	17.18	92	1489621	260.65 ng		98
34) trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35) 1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37) Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38) Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39) Chlorobenzene	20.85	112	2203630	260.18 ng		96
40) Ethylbenzene	20.94	106	882384	259.46 ng		99
41) m,p-Xylene	21.13	106	2264418	517.69 ng		99
42) o-Xylene	22.29	106	1090444	256.51 ng		100
43) Styrene	22.37	104	1906972	288.65 ng		97
44) Bromoform	23.32	173	1752285	313.35 ng		99
45) 1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47) 1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48) 4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49) 1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50) 2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51) 1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52) 1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53) 1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54) 1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55) 1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56) Napthalene	31.25	128	1772393	306.50 ng	#	92
57) Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

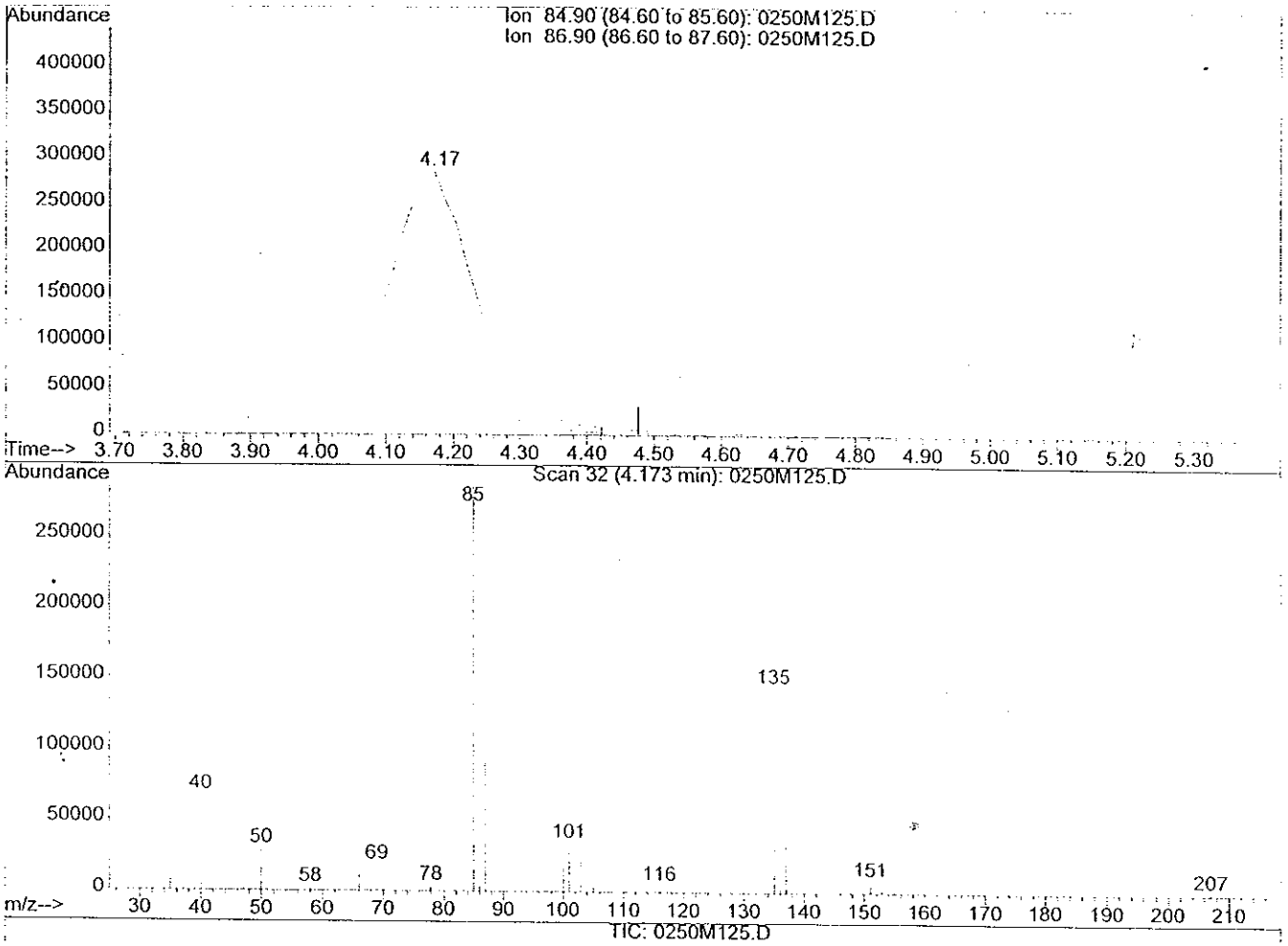
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.17min 846.54ng

response 3299163

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

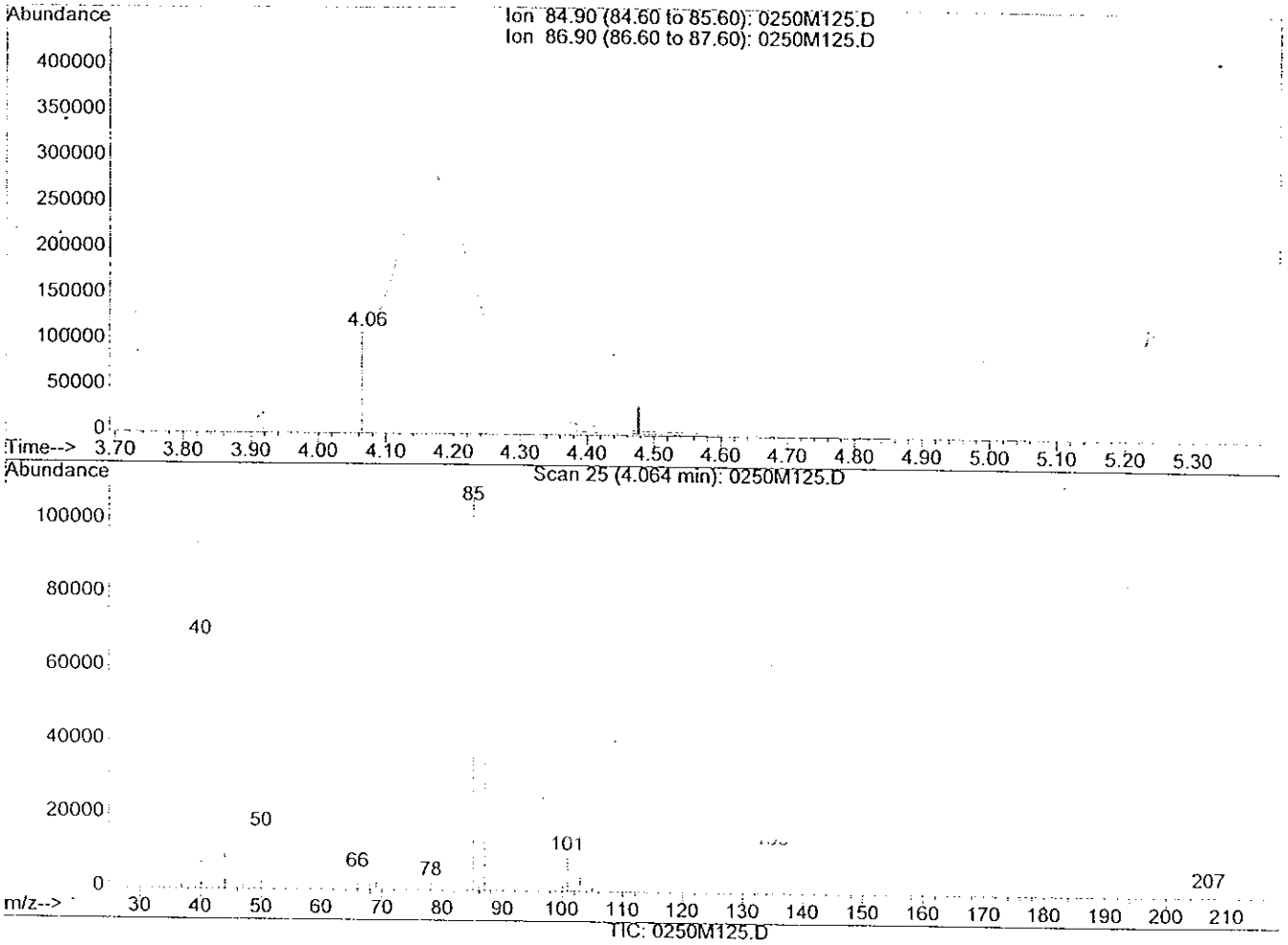
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.06min 187.97ng m

response 732577

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

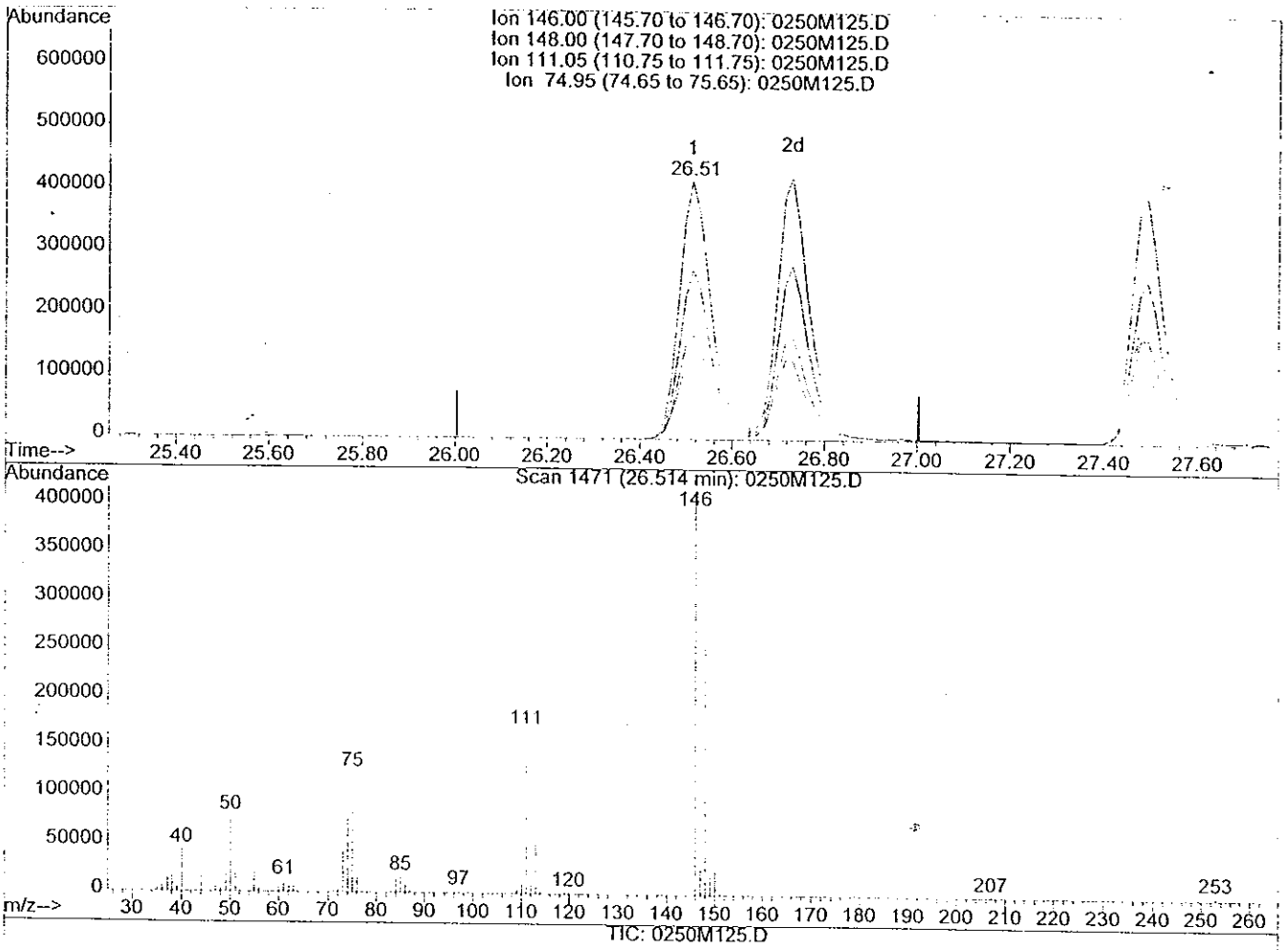
0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.51min 252.17ng

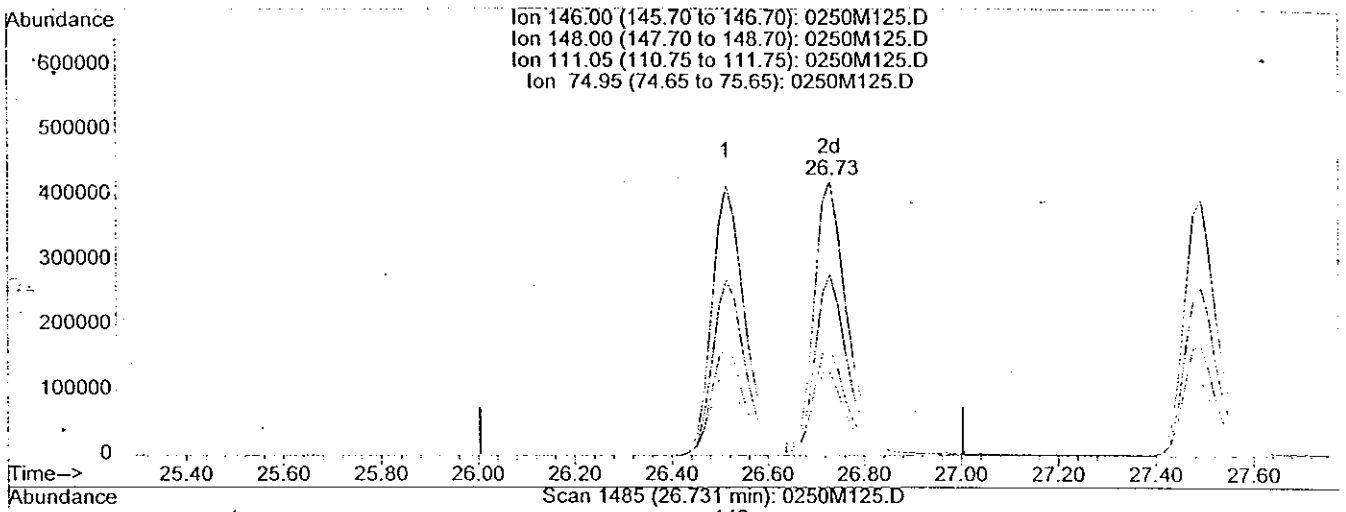
response 2001409

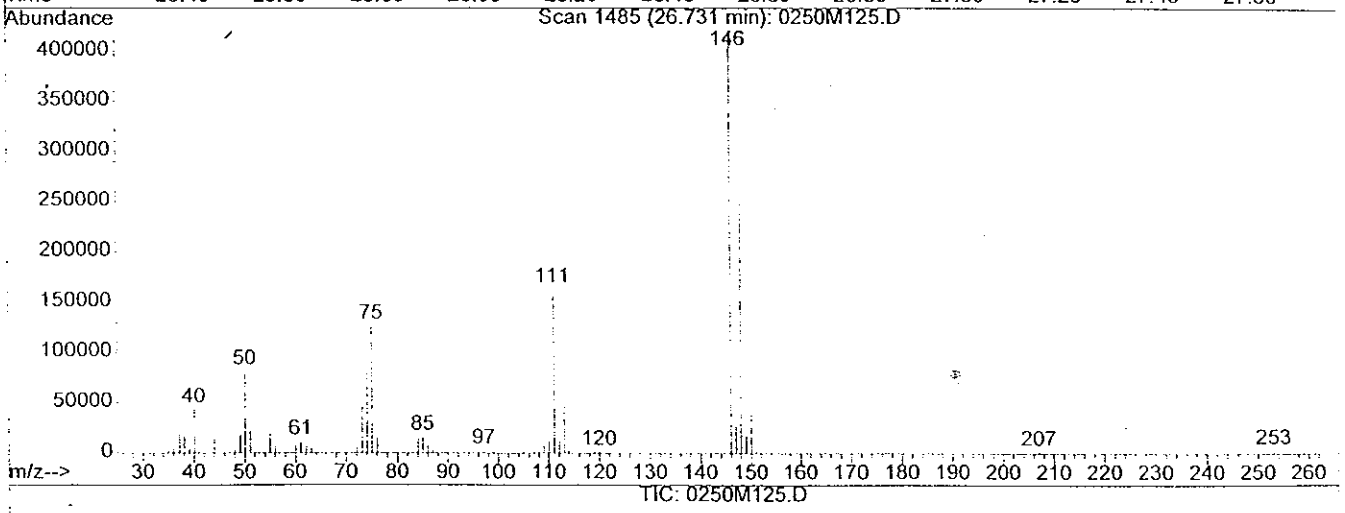
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

my 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00 ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00 ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00 ng	0.02 85.65%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%					
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%					
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%					

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13 ng		93
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12 ng	#	41
4) Chloromethane	4.45	50	1091791	711.29 ng		98
5) Vinyl chloride	4.67	62	1085815	791.74 ng		96
6) Bromomethane	5.51	94	1622372	695.19 ng	#	98
7) Chloroethane	5.62	64	764194	816.25 ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39 ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31 ng		90
12) Methylene chloride	8.21	49	1999667	750.54 ng		98
13) Carbon disulfide	8.38	76	4090731	793.47 ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81 ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05 ng		94
16) n-Hexane	8.88	57	1566036	852.10 ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93 ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96 ng		94
19) Chloroform	11.18	83	3464902	789.20 ng		99
20) Isooctane	12.12	57	5215949	858.33 ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21 ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91 ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94 ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62 ng		99
27) Benzene	12.93	78	3958460	783.68 ng		99

(#) = qualifier out of range (m) = manual integration
0500M125.D TO14S.M Fri Jan 25 15:41:51 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

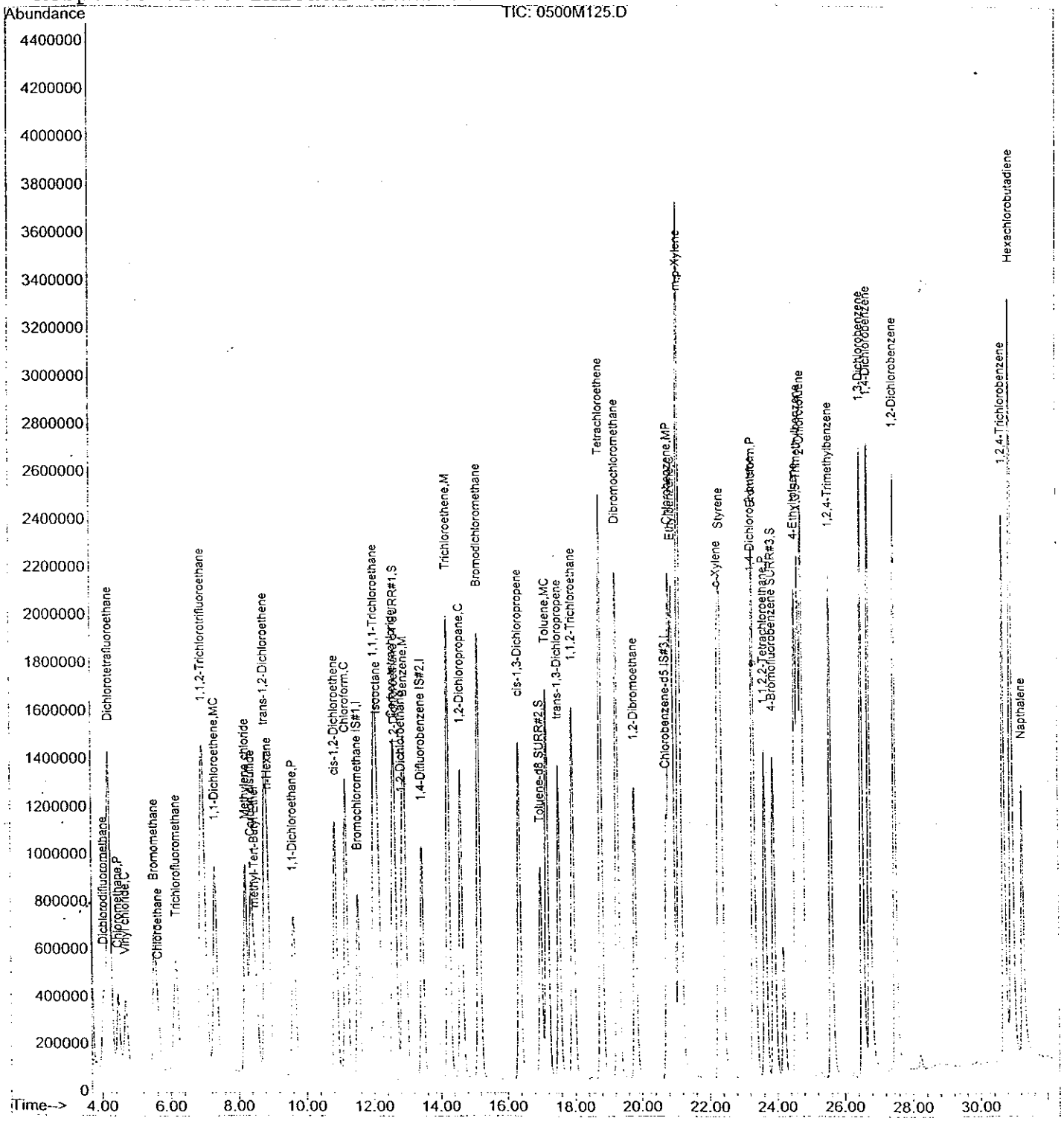
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74	ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79	ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42	ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07	ng		97
33)	Toluene	17.17	92	2501469	791.62	ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39	ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67	ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03	ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68	ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98	ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70	ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12	ng		99
42)	o-Xylene	22.29	106	1850077	851.14	ng		97
43)	Styrene	22.37	104	3243356	851.00	ng		97
44)	Bromoform	23.33	173	2899555	796.41	ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60	ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67	ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21	ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52	ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.49	ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53	ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21	ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31	ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02	ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99	ng		99
56)	Napthalene	31.27	128	3229812	723.84	ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39	ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TB 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng	92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng #	41
4) Chloromethane	4.44	50	2133139	1351.49	ng #	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng	96
6) Bromomethane	5.51	94	3162736	1317.96	ng #	99
7) Chloroethane	5.60	64	1530589	1589.88	ng	97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng	84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng	90
12) Methylene chloride	8.20	49	3993235	1457.56	ng	99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng	100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng	99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng	93
16) n-Hexane	8.88	57	2940178	1555.79	ng #	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng	98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng	93
19) Chloroform	11.18	83	6940397	1537.33	ng	99
20) Isooctane	12.12	57	9654037	1544.96	ng	97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng	91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng	97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng	98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng	98
27) Benzene	12.95	78	7976775	1559.00	ng	99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.25	130	4575596	1625.70 ng		95
29)	1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30)	Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31)	cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33)	Toluene	17.18	92	5201962	1625.17 ng		98
34)	trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35)	1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37)	Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38)	Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39)	Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40)	Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41)	m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42)	o-Xylene	22.31	106	3789454	1709.97 ng		96
43)	Styrene	22.39	104	6680678	1719.31 ng		96
44)	Bromoform	23.33	173	6162140	1660.10 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48)	4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49)	1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50)	2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52)	1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53)	1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54)	1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56)	Napthalene	31.25	128	5947012	1307.26 ng	#	93
57)	Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

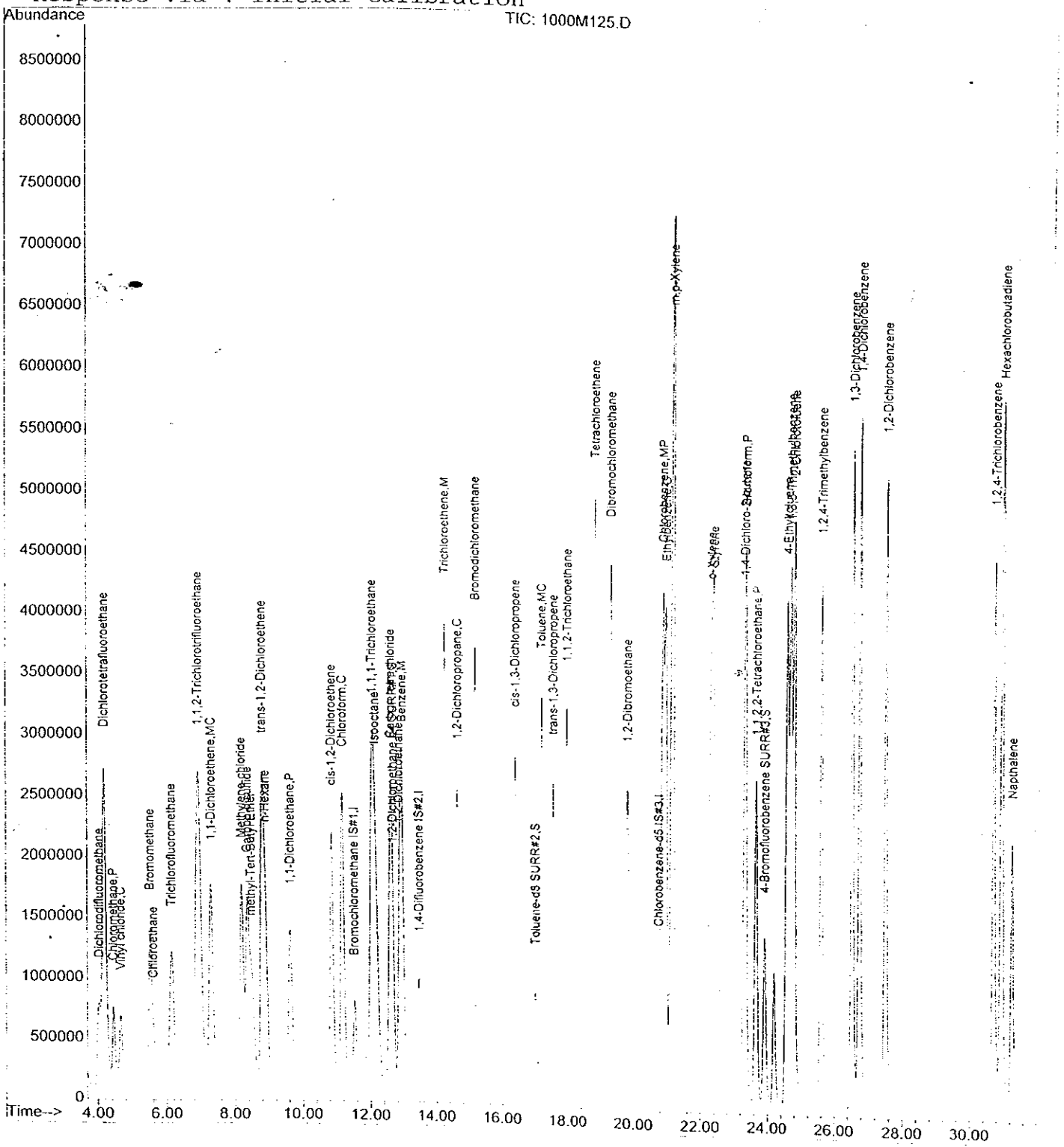
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration



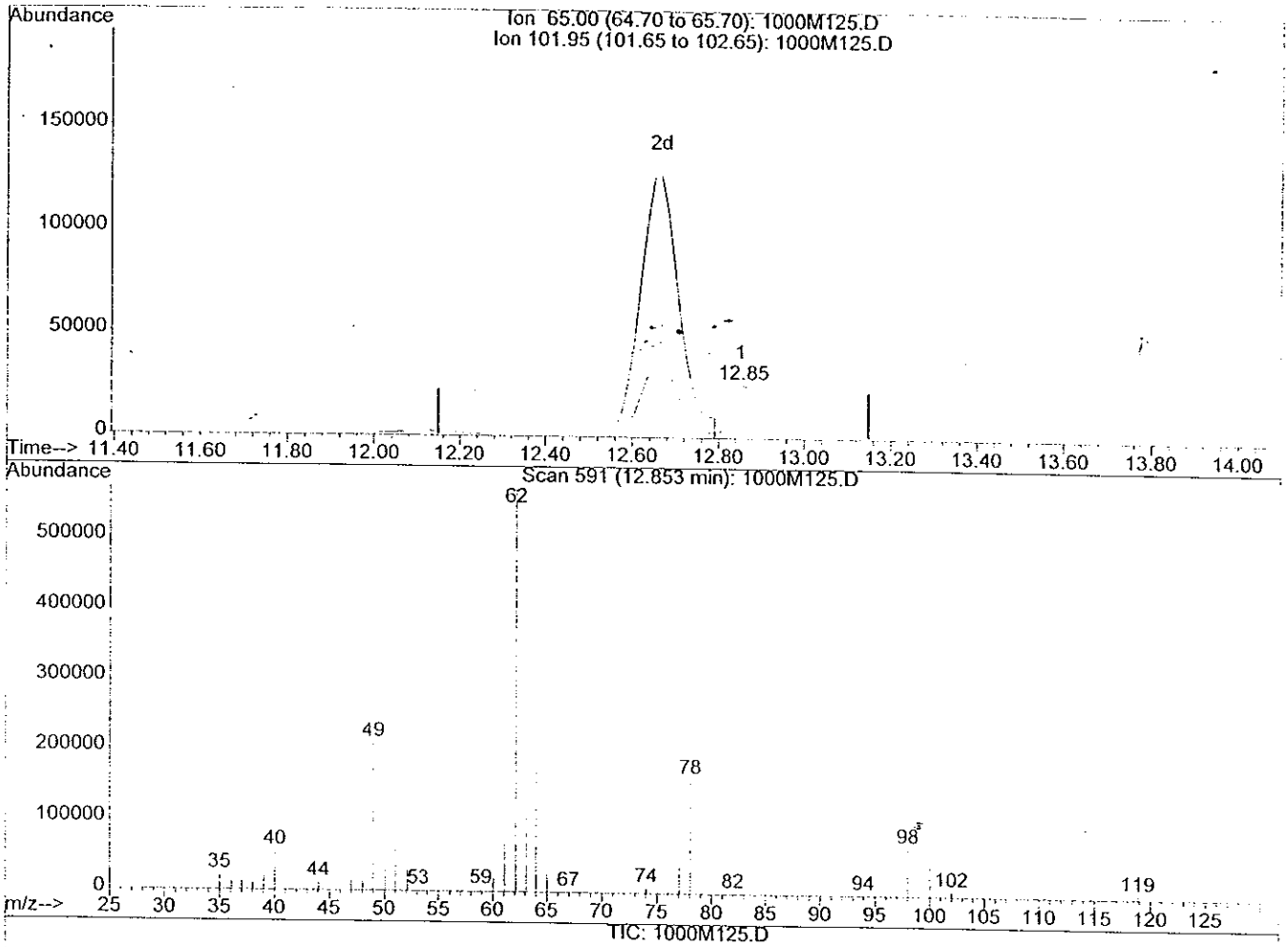
1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

response 171340

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

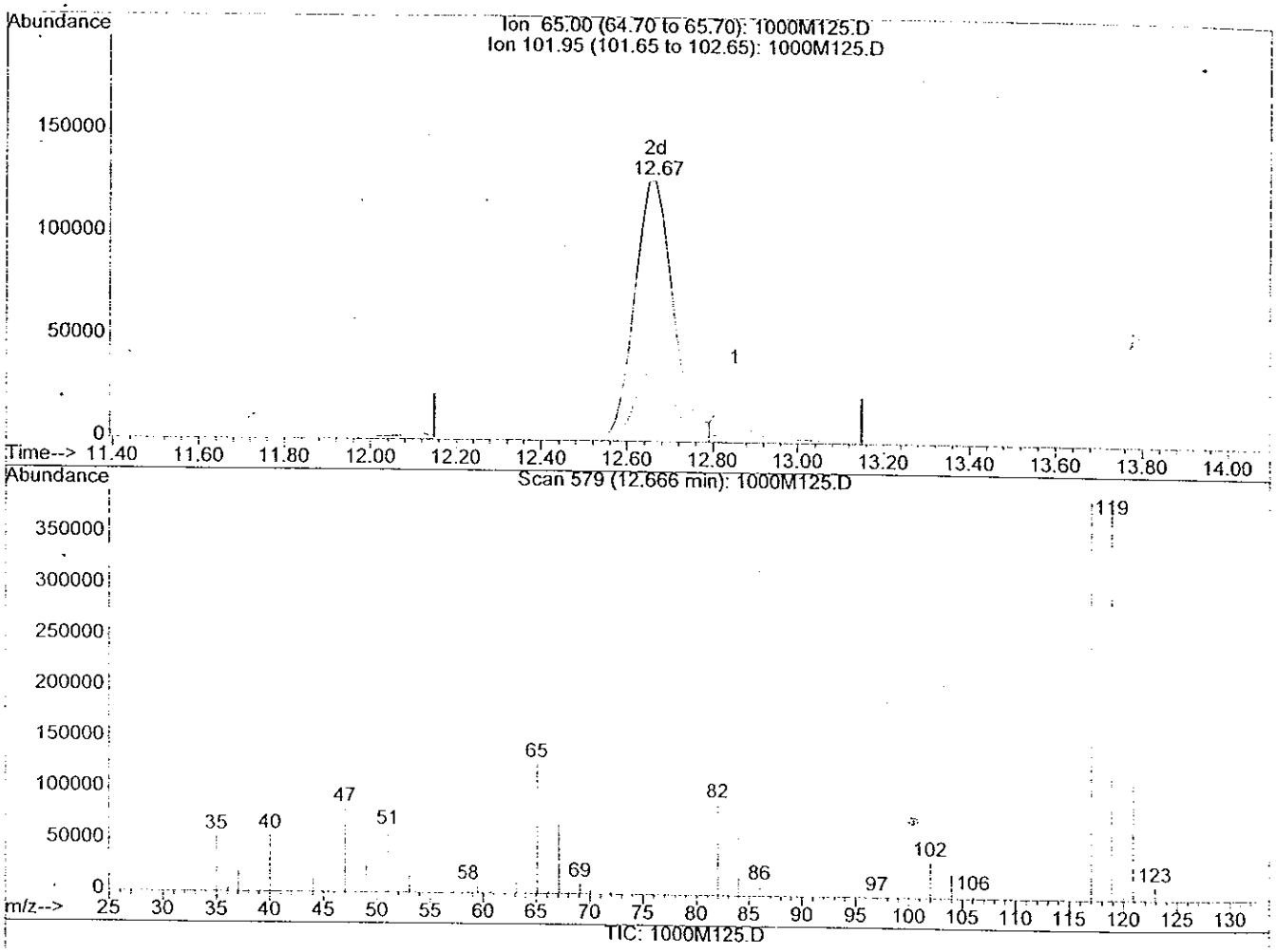
1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng	91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng	# 40
4) Chloromethane	4.44	50	3972848	2058.56	ng	# 97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng	98
6) Bromomethane	5.48	94	5976813	2036.94	ng	# 99
7) Chloroethane	5.59	64	2892614	2457.35	ng	98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng	84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng	90
12) Methylene chloride	8.18	49	7493461	2236.94	ng	99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng	99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng	99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng	93
16) n-Hexane	8.85	57	5552938	2403.09	ng	# 1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng	98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng	92
19) Chloroform	11.15	83	13101131	2373.35	ng	99
20) Isooctane	12.11	57	17221498	2253.97	ng	96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng	91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng	97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng	# 97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng	99
27) Benzene	12.92	78	15415352	2393.38	ng	99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

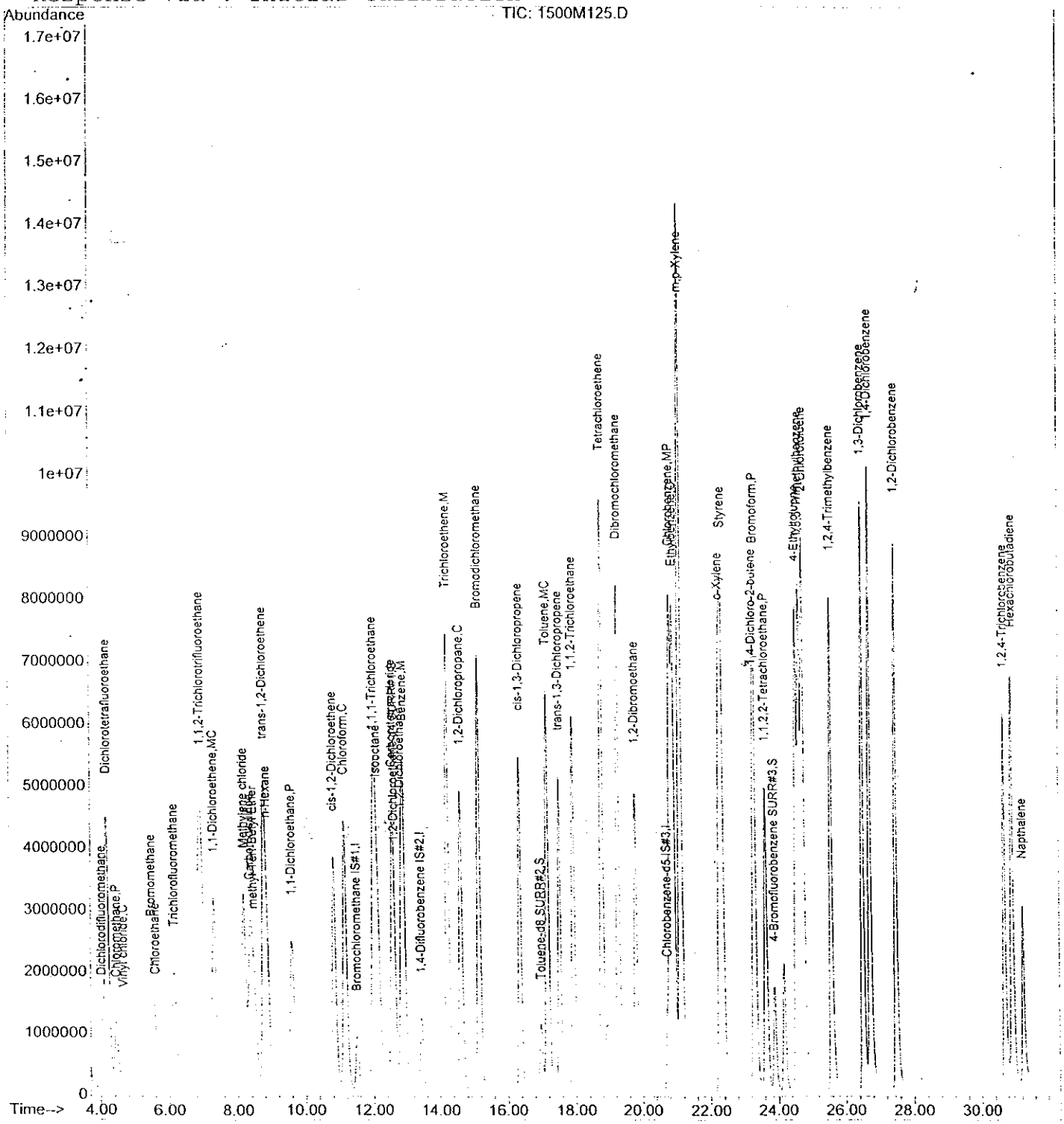
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42 ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33)	Toluene	17.17	92	10065682	2498.13 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42)	o-Xylene	22.28	106	7218929	2597.06 ng		97
43)	Styrene	22.35	104	12826497	2631.72 ng		96
44)	Bromoform	23.32	173	11319346	2431.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022666	2176.84 ng		95
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56)	Napthalene	31.24	128	8081624	1416.32 ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



Date 3-21-02 BH 3/20 Instrument ID : MARILYN Method : TO14 /8260AIR /8260WATER /624MOD

Batch MAB054 1 2 3 Batch 1 2 3 Batch 1 2 3 Maint. ___

IS# 8 -MSW- ~~32~~ 26 - 3 TO14 8 -MSW- 27 - 1 AIR-SPK 8 -MSW- 30 - 2 Sequence cont.

BFB 8 -MSW- 26 - 3 8260 -MSW- - W-SPK -MSW- - on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:06	13	~~BFBSTL~~	~~BFM0321A~~				W			Daily 12hr. BFB Tune
09:27	14	TO14Sm	CM0321A	50ppb		Y N	W	Yes	BDH	Daily Cal Check/~~BFB Tune~~ BH 3/20/95 ion area =
10:24	15		MA054A BK	ST		Y N				Daily Method Blank
11:01	16		MA054 LCS	50ppb		Y N				Batch# 054 LCS
12:16	2		3221 -1	ST.		Y N	A (TO14)			500mls CAN
13:05	2		3329 -1	ST.		Y N				
14:17	2		3330 -1			Y N				
15:25	2		3414 3	ST		Y N				
16:01	2		-2			Y N		No		purged 8260 FS/surr std! re-run ST.
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 3/21/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				Screened water samples 3383(1-2), 3387(1-4) and 3454(1-7)

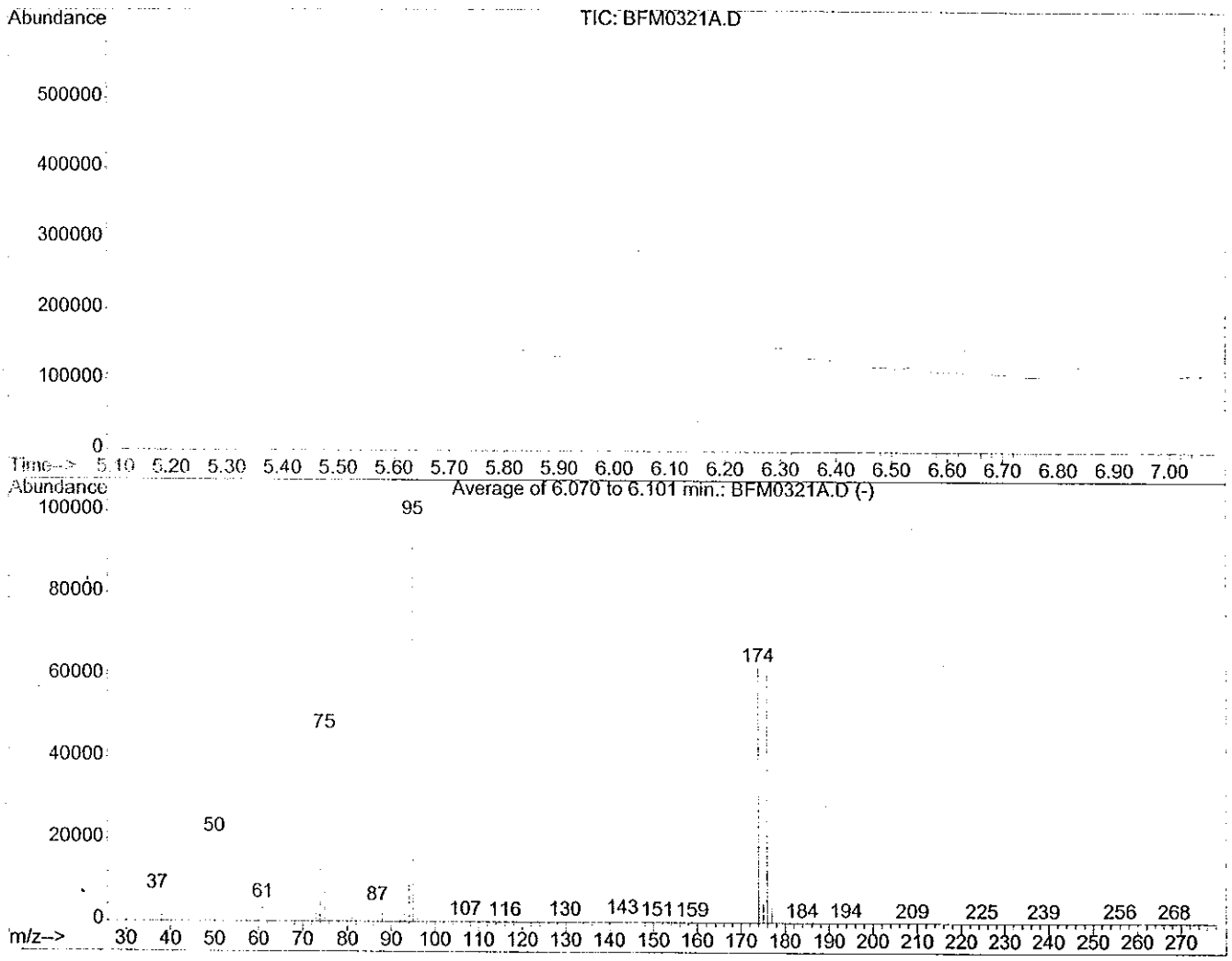
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

**. Iss and surrogates were checked automatically using the software and generic Forms II and VIII (13:37) that are located in the daily folder.

[illegible] 3329-d re-run & passed at 14:51

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\BFM0321A.D Vial: 13
Acq On : 21 Mar 2002 9:06 am Operator: BDH
Sample : DAILY 12 HOUR BFB TUNE Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 36 (6.09 min)
Average of 3 scans: 35,36,37 minus background scan 16 (5.78 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	20376	PASS
75	95	30	60	46.8	45794	PASS
95	95	100	100	100.0	97951	PASS
96	95	5	9	6.4	6253	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	63.7	62443	PASS
175	174	5	9	7.7	4787	PASS
176	174	95	101	98.2	61335	PASS
177	176	5	9	6.4	3943	PASS

BFM0321A.D TO14S.M Mon Mar 25 22:52:20 2002

Average of 6.070 to 6.101 min.: BFM0321A.D
DAILY 12 HOUR BFB TUNE
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1076	56.05	1083	76.05	3277	140.95	574
37.05	6362	57.05	2354	78.95	2004	142.95	720
38.00	5061	59.95	898	79.90	501	174.00	62443
39.05	1274	60.95	4301	81.00	2302	175.00	4787
44.05	763	62.05	4007	86.95	3706	175.95	61335
45.00	796	63.00	2852	87.95	3617	176.95	3943
47.05	1558	68.00	8937	92.05	2332		
47.95	798	69.00	9247	93.00	3548		
48.95	4396	73.05	5094	94.05	10098		
50.00	20376	74.00	14762	95.00	97951		
51.00	5882	75.00	45794	96.05	6253		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

Passed BAA 3/20/02

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	68	0.00
2		Dichlorodifluoromethane	0.919	0.774	15.8#	58	0.00
3		Dichlorotetrafluoroethane	1.446	1.333	7.8#	59	0.00
4	P	Chloromethane	0.788	0.676	14.2#	59	0.00
5	C	Vinyl chloride	0.727	0.736	-1.2#	65	0.00
6		Bromomethane	1.180	1.171	0.8	71	0.00
7		Chloroethane	0.530	0.528	0.4	67	0.00
8		Trichlorofluoromethane	1.261	0.698	44.6#	34#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.874	-0.3	68	0.00
10	MC	1,1-Dichloroethene	1.064	1.067	-0.3#	67	0.00
11		Iodomethane	0.000	0.000	0.0	70	0.00
12		Methylene chloride	1.431	1.639	-14.5#	74	0.00
13		Carbon disulfide	2.862	2.969	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	1.551	1.569	-1.2	66	0.00
15		trans-1,2-Dichloroethene	1.194	1.238	-3.7#	70	0.00
16		n-Hexane	1.089	1.096	-0.6	67	0.00
17	P	1,1-Dichloroethane	1.944	2.160	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	1.576	1.760	-11.7#	73	0.00
19	C	Chloroform	2.454	2.844	-15.9#	75	0.00
20		Isooctane	3.653	3.382	7.4#	62	0.00
21		1,1,1-Trichloroethane	2.085	2.425	-16.3#	76	0.00
22		Carbon tetrachloride	2.195	2.535	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.307	-11.1#	70	0.00
24		1,2-Dichloroethane	1.321	1.497	-13.3#	71	0.00
25		1,2-Dibromoethane	2.124	1.929	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	71	0.00
27	M	Benzene	0.733	0.741	-1.1	71	0.00
28	M	Trichloroethene	0.407	0.410	-0.7	70	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	70	0.00
30		Bromodichloromethane	0.755	0.831	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	70	0.00
32	S	Toluene-d8 SURR#2	0.781	0.788	-0.9	70	0.00
33	MC	Toluene	0.463	0.471	-1.7#	70	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	67	0.00
35		1,1,2-Trichloroethane	0.322	0.292	9.3#	62	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	70	0.00
37		Tetrachloroethene	0.488	0.486	0.4	70	0.00
38		Dibromochloromethane	0.722	0.692	4.2#	65	0.00
39	MP	Chlorobenzene	0.891	0.925	-3.8#	71	0.00

(#) = Out of Range

Evaluate continuing calibration report

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.360	-1.1#	69	0.00
41		m,p-Xylene	0.459	0.472	-2.8#	71	0.00
42		o-Xylene	0.439	0.476	-8.4#	74	0.00
43		Styrene	0.771	0.816	-5.8#	73	0.00
44	P	Bromoform	0.713	0.630	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.587	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.938	-5.3#	73	0.00
47		1,4-Dichloro-2-butene	0.130	0.104	20.0#	57	0.00
48		4-Ethyltoluene	1.157	1.291	-11.6#	78	0.00
49		1,3,5-Trimethylbenzene	0.912	1.081	-18.5#	84	0.00
50		2-Chlorotoluene	1.191	1.333	-11.9#	77	0.00
51		1,2,4-Trimethylbenzene	0.961	1.091	-13.5#	76	0.00
52		1,3-Dichlorobenzene	0.782	0.861	-10.1#	73	0.00
53		1,4-Dichlorobenzene	0.825	0.909	-10.2#	72	0.00
54		1,2-Dichlorobenzene	0.758	0.806	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	0.568	0.554	2.5#	69	0.00
56		Napthalene	0.830	0.714	14.0#	68	0.00
57		Hexachlorobutadiene	0.495	0.423	14.5#	65	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

passes linear and quadratic analytes (except #8) BH 3/20/

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev (0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150% see OCCE

		Compound	Amount	Calc.	%Dev (drift)	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	68	0.00
2		Dichlorodifluoromethane	250.000	206.257	17.5#L	58	0.00
3		Dichlorotetrafluoroethane	250.000	230.564	7.8#	59	0.00
4	P	Chloromethane	250.000	214.595	14.2#	59	0.00
5	C	Vinyl chloride	250.000	253.103	-1.2#	65	0.00
6		Bromomethane	250.000	248.052	0.8	71	0.00
7		Chloroethane	250.000	249.161	0.3	67	0.00
8		Trichlorofluoromethane	250.000	147.604	41.0#L	34	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	250.794	0.3	68	0.00
10	MC	1,1-Dichloroethene	250.000	250.900	-0.4#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	70	0.00
12		Methylene chloride	250.000	286.323	-14.5#	74	0.00
13		Carbon disulfide	250.000	259.354	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	250.000	252.922	-1.2	66	0.00
15		trans-1,2-Dichloroethene	250.000	259.176	-3.7#	70	0.00
16		n-Hexane	250.000	251.548	-0.6	67	0.00
17	P	1,1-Dichloroethane	250.000	277.814	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	250.000	279.208	-11.7#	73	0.00
19	C	Chloroform	250.000	289.733	-15.9#	75	0.00
20		Isooctane	250.000	231.502	7.4#	62	0.00
21		1,1,1-Trichloroethane	250.000	290.741	-16.3#	76	0.00
22		Carbon tetrachloride	250.000	288.772	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	277.834	-11.1#	70	0.00
24		1,2-Dichloroethane	250.000	283.273	-13.3#	71	0.00
25		1,2-Dibromoethane	250.000	227.102	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	71	0.00
27	M	Benzene	250.000	252.655	-1.1	71	0.00
28	M	Trichloroethene	250.000	251.703	-0.7	70	0.00
29	C	1,2-Dichloropropane	250.000	256.005	-2.4#	70	0.00
30		Bromodichloromethane	250.000	275.213	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	250.000	255.057	-2.0#	70	0.00
32	S	Toluene-d8 SURR#2	250.000	252.097	-0.8	70	0.00
33	MC	Toluene	250.000	254.415	-1.8#	70	0.00
34		trans-1,3-Dichloropropene	250.000	249.364	0.3	67	0.00
35		1,1,2-Trichloroethane	250.000	226.610	9.4#	62	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	70	0.00
37		Tetrachloroethene	250.000	249.247	0.3	70	0.00
38		Dibromochloromethane	250.000	239.556	4.2#	65	0.00
39	MP	Chlorobenzene	250.000	259.386	-3.8#	71	0.00

use for RRF/Area? write on OOCL 3-21-02 BH 3/22/02 — fails see OCCE

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	252.821		-1.1#	69	0.00
41		m,p-Xylene	500.000	513.698		-2.7#	71	0.00
42		o-Xylene	250.000	271.426		-8.6#	74	0.00
43		Styrene	250.000	264.750		-5.9#	73	0.00
44	P	Bromoform	250.000	221.122		11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	229.370		8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	262.979		-5.2#	73	0.00
47		1,4-Dichloro-2-butene	250.000	199.754		20.1#	57	0.00
48		4-Ethyltoluene	250.000	278.840		-11.5#	78	0.00
49		1,3,5-Trimethylbenzene	250.000	296.468		-18.6#	84	0.00
50		2-Chlorotoluene	250.000	279.894		-12.0#	77	0.00
51		1,2,4-Trimethylbenzene	250.000	284.002		-13.6#	76	0.00
52		1,3-Dichlorobenzene	250.000	275.421		-10.2#	73	0.00
53		1,4-Dichlorobenzene	250.000	275.449		-10.2#	72	0.00
54		1,2-Dichlorobenzene	250.000	265.819		-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	250.000	220.252	Q	-11.9#	69	0.00
56		Napthalene	250.000	207.216	Q	-17.1#	68	0.00
57		Hexachlorobutadiene	250.000	199.429	Q	-20.2#	65	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 09 09:29:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0309A\CM0309A.D (9 Mar 2002 8:43)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	545778	250.00	ng	-0.07 96.87%
26) 1,4-Difluorobenzene IS#2	13.21	114	2209181	250.00	ng	-0.07 96.80%
36) Chlorobenzene-d5 IS#3	20.52	117	1694454	250.00	ng	-0.07 97.74%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.40	65	713475	277.83	ng	-0.07
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.13%						
32) Toluene-d8 SURR#2	16.76	98	1740003	252.10	ng	-0.07
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.84%						
46) 4-Bromofluorobenzene SURR#	23.67	95	1588771	262.98	ng	-0.07
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.19%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.82	85	422491m	206.26	ng	# 100
3) Dichlorotetrafluoroethane	3.89	135	727635	230.56	ng	# 27
4) Chloromethane	4.14	50	369022	214.60	ng	93
5) Vinyl chloride	4.38	62	401889	253.10	ng	97
6) Bromomethane	5.20	94	638989	248.05	ng	94
7) Chloroethane	5.31	64	288030	249.16	ng	97
8) Trichlorofluoromethane	5.82	101	380754	147.60	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.63	151	1022929	250.79	ng	89
10) 1,1-Dichloroethene	7.00	96	582604	250.90	ng	97
12) Methylene chloride	7.90	49	894513	286.32	ng	94
13) Carbon disulfide	8.04	76	1620565	259.35	ng	97
14) methyl-Tert-Butyl Ether	8.21	73	856267	252.92	ng	# 92
15) trans-1,2-Dichloroethene	8.51	96	675577	259.18	ng	96
16) n-Hexane	8.60	57	597915	251.55	ng	# 1
17) 1,1-Dichloroethane	9.33	63	1178836	277.81	ng	98
18) cis-1,2-Dichloroethene	10.57	61	960731	279.21	ng	97
19) Chloroform	10.90	83	1552155	289.73	ng	97
20) Isooctane	11.87	57	1846047	231.50	ng	97
21) 1,1,1-Trichloroethane	11.78	97	1323357	290.74	ng	94
22) Carbon tetrachloride	12.34	117	1383663	288.77	ng	98
24) 1,2-Dichloroethane	12.60	62	816777	283.27	ng	99
25) 1,2-Dibromoethane	19.57	107	1052957	227.10	ng	98
27) Benzene	12.68	78	1637174	252.65	ng	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 09 09:29:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

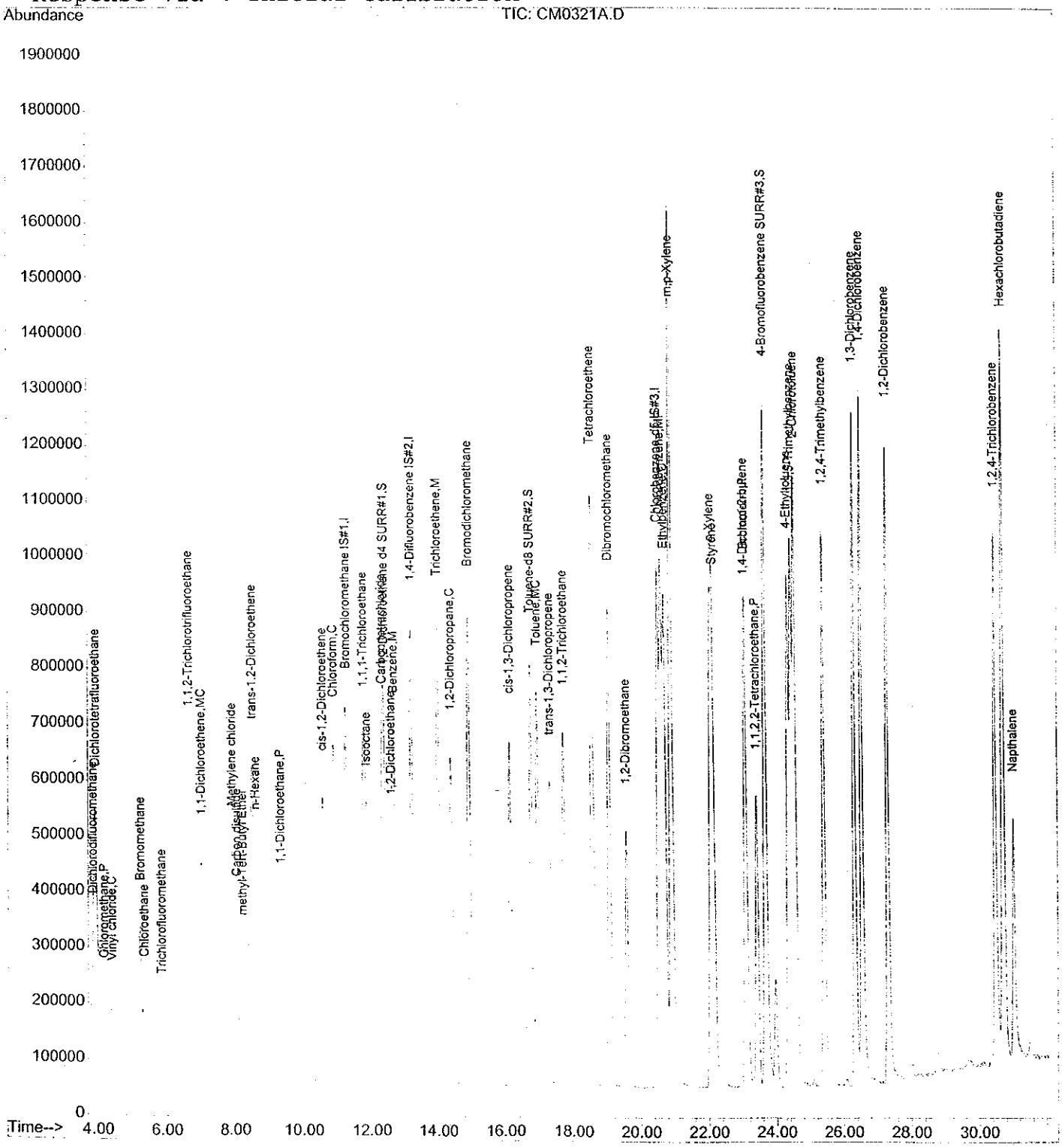
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.00	130	905967	251.70 ng		97
29)	1,2-Dichloropropane	14.39	63	701813	256.01 ng	#	92
30)	Bromodichloromethane	14.93	83	1835431	275.21 ng		99
31)	cis-1,3-Dichloropropene	16.14	75	1057962	255.06 ng	#	89
33)	Toluene	16.95	92	1041219	254.42 ng		97
34)	trans-1,3-Dichloropropene	17.32	75	885115	249.36 ng	#	88
35)	1,1,2-Trichloroethane	17.73	97	645124	226.61 ng		97
37)	Tetrachloroethene	18.57	164	823659	249.25 ng		98
38)	Dibromochloromethane	19.06	127	1172084	239.56 ng		100
39)	Chlorobenzene	20.63	112	1566614	259.39 ng		97
40)	Ethylbenzene	20.72	106	610715	252.82 ng		97
41)	m,p-Xylene	20.91	106	1598036	513.70 ng		97
42)	o-Xylene	22.07	106	807140	271.43 ng		99
43)	Styrene	22.15	104	1382807	264.75 ng		99
44)	Bromoform	23.08	173	1067856	221.12 ng		100
45)	1,1,2,2-Tetrachloroethane	23.41	83	994498	229.37 ng		99
47)	1,4-Dichloro-2-butene	23.07	75	176475	199.75 ng		97
48)	4-Ethyltoluene	24.34	105	2186856	278.84 ng		95
49)	1,3,5-Trimethylbenzene	24.45	105	1832493	296.47 ng		94
50)	2-Chlorotoluene	24.56	91	2259113	279.89 ng		97
51)	1,2,4-Trimethylbenzene	25.40	105	1849476	284.00 ng		100
52)	1,3-Dichlorobenzene	26.33	146	1459277	275.42 ng		97
53)	1,4-Dichlorobenzene	26.55	146	1539612	275.45 ng		95
54)	1,2-Dichlorobenzene	27.31	146	1366368	265.82 ng		97
55)	1,2,4-Trichlorobenzene	30.47	180	938141	220.25 ng		99
56)	Napthalene	31.02	128	1210201	207.22 ng	#	92
57)	Hexachlorobutadiene	30.72	225	717239	199.43 ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54ABK.D Vial: 15
Acq On : 21 Mar 2002 10:24 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	583971	250.00	ng	0.00 107.00%
26) 1,4-Difluorobenzene IS#2	13.21	114	2373088	250.00	ng	0.00 107.42%
36) Chlorobenzene-d5 IS#3	20.54	117	1777219	250.00	ng	0.01 104.88%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.42	65	781338	284.36	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 113.74%			
32) Toluene-d8 SURR#2	16.76	98	1839584	248.12	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.25%			
46) 4-Bromofluorobenzene SURR#	23.69	95	1572380	248.15	ng	0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.26%			

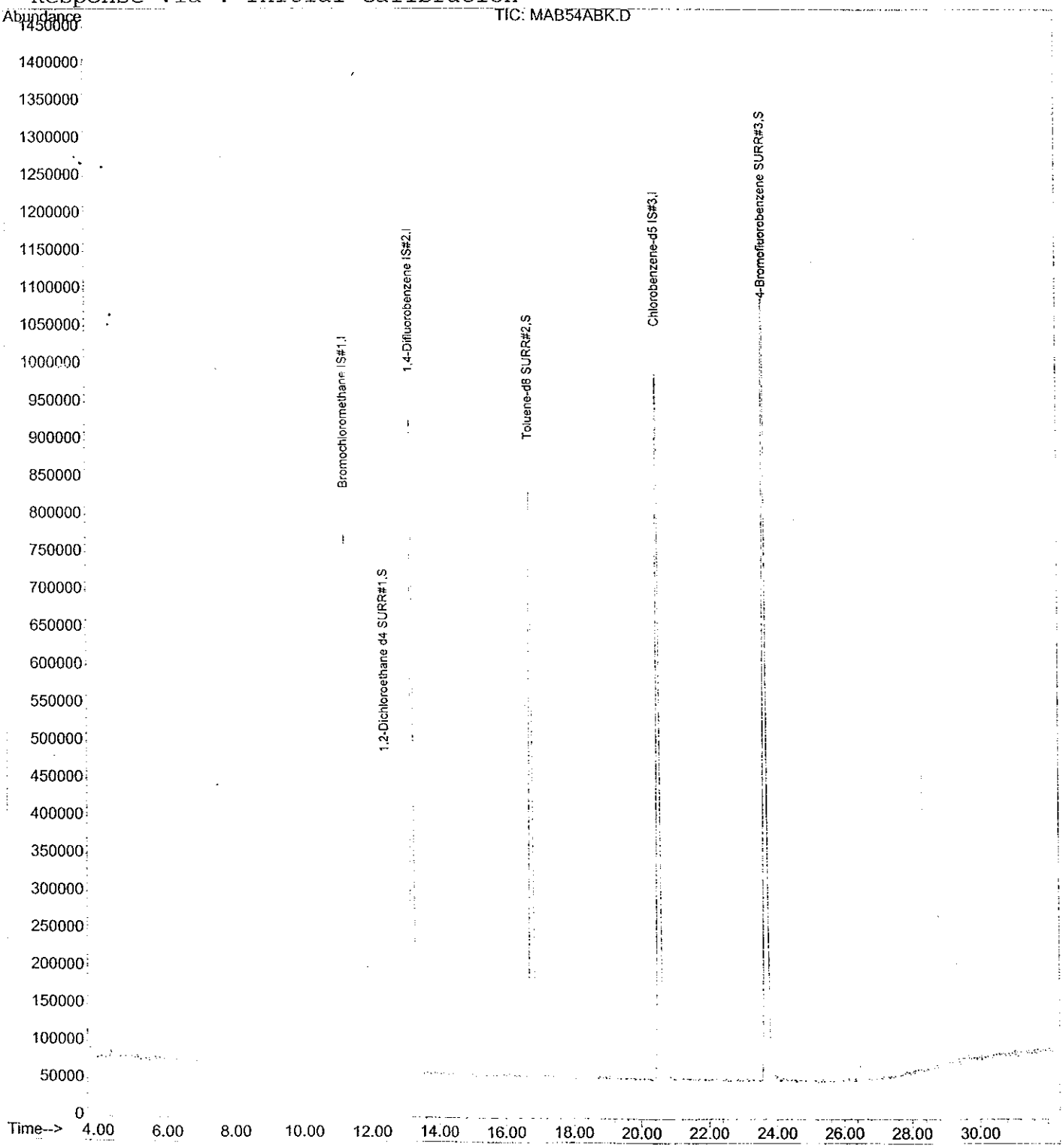
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB54ABK.D TO14S.M Mon Mar 25 22:57:37 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54ABK.D Vial: 15
Acq On : 21 Mar 2002 10:24 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:07 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:43 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	513167	250.00 ng	0.02 94.02%
26) 1,4-Difluorobenzene IS#2	13.23	114	2001743	250.00 ng	0.02 90.61%
36) Chlorobenzene-d5 IS#3	20.54	117	1546733	250.00 ng	0.02 91.28%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.42	65	694427	287.60 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 115.04%					
32) Toluene-d8 SURR#2	16.78	98	1596197	255.23 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.09%					
46) 4-Bromofluorobenzene SURR#	23.68	95	1386049	251.34 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.54%					

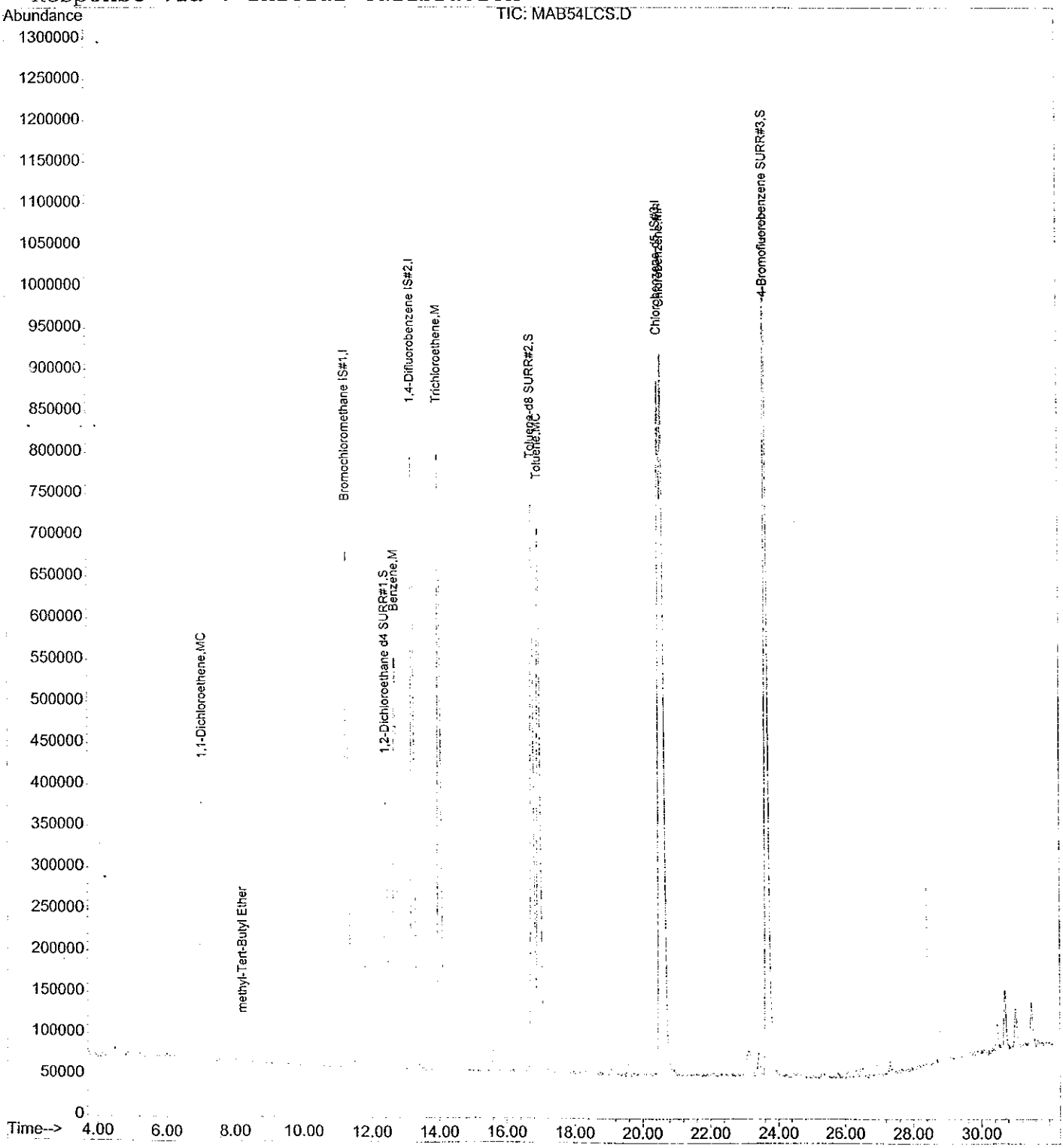
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	482573	221.03 ng		97
14) methyl-Tert-Butyl Ether	8.21	73	18761	5.89 ng	#	44
27) Benzene	12.70	78	1486478	253.17 ng		99
28) Trichloroethene	14.02	130	809788	248.30 ng		97
33) Toluene	16.97	92	964688	260.14 ng		97
39) Chlorobenzene	20.63	112	1454390	263.80 ng		89

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:43 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0321A\33301.D Vial: 2
Acq On : 21 Mar 2002 14:17 Operator: BDH
Sample : 062SVEEA03110222\3330-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Mar 21 14:55 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

BH 3/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	312887	250.00	ng	0.00 57.33%
26) 1,4-Difluorobenzene IS#2	13.23	114	1236068	250.00	ng	0.02 55.95%
36) Chlorobenzene-d5 IS#3	20.53	117	907496	250.00	ng	0.00 53.56%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.42	65	368301	250.17	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.07%						
32) Toluene-d8 SURR#2	16.77	98	955205	247.35	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.94%						
46) 4-Bromofluorobenzene SURR#	23.68	95	790914	244.44	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.78%						

Target Compounds

						Qvalue
48) 4-Ethyltoluene	24.32	105	39601	0.04	ng <MDL	91
49) 1,3,5-Trimethylbenzene	24.46	105	28182	0.03	ng	98
51) 1,2,4-Trimethylbenzene	25.40	105	55907	0.06	ng	96

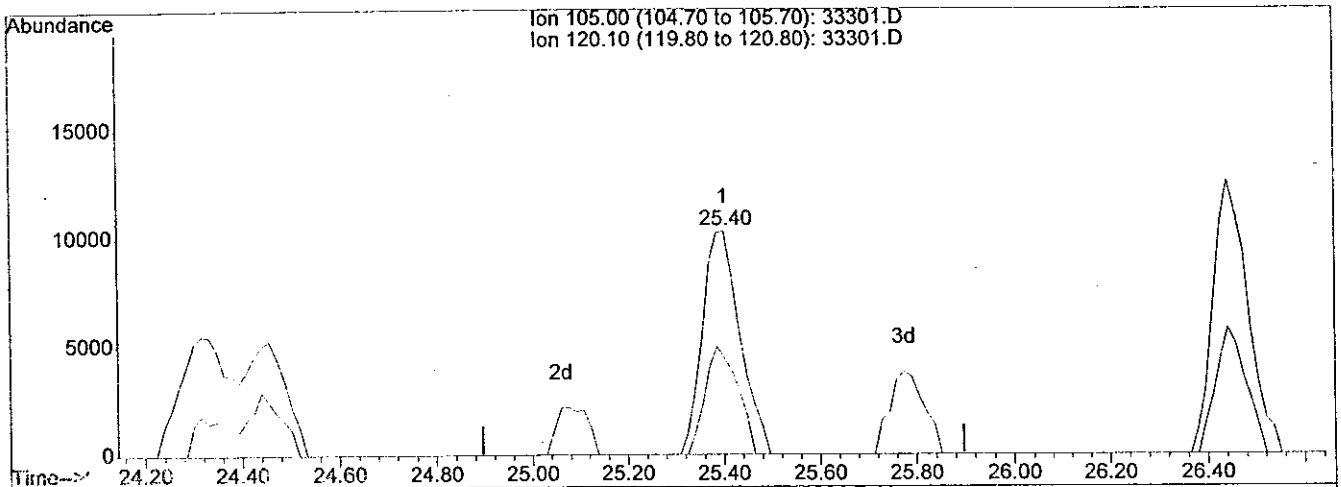
(#) = qualifier out of range (m) = manual integration

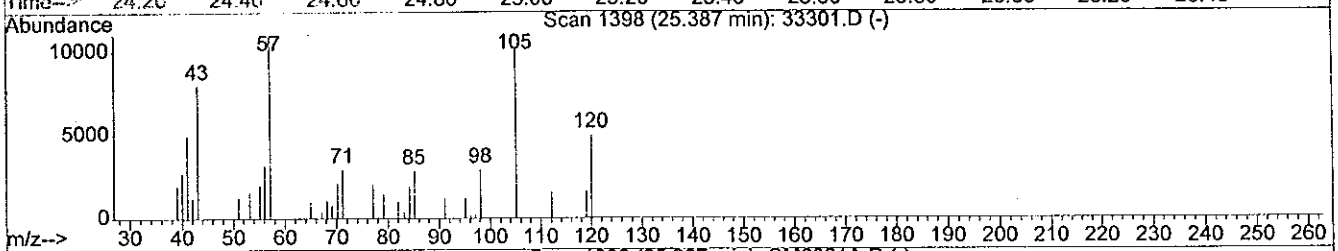
Quantitation Report (Qedit)

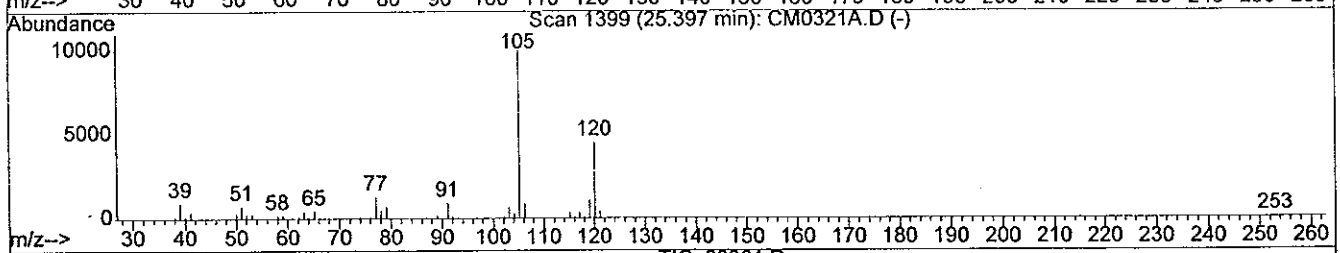
Data File : D:\HPCHEM\1\DATA02\M0321A\33301.D
Acq On : 21 Mar 2002 14:17
Sample : 062SVEEA03110222\3330-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 14:55 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33301.D

(51) 1,2,4-Trimethylbenzene

25.40min 16.03ng

response 55907

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	42.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0321A\33301.D Vial: 2
Acq On : 21 Mar 2002 14:17 Operator: BDH
Sample : 062SVEEA03110222\3330-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 14:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	312887	250.00 ng	0.00 57.33%
26) 1,4-Difluorobenzene IS#2	13.23	114	1236068	250.00 ng	0.02 55.95%
36) Chlorobenzene-d5 IS#3	20.53	117	907496	250.00 ng	0.00 53.56%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.42	65	368301	250.17 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.07%		
32) Toluene-d8 SURR#2	16.77	98	955205	247.35 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.94%		
46) 4-Bromofluorobenzene SURR#	23.68	95	790914	244.44 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.78%		

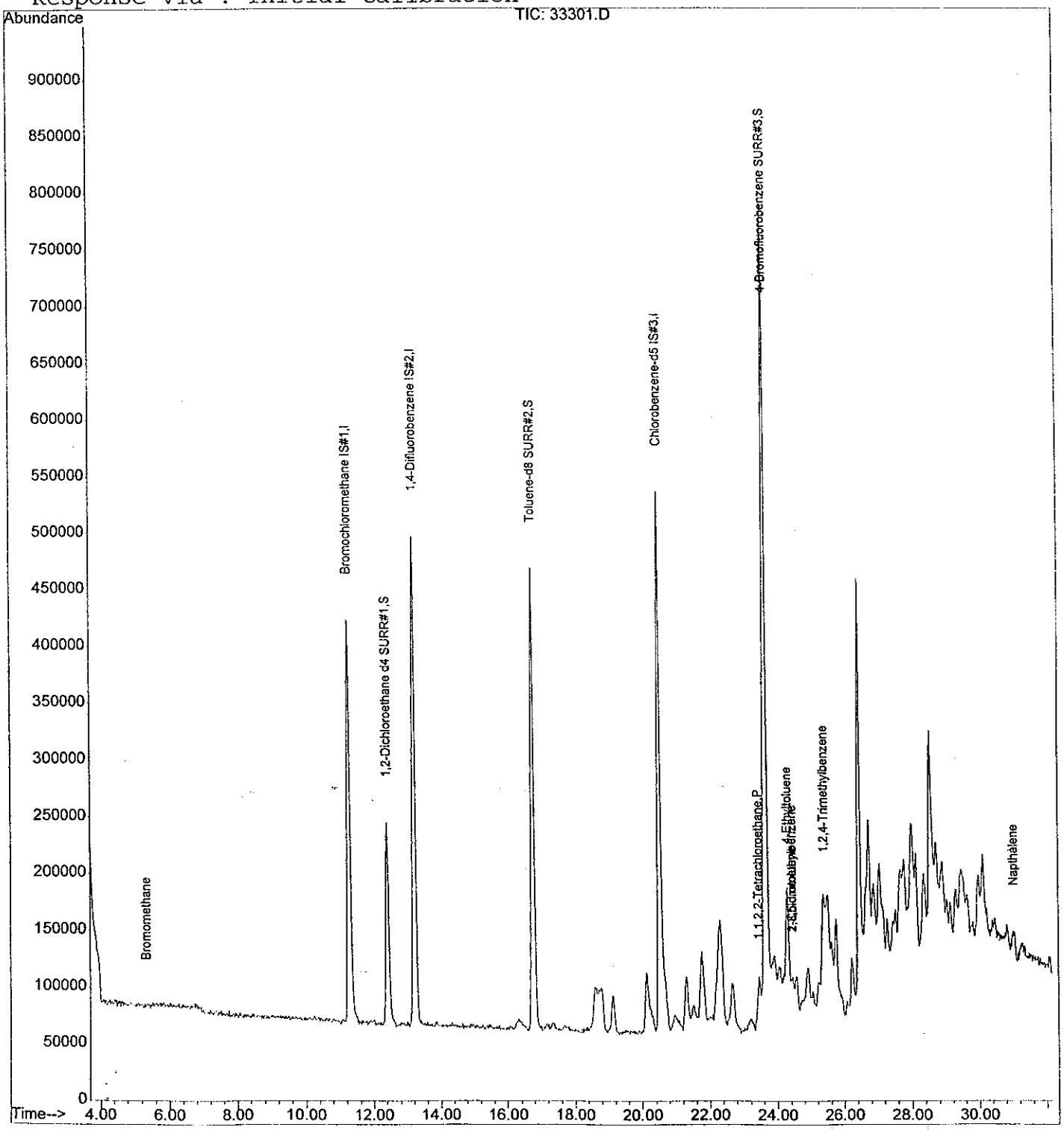
Target Compounds					Qvalue
6) Bromomethane	5.33	94	945	~~0.64 ng~~ #	9
45) 1,1,2,2-Tetrachloroethane	23.46	83	15470	~~6.66 ng~~ #	30
48) 4-Ethyltoluene	24.32	105	39601	9.43 ng <MDL	91
49) 1,3,5-Trimethylbenzene	24.46	105	28182	8.51 ng ↓	98
50) 2-Chlorotoluene	24.46	91	945	~~0.22 ng~~ #	47
51) 1,2,4-Trimethylbenzene	25.40	105	55907	16.03 ng ✓	96
56) Napthalene	31.02	128	8192	18.96 ng NR #	64

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0321A\33301.D Vial: 2
Acq On : 21 Mar 2002 14:17 Operator: BDH
Sample : 062SVEEA03110222\3330-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 14:49 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration



STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW 32- 1
Location: MSW 18 - Std Prep
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01730	1/2/03	2500 ug/ml	250 ul	25 ml	25 ug/ml

Comments: expires 6/25/02 expires 7/25/02 8 # 2/5/02

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX-B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-UN2-21 (5)~~						
~~8-UN3-1 (5~~						
8-UN3-7	LA97780	5-7-02	2000µg/ml	500µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: ~~8~~ 9 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	675	25 mls	75 ppm

Comments: EXPIRED 6/22/01

Sol. Name: ASAHI KLIN AK-225 Stock
Date: 12-28-01
Analyst: LAD

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/18/02	1000 000	100	10	10 000

Comments: exp 6/28/02

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS / SURR
Date: 4-26-01
Analyst: MB

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: T014 IS/SURT
Date: 10-12-01
Analyst: BAA

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
T-VN-3-6(IS)	A017265	11/01	2500ug/ml	500uls	50uls	25ppm
T-VN-2-16	A017264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Prep	LOG I.D.
502C	A804078	Acc STD	2000 µg/ml	7/1999	DKM 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKM 5/28/98	7-VN 2-2
8260 Surr	A11075	Restek	2500 µg/ml	5/2001	AM 5/29/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DKM 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKM 6/16/98	7-VN 2-6
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	~~LMO~~ ~~BH~~ 7/28/98	7-VN 2-9
8260 Surr	A11215	Restek	2500 µg/ml	8/2001	DKM 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKM 10/6/98	7-VN 2-11
Matrix Spike	LA76930	Supelco	25 µg/ml	8/2000	DKM 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DKM 10/8/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKM 11/10	7-VN 2-14
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090042-OB	Accustandard	200.1 µg/ml	9/99	BDH 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKM 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKM 3/9/99	7-VN 2-19
Custom Keytone Mix	LA011115	Restek	2000 µg/ml	3/2000	DKM 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DKM 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKM 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKM 5/14/99	7-VN 2-25
Custom To14 Voa Mix	LA83949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83948	Supelco	2000 µg/ml	9/2000	DKM 6/21/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	DKM 6/21/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	MJ 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	MJ 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	[illegible] 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	DWB 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 ADJ. 10/04	5	8-VN 1-5
APPIX-A Custom Mix	LA81859 ~~LA77117~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014205	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 Keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom Keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/mix	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8505	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90420	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016359	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	~~5~~ 4 (DJK 6/13/04)	8-VN 1-26
VOA Short list Matrix Spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

Run 75 4/13

STL PENSACOLA FL
QAF 1
REVISION 6
07/07/98

OUT-OF-CONTROL EVENTS/CORRECTIVE ACTION

Batch Number: MAB054

Sample Accession Numbers Affected: C203329-1, C203330-1

Person(s) Initiating Corrective Action: BH

Description of Event: Trichlorofluoromethane was calibrated using linear regression and failed 40% in-house drift criteria on CCV. (41%) -low

Date Recognized: 3/21/02

Date Occurred: 3/21/02

Analytical Method: To14-Modified

Individual/Dept/Process: BH/GC-MS-VOA/Air Analysis

Supervisor: Larry Dilmore

Corrective Action: Informed supervisor, who informed project manager, PM said to continue analyzing since this has not been an analyte that has been detected at this site in previous analyses.

Signatures

Individual: Bruce Hunt Date: 3-21-02

Supervisor: Larry C. Dilmore Date:

QA Approval Date:

Please return this completed form to the QA Department within 5 days of completion. word\forms\ooce\STL_1998\qaf1.r6\ksh

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C204242
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field, 103rd Street Monthly Air

Client Sample ID	STL Sample ID
062-SVE-E-A-0408-02-23	C204242-1

The above-referenced sample was received in good condition at STL Pensacola on April 10, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes
Senior Project Manager

4/24/02

CCI NAVY
APR 25

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04242-1	062-SVE-E-A-0408-02-23	04-08-02/13:35

PARAMETER	04242-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04242-1	062-SVE-E-A-0408-02-23	04-08-02/13:35

PARAMETER	04242-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	110 %
Surrogate - Toluene-d8	99 %
Surrogate - 4-Bromofluorobenzene	95 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04242-1	062-SVE-E-A-0408-02-23	04-08-02/13:35

PARAMETER	04242-1
Dilution Factor	1
Prep Date	04.11.02
Prep Time	16:30
Analysis Date	04.11.02
Analysis Time	16:43
Batch ID	MAB068
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Client PO. No.: 2916

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
04242-2	Method Blank	
04242-3	Lab Control Standard True Value	
04242-4	Lab Control Standard Result	
04242-5	Lab Control Standard % Recovery	
04242-6	LCS Accuracy Control Limit (%R)	

PARAMETER	04242-2	04242-3	04242-4	04242-5	04242-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4892	98 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5379	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
04242-2	Method Blank	
04242-3	Lab Control Standard True Value	
04242-4	Lab Control Standard Result	
04242-5	Lab Control Standard % Recovery	
04242-6	LCS Accuracy Control Limit (%R)	

PARAMETER	04242-2	04242-3	04242-4	04242-5	04242-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4463	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5246	105 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
04242-2	Method Blank	
04242-3	Lab Control Standard True Value	
04242-4	Lab Control Standard Result	
04242-5	Lab Control Standard % Recovery	
04242-6	LCS Accuracy Control Limit (%R)	

PARAMETER	04242-2	04242-3	04242-4	04242-5	04242-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5081	fluoro 102 %	85-116
Trichloromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	107 %	0.5000	0.5314	106 %	61-140
Surrogate - Toluene-d8	98 %	0.5000	0.4990	100 %	90-109
Surrogate - 4-Bromofluorobenzene	98 %	0.5000	0.4821	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	04.11.02	---	04.11.02	---	---
Prep Time	11:51	---	12:25	---	---
Analysis Date	04.11.02	---	04.11.02	---	---
Analysis Time	12:04	---	12:38	---	---
Batch ID	MAB068	MAB068	MAB068	MAB068	MAB068
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04242
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 084420423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
04242-2	Method Blank	
04242-3	Lab Control Standard True Value	
04242-4	Lab Control Standard Result	
04242-5	Lab Control Standard % Recovery	
04242-6	LCS Accuracy Control Limit (%R)	

PARAMETER	04242-2	04242-3	04242-4	04242-5	04242-6

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.
See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C204 242 Date Received: 4-10-02

1. Was there a Chain of Custody? Yes No♣
2. Was Chain of Custody properly filled out and relinquished? Yes No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP Yes No♣ N/A
4. Were all samples properly labeled and identified? Yes No♣
5. Did samples require splitting or compositing♦? Yes♣ No
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? Yes No♣
7. Were all sample containers received intact? Yes No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ N/A
9. Is there sufficient volume for analysis requested? Yes No♣ N/A *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) Yes No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No N/A
12. If sent, were matrix spike bottles returned? Yes No♣ N/A
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ N/A

Airbill Number(s): 7905 0665 2665

Shipped By: Fed EX

Cooler Number(s): B04

Shipping Charges: N/A

Cooler Weight(s): 16 #

Cooler Temp(s) (°C): AS IS

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 4-10-02 Logged By: AFE Date: 4/10/02

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C204242

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-039

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0408-02-23	SVE Effluent	AIR	04/08/02	13:35	III/C	14 Day	1										Grab	Summa Canister	084
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7905 0665 2665.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	4/8/02	15:00	Federal Express	4/8/02	15:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon / Sandra A Dixon	4-10-02	0920
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To accompany with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

NAS Cecil Field, CTO-0062

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D, exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compo[illegible] U flag). NOTE 2: Separate Form Is are required for reporting the original analysis [illegible] more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

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STL Pensacola is part of Severn Trent Laboratories, Inc

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags are limited to X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

California Department of Health Services, NELAP Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL). Extension granted

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, NELAP Laboratory ID No. 250501 (Wastewater), expires 08/16/02

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

New York State Department of Health, NELAP Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004 Participant in AIHA sponsored Labora PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory [illegible]

Naval Facilities Engineering Services Center (NFESC), expires July 9, 2002

United States Army Corps of Engineers (USACE) MRD, expires July 9, 2002

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States Permit No. S-37399

certlistcondcertlist revised 02/14/02

Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514
163151/99.22.01.01/30857

SHIP DATE: 08APR02
WEIGHT: 16 LBS

:RY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

K # 7905 0665 2665 FORM 0201

WED
AA
Deliver by:
10APR02

BFM

32514-FL-US

F3 PNSA

Attach one file Label here

SAMPLE CHECK LI
STL Pensacola

Paperwork by: RJE
Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C204242
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	0	1			
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 204242
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED: Apr. 10, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0408-02-23	204242-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
Apr. 22, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0411A.D Date Analyzed : 11 Apr 2002
Instrument ID : MARILYN Time Analyzed : 11:10 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
42421R	062SVEEA0408022	110	99	95	0	0	0	0
MAB68ABK	VBLKMA\ DAILY M	107	98	98	0	0	0	0
MAB68LCS	VLCSMA\ BATCH #	106	100	96	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichlorc[illegible]	[illegible]
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 pm Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	223.16	250.00	89.27	58 to 138%	[ ]
27)	M	Benzene	244.58	250.00	97.83	87 to 116%	[ ]
28)	M	Trichloroethene	254.06	250.00	101.63	85 to 116%	[ ]
33)	MC	Toluene	262.31	250.00	104.92	86 to 113%	[ ]
39)	MP	Chlorobenzene	268.97	250.00	107.59	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	204242					
Batch	MAB068	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		244.58	0.5000	0.4892	98%	87-116%
Chlorobenzene		268.97	0.5000	0.5379	108%	88-111%
1,1-Dichloroethene		223.16	0.5000	0.4463	89%	58-138%
Toluene		262.31	0.5000	0.5246	105%	86-113%
Trichloroethene		254.06	0.5000	0.5081	102%	85-116%
1,2-Dichloroethane-d4		265.68	0.5000	0.5314	106%	61-140%
Toluene-d8		249.49	0.5000	0.4990	100%	90-109%
4-Bromofluorobenzene		241.04	0.5000	0.4821	96%	87-112%

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204242

Lab File ID: MAB68ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 4/11/02 Time Analyzed: 12:04

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #068 L	MAB68LCS.D	12:38
02	SVEEA	062SVEEA04080223\424	42421R.D	16:43

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204242

Lab File ID: CM0125A.D BFB Injection Date: 1/25/02

Instrument ID: MARILYN BFB Injection Time: 11:34

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	43.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.4
175	4.0 - 9.0% of mass 174	4.9 (6.9)1
176	93.0 - 101.0% of mass 174	68.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (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	VSTD0250	VSTD0250 250NG	0250M125.D	1/25/02	14:33
02	VSTD0500	VSTD0500 500NG	0500M125.D	1/25/02	15:09
03	VSTD1000	VSTD1000 1000NG	1000M125.D	1/25/02	15:46
04	VSTD1500	VSTD1500 1500NG	1500M125.D	1/25/02	16:24
05	VSTD0025	VSTD0025 25NG	0025R125.D	1/25/02	17:43
06	VSTD0100	VSTD0100 100NG	0100R125.D	1/25/02	18:20

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204242

Lab File ID: BFM0411A.D BFB Injection Date: 4/11/02

Instrument ID: MARILYN BFB Injection Time: 10:49

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.7
75	30.0 - 66.0% of mass 95	47.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.1
175	4.0 - 9.0% of mass 174	4.9 (7.1)1
176	93.0 - 101.0% of mass 174	66.6 (97.7)1
177	5.0 - 9.0% of mass 176	4.3 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0411A.D	4/11/02	11:10
02	VBLKMA	VBLKMA\ DAILY METHO	MAB68ABK.D	4/11/02	12:04
03	LCS AND 2ND	VLCSMA\ BATCH #068 L	MAB68LCS.D	4/11/02	12:38
04	SVEEA	062SVEEA04080223\424	42421R.D	4/11/02	16:43

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.39
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.72
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.52#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

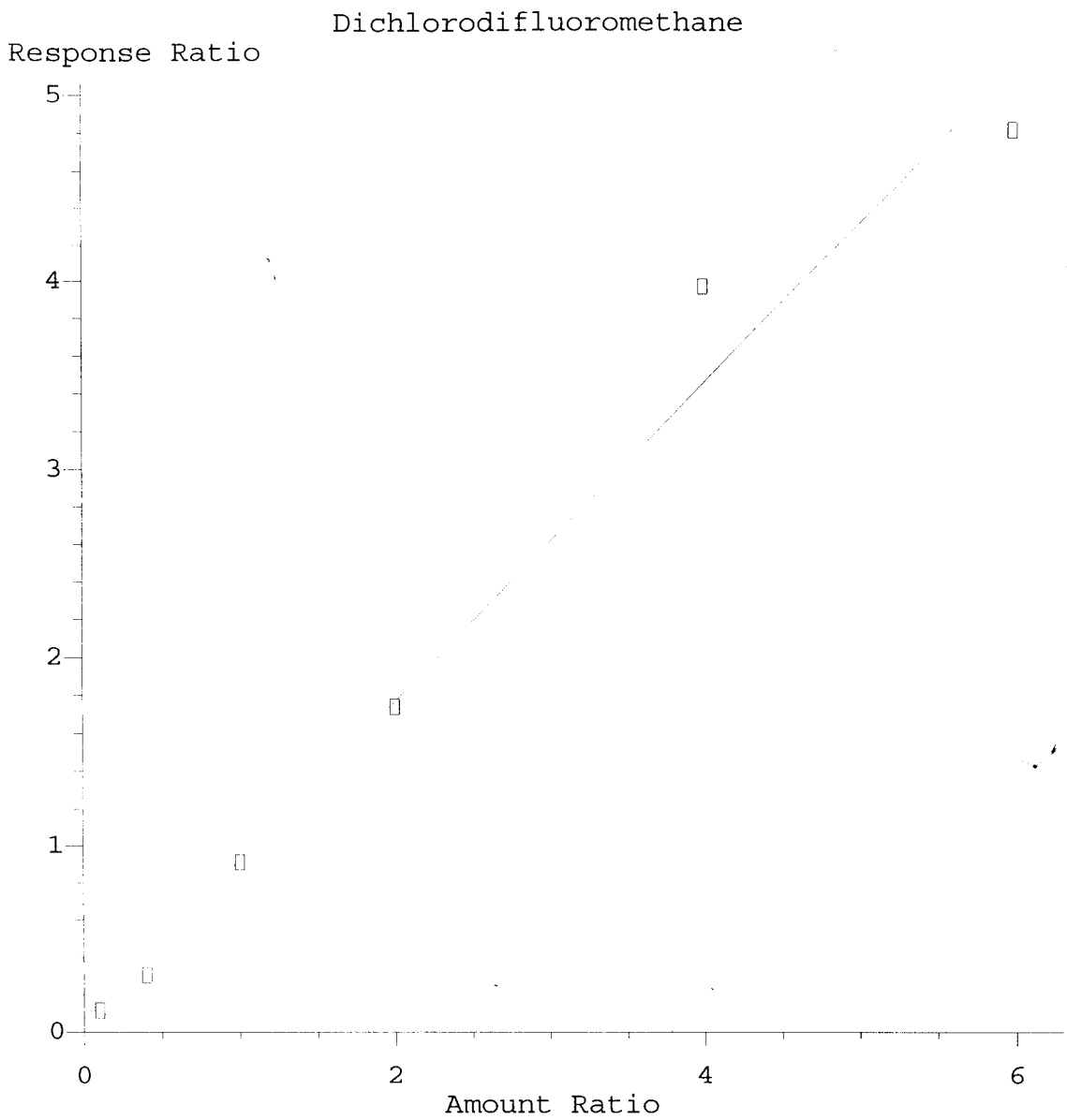
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

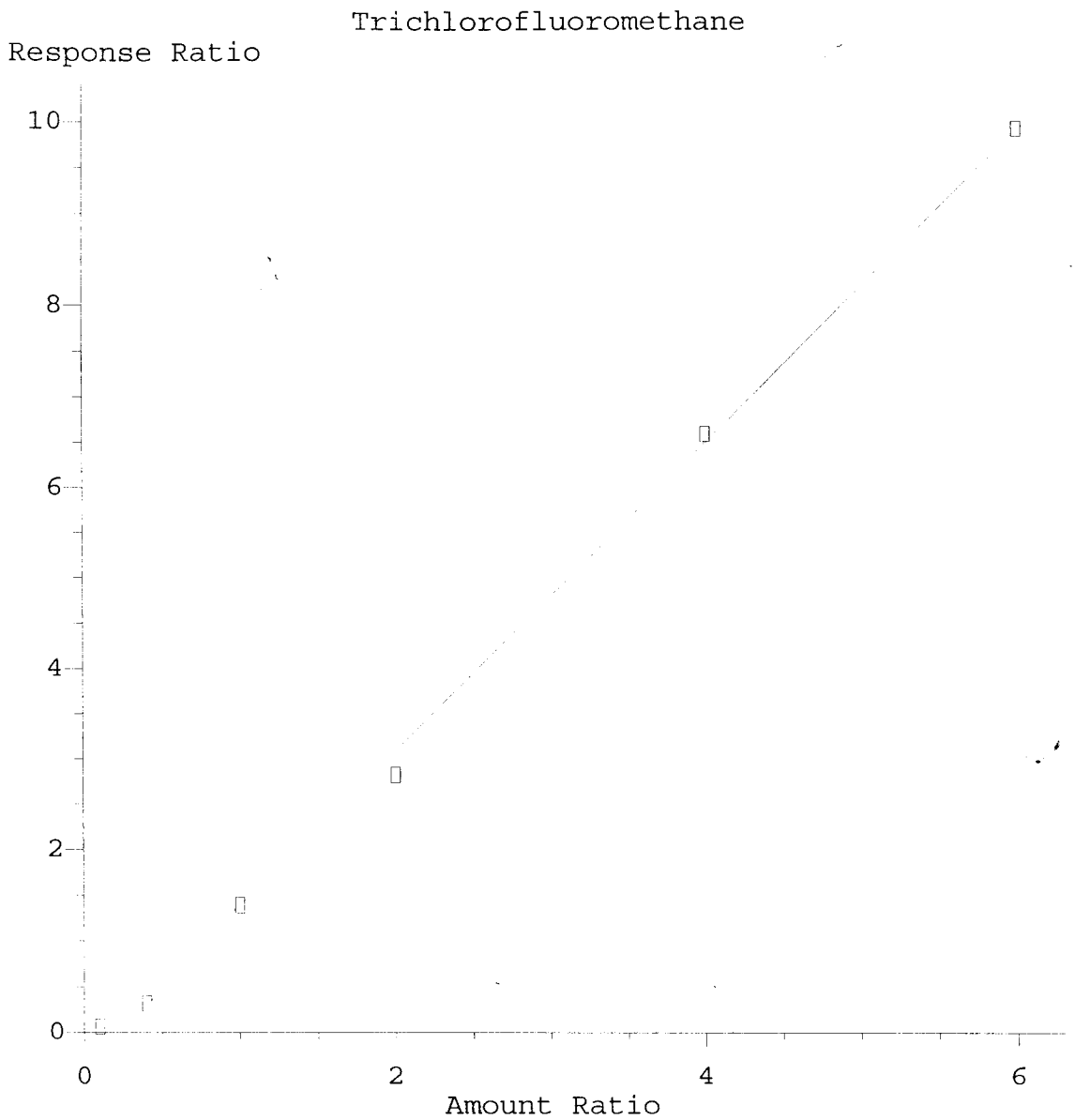
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



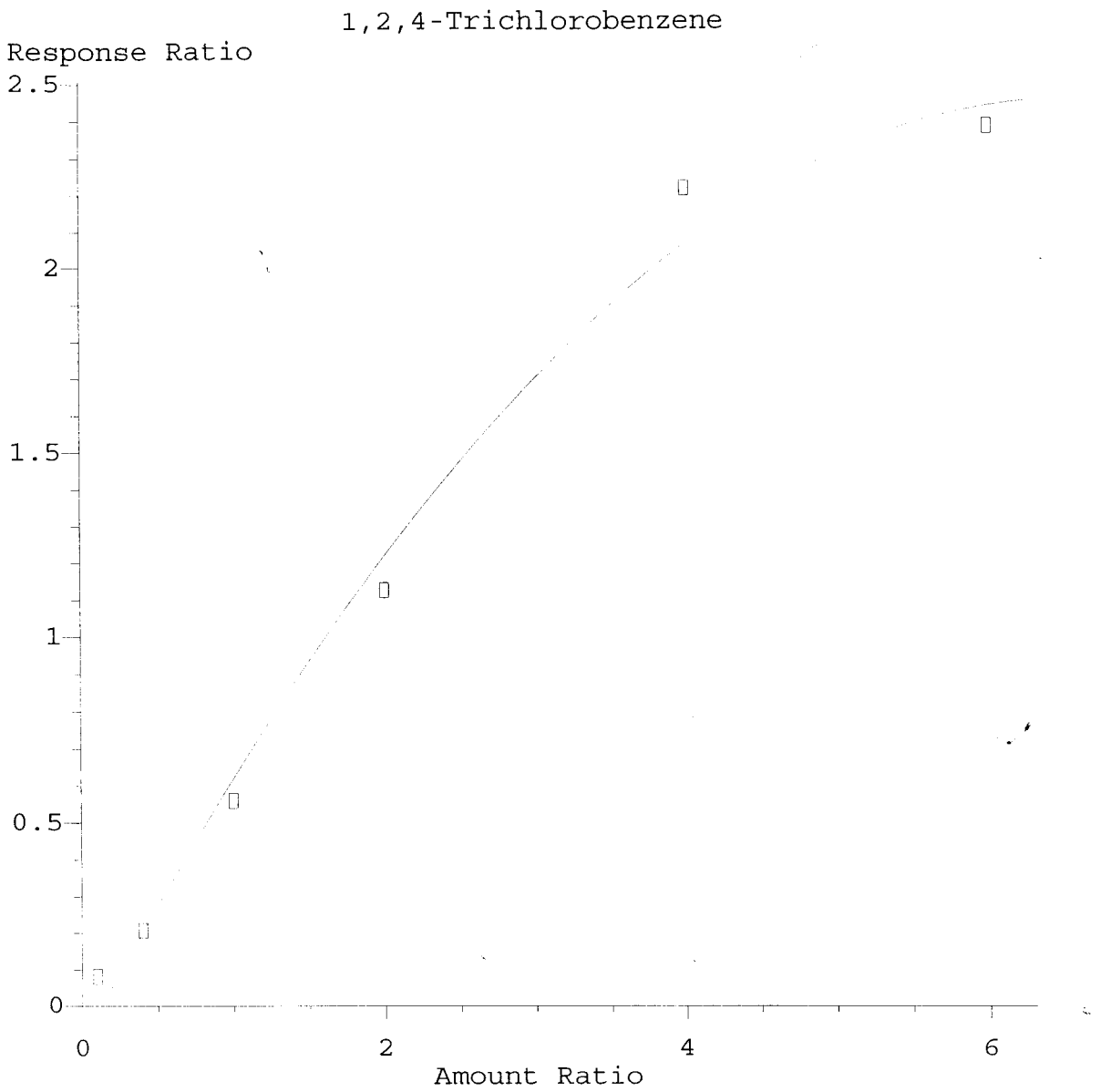
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

Method Name: [illegible]
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



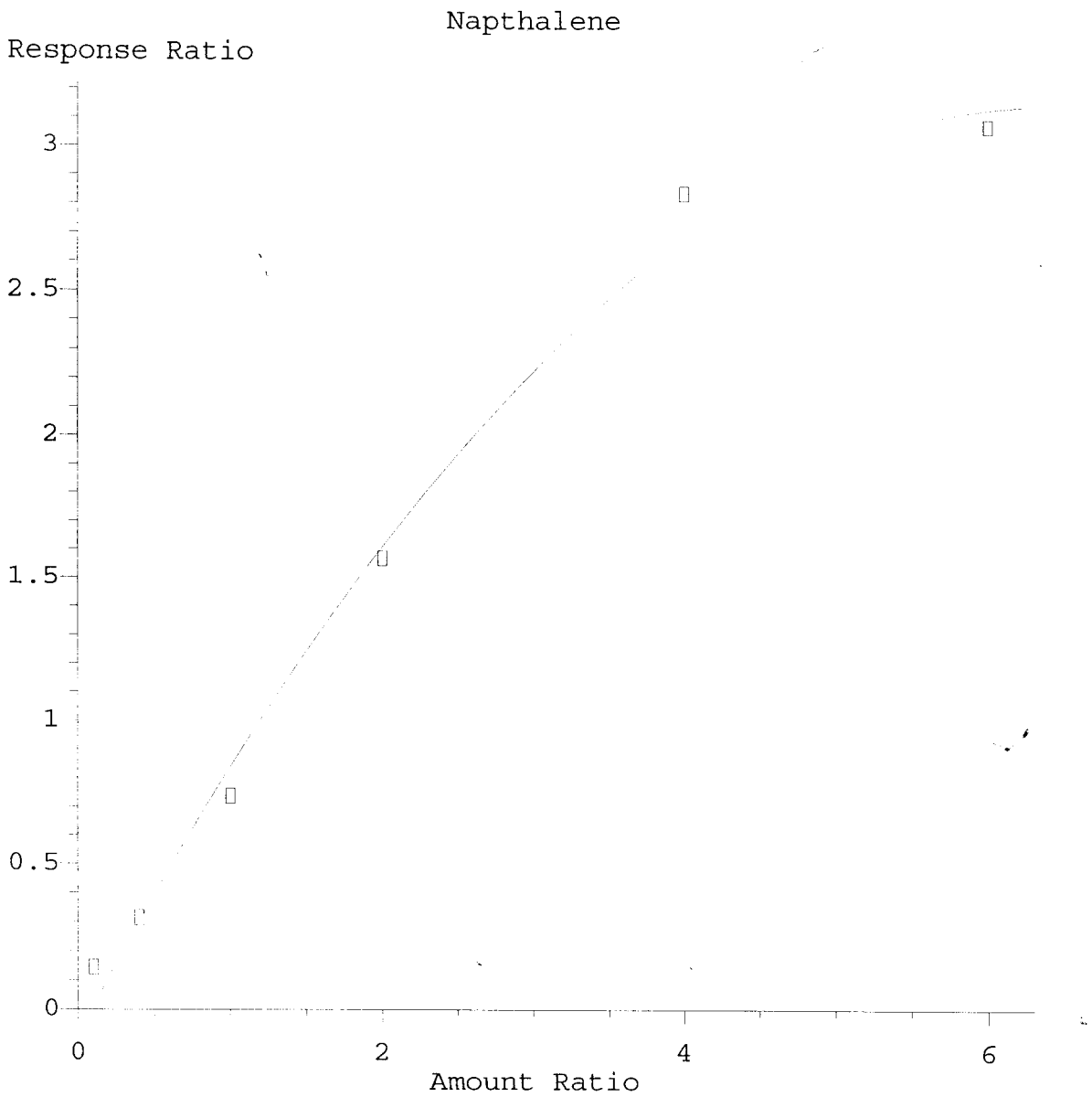
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: [illegible]
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



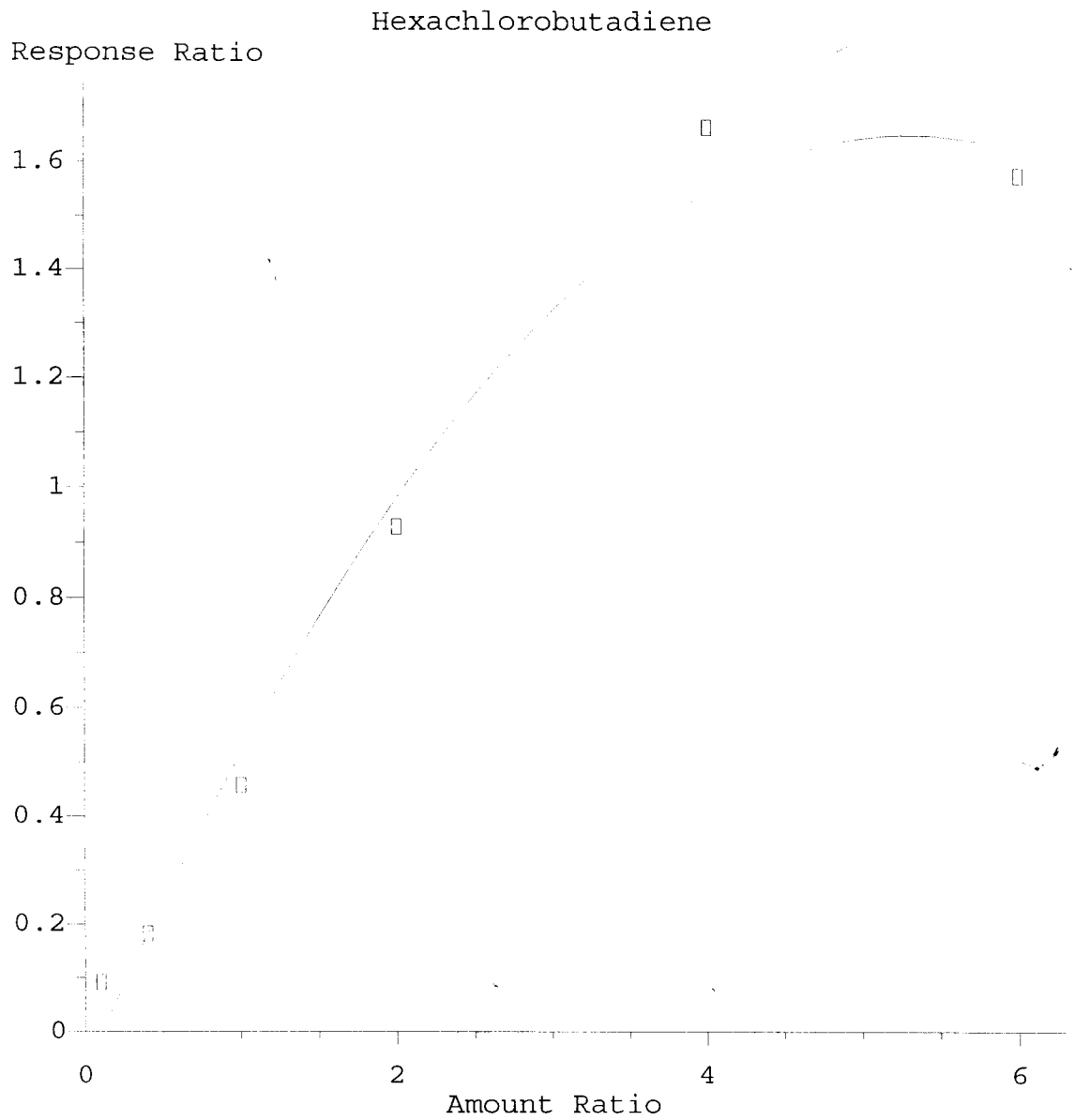
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	88	0.00
2		Dichlorodifluoromethane	0.919	0.804	12.5#	77	0.00
3		Dichlorotetrafluoroethane	1.446	1.180	18.4#	68	0.00
4	P	Chloromethane	0.788	0.615	22.0#	70	0.00
5	C	Vinyl chloride	0.727	0.686	5.6#	79	0.00
6		Bromomethane	1.180	1.042	11.7#	82	0.00
7		Chloroethane	0.530	0.494	6.8#	81	0.00
8		Trichlorofluoromethane	1.261	0.589	53.3#	37#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.809	3.2#	84	0.00
10	MC	1,1-Dichloroethene	1.064	0.987	7.2#	80	0.00
11		Iodomethane	0.000	0.000	0.0	59	0.00
12		Methylene chloride	1.431	1.406	1.7	82	0.00
13		Carbon disulfide	2.862	2.771	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	1.551	1.679	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	1.194	1.150	3.7#	84	0.00
16		n-Hexane	1.089	1.036	4.9#	82	0.00
17	P	1,1-Dichloroethane	1.944	1.955	-0.6	86	0.00
18		cis-1,2-Dichloroethene	1.576	1.601	-1.6	86	0.00
19	C	Chloroform	2.454	2.570	-4.7#	88	0.00
20		Isooctane	3.653	3.326	9.0#	79	0.00
21		1,1,1-Trichloroethane	2.085	2.155	-3.4#	87	0.00
22		Carbon tetrachloride	2.195	2.277	-3.7#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.238	-5.3#	86	0.00
24		1,2-Dichloroethane	1.321	1.398	-5.8#	85	0.00
25		1,2-Dibromoethane	2.124	2.108	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	89	0.00
27	M	Benzene	0.733	0.718	2.0#	87	0.00
28	M	Trichloroethene	0.407	0.412	-1.2	88	0.00
29	C	1,2-Dichloropropane	0.310	0.312	-0.6#	86	0.00
30		Bromodichloromethane	0.755	0.793	-5.0#	87	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.781	0.777	0.5	87	0.00
33	MC	Toluene	0.463	0.474	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	0.402	0.414	-3.0#	87	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	85	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	87	0.00
37		Tetrachloroethene	0.488	0.498	-2.0#	89	0.00
38		Dibromochloromethane	0.722	0.755	-4.6#	88	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.367	-3.1#	87	0.00
41		m,p-Xylene	0.459	0.469	-2.2#	87	0.00
42		o-Xylene	0.439	0.453	-3.2#	87	0.00
43		Styrene	0.771	0.800	-3.8#	88	0.00
44	P	Bromoform	0.713	0.722	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.648	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.882	1.0	85	0.00
47		1,4-Dichloro-2-butene	0.130	0.123	5.4#	84	0.00
48		4-Ethyltoluene	1.157	1.209	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	0.912	0.883	3.2#	85	0.00
50		2-Chlorotoluene	1.191	1.227	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	0.961	0.990	-3.0#	85	0.00
52		1,3-Dichlorobenzene	0.782	0.800	-2.3#	84	0.00
53		1,4-Dichlorobenzene	0.825	0.839	-1.7	82	0.00
54		1,2-Dichlorobenzene	0.758	0.760	-0.3	83	0.00
55		1,2,4-Trichlorobenzene	0.568	0.559	1.6	87	0.00
56		Napthalene	0.830	0.775	6.6#	91	0.00
57		Hexachlorobutadiene	0.495	0.420	15.2#	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	88	0.00
2		Dichlorodifluoromethane	250.000	215.243	13.9#	77	0.00
3		Dichlorotetrafluoroethane	250.000	204.086	18.4#	68	0.00
4	P	Chloromethane	250.000	195.128	21.9#	70	0.00
5	C	Vinyl chloride	250.000	235.800	5.7#	79	0.00
6		Bromomethane	250.000	220.728	11.7#	82	0.00
7		Chloroethane	250.000	233.061	6.8#	81	0.00
8		Trichlorofluoromethane	250.000	131.623	47.4#	37	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	242.054	3.2#	84	0.00
10	MC	1,1-Dichloroethene	250.000	231.964	7.2#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	59	0.00
12		Methylene chloride	250.000	245.700	1.7	82	0.00
13		Carbon disulfide	250.000	242.076	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	250.000	270.749	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	250.000	240.723	3.7#	84	0.00
16		n-Hexane	250.000	237.789	4.9#	82	0.00
17	P	1,1-Dichloroethane	250.000	251.501	-0.6	86	0.00
18		cis-1,2-Dichloroethene	250.000	253.934	-1.6	86	0.00
19	C	Chloroform	250.000	261.818	-4.7#	88	0.00
20		Isooctane	250.000	227.657	8.9#	79	0.00
21		1,1,1-Trichloroethane	250.000	258.358	-3.3#	87	0.00
22		Carbon tetrachloride	250.000	259.402	-3.8#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	263.045	-5.2#	86	0.00
24		1,2-Dichloroethane	250.000	264.593	-5.8#	85	0.00
25		1,2-Dibromoethane	250.000	248.092	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	89	0.00
27	M	Benzene	250.000	244.839	2.1#	87	0.00
28	M	Trichloroethene	250.000	253.048	-1.2	88	0.00
29	C	1,2-Dichloropropane	250.000	251.194	-0.5#	86	0.00
30		Bromodichloromethane	250.000	262.696	-5.1#	87	0.00
31		cis-1,3-Dichloropropene	250.000	255.290	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	248.675	0.5	87	0.00
33	MC	Toluene	250.000	256.035	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	250.000	257.665	-3.1#	87	0.00
35		1,1,2-Trichloroethane	250.000	247.540	1.0	85	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	87	0.00
37		Tetrachloroethene	250.000	255.395	-2.2#	89	0.00
38		Dibromochloromethane	250.000	261.550	-4.6#	88	0.00
39	MP	Chlorobenzene	250.000	260.706	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	257.656	-3.1#	87	0.00
41		m,p-Xylene	500.000	511.186	-2.2#	87	0.00
42		o-Xylene	250.000	258.378	-3.4#	87	0.00
43		Styrene	250.000	259.399	-3.8#	88	0.00
44	P	Bromoform	250.000	253.212	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	253.251	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	247.508	1.0	85	0.00
47		1,4-Dichloro-2-butene	250.000	236.425	5.4#	84	0.00
48		4-Ethyltoluene	250.000	261.162	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	250.000	242.080	3.2#	85	0.00
50		2-Chlorotoluene	250.000	257.528	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	250.000	257.485	-3.0#	85	0.00
52		1,3-Dichlorobenzene	250.000	255.894	-2.4#	84	0.00
53		1,4-Dichlorobenzene	250.000	254.390	-1.8	82	0.00
54		1,2-Dichlorobenzene	250.000	250.376	-0.2	83	0.00
55		1,2,4-Trichlorobenzene	250.000	222.057	11.2#	87	0.00
56		Napthalene	250.000	224.549	10.2#	91	0.00
57		Hexachlorobutadiene	250.000	197.882	20.8#	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204242

Lab File ID (Standard): CM0411A.D Date Analyzed: 4/11/02

Instrument ID: MARILYN Time Analyzed: 11:10

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	704990	11.27	2774490	13.21	2093241	20.54
	UPPER LIMIT	1409980	11.77	5548980	13.71	4186482	21.04
	LOWER LIMIT	352495	10.77	1387245	12.71	1046621	20.04
	EPA SAMPLE NO.						
01	VBLKMA	678548	11.31	2678826	13.27	1981178	20.58
02	LCS AND 2ND	654946	11.36	2691609	13.30	1998510	20.61
03	SVEEA	444757	11.32	1824666	13.26	1327107	20.57

IS1 BCM = Bromochloromethane IS#
IS2 DFB = 1,4-Difluorobenzene IS#2
IS3 CLB = Chlorobenzene-d5 IS#3

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

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

te 1-25-02 Instrument ID : MARILYN Method (: TO14)8260AIR /8260WATER /624MOD

tch MA8010 ① 2 3 Batch _____ 1 2 3 Batch _____ 1 2 3 Maint. ___

8 -MSW- 26 - 3 TO14 8 -MSW- 32 - 1 AIR-SPK 8 -MSW- 30 - 2 Sequence cont.

B 8 -MSW- 26 - 3 8260 -MSW- - W-SPK -MSW- - on page

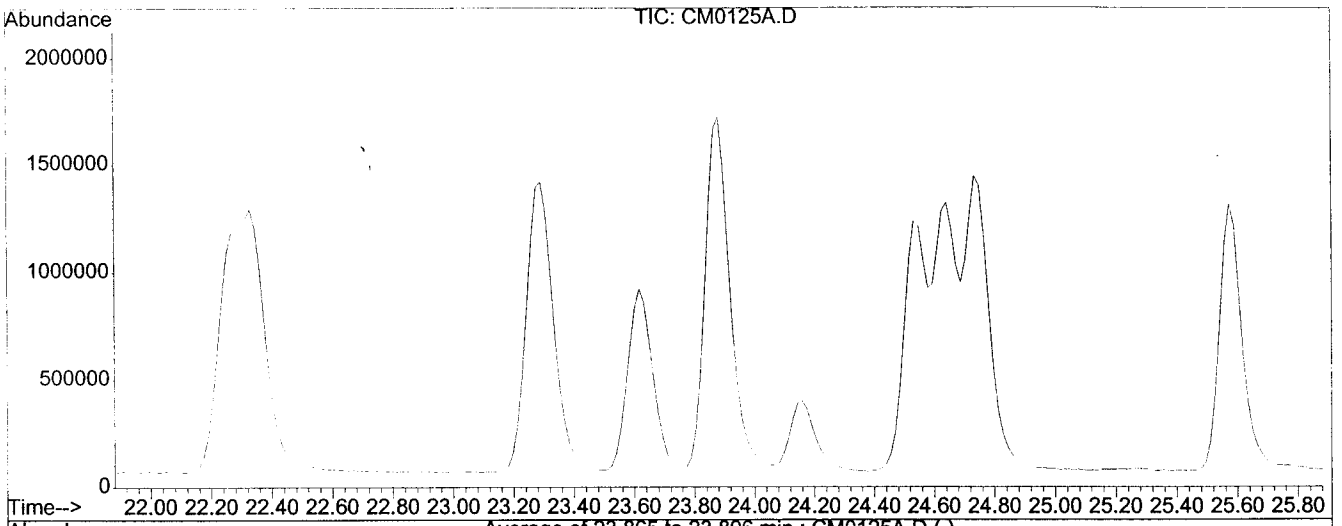
TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
:34	14		CM0125A	50ppb		Y N				Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
3:18	14		0025M125			Y N		x		bad 5ul syringe reboot
3:56	15		0100M125			Y N		x		
:33	16		0250M125			Y N		✓		used a 25ul syring also tune
5:09	14		0500M125			Y N				
5:46	15		1000M125			Y N		✓		
:24	16		1500M125			Y N		✓		
7:43	14		0025R125			Y N		✓		used a 10ul syring
8:20	15		0100R125			Y N		✓		
9:22	15		MA010ABK			Y N		✓		
1:59	16		MA010LCS			Y N		✓		LCS + 2nd
0:36	16		01299-1X	X100		Y N		✓		P./PF = 2 X50 run ST
:10	2		01493-2			Y N		✓		
:14	2		01299-1			Y N		✓		high Isooctane
2:20	2		01493-1			Y N		✓		
2:56	2	out 8/16/02	01493-1A			Y N		✓		run ST - ~~out of 12 hrs~~ 8/16/02
:31	9		01546-2	X10		Y N		✓		re-run ST - DAC 8/16/02
07 :44	10 11		-4 -1	X10 X10		Y N		✓		
:21 58	12 13		-3 -1 X	X10 X50		Y N		✓		Tune O.K. re-run X10 worked re-run X50 / out of tune time
:35- 12-	out 14 out 15		-3 X -2 X	X50 X50		Y N				
3:49	out 16		-4 X	X50		Y N				not worked - X50 worked

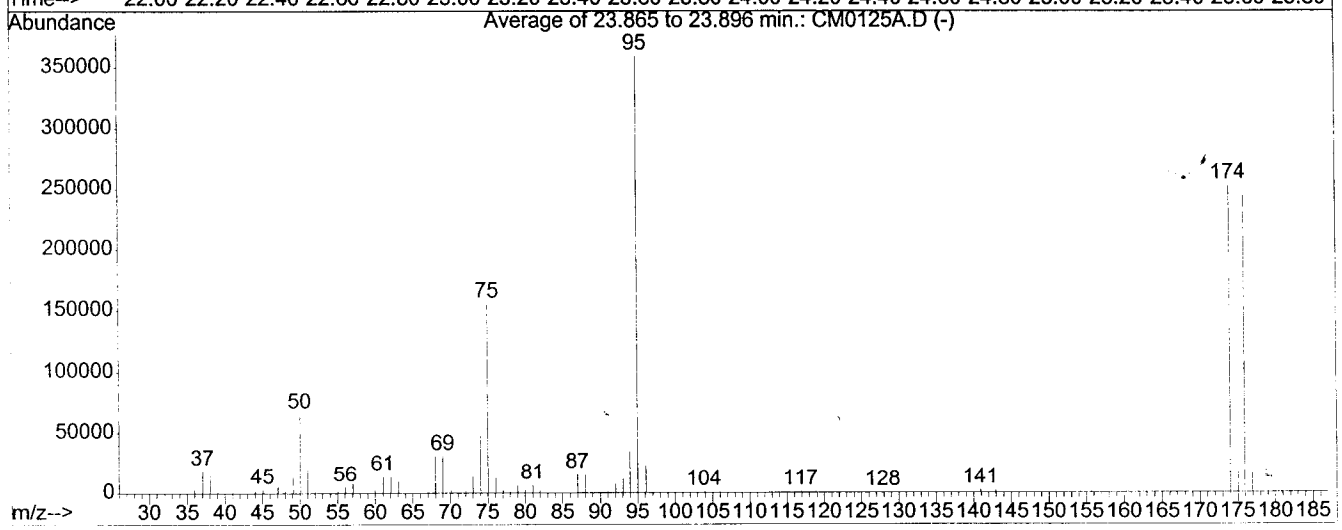
The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis relinquished sample(s) back to the sample storage refrigerator.

Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 am Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14





Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	65477	PASS
75	95	30	60	43.3	155648	PASS
95	95	100	100	100.0	359211	PASS
96	95	5	9	6.6	23659	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	252779	PASS
175	174	5	9	6.9	17428	PASS
176	174	95	101	97.1	245504	PASS
177	176	5	9	6.6	16210	PASS

CM0125A.D TO14S.M Mon Apr 22 09:33:15 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.[illegible]	[illegible]	[illegible]
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.[illegible]
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

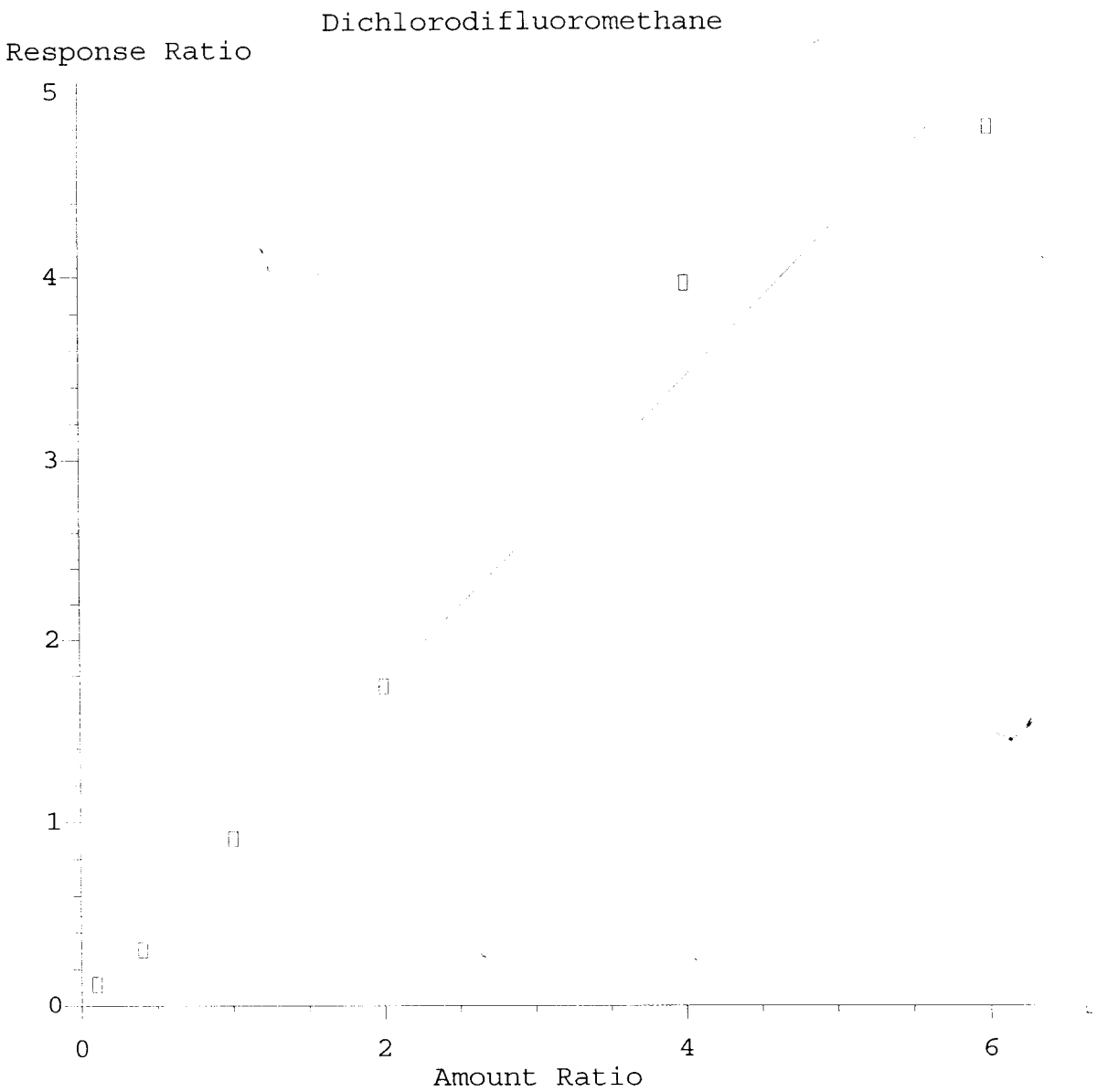
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

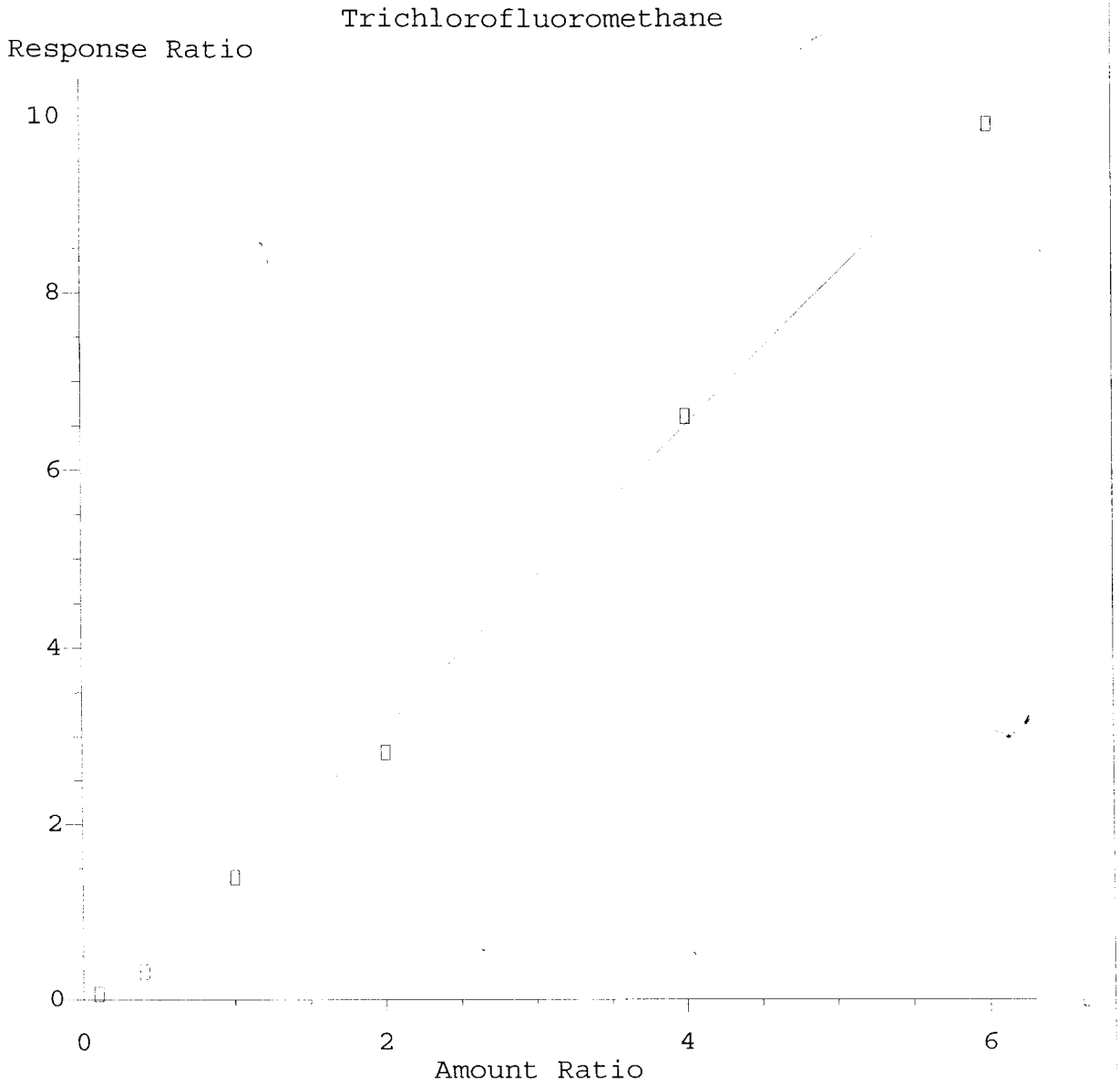
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.156	0.401	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



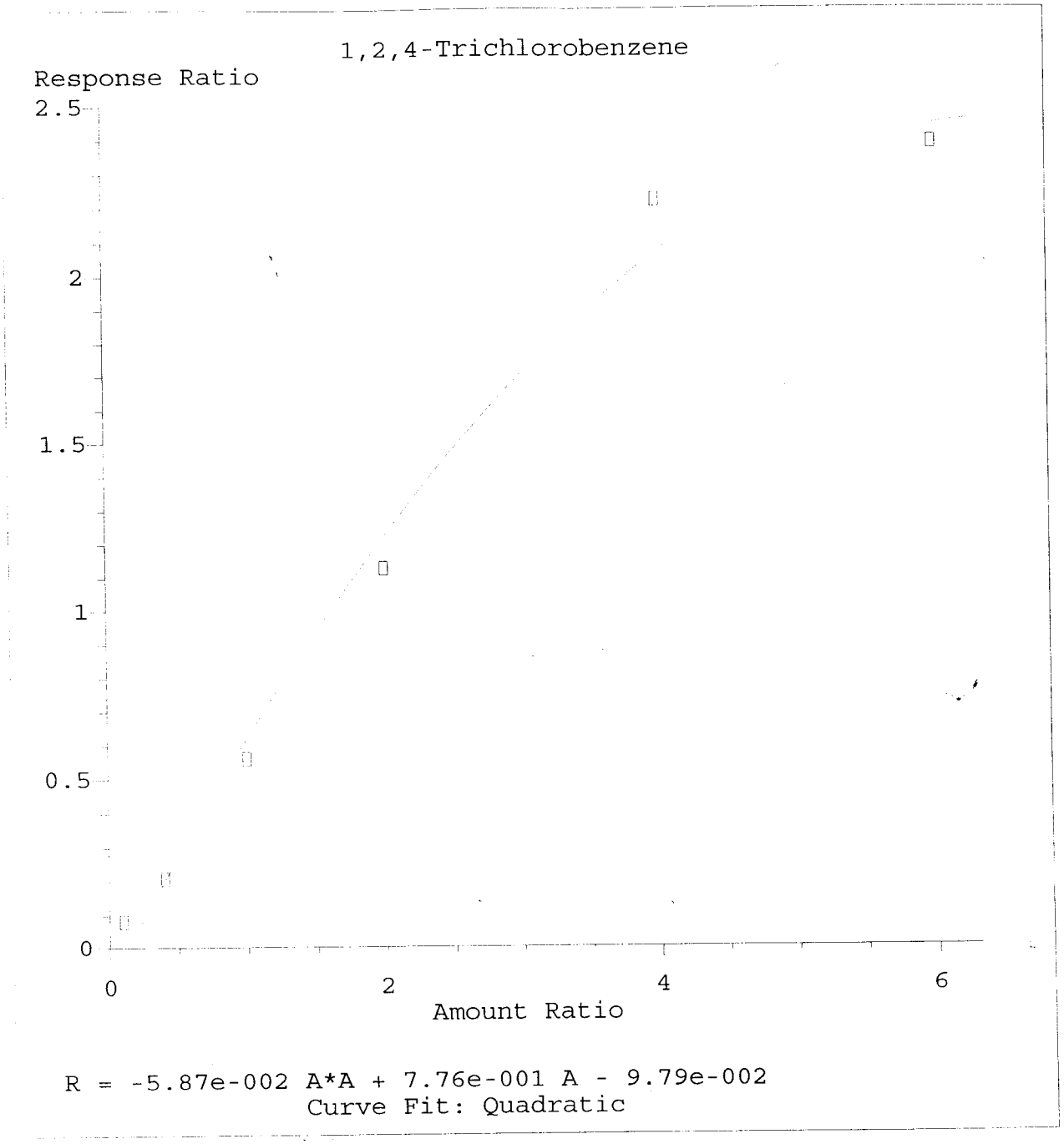
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

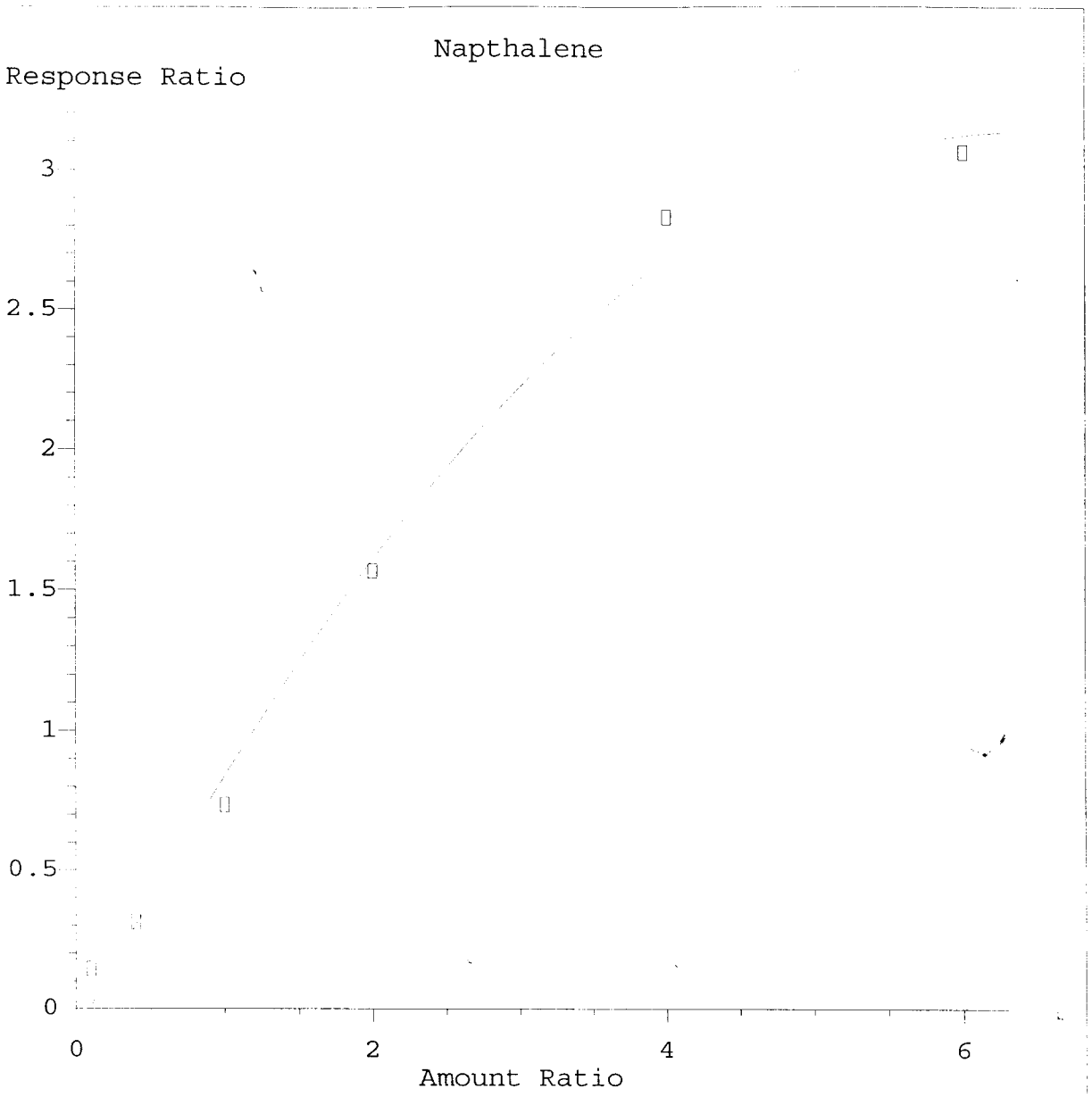


Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

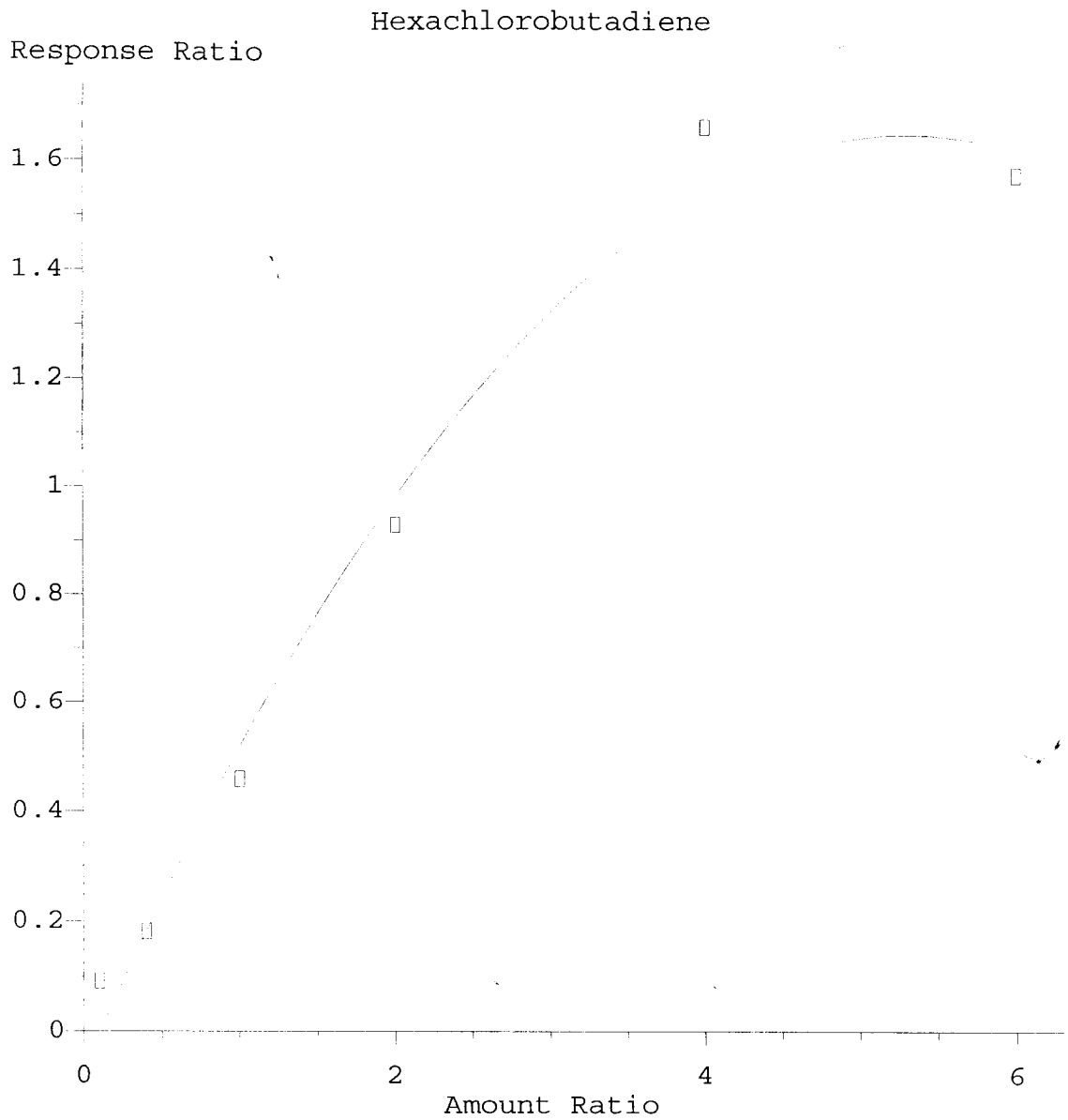


Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.60%					
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.58%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.86%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	32
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		97
20) Isooctane	12.03	57	301718	45.51 ng		98
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

(#) = qualifier out of range (m) = manual integration
0025R125.D TO14S.M Fri Jan 25 18:22:16 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.19	130	116164	39.83 ng		97
29) 1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30) Bromodichloromethane	15.11	83	210160	37.15 ng		98
31) cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33) Toluene	17.13	92	132700	40.00 ng		95
34) trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35) 1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37) Tetrachloroethene	18.73	164	107951	42.67 ng		95
38) Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39) Chlorobenzene	20.81	112	191266	40.04 ng		93
40) Ethylbenzene	20.88	106	77354	42.58 ng		99
41) m,p-Xylene	21.09	106	199516	83.10 ng		96
42) o-Xylene	22.23	106	92327	40.91 ng		93
43) Styrene	22.30	104	161761	40.88 ng		95
44) Bromoform	23.26	173	153138	40.51 ng		99
45) 1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47) 1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48) 4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49) 1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50) 2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51) 1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52) 1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53) 1,4-Dichlorobenzene	26.67	146	171427	36.[illegible] ng		93
54) 1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55) 1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56) Napthalene	31.18	128	311685	67.28 ng	#	92
57) Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

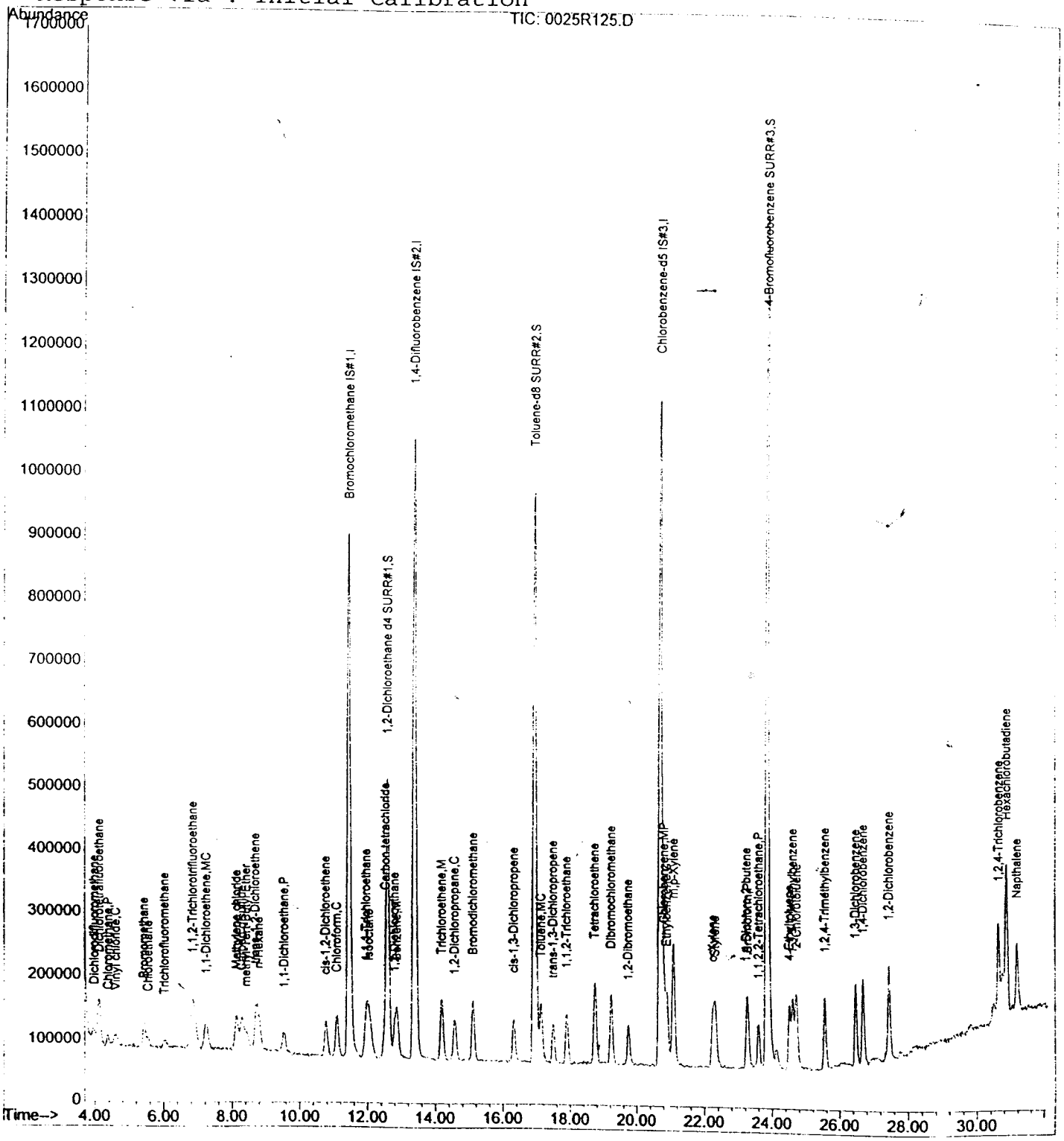
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



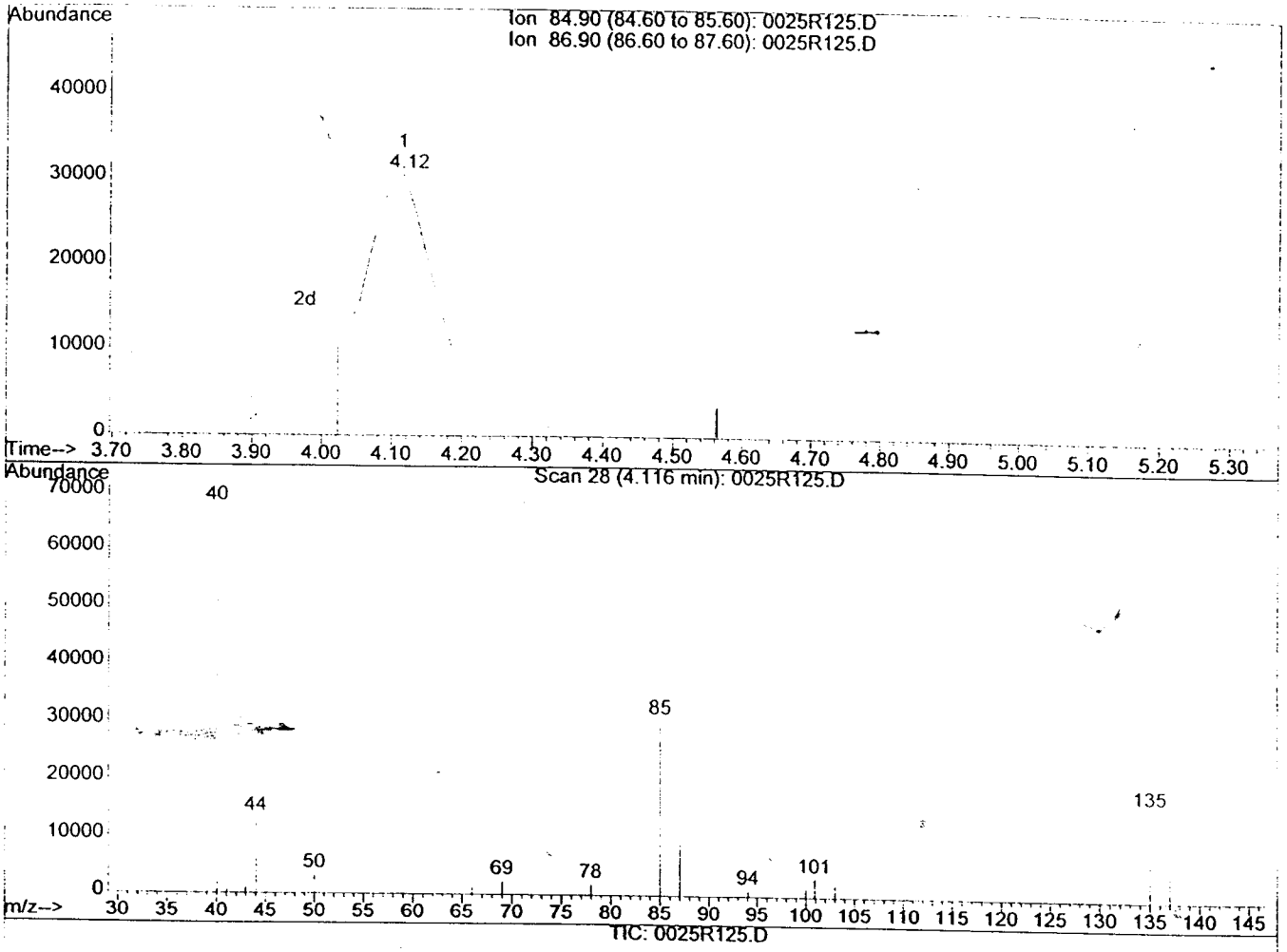
0025R125.D TO14S.M Fri Jan 25 18:22:19 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

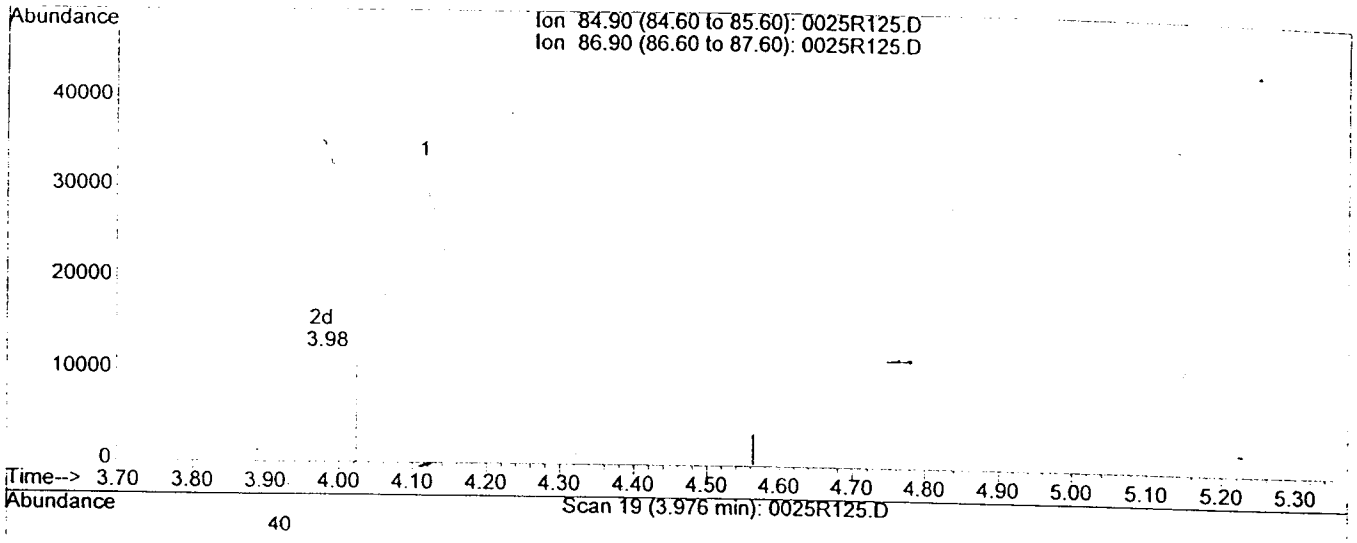
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

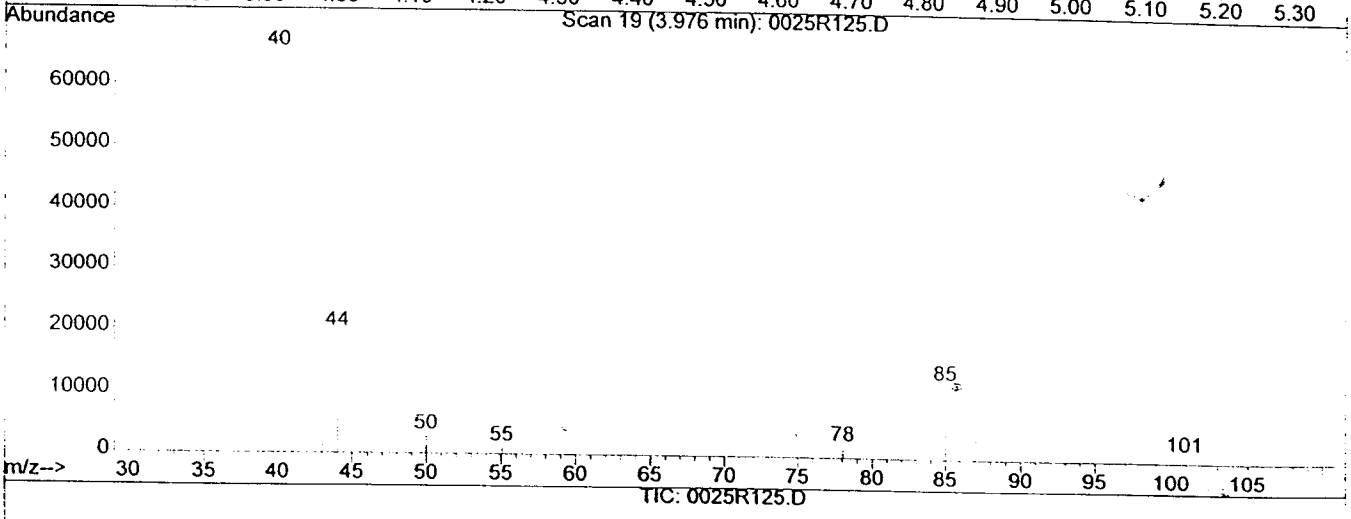
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

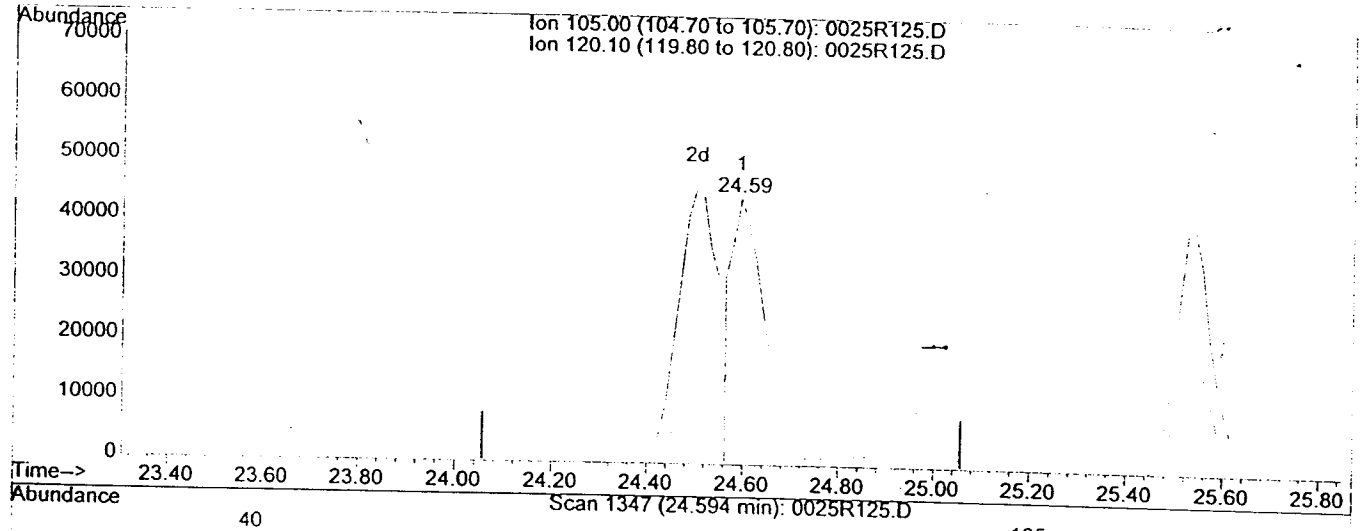
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

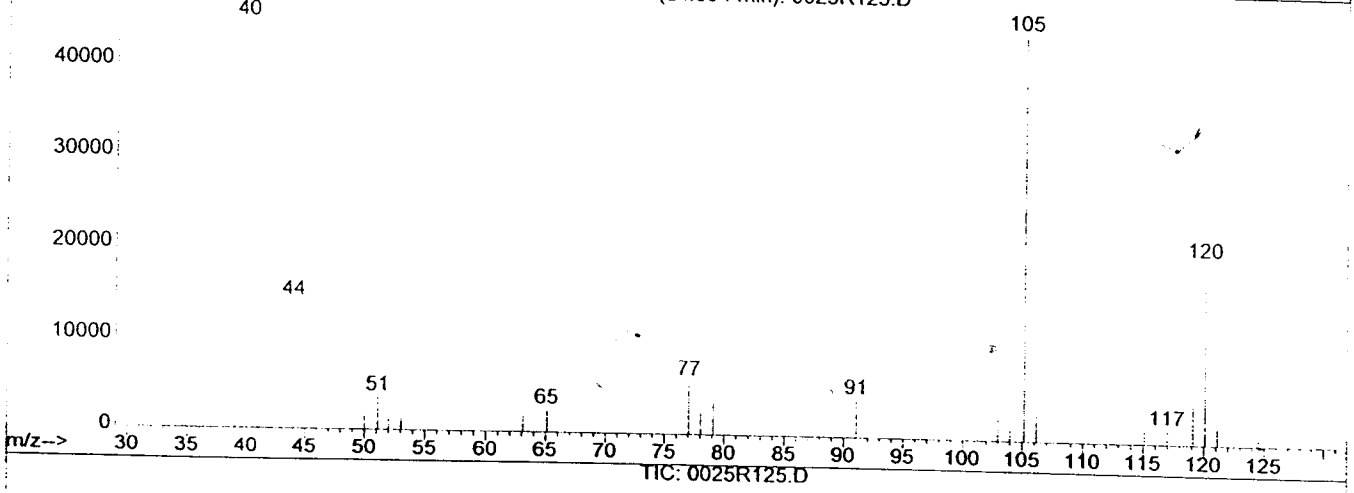
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

response 208705

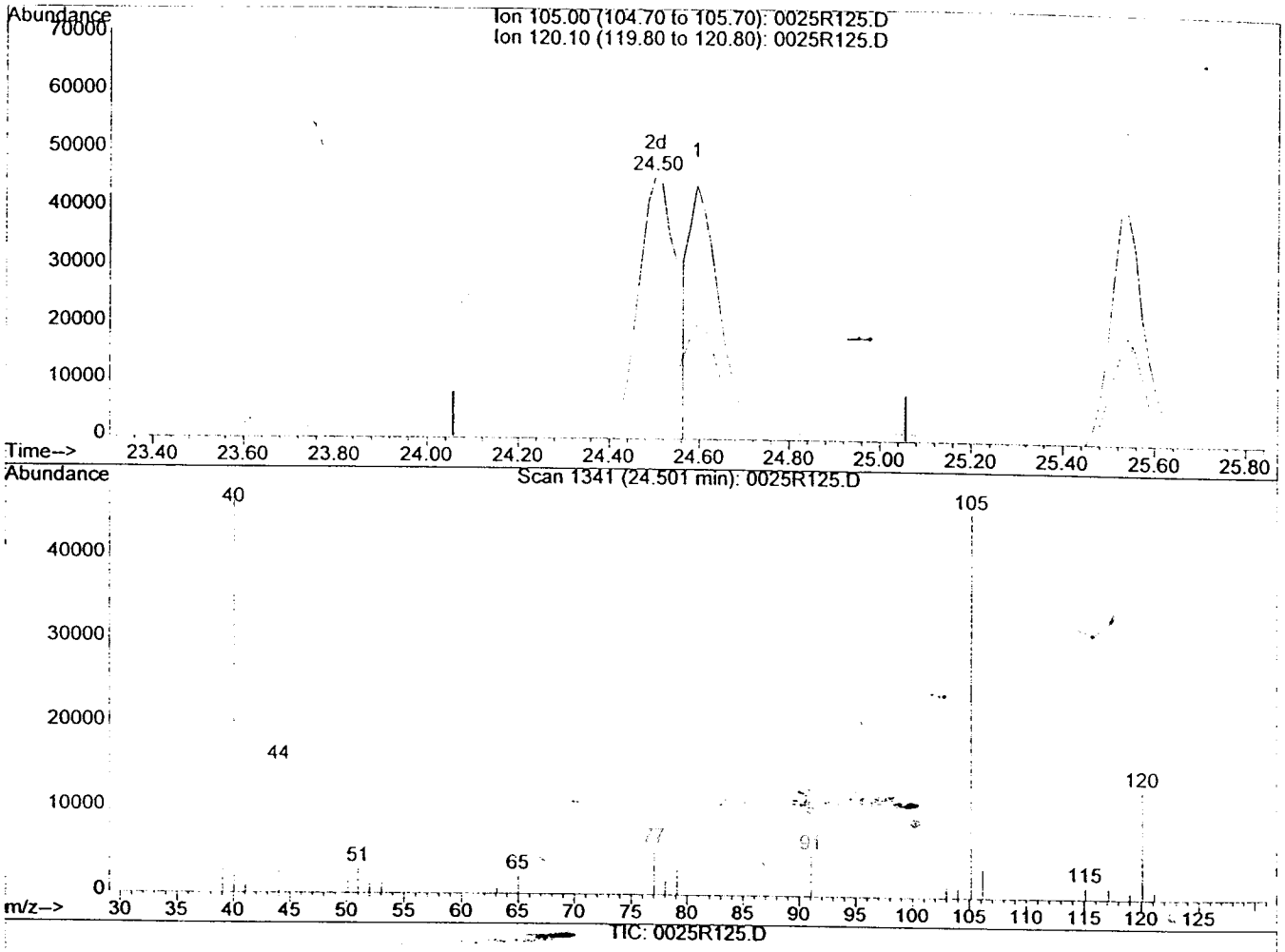
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

0025R125.D TO14S.M Fri Jan 25 18:18:19 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00 ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00 ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00 ng	-0.05 95.76%

ng reprod

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%					
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%					
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03 ng	#	99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54 ng	#	40
4) Chloromethane	4.41	50	230623	128.25 ng	#	95
5) Vinyl chloride	4.62	62	197828	123.13 ng		99
6) Bromomethane	5.46	94	343058	125.48 ng	#	95
7) Chloroethane	5.56	64	147945	134.89 ng		99
8) Trichlorofluoromethane	6.08	101	258267	122.07 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53 ng		87
10) 1,1-Dichloroethene	7.25	96	312183	142.33 ng		83
12) Methylene chloride	8.15	49	406623	130.28 ng		97
13) Carbon disulfide	8.32	76	785720	130.09 ng		97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26 ng		97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25 ng		87
16) n-Hexane	8.82	57	320526	148.87 ng	#	1
17) 1,1-Dichloroethane	9.55	63	548504	135.74 ng		100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39 ng		91
19) Chloroform	11.10	83	704271	136.93 ng		98
20) Isooctane	12.05	57	1160036	162.95 ng		98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36 ng		91
22) Carbon tetrachloride	12.53	117	617093	137.29 ng		98
24) 1,2-Dichloroethane	12.79	62	386406	132.71 ng		98
25) 1,2-Dibromoethane	19.75	107	625053	145.43 ng		99
27) Benzene	12.87	78	806884	143.11 ng		100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	448788	144.70 ng		96
29)	1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30)	Bromodichloromethane	15.10	83	843245	140.20 ng		99
31)	cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33)	Toluene	17.12	92	496011	140.63 ng		98
34)	trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35)	1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37)	Tetrachloroethene	18.74	164	406137	149.07 ng		96
38)	Dibromochloromethane	19.22	127	618919	147.64 ng		99
39)	Chlorobenzene	20.79	112	747778	145.37 ng		96
40)	Ethylbenzene	20.90	106	291472	148.99 ng		100
41)	m,p-Xylene	21.08	106	760694	294.22 ng		98
42)	o-Xylene	22.23	106	361372	148.70 ng		98
43)	Styrene	22.31	104	629732	147.78 ng		99
44)	Bromoform	23.26	173	626335	153.87 ng		100
45)	1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48)	4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49)	1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50)	2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51)	1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52)	1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53)	1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54)	1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55)	1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56)	Napthalene	31.19	128	724021	145.13 ng	#	92
57)	Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

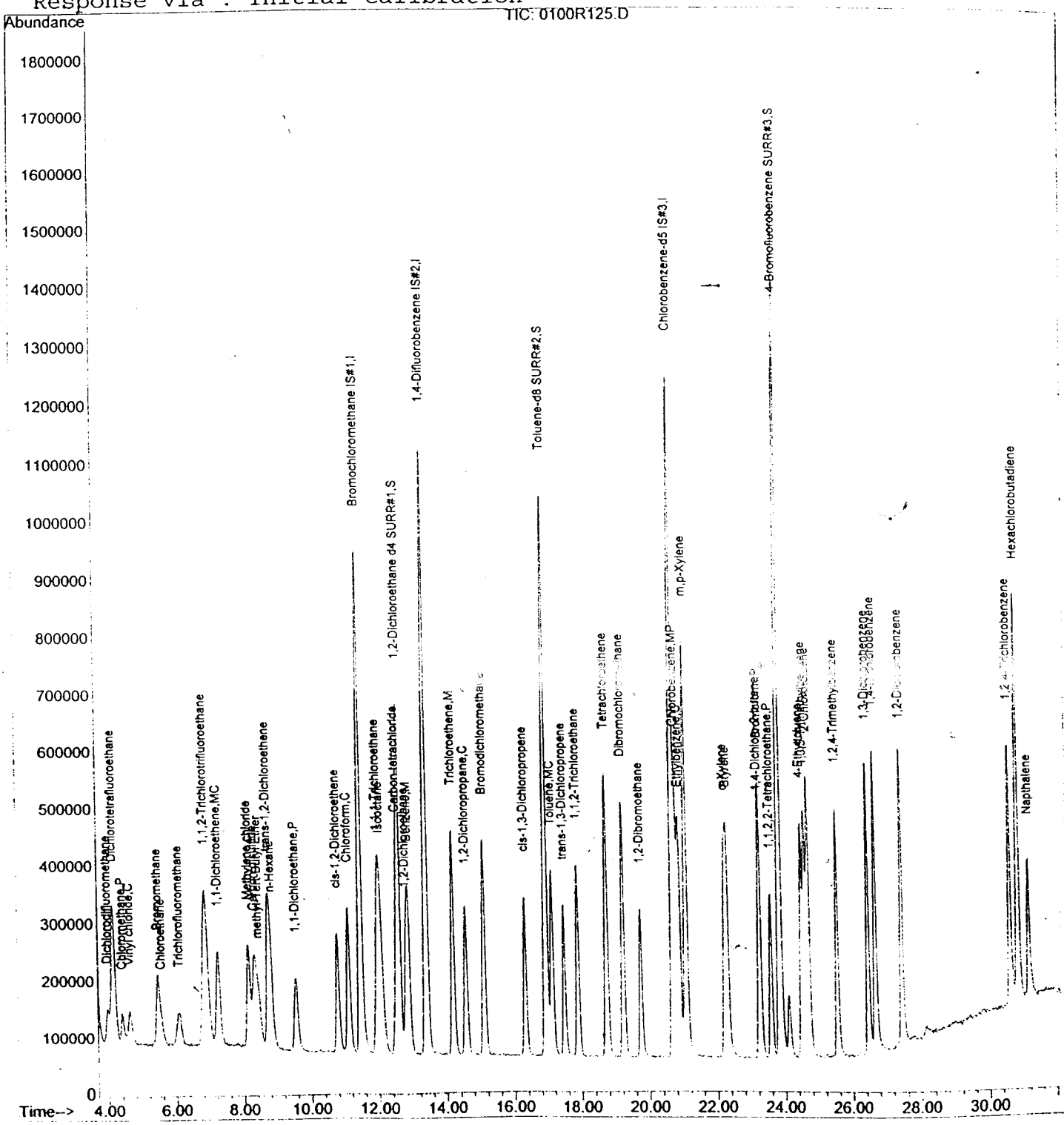
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration

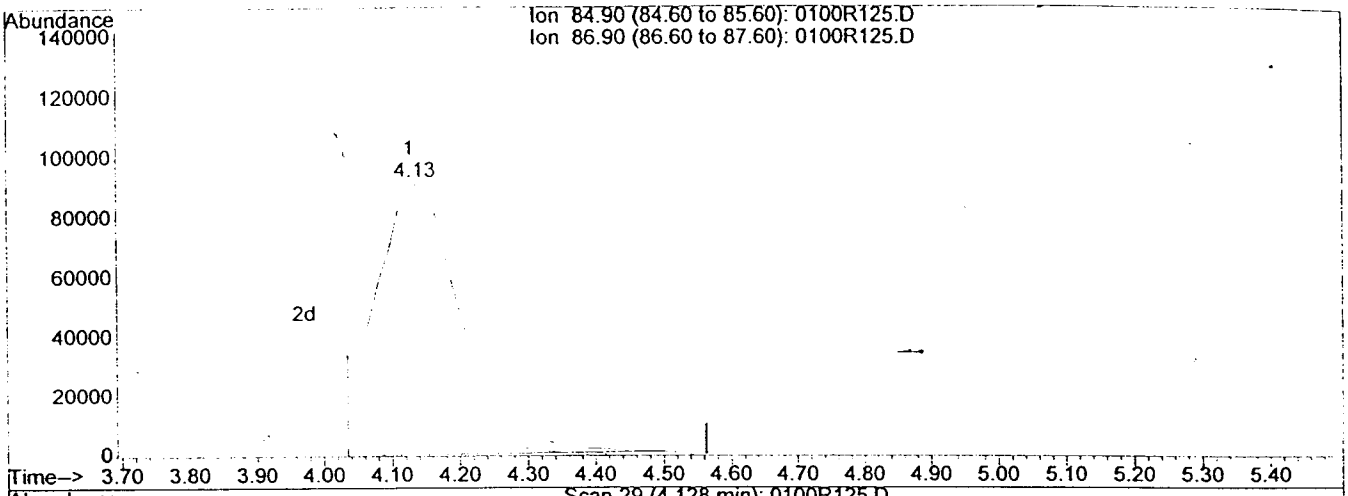


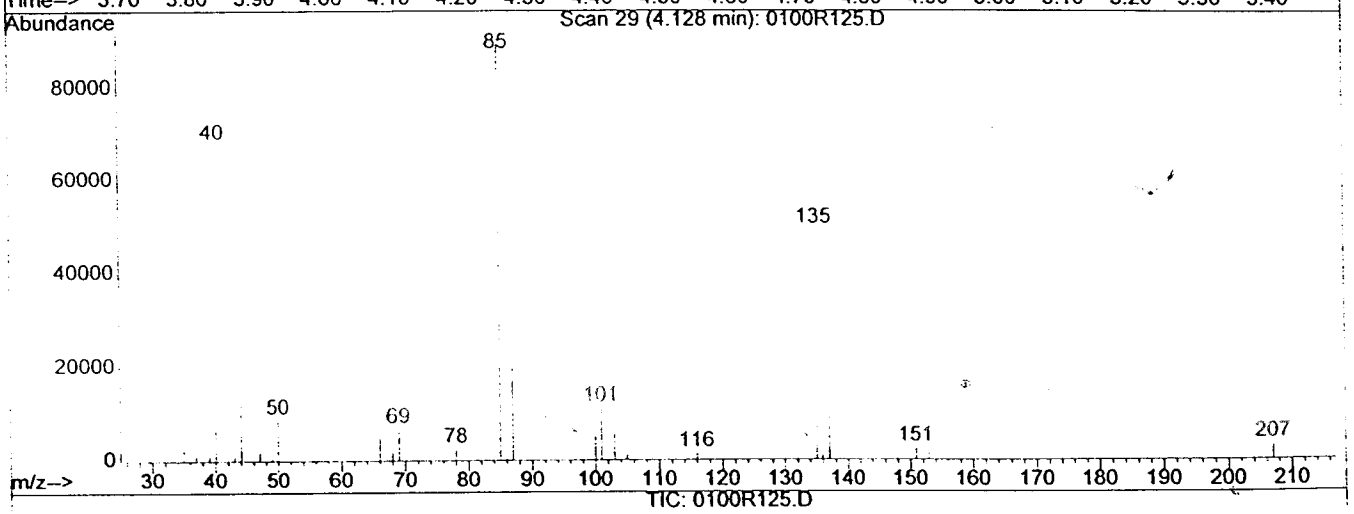
0100R125.D TO14S.M Fri Jan 25 18:55:14 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

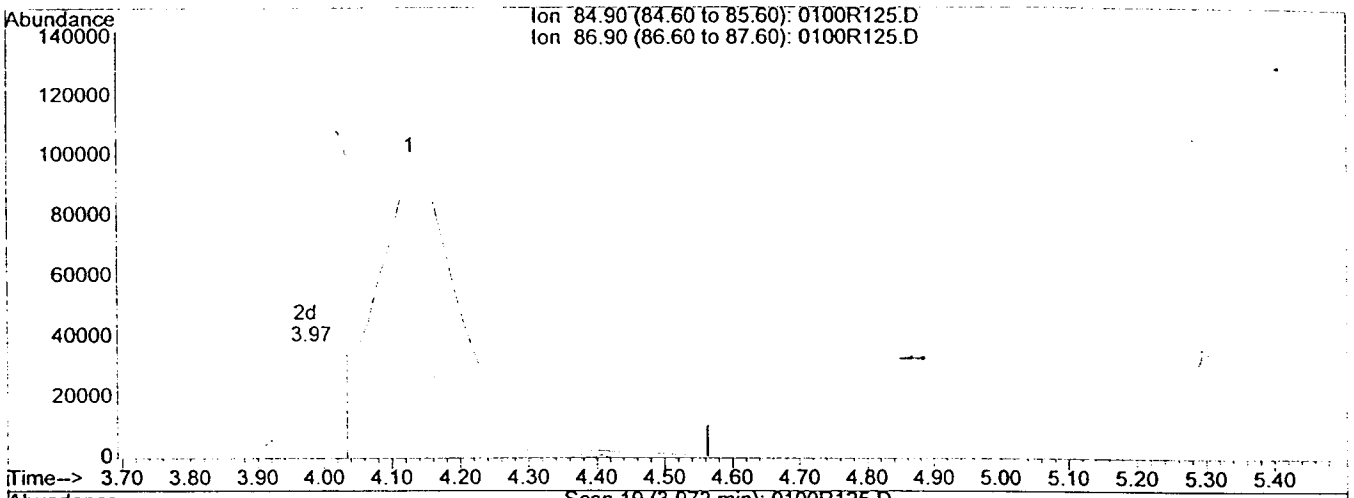
coelution
wrong peak

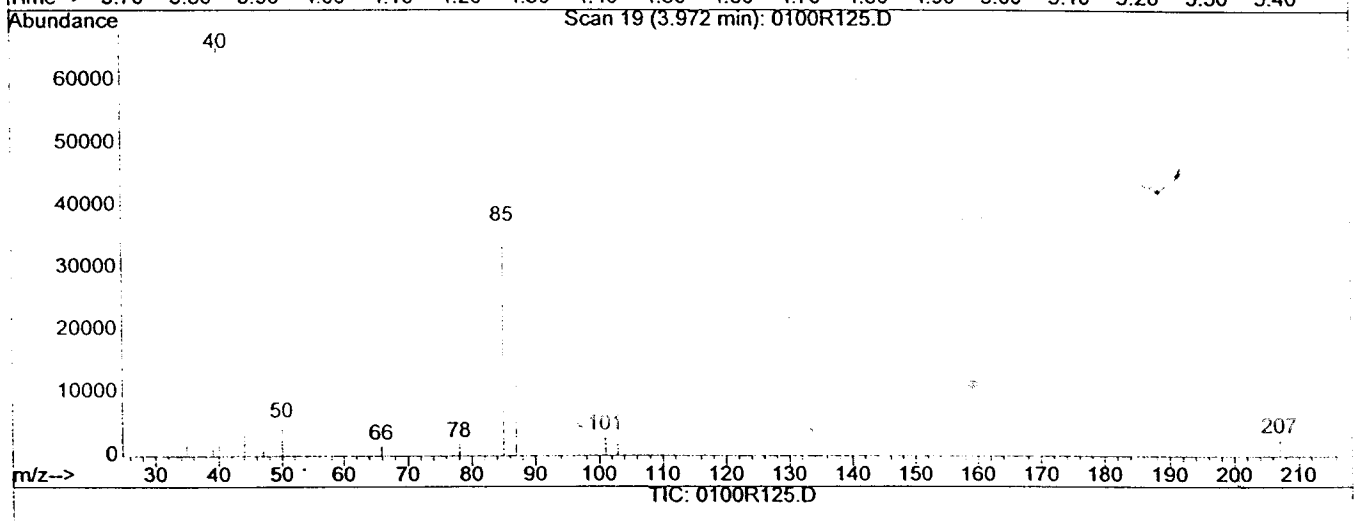
0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

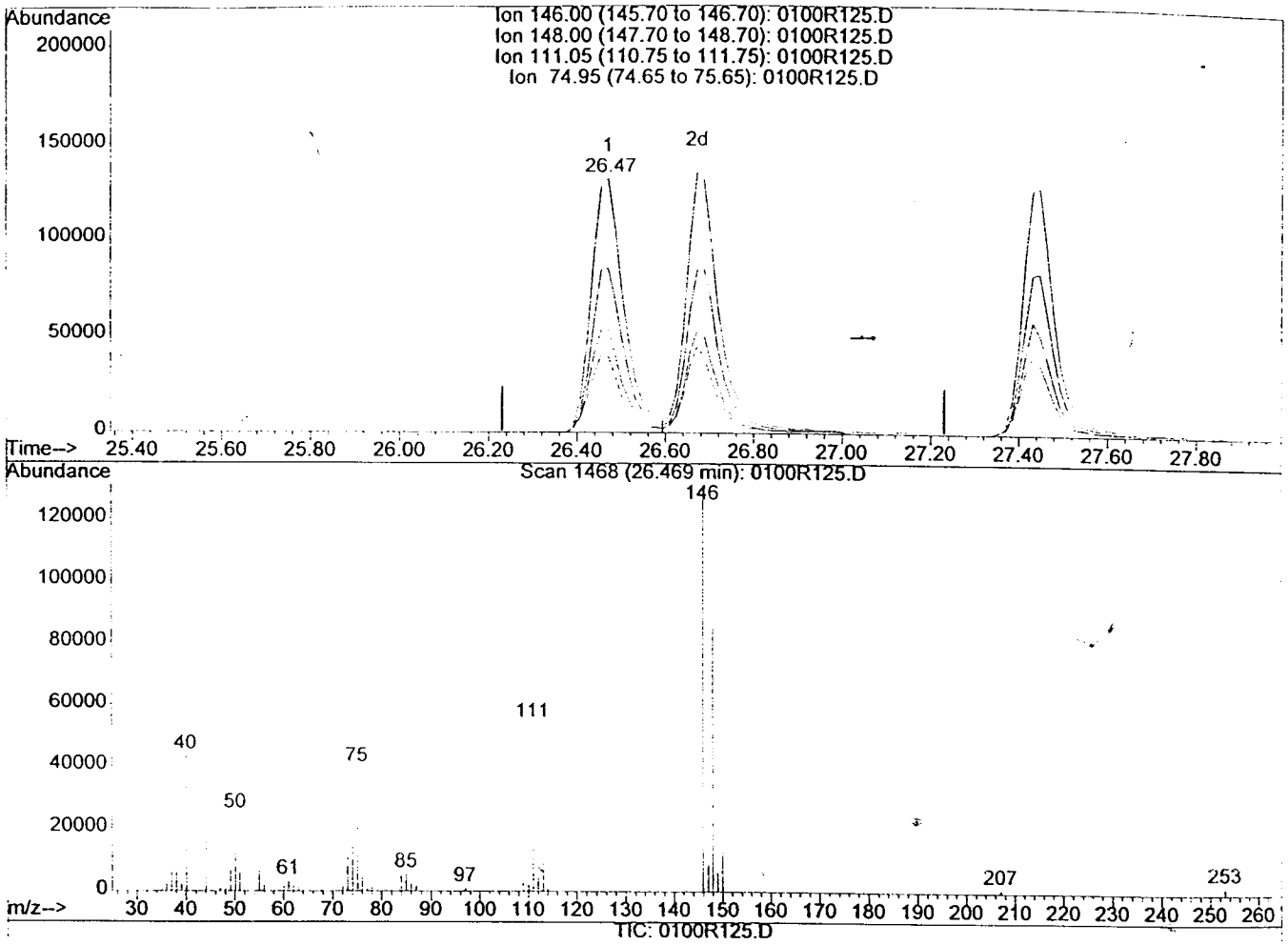
1-25-02

0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18;18:44 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

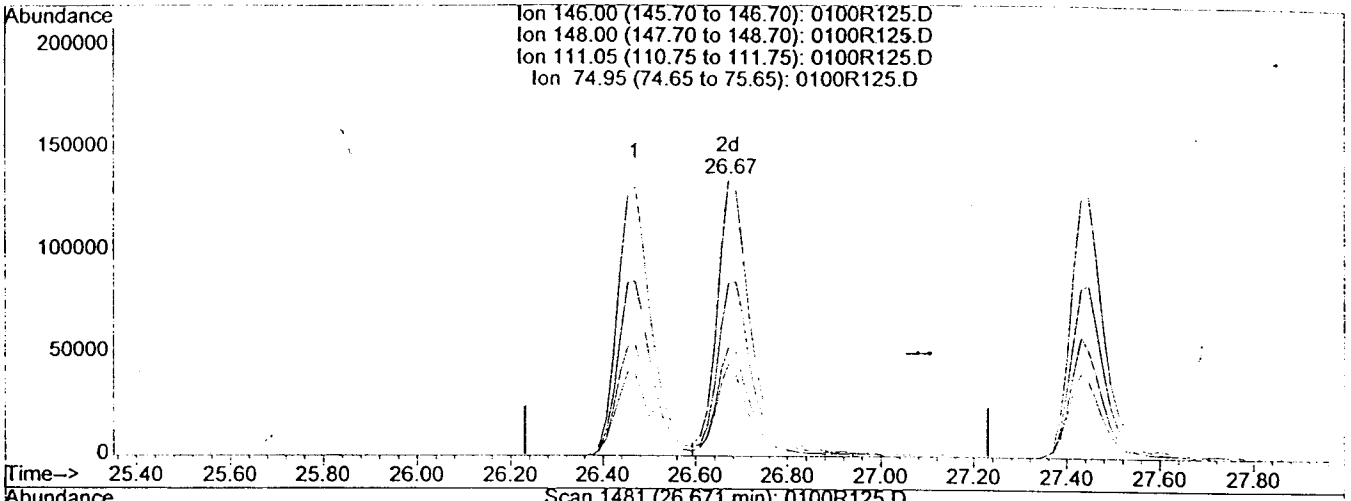
wrong peaks

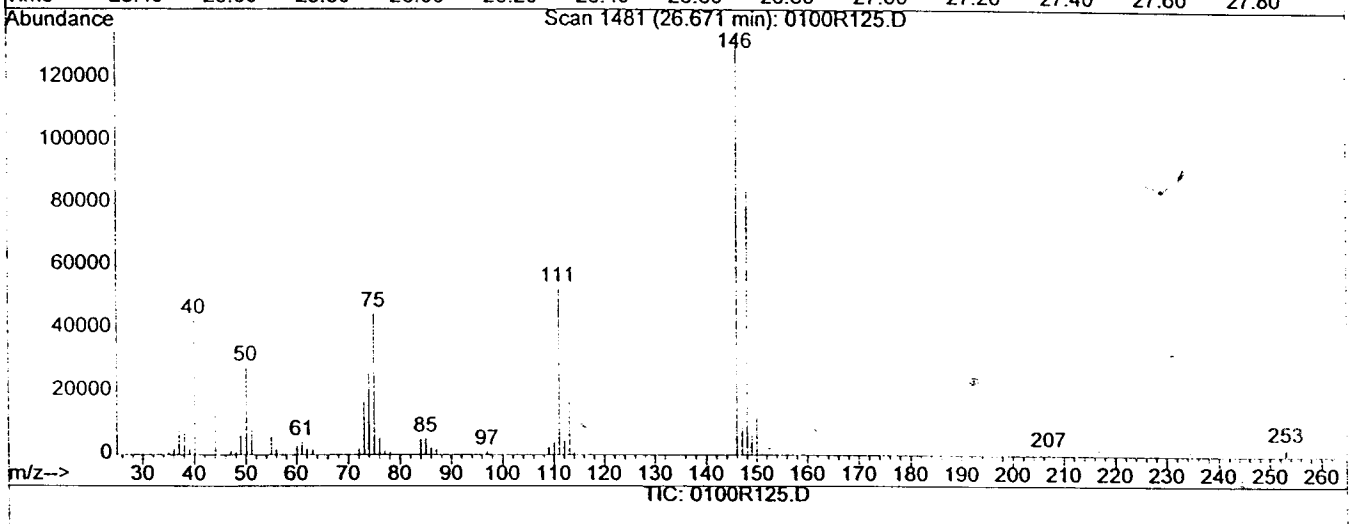
0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-2-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

Dy 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00	ng	0.04 99.81%
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00	ng	0.04 100.02%
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00	ng	0.02 99.67%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 118.28%						
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.29%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.25%						

Target Compounds						Qvalue	
2) Dichlorodifluoromethane	4.06	85	732577m	187.97	ng	#	98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25	ng	#	26
4) Chloromethane	4.44	50	621320	222.28	ng		99
5) Vinyl chloride	4.65	62	614874	229.48	ng		97
6) Bromomethane	5.49	94	897640	198.84	ng		91
7) Chloroethane	5.60	64	431748	238.96	ng		98
8) Trichlorofluoromethane	6.13	101	1119931	239.23	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47	ng		87
10) 1,1-Dichloroethene	7.29	96	864615	239.44	ng		92
12) Methylene chloride	8.18	49	1205948	258.58	ng		96
13) Carbon disulfide	8.36	76	2260074	232.41	ng		100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18	ng		97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60	ng		95
16) n-Hexane	8.86	57	892820	241.08	ng	#	1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39	ng		98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57	ng		96
19) Chloroform	11.16	83	2068510	256.77	ng		99
20) Isooctane	12.11	57	2982558	239.27	ng		99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23	ng		91
22) Carbon tetrachloride	12.59	117	1861531	257.08	ng		98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59	ng		99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52	ng		98
27) Benzene	12.93	78	2293017	257.50	ng		99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 ng		98
34)	trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35)	1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37)	Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38)	Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39)	Chlorobenzene	20.85	112	2203630	260.18 ng		96
40)	Ethylbenzene	20.94	106	882384	259.46 ng		99
41)	m,p-Xylene	21.13	106	2264418	517.69 ng		99
42)	o-Xylene	22.29	106	1090444	256.51 ng		100
43)	Styrene	22.37	104	1906972	288.65 ng		97
44)	Bromoform	23.32	173	1752285	313.35 ng		99
45)	1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47)	1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48)	4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49)	1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50)	2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51)	1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52)	1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53)	1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54)	1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56)	Napthalene	31.25	128	1772393	306.50 ng	#	92
57)	Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

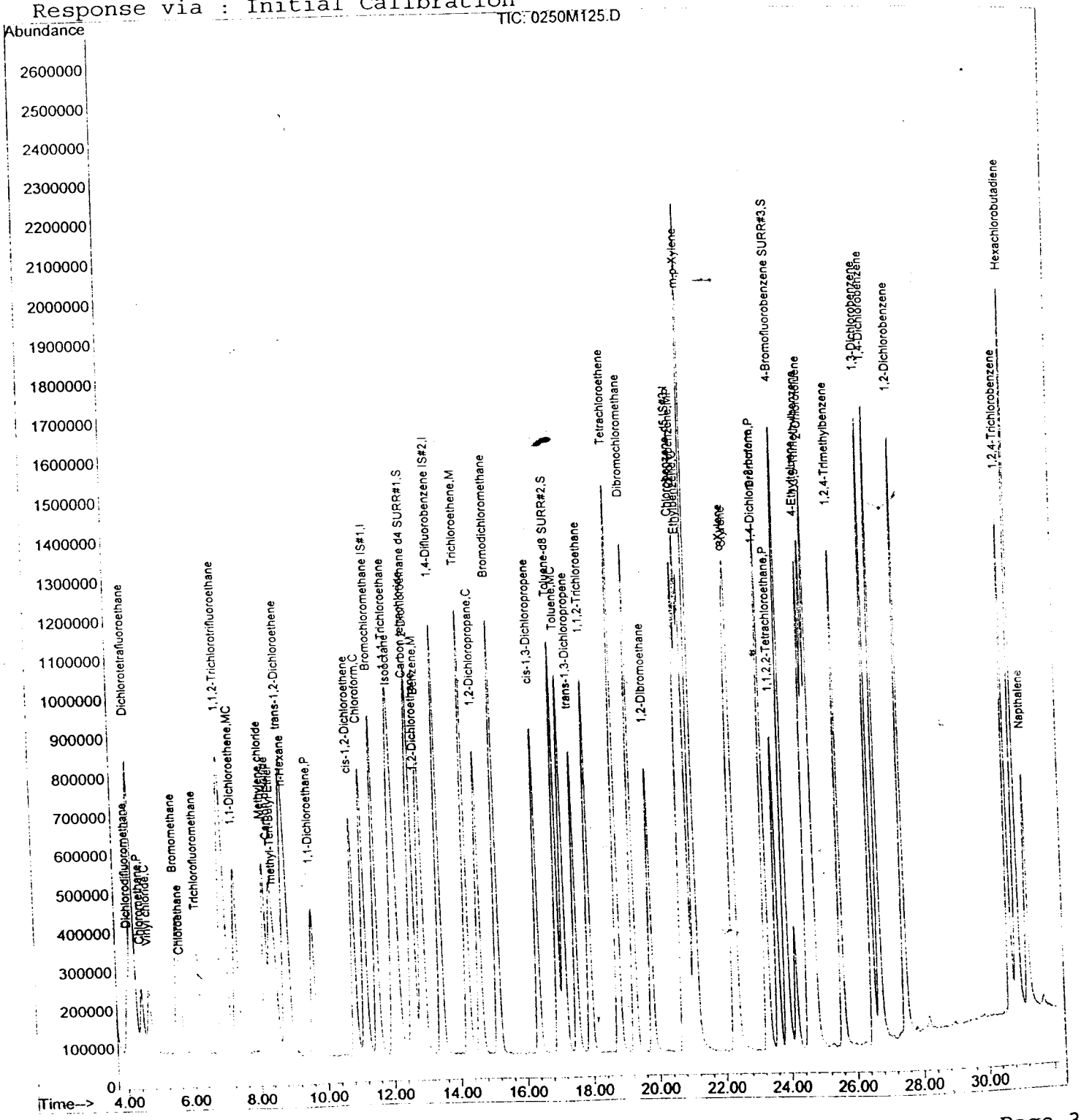
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



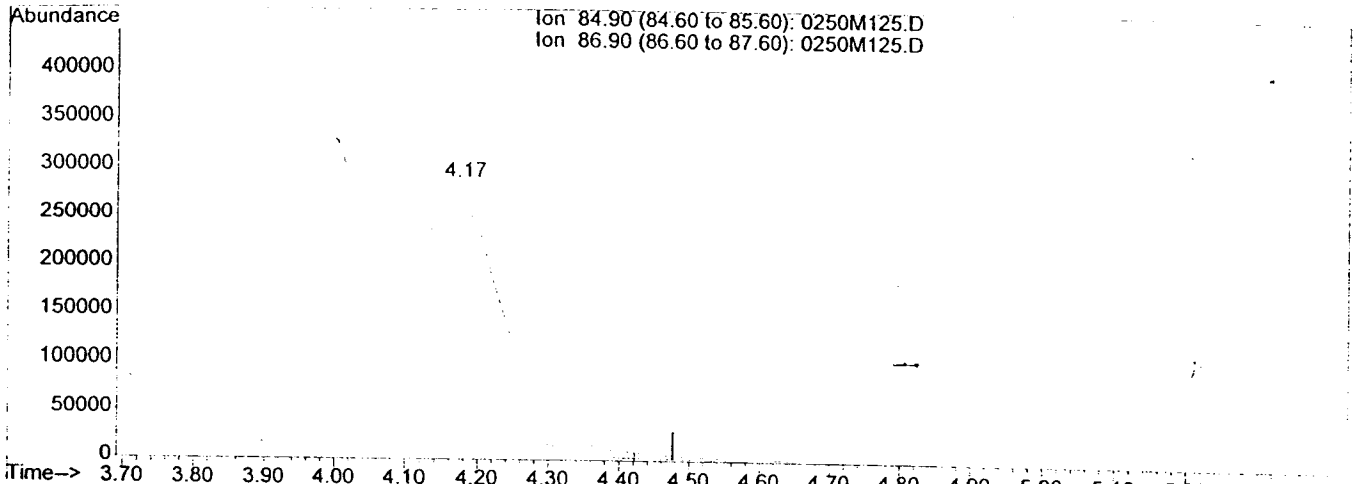
0250M125.D TO14S.M Fri Jan 25 15:12:14 2002

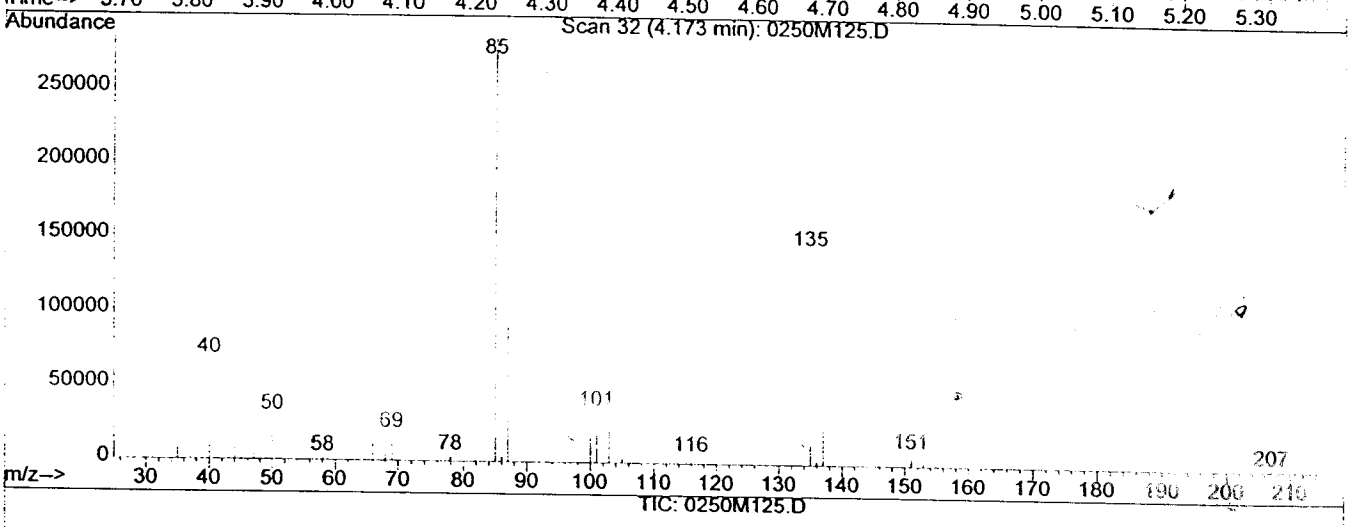
Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

response 3299163

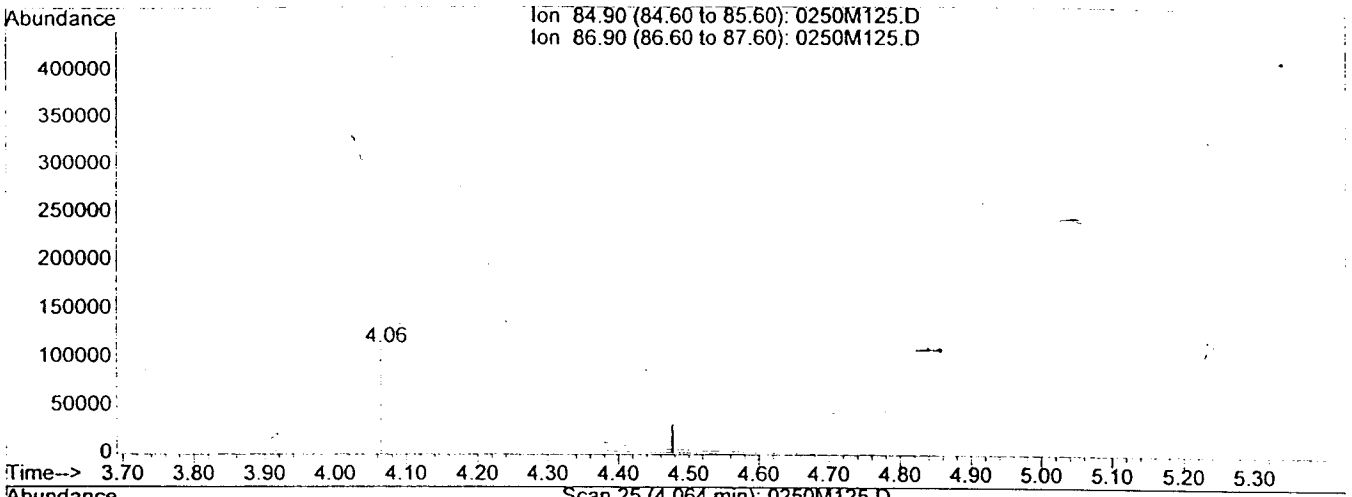
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

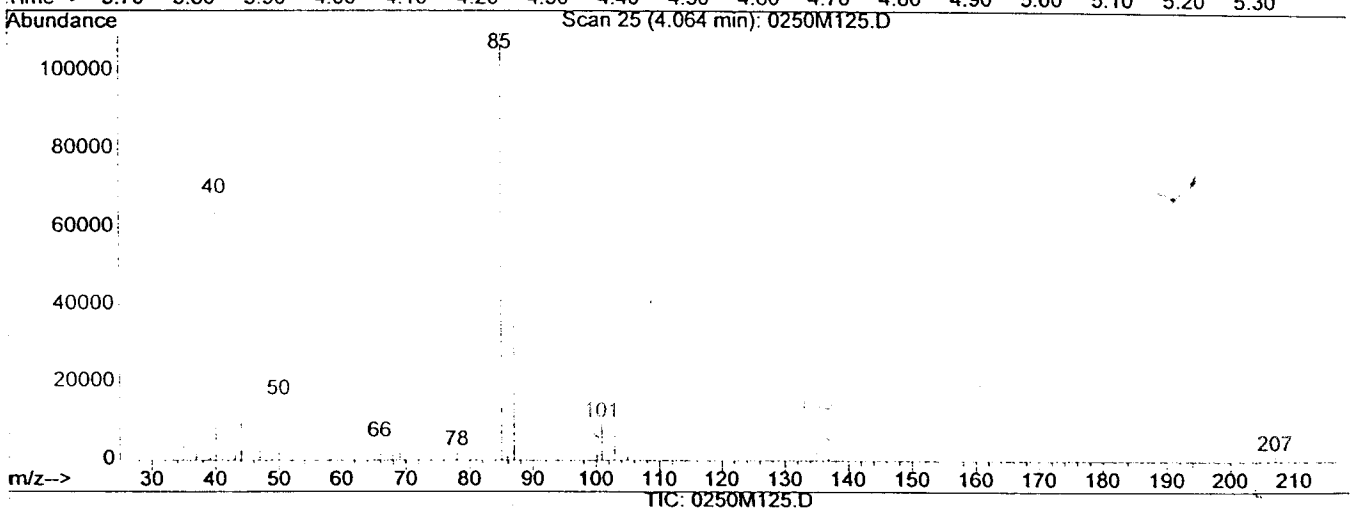
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.06min 187.97ng m

response 732577

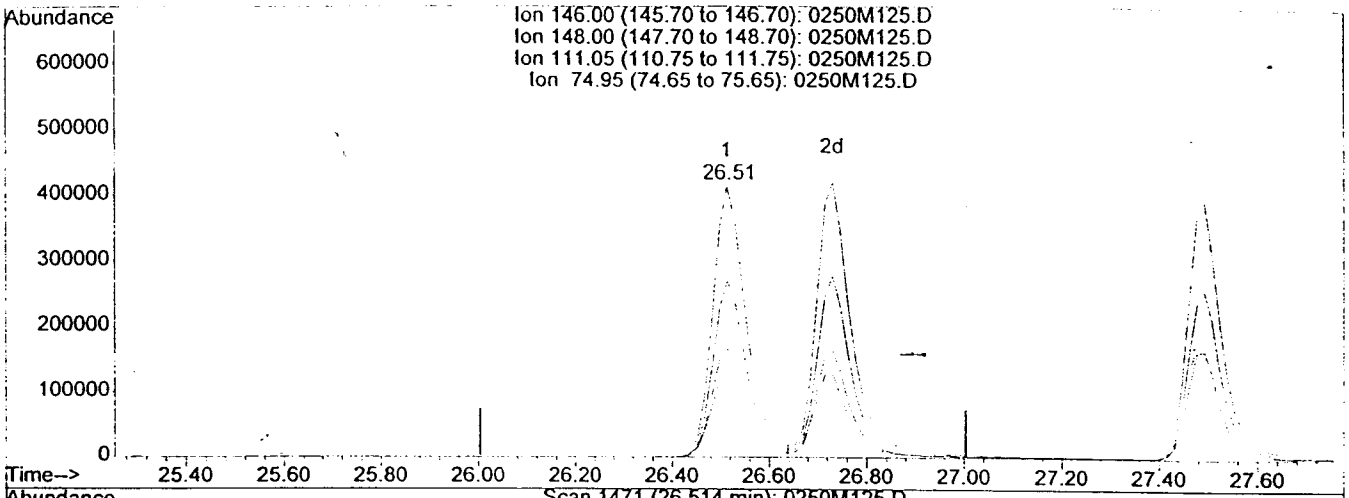
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

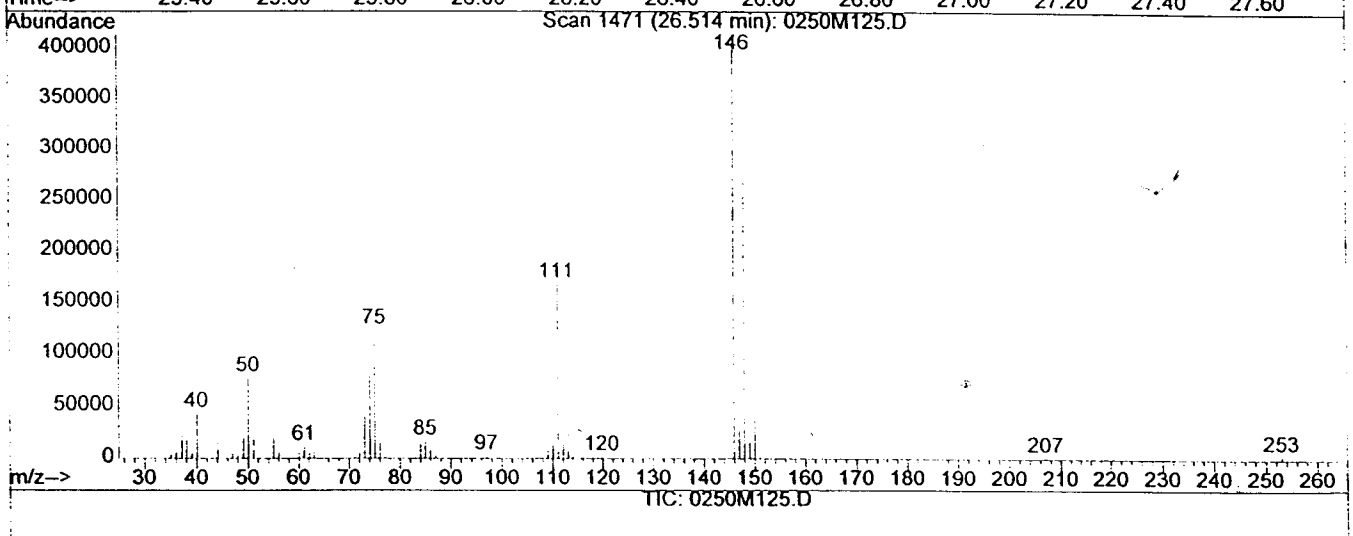
0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

response 2001409

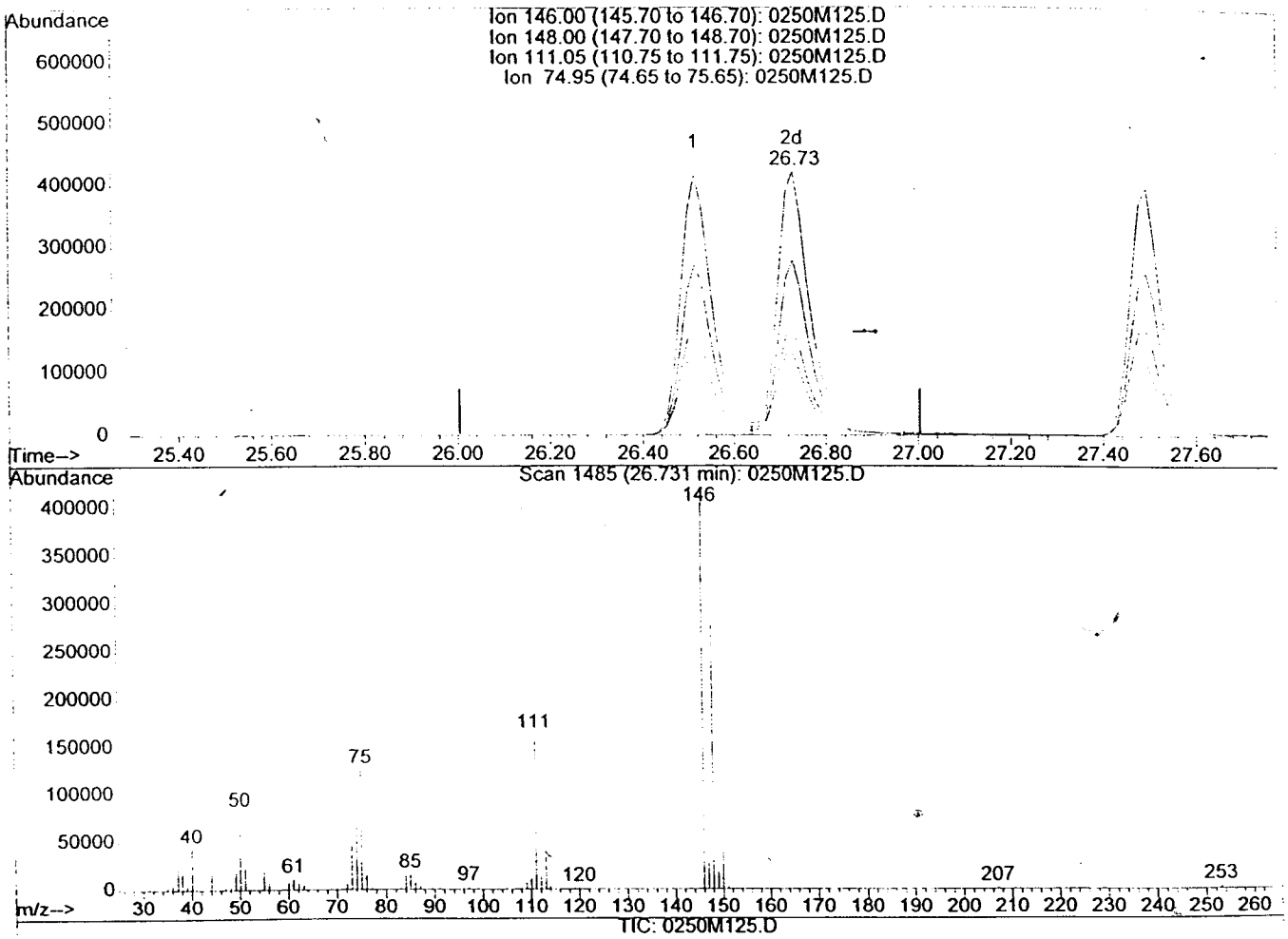
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

my 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00	ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02 85.65%

ng report

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds	R.T.	QIon	Response	Conc	Units		Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

(#) = qualifier out of range (m) = manual integration
0500M125.D TO14S.M Fri Jan 25 15:41:51 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

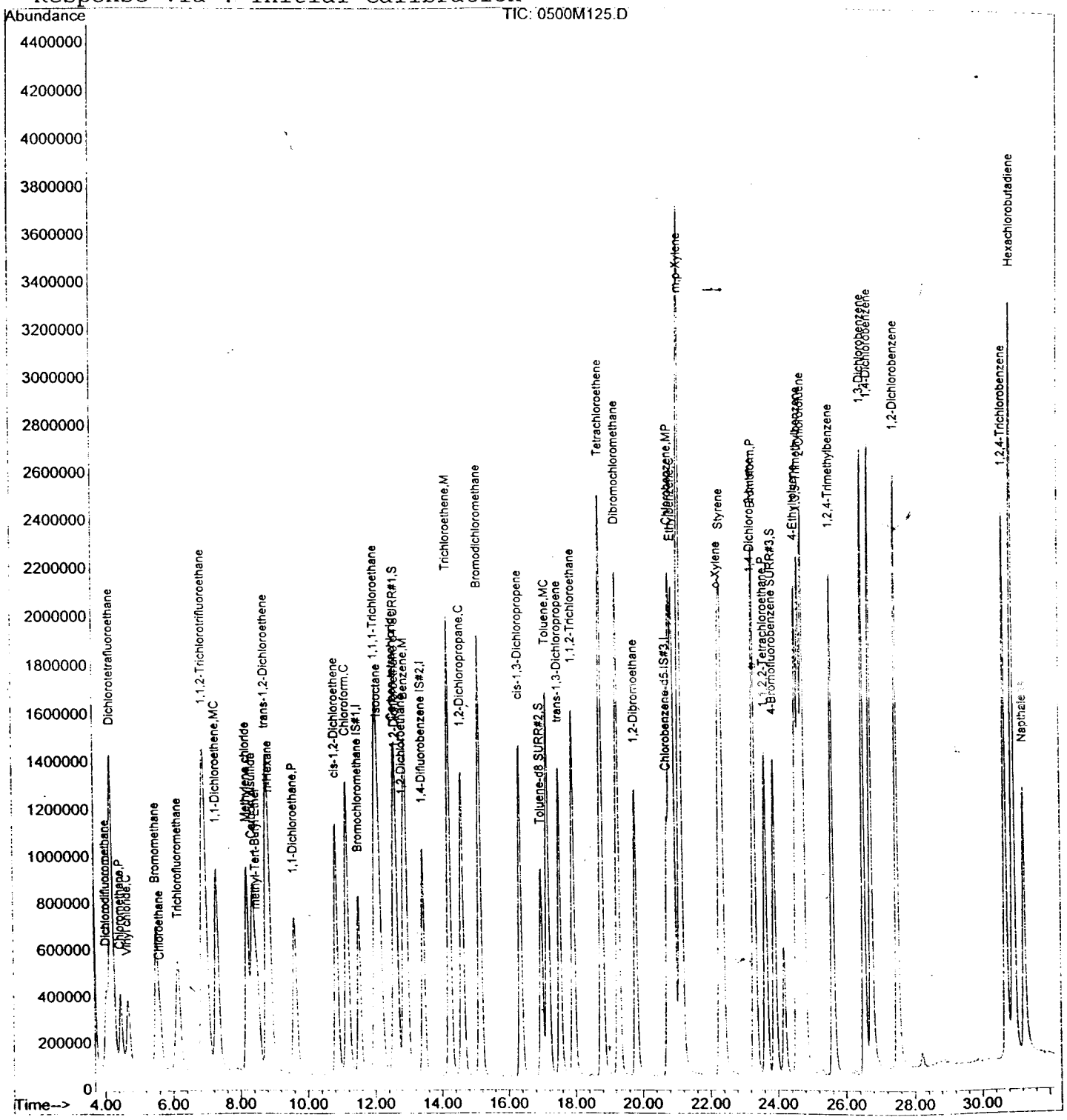
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39 ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67 ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03 ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68 ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98 ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70 ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12 ng		99
42)	o-Xylene	22.29	106	1850077	851.14 ng		97
43)	Styrene	22.37	104	3243356	851.00 ng		97
44)	Bromoform	23.33	173	2899555	796.41 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67 ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21 ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52 ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53 ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21 ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31 ng		96
54)	1,2-Dichlorobenzene	27.51	146	309[illegible]	781.02 ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99 ng		99
56)	Napthalene	31.27	128	3229812	723.84 ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

MB 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

ng reported

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng		92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng	#	41
4) Chloromethane	4.44	50	2133139	1351.49	ng	#	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng		96
6) Bromomethane	5.51	94	3162736	1317.96	ng	#	99
7) Chloroethane	5.60	64	1530589	1589.88	ng		97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng		84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng		90
12) Methylene chloride	8.20	49	3993235	1457.56	ng		99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng		100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng		99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng		93
16) n-Hexane	8.88	57	2940178	1555.79	ng	#	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng		98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng		93
19) Chloroform	11.18	83	6940397	1537.33	ng		99
20) Isooctane	12.12	57	9654037	1544.96	ng		97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng		91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng		97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng		98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng		98
27) Benzene	12.95	78	7976775	1559.00	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.25	130	4575596	1625.70 ng		95
29) 1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30) Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31) cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33) Toluene	17.18	92	5201962	1625.17 ng		98
34) trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35) 1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37) Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38) Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39) Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40) Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41) m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42) o-Xylene	22.31	106	3789454	1709.97 ng		96
43) Styrene	22.39	104	6680678	1719.31 ng		96
44) Bromoform	23.33	173	6162140	1660.10 ng		100
45) 1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47) 1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48) 4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49) 1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50) 2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51) 1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52) 1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53) 1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54) 1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55) 1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56) Napthalene	31.25	128	5947012	1307.26 ng	#	93
57) Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

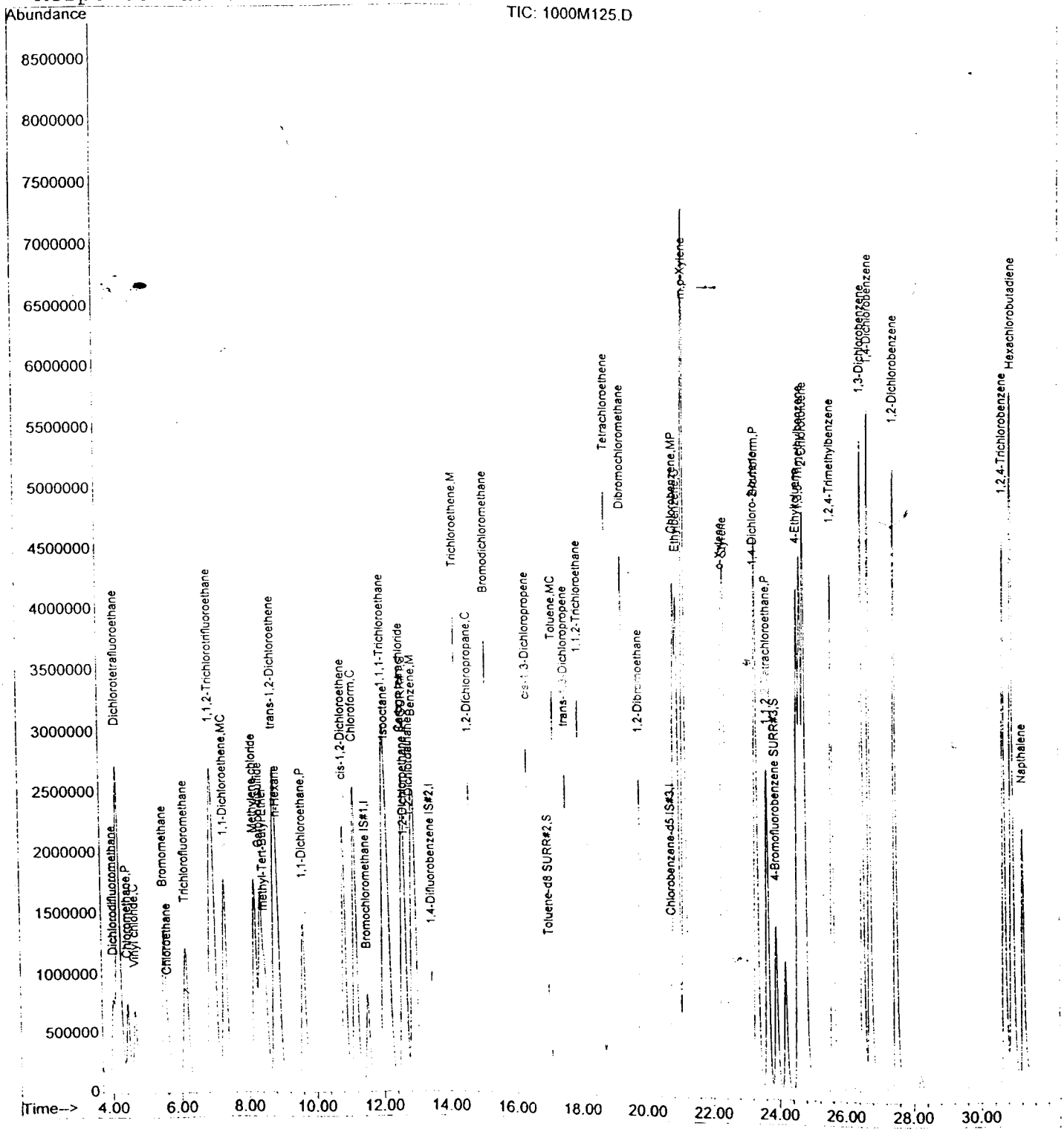
(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

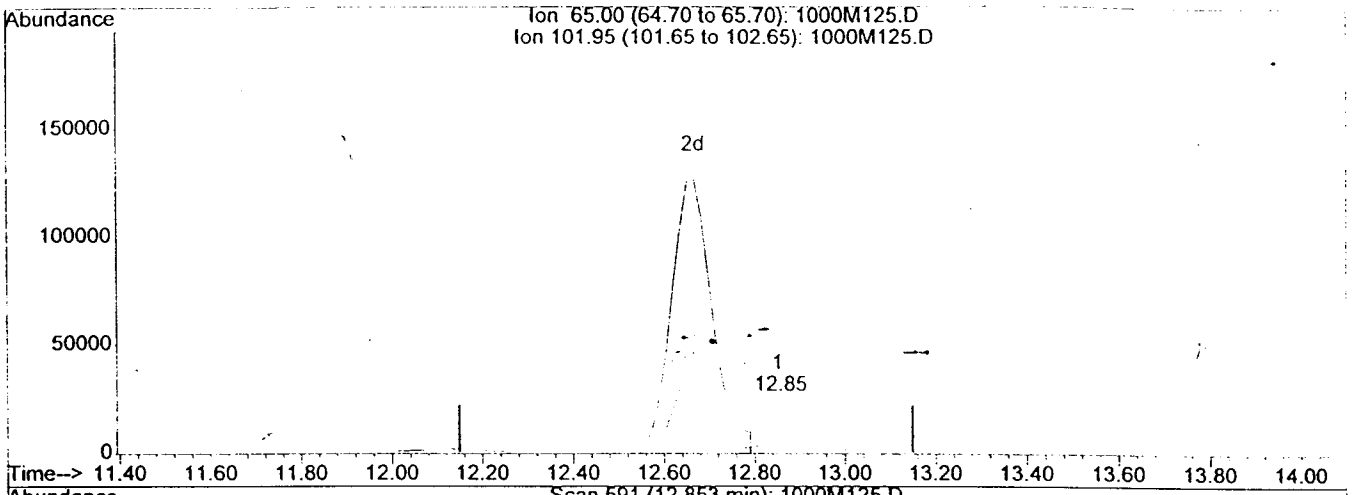
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration

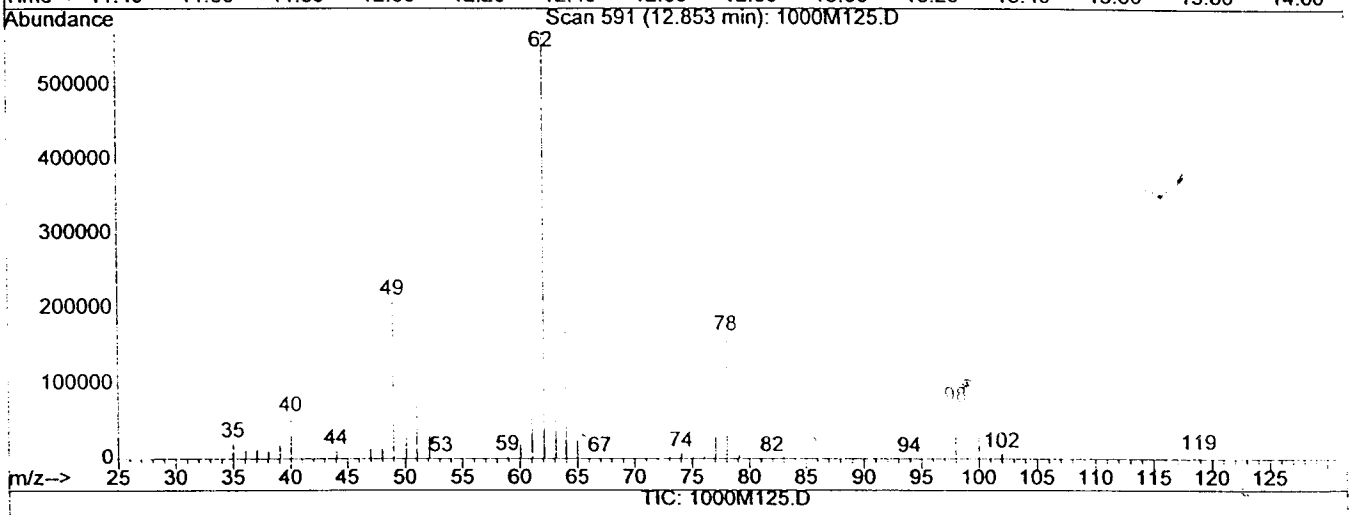


1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

response 171340

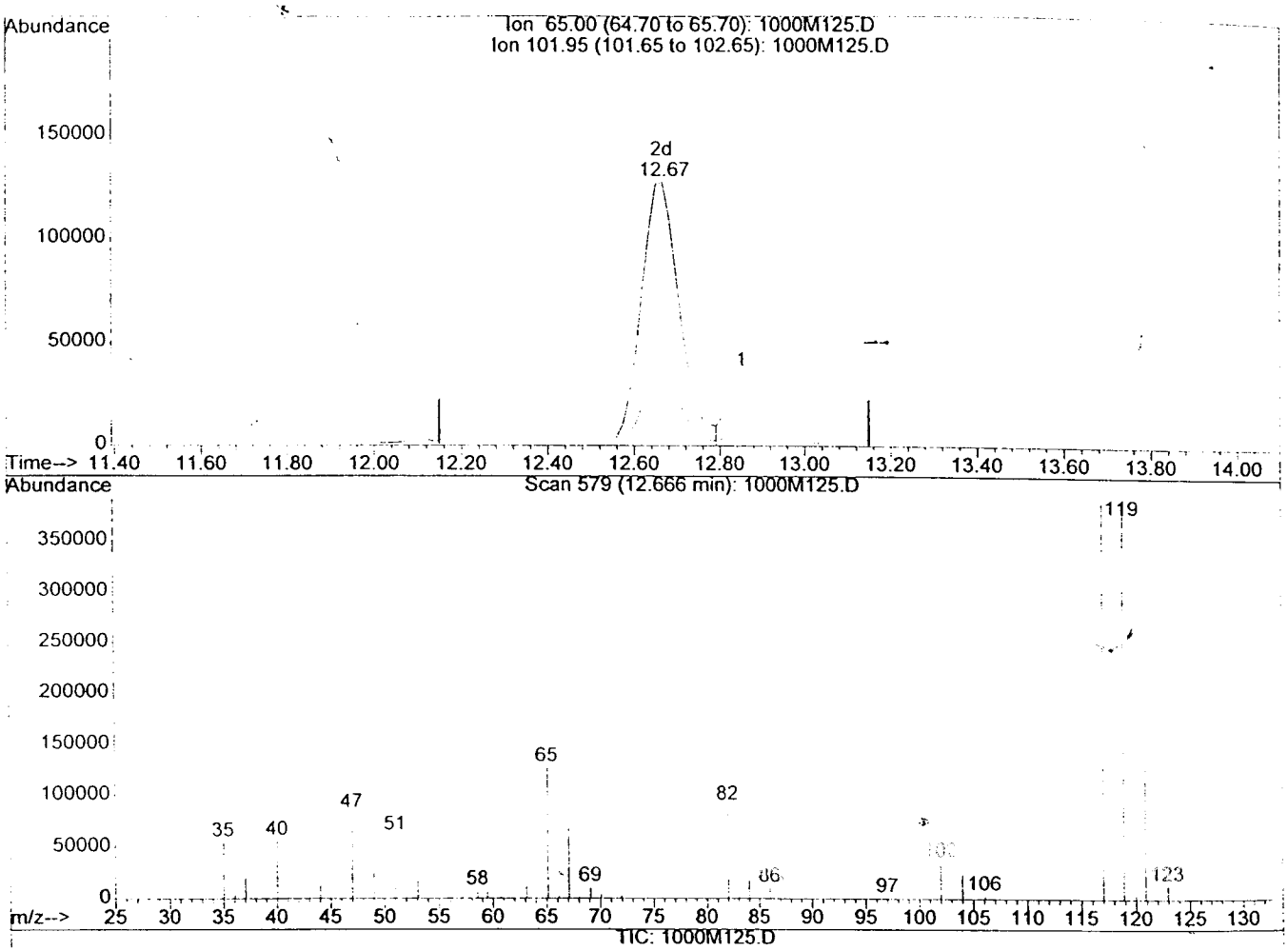
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TO 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

ng reported

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng		91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng	#	40
4) Chloromethane	4.44	50	3972848	2058.56	ng	#	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng		98
6) Bromomethane	5.48	94	5976813	2036.94	ng	#	99
7) Chloroethane	5.59	64	2892614	2457.35	ng		[illegible]
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng		84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng		90
12) Methylene chloride	8.18	49	7493461	2236.94	ng		99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng		99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng		99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng		93
16) n-Hexane	8.85	57	5552938	2403.09	ng	#	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng		98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng		92
19) Chloroform	11.15	83	13101131	2373.35	ng		99
20) Isooctane	12.11	57	17221498	2253.97	ng		96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng		91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng		97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng	#	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng		99
27) Benzene	12.92	78	15415352	2393.38	ng		99

(#) = qualifier out of range (m) = manual integration
1500M125.D TO14S.M Fri Jan 25 16:56:33 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42 ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33)	Toluene	17.17	92	10065682	2498.13 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42)	o-Xylene	22.28	106	7218929	2597.06 ng		97
43)	Styrene	22.35	104	12826497	2631.72 ng		96
44)	Bromoform	23.32	173	11319346	2431.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022[illegible]	217[illegible] ng		[illegible]
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56)	Napthalene	31.24	128	8081624	1416.32 ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

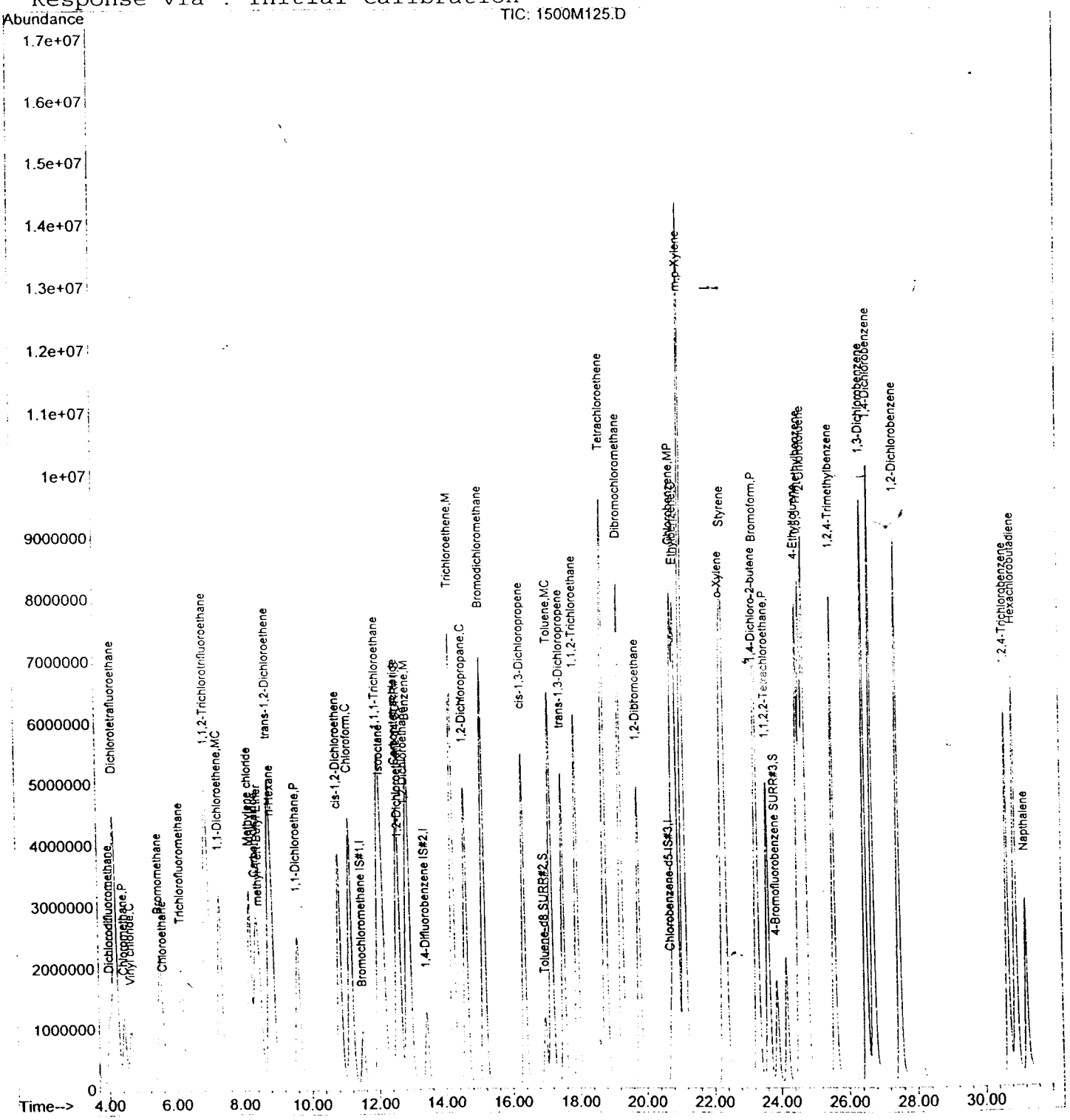
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 4-11-02
Batch MAB068 1 2 3
IS# 8 -MSW- 34 - 1
BFB 8 -MSW- 34 - 1

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 27 - 1
8260 -MSW- -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch _____ 1 2
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

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TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
10:49	13	~~BFBSTL~~	~~BFM041A~~	~~50ppb~~ 250ng			W	Yes	BDH	Daily 24hr BFB Tune
11:10	14	TO14S.m	CM 0411A	50ppb		Y N	W	Yes	BDH	Daily Cal Check/bfb tune/95 ion area = 827,000
12:04	15		MAB68A BK	ST		Y N				Daily Method Blank
12:38	16		MAB68 LCS	50ppb		Y N				Batch# 068 LCS
13:15	1		4115 -1	X100		Y N	A(TO14)			5mls re-run ST.
13:53	2		-2			Y N				
14:26	3		4242 -1	X100		Y N				
14:59	4		4243 -1	X100		Y N				
~~15:33~~	5 BDH	4/10	4241 -1	X100		Y N				Not RUN
~~16:07~~	6		-2			Y N		—		Not run
~~16:07~~ 15:33	2 4/10		4115 -1R	ST.	✓	Y N		Yes		500mls
16:07	2		-2R		✓	Y N				
16:43	2		4242 -1R	ST	✓	Y N				
17:21	2		4243 -1R		✓	Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BDH 4/11/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

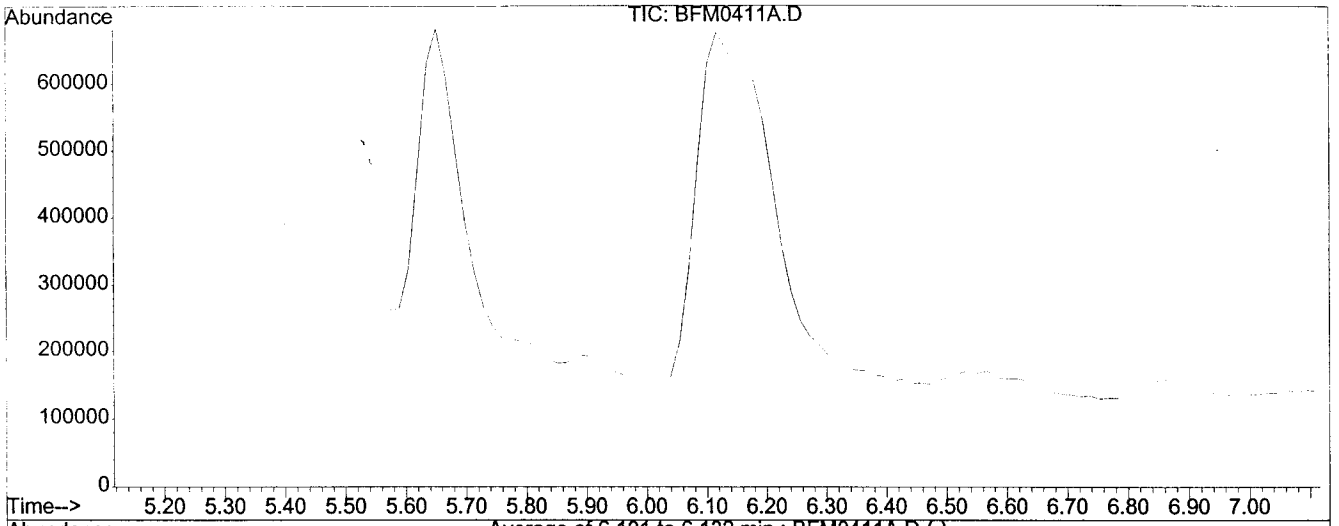
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.
** Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

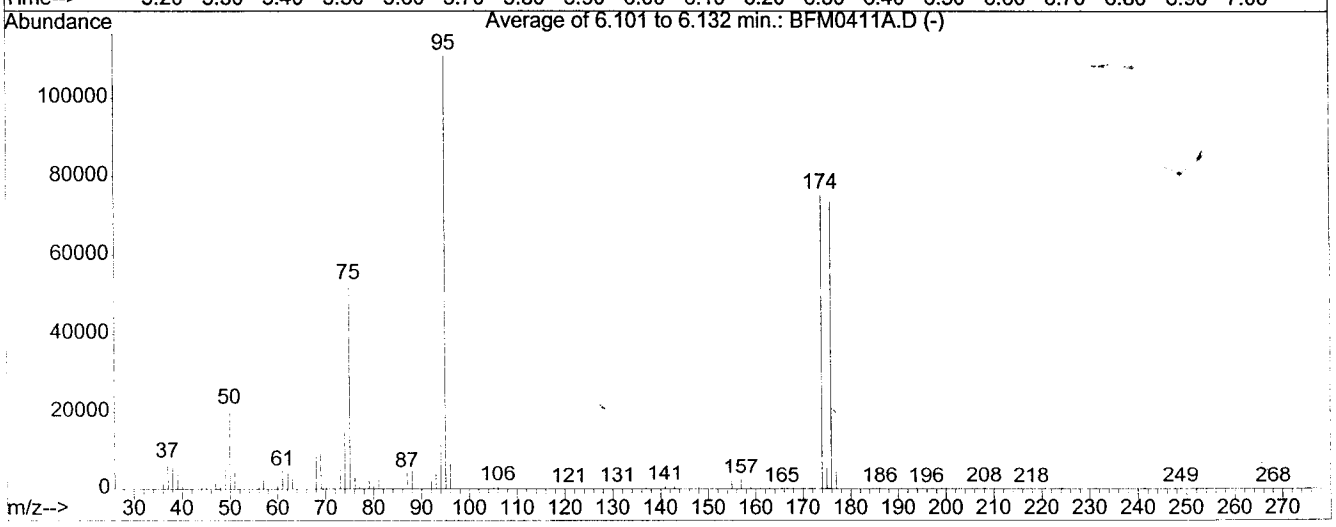
Screened [illegible] (initials)

STL Pensacola
NAS Cecil Field, CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\BFM0411A.D Vial: 13
Acq On : 11 Apr 2002 10:49 am Operator: BDH
Sample : DAILY 12 HOUR BFB TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 38 (6.12 min)
Average of 3 scans: 37,38,39 minus background scan 18 (5.81 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	20672	PASS
75	95	30	60	47.3	52368	PASS
95	95	100	100	100.0	110648	PASS
96	95	5	9	6.1	6782	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.1	75388	PASS
175	174	5	9	7.1	5373	PASS
176	174	95	101	97.7	73689	PASS
177	176	5	9	6.4	4746	PASS

BFM0411A.D TO14S.M Mon Apr 22 09:37:51 2002

Average of 6.101 to 6.132 min.: BFM0411A.D

DAILY 12 HOUR BFB TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1347	56.05	1040	75.05	52368	95.05	110648
37.05	6849	57.05	2309	76.05	4123	96.05	6782
38.05	5695	59.95	809	77.05	731	106.00	611
39.05	3789	61.00	4748	79.00	2137	141.00	703
40.05	1061	62.10	4076	79.95	854	142.90	649
45.00	998	63.05	2640	81.00	2394	154.90	2049
47.00	1547	68.00	9740	87.00	4294	156.95	2477
47.95	776	69.00	9549	88.00	4623	158.95	602
49.00	4982	71.95	714	92.05	2352	174.05	75388
50.00	20672	73.05	5070	93.00	4007	175.00	5373
51.05	5861	74.00	15998	94.00	11783	175.95	73689

Average of 6.101 to 6.132 min.: BFM0411A.D

DAILY 12 HOUR BFB TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
176.95	4746						

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	88	0.00
2		Dichlorodifluoromethane	0.919	0.804	12.5#	77	0.00
3		Dichlorotetrafluoroethane	1.446	1.180	18.4#	68	0.00
4	P	Chloromethane	0.788	0.615	22.0#	70	0.00
5	C	Vinyl chloride	0.727	0.686	5.6#	79	0.00
6		Bromomethane	1.180	1.042	11.7#	82	0.00
7		Chloroethane	0.530	0.494	6.8#	81	0.00
8		Trichlorofluoromethane	1.261	0.589	53.3#	37#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.809	3.2#	84	0.00
10	MC	1,1-Dichloroethene	1.064	0.987	7.2#	80	0.00
11		Iodomethane	0.000	0.000	0.0	59	0.00
12		Methylene chloride	1.431	1.406	1.7	82	0.00
13		Carbon disulfide	2.862	2.771	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	1.551	1.679	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	1.194	1.150	3.7#	84	0.00
16		n-Hexane	1.089	1.036	4.9#	82	0.00
17	P	1,1-Dichloroethane	1.944	1.955	-0.6	86	0.00
18		cis-1,2-Dichloroethene	1.576	1.601	-1.6	86	0.00
19	C	Chloroform	2.454	2.570	-4.7#	88	0.00
20		Isooctane	3.653	3.326	9.0#	79	0.00
21		1,1,1-Trichloroethane	2.085	2.155	-3.4#	87	0.00
22		Carbon tetrachloride	2.195	2.277	-3.7#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.238	-5.3#	86	0.00
24		1,2-Dichloroethane	1.321	1.398	-5.8#	85	0.00
25		1,2-Dibromoethane	2.124	2.108	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	89	0.00
27	M	Benzene	0.733	0.718	2.0#	87	0.00
28	M	Trichloroethene	0.407	0.412	-1.2	88	0.00
29	C	1,2-Dichloropropane	0.310	0.312	-0.6#	86	0.00
30		Bromodichloromethane	0.755	0.793	-5.0#	87	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.781	0.777	0.5	87	0.00
33	MC	Toluene	0.463	0.474	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	0.402	0.414	-3.0#	87	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	85	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	87	0.00
37		Tetrachloroethene	0.488	0.498	-2.0#	89	0.00
38		Dibromochloromethane	0.722	0.755	-4.6#	88	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.367	-3.1#	87	0.00
41		m,p-Xylene	0.459	0.469	-2.2#	87	0.00
42		o-Xylene	0.439	0.453	-3.2#	87	0.00
43		Styrene	0.771	0.800	-3.8#	88	0.00
44	P	Bromoform	0.713	0.722	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.648	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.882	1.0	85	0.00
47		1,4-Dichloro-2-butene	0.130	0.123	5.4#	84	0.00
48		4-Ethyltoluene	1.157	1.209	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	0.912	0.883	3.2#	85	0.00
50		2-Chlorotoluene	1.191	1.227	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	0.961	0.990	-3.0#	85	0.00
52		1,3-Dichlorobenzene	0.782	0.800	-2.3#	84	0.00
53		1,4-Dichlorobenzene	0.825	0.839	-1.7	82	0.00
54		1,2-Dichlorobenzene	0.758	0.760	-0.3	83	0.00
55		1,2,4-Trichlorobenzene	0.568	0.559	1.6	87	0.00
56		Napthalene	0.830	0.775	6.6#	91	0.00
57		Hexachlorobutadiene	0.495	0.420	15.2#	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	88	0.00
2		Dichlorodifluoromethane	250.000	215.243	13.9#	77	0.00
3		Dichlorotetrafluoroethane	250.000	204.086	18.4#	68	0.00
4	P	Chloromethane	250.000	195.128	21.9#	70	0.00
5	C	Vinyl chloride	250.000	235.800	5.7#	79	0.00
6		Bromomethane	250.000	220.728	11.7#	82	0.00
7		Chloroethane	250.000	233.061	6.8#	81	0.00
8		Trichlorofluoromethane	250.000	131.623	47.4#	37	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	242.054	3.2#	84	0.00
10	MC	1,1-Dichloroethene	250.000	231.964	7.2#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	59	0.00
12		Methylene chloride	250.000	245.700	1.7	82	0.00
13		Carbon disulfide	250.000	242.076	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	250.000	270.749	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	250.000	240.723	3.7#	84	0.00
16		n-Hexane	250.000	237.789	4.9#	82	0.00
17	P	1,1-Dichloroethane	250.000	251.501	-0.6	86	0.00
18		cis-1,2-Dichloroethene	250.000	253.934	-1.6	86	0.00
19	C	Chloroform	250.000	261.818	-4.7#	88	0.00
20		Isooctane	250.000	227.657	8.9#	79	0.00
21		1,1,1-Trichloroethane	250.000	258.358	-3.3#	87	0.00
22		Carbon tetrachloride	250.000	259.402	-3.8#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	263.045	-5.2#	86	0.00
24		1,2-Dichloroethane	250.000	264.593	-5.8#	85	0.00
25		1,2-Dibromoethane	250.000	248.092	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	89	0.00
27	M	Benzene	250.000	244.839	2.1#	87	0.00
28	M	Trichloroethene	250.000	253.048	-1.2	88	0.00
29	C	1,2-Dichloropropane	250.000	251.194	-0.5#	86	0.00
30		Bromodichloromethane	250.000	262.696	-5.1#	87	0.00
31		cis-1,3-Dichloropropene	250.000	255.290	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	248.675	0.5	87	0.00
33	MC	Toluene	250.000	256.035	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	250.000	257.665	-3.1#	87	0.00
35		1,1,2-Trichloroethane	250.000	247.540	1.0	85	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	87	0.00
37		Tetrachloroethene	250.000	255.395	-2.2#	89	0.00
38		Dibromochloromethane	250.000	261.550	-4.6#	88	0.00
39	MP	Chlorobenzene	250.000	260.706	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	257.656	-3.1#	87	0.00
41		m,p-Xylene	500.000	511.186	-2.2#	87	0.00
42		o-Xylene	250.000	258.378	-3.4#	87	0.00
43		Styrene	250.000	259.399	-3.8#	88	0.00
44	P	Bromoform	250.000	253.212	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	253.251	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	247.508	1.0	85	0.00
47		1,4-Dichloro-2-butene	250.000	236.425	5.4#	84	0.00
48		4-Ethyltoluene	250.000	261.162	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	250.000	242.080	3.2#	85	0.00
50		2-Chlorotoluene	250.000	257.528	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	250.000	257.485	-3.0#	85	0.00
52		1,3-Dichlorobenzene	250.000	255.894	-2.4#	84	0.00
53		1,4-Dichlorobenzene	250.000	254.390	-1.8	82	0.00
54		1,2-Dichlorobenzene	250.000	250.376	-0.2	83	0.00
55		1,2,4-Trichlorobenzene	250.000	222.057	11.2#	87	0.00
56		Napthalene	250.000	224.549	10.2#	91	0.00
57		Hexachlorobutadiene	250.000	197.882	20.8#	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0408A\CM0408A.D (8 Apr 2002 9:38)

BA 4/11/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	704990	250.00 ng	0.03 95.90%
26) 1,4-Difluorobenzene IS#2	13.21	114	2774490	250.00 ng	0.01 94.93%
36) Chlorobenzene-d5 IS#3	20.54	117	2093241	250.00 ng	0.03 95.74%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.42	65	872550	263.05 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.22%					
32) Toluene-d8 SURR#2	16.76	98	2155590	248.68 ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.47%					
46) 4-Bromofluorobenzene SURR#	23.69	95	1847220	247.51 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.00%					

Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.86	85	567140m	215.24 ng	# 99
3) Dichlorotetrafluoroethane	3.99	135	831959	204.09 ng	# 27
4) Chloromethane	4.23	50	433429	195.13 ng	95
5) Vinyl chloride	4.48	62	483637	235.80 ng	96
6) Bromomethane	5.23	94	734469	[illegible] ng	[illegible]
7) Chloroethane	5.34	64	348012	232.06 ng	[illegible]
8) Trichlorofluoromethane	5.83	101	415143	131.62 ng	[illegible]
9) 1,1,2-Trichlorotrifluoroet	6.64	151	1275286	242.05 ng	86
10) 1,1-Dichloroethene	7.01	96	695762	231.96 ng	94
12) Methylene chloride	7.93	49	991523	245.70 ng	99
13) Carbon disulfide	8.13	76	1953851	242.08 ng	97
14) methyl-Tert-Butyl Ether	8.22	73	1184012	270.75 ng	95
15) trans-1,2-Dichloroethene	8.52	96	810520	240.72 ng	94
16) n-Hexane	8.61	57	730091	237.79 ng	# 1
17) 1,1-Dichloroethane	9.36	63	1378498	251.50 ng	98
18) cis-1,2-Dichloroethene	10.58	61	1128657	253.93 ng	94
19) Chloroform	10.91	83	1811769	261.82 ng	99
20) Isooctane	11.87	57	2344969	227.66 ng	98
21) 1,1,1-Trichloroethane	11.78	97	1519006	258.36 ng	92
22) Carbon tetrachloride	12.35	117	1605518	259.40 ng	97
24) 1,2-Dichloroethane	12.62	62	985468	264.59 ng	98
25) 1,2-Dibromoethane	19.59	107	1485829	248.09 ng	99
27) Benzene	12.70	78	1992505	244.84 ng	100

(#) = qualifier out of range (m) = manual integration
CM0411A.D TO14S.M Thu Apr 11 12:15:37 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

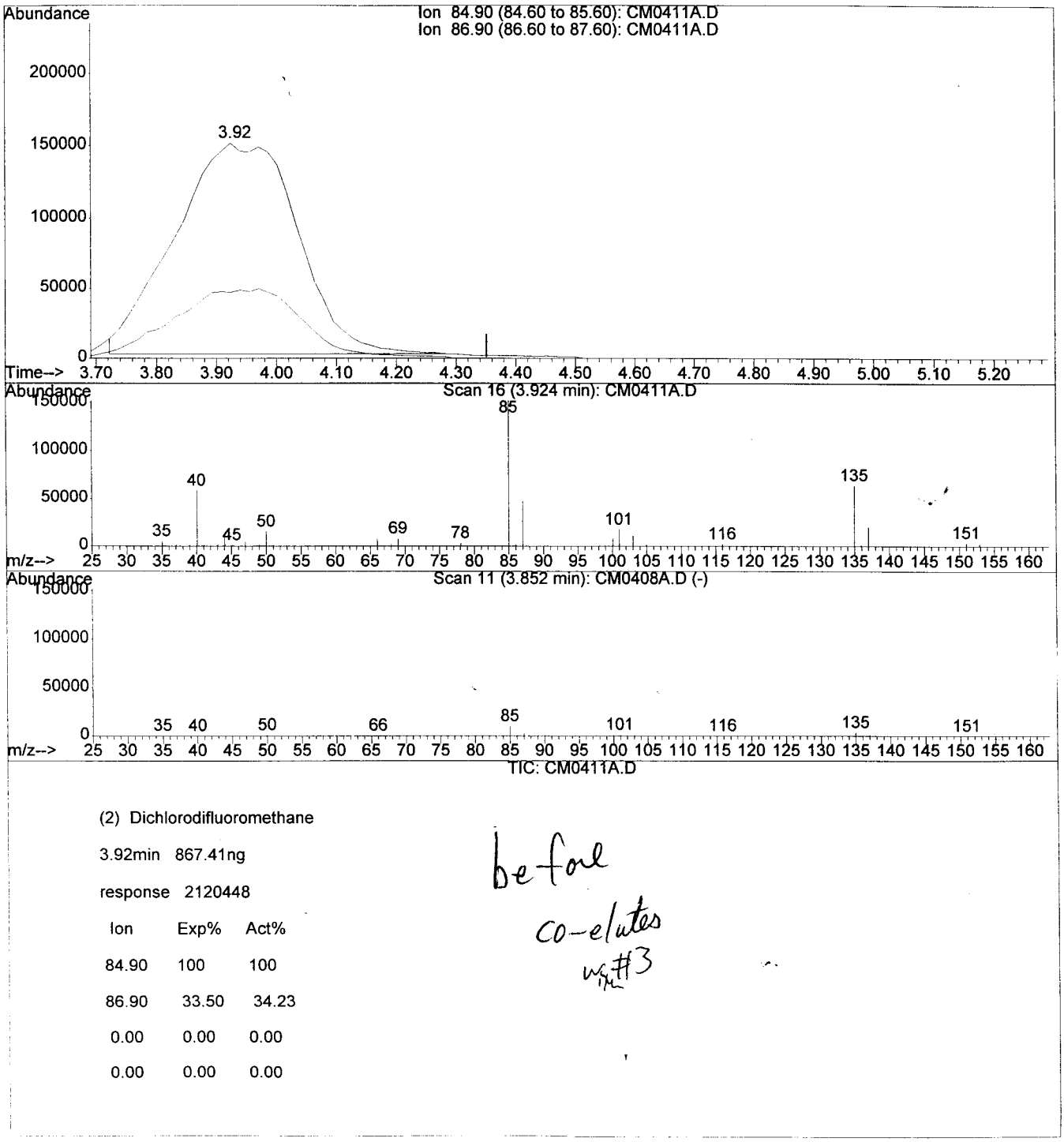
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	1143874	253.05 ng		95
29)	1,2-Dichloropropane	14.39	63	864836	251.19 ng		97
30)	Bromodichloromethane	14.93	83	2200260	262.70 ng		100
31)	cis-1,3-Dichloropropene	16.14	75	1329900	255.29 ng		97
33)	Toluene	16.97	92	1315984	256.04 ng		98
34)	trans-1,3-Dichloropropene	17.32	75	1148608	257.66 ng		95
35)	1,1,2-Trichloroethane	17.73	97	885036	247.54 ng		97
37)	Tetrachloroethene	18.58	164	1042603	255.39 ng		97
38)	Dibromochloromethane	19.06	127	1580870	261.55 ng		99
39)	Chlorobenzene	20.63	112	1945163	260.71 ng		95
40)	Ethylbenzene	20.74	106	768874	257.66 ng		100
41)	m,p-Xylene	20.92	106	1964476	511.19 ng		100
42)	o-Xylene	22.07	106	949168	258.38 ng		99
43)	Styrene	22.15	104	1673724	259.40 ng		97
44)	Bromoform	23.11	173	1510617	253.21 ng		100
45)	1,1,2,2-Tetrachloroethane	23.44	83	1356458	253.25 ng		99
47)	1,4-Dichloro-2-butene	23.08	75	258030	236.42 ng		99
48)	4-Ethyltoluene	24.37	105	2530259	261.16 ng		93
49)	1,3,5-Trimethylbenzene	24.46	105	1848470	242.08 ng	#	79
50)	2-Chlorotoluene	24.57	91	2567790	257.53 ng		96
51)	1,2,4-Trimethylbenzene	25.41	105	2071424	257.49 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1674906	255.89 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1756548	254.39 ng		96
54)	1,2-Dichlorobenzene	27.32	146	1589878	250.38 ng		97
55)	1,2,4-Trichlorobenzene	30.50	180	1169101	222.06 ng		100
56)	Napthalene	31.05	128	1621416	224.55 ng	#	93
57)	Hexachlorobutadiene	30.75	225	878921	197.88 ng		99

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

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 11:42 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.92min 867.41ng

response 2120448

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	34.23
0.00	0.00	0.00
0.00	0.00	0.00

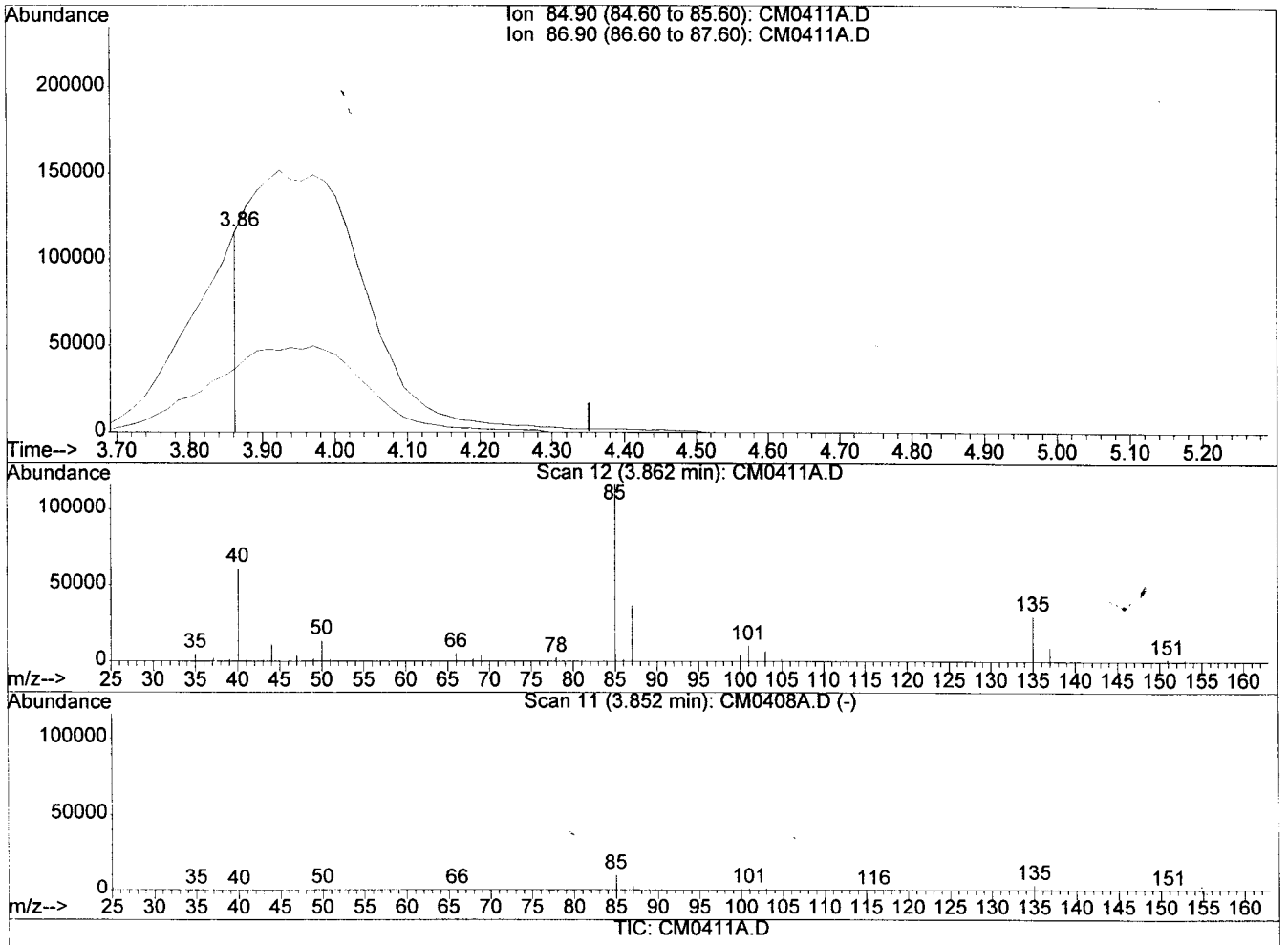
before
co-elutes
w/ #3

CM0411A.D TO14S.M Thu Apr 11 12:13:37 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.86min 215.24ng m

response 567140

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.98#
0.00	0.00	0.00
0.00	0.00	0.00

after BK 4/11/02

CM0411A.D TO14S.M Thu Apr 11 12:13:47 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:39 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

BH 4/11/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	678548	250.00	ng	0.05 96.25%
26) 1,4-Difluorobenzene IS#2	13.27	114	2678826	250.00	ng	0.06 96.55%
36) Chlorobenzene-d5 IS#3	20.58	117	1981178	250.00	ng	0.05 94.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.46	65	855125	267.84	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.14%			
32) Toluene-d8 SURR#2	16.83	98	2053373	245.34	ng	0.06
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.14%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1737578	245.99	ng	0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.40%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB68ABK.D TO14S.M Thu Apr 11 12:40:01 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:36 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	678548	250.00	ng	0.05 96.25%
26) 1,4-Difluorobenzene IS#2	13.27	114	2678826	250.00	ng	0.06 96.55%
36) Chlorobenzene-d5 IS#3	20.58	117	1981178	250.00	ng	0.05 94.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.46	65	855125	267.84	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 107.14%						
32) Toluene-d8 SURR#2	16.83	98	2053373	245.34	ng	0.06
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.14%						
46) 4-Bromofluorobenzene SURR#	23.74	95	1737578	245.99	ng	0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.40%						

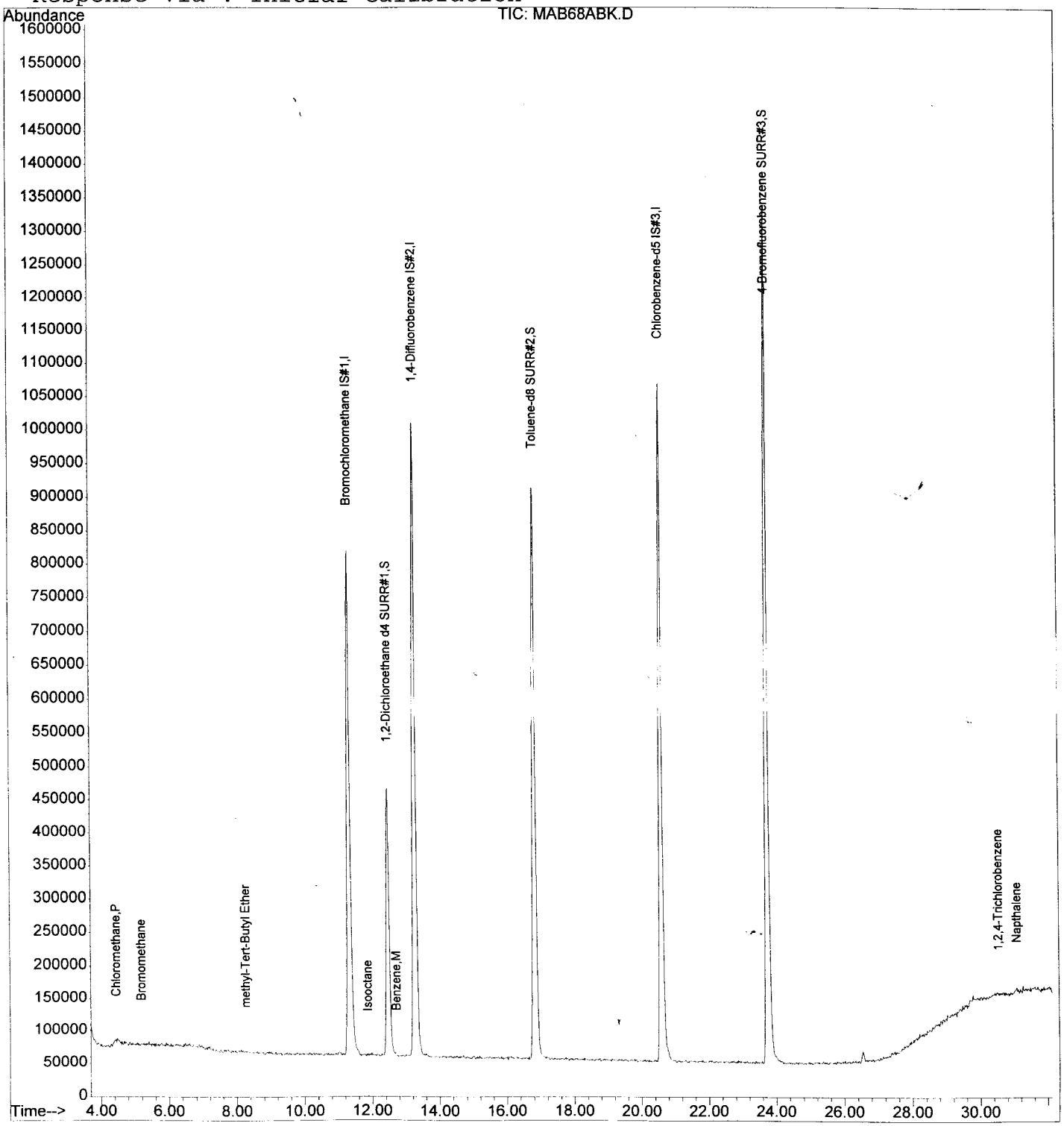
Target Compounds						Qvalue
4) Chloromethane	4.44	50	2045	0.96	ng	# 77
6) Bromomethane	5.18	94	2111	0.66	ng	# 9
14) methyl-Tert-Butyl Ether	8.26	73	1993	0.47	ng	# 47
20) Isooctane	11.86	57	965	0.10	ng	# 42
27) Benzene	12.71	78	1083	0.14	ng NSF	# 54
55) 1,2,4-Trichlorobenzene	30.54	180	4754 NSF	28.64	ng	# 12
56) Napthalene	31.08	128	14044	18.47	ng NR	# 64

(#) = qualifier out of range (m) = manual integration
MAB68ABK.D TO14S.M Thu Apr 11 12:36:32 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:36 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 14:04 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

BH 4/11/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	654946	250.00 ng	0.09 92.90%
26) 1,4-Difluorobenzene IS#2	13.30	114	2691609	250.00 ng	0.09 97.01%
36) Chlorobenzene-d5 IS#3	20.61	117	1998510	250.00 ng	0.08 95.47%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.51	65	818738	265.68 ng	0.09
Spiked Amount 250.000 Range 61 - 140 Recovery = 106.27%					
32) Toluene-d8 SURR#2	16.86	98	2098034	249.49 ng	0.09
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.80%					
46) 4-Bromofluorobenzene SURR#	23.75	95	1717508	241.04 ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.42%					

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.11	96	621847	223.16 ng	92
27) Benzene	12.77	78	1930974	244.58 ng	99
28) Trichloroethene	14.11	130	1114163	254.06 ng	94
33) Toluene	17.04	92	1307946	262.31 ng	97
39) Chlorobenzene	20.71	112	1916037	268.97 ng #	86

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 14:04:27 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	654946	250.00 ng	0.09 92.90%
26) 1,4-Difluorobenzene IS#2	13.30	114	2691609	250.00 ng	0.09 97.01%
36) Chlorobenzene-d5 IS#3	20.61	117	1998510	250.00 ng	0.08 95.47%

ng reported

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.51	65	818738	265.68 ng	0.09
Spiked Amount 250.000 Range 61 - 140 Recovery = 106.27%					
32) Toluene-d8 SURR#2	16.86	98	2098034	249.49 ng	0.09
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.80%					
46) 4-Bromofluorobenzene SURR#	23.75	95	1717508	241.04 ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.42%					

Target Compounds						Qvalue
4) Chloromethane	4.39	50	3048	1.48 ng	#	7
6) Bromomethane	5.21	94	933	0.30 ng	#	9
10) 1,1-Dichloroethene	7.11	96	621847	223.16 ng		92
15) trans-1,2-Dichloroethene	8.64	96	1006	0.32 ng	#	1
16) n-Hexane	8.68	57	2210	0.77 ng	#	87
24) 1,2-Dichloroethane	12.77	62	13691	3.96 ng	#	49
25) 1,2-Dibromoethane	19.67	107	3251	0.58 ng		94
27) Benzene	12.77	78	1930974	244.58 ng		99
28) Trichloroethene	14.11	130	1114163	254.06 ng		94
33) Toluene	17.04	92	1307946	262.31 ng		97
34) trans-1,3-Dichloropropene	17.04	75	10641	2.46 ng	#	1
39) Chlorobenzene	20.71	112	1916037	268.97 ng	#	86
44) Bromoform	23.18	173	10197	1.79 ng	#	63
45) 1,1,2,2-Tetrachloroethane	23.49	83	35617	6.96 ng	#	90
48) 4-Ethyltoluene	24.53	105	6240	0.67 ng	#	46
49) 1,3,5-Trimethylbenzene	24.53	105	6240	0.86 ng	#	30
50) 2-Chlorotoluene	24.64	91	7709	0.81 ng	#	47
51) 1,2,4-Trimethylbenzene	25.47	105	8364	1.09 ng	#	49
52) 1,3-Dichlorobenzene	26.41	146	6231	1.00 ng	#	46
53) 1,4-Dichlorobenzene	26.61	146	7029	1.07 ng	#	75
54) 1,2-Dichlorobenzene	27.37	146	9313	1.54 ng	#	60
55) 1,2,4-Trichlorobenzene	30.57	180	29630	32.70 ng	#	85
56) Napthalene	31.09	128	112912	30.91 ng	#	91

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 13:10:21 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

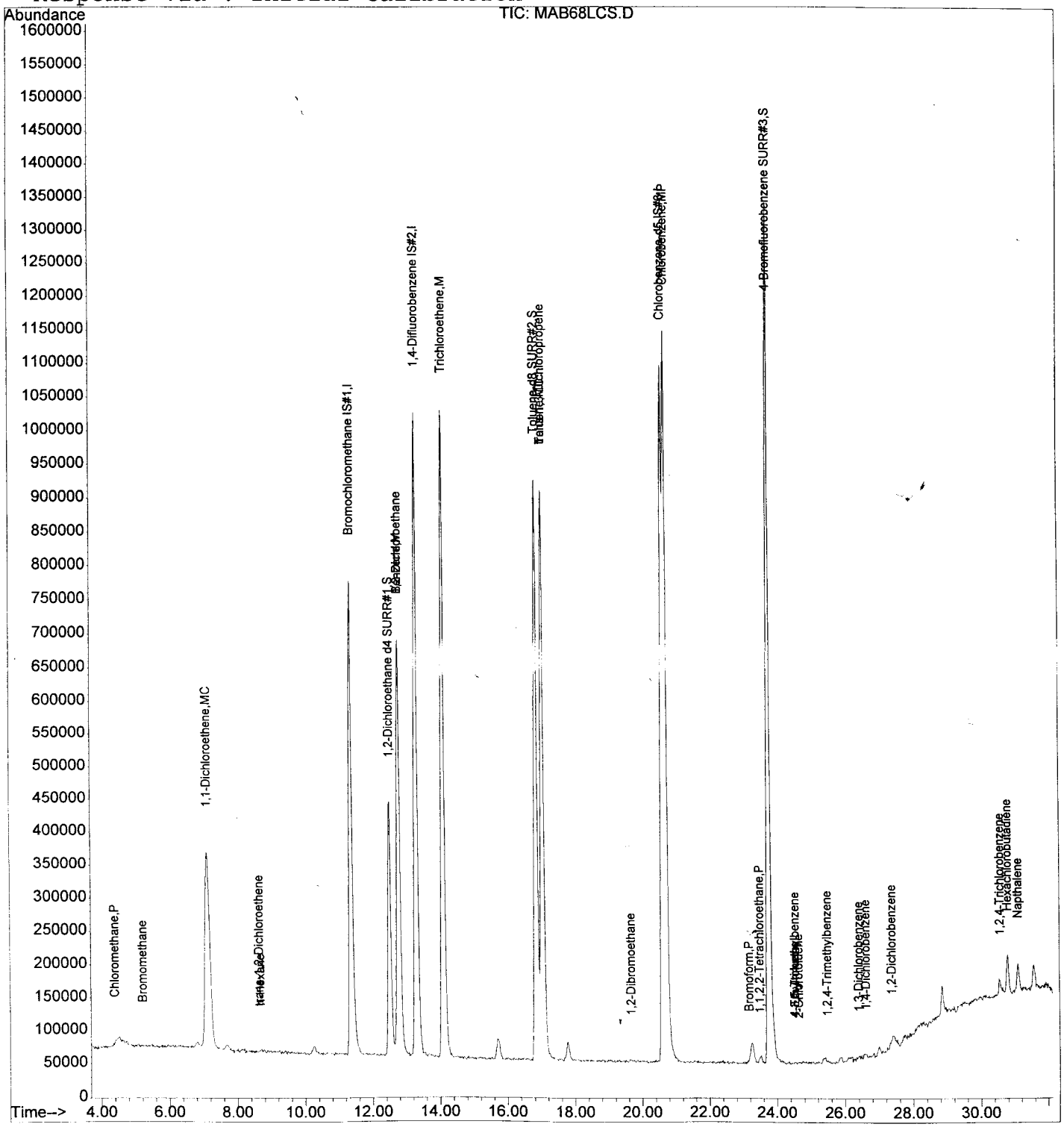
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
57) Hexachlorobutadiene	30.78	225	33783	27.74 ng #	90

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 13:10:21 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42421R.D
Acq On : 11 Apr 2002 16:43
Sample : 062SVEEA04080223\4242-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB068ABK
MS Integration Params: rteint.p
Quant Time: Apr 11 17:19 2002

Vial: 2
Operator: BDH
Inst : ~~MARILYN~~
Multiplr: 0.004
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

B/A 4/11/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	444757	250.00 ng	0.05 63.09%
26) 1,4-Difluorobenzene IS#2	13.26	114	1824666	250.00 ng	0.05 65.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1327107	250.00 ng	0.04 63.40%

mg/m³ report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.45	65	574397	274.48 ng	0.04
Spiked Amount 250.000	Range 61 - 140		Recovery = 109.79%		
32) Toluene-d8 SURR#2	16.80	98	1404927	246.45 ng	0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.58%		
46) 4-Bromofluorobenzene SURR#	23.71	95	1129313	238.67 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.47%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
42421R.D TO14S.M Thu Apr 11 17:19:37 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42421R.D
Acq On : 11 Apr 2002 16:43
Sample : 062SVEEA04080223\4242-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB068ABK
MS Integration Params: rteint.p
Quant Time: Apr 11 17:15 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	444757	250.00	ng	0.05 63.09%
26) 1,4-Difluorobenzene IS#2	13.26	114	1824666	250.00	ng	0.05 65.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1327107	250.00	ng	0.04 63.40%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.45	65	574397	274.48	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 109.79%						
32) Toluene-d8 SURR#2	16.80	98	1404927	246.45	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.58%						
46) 4-Bromofluorobenzene SURR#	23.71	95	1129313	238.67	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.47%						

Target Compounds						Qvalue
4) Chloromethane	4.47	50	1922	1.37	ng	# 46
6) Bromomethane	5.59	94	1016	0.48	ng	# 9
13) Carbon disulfide	8.07	76	5711	1.12	ng	# 77
20) Isooctane	11.91	57	8708	1.34	ng	# 52
27) Benzene	12.73	78	8745	1.42	ng	# 54
41) m,p-Xylene	20.95	106	8524	3.50	ng	# 44
48) 4-Ethyltoluene	24.38	105	15658	2.55	ng	# 46
49) 1,3,5-Trimethylbenzene	24.47	105	7270	1.50	ng	# 30
51) 1,2,4-Trimethylbenzene	25.43	105	10283	2.02	ng	# 64

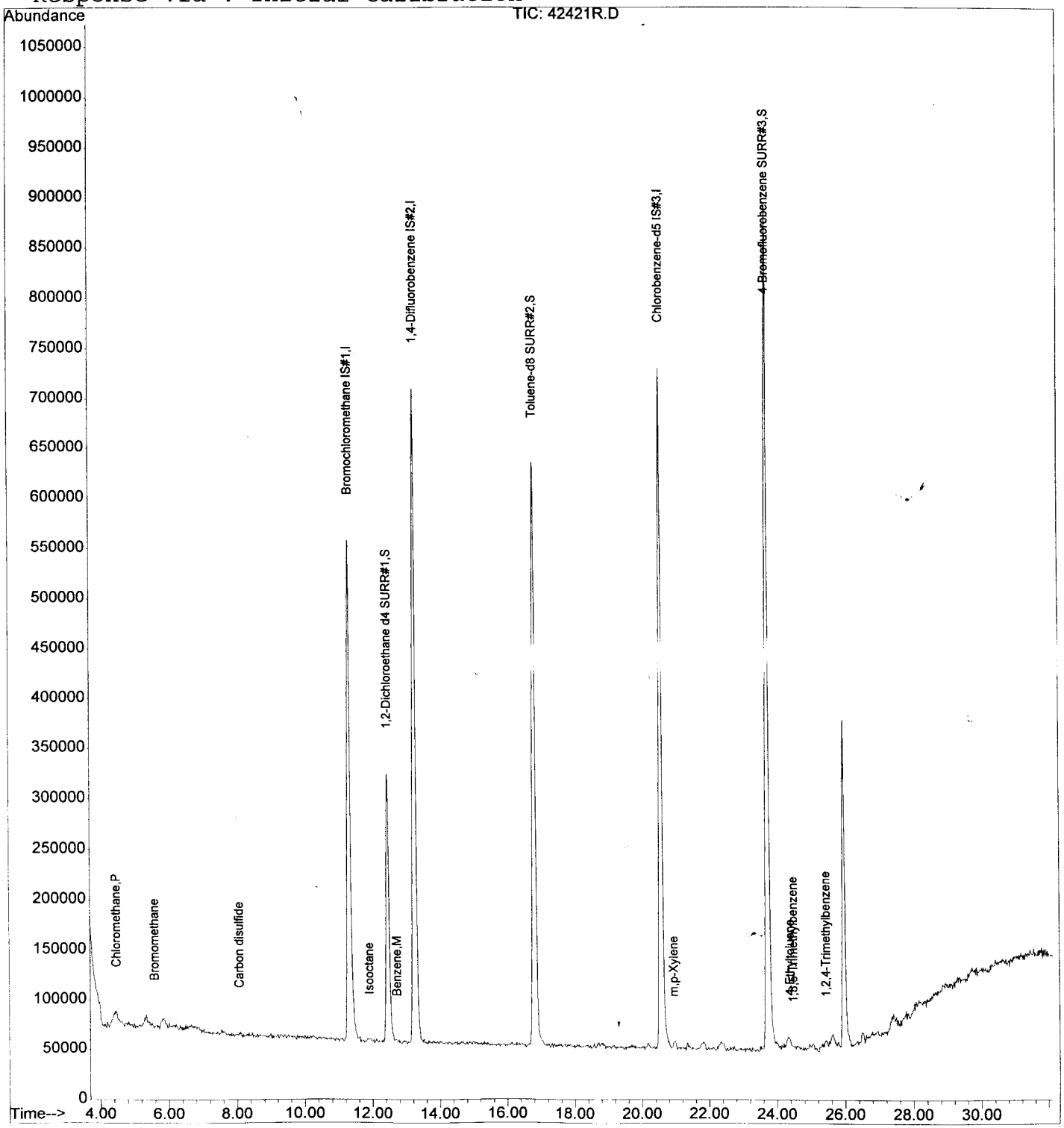
CRL/NR/NSF

(#) = qualifier out of range (m) = manual integration
42421R.D TO14S.M Thu Apr 11 17:15:52 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42421R.D Vial: 2
Acq On : 11 Apr 2002 16:43 Operator: BDH
Sample : 062SVEEA04080223\4242-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 17:15 2002 Quant Results File: TO14S.RES

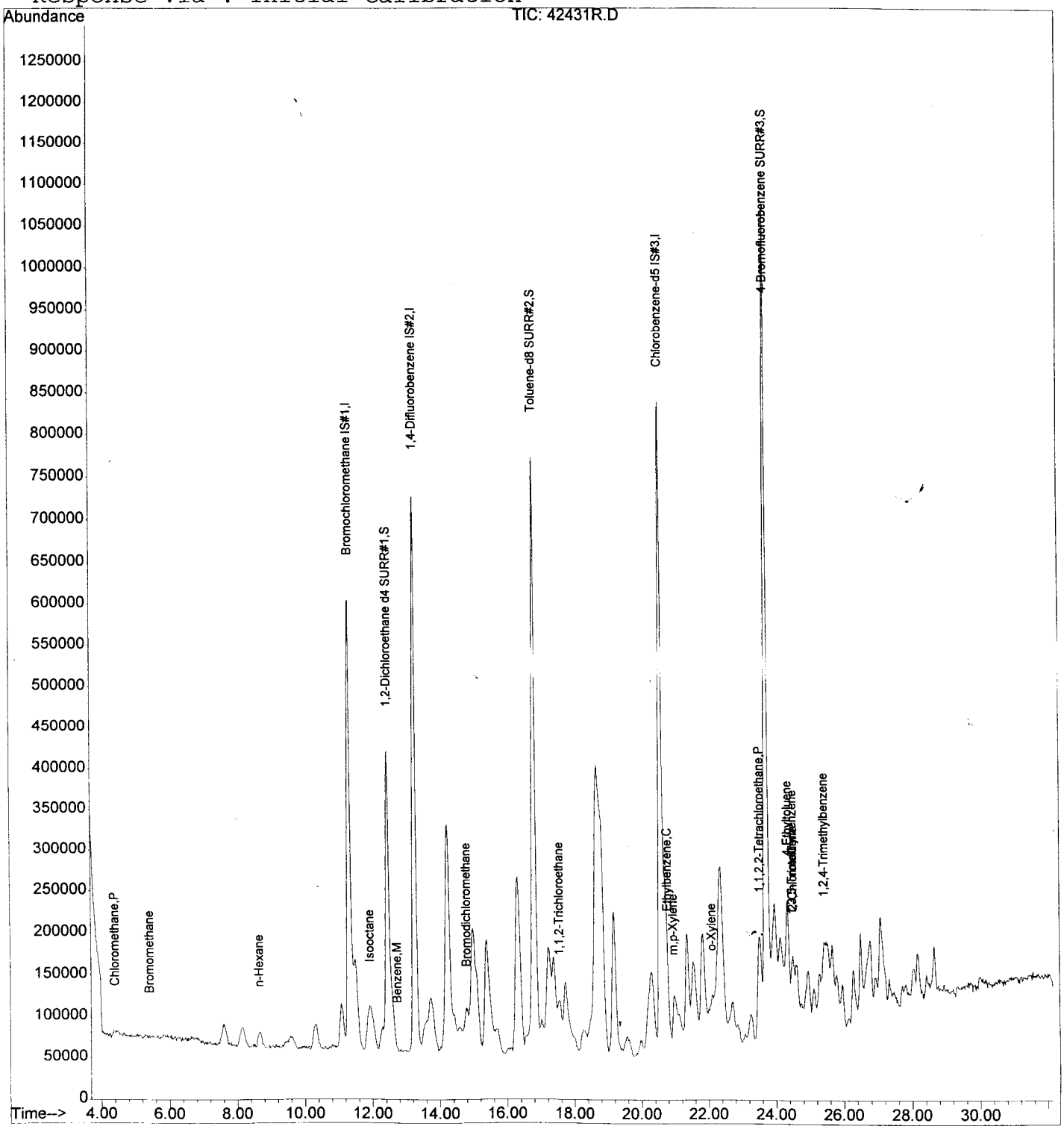
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42431R.D Vial: 2
Acq On : 11 Apr 2002 17:21 Operator: BDH
Sample : 062SVEEA04080227\4243-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 17:53 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW 32- 1
Location: MS018-Std Freezer
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	1/2/03	2500 µg/ml	250µl	25ml	25µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 BH 2/5/02

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX - B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-VN2-21 (IS)~~						
~~8-VN3-1 (S~~						
8-VN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/20/01

Sol. Name: ASAHIKLIN AK-225 Stock
Date: 12-28-01
Analyst: LM

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/28/02	1000 000	100	10	10 000

Comments: exp 6/28/02

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: GRB

Standard I.D.: 8 -MSW26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: SDH

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A012265	11/01	2500 ug/ml	500 uls	50 uls	25 ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A204038	Acc STD	2000 µg/ml	7/1999	DMY 5/15/98	7-VN 2-1
502A-R	A704030	Acc STD	2000 µg/ml	7/1999	DMY 5/28/98	7-VN 2-2
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DMY 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DMY 6/16/98	7-VN 2-6
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~BH~~ 7/28/98	7-VN 2-9
8260 Surr	A117K	Restek	2500 µg/ml	8/2001	DMY 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DMY 10/6/98	7-VN 2-11
Matrix Spike	LA76020	Supelco	25 µg/ml	8/2000	DMY 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DMY 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DMY 11/10	7-VN 2-14
Benzene-d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090042-JB	Accustandard	200.1 µg/ml	9/99	MRB 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DMY 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DMY 3/9/99	7-VN 2-19
Custom Keytones Mix	LA011115	Restek	2000 µg/ml	3/2000	DMY 3/10/99	7-VN 2-20
8260 Volatile Kit	Varies	Restek	Varies	6/2001	DMY 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DMY 5/10/99	7-VN 2-22
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DMY 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DMY 5/10/99	7-VN 2-24
Equity 8260 Cal Mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DMY 5/18/99	7-VN 2-25
Custom To14 Voa Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~
Equity Keytones	LA83448	Supelco	2000 µg/ml	9/2000	DMY 6/9/99	7-VN 2-27
Idamet Kit	LA81867	Supelco	2000	4/2000	DMY 6/29/99	7-VN 2-28

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
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						-VN -	

* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restock	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014215	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 Ketone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom Ketone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/various	10/2001 (expired)	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90433	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016395	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89817	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/ml	7/1/2001	~~5~~ 4 (6/13/02)	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05175
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05175-1	062-SVE-E-A-0506-02-24	05-06-02/12:20

PARAMETER	05175-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05175
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05175-1	062-SVE-E-A-0506-02-24	05-06-02/12:20

PARAMETER	05175-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060UR2
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	99 %
Surrogate - Toluene-d8	101 %
Surrogate - 4-Bromofluorobenzene	99 %

SEVERN TRENT SERVICES

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Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05175-1	062-SVE-E-A-0506-02-24	05-06-02/12:20

PARAMETER	05175-1
Dilution Factor	1
Prep Date	05.21.02
Prep Time	13:42
Analysis Date	05.21.02
Analysis Time	13:55
Batch ID	MAB092
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05175
Received: 09 MAY 02
Reported: 23 MAY 02

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CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05175-2	Method Blank	
05175-3	Lab Control Standard True Value	
05175-4	Lab Control Standard Result	
05175-5	Lab Control Standard % Recovery	
05175-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05175-2	05175-3	05175-4	05175-5	05175-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5058	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5107	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

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115 Perimeter Center Place, NE Suite 700
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Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05175-2	Method Blank	
05175-3	Lab Control Standard True Value	
05175-4	Lab Control Standard Result	
05175-5	Lab Control Standard % Recovery	
05175-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05175-2	05175-3	05175-4	05175-5	05175-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4782	96 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030UR2	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5163	103 %	86-113

SEVERN TRENT SERVICES

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Atlanta, GA 30346

Client PO. No.: 2916

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Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05175-2	Method Blank	
05175-3	Lab Control Standard True Value	
05175-4	Lab Control Standard Result	
05175-5	Lab Control Standard % Recovery	
05175-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05175-2	05175-3	05175-4	05175-5	05175-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5115	102 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	0.5107	102 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5041	101 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4974	99 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	05.21.02	---	05.21.02	---	---
Prep Time	10:49	---	11:23	---	---
Analysis Date	05.21.02	---	05.21.02	---	---
Analysis Time	11:02	---	11:36	---	---
Batch ID	MAB092	MAB092	MAB092	MAB092	MAB092
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05175-2	Method Blank	
05175-3	Lab Control Standard True Value	
05175-4	Lab Control Standard Result	
05175-5	Lab Control Standard % Recovery	
05175-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05175-2	05175-3	05175-4	05175-5	05175-6

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.
Data from any samples that do not meet client, federal, or state sample acceptance criteria (collection, preservation, or holding time) will be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF).

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C205175 Date Received: 5/9/02

1. Was there a Chain of Custody? (Yes) No*
2. Was Chain of Custody properly filled out and relinquished? (Yes) No*
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No* (N/A)
4. Were all samples properly labeled and identified? (Yes) No*
5. Did samples require splitting or compositing♦? (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No*
7. Were all sample containers received intact? (Yes) No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No* (N/A)
9. Is there sufficient volume for analysis requested? Yes No* (N/A) *(Can)*
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No (N/A)
12. If sent, were matrix spike bottles returned? Yes No* (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No* (N/A)

Airbill Number(s): 7920 2897 8483

Shipped By: FedEx

Cooler Number(s): CAN 151

Shipping Charges: N/A

Cooler Weight(s): 16 #

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

multiple project

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 5/9/02 Logged By: PAG Date: 5/9/02

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

C205175

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-040

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
N.A.S. Cecil Field 103rd Street	163151	STL - Pensacola Rick Hayes	Bill Canelos J.A Jones Env. Services	6219 Authority Road, Jacksonville, FL 32221 PH: (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
103rd Street Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM #	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS SCREENING READINGS	LAB ID
1	062-SVE-E-A-0506-02-24	SVE Effluent	AIR	05/06/02	12:20	III/C	14 Day	1							151			Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7920 2897 8483.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	5/7/02	11:00	Federal Express	5/7/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	5/9/02	0920
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report), [ ] Copy 1 - Project File, [ ] Copy 2 - PMO

Form CC7001, Rev 02.00

N.A.S Cecil Field

STL Pensacola

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

C 205/75

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 07MAY02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

TRK # 7920 2897 8483 FORM 0201

FedEx ** 2DAY **

THU
AA
Deliver by:
09MAY02

BFM

32514-FL-US F3 PNSA

Shipping Label

Schedule Courier | Find a Dropoff Location | Shipping History
Shipment Complete | Cancel Shipment | Edit Shipment Information

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Shipment Details

To print a copy of the shipment information for your records, please click "Shipment Details". Shipment Details

Ship a New Package

Ship Inside U.S. | Ship Outside U.S. | Ship to Same Recipient

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.
FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, nondelivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Attach one file Label here

CHEM-CONST-GA C205175
CHEM Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: pen
Labeled by: MHS
Delivered by: MHS

ype of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
/2 Gal Plastic											
2 oz. Plastic											
6 oz. Plastic											
oz. Plastic											
g Encore											
5g Encore											
/hirlpak Bag											
terile Cup											
L Amber											
00 ml Amber											
50 ml Amber											
20 ml Amber											
0 ml Vial											
oz. W/M											
oz. W/M											
oz. W/M											
6 oz. W/M											
2 oz. W/M											
ir Canister						✓	Ø	1	MHS	5/10/02	0900
ir Bag											
ube/Cartridge											
lastic Bag											
Acknowledgment											
OMMENTS											

Explanation of CLP Data Qualifiers
Organics

U: This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted according to the equation listed in Exhibit D. CRQLs are listed in Exhibit C.

J: This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J.
NOTE: The J flag is not used and the compound is not reported as being identified for Pesticide/Aroclor results less than the CRQL if the pesticide residue analysis expert determines that the peaks used for compound identification resulted from instrument noise or other interferences (column bleed, solvent contamination, etc.).

N: This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.

P: This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). **The lower of the two values is reported on Form I and flagged with a P.**

C: This flag applies to pesticide results where the **identification** has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do **not** apply this flag; use a laboratory-defined flag instead (see the X qualifier).

B: This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compound. The combination of flags BU or UB is expressly prohibited. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract shall be diluted and reanalyzed according to the specifications in Exhibit D; exceptions are also noted in Exhibit D. All such compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an E on Form I for the original analysis.
NOTE: For total xylene, where three isomers are quantified as two peaks, the calibration range of **each peak** shall be considered separately. For example, a diluted analysis is **not** required for total xylene unless the concentration of the peak representing the single isomer exceeds 200 µg/L or the peak representing the two co-eluting isomers on that GC column exceeds 400 µg/L.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis (i.e., compounds reported with the CRQL and the U flag). NOTE 2: Separate Form Is are required for reporting the original analysis (EPA Sample No. XXXXX) and the more diluted sample analysis (EPA Sample No. XXXXXDL) (i.e., the results from both analyses cannot be combined on a single Form I).

A: This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.

X: Other specific flags may be required to properly define the results. If used, the flags shall be fully described, with the description attached to the sample data summary package and the SDG Narrative. Begin by using X. If more than one flag is required, use Y and Z as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. For instance,
the X flag might combine the A, B, and D flags for some samples. The laboratory-defined flags **are limited to** X, Y, and Z.

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

U - The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value).

B - The reported value is less than the STL Pensacola Reporting Limit (RL) or client-requested reporting limit (RL) but greater than or equal to the STL Pensacola Method Detection Limit (MDL).

Q - QC Qualifier

E - The reported value is estimated because of the presence of interference. An explanatory note shall be included in the case narrative.

N - The spiked sample recovery is not within control limits.

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

S - The reported value was determined by the Method of Standard Addition (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance and post spike recovery is greater than or equal to 40%, the sample is flagged with a "W" and no further action is required.

+ - The Standard Additions Correlation Coefficient is <0.995.

NOTE: Entering "S," "W," or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M - Method Qualifier

P - ICP
F - Furnace AA
CV - Cold Vapor AA (mercury)
AV - Automated Cold Vapor AA (mercury)

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/11/03

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/20/03

***California** Department of Health Services, **NELAP** Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02*

***Connecticut** Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03*

***Florida** DOH, **NELAP** Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02*

***Florida** DEP/DOH CompQAP # 980156*

***Kansas** Department of Health & Environment, **NELAP** Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02*

***Kentucky** NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.*

***Louisiana** DEQ, LELAP, **NELAP** Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)*

***Maryland** DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02*

***Massachusetts** DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02*

***Michigan** Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02*

***New Hampshire** DES ELAP, **NELAP** Laboratory ID No. 250501 (Wastewater), expires 08/16/02*

***New Jersey** DEP&E, **NELAP** Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.*

***New York State** Department of Health, **NELAP** Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02*

***North Carolina** DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/02.*

***North Dakota** DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02*

***Oklahoma** Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02*

***Pennsylvania** Department of Environmental Resources, **NELAP** Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02*

***South Carolina** DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02*

***Tennessee** Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04*

***Virginia** Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02*

***Washington** Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02*

***West Virginia** DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.*

*American Industrial Hygiene Association **(AIHA)** Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds*

***EPA ICR** (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031*

*Naval Facilities Engineering Services Center **(NFESC)**, expires July 5, 2002.*

*United States Army Corps. of Engineers **(USACE)**, MRD, expires July 5, 2002.*

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 05/14/2002

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 205175
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED: May 9, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0506-02-24	205175-1	SVEEA

The sample was received in good condition. No MS/MSD was analyzed due to matrix type. Due to software limitations there are no Form I's.

Larry Dilmore
GC/MS SUPERVISOR
May 22, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0521A.D Date Analyzed : 21 May 2002
Instrument ID : MARILYN Time Analyzed : 10:08 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
51751R	062SVEEA0506022	99	101	99	0	0	0	0
MAB92ABK	VBLKMA\ DAILY M	102	99	97	0	0	0	0
MAB92LCS	VLCSMA\ BATCH #	102	101	99	0	0	0	0

		QC Limits
SMC1	= 1,2-Dichloroethane d4 SURR#1	(61 -140)
SMC2	= Toluene-d8 SURR#2	(90 -109)
SMC3	= 4-Bromofluorobenzene SURR#3	(87 -112)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

TO-14 NG-MG/M3 CONVERSION

order # 205175

Batch MAB092

	Actual ng result	Sample # 3 mg/m3 TRUE	4 mg/m3 RESULT	5 % REC	6 rec limit
Benzene	252.88	0.5000	0.5058	101%	87-116%
Chlorobenzene	255.34	0.5000	0.5107	102%	88-111%
1,1-Dichloroethene	239.08	0.5000	0.4782	96%	58-138%
Toluene	258.15	0.5000	0.5163	103%	86-113%
Trichloroethene	255.74	0.5000	0.5115	102%	85-116%
1,2-Dichloroethane-d4	255.36	0.5000	0.5107	102%	61-140%
Toluene-d8	252.03	0.5000	0.5041	101%	90-109%
4-Bromofluorobenzene	248.72	0.5000	0.4974	99%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	239.08	250.00	95.63	58 to 138%	[ ]
27)	M	Benzene	252.88	250.00	101.15	87 to 116%	[ ]
28)	M	Trichloroethene	255.74	250.00	102.29	85 to 116%	[ ]
33)	MC	Toluene	258.15	250.00	103.26	86 to 113%	[ ]
39)	MP	Chlorobenzene	255.34	250.00	102.13	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205175

Lab File ID: MAB92ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 5/21/02 Time Analyzed: 11:02

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND SOU	VLCSMA\ BATCH #092 L	MAB92LCS.D	11:36
02	SVEEA	062SVEEA05060224\517	51751R.D	13:55

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205175

Lab File ID: BFM0520P.D BFB Injection Date: 5/20/02

Instrument ID: MARILYN BFB Injection Time: 12:39

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.0
75	30.0 - 66.0% of mass 95	42.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	72.5
175	4.0 - 9.0% of mass 174	5.7 (7.9)1
176	93.0 - 101.0% of mass 174	70.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.6 (6.5)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	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	5/20/02	15:34
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	5/20/02	16:08
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	5/20/02	16:42
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	5/20/02	17:18
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	5/20/02	18:12
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	5/20/02	19:05

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205175

Lab File ID: BFM0521A.D BFB Injection Date: 5/21/02

Instrument ID: MARILYN BFB Injection Time: 9:48

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.4
75	30.0 - 66.0% of mass 95	45.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	69.0
175	4.0 - 9.0% of mass 174	5.5 (7.9)1
176	93.0 - 101.0% of mass 174	69.0 (100.0)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD052102	VSTD050\ DAILY CALIBR	CM0521A.D	5/21/02	10:08
02	VBLKMA	VBLKMA\ DAILY METHO	MAB92ABK.D	5/21/02	11:02
03	LCS AND 2ND SOU	VLCSMA\ BATCH #092 L	MAB92LCS.D	5/21/02	11:36
04	SVEEA	062SVEEA05060224\517	51751R.D	5/21/02	13:55

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:35:21 2002
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	0.543	16.32
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Wed May 22 08:35:39 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:35:21 2002
Response via : Initial Calibration

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Wed May 22 08:35:40 2002

1,2,4-Trichlorobenzene

Resp Ratio = 3.72e-001 * Amt + 8.97e-002
Coef of Det (r^2) = 0.983 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002

Napthalene

Resp Ratio = 4.04e-001 * Amt + 7.10e-002
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002

Hexachlorobutadiene

Resp Ratio = 4.05e-001 * Amt
RF Rel Std Dev = 30.3% Curve Fit: Avg RF

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	85	0.00
2		Dichlorodifluoromethane	1.560	1.554	0.4	83	0.00
3		Dichlorotetrafluoroethane	1.617	1.592	1.5	81	0.00
4	P	Chloromethane	0.783	0.688	12.1#	71	0.00
5	C	Vinyl chloride	0.793	0.772	2.6#	78	0.00
6		Bromomethane	1.138	1.158	-1.8	85	0.00
7		Chloroethane	0.543	0.560	-3.1#	82	0.00
8		Trichlorofluoromethane	3.075	3.313	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	2.020	2.223	-10.0#	92	0.00
10	MC	1,1-Dichloroethene	1.048	1.143	-9.1#	92	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.70#
12		Methylene chloride	1.389	1.508	-8.6#	87	0.00
13		Carbon disulfide	2.992	3.318	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	1.854	1.967	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	1.236	1.358	-9.9#	92	0.00
16		n-Hexane	1.141	1.219	-6.8#	95	0.00
17	P	1,1-Dichloroethane	2.126	2.326	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	1.733	1.909	-10.2#	91	0.00
19	C	Chloroform	2.734	3.022	-10.5#	92	0.00
20		Isooctane	3.807	4.118	-8.2#	87	0.00
21		1,1,1-Trichloroethane	2.613	2.961	-13.3#	95	0.00
22		Carbon tetrachloride	2.679	3.045	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.356	1.377	-1.5	85	0.00
24		1,2-Dichloroethane	1.454	1.583	-8.9#	87	0.00
25		1,2-Dibromoethane	1.967	2.107	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	88	0.00
27	M	Benzene	0.687	0.751	-9.3#	93	0.00
28	M	Trichloroethene	0.386	0.426	-10.4#	93	0.00
29	C	1,2-Dichloropropane	0.294	0.320	-8.8#	91	0.00
30		Bromodichloromethane	0.776	0.844	-8.8#	92	0.00
31		cis-1,3-Dichloropropene	0.470	0.515	-9.6#	91	0.00
32	S	Toluene-d8 SURR#2	0.765	0.765	0.0	87	0.00
33	MC	Toluene	0.462	0.500	-8.2#	91	0.00
34		trans-1,3-Dichloropropene	0.398	0.434	-9.0#	88	0.00
35		1,1,2-Trichloroethane	0.270	0.291	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.524	0.576	-9.9#	91	0.00
38		Dibromochloromethane	0.681	0.735	-7.9#	87	0.00
39	MP	Chlorobenzene	0.874	0.956	-9.4#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.358	0.385	-7.5#	89	0.00
41		m,p-Xylene	0.460	0.513	-11.5#	89	0.00
42		o-Xylene	0.452	0.493	-9.1#	89	0.00
43		Styrene	0.774	0.851	-9.9#	87	0.00
44	P	Bromoform	0.662	0.721	-8.9#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	0.507	0.545	-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	0.939	0.948	-1.0	83	0.00
47		1,4-Dichloro-2-butene	0.114	0.123	-7.9#	80	0.00
48		4-Ethyltoluene	1.191	1.321	-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	0.887	1.090	-22.9#	88	0.00
50		2-Chlorotoluene	1.201	1.317	-9.7#	86	0.00
51		1,2,4-Trimethylbenzene	0.943	1.085	-15.1#	87	0.00
52		1,3-Dichlorobenzene	0.761	0.850	-11.7#	83	0.00
53		1,4-Dichlorobenzene	0.782	0.873	-11.6#	83	0.00
54		1,2-Dichlorobenzene	0.684	0.785	-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	0.435	0.550	-26.4#	84	0.00
56		Napthalene	0.460	0.564	-22.6#	87	0.00
57		Hexachlorobutadiene	0.381	0.491	-28.9#	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	85	0.00
2		Dichlorodifluoromethane	250.000	248.908	0.4	83	0.00
3		Dichlorotetrafluoroethane	250.000	246.195	1.5	81	0.00
4	P	Chloromethane	250.000	219.708	12.1#	71	0.00
5	C	Vinyl chloride	250.000	243.509	2.6#	78	0.00
6		Bromomethane	250.000	254.511	-1.8	85	0.00
7		Chloroethane	250.000	258.091	-3.2#	82	0.00
8		Trichlorofluoromethane	250.000	269.374	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	275.152	-10.1#	92	0.00
10	MC	1,1-Dichloroethene	250.000	272.718	-9.1#	92	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.70#
12		Methylene chloride	250.000	271.420	-8.6#	87	0.00
13		Carbon disulfide	250.000	277.229	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	250.000	265.221	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	250.000	274.734	-9.9#	92	0.00
16		n-Hexane	250.000	267.221	-6.9#	95	0.00
17	P	1,1-Dichloroethane	250.000	273.541	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	250.000	275.380	-10.2#	91	0.00
19	C	Chloroform	250.000	276.393	-10.6#	92	0.00
20		Isooctane	250.000	270.427	-8.2#	87	0.00
21		1,1,1-Trichloroethane	250.000	283.278	-13.3#	95	0.00
22		Carbon tetrachloride	250.000	284.168	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.890	-1.6	85	0.00
24		1,2-Dichloroethane	250.000	272.240	-8.9#	87	0.00
25		1,2-Dibromoethane	250.000	267.778	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	88	0.00
27	M	Benzene	250.000	273.393	-9.4#	93	0.00
28	M	Trichloroethene	250.000	275.563	-10.2#	93	0.00
29	C	1,2-Dichloropropane	250.000	272.666	-9.1#	91	0.00
30		Bromodichloromethane	250.000	271.663	-8.7#	92	0.00
31		cis-1,3-Dichloropropene	250.000	273.664	-9.5#	91	0.00
32	S	Toluene-d8 SURR#2	250.000	250.177	-0.1	87	0.00
33	MC	Toluene	250.000	270.191	-8.1#	91	0.00
34		trans-1,3-Dichloropropene	250.000	272.338	-8.9#	88	0.00
35		1,1,2-Trichloroethane	250.000	269.506	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	274.820	-9.9#	91	0.00
38		Dibromochloromethane	250.000	269.861	-7.9#	87	0.00
39	MP	Chlorobenzene	250.000	273.364	-9.3#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	268.818	-7.5#	89	0.00
41		m,p-Xylene	500.000	557.565	-11.5#	89	0.00
42		o-Xylene	250.000	272.877	-9.2#	89	0.00
43		Styrene	250.000	274.867	-9.9#	87	0.00
44	P	Bromoform	250.000	272.402	-9.0#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	268.843	-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	252.317	-0.9	83	0.00
47		1,4-Dichloro-2-butene	250.000	268.884	-7.6#	80	0.00
48		4-Ethyltoluene	250.000	277.261	-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	250.000	307.281	-22.9#	88	0.00
50		2-Chlorotoluene	250.000	274.123	-9.6#	86	0.00
51		1,2,4-Trimethylbenzene	250.000	287.815	-15.1#	87	0.00
52		1,3-Dichlorobenzene	250.000	279.334	-11.7#	83	0.00
53		1,4-Dichlorobenzene	250.000	278.985	-11.6#	83	0.00
54		1,2-Dichlorobenzene	250.000	287.000	-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	250.000	322.960	-29.2#	84	0.00
56		Napthalene	250.000	315.236	-26.1#	87	0.00
57		Hexachlorobutadiene	250.000	321.742	-28.7#	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205175

Lab File ID (Standard): CM0521A.D Date Analyzed: 5/21/02

Instrument ID: MARILYN Time Analyzed: 10:08

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

	IS1BCM		IS2DFB		IS3CLB	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	356653	11.41	1510179	13.37	1145206	20.70
UPPER LIMIT	713306	11.91	3020358	13.87	2290412	21.20
LOWER LIMIT	178327	10.91	755090	12.87	572603	20.20
EPA SAMPLE NO.						
01 VBLKMA	327818	11.41	1407692	13.36	1036578	20.69
02 LCS AND 2ND S	410452	11.42	1694799	13.38	1311586	20.70
03 SVEEA	376546	11.40	1531654	13.34	1163869	20.65

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

ate 5/20/02 Instrument ID : MARILYN Method : (TO14) /8260AIR /8260WATER /624MOD New TO14 Curve

atch MAB091 (1) 2 3 Batch _____ 1 2 3 32 BH 5/20

S# 8 -MSW- 34 - 1 TO14 8 -MSW- 27 - 1 AIR-SPK 8 -MSW- 30 - 2 Maint. New trap (see occE for instandofy)

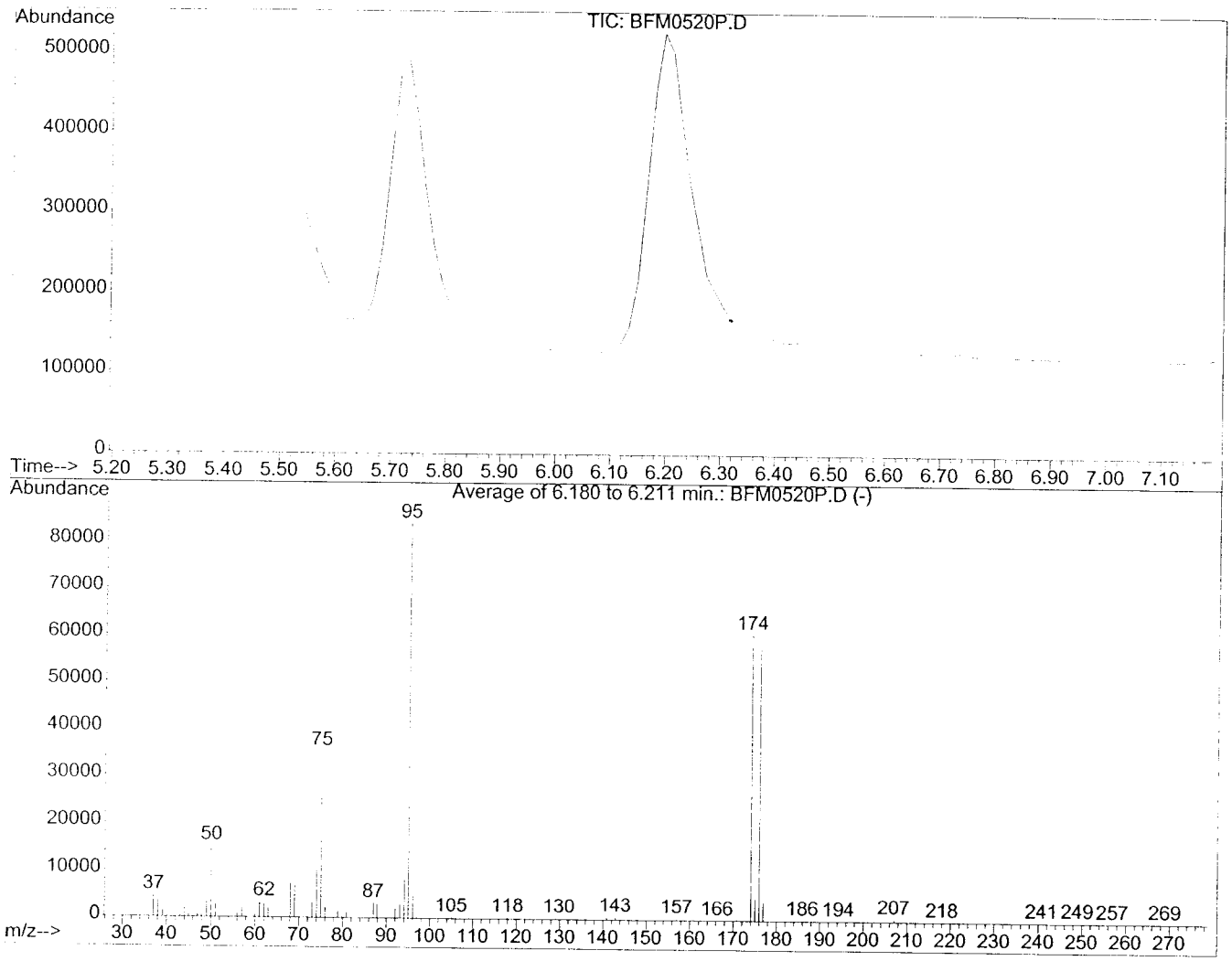
FB 8 -MSW- 34 - 1 8260 -MSW- - W-SPK -MSW- -

TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS**	*INIT	COMMENTS
2:39	#13	BFBSTL	BFM0520A	50ppb			W	Yes	BDH	Daily 12hr BFB tune 5 92,000 max 95 FON
6:42	14	To14S.m	CM 0520	250ng			W	Yes	BDH	Daily Cal Check / ~~BFB tune~~ no ccv needed (also CMA0250)
4:57	15		MAB91A BK	ST						Daily Method Blank
9:59	~~16~~ 17 BH 5/20		MAB91 LCS	50ppb						Batch# 091 LCS
5:34	14		CMA0025	25ng		Y N				5 ppb ICAL
6:08	15		0100	100ng		Y N				20
6:42	16		0250	250ng		Y N				50 (CCV also) - not needed
7:18	1		0500	500ng		Y N				100
17:51	2	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #2 Skip
18:12	3	To14S.m	CMA1000	1000ng		Y N	W	Yes		200ppb ICAL
18:45	4	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #4 skip / C.O. cleanup
19:05	5	To14S.m	CMA1500	1500ng		Y N	W	Yes		300ppb ICAL
9:39	6	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #6 skip / C.O. cleanup
9:59	7	To14S.m	MAB91LCS	250ng		Y N	W	Yes		Batch #091 LCS / 2nd Source
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 5/20/02
:						Y N				
:						Y N				
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis
d relinquished sample(s) back to the sample storage refrigerator.
[illegible] checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0520P\BFM0520P.D Vial: 13
Acq On : 20 May 2002 12:39 pm Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14



Peak Apex is scan: 43 (6.20 min)
Average of 3 scans: 42,43,44 minus background scan 23 (5.88 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	15079	PASS
75	95	30	60	42.1	35322	PASS
95	95	100	100	100.0	83987	PASS
96	95	5	9	6.5	5458	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	72.5	60859	PASS
175	174	5	9	7.9	4783	PASS
176	174	95	101	97.1	59093	PASS
177	176	5	9	6.5	3865	PASS

BFM0520P.D TO14S.M Wed May 22 08:32:34 2002

Average of 6.180 to 6.211 min.: BFM0520P.D
DAILY BFB 12HR. TUNE 50ppb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	762	51.05	3919	75.05	35322	140.90	532
37.00	4572	55.95	886	76.00	2617	142.90	611
38.05	3644	57.05	2010	78.90	1357	174.00	60859
39.10	1368	59.95	597	80.90	1369	175.00	4783
43.00	537	61.00	3189	87.00	3231	176.00	59093
44.05	1957	62.05	3338	87.90	2927	176.90	3865
45.00	679	63.00	2035	92.00	2128	207.00	594
47.05	1364	68.00	7431	93.05	2953		
47.95	436	68.95	6919	94.05	8271		
49.05	3388	73.00	3166	95.00	83987		
50.00	15079	74.00	11908	96.05	5458		

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration

see OCCE for last analyte BH 5-21-02

Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

TJ 5-21-02

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	0.543	16.32
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Tue May 21 09:24:10 2002 Page 1

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration

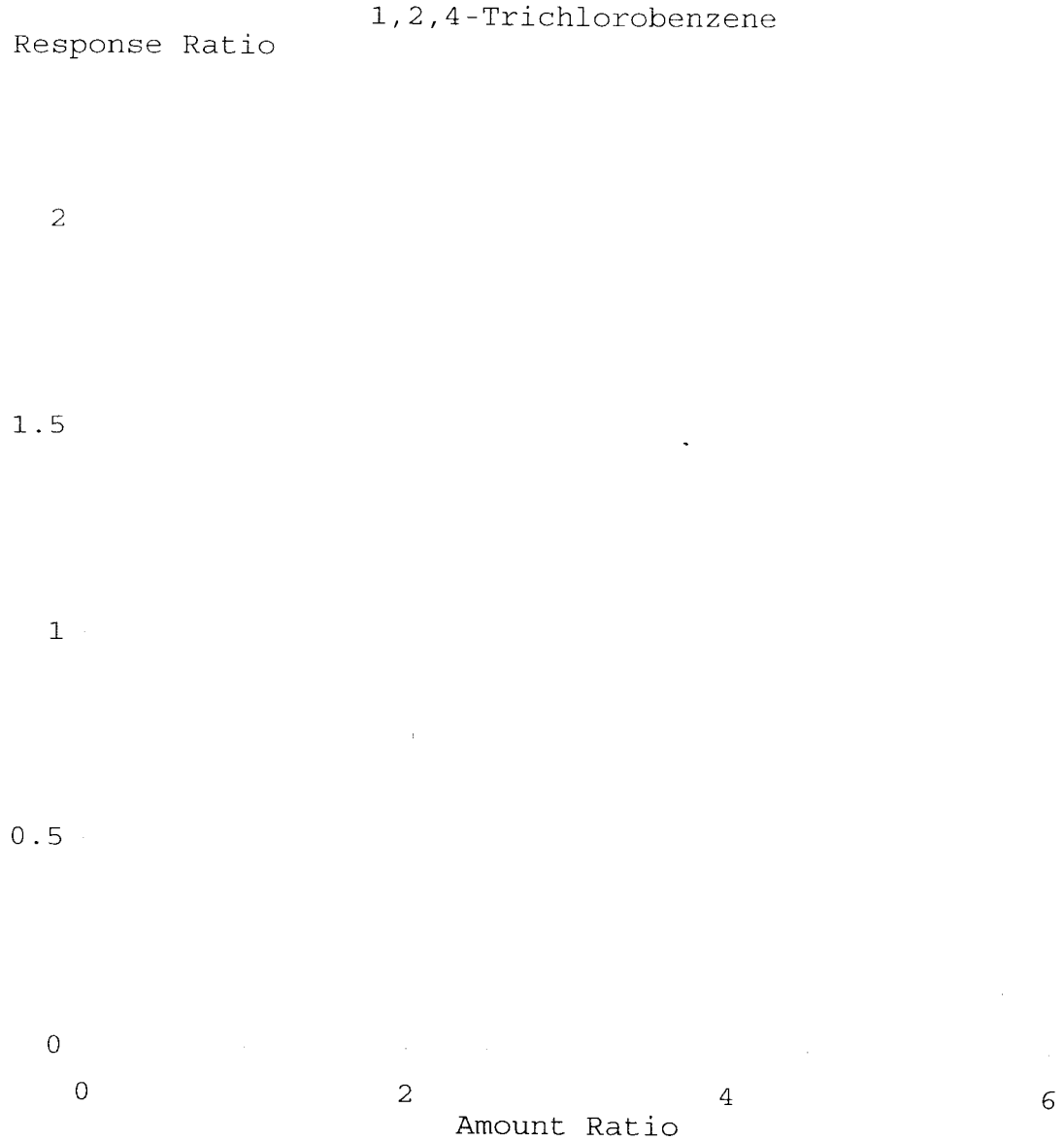
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

out; see OCCF

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

1,2,4-Trichlorobenzene



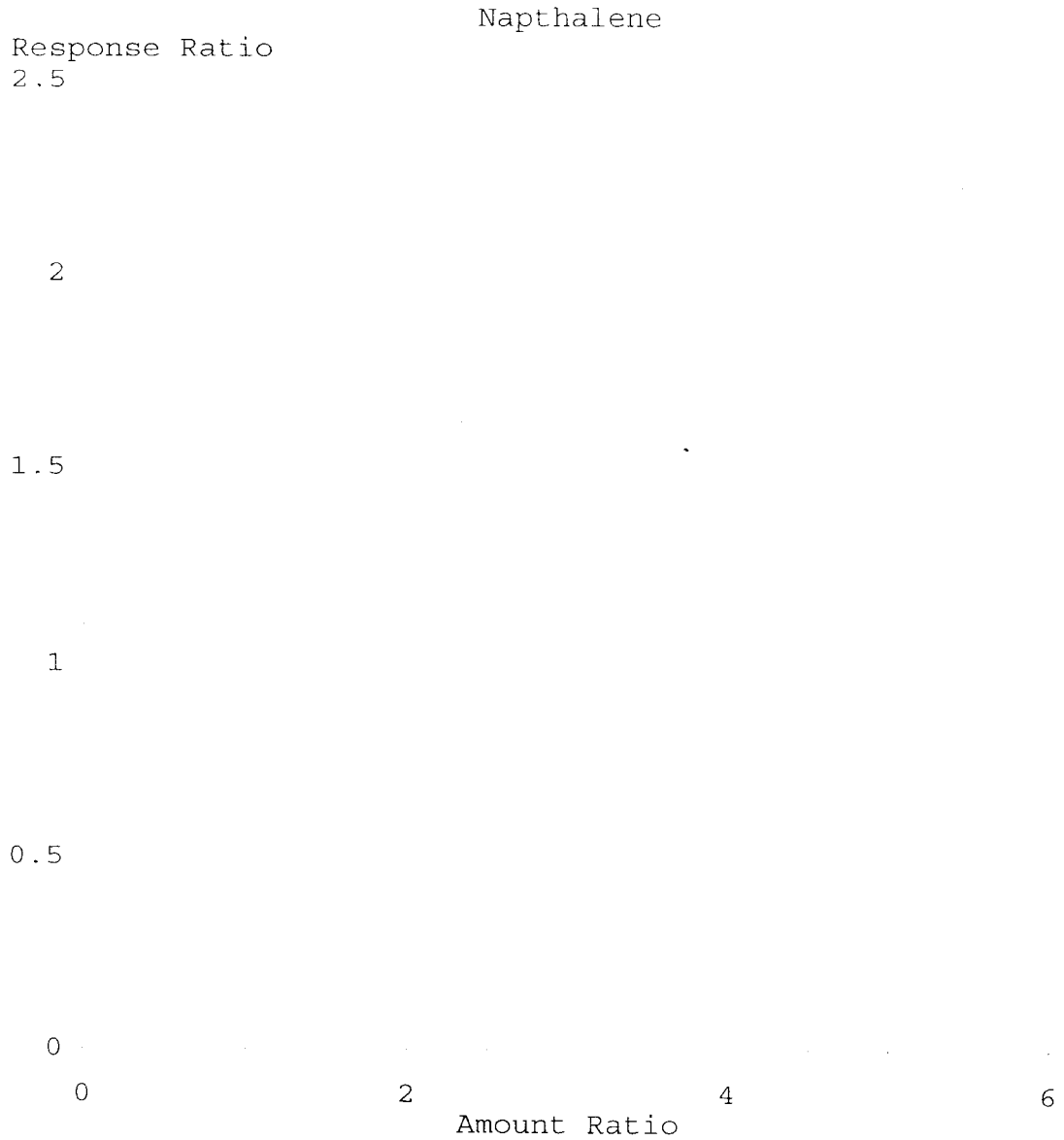
Resp Ratio = 3.72e-001 * Amt + 8.97e-002
Coef of Det (r^2) = 0.983 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:54:50 2002

BA 5/21/02

5-21-02

Napthalene



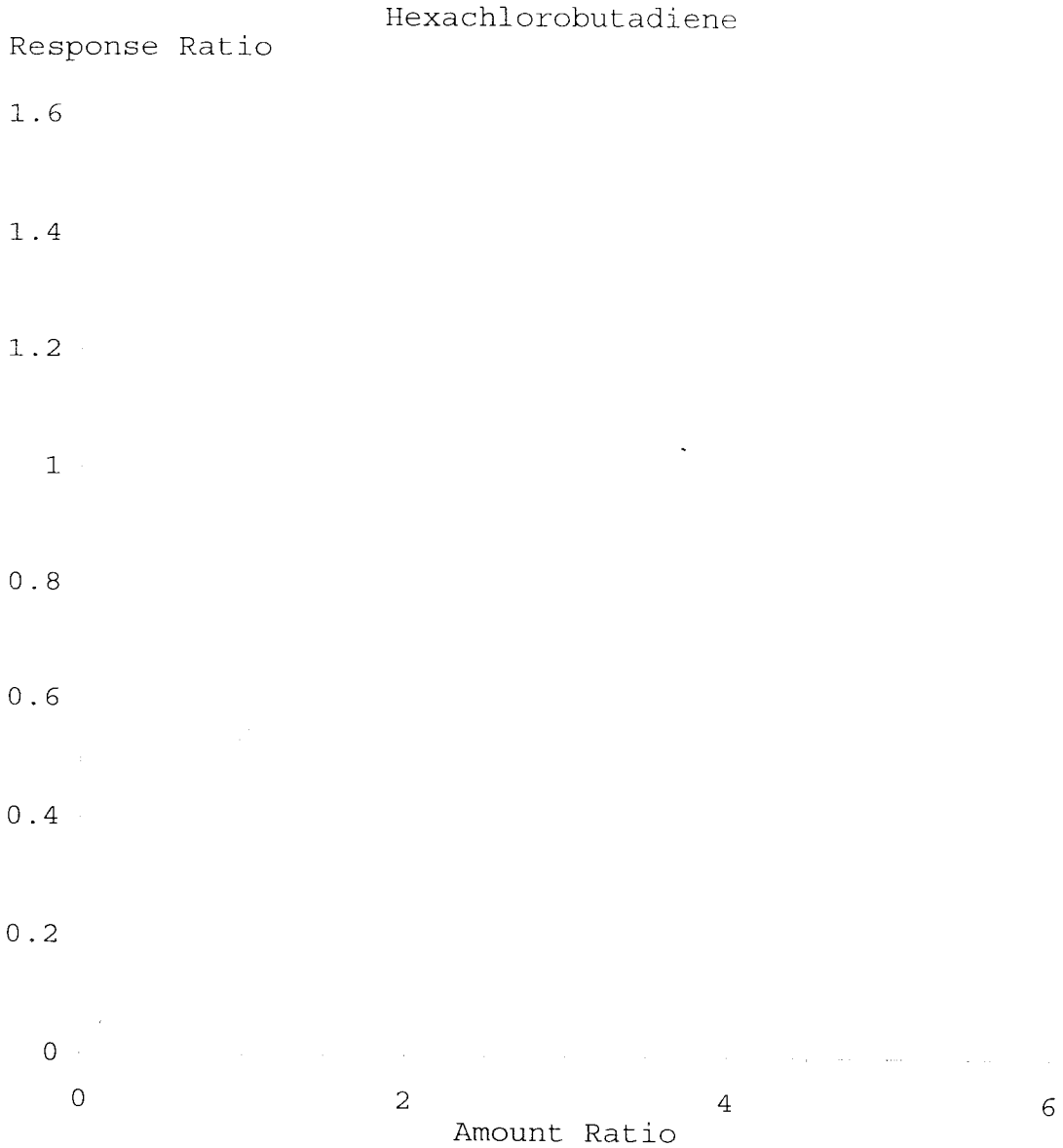
Resp Ratio = 4.04e-001 * Amt + 7.10e-002
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:54:50 2002

BAL 5/21/02

TJS 5-21-02

Hexachlorobutadiene



Resp Ratio = 4.05e-001 * Amt
RF Rel Std Dev = 30.3% Curve Fit: Avg RF

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:56:31 2002

See OCCE
BH 5/21/02

5-21-02

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520A\R&D4GAS.D (20 May 2002 11:48)

original BH 5/20/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	399070	250.00	ng	0.02 96.93%
26) 1,4-Difluorobenzene IS#2	13.30	114	1616838	250.00	ng	0.03 91.93%
36) Chlorobenzene-d5 IS#3	20.60	117	1225795	250.00	ng	0.02 92.85%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	550991	293.44	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 117.38%						
32) Toluene-d8 SURR#2	16.85	98	1240697	245.61	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1141375	261.16	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 104.46%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.74	85	60980	41.58	ng	91
3) Dichlorotetrafluoroethane	3.92	135	55885	24.22	ng #	42
4) Chloromethane	4.20	50	30830	24.52	ng #	72
5) Vinyl chloride	4.41	62	27011	23.26	ng #	91
6) Bromomethane	5.26	94	44836	23.80	ng #	92
7) Chloroethane	5.40	64	16593	19.63	ng #	65
8) Trichlorofluoromethane	5.90	101	111246	55.27	ng	97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	70556	23.66	ng	85
10) 1,1-Dichloroethene	7.06	96	38944	22.94	ng	90
12) Methylene chloride	8.01	49	49592	21.71	ng	96
13) Carbon disulfide	8.10	76	107612	23.55	ng	96
14) methyl-Tert-Butyl Ether	8.29	73	74719	30.18	ng #	86
15) trans-1,2-Dichloroethene	8.60	96	45836	24.05	ng	91
16) n-Hexane	8.69	57	48503	27.91	ng #	1
17) 1,1-Dichloroethane	9.42	63	75154	24.22	ng #	97
18) cis-1,2-Dichloroethene	10.66	61	61638	24.50	ng	99
19) Chloroform	10.99	83	104554	26.69	ng	98
20) Isooctane	11.95	57	156368	26.82	ng	91
21) 1,1,1-Trichloroethane	11.86	97	98647	29.64	ng #	92
22) Carbon tetrachloride	12.42	117	93794	26.77	ng	95
24) 1,2-Dichloroethane	12.70	62	54180	25.70	ng #	95
25) 1,2-Dibromoethane	19.66	107	72521	21.39	ng	99
27) Benzene	12.78	78	108990	22.98	ng	97

(#) = qualifier out of range (m) = manual integration
CMA0025.D TO14S.M Mon May 20 16:07:09 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

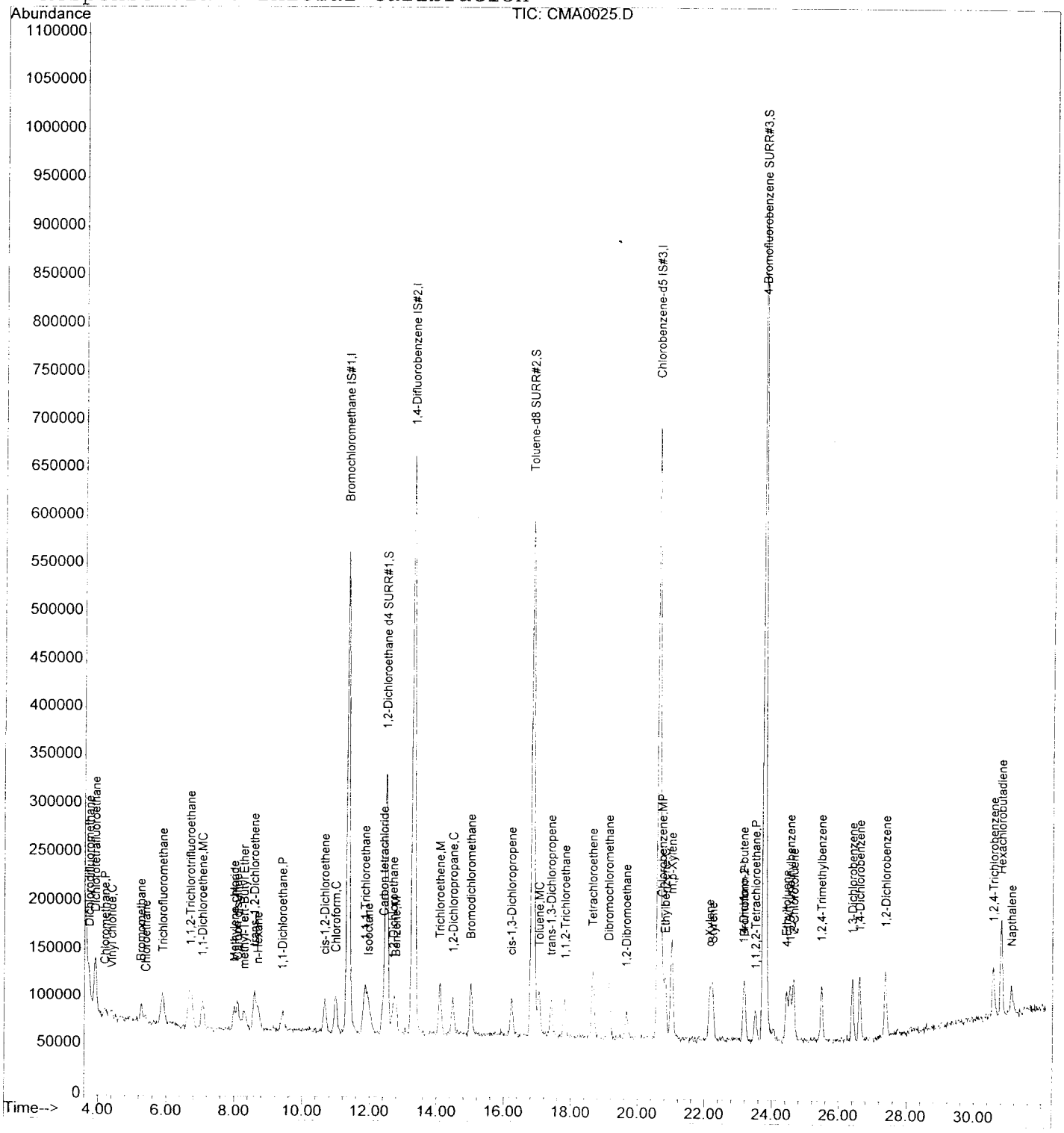
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	56884	21.59 ng		98
29)	1,2-Dichloropropane	14.49	63	44837	22.35 ng	#	72
30)	Bromodichloromethane	15.01	83	127141	26.05 ng	#	95
31)	cis-1,3-Dichloropropene	16.22	75	74016	24.38 ng	#	86
33)	Toluene	17.05	92	69914	23.34 ng		97
34)	trans-1,3-Dichloropropene	17.41	75	62535	24.07 ng	#	80
35)	1,1,2-Trichloroethane	17.82	97	43255	20.76 ng		99
37)	Tetrachloroethene	18.65	164	60353	25.25 ng		92
38)	Dibromochloromethane	19.13	127	82766	23.38 ng	#	93
39)	Chlorobenzene	20.71	112	100540	23.01 ng		91
40)	Ethylbenzene	20.81	106	43148	24.69 ng		99
41)	m,p-Xylene	21.01	106	103239	45.88 ng		95
42)	o-Xylene	22.14	106	53395	24.82 ng		97
43)	Styrene	22.24	104	88042	23.30 ng		98
44)	Bromoform	23.17	173	79512	22.76 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.51	83	66459	21.19 ng	#	97
47)	1,4-Dichloro-2-butene	23.15	75	14301	22.38 ng	#	91
48)	4-Ethyltoluene	24.43	105	145409	25.63 ng	#	86
49)	1,3,5-Trimethylbenzene	24.53	105	106064	23.72 ng		93
50)	2-Chlorotoluene	24.64	91	143648	24.60 ng		95
51)	1,2,4-Trimethylbenzene	25.47	105	111623	23.69 ng		95
52)	1,3-Dichlorobenzene	26.40	146	89648	23.39 ng		94
53)	1,4-Dichlorobenzene	26.62	146	91515	22.63 ng		94
54)	1,2-Dichlorobenzene	27.38	146	80646	21.69 ng		98
55)	1,2,4-Trichlorobenzene	30.56	180	59257	21.27 ng	#	94
56)	Napthalene	31.10	128	67702	16.64 ng	#	87
57)	Hexachlorobutadiene	30.79	225	60589	24.95 ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator) BH 5/20/02
Title : TO14
Last Update : Mon May 20 16:15:02 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	373178	250.00 ng	0.01 90.64%
26) 1,4-Difluorobenzene IS#2	13.30	114	1549218	250.00 ng	0.00 88.08%
36) Chlorobenzene-d5 IS#3	20.62	117	1186656	250.00 ng	0.01 89.89%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	513097	281.91 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.76%					
32) Toluene-d8 SURR#2	16.86	98	1185537	245.24 ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.10%					
46) 4-Bromofluorobenzene SURR#	23.75	95	1124132	263.32 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.33%					

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.70	85	208215	142.60 ng		98
3) Dichlorotetrafluoroethane	3.90	135	210039	99.31 ng	#	45
4) Chloromethane	4.18	50	104743	91.83 ng	#	90
5) Vinyl chloride	4.39	62	105251	99.42 ng	#	92
6) Bromomethane	5.26	94	152151	90.35 ng		97
7) Chloroethane	5.41	64	66570	87.07 ng	#	91
8) Trichlorofluoromethane	5.88	101	393732	163.14 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	254579	93.28 ng		84
10) 1,1-Dichloroethene	7.07	96	136196	87.16 ng		93
12) Methylene chloride	8.01	49	174142	84.00 ng		97
13) Carbon disulfide	8.11	76	383967	92.08 ng		99
14) methyl-Tert-Butyl Ether	8.30	73	235409	99.63 ng		92
15) trans-1,2-Dichloroethene	8.60	96	157885	89.38 ng		93
16) n-Hexane	8.70	57	151156	92.29 ng	#	1
17) 1,1-Dichloroethane	9.42	63	266761	92.48 ng		99
18) cis-1,2-Dichloroethene	10.68	61	215129	91.82 ng		96
19) Chloroform	11.00	83	344741	92.95 ng		99
20) Isooctane	11.95	57	493297	90.96 ng		99
21) 1,1,1-Trichloroethane	11.86	97	332268	104.12 ng		93
22) Carbon tetrachloride	12.43	117	344087	103.64 ng		99
24) 1,2-Dichloroethane	12.70	62	182601	92.00 ng		97
25) 1,2-Dibromoethane	19.67	107	244693	79.07 ng		99
27) Benzene	12.77	78	363827	82.28 ng		99

(#) = qualifier out of range (m) = manual integration
CMA0100.D TO14S.M Mon May 20 16:40:47 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

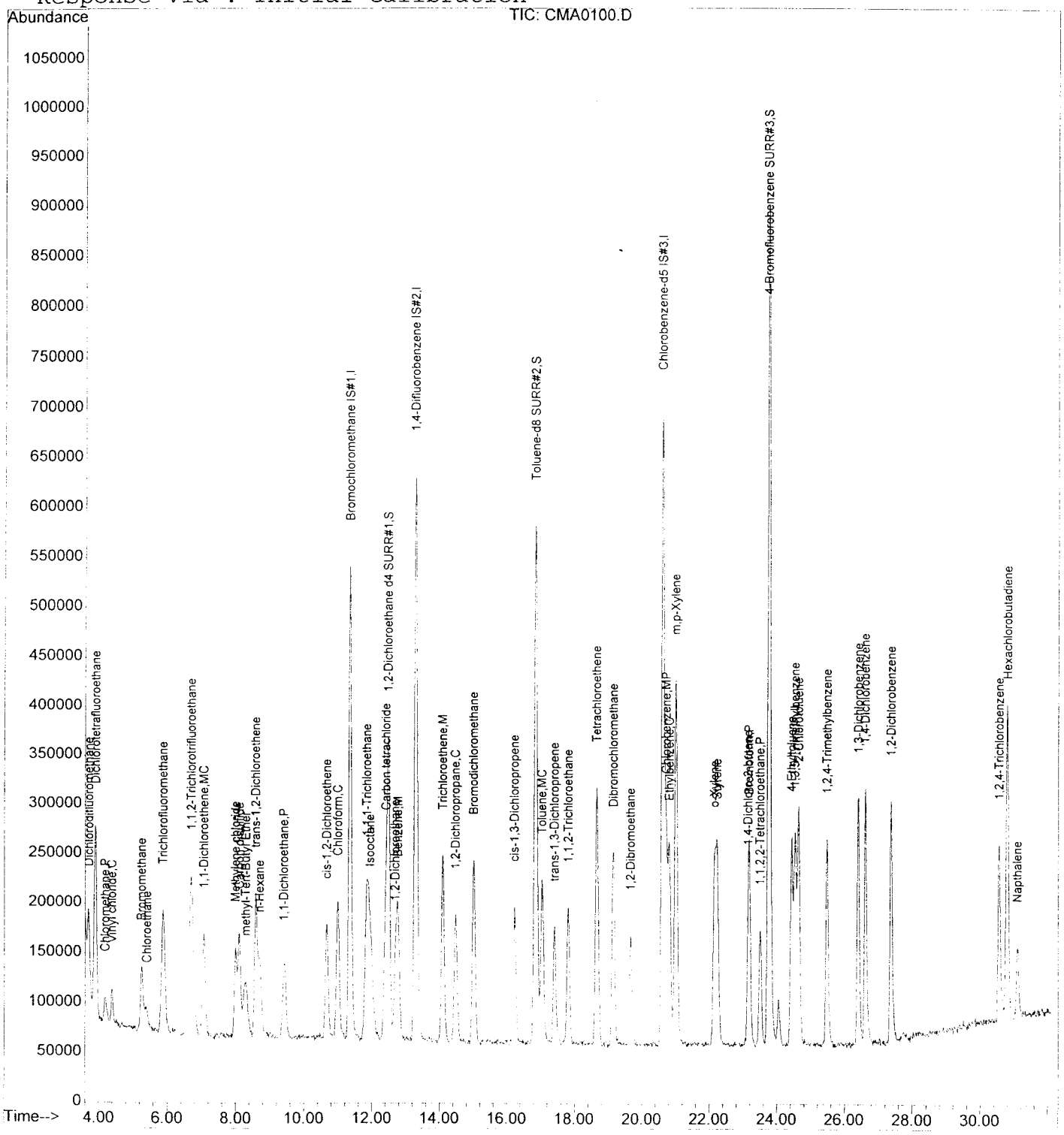
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.11	130	201542	81.77 ng		97
29)	1,2-Dichloropropane	14.48	63	151752	80.54 ng	#	90
30)	Bromodichloromethane	15.03	83	408610	86.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	241241	82.98 ng		91
33)	Toluene	17.04	92	245575	86.66 ng		96
34)	trans-1,3-Dichloropropene	17.42	75	201539	81.12 ng	#	89
35)	1,1,2-Trichloroethane	17.82	97	139953	72.43 ng		97
37)	Tetrachloroethene	18.66	164	209613	90.95 ng		91
38)	Dibromochloromethane	19.16	127	274483	80.98 ng	#	98
39)	Chlorobenzene	20.73	112	347242	83.24 ng		98
40)	Ethylbenzene	20.82	106	141753	84.17 ng		94
41)	m,p-Xylene	21.01	106	373377	174.23 ng		100
42)	o-Xylene	22.15	106	179424	86.02 ng		99
43)	Styrene	22.23	104	307926	84.87 ng		99
44)	Bromoform	23.18	173	264009	79.30 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	206475	70.59 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	43155	71.09 ng		94
48)	4-Ethyltoluene	24.44	105	481270	89.01 ng		97
49)	1,3,5-Trimethylbenzene	24.53	105	362124	85.37 ng		93
50)	2-Chlorotoluene	24.64	91	509871	91.50 ng		97
51)	1,2,4-Trimethylbenzene	25.48	105	389067	86.67 ng		99
52)	1,3-Dichlorobenzene	26.41	146	313479	85.41 ng		96
53)	1,4-Dichlorobenzene	26.61	146	322064	83.19 ng		96
54)	1,2-Dichlorobenzene	27.37	146	287311	83.20 ng		97
55)	1,2,4-Trichlorobenzene	30.56	180	185496	76.09 ng		99
56)	Napthalene	31.10	128	190082	58.95 ng	#	87
57)	Hexachlorobutadiene	30.81	225	186532	92.47 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

BH original 5/20/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	417253	250.00	ng	0.02 101.35%
26) 1,4-Difluorobenzene IS#2	13.31	114	1707946	250.00	ng	0.00 97.11%
36) Chlorobenzene-d5 IS#3	20.62	117	1335967	250.00	ng	0.02 101.20%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	575921	277.22	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.89%						
32) Toluene-d8 SURR#2	16.86	98	1323808	249.00	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.60%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1306401	269.45	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 107.78%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.71	85	663827	367.07	ng		100
3) Dichlorotetrafluoroethane	3.91	135	701816	291.32	ng	#	44
4) Chloromethane	4.19	50	345732	272.06	ng	#	95
5) Vinyl chloride	4.39	62	352324	291.53	ng		95
6) Bromomethane	5.26	94	483269	258.51	ng		99
7) Chloroethane	5.40	64	243344	286.02	ng		98
8) Trichlorofluoromethane	5.88	101	1331915	415.12	ng		98
9) 1,1,2-Trichlorotrifluoroet	6.71	151	859877	279.86	ng		84
10) 1,1-Dichloroethene	7.06	96	444023	256.57	ng		98
12) Methylene chloride	8.00	49	615621	268.79	ng		98
13) Carbon disulfide	8.10	76	1278404	272.13	ng		99
14) methyl-Tert-Butyl Ether	8.29	73	845762	316.01	ng		97
15) trans-1,2-Dichloroethene	8.59	96	524208	266.41	ng		98
16) n-Hexane	8.71	57	458238	249.68	ng	#	1
17) 1,1-Dichloroethane	9.42	63	921051	283.65	ng		98
18) cis-1,2-Dichloroethene	10.67	61	747445	282.93	ng		97
19) Chloroform	10.99	83	1172455	280.52	ng		100
20) Isooctane	11.96	57	1691408	282.91	ng		98
21) 1,1,1-Trichloroethane	11.86	97	1114413	303.45	ng		91
22) Carbon tetrachloride	12.42	117	1160795	303.96	ng		99
24) 1,2-Dichloroethane	12.70	62	648568	291.50	ng		98
25) 1,2-Dibromoethane	19.68	107	911988	270.23	ng		99
27) Benzene	12.78	78	1219770	255.05	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0250.D TO14S.M Mon May 20 17:15:06 2002

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

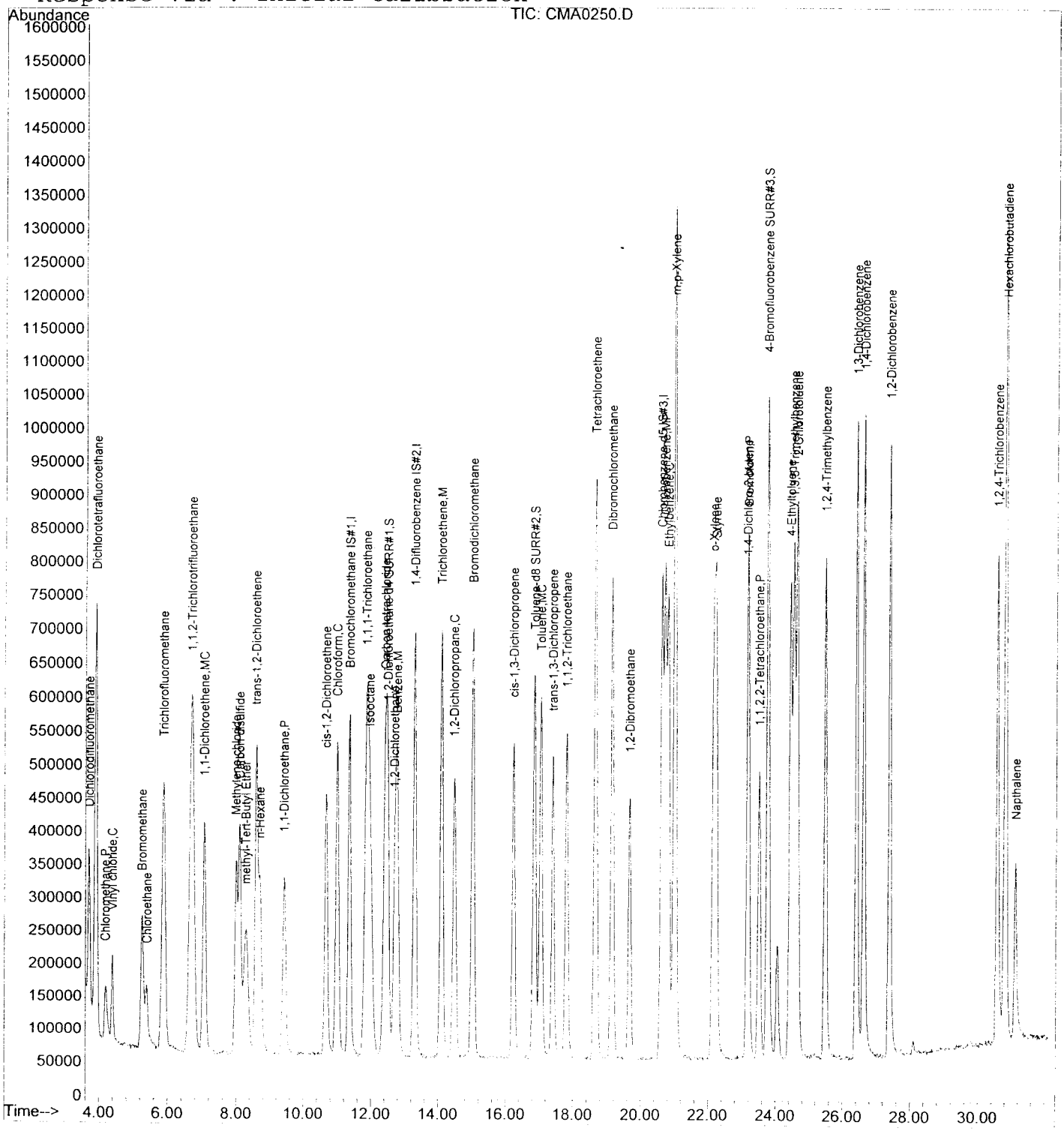
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	693355	260.21 ng		97
29)	1,2-Dichloropropane	14.47	63	531527	261.09 ng		95
30)	Bromodichloromethane	15.03	83	1391715	269.49 ng		98
31)	cis-1,3-Dichloropropene	16.24	75	854837	269.64 ng		96
33)	Toluene	17.05	92	833424	268.18 ng		99
34)	trans-1,3-Dichloropropene	17.41	75	748576	278.06 ng		96
35)	1,1,2-Trichloroethane	17.81	97	507382	248.42 ng		97
37)	Tetrachloroethene	18.67	164	724724	279.20 ng		92
38)	Dibromochloromethane	19.15	127	970854	260.07 ng		98
39)	Chlorobenzene	20.72	112	1231627	266.26 ng		97
40)	Ethylbenzene	20.81	106	494615	263.02 ng		95
41)	m,p-Xylene	21.01	106	1323312	552.43 ng		96
42)	o-Xylene	22.16	106	635186	271.93 ng		100
43)	Styrene	22.24	104	1114793	274.99 ng		97
44)	Bromoform	23.19	173	1012669	278.34 ng		99
45)	1,1,2,2-Tetrachloroethane	23.51	83	774119	246.56 ng		99
47)	1,4-Dichloro-2-butene	23.15	75	177079	268.80 ng		99
48)	4-Ethyltoluene	24.44	105	1722714	281.98 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	1412433	301.18 ng		93
50)	2-Chlorotoluene	24.65	91	1744653	278.39 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	1423152	284.90 ng		100
52)	1,3-Dichlorobenzene	26.40	146	1171866	287.54 ng		96
53)	1,4-Dichlorobenzene	26.62	146	1199069	280.81 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1098533	289.46 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	747752	284.37 ng		99
56)	Napthalene	31.12	128	740301	225.19 ng	#	91
57)	Hexachlorobutadiene	30.81	225	726983	328.17 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	416766	250.00	ng	0.00 99.88%
26) 1,4-Difluorobenzene IS#2	13.31	114	1792397	250.00	ng	0.00 104.94%
36) Chlorobenzene-d5 IS#3	20.62	117	1360342	250.00	ng	0.00 101.82%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	555053	263.27	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.31%						
32) Toluene-d8 SURR#2	16.86	98	1364331	245.41	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.16%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1279462	255.65	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.26%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.74	85	1458753	731.15	ng		99
3) Dichlorotetrafluoroethane	3.94	135	1468601	599.73	ng	#	46
4) Chloromethane	4.22	50	707140	550.40	ng		95
5) Vinyl chloride	4.42	62	734031	597.16	ng		97
6) Bromomethane	5.28	94	1013134	539.25	ng		99
7) Chloroethane	5.42	64	516165	598.37	ng		97
8) Trichlorofluoromethane	5.91	101	2728826	736.61	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.72	151	1810480	580.32	ng		84
10) 1,1-Dichloroethene	7.09	96	905211	524.65	ng		99
12) Methylene chloride	8.03	49	1213973	532.26	ng		99
13) Carbon disulfide	8.12	76	2631305	552.53	ng		100
14) methyl-Tert-Butyl Ether	8.31	73	1501820	539.26	ng		95
15) trans-1,2-Dichloroethene	8.60	96	1078808	544.20	ng		97
16) n-Hexane	8.71	57	947618	517.91	ng	#	1
17) 1,1-Dichloroethane	9.44	63	1869662	565.64	ng		98
18) cis-1,2-Dichloroethene	10.68	61	1513036	564.14	ng		97
19) Chloroform	11.01	83	2347164	553.51	ng		99
20) Isooctane	11.97	57	3054730	503.50	ng		98
21) 1,1,1-Trichloroethane	11.86	97	2262655	594.74	ng		92
22) Carbon tetrachloride	12.44	117	2358585	598.03	ng		99
24) 1,2-Dichloroethane	12.70	62	1232739	546.62	ng		98
25) 1,2-Dibromoethane	19.67	107	1643507	487.51	ng		99
27) Benzene	12.78	78	2494309	499.36	ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

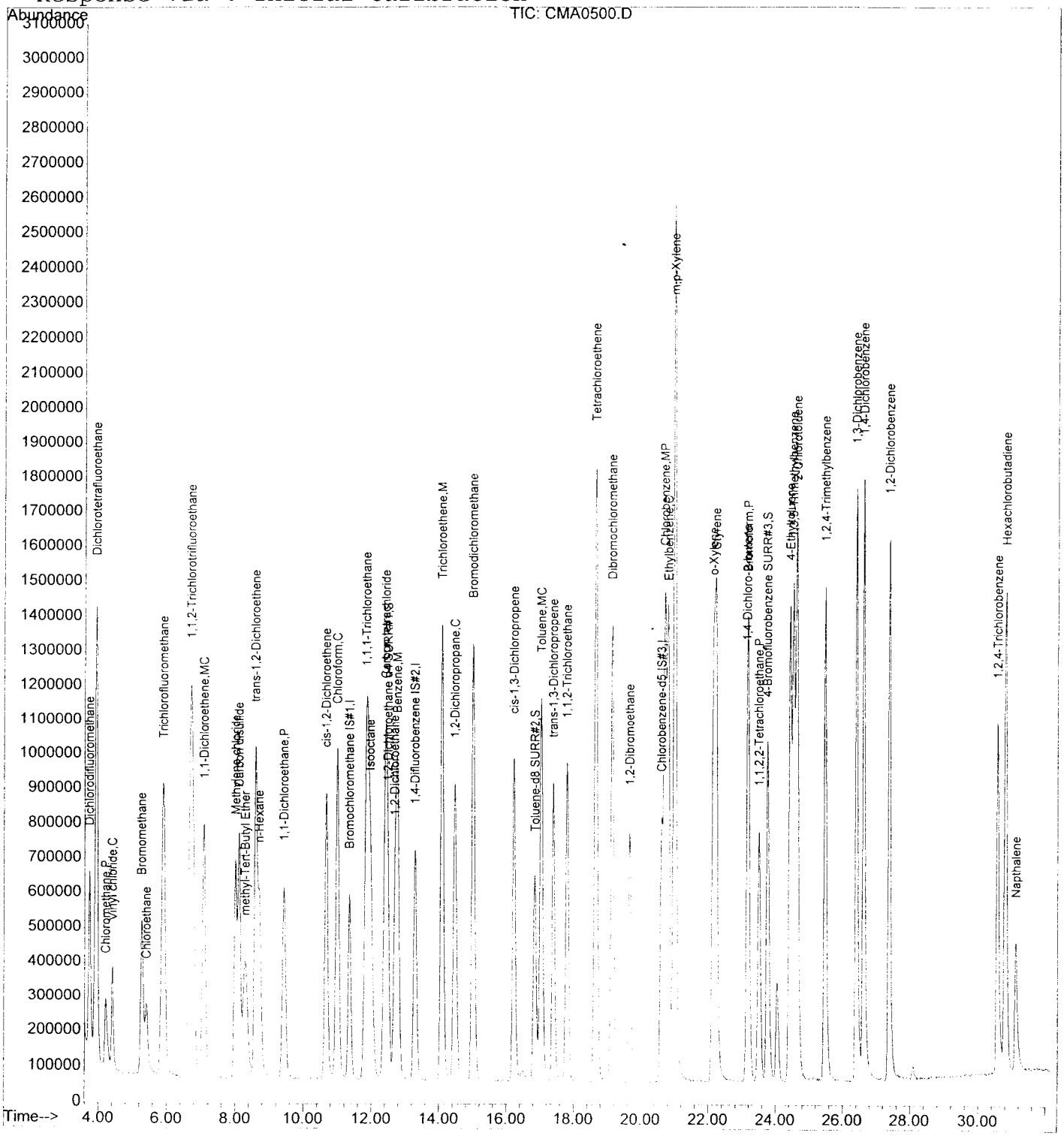
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	1432364	514.74 ng		96
29)	1,2-Dichloropropane	14.49	63	1071754	504.26 ng		97
30)	Bromodichloromethane	15.02	83	2739984	504.58 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	1690648	505.74 ng		97
33)	Toluene	17.05	92	1703256	520.16 ng		97
34)	trans-1,3-Dichloropropene	17.41	75	1409734	495.90 ng		95
35)	1,1,2-Trichloroethane	17.81	97	941430	448.37 ng		97
37)	Tetrachloroethene	18.66	164	1469307	545.87 ng		92
38)	Dibromochloromethane	19.15	127	1812921	479.34 ng		98
39)	Chlorobenzene	20.72	112	2433163	515.97 ng		96
40)	Ethylbenzene	20.82	106	1004604	523.75 ng		100
41)	m,p-Xylene	21.01	106	2571729	1044.70 ng		98
42)	o-Xylene	22.16	106	1250748	521.41 ng		99
43)	Styrene	22.24	104	2177929	522.77 ng		97
44)	Bromoform	23.18	173	1748129	468.44 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	1291894	412.18 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	289125	428.59 ng		98
48)	4-Ethyltoluene	24.44	105	3264969	515.49 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	2348158	478.21 ng	#	81
50)	2-Chlorotoluene	24.64	91	3348047	518.72 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	2630210	511.79 ng		100
52)	1,3-Dichlorobenzene	26.40	146	2100877	501.27 ng		96
53)	1,4-Dichlorobenzene	26.62	146	2137944	491.21 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1851673	476.57 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	1023646	382.56 ng		100
56)	Napthalene	31.12	128	1045942	328.70 ng	#	91
57)	Hexachlorobutadiene	30.81	225	830293	355.90 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	394554	250.00	ng	-0.02 94.56%
26) 1,4-Difluorobenzene IS#2	13.31	114	1652129	250.00	ng	0.00 96.73%
36) Chlorobenzene-d5 IS#3	20.62	117	1259470	250.00	ng	0.00 94.27%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	534557	267.82	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 107.13%						
32) Toluene-d8 SURR#2	16.86	98	1259913	245.87	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.35%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1200446	259.07	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.63%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.71	85	2472279	1308.90	ng		100
3) Dichlorotetrafluoroethane	3.91	135	2705137	1166.88	ng	#	44
4) Chloromethane	4.20	50	1203446	989.42	ng		96
5) Vinyl chloride	4.39	62	1292403	1110.60	ng		97
6) Bromomethane	5.26	94	1798871	1011.36	ng		99
7) Chloroethane	5.38	64	916308	1122.05	ng		98
8) Trichlorofluoromethane	5.88	101	5148169	1467.91	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	3425426	1159.77	ng		84
10) 1,1-Dichloroethene	7.06	96	1745693	1068.74	ng		99
12) Methylene chloride	7.99	49	2349215	1087.99	ng		98
13) Carbon disulfide	8.10	76	5052330	1120.62	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	3152644	1195.75	ng		95
15) trans-1,2-Dichloroethene	8.58	96	2073926	1105.08	ng		97
16) n-Hexane	8.69	57	1824641	1053.38	ng	#	1
17) 1,1-Dichloroethane	9.42	63	3628464	1159.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	2985062	1175.64	ng		98
19) Chloroform	10.99	83	4584005	1141.87	ng		99
20) Isooctane	11.95	57	6258676	1089.67	ng		98
21) 1,1,1-Trichloroethane	11.85	97	4402790	1222.43	ng		92
22) Carbon tetrachloride	12.42	117	4572900	1224.76	ng		99
24) 1,2-Dichloroethane	12.70	62	2508634	1175.00	ng		98
25) 1,2-Dibromoethane	19.67	107	3439109	1077.57	ng		100
27) Benzene	12.78	78	4836746	1050.53	ng		98

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Mon May 20 18:44:18 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

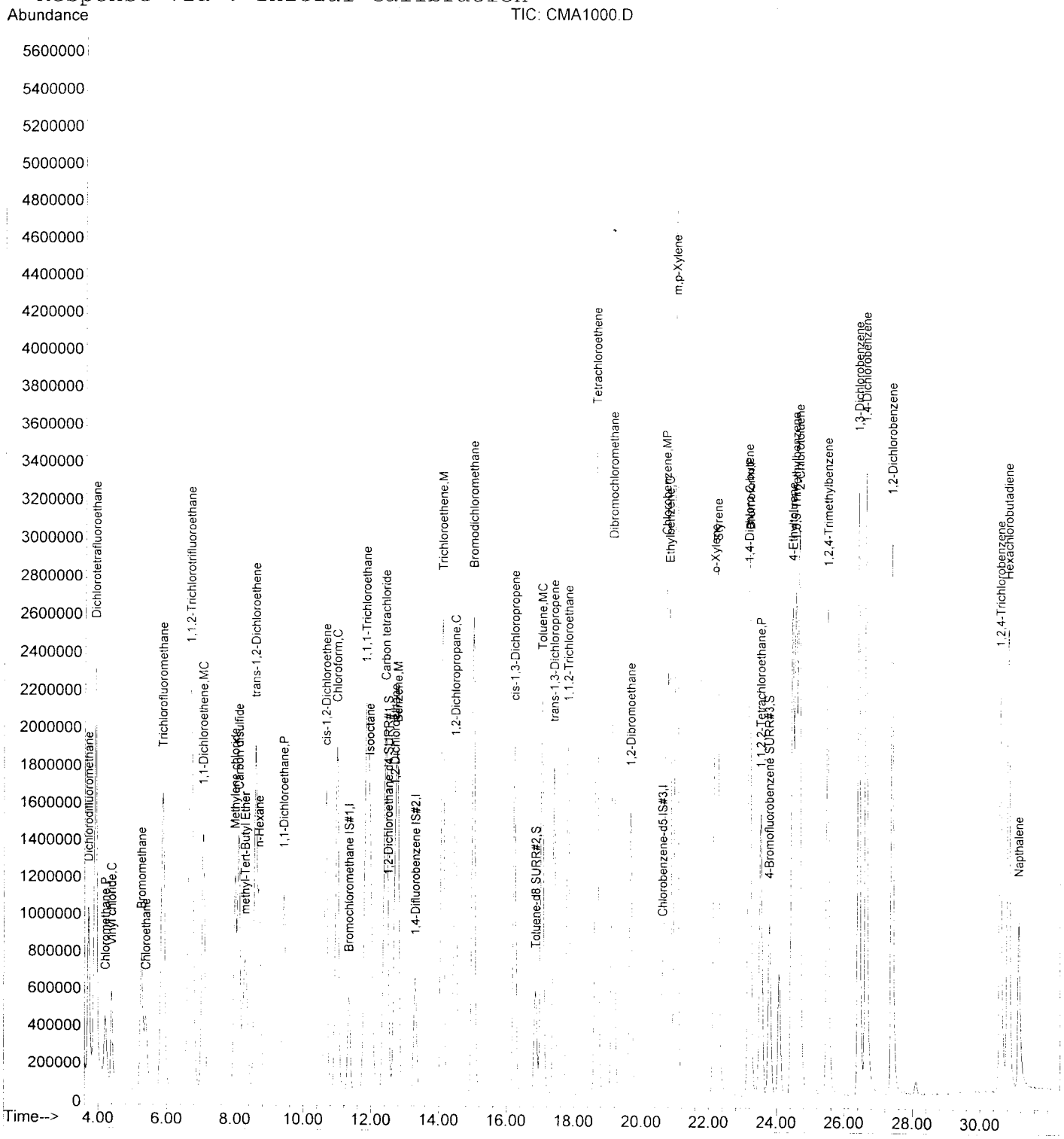
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	2777041	1082.70 ng		96
29)	1,2-Dichloropropane	14.49	63	2111962	1078.04 ng		97
30)	Bromodichloromethane	15.01	83	5508218	1100.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	3365587	1092.27 ng		97
33)	Toluene	17.05	92	3290004	1090.04 ng		98
34)	trans-1,3-Dichloropropene	17.41	75	2914397	1112.24 ng		96
35)	1,1,2-Trichloroethane	17.83	97	1957001	1011.18 ng		97
37)	Tetrachloroethene	18.66	164	2844548	1141.42 ng		92
38)	Dibromochloromethane	19.16	127	3731352	1065.60 ng		98
39)	Chlorobenzene	20.73	112	4748532	1087.61 ng		95
40)	Ethylbenzene	20.82	106	1914168	1077.87 ng		100
41)	m,p-Xylene	21.03	106	4979844	2184.96 ng		97
42)	o-Xylene	22.17	106	2441444	1099.31 ng		96
43)	Styrene	22.25	104	4204219	1089.96 ng		98
44)	Bromoform	23.20	173	3680732	1065.31 ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	2758607	950.63 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	657970	1053.47 ng		98
48)	4-Ethyltoluene	24.46	105	6304262	1075.06 ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	4302298	946.35 ng	#	80
50)	2-Chlorotoluene	24.66	91	6282472	1051.32 ng		99
51)	1,2,4-Trimethylbenzene	25.50	105	4938539	1037.92 ng		99
52)	1,3-Dichlorobenzene	26.41	146	3971818	1023.57 ng		97
53)	1,4-Dichlorobenzene	26.63	146	4133586	1025.80 ng		95
54)	1,2-Dichlorobenzene	27.39	146	3553735	987.88 ng		97
55)	1,2,4-Trichlorobenzene	30.58	180	2164954	873.89 ng		100
56)	Napthalene	31.12	128	2376885	806.78 ng	#	92
57)	Hexachlorobutadiene	30.81	225	1453336	672.85 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	384814	250.00	ng	-0.02 92.23%
26) 1,4-Difluorobenzene IS#2	13.29	114	1659953	250.00	ng	-0.02 97.19%
36) Chlorobenzene-d5 IS#3	20.62	117	1234109	250.00	ng	0.00 92.38%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	505438	259.64	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.86%						
32) Toluene-d8 SURR#2	16.85	98	1257252	244.19	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.68%						
46) 4-Bromofluorobenzene SURR#	23.78	95	1091145	240.32	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.13%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.71	85	3538177	1920.63	ng		99
3) Dichlorotetrafluoroethane	3.93	135	4007266	1772.31	ng	#	53
4) Chloromethane	4.21	50	1807253	1523.46	ng		95
5) Vinyl chloride	4.39	62	1921485	1692.99	ng		97
6) Bromomethane	5.25	94	2704264	1558.87	ng		99
7) Chloroethane	5.39	64	1413667	1774.89	ng		97
8) Trichlorofluoromethane	5.88	101	7613753	2225.87	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	5177281	1797.28	ng		83
10) 1,1-Dichloroethene	7.06	96	2636659	1655.05	ng		98
12) Methylene chloride	7.99	49	3470726	1648.08	ng		98
13) Carbon disulfide	8.10	76	7525988	1711.53	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	4266479	1659.17	ng		96
15) trans-1,2-Dichloroethene	8.59	96	3103467	1695.53	ng		97
16) n-Hexane	8.69	57	2825624	1672.55	ng	#	1
17) 1,1-Dichloroethane	9.42	63	5388402	1765.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	4423007	1786.05	ng		98
19) Chloroform	10.99	83	6791788	1734.65	ng		100
20) Isooctane	11.96	57	9085470	1621.86	ng		98
21) 1,1,1-Trichloroethane	11.85	97	6476682	1843.76	ng		92
22) Carbon tetrachloride	12.42	117	6721298	1845.72	ng		99
24) 1,2-Dichloroethane	12.70	62	3511462	1686.34	ng		98
25) 1,2-Dibromoethane	19.67	107	4643985	1491.91	ng		100
27) Benzene	12.78	78	7167425	1549.41	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

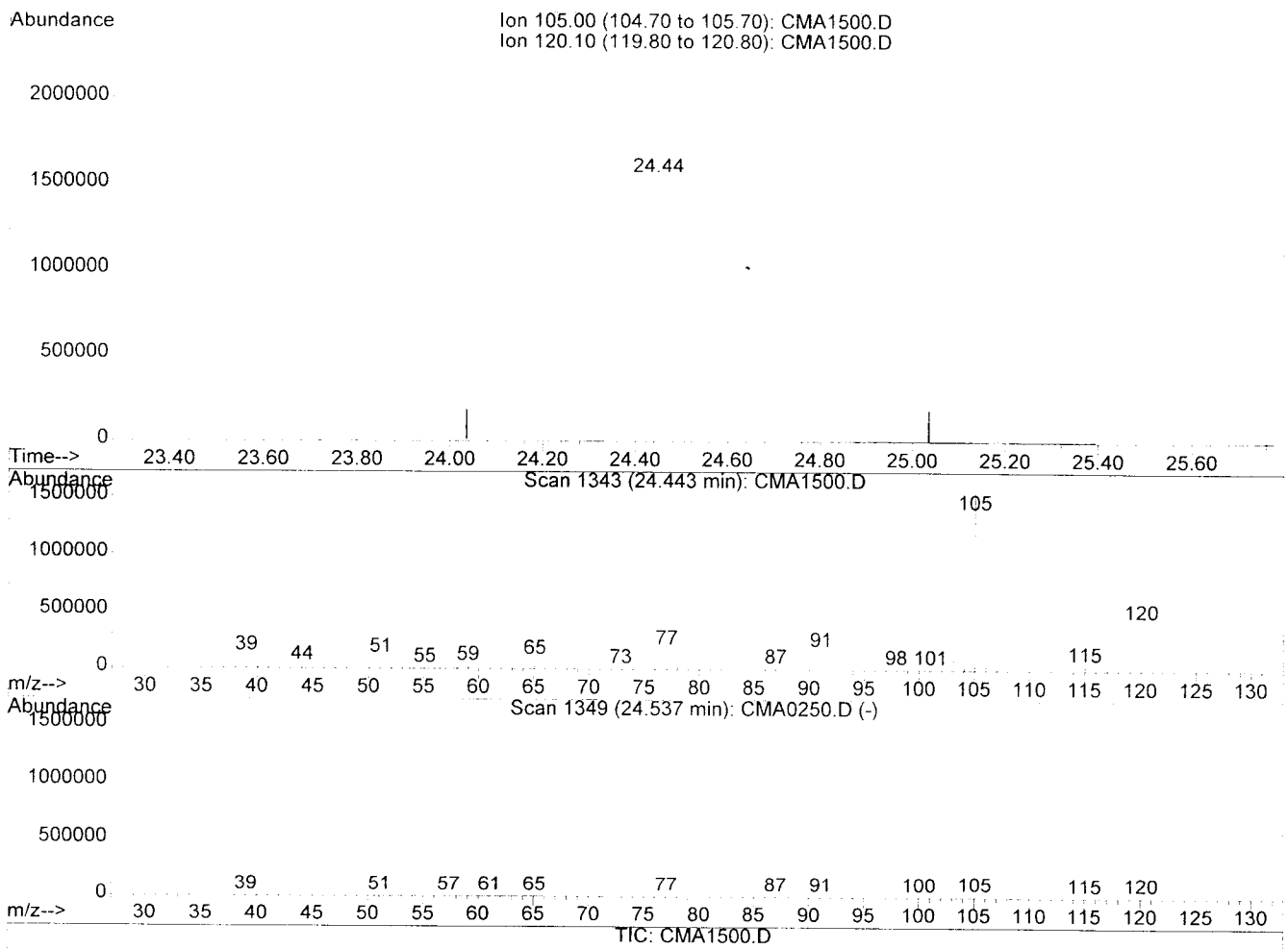
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.10	130	4129346	1602.35	ng		96
29)	1,2-Dichloropropane	14.49	63	3091310	1570.51	ng		97
30)	Bromodichloromethane	15.02	83	7968064	1584.43	ng		99
31)	cis-1,3-Dichloropropene	16.23	75	4903870	1584.00	ng		97
33)	Toluene	17.05	92	4832913	1593.69	ng		98
34)	trans-1,3-Dichloropropene	17.41	75	4032681	1531.76	ng		96
35)	1,1,2-Trichloroethane	17.83	97	2679218	1377.83	ng		97
37)	Tetrachloroethene	18.67	164	4172961	1708.88	ng		92
38)	Dibromochloromethane	19.16	127	5156431	1502.84	ng		97
39)	Chlorobenzene	20.73	112	6933813	1620.77	ng		95
40)	Ethylbenzene	20.82	106	2789207	1602.88	ng		98
41)	m,p-Xylene	21.03	106	7153023	3202.96	ng		97
42)	o-Xylene	22.18	106	3524637	1619.65	ng		95
43)	Styrene	22.25	104	5995630	1586.34	ng		97
44)	Bromoform	23.19	173	4699838	1388.22	ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	3406981	1198.19	ng		99
47)	1,4-Dichloro-2-butene	23.17	75	813503	1329.26	ng		98
48)	4-Ethyltoluene	24.44	105	8912492	1551.07	ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	6810996m	1528.96	ng	#	67
50)	2-Chlorotoluene	24.65	91	8724683	1490.01	ng		99
51)	1,2,4-Trimethylbenzene	25.48	105	6772432	1452.59	ng		99
52)	1,3-Dichlorobenzene	26.42	146	5433868	1429.13	ng		96
53)	1,4-Dichlorobenzene	26.63	146	5648009	1430.43	ng		96
54)	1,2-Dichlorobenzene	27.39	146	4686133	1329.44	ng		96
55)	1,2,4-Trichlorobenzene	30.58	180	2755935	1135.30	ng		99
56)	Napthalene	31.12	128	2939930	1018.40	ng	#	93
57)	Hexachlorobutadiene	30.81	225	1951302	921.96	ng		100

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

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 08:47:26 2002
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.44min 2000.71ng

response 8912492

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	24.77#
0.00	0.00	0.00
0.00	0.00	0.00

Before (W.P.)

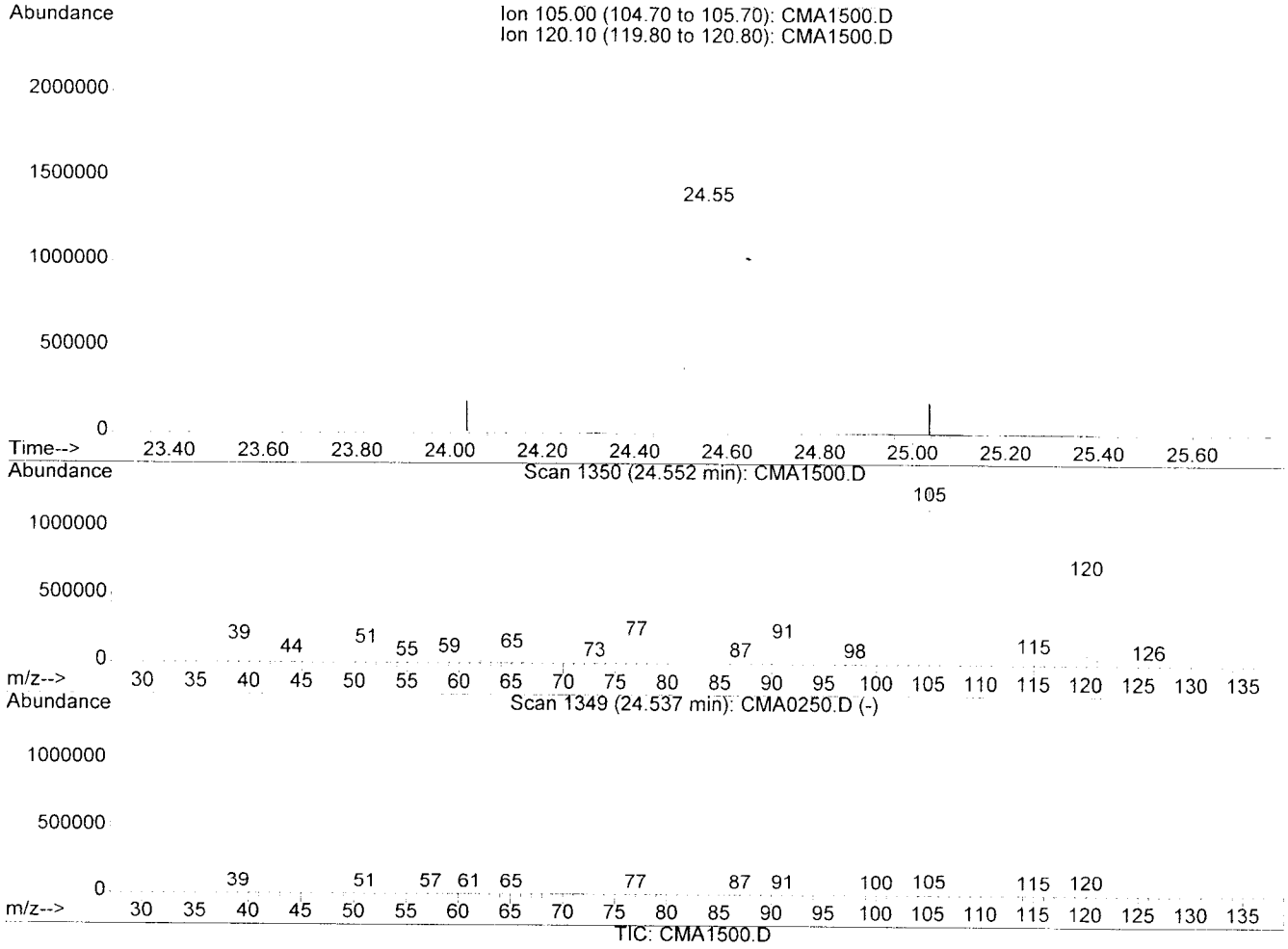
CMA1500.D TO14S.M Tue May 21 08:48:59 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D
Acq On : 20 May 2002 19:05
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MAB91ABK
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002

Vial: 5
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 08:47:26 2002
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.55min 1528.96ng m

response 6810996

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	32.42#
0.00	0.00	0.00
0.00	0.00	0.00

after BH 5/21/02

5-22-02

CMA1500.D TO14S.M Tue May 21 08:49:07 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D
Acq On : 20 May 2002 19:05
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MAB91ABK
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002

Vial: 5
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	384814	250.00	ng	-0.02 92.23%
26) 1,4-Difluorobenzene IS#2	13.29	114	1659953	250.00	ng	-0.02 97.19%
36) Chlorobenzene-d5 IS#3	20.62	117	1234109	250.00	ng	0.00 92.38%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	505438	259.64	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.86%						
32) Toluene-d8 SURR#2	16.85	98	1257252	244.19	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.68%						
46) 4-Bromofluorobenzene SURR#	23.78	95	1091145	240.32	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.13%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.71	85	3538177	1920.63	ng		99
3) Dichlorotetrafluoroethane	3.93	135	4007266	1772.31	ng	#	53
4) Chloromethane	4.21	50	1807253	1523.46	ng		95
5) Vinyl chloride	4.39	62	1921485	1692.99	ng		97
6) Bromomethane	5.25	94	2704264	1558.87	ng		99
7) Chloroethane	5.39	64	1413667	1774.89	ng		97
8) Trichlorofluoromethane	5.88	101	7613753	2225.87	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	5177281	1797.28	ng		83
10) 1,1-Dichloroethene	7.06	96	2636659	1655.05	ng		98
12) Methylene chloride	7.99	49	3470726	1648.08	ng		98
13) Carbon disulfide	8.10	76	7525988	1711.53	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	4266479	1659.17	ng		96
15) trans-1,2-Dichloroethene	8.59	96	3103467	1695.53	ng		97
16) n-Hexane	8.69	57	2825624	1672.55	ng	#	1
17) 1,1-Dichloroethane	9.42	63	5388402	1765.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	4423007	1786.05	ng		98
19) Chloroform	10.99	83	6791788	1734.65	ng		100
20) Isooctane	11.96	57	9085470	1621.86	ng		98
21) 1,1,1-Trichloroethane	11.85	97	6476682	1843.76	ng		92
22) Carbon tetrachloride	12.42	117	6721298	1845.72	ng		99
24) 1,2-Dichloroethane	12.70	62	3511462	1686.34	ng		98
25) 1,2-Dibromoethane	19.67	107	4643985	1491.91	ng		100
27) Benzene	12.78	78	7167425	1549.41	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

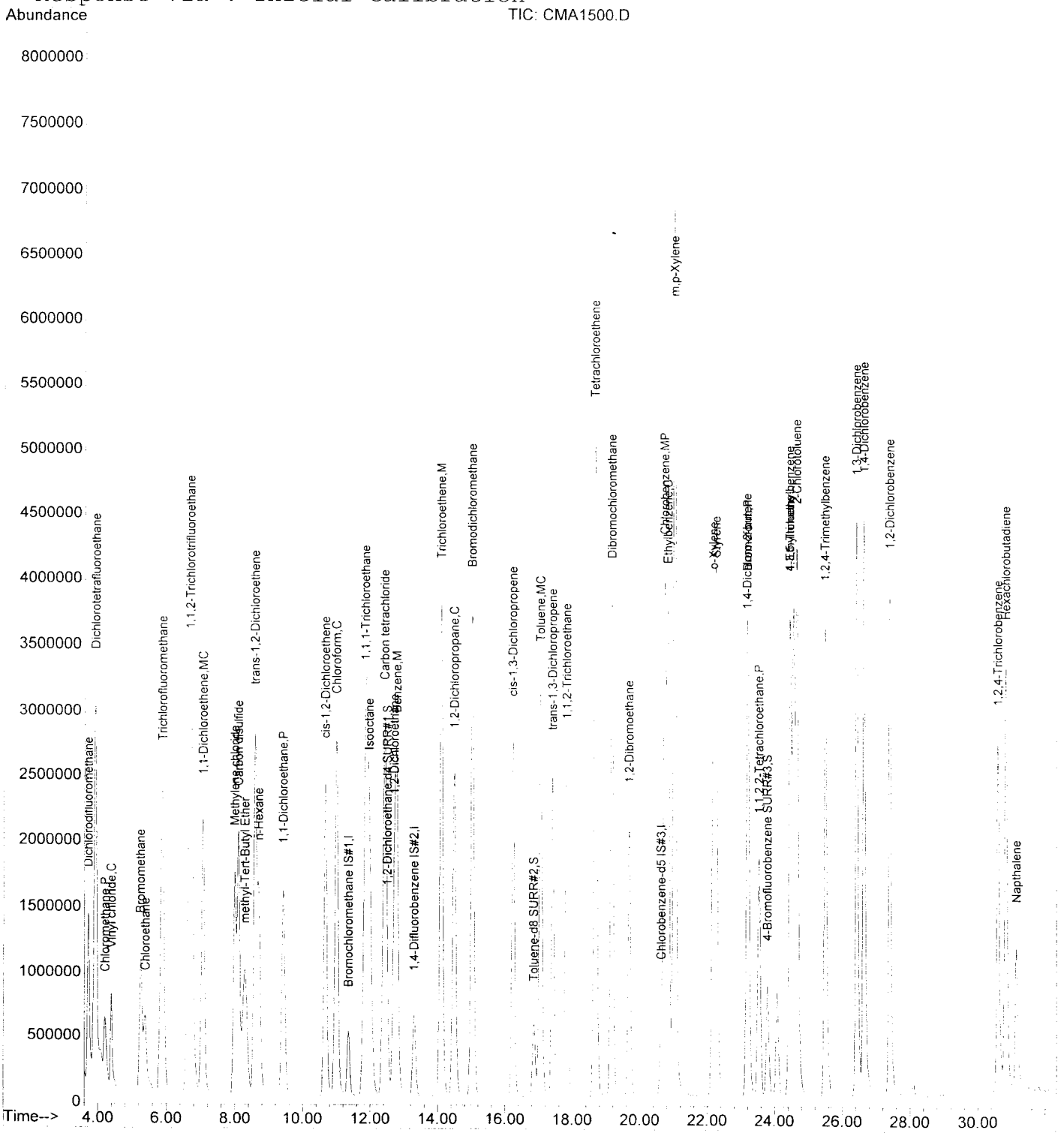
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.10	130	4129346	1602.35	ng		96
29)	1,2-Dichloropropane	14.49	63	3091310	1570.51	ng		97
30)	Bromodichloromethane	15.02	83	7968064	1584.43	ng		99
31)	cis-1,3-Dichloropropene	16.23	75	4903870	1584.00	ng		97
33)	Toluene	17.05	92	4832913	1593.69	ng		98
34)	trans-1,3-Dichloropropene	17.41	75	4032681	1531.76	ng		96
35)	1,1,2-Trichloroethane	17.83	97	2679218	1377.83	ng		97
37)	Tetrachloroethene	18.67	164	4172961	1708.88	ng		92
38)	Dibromochloromethane	19.16	127	5156431	1502.84	ng		97
39)	Chlorobenzene	20.73	112	6933813	1620.77	ng		95
40)	Ethylbenzene	20.82	106	2789207	1602.88	ng		98
41)	m,p-Xylene	21.03	106	7153023	3202.96	ng		97
42)	o-Xylene	22.18	106	3524637	1619.65	ng		95
43)	Styrene	22.25	104	5995630	1586.34	ng		97
44)	Bromoform	23.19	173	4699838	1388.22	ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	3406981	1198.19	ng		99
47)	1,4-Dichloro-2-butene	23.17	75	813503	1329.26	ng		98
48)	4-Ethyltoluene	24.44	105	8912492	1551.07	ng		92
49)	1,3,5-Trimethylbenzene	24.44	105	8912492	2000.71	ng	#	67
50)	2-Chlorotoluene	24.65	91	8724683	1490.01	ng		99
51)	1,2,4-Trimethylbenzene	25.48	105	6772432	1452.59	ng		99
52)	1,3-Dichlorobenzene	26.42	146	5433868	1429.13	ng		96
53)	1,4-Dichlorobenzene	26.63	146	5648009	1430.43	ng		96
54)	1,2-Dichlorobenzene	27.39	146	4686133	1329.44	ng		96
55)	1,2,4-Trichlorobenzene	30.58	180	2755935	1135.30	ng		99
56)	Napthalene	31.12	128	2939930	1018.40	ng	#	93
57)	Hexachlorobutadiene	30.81	225	1951302	921.96	ng		100

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 5-21-02
Batch MAB092 (1) 2 3
IS# 8 -MSW- 34 - 1
BFB 8 -MSW- 34 - 1

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- -

Method : (TO14) /8260AIR /8260WATER /624MOD
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

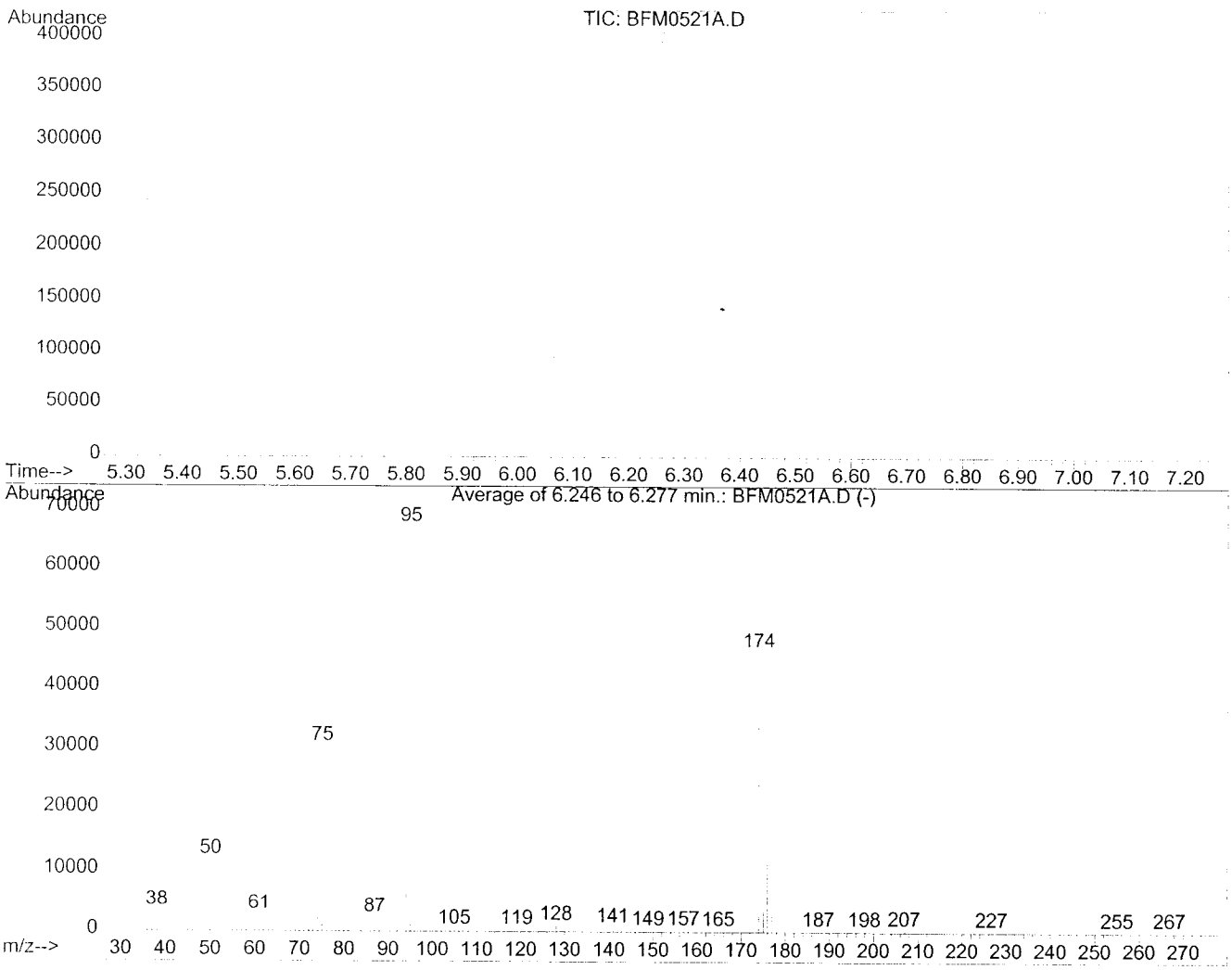
Maint. _____

TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS**	*INIT	COMMENTS
09:48	#13	BFBSTL	BFM0521A	50ppb			W	Yes		Daily 12hr. BFB tune check
10:08	14	TO14S.m	CM 0521A	750ng			W	Yes	BAH	Daily Cal Check / ~~BFB tune~~
11:02	15		M AB92A BK	ST						Daily Method Blank
11:36	16		M AB92 LCS	50ppb						Batch# 092 LCS
12:09	1		5132-4RR	ST,	✓✓	Y N	A (TO14)			500mls
12:44	1		-5R		✓	Y N				
13:18	1		QC067			Y N				QC can check #067 - passes
13:55	1		5175-1R		✓	Y N				
:	1		QC149			Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis
d relinquished sample(s) back to the sample storage refrigerator.
Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\BFM0521A.D Vial: 13
Acq On : 21 May 2002 9:48 am Operator: BDH
Sample : BFB050\ DAILY 12 HOUR TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14



Peak Apex is scan: 47 (6.26 min)
Average of 3 scans: 46,47,48 minus background scan 27 (5.95 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	11654	PASS
75	95	30	60	45.2	30291	PASS
95	95	100	100	100.0	66953	PASS
96	95	5	9	6.1	4052	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	69.0	46192	PASS
175	174	5	9	7.9	3658	PASS
176	174	95	101	100.0	46179	PASS
177	176	5	9	6.4	2955	PASS

BFM0521A.D TO14S.M Wed May 22 08:38:12 2002

Average of 6.246 to 6.277 min.: BFM0521A.D
BFB050\ DAILY 12 HOUR TUNE CHECK
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	725	56.05	902	75.05	30291	128.05	957
37.00	3074	57.05	1676	76.05	2411	140.90	624
38.05	3233	60.05	644	78.95	1199	142.80	401
39.05	1018	60.95	2648	80.90	1198	174.00	46192
44.05	980	61.95	2366	86.95	2173	175.00	3658
44.95	548	63.00	1833	87.95	2157	175.90	46179
47.00	846	64.00	374	92.00	1767	176.90	2955
48.00	566	68.00	6577	92.95	2385		
49.00	2715	69.00	5779	94.00	7465		
50.05	11654	73.00	2197	95.00	66953		
51.00	3576	74.00	9284	96.00	4052		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

BM 5/21/02 [illegible]

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	85	0.00
2		Dichlorodifluoromethane	1.560	1.554	0.4	83	0.00
3		Dichlorotetrafluoroethane	1.617	1.592	1.5	81	0.00
4	P	Chloromethane	0.783	0.688	12.1#	71	0.00
5	C	Vinyl chloride	0.793	0.772	2.6#	78	0.00
6		Bromomethane	1.138	1.158	-1.8	85	0.00
7		Chloroethane	0.543	0.560	-3.1#	82	0.00
8		Trichlorofluoromethane	3.075	3.313	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	2.020	2.223	-10.0#	92	0.00
10	MC	1,1-Dichloroethene	1.048	1.143	-9.1#	92	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.70#
12		Methylene chloride	1.389	1.508	-8.6#	87	0.00
13		Carbon disulfide	2.992	3.318	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	1.854	1.967	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	1.236	1.358	-9.9#	92	0.00
16		n-Hexane	1.141	1.219	-6.8#	95	0.00
17	P	1,1-Dichloroethane	2.126	2.326	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	1.733	1.909	-10.2#	91	0.00
19	C	Chloroform	2.734	3.022	-10.5#	92	0.00
20		Isooctane	3.807	4.118	-8.2#	87	0.00
21		1,1,1-Trichloroethane	2.613	2.961	-13.3#	95	0.00
22		Carbon tetrachloride	2.679	3.045	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.356	1.377	-1.5	85	0.00
24		1,2-Dichloroethane	1.454	1.583	-8.9#	87	0.00
25		1,2-Dibromoethane	1.967	2.107	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	88	0.00
27	M	Benzene	0.687	0.751	-9.3#	93	0.00
28	M	Trichloroethene	0.386	0.426	-10.4#	93	0.00
29	C	1,2-Dichloropropane	0.294	0.320	-8.8#	91	0.00
30		Bromodichloromethane	0.776	0.844	-8.8#	92	0.00
31		cis-1,3-Dichloropropene	0.470	0.515	-9.6#	91	0.00
32	S	Toluene-d8 SURR#2	0.765	0.765	0.0	87	0.00
33	MC	Toluene	0.462	0.500	-8.2#	91	0.00
34		trans-1,3-Dichloropropene	0.398	0.434	-9.0#	88	0.00
35		1,1,2-Trichloroethane	0.270	0.291	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.524	0.576	-9.9#	91	0.00
38		Dibromochloromethane	0.681	0.735	-7.9#	87	0.00
39	MP	Chlorobenzene	0.874	0.956	-9.4#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D
Acq On : 21 May 2002 10:08
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA092ABK 250ng
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.358	0.385		-7.5#	89	0.00
41		m,p-Xylene	0.460	0.513		-11.5#	89	0.00
42		o-Xylene	0.452	0.493		-9.1#	89	0.00
43		Styrene	0.774	0.851		-9.9#	87	0.00
44	P	Bromoform	0.662	0.721		-8.9#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	0.507	0.545		-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	0.939	0.948		-1.0	83	0.00
47		1,4-Dichloro-2-butene	0.114	0.123		-7.9#	80	0.00
48		4-Ethyltoluene	1.191	1.321		-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	0.887	1.090		-22.9#	88	0.00
50		2-Chlorotoluene	1.201	1.317		-9.7#	86	0.00
51		1,2,4-Trimethylbenzene	0.943	1.085		-15.1#	87	0.00
52		1,3-Dichlorobenzene	0.761	0.850		-11.7#	83	0.00
53		1,4-Dichlorobenzene	0.782	0.873		-11.6#	83	0.00
54		1,2-Dichlorobenzene	0.684	0.785		-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	0.435	0.550	L	-26.4#	84	0.00
56		Napthalene	0.460	0.564	L	-22.6#	87	0.00
57		Hexachlorobutadiene	0.381	0.491		-28.9#	77	0.00

see OCCE

(#) = Out of Range SPCC's out = 0 CCC's out = 6
CM0521A.D TO14S.M Tue May 21 10:42:54 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

#55, #56
for last 2 analyte (vinyl chloride) 5/21/02

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev (drift)	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	85	0.00
2		Dichlorodifluoromethane	250.000	248.908	0.4	83	0.00
3		Dichlorotetrafluoroethane	250.000	246.195	1.5	81	0.00
4	P	Chloromethane	250.000	219.708	12.1#	71	0.00
5	C	Vinyl chloride	250.000	243.509	2.6#	78	0.00
6		Bromomethane	250.000	254.511	-1.8	85	0.00
7		Chloroethane	250.000	258.091	-3.2#	82	0.00
8		Trichlorofluoromethane	250.000	269.374	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	275.152	-10.1#	92	0.00
10	MC	1,1-Dichloroethene	250.000	272.718	-9.1#	92	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.70#
12		Methylene chloride	250.000	271.420	-8.6#	87	0.00
13		Carbon disulfide	250.000	277.229	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	250.000	265.221	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	250.000	274.734	-9.9#	92	0.00
16		n-Hexane	250.000	267.221	-6.9#	95	0.00
17	P	1,1-Dichloroethane	250.000	273.541	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	250.000	275.380	-10.2#	91	0.00
19	C	Chloroform	250.000	276.393	-10.6#	92	0.00
20		Isooctane	250.000	270.427	-8.2#	87	0.00
21		1,1,1-Trichloroethane	250.000	283.278	-13.3#	95	0.00
22		Carbon tetrachloride	250.000	284.168	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.890	-1.6	85	0.00
24		1,2-Dichloroethane	250.000	272.240	-8.9#	87	0.00
25		1,2-Dibromoethane	250.000	267.778	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	88	0.00
27	M	Benzene	250.000	273.393	-9.4#	93	0.00
28	M	Trichloroethene	250.000	275.563	-10.2#	93	0.00
29	C	1,2-Dichloropropane	250.000	272.666	-9.1#	91	0.00
30		Bromodichloromethane	250.000	271.663	-8.7#	92	0.00
31		cis-1,3-Dichloropropene	250.000	273.664	-9.5#	91	0.00
32	S	Toluene-d8 SURR#2	250.000	250.177	-0.1	87	0.00
33	MC	Toluene	250.000	270.191	-8.1#	91	0.00
34		trans-1,3-Dichloropropene	250.000	272.338	-8.9#	88	0.00
35		1,1,2-Trichloroethane	250.000	269.506	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	274.820	-9.9#	91	0.00
38		Dibromochloromethane	250.000	269.861	-7.9#	87	0.00
39	MP	Chlorobenzene	250.000	273.364	-9.3#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D
Acq On : 21 May 2002 10:08
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA092ABK 250ng
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 2% Max. Rel. Area : 150%

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	268.818		-7.5#	89	0.00
41		m,p-Xylene	500.000	557.565		-11.5#	89	0.00
42		o-Xylene	250.000	272.877		-9.2#	89	0.00
43		Styrene	250.000	274.867		-9.9#	87	0.00
44	P	Bromoform	250.000	272.402		-9.0#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	268.843		-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	252.317		-0.9	83	0.00
47		1,4-Dichloro-2-butene	250.000	268.884		-7.6#	80	0.00
48		4-Ethyltoluene	250.000	277.261		-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	250.000	307.281		-22.9#	88	0.00
50		2-Chlorotoluene	250.000	274.123		-9.6#	86	0.00
51		1,2,4-Trimethylbenzene	250.000	287.815		-15.1#	87	0.00
52		1,3-Dichlorobenzene	250.000	279.334		-11.7#	83	0.00
53		1,4-Dichlorobenzene	250.000	278.985		-11.6#	83	0.00
54		1,2-Dichlorobenzene	250.000	287.000		-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	250.000	322.960	L	-29.2#	84	0.00
56		Napthalene	250.000	315.236	L	-26.1#	87	0.00
57		Hexachlorobutadiene	250.000	321.742		-28.7#	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	356653	250.00	ng	0.04 85.48%
26) 1,4-Difluorobenzene IS#2	13.37	114	1510179	250.00	ng	0.06 88.42%
36) Chlorobenzene-d5 IS#3	20.70	117	1145206	250.00	ng	0.07 85.72%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	491147	253.89	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.56%						
32) Toluene-d8 SURR#2	16.91	98	1155820	250.18	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.07%						
46) 4-Bromofluorobenzene SURR#	23.85	95	1085343	252.32	ng	0.09
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.93%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.74	85	554120	248.91	ng		99
3) Dichlorotetrafluoroethane	3.94	135	567873	246.20	ng	#	44
4) Chloromethane	4.23	50	245342	219.71	ng	#	95
5) Vinyl chloride	4.42	62	275487	243.51	ng		97
6) Bromomethane	5.29	94	413168	254.51	ng		96
7) Chloroethane	5.43	64	199874	258.09	ng		97
8) Trichlorofluoromethane	5.93	101	1181755	269.37	ng		98
9) 1,1,2-Trichlorotrifluoroet	6.73	151	792863	275.15	ng		84
10) 1,1-Dichloroethene	7.11	96	407641	272.72	ng		98
12) Methylene chloride	8.04	49	537763	271.42	ng		98
13) Carbon disulfide	8.15	76	1183224	277.23	ng		99
14) methyl-Tert-Butyl Ether	8.33	73	701466	265.22	ng		98
15) trans-1,2-Dichloroethene	8.63	96	484378	274.73	ng		95
16) n-Hexane	8.74	57	434787	267.22	ng	#	1
17) 1,1-Dichloroethane	9.47	63	829490	273.54	ng		99
18) cis-1,2-Dichloroethene	10.73	61	680916	275.38	ng		97
19) Chloroform	11.05	83	1077864	276.39	ng		100
20) Isooctane	12.01	57	1468727	270.43	ng		99
21) 1,1,1-Trichloroethane	11.91	97	1055990	283.28	ng		92
22) Carbon tetrachloride	12.48	117	1086170	284.17	ng		99
24) 1,2-Dichloroethane	12.76	62	564746	272.24	ng		99
25) 1,2-Dibromoethane	19.73	107	751578	267.78	ng		99
27) Benzene	12.84	78	1134770	273.39	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

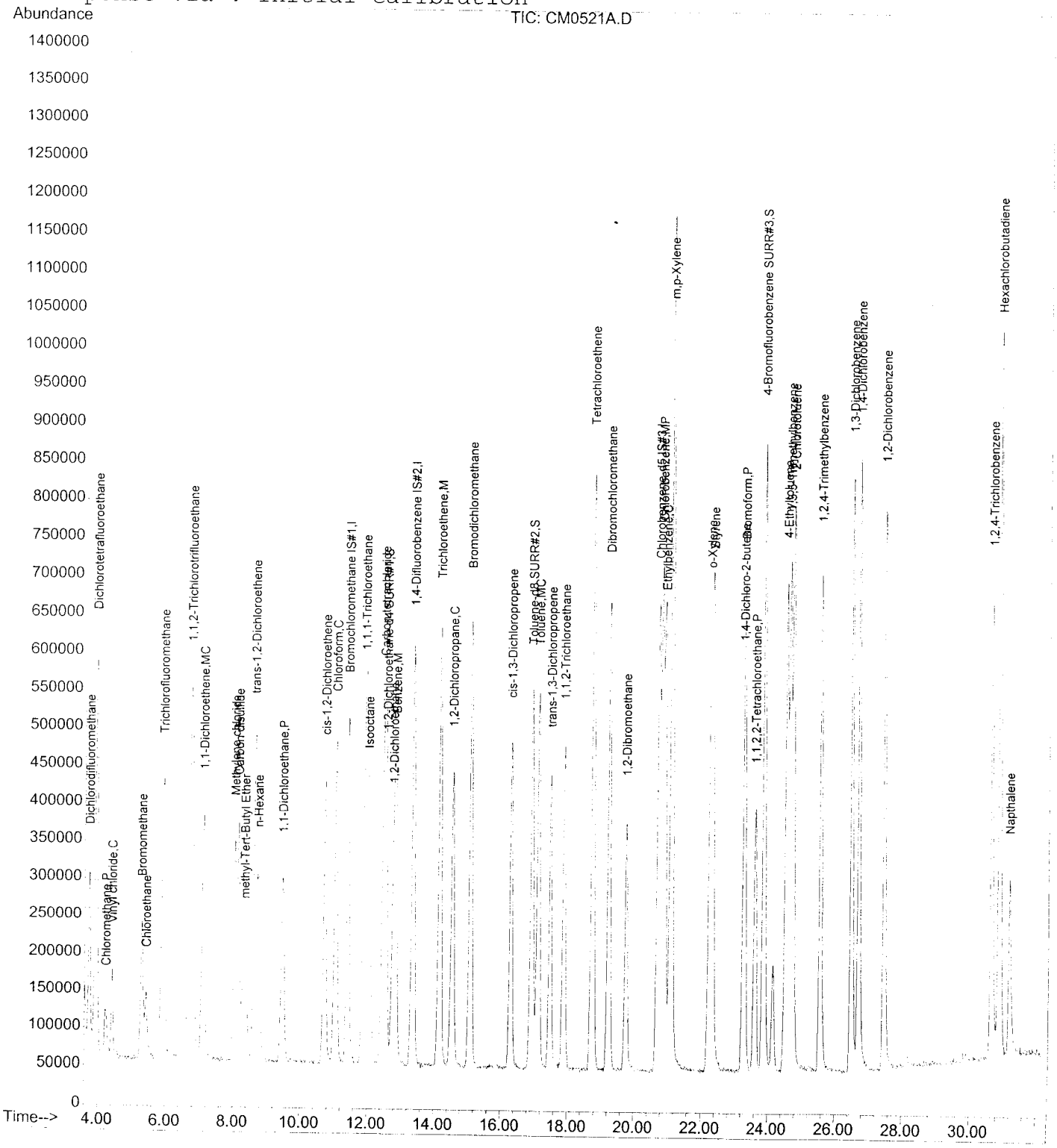
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	642924	275.56 ng		96
29)	1,2-Dichloropropane	14.53	63	483792	272.67 ng		95
30)	Bromodichloromethane	15.07	83	1274118	271.66 ng		100
31)	cis-1,3-Dichloropropene	16.29	75	777205	273.66 ng		96
33)	Toluene	17.11	92	754839	270.19 ng		99
34)	trans-1,3-Dichloropropene	17.47	75	655155	272.34 ng		95
35)	1,1,2-Trichloroethane	17.87	97	439075	269.51 ng		97
37)	Tetrachloroethene	18.72	164	659807	274.82 ng		91
38)	Dibromochloromethane	19.22	127	841340	269.86 ng		98
39)	Chlorobenzene	20.79	112	1095067	273.36 ng		96
40)	Ethylbenzene	20.90	106	440588	268.82 ng		100
41)	m,p-Xylene	21.08	106	1174700	557.56 ng		97
42)	o-Xylene	22.23	106	564456	272.88 ng		98
43)	Styrene	22.31	104	975010	274.87 ng		98
44)	Bromoform	23.26	173	825796	272.40 ng		99
45)	1,1,2,2-Tetrachloroethane	23.59	83	623794	268.84 ng		100
47)	1,4-Dichloro-2-butene	23.23	75	141004	268.88 ng		98
48)	4-Ethyltoluene	24.52	105	1512399	277.26 ng		92
49)	1,3,5-Trimethylbenzene	24.61	105	1248613	307.28 ng		93
50)	2-Chlorotoluene	24.72	91	1508500	274.12 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	1243102	287.81 ng		99
52)	1,3-Dichlorobenzene	26.47	146	973197	279.33 ng		97
53)	1,4-Dichlorobenzene	26.68	146	999316	278.98 ng		95
54)	1,2-Dichlorobenzene	27.44	146	899325	287.00 ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	630172	322.96 ng		100
56)	Napthalene	31.18	128	646249	315.24 ng	#	92
57)	Hexachlorobutadiene	30.89	225	562175	321.74 ng		100

(#) = qualifier out of range (m) = manual integration
CM0521A.D TO14S.M Wed May 22 08:41:13 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



CM0521A.D TO14S.M Wed May 22 08:41:14 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92ABK.D Vial: 15
Acq On : 21 May 2002 11:02 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 11:38 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	327818	250.00 ng	0.00 91.92%
26) 1,4-Difluorobenzene IS#2	13.36	114	1407692	250.00 ng	0.00 93.21%
36) Chlorobenzene-d5 IS#3	20.69	117	1036578	250.00 ng	0.00 90.51%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	451480	253.91 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.56%		
32) Toluene-d8 SURR#2	16.92	98	1062277	246.67 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.67%		
46) 4-Bromofluorobenzene SURR#	23.85	95	946065	242.99 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.20%		

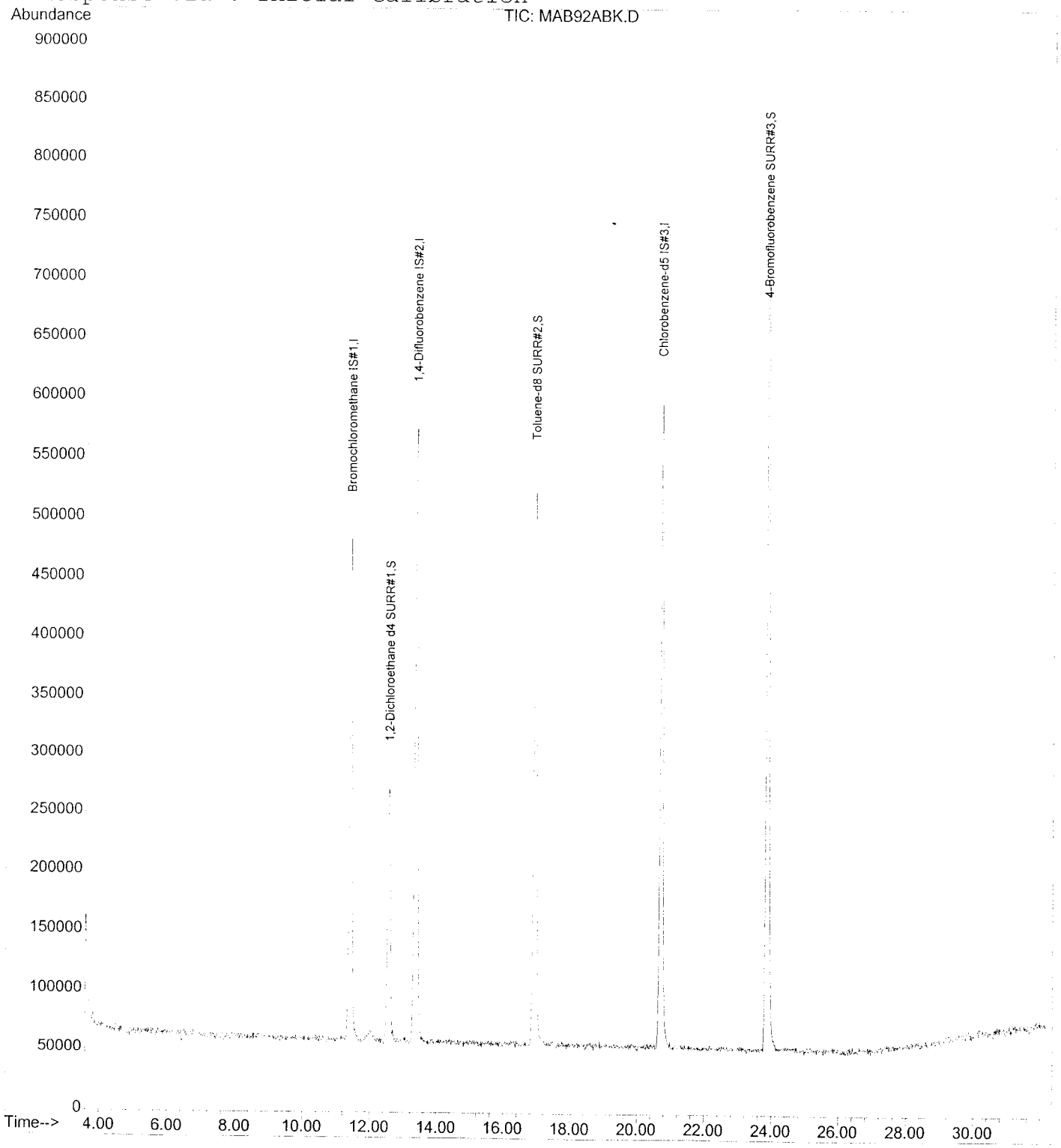
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB92ABK.D TO14S.M Wed May 22 08:42:07 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92ABK.D Vial: 15
Acq On : 21 May 2002 11:02 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 11:38 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	239.08	250.00	95.63	58 to 138%	[ ]
27)	M	Benzene	252.88	250.00	101.15	87 to 116%	[ ]
28)	M	Trichloroethene	255.74	250.00	102.29	85 to 116%	[ ]
33)	MC	Toluene	258.15	250.00	103.26	86 to 113%	[ ]
39)	MP	Chlorobenzene	255.34	250.00	102.13	88 to 111%	[ ]

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 12:12 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	410452	250.00 ng	0.01 115.08%
26) 1,4-Difluorobenzene IS#2	13.38	114	1694799	250.00 ng	0.01 112.22%
36) Chlorobenzene-d5 IS#3	20.70	117	1311586	250.00 ng	0.00 114.53%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	568505	255.36 ng	0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.14%					
32) Toluene-d8 SURR#2	16.94	98	1306748	252.03 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.81%					
46) 4-Bromofluorobenzene SURR#	23.85	95	1225320	248.72 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.49%					

Target Compounds

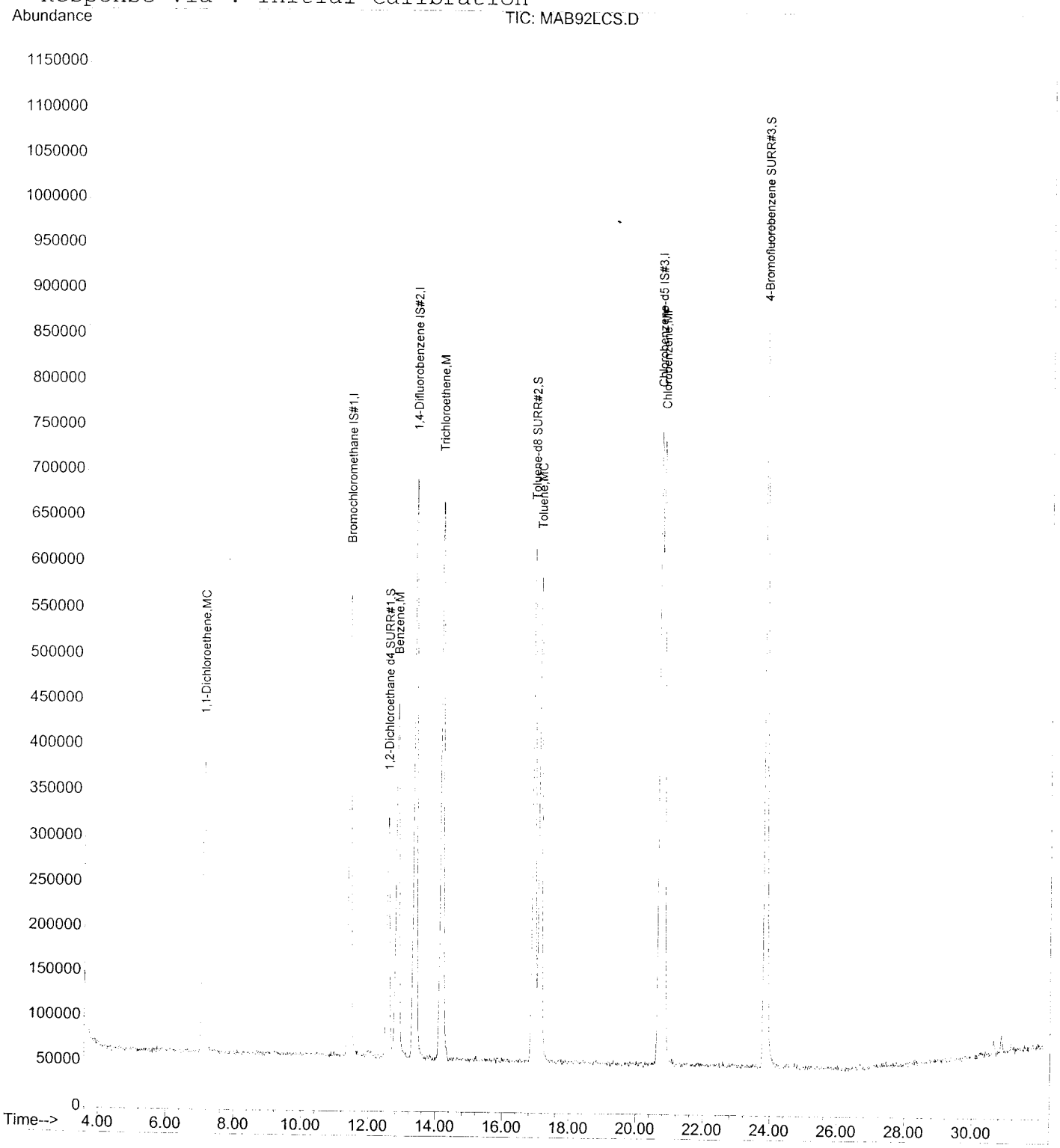
					Qvalue
10) 1,1-Dichloroethene	7.12	96	411262	239.08 ng	97
27) Benzene	12.85	78	1177953	252.88 ng	98
28) Trichloroethene	14.17	130	669611	255.74 ng	97
33) Toluene	17.12	92	809369	258.15 ng	98
39) Chlorobenzene	20.80	112	1171450	255.34 ng	88

(#) = qualifier out of range (m) = manual integration
MAB92LCS.D TO14S.M Wed May 22 08:42:50 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 12:12 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



MAB92LCS.D TO14S.M Wed May 22 08:42:51 2002 Page 2

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51751R.D
Acq On : 21 May 2002 13:55
Sample : 062SVEEA05060224\5175-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB092ABK
MS Integration Params: rteint.p
Quant Time: May 21 14:53 2002

Vial: 1
Operator: BDH
Inst : ~~MARILYN~~
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	376546	250.00	ng	-0.01 105.58%
26) 1,4-Difluorobenzene IS#2	13.34	114	1531654	250.00	ng	-0.03 101.42%
36) Chlorobenzene-d5 IS#3	20.65	117	1163869	250.00	ng	-0.04 101.63%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	505192	247.35	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.94%			
32) Toluene-d8 SURR#2	16.89	98	1184798	252.85	ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.14%			
46) 4-Bromofluorobenzene SURR#	23.81	95	1081899	247.48	ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.99%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
51751R.D TO14S.M Tue May 21 14:54:15 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51751R.D
Acq On : 21 May 2002 13:55
Sample : 062SVEEA05060224\5175-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB092ABK
MS Integration Params: rteint.p
Quant Time: May 21 14:28 2002

Vial: 1
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	376546	250.00	ng	-0.01 105.58%
26) 1,4-Difluorobenzene IS#2	13.34	114	1531654	250.00	ng	-0.03 101.42%
36) Chlorobenzene-d5 IS#3	20.65	117	1163869	250.00	ng	-0.04 101.63%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	505192	247.35	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.94%						
32) Toluene-d8 SURR#2	16.89	98	1184798	252.85	ng	-0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.14%						
46) 4-Bromofluorobenzene SURR#	23.81	95	1081899	247.48	ng	-0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.99%						

Target Compounds

						Qvalue
20) Isooctane	11.96	57	11372	1.98	ng	# 56
57) Hexachlorobutadiene	30.84	225	11077 <MDL	6.24	ng	# 77

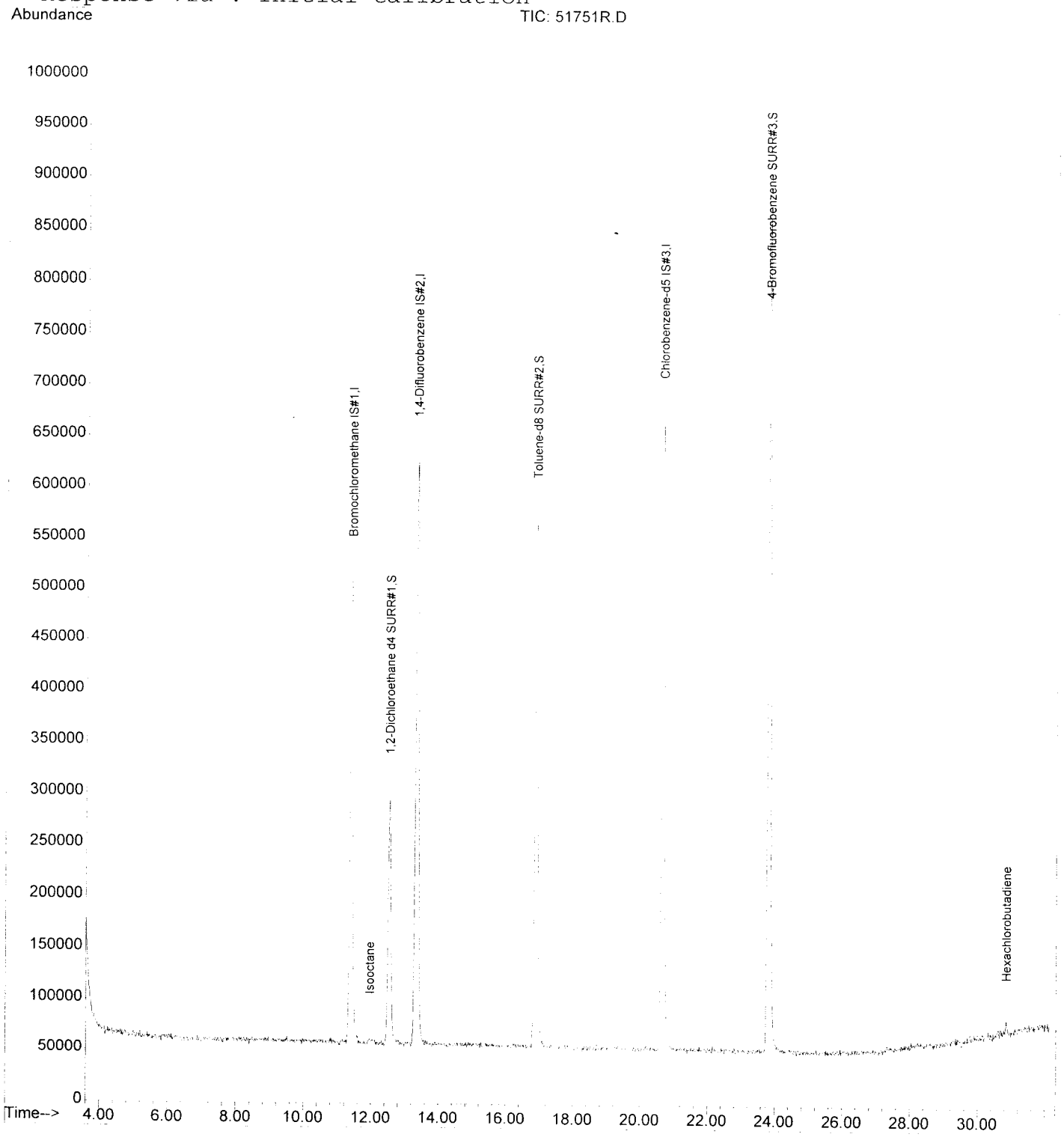
(#) = qualifier out of range (m) = manual integration
51751R.D TO14S.M Tue May 21 14:28:11 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51751R.D
Acq On : 21 May 2002 13:55
Sample : 062SVEEA05060224\5175-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB092ABK
MS Integration Params: rteint.p
Quant Time: May 21 14:28 2002

Vial: 1
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Iso-octane	B0110734	Accu STD	2000 µg/ml	11/16/01	12/31/02	5	8-VN 4-1
Custom 8260 short list	LA-95178	Supelco	5000 µg/ml	11/20/01	11/20/02	3	8-VN 4-2
Dichlorofluoroethane		Pall Memb.	99+ %				8-VN 4-3
ASAHIKLIN AK-225	NA	Pall Membrane	99+ %	12/18/01	12/18/02	1	8-VN 4-4
Custom TO14 STD mix	LB01782	Supelco	2500 µg/ml	1/7/02	1/2/03	4	8-VN 4-5
8260 IS	A21640	Restek	2500 µg/ml	3/7/02	4/05	10	8-VN 4-6
Vol's Mix 6	LB02915	Supelco	2000 µg/ml	3/21/02	5/03	3	8-VN 4-7
Freon 113	LB02646	Supelco	2000 µg/ml	3/21/02	2/05	2	8-VN 4-8
502/524 Mix	LB03048	Supelco	2000 µg/ml	3/21/02	5/04	3	8-VN 4-9
8260 Keytone	LA97428	Supelco	2000 2000 µg/ml	3/21/02	9/03	3	8-VN 4-10
Iodomethane	LB00103	Supelco	2000 µg/ml	3/21/02	12/02	3	8-VN 4-11
8260 Kit	Various	Restek	Various	3/21/02	Various	2	8-VN 4-12
Freon 113	A021343	Restek	2000 µg/ml	3/21/02	3/03	3	8-VN 4-13
VOA IS (TO14)	A018019	Restek	2500 µg/ml	3/21/02	3/05	3	8-VN 4-14
VOA Surr (TO14)	A021561	Restek	2500 µg/ml	3/21/02	4/06	2	8-VN 4-15
8260 Keytone	LB03079	Supelco	2000-2000 µg/ml	7/12	8/04	3	8-VN 4-16
Custom Mix	LB03455	Supelco	2000-4000 µg/ml	3/25	3/25/03	3	8-VN 4-17
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	DATE OPENED (# Ampules)	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83973	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA85600	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 (Not Open)	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Vitra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 Keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom Keytone Mix	A016258	Restek	2000/1000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/1000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90443	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016395	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90774	Supelco	2500 µg/ml	7/1/2001	4 (Stk 6/13/05)	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

* To be used if neat standard is to be kept after container is opened.

Run 75 4/13

001

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: 1014 IS/Surr
Date: 4-11-02
Analyst: BDH

Standard I.D.: 8 -MSW34- 1
Location: 6/MS Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN4-14 (IS)	A018019	3/05	2500 ug/ml	500 uls	50 mls	25 ppm
8-VN4-15 (Surr)	A021561	4/06	↓	↓	↓	↓

Comments: expires 10-11-02

Sol. Name: IS/ SURR
Date: 4-15-02
Analyst: [illegible]

Standard I.D.: 8 -MSW34- 2
Location: GC/MS Freezer MS018
Solvent: MeOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-21 (IS)	A018631	06/04	2500 ug/ml	500 ul	50 ml	25 ug/ml
8-VW2-1 (Surr)	A017474	08/04	2500 ug/ml	500 ul	50 ml	25 ug/ml

Comments: Expires 10-15-02

Sol. Name: Matrix Spike
Date: 4/16/02
Analyst: [illegible]

Standard I.D.: 8 -MSW34- 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
Custom Mix 8-VW-4-17	LB03455	3/03	2000	625	50	25 ug/ml
Iodomethane 8-VW-4-11	LB00103	12/02	↓	↓	↓	↓
M,X6 8-VW-3-14	LA99456	11/02				
502/504 8-VW-3-15	LA98534	10/03				
Freon 113 8-VW-3-13	LA99546	6/04				
Keytones 8-VW-3-16	LA97408	9/30/02		1250		

Comments: expires 9/30/02

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32- 1
Location: MS018-Std Freezer
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-017380	1/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 BH 2/5/02

Sol. Name: IS/Surr
Date: 2-18-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32-2
Location: MS018-Std Freezer
Solvent: MeOH Lot # V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 (IS)	A018631	06/04	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN3-1 (Surr)	A019474	08/04	↓	↓	↓	↓

Comments: Expires 8-18-02

Sol. Name: IS/SUMA
Date: 3/1/02
Analyst: [illegible]

Standard I.D.: 8-MSW32-3
Location: KAT - preexp
Solvent: V30E40 MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-21 IS	A018631	6/04	2500	500	10	125 µg/ml
8-VN-3-1 Surr	A019474	8/04	2500	500	10	

Comments: expires 9/1/02

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX - B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-UN2-21 (IS)~~						
~~8-UN3-1 (5~~						
8-UN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-79	LA89933	5/1/2003	1000	675	25 mls	75 ppm

Comments: Expires 6/20/02

Sol. Name: ASAHIKLIN AK-225 stock
Date: 12-28-01
Analyst: LM

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/18/02	1000 000	100	10	10 000

Comments: exp 6/28/02

Appendix C

Laboratory Analytical Reports for Groundwater Samples

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	8-31-01; 9:50 AM
Date Reported:	9-17-01
PEL Submission Number:	2108228
Project:	NAS Cecil Field

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
8021, 8310, FL PRO, and 6010

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Steve Tsangaris
Phone: (813) 874-0777

2-CH2M HILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

CCI NAVY RAC
SEP 18 2001

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2108228-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2108228	062DUPQ30115	N	210822810	062-DUP-Q3-01-15
Cecil Field	2108228	062DUPQ30115MS	MS	47307	062-DUP-Q3-01-15
Cecil Field	2108228	062DUPQ30115SD	SD	47308	062-DUP-Q3-01-15
Cecil Field	2108228	062EQBQ30115	EB	210822811	062-EQB-Q3-01-15
Cecil Field	2108228	062SMW01Q30115	N	210822801	062-SMW01-Q3-01-15
Cecil Field	2108228	062SMW02Q30115	N	210822802	062-SMW02-Q3-01-15
Cecil Field	2108228	062SMW03Q30115	N	210822803	062-SMW03-Q3-01-15
Cecil Field	2108228	062SMW04Q30115	N	210822804	062-SMW04-Q3-01-15
Cecil Field	2108228	062SMW05Q30115	N	210822805	062-SMW05-Q3-01-15
Cecil Field	2108228	062SMW06Q30115	N	210822806	062-SMW06-Q3-01-15
Cecil Field	2108228	062SMW07Q30115	N	210822807	062-SMW07-Q3-01-15
Cecil Field	2108228	062SMW10Q30115	N	210822808	062-SMW10-Q3-01-15
Cecil Field	2108228	062SMW11Q30115	N	210822809	062-SMW11-Q3-01-15
Cecil Field	2108228	062TBQ30115	TB	210822812	062-TB-Q3-01-15
Cecil Field	2108228	0904ABLK	MB	47340	0904ABLK
Cecil Field	2108228	0904ABLKMS	BS	47342	0904ABLK
Cecil Field	2108228	0904ABLKSD	BD	47343	0904ABLK
Cecil Field	2108228	0904ALCS	BS	47341	0904ALCS
Cecil Field	2108228	0905BLKW	MB	47397	0905BLKW
Cecil Field	2108228	0905BLKWMS	BS	47399	0905BLKW
Cecil Field	2108228	0905BLKWSD	BD	47400	0905BLKW
Cecil Field	2108228	0905LCS	BS	47398	0905LCS
Cecil Field	2108228	090801blk	MB	090801blk	090801blk
Cecil Field	2108228	090801lcs	BS	090801lcs	090801lcs
Cecil Field	2108228	47305BLK	MB	47305	47305BLK
Cecil Field	2108228	47306LCS	BS	47306	47306LCS

EXECUTIVE SUMMARY - Detection Highlights

2108228

SAMPLE ID: 062SMW01Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	15	3	ug/L	SW6010B
Ethylbenzene	0.55 JB	1	ug/L	SW8021
M,P-Xylene	1.2 JB	2	ug/L	SW8021

SAMPLE ID: 062SMW02Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	30	3	ug/L	SW6010B
Ethylbenzene	0.49 JB	1	ug/L	SW8021
M,P-Xylene	1.2 JB	2	ug/L	SW8021
Total Petroleum Hydroc	0.24 J	0.52	mg/L	FL-PRO

SAMPLE ID: 062SMW03Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	132	3	ug/L	SW6010B
Ethylbenzene	0.48 JB	1	ug/L	SW8021

SAMPLE ID: 062SMW04Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	59	3	ug/L	SW6010B
Ethylbenzene	0.47 JB	1	ug/L	SW8021
O-Xylene	0.71 J	1	ug/L	SW8021
Total Petroleum Hydroc	3.3	0.51	mg/L	FL-PRO

SAMPLE ID: 062SMW05Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD

EXECUTIVE SUMMARY - Detection Highlights

2108228

SAMPLE ID: 062SMW05Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	18	3	ug/L	SW6010B
Ethylbenzene	0.47 JB	1	ug/L	SW8021
Toluene	5.1	1	ug/L	SW8021
Total Petroleum Hydroc	0.49 J	0.52	mg/L	FL-PRO

SAMPLE ID: 062SMW06Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	248	3	ug/L	SW6010B
Ethylbenzene	0.51 JB	1	ug/L	SW8021

SAMPLE ID: 062SMW07Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	49	3	ug/L	SW6010B
Ethylbenzene	0.44 JB	1	ug/L	SW8021

SAMPLE ID: 062SMW10Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	16	3	ug/L	SW6010B
Ethylbenzene	0.47 JB	1	ug/L	SW8021

SAMPLE ID: 062SMW11Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Ethylbenzene	10 B	1	ug/L	SW8021
M,P-Xylene	15 B	2	ug/L	SW8021
O-Xylene	2.5	1	ug/L	SW8021

EXECUTIVE SUMMARY - Detection Highlights

2108228

SAMPLE ID: 062SMW11Q30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
1-Methylnaphthalene	4.2	0.22	ug/L	SW8310
2-Methylnaphthalene	0.74	0.22	ug/L	SW8310
Naphthalene	3.6	0.22	ug/L	SW8310
Total Petroleum Hydroc	20	1.5	mg/L	FL-PRO

SAMPLE ID: 062DUPQ30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Lead	3.4	3	ug/L	SW6010B
Ethylbenzene	0.6 JB	1	ug/L	SW8021
Toluene	5.6	1	ug/L	SW8021
Total Petroleum Hydroc	0.29 J	0.52	mg/L	FL-PRO

SAMPLE ID: 062EQBQ30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Ethylbenzene	0.52 JB	1	ug/L	SW8021

SAMPLE ID: 062TBQ30115

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Ethylbenzene	0.46 JB	1	ug/L	SW8021
M,P-Xylene	1.1 JB	2	ug/L	SW8021

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Level 3

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Organics

Organic Data Qualifiers

U	Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for the compound. The reporting limit can vary from sample to sample depending on the dilution factors or the percent moisture adjustment when indicated.
J	Indicates estimated value. It is used when the data indicates the presence of a compound above the MDL yet lower than the reporting limit.
B	Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.
E	Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.
D	Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution that required for accurate quantitation.
C	The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.
P	This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two values is reported on the Form 1 with a "P" code.
N	This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.
A	This qualifier indicates that a YIC is suspected aldol-condensation product.
M	This qualifier indicates that the compound is reported as a summation of analyte isomers.
X	Data flagged as rejected by analyst utilizing analytical judgment.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis is defined below:

DL — Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R — Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE — Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS — Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD — Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC VOLATILE ORGANICS

METHOD 8021

100901 1616

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8021 volatiles analysis.
All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. **Calibration:**

All acceptance criteria were met.

Initial calibration criteria are stated in SW-846 EPA method 8021. All analytes have a maximum percent RSD of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, if one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 20. In those instances, the average will be calculated and cited on the calibration forms.

Continuing Calibration criteria is stated in SW-846 EPA method 8021. All analytes have a maximum percent RSD of 15 with the exception of bromomethane, chloroethane, chloromethane, dichlorodifluoromethane, trichlorofluoromethane, and vinyl chloride which may have a percent RSD of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, If one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 20. In those instances, the average will be calculated and cited on the calibration forms.

B. **Blanks:**

Blank 090801blk analyzed with the water samples had Ethylbenzene and m,p-Xylene above the MDL but below the RL. All associated samples received the appropriate qualifier.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Samples (LCS)

One LCS was analyzed with the samples where all criteria were met for percent recovery.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client did not specify a sample to be spiked. Client sample, 062SMW01Q30115, was analyzed as an MS/SD where two out of 12 analytes did not meet the acceptance criteria for percent recovery. All criteria were met for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. All analytes were quantitated off of the PID detector.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Pelo **DATE:** 09/11/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Method: 8021

EPA Sample No	Lab Sample ID
062SMW01Q30115	210822801
062SMW02Q30115	210822802
062SMW03Q30115	210822803
062SMW04Q30115	210822804
062SMW05Q30115	210822805
062SMW06Q30115	210822806
062SMW07Q30115	210822807
062SMW10Q30115	210822808
062SMW11Q30115	210822809
062DUPQ30115	210822810
062EQBQ30115	210822811
062TBQ30115	210822812

Sample Data

100901 1616

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW01Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822801 Lab File ID 228-1.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 1452

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.55	JB
511-39-00	M,P-Xylene	1.2	JB
95-47-6	O-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW02Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822802 Lab File ID 228-2.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 1734

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.49	JB
511-39-00	M,P-Xylene	1.2	JB
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name:	PEL Laboratories, Inc.	Contract:	Cecil Field
		EPA Sample No.	062SMW03Q30115
Lab Code :	PEL	Case No.	
SAS No:		SDG No.:	2108228
Matrix:	WATER	Lab Sample ID	210822803
Lab File ID	228-3.D		
Sample wt/vol:	5	Units:	ML
Date Received:	08/31/01		
Concentrated Extract Volume:		Date Extracted:	
Level:(low/med)	LOW	Date Analyzed:	09/08/01
Time:	1828		
PercentSolids:	0	decanted :	
Dilution Factor:	1		
Extraction:	PURGETRAP	Station ID	CEF-103-SMW-0
Method:	8021		
GPC Cleanup : (Y/N)		pH:	
Column:	RTX-502.2	ID:	0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.48	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW04Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822804 Lab File ID 228-4.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 1921

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.47	JB JP
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	0.71	J

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW05Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822805 Lab File ID 228-5.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 2014

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	5.1	
100-41-4	Ethylbenzene	0.47	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW06Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822806 Lab File ID 228-6.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 2107

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.51	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

170901 1211

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW07Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822807 Lab File ID 228-7.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 2200

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-0 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.44	JB JP
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW10Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822808 Lab File ID 228-8.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 2253

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-1 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.47	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

170901 1211

Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW11Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822809 Lab File ID 228-9.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 2346

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-1 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	10	B
511-39-00	M,P-Xylene	15	B
95-47-6	O-Xylene	2.5	

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822810 Lab File ID 228-10.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/09/01 Time: 0225

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID Duplicate Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	5.6	
100-41-4	Ethylbenzene	0.6	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name:	PEL Laboratories, Inc.	Contract:	Cecil Field
		EPA Sample No.	062EQBQ30115
Lab Code :	PEL	Case No.	
SAS No:		SDG No.:	2108228
Matrix:	WATER	Lab Sample ID	210822811
Lab File ID	228-11.D		
Sample wt/vol:	5	Units:	ML
Date Received:	08/31/01		
Concentrated Extract Volume:		Date Extracted:	
Level:(low/med)	LOW	Date Analyzed:	09/09/01
Time:	0318		
PercentSolids:	0	decanted :	
Dilution Factor:	1		
Extraction:	PURGETRAP	Station ID	Equipment Blank
Method:	8021		
GPC Cleanup : (Y/N)		pH:	
Column:	RTX-502.2	ID:	0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.52	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TBQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822812 Lab File ID 228-12.D

Sample wt/vol: 5 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/09/01 Time: 0411

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID Trip Blank Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.46	JB
511-39-00	M,P-Xylene	1.1	JB
95-47-6	O-Xylene	1	U

QC Summary

100901 1616

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

090801blk

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 090801blk Lab File ID BLK2.D

Sample wt/vol: 5 Units: ML Date Received: 09/08/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/08/01 Time: 1358

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.59	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.58	J
511-39-00	M,P-Xylene	1.2	J
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 090801blk

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Lab File ID BLK2.D Lab Sample ID 090801blk

Instrument ID: vgc6 Date Extracted:

Matrix: WATER Date Analyzed: 09/08/01

Level:(low/med) LOW Time Analyzed: 1358

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	090801lcs	090801lcs	LCS2.D	09/08/01	1304
2	062SMW01Q30115	210822801	228-1.D	09/08/01	1452
3	062SMW01Q30115MS	210822801MS	228-1MS.D	09/08/01	1546
4	062SMW01Q30115SD	210822801SD	228-1SD.D	09/08/01	1640
5	062SMW02Q30115	210822802	228-2.D	09/08/01	1734
6	062SMW03Q30115	210822803	228-3.D	09/08/01	1828
7	062SMW04Q30115	210822804	228-4.D	09/08/01	1921
8	062SMW05Q30115	210822805	228-5.D	09/08/01	2014
9	062SMW06Q30115	210822806	228-6.D	09/08/01	2107
10	062SMW07Q30115	210822807	228-7.D	09/08/01	2200
11	062SMW10Q30115	210822808	228-8.D	09/08/01	2253
12	062SMW11Q30115	210822809	228-9.D	09/08/01	2346
13	062DUPQ30115	210822810	228-10.D	09/09/01	0225
14	062EQBQ30115	210822811	228-11.D	09/09/01	0318
15	062TBQ30115	210822812	228-12.D	09/09/01	0411

COMMENTS:

100901 1616

Form IV

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2108228

Column: RTX-502.2 ID: 0.53

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ30115	93.0						0
062EQBQ30115	93.7						0
062SMW01Q30115	96.7						0
062SMW01Q30115MS	98.0						0
062SMW01Q30115SD	97.0						0
062SMW02Q30115	91.0						0
062SMW03Q30115	94.3						0
062SMW04Q30115	91.0						0
062SMW05Q30115	98.7						0
062SMW06Q30115	94.3						0
062SMW07Q30115	95.3						0
062SMW10Q30115	95.0						0
062SMW11Q30115	96.0						0
062TBQ30115	93.3						0
090801blk	95.7						0
090801lcs	102.0						0

Control Limits

S1 = 4-Bromofluorobenzene 71 - 124

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

100901 1616

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Lab File ID (Standard): CCV66 Date Analyzed: 09/08/01

Instrument ID: VGC6 Time Analyzed: 1210

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	163911	15.58				
	UPPER LIMIT	327822	16.08				
	LOWER LIMIT	81956	15.08				
	CLIENT SAMPLE NO.						
01	090801LCS	157397	15.60				
02	090801BLK	152937	15.59				
03	062SMW01Q30115	153777	15.60				
04	062SMW01Q30115MS	156369	15.60				
05	062SMW01Q30115SD	160530	15.59				
06	062SMW02Q30115	153757	15.59				
07	062SMW03Q30115	153661	15.58				
08	062SMW04Q30115	161826	15.56				
09	062SMW05Q30115	152034	15.56				
10	062SMW06Q30115	144191	15.55				
11	062SMW07Q30115	148514	15.55				
12	062SMW10Q30115	146927	15.54				
13	062SMW11Q30115	147459	15.54				
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Lab File ID (Standard): CCV68 Date Analyzed: 09/09/01

Instrument ID: VGC6 Time Analyzed: 0132

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

	-	IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	149955	15.54				
	UPPER LIMIT	299910	16.04				
	LOWER LIMIT	74978	15.04				
	CLIENT SAMPLE NO.						
01	062DUPQ30115	152531	15.54				
02	062EQBQ30115	144981	15.54				
03	062TBQ30115	153782	15.53				
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 09/01/01

Instrument ID: VGC6

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 31.27 S2 : 30.67

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	500PPTCALSTD	500PPTCALSTD	09/01/01	0019	31.26	30.67
02	1PPBCALSTD	1PPBCALSTD	09/01/01	0205	31.25	30.67
03	2PPBCALSTD	2PPBCALSTD	09/01/01	0258	31.26	30.66
04	5PPBCALSTD	5PPBCALSTD	09/01/01	0351	31.26	30.67
05	10PPBCALSTD	10PPBCALSTD	09/01/01	0444	31.26	30.66
06	20PPBCALSTD	20PPBCALSTD	09/01/01	0537	31.26	30.66
07	30PPBCALSTD	30PPBCALSTD	09/01/01	0630	31.26	30.66
08	40PPBCALSTD	40PPBCALSTD	09/01/01	0723	31.26	30.66
09	50PPBCALSTD	50PPBCALSTD	09/01/01	0816	31.26	30.67
10	100PPBCALSTD	100PPBCALSTD	09/01/01	0910	31.28	30.69
11	090801CCV66	090801CCV66	09/08/01	1210	31.29	
12	090801LCS	090801LCS	09/08/01	1304	31.30	
13	090801BLK	090801BLK	09/08/01	1358	31.30	
14	062SMW01Q30115	210822801	09/08/01	1452	31.31	
15	062SMW01Q30115MS	210822801MS	09/08/01	1546	31.31	
16	062SMW01Q30115SD	210822801SD	09/08/01	1640	31.30	
17	062SMW02Q30115	210822802	09/08/01	1734	31.30	
18	062SMW03Q30115	210822803	09/08/01	1828	31.28	
19	062SMW04Q30115	210822804	09/08/01	1921	31.26	
20	062SMW05Q30115	210822805	09/08/01	2014	31.25	
21	062SMW06Q30115	210822806	09/08/01	2107	31.25	
22	062SMW07Q30115	210822807	09/08/01	2200	31.24	
23	062SMW10Q30115	210822808	09/08/01	2253	31.24	
24	062SMW11Q30115	210822809	09/08/01	2346	31.24	
25	090801CCV68	090801CCV68	09/09/01	0132	31.23	
26	062DUPQ30115	210822810	09/09/01	0225	31.24	
27	062EQBQ30115	210822811	09/09/01	0318	31.23	
28	062TBQ30115	210822812	09/09/01	0411	31.23	
29	090801CCV610	090801CCV610	09/09/01	0557	31.23	
30						
31						
32						

QC LIMITS
S1 = 4-bromofluorobenzene (+/- 0.20 MINUTES)
S2 = 1,4-dichlorobutane (+/- 0.20 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 090801lcs

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Benzene	10	9	90.0	86 - 117
MTBE	10	10	103.0	61 - 138
Toluene	10	9.8	98.0	87 - 118
Ethylbenzene	10	11	109.0	84 - 119
M,P-Xylene	20	23	116.5	86 - 119
O-Xylene	10	10	101.0	87 - 119

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

100901 1616

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062SMW01Q30115MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
Benzene	10	0	7.2	72.0 *	82 - 122
MTBE	10	0	9.2	92.0	67 - 137
Toluene	10	0	8.1	81.0	80 - 124
Ethylbenzene	10	0.55	10	96.0	79 - 123
M,P-Xylene	20	1.2	20	92.0	82 - 122
O-Xylene	10	0	8.7	87.0	81 - 124

Spike Recovery: 1 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

100901 1616

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062SMW01Q30115SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	7.5	75.0 *	4.1	12	82 - 122
MTBE	10	9.5	95.0	3.2	15	67 - 137
Toluene	10	8.2	82.0	1.2	14	80 - 124
Ethylbenzene	10	11	100.0	9.5	18	79 - 123
M,P-Xylene	20	20	94.0	0	19	82 - 122
O-Xylene	10	9	90.0	3.4	16	81 - 124

RPD 0 out of 6 outside limits

Spike Recovery: 1 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

100901 1616

Standards Data

100901 1616

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

LAB FILE ID: RF0.5: 500PPTR RF1: 1PPBR RF2: 2PPB
RF5: 5PPB RF10: 10PPB

COMPOUND	RF0.5	RF1	RF2	RF5	RF10
Benzene	2.461	2.050	2.681	2.592	2.254
MTBE	0.854	0.678	1.016	1.002	0.874
Toluene		1.665	2.316	2.156	2.007
Ethylbenzene		2.095	1.255	1.206	1.767
m,p-xylene			2.401	2.237	1.913
o-xylene		1.784	1.986	1.879	1.618
4-bromofluorobenzene		1.906	1.106	1.132	1.538

Calibration Criteria Is Stated In Narrative

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

LAB FILE ID: RF20: 20PPB RF30: 30PPB RF40: 40PPB
RF50: 50PPB RF100: 100PPB

COMPOUND	RF20	RF30	RF40	RF50	RF100
Benzene	2.048	2.059	1.987	1.978	1.958
MTBE	0.838	0.812	0.788	0.792	0.778
Toluene	1.811	1.838	1.769	1.758	1.746
Ethylbenzene	1.604	1.633	1.587	1.575	1.579
m,p-xylene	1.727	1.787	1.728	1.704	1.706
o-xylene	1.503	1.543	1.488	1.472	1.492
4-bromofluorobenzene	1.491	1.550	1.522	1.519	

Calibration Criteria Is Stated In Narrative

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Benzene	AVRG	2.20701336	12.4
MTBE	AVRG	0.84332528	12.2
Toluene	AVRG	1.89643798	11.5
Ethylbenzene	AVRG	1.58909201	16.5
m,p-xylene	AVRG	1.90030390	14.2
o-xylene	AVRG	1.64050258	11.8
4-bromofluorobenzene	AVRG	1.47059846	17.3

Calibration Criteria Is Stated In Narrative

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

LAB FILE ID: RT1: 500PPTR RT2: 1PPBR RT3: 2PPB
RT4: 5PPB RT5: 10PPB

COMPOUND	RT1	RT2	RT3	RT4	RT5
Benzene	15.123	15.117	15.123	15.120	15.120
MTBE	10.423	10.427	10.433	10.420	10.420
Toluene		20.543	20.553	20.550	20.550
Ethylbenzene		26.873	26.877	26.877	26.873
m,p-xylene			27.193	27.190	27.190
o-xylene		28.923	28.923	28.923	28.920
4-bromofluorobenzene		31.253	31.257	31.257	31.257

COMMENTS:

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

LAB FILE ID: RT6: 20PPB RT7: 30PPB RT8: 40PPB
RT9: 50PPB RT10: 100PPB

COMPOUND	RT6	RT7	RT8	RT9	RT10
Benzene	15.117	15.117	15.117	15.117	15.130
MTBE	10.420	10.423	10.420	10.427	10.437
Toluene	20.547	20.550	20.543	20.553	20.570
Ethylbenzene	26.880	26.877	26.877	26.880	26.903
m,p-xylene	27.190	27.190	27.190	27.197	27.217
o-xylene	28.923	28.923	28.920	28.927	28.950
4-bromofluorobenzene	31.257	31.257	31.257	31.260	

COMMENTS:

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/01/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0910

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Benzene	15.120	14.917	15.317
MTBE	10.425	10.227	10.627
Toluene	20.551	20.343	20.743
Ethylbenzene	26.880	26.673	27.073
m,p-xylene	27.195	26.993	27.393
o-xylene	28.926	28.723	29.123
4-bromofluorobenzene	31.257	31.070	31.470

COMMENTS:

FORM VI VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/08/01 Time: 1210

Lab File ID: CCV66 Init. Calib. Date: 09/01/01

Heated Purge: (Y/N) N Init. Calib. Time: 0910

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	2.20701	2.01596	N/A	8.6	15.0
MTBE	0.84332	0.81092	N/A	3.8	15.0
Toluene	1.89643	1.78143	N/A	6.1	15.0
Ethylbenzene	1.58909	1.61818	N/A	1.8	15.0
m,p-xylene	1.90030	1.77883	N/A	6.4	15.0
o-xylene	1.64050	1.47686	N/A	10.0	15.0
4-bromofluorobenzene	1.47060	1.42849	N/A	2.9	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/09/01 Time: 0132

Lab File ID: CCV68 Init. Calib. Date: 09/01/01

Heated Purge: (Y/N) N Init. Calib. Time: 0910

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	2.20701	2.04693	N/A	7.2	15.0
MTBE	0.84332	0.82439	N/A	2.2	15.0
Toluene	1.89643	1.80329	N/A	4.9	15.0
Ethylbenzene	1.58909	1.64344	N/A	3.4	15.0
m,p-xylene	1.90030	1.78944	N/A	5.8	15.0
o-xylene	1.64050	1.48469	N/A	9.5	15.0
4-bromofluorobenzene	1.47060	1.51918	N/A	3.3	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: VGC6 Calibration Date: 09/09/01 Time: 0557

Lab File ID: CCV610 Init. Calib. Date: 09/01/01

Heated Purge: (Y/N) N Init. Calib. Time: 0910

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	2.20701	2.04407	N/A	7.4	15.0
MTBE	0.84332	0.79023	N/A	6.3	15.0
Toluene	1.89643	1.79659	N/A	5.3	15.0
Ethylbenzene	1.58909	1.62991	N/A	2.6	15.0
m,p-xylene	1.90030	1.77778	N/A	6.4	15.0
o-xylene	1.64050	1.46659	N/A	10.6	15.0
4-bromofluorobenzene	1.47060	1.41387	N/A	3.8	15.0

FORM VII VOA

HPLC PAH ORGANICS

METHOD 8310

130901 1437

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

Initial calibration criteria is stated in SW-846 EPA method 8310. All analytes have a maximum percent RSD of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, if one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 15. In those instances, the average will be calculated and cited on the calibration forms.

Calibration verification criteria is stated in SW-846 EPA method 8000. All analytes have a maximum percent D of 15. As per SW-846 EPA method 8000; Section 7.7, if one or more of the analytes exceed the maximum percent D the average percent D may be used provided the average is less than or equal to 15. In those instances, the average will be calculated and cited on the calibration forms.

B. Blanks:

There was one blank analyzed associated with the water samples and was non-detect for target parameters.

C. Surrogates:

All surrogate recoveries met acceptable criteria for the water samples with the exception of Terphenyl-d14 in sample 062SMW03Q30115, which fell below criteria. This sample was reanalyzed with similar results and only the original analysis is reported.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

D. Spikes:

Laboratory Control Spikes (LCS)

One LCS, 0904ALCS, was analyzed with the water samples where Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Fluorene, Anthracene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Benzo(g,h,I)perylene and Pyrene fell below acceptable criteria based on limits as stated in the project instructions. All criteria would have met PEL historical in house limits.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

One reagent MS/SD set was analyzed with the water samples, where all criteria were met for relative percent difference, however 35 out of 36 analytes did not meet criteria for percent recovery based on limits as stated in the project instructions. All criteria would have met PEL historical in house limits. Please see the appropriate form IIIs for a listing of analytes that did not meet criteria.

E. Internal standards:

All internal standard criteria were met for the water samples.

F. Samples:

Sample analysis proceeded normally. Project specific RLs were used per client request.
The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2-Methyl Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.
The following analytes were quantified by the ADC detector: Anthracene, Naphthalene, and Dibenz(a,h)anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 9-14-01

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Method: 8310

EPA Sample No	Lab Sample ID
062SMW01Q30115	210822801
062SMW02Q30115	210822802
062SMW03Q30115	210822803
062SMW04Q30115	210822804
062SMW05Q30115	210822805
062SMW06Q30115	210822806
062SMW07Q30115	210822807
062SMW10Q30115	210822808
062SMW11Q30115	210822809
062DUPQ30115	210822810
062EQBQ30115	210822811

130901 1437

Sample Data

130901 1437

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW01Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822801 Lab File ID 228-1.D

Sample wt/vol: 960 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1107

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW02Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822802 Lab File ID 228-2.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1141

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW03Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822803 Lab File ID 228-3.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1216

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062SMW04Q30115

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2108228
Matrix: WATER
Lab Sample ID 210822804
Lab File ID 228-4.D
Sample wt/vol: 960
Units: ML
Date Received: 08/31/01
Concentrated Extract Volume: 1
Date Extracted: 09/04/01
Level:(low/med) LOW
Date Analyzed: 09/05/01
Time: 1250
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column: Vydac 201TP54
ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062SMW05Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822805 Lab File ID 228-5.D

Sample wt/vol: 960 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1325

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW06Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822806 Lab File ID 228-6.D

Sample wt/vol: 925 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 2216

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW07Q30115

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code: PEL
Case No.:
SAS No:
SDG No.: 2108228
Matrix: WATER
Lab Sample ID: 210822807
Lab File ID: 228-7.D
Sample wt/vol: 970
Units: ML
Date Received: 08/31/01
Concentrated Extract Volume: 1
Date Extracted: 09/04/01
Level:(low/med) LOW
Date Analyzed: 09/05/01
Time: 1434
PercentSolids: 0
decanted:
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup: (Y/N) N
pH:
Column: Vydac 201TP54
ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062SMW10Q30115

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code: PEL
Case No.:
SAS No:
SDG No.: 2108228
Matrix: WATER
Lab Sample ID: 210822808
Lab File ID: 228-8.D
Sample wt/vol: 960
Units: ML
Date Received: 08/31/01
Concentrated Extract Volume: 1
Date Extracted: 09/04/01
Level:(low/med) LOW
Date Analyzed: 09/05/01
Time: 1509
PercentSolids: 0
decanted:
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310
GPC Cleanup: (Y/N) N
pH:
Column: Vydac 201TP54
ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW11Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822809 Lab File ID 228-9.D

Sample wt/vol: 925 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1543

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-1 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	3.6	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	4.2	
91-57-6	2-Methylnaphthalene	0.74	
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822810 Lab File ID 228-10.D

Sample wt/vol: 925 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1813

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Duplicate Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822811 Lab File ID 228-11.D

Sample wt/vol: 900 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1923

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Equipment Blank Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

130901 1437

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 0904ABLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 47340 Lab File ID 0904AB.D

Sample wt/vol: 1000 Units: ML Date Received: 09/04/01

Concentrated Extract Volume: 1 Date Extracted: 09/04/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 1957

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID QC Method: 8310

GPC Cleanup: (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0904ABLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Lab File ID 0904AB.D Lab Sample ID 47340

Instrument ID: slc01 Date Extracted: 09/04/01

Matrix: WATER Date Analyzed: 09/05/01

Level:(low/med) LOW Time Analyzed: 1957

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	062SMW01Q30115	210822801	228-1.D	09/05/01	1107
2	062SMW02Q30115	210822802	228-2.D	09/05/01	1141
3	062SMW03Q30115	210822803	228-3.D	09/05/01	1216
4	062SMW04Q30115	210822804	228-4.D	09/05/01	1250
5	062SMW05Q30115	210822805	228-5.D	09/05/01	1325
6	062SMW07Q30115	210822807	228-7.D	09/05/01	1434
7	062SMW10Q30115	210822808	228-8.D	09/05/01	1509
8	062SMW11Q30115	210822809	228-9.D	09/05/01	1543
9	062DUPQ30115	210822810	228-10.D	09/05/01	1813
10	062EQBQ30115	210822811	228-11.D	09/05/01	1923
11	0904ALCS	47341	0904ALCS.D	09/05/01	2032
12	0904ABLKMS	47342	0904ABMS.D	09/05/01	2106
13	0904ABLKSD	47343	0904ABMD.D	09/05/01	2141
14	062SMW06Q30115	210822806	228-6.D	09/05/01	2216

COMMENTS:

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2108228

Column: Vydac 201TP54 ID: 4.6

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ30115	44.9						0
062EQBQ30115	36.0						0
062SMW01Q30115	47.6						0
062SMW02Q30115	52.4						0
062SMW03Q30115	13.6 *	Reanalyzed					1
062SMW04Q30115	38.9						0
062SMW05Q30115	62.5						0
062SMW06Q30115	50.9						0
062SMW07Q30115	60.7						0
062SMW10Q30115	51.4						0
062SMW11Q30115	53.7						0
0904ABLK	42.0						0
0904ABLKMS	54.5						0
0904ABLKSD	52.5						0
0904ALCS	61.5						0

Control Limits

S1 = Terphenyl-d14 17 - 130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

130901 1437

FORM 8
PAH ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

GC Column: VYDAC 201TP54 ID: 4.60 (mm) Init. Calib. Date: 07/17/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.28

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	RT	#
01	30UGML	30STD1144	07/17/01	2045	18.28			
02	20UGML	20STD1145	07/17/01	2120	18.27			
03	15UGML	15STD1146	07/17/01	2154	18.28			
04	10UGML	10STD1147	07/17/01	2229	18.28			
05	5UGML	5STD1148	07/17/01	2304	18.29			
06	0.2UGML	PT2STD1149	07/17/01	2338	18.29			
07	ZZZZZ	ZZZZZ	09/05/01	0957	18.31			
08	15STD2427	15STD2427	09/05/01	1032	18.29			
09	062SMW01Q30115	210822801	09/05/01	1107	18.25			
10	062SMW02Q30115	210822802	09/05/01	1141	18.25			
11	062SMW03Q30115	210822803	09/05/01	1216	18.26			
12	062SMW04Q30115	210822804	09/05/01	1250	18.26			
13	062SMW05Q30115	210822805	09/05/01	1325	18.25			
14	ZZZZZ	ZZZZZ	09/05/01	1400	18.24			
15	062SMW07Q30115	210822807	09/05/01	1434	18.24			
16	062SMW10Q30115	210822808	09/05/01	1509	18.26			
17	062SMW11Q30115	210822809	09/05/01	1543	18.24			
18	062DUPQ30115	210822810	09/05/01	1813	18.28			
19	15STD2427	15STD2427	09/05/01	1848	18.28			
20	062EQBQ30115	210822811	09/05/01	1923	18.28			
21	0904ABLK	47340	09/05/01	1957	18.25			
22	0904ALCS	47341	09/05/01	2032	18.25			
23	0904ABLKMS	47342	09/05/01	2106	18.26			
24	0904ABLKMSD	47343	09/05/01	2141	18.25			
25	062SMW06Q30115	210822806	09/05/01	2216	18.26			
26	ZZZZZ	ZZZZZ	09/05/01	2250	18.27			
27	ZZZZZ	ZZZZZ	09/05/01	2325	18.24			
28	ZZZZZ	ZZZZZ	09/05/01	2359	18.27			
29	ZZZZZ	ZZZZZ	09/06/01	0034	18.27			
30	15STD2427	15STD2427	09/06/01	0109	18.27			
31	ZZZZZ	ZZZZZ	09/06/01	0143	18.26			
32	ZZZZZ	ZZZZZ	09/06/01	0218	18.27			

QC LIMITS
S1 = p-Terphenyl-d14 (SURR) (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PAH

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0904ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.1	51.0 *	60 - 140
Acenaphthylene	10	6	60.0	60 - 140
1-Methylnaphthalene	10	5.9	59.0 *	60 - 140
2-Methylnaphthalene	10	5.1	51.0 *	60 - 140
Acenaphthene	10	5.3	53.0 *	60 - 140
Fluorene	10	5.9	59.0 *	60 - 140
Phenanthrene	10	6.2	62.0	60 - 140
Anthracene	10	5.8	58.0 *	60 - 140
Fluoranthene	10	6.5	65.0	60 - 140
Pyrene	10	6.6	66.0	60 - 140
Benzo(a)anthracene	10	6.6	66.0	60 - 140
Chrysene	10	6.8	68.0	60 - 140
Benzo(b)fluoranthene	10	6.2	62.0	60 - 140
Benzo(k)fluoranthene	10	5.8	58.0 *	60 - 140
Benzo(a)pyrene	10	6.3	63.0	60 - 140
Dibenz(a,h)anthracene	10	4.2	42.0 *	60 - 140
Benzo(g,h,i)perylene	10	4.7	47.0 *	60 - 140
Indeno(1,2,3-cd)pyrene	10	4.7	47.0 *	60 - 140

Spike Recovery: 10 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

130901 1437

Form III

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

0904ABLKMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	4.1	41.0 *	60 - 140
Acenaphthylene	10	0	4.9	49.0 *	60 - 140
1-Methylnaphthalene	10	0	4.9	49.0 *	60 - 140
2-Methylnaphthalene	10	0	4.6	46.0 *	60 - 140
Acenaphthene	10	0	4.9	49.0 *	60 - 140
Fluorene	10	0	5.1	51.0 *	60 - 140
Phenanthrene	10	0	5.3	53.0 *	60 - 140
Anthracene	10	0	5	50.0 *	60 - 140
Fluoranthene	10	0	5.8	58.0 *	60 - 140
Pyrene	10	0	5.6	56.0 *	60 - 140
Benzo(a)anthracene	10	0	5.9	59.0 *	60 - 140
Chrysene	10	0	6.1	61.0	60 - 140
Benzo(b)fluoranthene	10	0	5.1	51.0 *	60 - 140
Benzo(k)fluoranthene	10	0	5	50.0 *	60 - 140
Benzo(a)pyrene	10	0	5.3	53.0 *	60 - 140
Dibenz(a,h)anthracene	10	0	3	30.0 *	60 - 140
Benzo(g,h,i)perylene	10	0	3.2	32.0 *	60 - 140
Indeno(1,2,3-cd)pyrene	10	0	3.6	36.0 *	60 - 140

Spike Recovery: 17 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

130901 1437

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

0904ABLKSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	4.3	43.0 *	4.8	51	60 - 140
Acenaphthylene	10	5.1	51.0 *	4	30	60 - 140
1-Methylnaphthalene	10	5	50.0 *	2	30	60 - 140
2-Methylnaphthalene	10	4.6	46.0 *	0	30	60 - 140
Acenaphthene	10	4.8	48.0 *	2.1	30	60 - 140
Fluorene	10	5	50.0 *	2	30	60 - 140
Phenanthrene	10	5.1	51.0 *	3.8	30	60 - 140
Anthracene	10	4.8	48.0 *	4.1	30	60 - 140
Fluoranthene	10	5.6	56.0 *	3.5	30	60 - 140
Pyrene	10	5.4	54.0 *	3.6	30	60 - 140
Benzo(a)anthracene	10	5.7	57.0 *	3.4	30	60 - 140
Chrysene	10	5.8	58.0 *	5	30	60 - 140
Benzo(b)fluoranthene	10	4.8	48.0 *	6.1	30	60 - 140
Benzo(k)fluoranthene	10	4.5	45.0 *	10.5	30	60 - 140
Benzo(a)pyrene	10	4.9	49.0 *	7.8	30	60 - 140
Dibenz(a,h)anthracene	10	3.2	32.0 *	6.5	30	60 - 140
Benzo(g,h,i)perylene	10	3.4	34.0 *	6.1	30	60 - 140
Indeno(1,2,3-cd)pyrene	10	3.4	34.0 *	5.7	30	60 - 140

RPD: 0 out of 18 outside limits

Spike Recovery: 18 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

130901 1437

Standards Data

130901 1437

6A

PAH ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 07/17/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2338

LAB FILE ID: RRF0.2=PT2UGML.D RRF5 =5UGML.D
RRF10 =10UGML.D RRF15 =15UGML.D RRF20 =20UGML.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20	$\overline{RRF}$	% RSD
Naphthalene	0.014	0.013	0.012	0.013	0.013		
Acenaphthylene	0.009	0.009	0.009	0.009	0.009		
1-Methyl naphthalene	0.007	0.008	0.008	0.008	0.008		
2-Methyl naphthalene	0.013	0.012	0.011	0.011	0.011		
Acenaphthene	0.005	0.005	0.005	0.005	0.005		
Fluorene	0.061	0.059	0.059	0.060	0.059		
Phenanthrene	0.172	0.153	0.152	0.154	0.151		
Anthracene	0.042	0.033	0.036	0.038	0.038		
Fluoranthene	0.040	0.038	0.038	0.038	0.037		
Pyrene	0.032	0.031	0.032	0.032	0.032		
Benzo(a)Anthracene	0.102	0.090	0.090	0.092	0.090		
Chrysene	0.145	0.137	0.135	0.137	0.135		
Benzo(b)Fluoranthene	0.091	0.100	0.101	0.102	0.100		
Benzo(k)Fluoranthene	0.061	0.072	0.073	0.074	0.071		
Benzo(a)pyrene	0.074	0.091	0.092	0.094	0.091		
Dibenz(ah)Anthracene	0.024	0.025	0.024	0.024	0.023		
Benzo(ghi)Perylene	0.239	0.260	0.264	0.271	0.267		
Indeno(123cd)Pyrene	0.072	0.083	0.086	0.088	0.088		
p-Terphenyl-d14 (SURR)	0.036	0.036	0.035	0.036	0.035		

Calibration Criteria Is Stated In Narrative

FORM VI SV-1

6A

PAH ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 07/17/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2338

LAB FILE ID: RRF30 =30UGML.D

COMPOUND	RRF30					$\overline{RRF}$	% RSD
Naphthalene	0.012					0.0128	5.9
Acenaphthylene	0.009					0.0090	2.9
1-Methyl naphthalene	0.008					0.0078	4.9
2-Methyl naphthalene	0.011					0.0115	6.6
Acenaphthene	0.005					0.0050	3.1
Fluorene	0.059					0.0595	1.7
Phenanthrene	0.149					0.1552	5.5
Anthracene	0.039					0.0377	8.0
Fluoranthene	0.037					0.0380	2.9
Pyrene	0.032					0.0318	1.2
Benzo(a)Anthracene	0.090					0.0923	5.5
Chrysene	0.133					0.1370	3.1
Benzo(b)Fluoranthene	0.100					0.0990	4.0
Benzo(k)Fluoranthene	0.072					0.0705	6.6
Benzo(a)pyrene	0.091					0.0888	8.3
Dibenz(ah)Anthracene	0.022					0.0237	3.6
Benzo(ghi)Perylene	0.268					0.2615	4.5
Indeno(123cd)Pyrene	0.087					0.0840	7.5
p-Terphenyl-d14 (SURR)	0.035					0.0355	1.4

Calibration Criteria Is Stated In Narrative

FORM VI SV-1

FORM 6
PAH INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 07/17/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2338

LAB FILE ID: RT1: PT2UGML RT2: 5UGML RT3: 10UGML
RT4: 15UGML RT5: 20UGML

COMPOUND	RT1	RT2	RT3	RT4	RT5
Naphthalene	11.497	11.493	11.497	11.493	11.490
(2)	11.548	11.568	11.571	11.570	11.570
Acenaphthylene	12.727	12.733	12.733	12.733	12.730
1-Methyl naphthalene	13.367	13.373	13.370	13.373	13.370
(2)	13.451	13.451	13.451	13.448	13.447
2-Methyl naphthalene	13.713	13.707	13.703	13.707	13.700
(2)	13.788	13.783	13.783	13.783	13.780
Acenaphthene	14.043	14.053	14.050	14.050	14.047
(2)	14.120	14.126	14.126	14.125	14.125
Fluorene	14.393	14.397	14.393	14.397	14.390
(2)	14.461	14.471	14.473	14.472	14.470
Phenanthrene	15.193	15.193	15.193	15.197	15.190
(2)	15.273	15.271	15.273	15.272	15.268
Anthracene	15.990	15.991	15.988	15.987	15.985
Fluoranthene	16.747	16.740	16.737	16.740	16.733
Pyrene	17.280	17.280	17.273	17.277	17.273
(2)	17.358	17.355	17.353	17.353	17.352
Benzo(a)Anthracene	19.067	19.063	19.057	19.060	19.053
(2)	19.148	19.140	19.138	19.162	19.170
Chrysene	19.460	19.453	19.447	19.450	19.440
(2)	19.540	19.531	19.526	19.527	19.522
Benzo(b)Fluoranthene	20.887	20.880	20.873	20.877	20.870
(2)	20.971	20.958	20.956	20.955	20.952
Benzo(k)Fluoranthene	21.537	21.520	21.510	21.510	21.563
(2)	21.613	21.598	21.591	21.590	21.647
Benzo(a)pyrene	22.120	22.113	22.103	22.107	22.230
(2)	22.205	22.195	22.188	22.187	22.315
Dibenz(ah)Anthracene	23.367	23.157	23.143	23.133	23.283
(2)	23.258	23.240	23.226	23.217	23.367
Benzo(ghi)Perylene	23.938	23.928	23.920	23.910	24.025
Indeno(123cd)Pyrene	24.303	24.290	24.280	24.270	24.377
p-Terphenyl-d14 (SURR)	18.287	18.287	18.280	18.283	18.273
(2)	18.366	18.363	18.360	18.362	18.378

COMMENTS:

FORM VI PAH

FORM 6
PAH INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 07/17/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2338

RT6: 30UGML

COMPOUND	RT6	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.470	11.490	11.263	11.723
(2)	11.546	11.562	11.263	11.723
Acenaphthylene	12.717	12.729	12.503	12.963
1-Methyl naphthalene	13.363	13.369	13.143	13.603
(2)	13.436	13.447	13.143	13.603
2-Methyl naphthalene	13.697	13.705	13.477	13.937
(2)	13.771	13.781	13.477	13.937
Acenaphthene	14.040	14.047	13.820	14.280
(2)	14.116	14.123	13.820	14.280
Fluorene	14.387	14.393	14.167	14.627
(2)	14.464	14.469	14.167	14.627
Phenanthrene	15.187	15.192	14.967	15.427
(2)	15.266	15.271	14.967	15.427
Anthracene	15.983	15.987	15.680	16.140
Fluoranthene	16.733	16.738	16.510	16.970
Pyrene	17.270	17.275	17.047	17.507
(2)	17.368	17.357	17.047	17.507
Benzo(a)Anthracene	19.057	19.060	18.830	19.290
(2)	19.191	19.158	18.830	19.290
Chrysene	19.440	19.448	19.220	19.680
(2)	19.519	19.528	19.220	19.680
Benzo(b)Fluoranthene	20.870	20.876	20.647	21.107
(2)	20.949	20.957	20.647	21.107
Benzo(k)Fluoranthene	21.500	21.523	21.280	21.740
(2)	21.581	21.603	21.280	21.740
Benzo(a)pyrene	22.097	22.128	21.877	22.337
(2)	22.179	22.211	21.877	22.337
Dibenz(ah)Anthracene	23.120	23.201	22.903	23.363
(2)	23.201	23.251	22.903	23.363
Benzo(ghi)Perylene	23.903	23.937	23.597	24.057
Indeno(123cd)Pyrene	24.257	24.296	24.040	24.500
p-Terphenyl-d14 (SURR)	18.277	18.281	18.053	18.513
(2)	18.398	18.371	18.053	18.513

COMMENTS:

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 09/05/01 Time: 1032

Lab File ID: CCV1B Init. Calib. Date: 07/17/01

Init. Calib. Time: 2338

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0128	0.0125	0.000	2.3	15.0
Acenaphthylene	0.0090	0.0087	0.000	3.3	15.0
1-Methyl naphthalene	0.0078	0.0077	0.000	1.3	15.0
2-Methyl naphthalene	0.0115	0.0109	0.000	5.2	15.0
Acenaphthene	0.0050	0.0046	0.000	8.0	15.0
Fluorene	0.0595	0.0575	0.000	3.4	15.0
Phenanthrene	0.1552	0.1473	0.000	5.1	15.0
Anthracene	0.0377	0.0390	0.000	-3.4	15.0
Fluoranthene	0.0380	0.0374	0.000	1.6	15.0
Pyrene	0.0318	0.0313	0.000	1.6	15.0
Benzo(a)Anthracene	0.0923	0.0886	0.000	4.0	15.0
Chrysene	0.1370	0.1355	0.000	1.1	15.0
Benzo(b)Fluoranthene	0.0990	0.0999	0.000	-0.9	15.0
Benzo(k)Fluoranthene	0.0705	0.0705	0.000	0.0	15.0
Benzo(a)pyrene	0.0888	0.0899	0.000	-1.2	15.0
Dibenz(ah)Anthracene	0.0237	0.0224	0.000	5.5	15.0
Benzo(ghi)Perylene	0.2615	0.2647	0.000	-1.2	15.0
Indeno(123cd)Pyrene	0.0840	0.0836	0.000	0.5	15.0
p-Terphenyl-d14 (SURR)	0.0355	0.0349	0.000	1.7	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 09/05/01 Time: 1848

Lab File ID: CCV2 Init. Calib. Date: 07/17/01

Init. Calib. Time: 2338

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0128	0.0126	0.000	1.6	15.0
Acenaphthylene	0.0090	0.0086	0.000	4.4	15.0
1-Methyl naphthalene	0.0078	0.0078	0.000	0.0	15.0
2-Methyl naphthalene	0.0115	0.0110	0.000	4.3	15.0
Acenaphthene	0.0050	0.0047	0.000	6.0	15.0
Fluorene	0.0595	0.0579	0.000	2.7	15.0
Phenanthrene	0.1552	0.1483	0.000	4.4	15.0
Anthracene	0.0377	0.0375	0.000	0.5	15.0
Fluoranthene	0.0380	0.0373	0.000	1.8	15.0
Pyrene	0.0318	0.0300	0.000	5.7	15.0
Benzo(a)Anthracene	0.0923	0.0893	0.000	3.2	15.0
Chrysene	0.1370	0.1355	0.000	1.1	15.0
Benzo(b)Fluoranthene	0.0990	0.1003	0.000	-1.3	15.0
Benzo(k)Fluoranthene	0.0705	0.0704	0.000	0.1	15.0
Benzo(a)pyrene	0.0888	0.0901	0.000	-1.5	15.0
Dibenz(ah)Anthracene	0.0237	0.0213	0.000	10.1	15.0
Benzo(ghi)Perylene	0.2615	0.2686	0.000	-2.7	15.0
Indeno(123cd)Pyrene	0.0840	0.0829	0.000	1.3	15.0
p-Terphenyl-d14 (SURR)	0.0355	0.0348	0.000	2.0	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SLC01 Calibration Date: 09/06/01 Time: 0109

Lab File ID: CCV3 Init. Calib. Date: 07/17/01

Init. Calib. Time: 2338

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0128	0.0132	0.000	-3.1	15.0
Acenaphthylene	0.0090	0.0085	0.000	5.6	15.0
1-Methyl naphthalene	0.0078	0.0078	0.000	0.0	15.0
2-Methyl naphthalene	0.0115	0.0110	0.000	4.3	15.0
Acenaphthene	0.0050	0.0047	0.000	6.0	15.0
Fluorene	0.0595	0.0578	0.000	2.8	15.0
Phenanthrene	0.1552	0.1479	0.000	4.7	15.0
Anthracene	0.0377	0.0372	0.000	1.3	15.0
Fluoranthene	0.0380	0.0373	0.000	1.8	15.0
Pyrene	0.0318	0.0302	0.000	5.0	15.0
Benzo(a)Anthracene	0.0923	0.0888	0.000	3.8	15.0
Chrysene	0.1370	0.1347	0.000	1.7	15.0
Benzo(b)Fluoranthene	0.0990	0.0998	0.000	-0.8	15.0
Benzo(k)Fluoranthene	0.0705	0.0700	0.000	0.7	15.0
Benzo(a)pyrene	0.0888	0.0892	0.000	-0.4	15.0
Dibenz(ah)Anthracene	0.0237	0.0210	0.000	11.4	15.0
Benzo(ghi)Perylene	0.2615	0.2576	0.000	1.5	15.0
Indeno(123cd)Pyrene	0.0840	0.0817	0.000	2.7	15.0
p-Terphenyl-d14 (SURR)	0.0355	0.0350	0.000	1.4	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

GC FL-PRO ORGANICS

METHOD FL-PRO

130901 1404

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

The FLPRO standards correspond to the following calibration files for TPH concentration at the instrument level:
CAL1= 0.034mg/mL
CAL2=0.17mg/mL
CAL3=0.84mg/mL
CAL4=1.7mg/mL
CAL5=2.55mg/mL
CAL6=5.1mg/mL
CAL7=6.8mg/mL

B. Blanks:

There was one blank analyzed associated with the water samples and was non-detect for target parameters.

C. Surrogates:

All surrogate criteria was met for the water samples.

D. Spikes:

Laboratory Control Spikes (LCS)

One LCS, 0905LCS, was analyzed with the water samples where all criteria were met.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2108228

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

One reagent MS/SD set was analyzed with the water samples, and met all acceptance criteria for relative percent difference and percent recovery.

E. Internal standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. There was an apparent retention time shift in samples API0109-MW4, API0109-FD, and CCV2SV2812. The data was analyzed carefully and all of the peaks were positively identified. All other samples and QC had retention times similar to the curve and the range could be identified properly; therefore analysis continued and the data was reported. Project specific RLs were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ DATE: 9-14-01

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Method: FL-PRO

EPA Sample No	Lab Sample ID
062SMW01Q30115	210822801
062SMW02Q30115	210822802
062SMW03Q30115	210822803
062SMW04Q30115	210822804
062SMW05Q30115	210822805
062SMW06Q30115	210822806
062SMW07Q30115	210822807
062SMW10Q30115	210822808
062SMW11Q30115	210822809
062DUPQ30115	210822810
062EQBQ30115	210822811

130901 1404

Sample Data

130901 1404

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW01Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822801 Lab File ID 228-01.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 2154

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW02Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822802 Lab File ID 228-02.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/05/01 Time: 2227

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.24	J

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW03Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822803 Lab File ID 228-03.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0009

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW04Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822804 Lab File ID 228-04.D

Sample wt/vol: 980 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 1757

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	3.3	

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW05Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822805 Lab File ID 228-05.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0118

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.49	J

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW06Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822806 Lab File ID 228-06.D

Sample wt/vol: 980 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0153

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.51	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW07Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822807 Lab File ID 228-07.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0226

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW10Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822808 Lab File ID 228-08.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0301

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-103-SMW-1 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062SMW11Q30115

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2108228
Matrix: WATER
Lab Sample ID 210822809
Lab File ID 228-09D3.D
Sample wt/vol: 970
Units: ML
Date Received: 08/31/01
Concentrated Extract Volume: 2
Date Extracted: 09/05/01
Level:(low/med) LOW
Date Analyzed: 09/12/01
Time: 1718
PercentSolids: 0
decanted :
Dilution Factor: 3
Extraction: SEPF
Station ID CEF-103-SMW-1
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column: RTX-5
ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	20	

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822810 Lab File ID 228-10.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Duplicate Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.29	J

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822811 Lab File ID 228-11.D

Sample wt/vol: 970 Units: ML Date Received: 08/31/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/06/01 Time: 0442

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Equipment Blank Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.52	U

QC Summary

130901 1404

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0905BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 47397 Lab File ID 0905BLKW.D

Sample wt/vol: 1000 Units: ML Date Received: 09/05/01

Concentrated Extract Volume: 2 Date Extracted: 09/05/01

Level:(low/med) LOW Date Analyzed: 09/12/01 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID QC Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column: RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: mg/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	Total Petroleum Hydrocarbons	0.5	U

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0905BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2108228

Lab File ID 0905BLKW.D Lab Sample ID 47397

Instrument ID: sfid02 Date Extracted: 09/05/01

Matrix: WATER Date Analyzed: 09/12/01

Level:(low/med) LOW Time Analyzed: 1528

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0905BLKWMS	47399	0905MS.D	09/05/01	1828
2	0905BLKWSD	47400	0905MSD.D	09/05/01	1903
3	062SMW01Q30115	210822801	228-01.D	09/05/01	2154
4	062SMW02Q30115	210822802	228-02.D	09/05/01	2227
5	062SMW03Q30115	210822803	228-03.D	09/06/01	0009
6	062SMW05Q30115	210822805	228-05.D	09/06/01	0118
7	062SMW06Q30115	210822806	228-06.D	09/06/01	0153
8	062SMW07Q30115	210822807	228-07.D	09/06/01	0226
9	062SMW10Q30115	210822808	228-08.D	09/06/01	0301
10	062DUPQ30115	210822810	228-10.D	09/06/01	0408
11	062EQBQ30115	210822811	228-11.D	09/06/01	0442
12	062SMW04Q30115	210822804	228-04.D	09/06/01	1757
13	0905LCS	47398	0905LCS.D	09/12/01	1602
14	062SMW11Q30115	210822809	228-09D3.D	09/12/01	1718

COMMENTS:

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2108228

Column: RTX-5 ID: 0.53

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ30115	89.0	62.9					0
062EQBQ30115	110.0	85.5					0
062SMW01Q30115	120.0	116.1					0
062SMW02Q30115	90.0	95.2					0
062SMW03Q30115	85.0	83.9					0
062SMW04Q30115	86.0	70.5					0
062SMW05Q30115	120.0	93.5					0
062SMW06Q30115	110.0	78.7					0
062SMW07Q30115	93.0	69.4					0
062SMW10Q30115	92.0	74.2					0
062SMW11Q30115	120.0	64.5					0
0905BLKW	110.0	66.7					0
0905BLKWMS	110.0	85.0					0
0905BLKWSD	110.0	81.7					0
0905LCS	120.0	75.0					0

		Control Limits
S1	= O-Terphenyl	82 - 142
S1	= O-Terphenyl	0 - 142
S2	= C39	42 - 193
S2	= C39	0 - 193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

130901 1404

FORM 8
FL-PRO ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 08/28/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 10.38 S2 : 4.74

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	CAL7SV2692	CAL7SV2692	08/27/01	2301	10.43	4.74
02	CAL6SV2693	CAL6SV2693	08/27/01	2335	10.40	4.74
03	CAL5SV2694	CAL5SV2694	08/28/01	0008	10.43	4.74
04	CAL4SV2695	CAL4SV2695	08/28/01	0042	10.36	4.74
05	CAL3SV2696	CAL3SV2696	08/28/01	0116	10.43	4.74
06	CAL2SV2697	CAL2SV2697	08/28/01	0150	10.39	4.73
07	CAL1SV2698	CAL1SV2698	08/28/01	0224	10.38	4.73
08	SECSTDSV2699	SECSTDSV2699	08/28/01	0257	10.38	4.74
09	ZZZZZ	ZZZZZ	09/05/01	1524		
10	CCV1SV2744	CCV1SV2744	09/05/01	1600	10.61	4.81
11	ZZZZZ	ZZZZZ	09/05/01	1658		
12	ZZZZZ	ZZZZZ	09/05/01	1754		
13	ZZZZZ	ZZZZZ	09/05/01	1828	10.55	4.79
14	ZZZZZ	ZZZZZ	09/05/01	1903	10.56	4.79
15	ZZZZZ	ZZZZZ	09/05/01	1937	10.57	4.78
16	ZZZZZ	ZZZZZ	09/05/01	2011	10.51	4.77
17	ZZZZZ	ZZZZZ	09/05/01	2045	10.53	4.78
18	ZZZZZ	ZZZZZ	09/05/01	2120	10.47	4.76
19	ZZZZZ	ZZZZZ	09/05/01	2154	10.47	4.76
20	ZZZZZ	ZZZZZ	09/05/01	2227	10.37	4.74
21	ZZZZZ	ZZZZZ	09/05/01	2301		
22	CCV2SV2744	CCV2SV2744	09/05/01	2335	10.46	4.76
23	ZZZZZ	ZZZZZ	09/06/01	0009	10.40	4.75
24	ZZZZZ	ZZZZZ	09/06/01	0044	10.48	4.76
25	ZZZZZ	ZZZZZ	09/06/01	0118	10.39	4.72
26	ZZZZZ	ZZZZZ	09/06/01	0153	10.41	4.74
27	ZZZZZ	ZZZZZ	09/06/01	0226	10.48	4.76
28	ZZZZZ	ZZZZZ	09/06/01	0301	10.44	4.75
29	ZZZZZ	ZZZZZ	09/06/01	0334	10.47	4.76
30	ZZZZZ	ZZZZZ	09/06/01	0408	10.42	4.75
31	ZZZZZ	ZZZZZ	09/06/01	0442	10.42	4.75
32	ZZZZZ	ZZZZZ	09/06/01	0516		

		QC LIMITS
S1	= Nonatriacontane	(+/- 0.30 MINUTES)
S2	= ortho-Terphenyl	(+/- 0.07 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM 8
FL-PRO ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 08/28/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 10.38 S2 : 4.74

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	CCV3SV2744	CCV3SV2744	09/06/01	0550	10.44	4.75
02	ZZZZZ	ZZZZZ	09/06/01	0953		
03	CCV4SV2744	CCV4SV2744	09/06/01	1027	10.52	4.77
04	ZZZZZ	ZZZZZ	09/06/01	1646		
05	CCV1SV2744	CCV1SV2744	09/06/01	1722	10.21	4.69
06	ZZZZZ	ZZZZZ	09/06/01	1757	10.26	4.71
07	ZZZZZ	ZZZZZ	09/06/01	1831		
08	CCV2SV2744	CCV2SV2744	09/06/01	1905	10.21	4.70
09	ZZZZZ	ZZZZZ	09/12/01	1139		
10	CCV1SV2812	CCV1SV2812	09/12/01	1454	10.19	4.69
11	ZZZZZ	ZZZZZ	09/12/01	1528	10.21	4.70
12	ZZZZZ	ZZZZZ	09/12/01	1602	10.20	4.69
13	ZZZZZ	ZZZZZ	09/12/01	1636	10.19	4.69
14	ZZZZZ	ZZZZZ	09/12/01	1718	10.32	4.72
15	ZZZZZ	ZZZZZ	09/12/01	1753	10.18	
16	0912BLKW	47799	09/12/01	1827	10.13	4.69
17	0912LCS	47800	09/12/01	2025	10.42	4.76
18	0912BLKWMS	47801	09/12/01	2059	10.13	4.68
19	0912BLKWMSD	47802	09/12/01	2132	10.11	4.67
20	ZZZZZ	ZZZZZ	09/12/01	2206		
21	ZZZZZ	ZZZZZ	09/12/01	2240		
22	CCV2SV2812	CCV2SV2812	09/12/01	2314	10.04*	4.66*
23	API0109-MW1	210901201	09/12/01	2348	10.09	4.67
24	API0109-MW3	210901203	09/13/01	0023	10.09	4.67
25	API0109-MW4	210901204	09/13/01	0057	10.06*	4.67
26	API0109-FD	210901206	09/13/01	0130	10.04*	4.66*
27	ZZZZZ	ZZZZZ	09/13/01	0204		
28	CCV3SV2812	CCV3SV2812	09/13/01	0238	10.09	4.67
29						
30						
31						
32						

		QC LIMITS
S1	= Nonatriacontane	(+/- 0.30 MINUTES)
S2	= ortho-Terphenyl	(+/- 0.07 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII FL-PRO

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0905LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED mg/L	LCS CONCENTRATION mg/L	LCS % REC #	QC LIMITS REC.
Total Petroleum Hydrocarbons	3.4	3.1	91.2	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

130901 1404

Form III

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

0905BLKWMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED mg/L	SAMPLE CONCENTRATION mg/L	MS CONCENTRATION mg/L	MS % REC #	QC LIMITS REC.
Total Petroleum Hydrocarbons	3.4	0	3.3	97.1	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

130901 1404

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 0905BLKWSD

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

COMPOUND	SPIKE ADDED mg/L	MSD CONCENTRATION mg/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Total Petroleum Hydrocarbons	3.4	3.1	91.2	6.2	20	41 - 101

RPD 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

130901 1404

Standards Data

130901 1404

FORM 6
FL-PRO INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 08/28/01

Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0224

LAB FILE ID: RF0.034: CAL1 RF0.17: CAL2 RF0.84: CAL3
RF1.7: CAL4 RF2.55: CAL5

COMPOUND	RF0.034	RF0.17	RF0.84	RF1.7	RF2.55
TPH (C8-C40)	50193529	15382476	5460858.8	4194044.1	3959571.8
Nonatriacontane	3998376.7	4105160.0	3782890.0	3689830.0	3882433.3
ortho-Terphenyl	3522100.0	3402120.0	3215600.0	3186760.0	3408820.0

Calibration Criteria Is Stated In Narrative

FORM 6
FL-PRO INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 08/28/01

Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0224

LAB FILE ID: RF5.1: CAL6 RF6.8: CAL7

COMPOUND	RF5.1	RF6.8
TPH (C8-C40)	3669494.9	3310265.6
Nonatriacontane	4030873.3	3703796.7
ortho-Terphenyl	3520040.0	3418520.0

Calibration Criteria Is Stated In Narrative

FORM 6
FL-PRO INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 08/28/01

Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0224

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
TPH (C8-C40)	LINR	-0.6186365	3.194e-007	0.996
Nonatriacontane	AVRG		3884765.95	4.2
ortho-Terphenyl	AVRG		3381994.29	3.9

Calibration Criteria Is Stated In Narrative

FORM 6
FL-PRO INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 08/28/01

Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0224

LAB FILE ID: RT1: CAL1 RT2: CAL2 RT3: CAL3
RT4: CAL4 RT5: CAL5

COMPOUND	RT1	RT2	RT3	RT4	RT5
TPH (C8-C40)	7.102	7.102	7.102	7.102	7.102
Nonatriacontane	10.377	10.393	10.427	10.363	10.380
ortho-Terphenyl	4.733	4.733	4.740	4.740	4.737

COMMENTS:

FORM 6
FL-PRO INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 08/28/01

Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0224

LAB FILE ID: RT6: CAL6 RT7: CAL7

COMPOUND	RT6	RT7	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH (C8-C40)	7.102	7.102	7.101	1.699	12.504
Nonatriacontane	10.397	10.427	10.395	10.080	10.680
ortho-Terphenyl	4.743	4.740	4.738	4.667	4.807

COMMENTS:

FORM VI FL-PRO

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 09/05/01 Time: 1600

Lab File ID: CCV1 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.7	2.6	LINR	3.8	25.0
Nonatriacontane	0.36	0.30	AVRG	20.0	25.0
ortho-Terphenyl	0.057	0.050	AVRG	14.0	25.0

FORM VII SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 09/05/01 Time: 2335

Lab File ID: CCV2 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.9	2.6	LINR	11.5	25.0
Nonatriacontane	0.37	0.30	AVRG	23.3	25.0
ortho-Terphenyl	0.059	0.050	AVRG	18.0	25.0

FORM VII SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 09/06/01 Time: 0550

Lab File ID: CCV3 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	3.0	2.6	LINR	15.4	25.0
Nonatriacontane	0.36	0.30	AVRG	20.0	25.0
ortho-Terphenyl	0.061	0.050	AVRG	22.0	25.0

FORM VII SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 09/06/01 Time: 1722

Lab File ID: CCV1 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.8	2.6	LINR	7.7	25.0
Nonatriacontane	0.35	0.30	AVRG	16.7	25.0
ortho-Terphenyl	0.056	0.050	AVRG	12.0	25.0

FORM VII SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2108228

Instrument ID: SFID02 Calibration Date: 09/06/01 Time: 1905

Lab File ID: CCV2 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.9	2.6	LINR	11.5	25.0
Nonatriacontane	0.37	0.30	AVRG	23.3	25.0
ortho-Terphenyl	0.059	0.050	AVRG	18.0	25.0

FORM VII SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: SDGA00257

Instrument ID: SFID02 Calibration Date: 09/12/01 Time: 1454

Lab File ID: CCV1 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.7	2.6	LINR	3.8	25.0
Nonatriacontane	0.25	0.30	AVRG	16.7	25.0
ortho-Terphenyl	0.057	0.050	AVRG	14.0	25.0

FORM VII SV-1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: SDGA00257

Instrument ID: SFID02 Calibration Date: 09/12/01 Time: 2314

Lab File ID: CCV2 Init. Calib. Date: 08/28/01

Init. Calib. Time: 0224

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %d
TPH (C8-C40)	2.9	2.6	LINR	11.5	25.0
Nonatriacontane	0.29	0.30	AVRG	3.3	25.0
ortho-Terphenyl	0.041	0.050	AVRG	18.0	25.0

FORM VII SV-1

Inorganics

EPA Qualifiers
Inorganic Analysis

C (Concentration) Qualifier – Entries and their meanings are:

B	The reported value obtained was less then the RL but greater than or equal to the MDL.
E	The reported value obtained was over calibration or linear range.
U	The reported value obtained was less than the MDL or was not detected.

Q Qualifier – Entries and their meanings are:

E	The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in the data package or on the individual Form 1 if it is an isolated problem.
M	Duplicate injection precision was not met (two analyses of the same sample did not agree).
N	Spiked sample recovery was not within control limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
*	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less than 0.995.
X	The data is flagged as rejected by analyst utilizing analytical judgment.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

M (Method) Qualifier – Enter one of the following:

P	ICP
A	Flame AA
F	Furnace AA
CV	Manual Cold Vapor AA
TC	Total Organic Carbon
AS	Semi-Automated Spectrophotometric
CA	Midi-Distillation Spectrophotometric
T	Titrimetric
C	Manual Spectrophotometric
GR	Gravimetric
NR	Analyte was note required by your lab.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2108228

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA Method 6010B for metals analysis. All methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

IV. PREPARATION

EPA Method 3010A for metals water samples. Method performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures. All related QC is referenced from SDG 2108228.

V. ANALYSIS 09/05/01 (6010)

A. **Calibration:** All quality control criteria were met. The CCV report summary, Form 2(s), are in chronological order as they appear on the Analytical Run Log, Form 14(s).

B. **Blanks:** All calibration and preparation blank quality control criteria were met. The CCB and preparation blank report summary, Form 3(s), are in chronological order as they appear on the Analytical Run Log, Form 14(s).

C. **Spikes:** All percent recovery quality control were met.

D. **Duplicates:** All relative percent difference quality control criteria were met.

E. **Samples:** All sample analysis proceeded normally. Please note that sample 062SMW11Q30115 was diluted 10X due to high concentrations of Lead.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2108228

G. Laboratory Control Samples : All percent recovery quality control criteria were met.

H. Serial Dilution: All relative percent difference quality control criteria were met.

I. Post Dilution Spike: All percent recovery quality control criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ DATE: 10SEP01
Section Leader or designee

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SDG No.: 2108228

SOW No.: _____

EPA Sample No	Lab Sample ID
062SMW01Q30115	210822801
062SMW02Q30115	210822802
062SMW03Q30115	210822803
062SMW04Q30115	210822804
062SMW05Q30115	210822805
062SMW06Q30115	210822806
062SMW07Q30115	210822807
062SMW10Q30115	210822808
062SMW11Q30115	210822809
062DUPQ30115	210822810
062EQBQ30115	210822811

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature] For:

Name: Jodi Hutchins

Date: 10 SEP 01

Title: Quality Assurance Officer

060901446

Sample Data

060901446

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW01Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822801

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	15			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

060901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW02Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822802

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	30			P

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

060901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW03Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822803

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	132			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

060901447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW04Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822804

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	59			P

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

050901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW05Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822805

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	18			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW06Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822806

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: ~0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	248			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

060901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW07Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822807

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: ~0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	49			P

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

060901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW10Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822808

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	16			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062SMW11Q30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822809

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	30	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822810

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	3.4			P

Color Before: Clarity Before: Texture :

Color After : Clarity After: Artifacts:

Comments:

060901 447

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ30115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Matrix: WATER Lab Sample ID 210822811

Level:(low/med) LOW Date Received: 8/31/01

PercentSolids: 0

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	3	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

060901 447

QC Summary

060901447

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Initial Calibration Source: MET-13706

Continuing Calibration Source: MET-13702

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	
Lead	400	392.168	98.0	500	499.444	99.9	502.934	100.6	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

060901 447

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Initial Calibration Source:

Continuing Calibration Source: MET-13702

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	506.219	101.2	506.014	101.2	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

060901447

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Initial Calibration Source:

Continuing Calibration Source: MET-13702

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	514.616	102.9			P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

060901447

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Preparation Blank Matrix (water/soil): 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
Lead	3	U	3	U	3	U	3	U	3	U	P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			3	U	3	U					P

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-15801

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
Lead	0	50		49.0	98.0			

050901 447

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

062DUPQ30115MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	498		3.4		500	98.9		P

Comments:

060901 447

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

062DUPQ30115SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	495		3.4		500	98.3		P

Comments:

060901447

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

062DUPQ30115A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	467		3.40		500	92.7		P

Comments:

060901 447

U.S. EPA - CLP

6

DUPLICATES

EPA Sample No.

062DUPQ30115SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): ug/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	498		495		0.6		P

Comments:

060901 447

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

EPA Sample No.

47306LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Solid LCS Source:

Aqueous LCS Source: MET-12801, 0JF123-60

Analyte	Aqueous (ug/L) True	Found	%R	Solid True	Found	C	Limits	%R
Lead	500	519	103.8				-	

060901 447

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9

ICP SERIAL DILUTIONS

EPA Sample No.

062DUPQ30115L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2108228

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	3.40		15	U			P

Comments:

060901 447

U.S. EPA - CLP

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

ICP ID Number : ICAP Date: 1/1/00

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	MDL (ug/L)	M
Lead	220.3		3	2	P

Comments:

060901 447

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____/__ SAS No.: _____ SDG No.: 2108228

ICP ID Number : ICAP Date: 5/1/01

Analyte	Wave-length	Interelement Correction Factors for: Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.00036				

Comments:

060901 447

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11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No.: _____ SDG No.:

ICP ID Number : ICAP Date: 5/1/01

Analyte	Wave-length	Interelement Correction Factors for:				
		Mn	Mo	Sb	V	
Lead	220.3					

Comments:

060901 447

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12

ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

ICP ID NUMBER ICAP DATE : 5/1/01

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

060901 447

U.S. EPA - CLP

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
062DUPQ30115	4 Sep 01		50
062DUPQ30115MS	4 Sep 01		50
062DUPQ30115SD	4 Sep 01		50
062EQBQ30115	4 Sep 01		50
062SMW01Q30115	4 Sep 01		50
062SMW02Q30115	4 Sep 01		50
062SMW03Q30115	4 Sep 01		50
062SMW04Q30115	4 Sep 01		50
062SMW05Q30115	4 Sep 01		50
062SMW06Q30115	4 Sep 01		50
062SMW07Q30115	4 Sep 01		50
062SMW10Q30115	4 Sep 01		50
062SMW11Q30115	4 Sep 01		50
47305BLK	4 Sep 01		50
47306LCS	4 Sep 01		50

060901 447

U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Instrument ID Number : ICAP Method : P

Start Date : 9/5/01 End Date : 9/5/01

EPA Sample No.	D/F	Time	%R	Analytes																								
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	8:31																					X						
STD3	1	8:36																					X						
STD2	1	8:41																											
ICV	1	8:46																					X						
ICB	1	8:54																					X						
ZZZZZZ	1	9:00																											
ICSA	1	9:05																					X						
ICSAB	1	9:11																					X						
CCV	1	9:16																					X						
CCB	1	9:21																					X						
ZZZZZZ	1	9:27																											
ZZZZZZ	1	9:32																											
ZZZZZZ	1	9:38																											
ZZZZZZ	5	9:43																											
ZZZZZZ	1	9:48																											
ZZZZZZ	1	9:54																											
ZZZZZZ	1	9:59																											
ZZZZZZ	1	10:04																											
CCV	1	10:10																					X						
CCB	1	10:15																					X						
47305BLK	1	10:25																					X						
47306LCS	1	10:30																					X						
062DUPQ30115	1	10:36																					X						
062DUPQ30115L	5	10:41																					X						
062DUPQ30115A	1	10:46																					X						
062DUPQ30115MS	1	10:52																					X						
062DUPQ30115SD	1	10:57																					X						
062EQBQ30115	1	11:02																					X						
062SMW01Q30115	1	11:07																					X						
062SMW02Q30115	1	11:13																					X						
CCV	1	11:18																					X						
CCB	1	11:23																					X						
062SMW03Q30115	1	11:29																					X						
062SMW04Q30115	1	11:34																					X						
062SMW05Q30115	1	11:39																					X						
062SMW06Q30115	1	11:44																					X						

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14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2108228

Instrument ID Number : ICAP Method : P

Start Date : 9/5/01 End Date : 9/5/01

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
062SMW07Q30115	1	11:50																					X						
062SMW10Q30115	1	11:55																					X						
ZZZZZZ	1	12:00																											
CCV	1	12:06																					X						
CCB	1	12:15																					X						
ZZZZZZ	1	12:20																											
ZZZZZZ	1	12:25																											
ZZZZZZ	1	12:30																											
ZZZZZZ	1	12:36																											
ZZZZZZ	1	12:41																											
ZZZZZZ	1	12:46																											
ZZZZZZ	1	12:52																											
062SMW11Q30115	10	13:02																					X						
ZZZZZZ	5	13:08																											
CCV	1	13:13																					X						
CCB	1	13:18																					X						

060901 447

Chain of Custody Documentation

CH2M Hill C ucters, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-009

2108 228 MK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
103rd Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537	*Pro Samples: 01-03, 05, 08, 10, 11 have HCL preservative *Pro Samples: 04, 06, 07, 09 have H_2SO_4 preservative	

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SMW01-Q3-01-15	CEF-103-SMW-01	W	08/30/01	11:00	III/C	14	3	1	1	1							Grab	Turbid	01
2	062-SMW02-Q3-01-15	CEF-103-SMW-02	W	08/30/01	14:25	III/C	14	3	1	1	1							Grab	Turbid	02
3	062-SMW03-Q3-01-15	CEF-103-SMW-03	W	08/30/01	11:20	III/C	14	3	1	1	1							Grab	Turbid	03
4	062-SMW04-Q3-01-15	CEF-103-SMW-04	W	08/30/01	13:00	III/C	14	3	1	1	1							Grab	Turbid	04
5	062-SMW05-Q3-01-15	CEF-103-SMW-05	W	08/30/01	11:45	III/C	14	3	1	1	1							Grab	Turbid	05
6	062-SMW06-Q3-01-15	CEF-103-SMW-06	W	08/30/01	15:55	III/C	14	3	1	1	1							Grab	Turbid	06
7	062-SMW07-Q3-01-15	CEF-103-SMW-07	W	08/30/01	14:55	III/C	14	3	1	1	1							Grab	Turbid	07
8	062-SMW10-Q3-01-15	CEF-103-SMW-10	W	08/30/01	15:25	III/C	14	3	1	1	1							Grab	Turbid	08
9	062-SMW11-Q3-01-15	CEF-103-SMW-11	W	08/30/01	13:40	III/C	14	6	2	2	2	*MS/MSD on hold on Client 8/31/01 MK +DW						Grab	Turbid / MS/MSD	09
10	062-DUP-Q3-01-15	Duplicate	W	08/30/01	NA	III/C	14	3	1	1	1							Grab	Turbid	10
11	062-EQB-Q3-01-15	Equipment Blank	W	08/30/01	12:00	III/C	14	3	1	1	1							Grab		11
12	062-TB-Q3-01-15	Trip Blank	W	NA	NA	III/C	14	2										Grab	Prepared By Lab	12
13	Temp Blank	Temp Blank	W	NA	NA	III/C	14					1						Grab	Prepared By Lab	

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Scott Sloan J.A. Jones Environmental Services	Federal Express TRK #7924421037101, 791648887053, 790954694388.	Temp upon rec't 4°C pH<2 (Pro, Lead, 8021)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop R. Dumaop	8/30/01	17:30	Federal Express	8/30/01	17:30
Printed Name and Signature:			Printed Name and Signature:		
Fed Ex			Michael A. Kuley Michael A. Kuley	8/31/01	9:50
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

pH LOG SHEET

WO# 2108-228

By MK

Client/Project Cham Hill / Cecil Field

Date 8/31/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other _____ pH _____
2108-228-01	(1) pH<2	(1) pH<2			(3) pH<2	
-02						
-03						
-04						
-05						
-06						
-07						
-08						
-09						
-10						
-11						
-12	—	—			(2) pH<2	

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2108-228

Client: CH2M. Hill	Date Recd: 8/31/01
Project: NAS Cecil Field	Due Date:
Log In Tech: MG	Recd Via: Client Crosstown FedEx
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C)	4		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed		✓
pH WNL	✓		Correct Sample Containers	✓	
Soil Origin Domestic			Soil Origin Foreign		

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	MB	✓	TAT requested: STND / RUSH		
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

CHAIN H.T. / Cecil Field 2108-228

Sample #	Parameter	Rel'd	Rec'd	Date	Time	Comm
1-12	8021(w)	✓	KM	9/7/01	1501	0
1-12	8021(w)	KM	✓	9/7/01	1601	0
1-11	8310(w)	✓	RA	9/4/01	1930	
1-11	8310(w)		(Consumed)			
1-11	Pro(w)	✓	MR	9/5/01	0900	
1-11	Pro(w)	(consumed)				
1-11	Lead(w)	✓	GK	9/4/01	1515	
1-11	Lead(w)	GK	✓	9/4/01	1550	
			GK MOI			

Addendum

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	8-31-01; 9:50 AM
Date to be Reported:	9-18-01
Laboratory Submission Number/SDG:	2108228
Project:	NAS Cecil Field

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8021, 8310, FLPRO, and 6010.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's. As per the client, PEL will analyze Lead by Method 6010. In addition, PEL will provide a Blank MS/MSD as there was insufficient sample received for the MS/MSD requested on the COC.

Distribution of Report to:

1-CH2MHILL
Attn: Steve Tsangaris
Phone: 813-874-0777

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 45 analyses on 12 samples (including QC) *04-Sep-01*

Report/SDG #: 2108228

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW01Q301	210822801	CEF-103-SMW-	W	8/30/01 11:00:00 AM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW02Q301	210822802	CEF-103-SMW-	W	8/30/01 2:25:00 PM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW03Q301	210822803	CEF-103-SMW-	W	8/30/01 11:20:00 AM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW04Q301	210822804	CEF-103-SMW-	W	8/30/01 1:00:00 PM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2108228

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW05Q301	210822805	CEF-103-SMW-	W	8/30/01 11:45:00 AM	8/31/01 9:50:00 AM
Method					
6010	Metals			6010	
8021	VOH			8021	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW06Q301	210822806	CEF-103-SMW-	W	8/30/01 3:55:00 PM	8/31/01 9:50:00 AM
Method					
6010	Metals			6010	
8021	VOH			8021	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW07Q301	210822807	CEF-103-SMW-	W	8/30/01 2:55:00 PM	8/31/01 9:50:00 AM
Method					
6010	Metals			6010	
8021	VOH			8021	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW10Q301	210822808	CEF-103-SMW-	W	8/30/01 3:25:00 PM	8/31/01 9:50:00 AM
Method					
6010	Metals			6010	
8021	VOH			8021	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

Report/SDG #: 2108228

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062SMW11Q301	210822809	CEF-103-SMW-	W	8/30/01 1:40:00 PM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062DUPQ30115	210822810	Duplicate	W	8/30/01	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062EQBQ30115	210822811	Equipment	WQ	8/30/01 12:00:00 PM	8/31/01 9:50:00 AM

Method		
6010	Metals	6010
8021	VOH	8021
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TBQ30115	210822812	Trip Blank	WQ	8/31/01	8/31/01 9:50:00 AM

Method		
8021	VOH	8021

Darcy Weisman

From: Darcy Weisman
Sent: Tuesday, September 04, 2001 10:43 AM
To: Darcy Weisman; 'Lisa/ATL/CCI Schwan (E-mail)'
Cc: 'cnewsome@ch2m.com'
Subject: RE: Cecil Field (Quarterly GW sampling) SDG 2108228

One last thing that I forgot to mention is that this project is requesting Lead by method 239.2. PEL reports Lead by method 6010. Please let me know if this will be a problem.

Darcy

-----Original Message-----
From: Darcy Weisman
Sent: Tuesday, September 04, 2001 10:40 AM
To: Lisa/ATL/CCI Schwan (E-mail)
Cc: 'cnewsome@ch2m.com'
Subject: Cecil Field (Quarterly GW sampling) SDG 2108228

Lisa / Christelle,
Hope that the holiday weekend was a good one.

I wanted to touch base on this project to let you know that per my phone conversation w/Christelle on Friday, PEL will run a blank MS/MSD as we received insufficient sample to run MS/MSD on the client requested sample (sample ID 062-SMW11-Q3-01-15).

If you have any questions, please let me know.
Darcy

Darcy Weisman
Project Manager
PEL Laboratories, Inc.
(813) 247-2805 ext. 237
email: dweisman@pelab.com
Visit our website at www.pelab.com

Darcy Weisman

From: Newsome, Christelle/ATL [cnewsome@CH2M.com]
Sent: Tuesday, September 04, 2001 10:53 AM
To: Darcy Weisman
Subject: FW: Cecil Field-Quality Control Change

I thought you received this.
-----Original Message-----
From: Newsome, Christelle/ATL
Sent: Tuesday, September 04, 2001 8:24 AM
To: Schwan, Lisa/ATL/CCI
Cc: 'dweisman@pelab.com'; Kondrat, Stacey/ATL
Subject: Cecil Field-Quality Control Change

Lisa,

I received a follow-up call from Darcy Wiseman of PEL -regarding the project specific MS/MSD. Please note the laboratory was not provided adequate sample volume, therefore MS/MSD analyses could be performed on the sample(s) as indicated on the chain of custody. So that we will at least have precision and accuracy data in lieu of the above, the laboratory will now provide results for a Laboratory Control Sample and Laboratory Control Sample Duplicate.

Christelle Newsome

CCI-Laboratory Coordinator
cnewsome@ch2m.com <mailto:cnewsome@ch2m.com>
(770) 604-9095 x226

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	10-11-01; 10:10 AM
Date Reported:	10-24-01
PEL Submission Number:	2110004
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 2 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
8260

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

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Level 4

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Cross-Reference sheet for SDG 2110004-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2110004	1018BLKA31	MB	1018BLKA31	1018BLKA31
Cecil Field	2110004	1018LCSA31	BS	1018LCSA31	1018LCSA31
Cecil Field	2110004	1023LCSA22	BS	1023LCSA22	1023LCSA22
Cecil Field	2110004	1024BLKA22	MB	1024BLKA22	1024BLKA22
Cecil Field	2110004	62SMW11Q3R0115	N	211000401	062-SMW11-Q3R-01-15
Cecil Field	2110004	62SMW11Q3R0115DL1	DL	211000401DL1	062-SMW11-Q3R-01-15
Cecil Field	2110004	62TBQ3R0115	TB	211000402	062-TB-Q3R-01-15

Organics

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when incicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated bland as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

N This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as clorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2110004

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

Initial calibration criteria are stated in SW-846 EPA method 8260B. All analytes have a maximum percent RSD of 15 with the exception of the Calibration Check Compounds that may have a percent RSD of 30. The CCCs are: 1,1-Dichloroethene, Chloroform, 1,2-Dichloropropane, Toluene, Ethylbenzene and Vinyl chloride. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, if one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 15.

Continuing Calibration criteria is stated in SW-846 EPA method 8260B. All analytes have a maximum percent D of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, If one or more of the analytes exceed the maximum percent D the average percent D may be used provided the average is less than or equal to 15.

B. Blanks:

Blank 1018BLKA31 analyzed with the water samples was non-detect for all target analytes.

Blank 1024BLKA22 analyzed with the water samples had Bromomethane and 1,2-Dichloroethane above the MDL but below the RL. All associated samples received the appropriate qualifiers.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2110004

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Samples (LCS)

Two LCSs were analyzed with the water samples where all acceptance criteria were met for percent recovery.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client did not specify an MS/SD set to be analyzed. In the analytical batch M310180a, the MS/SD results are contained in SDG 2110003; however a Form 3 has been included for your review. Eleven out of 114 analytes did not meet the acceptance criteria for percent recovery. One out of 57 analytes did not meet the acceptance criteria for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. Sample 62SMW11Q3R0115 required a 1:5 dilution due to a high concentration of 1,2,4-Trimethylbenzene. The RLs were not raised for this sample.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Pelo **DATE:** 10/24/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Method: 8260

EPA Sample No	Lab Sample ID
62SMW11Q3R0115	211000401
62SMW11Q3R0115DL1	211000401DL1
62TBQ3R0115	211000402

241001 1536

Sample Data

241001 1536

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1256

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	2.7	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	9.8	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	7	U
75-09-2	Methylene chloride	5	U
156-60-5	Trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	70	U
594-20-7	2,2-Dichloropropane	0.4	U
156-59-2	Cis-1,2-Dichloroethene	70	U
74-97-5	Bromochloromethane	91	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	200	U
56-23-5	Carbon tetrachloride	3	U
71-43-2	Benzene	0.32	J
107-06-2	1,2-Dichloroethane	3	U
79-01-6	Trichloroethene	3	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	70	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	40	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethylene	3	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1256

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane (EDB)	0.25	U
108-90-7	Chlorobenzene	100	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene	36	
511-39-00	M,P-Xylene	48	
95-47-6	O-Xylene	2.5	J
100-42-5	Styrene	100	U
75-25-2	Bromoform	4.4	U
98-82-8	1-Methylethylbenzene (Cumene)	15	
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	N-Propylbenzene	16	
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	140	U
108-67-8	1,3,5-Trimethylbenzene	21	
98-06-6	tert-Butylbenzene	14	
95-63-6	1,2,4-Trimethylbenzene	100	E
135-98-8	sec-Butylbenzene	6	
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	75	U
99-87-6	p-Isopropyltoluene	5	
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	600	U
96-12-8	1,2-Dibromo-3-Chloro-Propane (DBCP)	0.56	U
120-82-1	1,2,4-Trichlorobenzene	70	U
87-68-3	Hexachlorobutadiene	0.39	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1256

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	76	
87-61-6	1,2,3-Trichlorobenzene	70	U
1330-20-7	Xylenes (total)	51	

241001 1537

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401DL1 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	7000	U
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	49	U
75-00-3	Chloroethane	60	U
75-69-4	Trichlorofluoromethane	10500	U
75-35-4	1,1-Dichloroethene	35	U
75-09-2	Methylene chloride	25	U
156-60-5	Trans-1,2-Dichloroethene	500	U
75-34-3	1,1-Dichloroethane	350	U
594-20-7	2,2-Dichloropropane	2	U
156-59-2	Cis-1,2-Dichloroethene	350	U
74-97-5	Bromochloromethane	455	U
67-66-3	Chloroform	28	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon tetrachloride	15	U
71-43-2	Benzene	0.52	J
107-06-2	1,2-Dichloroethane	15	U
79-01-6	Trichloroethene	15	U
78-87-5	1,2-Dichloropropane	25	U
74-95-3	Dibromomethane	350	U
75-27-4	Bromodichloromethane	3	U
108-88-3	Toluene	200	U
79-00-5	1,1,2-Trichloroethane	25	U
127-18-4	Tetrachloroethylene	15	U
142-28-9	1,3-Dichloropropane	5	U
124-48-1	Dibromochloromethane	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401DL1 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene	500	U
630-20-6	1,1,1,2-Tetrachloroethane	6.5	U
100-41-4	Ethylbenzene	32	J
511-39-00	M,P-Xylene	46	J
95-47-6	O-Xylene	1.6	J
100-42-5	Styrene	500	U
75-25-2	Bromoform	22	U
98-82-8	1-Methylethylbenzene (Cumene)	14	
108-86-1	Bromobenzene	0.75	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	2.3	U
103-65-1	N-Propylbenzene	14	
95-49-8	2-Chlorotoluene	700	U
106-43-4	4-Chlorotoluene	700	U
108-67-8	1,3,5-Trimethylbenzene	18	J
98-06-6	tert-Butylbenzene	1.4	U
95-63-6	1,2,4-Trimethylbenzene	100	
135-98-8	sec-Butylbenzene	5.9	
541-73-1	1,3-Dichlorobenzene	50	U
106-46-7	1,4-Dichlorobenzene	375	U
99-87-6	p-Isopropyltoluene	4.7	
104-51-8	n-Butylbenzene	1.8	U
95-50-1	1,2-Dichlorobenzene	3000	U
96-12-8	1,2-Dibromo-3-Chloro-Propane (DBCP)	2.8	U
120-82-1	1,2,4-Trichlorobenzene	350	U
87-68-3	Hexachlorobutadiene	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62SMW11Q3R0115DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000401DL1 Lab File ID 00401.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID CEF-103-SMW-11 Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	56	J
87-61-6	1,2,3-Trichlorobenzene	350	U
1330-20-7	Xylenes (total)	47	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62TBQ3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000402 Lab File ID 00402.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1323

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	2.7	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	9.8	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	7	U
75-09-2	Methylene chloride	5	U
156-60-5	Trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	70	U
594-20-7	2,2-Dichloropropane	0.4	U
156-59-2	Cis-1,2-Dichloroethene	70	U
74-97-5	Bromochloromethane	91	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	200	U
56-23-5	Carbon tetrachloride	3	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	3	U
79-01-6	Trichloroethene	3	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	70	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	40	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethylene	3	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62TBQ3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000402 Lab File ID 00402.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1323

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane (EDB)	0.25	U
108-90-7	Chlorobenzene	100	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene	30	U
511-39-00	M,P-Xylene	20	U
95-47-6	O-Xylene	20	U
100-42-5	Styrene	100	U
75-25-2	Bromoform	4.4	U
98-82-8	1-Methylethylbenzene (Cumene)	0.18	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	N-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	140	U
108-67-8	1,3,5-Trimethylbenzene	10	U
98-06-6	tert-Butylbenzene	0.28	U
95-63-6	1,2,4-Trimethylbenzene	10	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	75	U
99-87-6	p-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	600	U
96-12-8	1,2-Dibromo-3-Chloro-Propane (DBCP)	0.56	U
120-82-1	1,2,4-Trichlorobenzene	70	U
87-68-3	Hexachlorobutadiene	0.39	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

62TBQ3R0115

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 211000402 Lab File ID 00402.D

Sample wt/vol: 5 Units: ML Date Received: 10/11/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1323

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	20	U
87-61-6	1,2,3-Trichlorobenzene	70	U
1330-20-7	Xylenes (total)	20	U

QC Summary

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1018BLKA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1018BLKA31 Lab File ID BLK32.D

Sample wt/vol: 5 Units: ML Date Received: 10/18/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	2.7	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	9.8	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	7	U
75-09-2	Methylene chloride	5	U
156-60-5	Trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	70	U
594-20-7	2,2-Dichloropropane	0.4	U
156-59-2	Cis-1,2-Dichloroethene	70	U
74-97-5	Bromochloromethane	91	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	200	U
56-23-5	Carbon tetrachloride	3	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	3	U
79-01-6	Trichloroethene	3	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	70	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	40	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethylene	3	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1018BLKA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1018BLKA31 Lab File ID BLK32.D

Sample wt/vol: 5 Units: ML Date Received: 10/18/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane (EDB)	0.25	U
108-90-7	Chlorobenzene	100	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene	30	U
511-39-00	M,P-Xylene	20	U
95-47-6	O-Xylene	20	U
100-42-5	Styrene	100	U
75-25-2	Bromoform	4.4	U
98-82-8	1-Methylethylbenzene (Cumene)	0.18	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	N-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	140	U
108-67-8	1,3,5-Trimethylbenzene	10	U
98-06-6	tert-Butylbenzene	0.28	U
95-63-6	1,2,4-Trimethylbenzene	10	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	75	U
99-87-6	p-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	600	U
96-12-8	1,2-Dibromo-3-Chloro-Propane (DBCP)	0.56	U
120-82-1	1,2,4-Trichlorobenzene	70	U
87-68-3	Hexachlorobutadiene	0.39	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1018BLKA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1018BLKA31 Lab File ID BLK32.D

Sample wt/vol: 5 Units: ML Date Received: 10/18/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/18/01 Time: 1017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	20	U
87-61-6	1,2,3-Trichlorobenzene	70	U
1330-20-7	Xylenes (total)	20	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1024BLKA22

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1024BLKA22 Lab File ID BLKA22.D

Sample wt/vol: 5 Units: ML Date Received: 10/23/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1019

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	2.7	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1.1	J
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	7	U
75-09-2	Methylene chloride	5	U
156-60-5	Trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	70	U
594-20-7	2,2-Dichloropropane	0.4	U
156-59-2	Cis-1,2-Dichloroethene	70	U
74-97-5	Bromochloromethane	91	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	200	U
56-23-5	Carbon tetrachloride	3	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.4	J
79-01-6	Trichloroethene	3	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	70	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	40	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethylene	3	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1024BLKA22

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1024BLKA22 Lab File ID BLKA22.D

Sample wt/vol: 5 Units: ML Date Received: 10/23/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1019

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane (EDB)	0.25	U
108-90-7	Chlorobenzene	100	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene	30	U
511-39-00	M,P-Xylene	20	U
95-47-6	O-Xylene	20	U
100-42-5	Styrene	100	U
75-25-2	Bromoform	4.4	U
98-82-8	1-Methylethylbenzene (Cumene)	0.18	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	N-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	140	U
108-67-8	1,3,5-Trimethylbenzene	10	U
98-06-6	tert-Butylbenzene	0.28	U
95-63-6	1,2,4-Trimethylbenzene	10	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	75	U
99-87-6	p-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	600	U
96-12-8	1,2-Dibromo-3-Chloro-Propane (DBCP)	0.56	U
120-82-1	1,2,4-Trichlorobenzene	70	U
87-68-3	Hexachlorobutadiene	0.39	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1024BLKA22

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Matrix: WATER Lab Sample ID 1024BLKA22 Lab File ID BLKA22.D

Sample wt/vol: 5 Units: ML Date Received: 10/23/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 10/23/01 Time: 1019

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column: DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	20	U
87-61-6	1,2,3-Trichlorobenzene	70	U
1330-20-7	Xylenes (total)	20	U

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1018BLKA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Lab File ID BLK32.D Lab Sample ID 1018BLKA31

Instrument ID: vms03 Date Extracted:

Matrix: WATER Date Analyzed: 10/18/01

Level:(low/med) LOW Time Analyzed: 1017

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1018LCSA31	1018LCSA31	LCS31.D	10/18/01	0815
2	15CUMW04Q40122MS	211000303	00303MS.D	10/18/01	0859
3	15CUMW04Q40122SD	211000304	00304SD.D	10/18/01	0925
4	15CUMW04Q40122	211000302	00302.D	10/18/01	1044
5	62SMW11Q3R0115	211000401	00401.D	10/18/01	1256
6	62TBQ3R0115	211000402	00402.D	10/18/01	1323

COMMENTS:

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

1024BLKA22

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2110004

Lab File ID BLKA22.D Lab Sample ID 1024BLKA22

Instrument ID: vms02 Date Extracted:

Matrix: WATER Date Analyzed: 10/23/01

Level:(low/med) LOW Time Analyzed: 1019

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	62SMW11Q3R0115DL1	211000401DL1	00401.D	10/23/01	1405
2	1023LCSA22	1023LCSA22	LCS22.D	10/23/01	1720

COMMENTS:

2

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2110004

Column: DB-624 ID: 0.18

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
1018BLKA31	108.0	106.0	106.0	100.0			0
1018LCSA31	104.0	102.0	110.0	100.0			0
1023LCSA22	100.0	104.0	102.0	108.0			0
1024BLKA22	98.0	98.0	100.0	104.0			0
62SMW11Q3R0115	106.0	106.0	104.0	110.0			0
62SMW11Q3R0115DL1	100.0	102.0	100.0	104.0			0
62TBQ3R0115	98.0	102.0	106.0	106.0			0

Control Limits

S1	=	Dibromofluoromethane	86 - 118
S2	=	Toluene-d8	88 - 110
S3	=	4-Bromofluorobenzene	86 - 115
S4	=	1,2-Dichloroethane-d4	80 - 120

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

241001 1537

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID: BFB32 BFB Injection Date: 10/17/01

Instrument ID: VMS03 BFB Injection Time: 2234

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.2
75	30.0 - 60.0% of mass 95	44.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	67.4
175	5.0 - 9.0% of mass 174	4.2 (6.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	65.0 (96.5)1
177	5.0 - 9.0% of mass 176	3.9 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	1PPBSTD	1PPBSTD	1PPB	10/17/01	2356
02	2PPBSTD	2PPBSTD	2PPB	10/18/01	0022
03	5PPBSTD	5PPBSTD	5PPB	10/18/01	0048
04	10PPBSTD	10PPBSTD	10PPB	10/18/01	0114
05	20PPBSTD	20PPBSTD	20PPB	10/18/01	0206
06	50PPBSTD	50PPBSTD	50PPB	10/18/01	0232
07	60PPBSTD	60PPBSTD	60PPB	10/18/01	0258
08	80PPBSTD	80PPBSTD	80PPB	10/18/01	0325
09					
10					
11					
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13					
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15					
16					
17					
18					
19					
20					
21					
22					

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID: BFB32 BFB Injection Date: 10/18/01

Instrument ID: VMS03 BFB Injection Time: 0642

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.1
75	30.0 - 60.0% of mass 95	45.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	64.7
175	5.0 - 9.0% of mass 174	4.4 (6.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	65.2 (100.9)1
177	5.0 - 9.0% of mass 176	4.0 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	1018CCVA31	1018CCVA31	50CCV31	10/18/01	0723
02	1018LCSA31	1018LCSA31	LCS31	10/18/01	0815
03	15CUMW04Q40122MS	211000303	00303MS	10/18/01	0859
04	15CUMW04Q40122SD	211000304	00304SD	10/18/01	0925
05	1018BLKA31	1018BLKA31	BLK32	10/18/01	1017
06	15CUMW04Q40122	211000302	00302	10/18/01	1044
07	62SMW11Q3R0115	211000401	00401	10/18/01	1256
08	62TBQ3R0115	211000402	00402	10/18/01	1323
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID: BFB21 BFB Injection Date: 10/20/01

Instrument ID: VMS02 BFB Injection Time: 2202

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.6
75	30.0 - 60.0% of mass 95	44.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	65.2
175	5.0 - 9.0% of mass 174	4.4 (6.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	62.6 (96.0)1
177	5.0 - 9.0% of mass 176	3.9 (6.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	1PPBSTD	1PPBSTD	1PPB	10/21/01	0211
02	2PPBSTD	2PPBSTD	2PPB	10/21/01	0238
03	5PPBSTD	5PPBSTD	5PPB	10/21/01	0305
04	10PPBSTD	10PPBSTD	10PPB	10/21/01	0332
05	20PPBSTD	20PPBSTD	20PPB	10/21/01	0359
06	50PPBSTD	50PPBSTD	50PPB	10/21/01	0425
07	60PPBSTD	60PPBSTD	60PPB	10/21/01	0451
08	80PPBSTD	80PPBSTD	80PPB	10/21/01	0517
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID: BFB22 BFB Injection Date: 10/23/01

Instrument ID: VMS02 BFB Injection Time: 0708

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.1
75	30.0 - 60.0% of mass 95	39.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	64.1
175	5.0 - 9.0% of mass 174	4.3 (6.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	60.9 (95.0)1
177	5.0 - 9.0% of mass 176	3.4 (5.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	1023CCVA21	1023CCVA21	50CCV21	10/23/01	0738
02	1024BLKA22	1024BLKA22	BLKA22	10/23/01	1019
03	62SMW11Q3R0115DL	211000401DL1	00401	10/23/01	1405
04	1023LCSA22	1023LCSA22	LCS22	10/23/01	1720
05					
06					
07					
08					
09					
10					
11					
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8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID (Standard): 50CCV31 Date Analyzed: 10/18/01

Instrument ID: VMS03 Time Analyzed: 0723

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

		IS2 AREA #	RT	IS3 AREA #	RT	IS1 AREA #	RT
	12 HOUR STD	471273	11.79	223759	14.75	610708	7.96
	UPPER LIMIT	942546	12.29	447518	15.25	1221416	8.46
	LOWER LIMIT	235637	11.29	111880	14.25	305354	7.46
	EPA SAMPLE NO.						
01	1018LCSA31	465445	11.80	223229	14.76	611500	7.96
02	15CUMW04Q40122MS	462705	11.80	221354	14.76	602586	7.96
03	15CUMW04Q40122SD	463532	11.80	231275	14.76	604331	7.96
04	1018BLKA31	464220	11.80	215203	14.76	580296	7.96
05	15CUMW04Q40122	462313	11.80	223308	14.76	577070	7.96
06	62SMW11Q3R0115	456162	11.80	231924	14.76	576867	7.97
07	62TBQ3R0115	464772	11.80	216949	14.76	597973	7.97
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS2 = CHLOROBENZENE d5 (IS) UPPER LIMIT = +100%
IS3 = 1,4-DICHLOROBENZENE-d4 (IS) of internal standard area.
IS1 = FLUOROBENZENE (IS) LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk.

FORM VIII VOA 1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Lab File ID (Standard): 50CCV21 Date Analyzed: 10/23/01

Instrument ID: VMS02 Time Analyzed: 0738

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

GC Column: RTX 502.2 ID: 0.18 (mm) Heated Purge: (Y/N) NO

		IS2 AREA #	RT	IS3 AREA #	RT	IS1 AREA #	RT
	12 HOUR STD	826976	11.47	389899	14.41	1128958	7.62
	UPPER LIMIT	1653952	11.97	779798	14.91	2257916	8.12
	LOWER LIMIT	413488	10.97	194950	13.91	564479	7.12
	EPA SAMPLE NO.						
01	1024BLKA22	810857	11.46	370926	14.41	1112492	7.61
02	62SMW11Q3R0115DL	792613	11.46	371755	14.40	1072055	7.61
03	1023LCSA22	778396	11.46	370623	14.40	1061749	7.61
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS2 = CHLOROBENZENE d5 (IS)
IS3 = 1,4-DICHLOROBENZENE-d4 (IS)
IS1 = FLUOROBENZENE (IS)

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

FORM VIII VOA 1/87 Rev.

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1018LCSA31

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	15	75.0	68 - 116
Chloromethane	20	17	85.0	55 - 144
Vinyl chloride	20	16	80.0	63 - 133
Bromomethane	20	19	95.0	76 - 135
Chloroethane	20	19	95.0	69 - 136
Trichlorofluoromethane	20	21	105.0	59 - 144
1,1-Dichloroethene	20	22	110.0	52 - 150
Methylene chloride	20	20	100.0	72 - 123
Trans-1,2-Dichloroethene	20	20	100.0	64 - 131
1,1-Dichloroethane	20	20	100.0	76 - 122
2,2-Dichloropropane	20	23	115.0	69 - 132
Cis-1,2-Dichloroethene	20	20	100.0	71 - 122
Bromochloromethane	20	20	100.0	80 - 113
Chloroform	20	20	100.0	77 - 121
1,1,1-Trichloroethane	20	21	105.0	69 - 126
Carbon tetrachloride	20	21	105.0	68 - 127
Benzene	20	20	100.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	20	100.0	76 - 120
1,2-Dichloropropane	20	21	105.0	79 - 119
Dibromomethane	20	20	100.0	80 - 117
Bromodichloromethane	20	21	105.0	72 - 120
Toluene	20	20	100.0	76 - 119
1,1,2-Trichloroethane	20	21	105.0	79 - 116
Tetrachloroethylene	20	21	105.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	22	110.0	68 - 118
1,2-Dibromoethane (EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	21	105.0	75 - 124
1,1,1,2-Tetrachloroethane	20	21	105.0	75 - 110
Ethylbenzene	20	21	105.0	71 - 129
M,P-Xylene	40	43	107.5	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

241001 1537

Form III

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1018LCSA31

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
O-Xylene	20	22	110.0	75 - 124
Styrene	20	22	110.0	78 - 118
Bromoform	20	21	105.0	58 - 124
1-Methylethylbenzene (Cumene)	20	22	110.0	76 - 126
Bromobenzene	20	21	105.0	80 - 118
1,1,2,2-Tetrachloroethane	20	22	110.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
N-Propylbenzene	20	22	110.0	76 - 125
2-Chlorotoluene	20	21	105.0	72 - 119
4-Chlorotoluene	20	23	115.0	32 - 158
1,3,5-Trimethylbenzene	20	22	110.0	76 - 126
tert-Butylbenzene	20	20	100.0	70 - 124
1,2,4-Trimethylbenzene	20	22	110.0	75 - 128
sec-Butylbenzene	20	22	110.0	6 - 178
1,3-Dichlorobenzene	20	21	105.0	80 - 115
1,4-Dichlorobenzene	20	20	100.0	78 - 117
p-Isopropyltoluene	20	22	110.0	6 - 178
n-Butylbenzene	20	23	115.0	76 - 134
1,2-Dichlorobenzene	20	22	110.0	80 - 116
1,2-Dibromo-3-Chloro-Propane (D	20	24	120.0	43 - 152
1,2,4-Trichlorobenzene	20	22	110.0	72 - 131
Hexachlorobutadiene	20	25	125.0	79 - 129
Naphthalene	20	24	120.0	70 - 140
1,2,3-Trichlorobenzene	20	23	115.0	67 - 139
Xylenes (total)	60	65	108.3	70 - 130

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

241001 1537

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1023LCSA22

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	16	80.0	68 - 116
Chloromethane	20	16	80.0	55 - 144
Vinyl chloride	20	20	100.0	63 - 133
Bromomethane	20	25	125.0	76 - 135
Chloroethane	20	22	110.0	69 - 136
Trichlorofluoromethane	20	28	140.0	59 - 144
1,1-Dichloroethene	20	23	115.0	52 - 150
Methylene chloride	20	24	120.0	72 - 123
Trans-1,2-Dichloroethene	20	22	110.0	64 - 131
1,1-Dichloroethane	20	21	105.0	76 - 122
2,2-Dichloropropane	20	20	100.0	69 - 132
Cis-1,2-Dichloroethene	20	22	110.0	71 - 122
Bromochloromethane	20	20	100.0	80 - 113
Chloroform	20	21	105.0	77 - 121
1,1,1-Trichloroethane	20	21	105.0	69 - 126
Carbon tetrachloride	20	23	115.0	68 - 127
Benzene	20	20	100.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	21	105.0	76 - 120
1,2-Dichloropropane	20	21	105.0	79 - 119
Dibromomethane	20	21	105.0	80 - 117
Bromodichloromethane	20	21	105.0	72 - 120
Toluene	20	21	105.0	76 - 119
1,1,2-Trichloroethane	20	21	105.0	79 - 116
Tetrachloroethylene	20	20	100.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	21	105.0	68 - 118
1,2-Dibromoethane (EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	20	100.0	75 - 124
1,1,1,2-Tetrachloroethane	20	20	100.0	75 - 110
Ethylbenzene	20	21	105.0	71 - 129
M,P-Xylene	40	42	105.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

241001 1537

Form III

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1023LCSA22

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
O-Xylene	20	20	100.0	75 - 124
Styrene	20	21	105.0	78 - 118
Bromoform	20	22	110.0	58 - 124
1-Methylethylbenzene (Cumene)	20	21	105.0	76 - 126
Bromobenzene	20	20	100.0	80 - 118
1,1,2,2-Tetrachloroethane	20	22	110.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
N-Propylbenzene	20	20	100.0	76 - 125
2-Chlorotoluene	20	20	100.0	72 - 119
4-Chlorotoluene	20	20	100.0	32 - 158
1,3,5-Trimethylbenzene	20	21	105.0	76 - 126
tert-Butylbenzene	20	20	100.0	70 - 124
1,2,4-Trimethylbenzene	20	21	105.0	75 - 128
sec-Butylbenzene	20	21	105.0	6 - 178
1,3-Dichlorobenzene	20	20	100.0	80 - 115
1,4-Dichlorobenzene	20	20	100.0	78 - 117
p-Isopropyltoluene	20	21	105.0	6 - 178
n-Butylbenzene	20	21	105.0	76 - 134
1,2-Dichlorobenzene	20	21	105.0	80 - 116
1,2-Dibromo-3-Chloro-Propane (D	20	26	130.0	43 - 152
1,2,4-Trichlorobenzene	20	22	110.0	72 - 131
Hexachlorobutadiene	20	23	115.0	79 - 129
Naphthalene	20	24	120.0	70 - 140
1,2,3-Trichlorobenzene	20	22	110.0	67 - 139
Xylenes (total)	60	62	103.3	70 - 130

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

241001 1537

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122MS

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	16	80.0	68 - 116
Chloromethane	20	0	17	85.0	55 - 144
Vinyl chloride	20	0	18	90.0	63 - 133
Bromomethane	20	0	19	95.0	76 - 135
Chloroethane	20	0	20	100.0	69 - 136
Trichlorofluoromethane	20	0	23	115.0	59 - 144
1,1-Dichloroethene	20	0	25	125.0	52 - 150
Methylene chloride	20	0	22	110.0	72 - 123
Trans-1,2-Dichloroethene	20	0	22	110.0	64 - 131
1,1-Dichloroethane	20	0	23	115.0	76 - 122
2,2-Dichloropropane	20	0	24	120.0	69 - 132
Cis-1,2-Dichloroethene	20	0	22	110.0	71 - 122
Bromochloromethane	20	0	22	110.0	80 - 113
Chloroform	20	0	23	115.0	77 - 121
1,1,1-Trichloroethane	20	0	23	115.0	69 - 126
Carbon tetrachloride	20	0	23	115.0	68 - 127
Benzene	20	0	23	115.0	77 - 118
1,2-Dichloroethane	20	0	22	110.0	73 - 124
Trichloroethene	20	0	23	115.0	76 - 120
1,2-Dichloropropane	20	0	22	110.0	79 - 119
Dibromomethane	20	0	22	110.0	80 - 117
Bromodichloromethane	20	0	23	115.0	72 - 120
Toluene	20	0	24	120.0 *	76 - 119
1,1,2-Trichloroethane	20	0	22	110.0	79 - 116
Tetrachloroethylene	20	0	23	115.0	72 - 123
1,3-Dichloropropane	20	0	23	115.0 *	82 - 114
Dibromochloromethane	20	0	23	115.0	68 - 118
1,2-Dibromoethane (EDB)	20	0	21	105.0	76 - 116
Chlorobenzene	20	0	22	110.0	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122MS

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	0	23	115.0*	75 - 110
Ethylbenzene	20	0	24	120.0	71 - 129
M,P-Xylene	40	0	47	117.5	74 - 127
O-Xylene	20	0	23	115.0	75 - 124
Styrene	20	0	23	115.0	78 - 118
Bromoform	20	0	22	110.0	58 - 124
1-Methylethylbenzene (Cumene)	20	3	29	130.0*	76 - 126
Bromobenzene	20	0	23	115.0	80 - 118
1,1,2,2-Tetrachloroethane	20	0	22	110.0	79 - 114
1,2,3-Trichloropropane	20	0	22	110.0	79 - 111
N-Propylbenzene	20	2.5	28	127.0*	76 - 125
2-Chlorotoluene	20	0	22	110.0	72 - 119
4-Chlorotoluene	20	0	24	120.0	32 - 158
1,3,5-Trimethylbenzene	20	0	23	115.0	76 - 126
tert-Butylbenzene	20	0	26	130.0*	70 - 124
1,2,4-Trimethylbenzene	20	0	25	125.0	75 - 128
sec-Butylbenzene	20	2.3	29	134.0	6 - 178
1,3-Dichlorobenzene	20	0	23	115.0	80 - 115
1,4-Dichlorobenzene	20	0	22	110.0	78 - 117
p-Isopropyltoluene	20	0	25	125.0	6 - 178
n-Butylbenzene	20	0	27	135.0*	76 - 134
1,2-Dichlorobenzene	20	0	23	115.0	80 - 116
1,2-Dibromo-3-Chloro-Propane (DB	20	0	24	120.0	43 - 152
1,2,4-Trichlorobenzene	20	0	25	125.0	72 - 131
Hexachlorobutadiene	20	0	27	135.0*	79 - 129
Naphthalene	20	3.4	29	128.0	70 - 140
1,2,3-Trichlorobenzene	20	0	26	130.0	67 - 139
Xylenes (total)	60	0	71	118.3	70 - 130

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122MS

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.

Spike Recovery: 8 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122SD

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	15	75.0	6.5	40	68 - 116
Chloromethane	20	16	80.0	6.1	17	55 - 144
Vinyl chloride	20	15	75.0	18.2 *	18	63 - 133
Bromomethane	20	18	90.0	5.4	20	76 - 135
Chloroethane	20	19	95.0	5.1	20	69 - 136
Trichlorofluoromethane	20	22	110.0	4.4	16	59 - 144
1,1-Dichloroethene	20	24	120.0	4.1	20	52 - 150
Methylene chloride	20	22	110.0	0	23	72 - 123
Trans-1,2-Dichloroethene	20	23	115.0	4.4	18	64 - 131
1,1-Dichloroethane	20	22	110.0	4.4	20	76 - 122
2,2-Dichloropropane	20	26	130.0	8	20	69 - 132
Cis-1,2-Dichloroethene	20	23	115.0	4.4	20	71 - 122
Bromochloromethane	20	22	110.0	0	20	80 - 113
Chloroform	20	23	115.0	0	20	77 - 121
1,1,1-Trichloroethane	20	23	115.0	0	22	69 - 126
Carbon tetrachloride	20	24	120.0	4.3	25	68 - 127
Benzene	20	23	115.0	0	18	77 - 118
1,2-Dichloroethane	20	23	115.0	4.4	20	73 - 124
Trichloroethene	20	23	115.0	0	21	76 - 120
1,2-Dichloropropane	20	23	115.0	4.4	20	79 - 119
Dibromomethane	20	23	115.0	4.4	20	80 - 117
Bromodichloromethane	20	22	110.0	4.4	20	72 - 120
Toluene	20	22	110.0	8.7	20	76 - 119
1,1,2-Trichloroethane	20	23	115.0	4.4	23	79 - 116
Tetrachloroethylene	20	23	115.0	0	20	72 - 123
1,3-Dichloropropane	20	23	115.0 *	0	18	82 - 114
Dibromochloromethane	20	23	115.0	0	20	68 - 118
1,2-Dibromoethane (EDB)	20	22	110.0	4.7	22	76 - 116
Chlorobenzene	20	22	110.0	0	20	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122SD

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	23	115.0*	0	21	75 - 110
Ethylbenzene	20	23	115.0	4.3	21	71 - 129
M,P-Xylene	40	45	112.5	4.3	20	74 - 127
O-Xylene	20	23	115.0	0	20	75 - 124
Styrene	20	23	115.0	0	20	78 - 118
Bromoform	20	22	110.0	0	20	58 - 124
1-Methylethylbenzene (Cumene)	20	27	120.0	7.1	20	76 - 126
Bromobenzene	20	23	115.0	0	18	80 - 118
1,1,2,2-Tetrachloroethane	20	22	110.0	0	20	79 - 114
1,2,3-Trichloropropane	20	23	115.0*	4.4	19	79 - 111
N-Propylbenzene	20	27	123.0	3.6	20	76 - 125
2-Chlorotoluene	20	23	115.0	4.4	30	72 - 119
4-Chlorotoluene	20	23	115.0	4.3	119	32 - 158
1,3,5-Trimethylbenzene	20	23	115.0	0	21	76 - 126
tert-Butylbenzene	20	24	120.0	8	22	70 - 124
1,2,4-Trimethylbenzene	20	23	115.0	8.3	19	75 - 128
sec-Butylbenzene	20	26	118.0	10.9	166	6 - 178
1,3-Dichlorobenzene	20	22	110.0	4.4	18	80 - 115
1,4-Dichlorobenzene	20	22	110.0	0	19	78 - 117
p-Isopropyltoluene	20	24	120.0	4.1	177	6 - 178
n-Butylbenzene	20	24	120.0	11.8	16	76 - 134
1,2-Dichlorobenzene	20	22	110.0	4.4	16	80 - 116
1,2-Dibromo-3-Chloro-Propane (D	20	24	120.0	0	23	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	8.3	22	72 - 131
Hexachlorobutadiene	20	25	125.0	7.7	26	79 - 129
Naphthalene	20	30	133.0	3.4	26	70 - 140
1,2,3-Trichlorobenzene	20	25	125.0	3.9	27	67 - 139
Xylenes (total)	60	69	115.0	2.9	20	70 - 130

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 15CUMW04Q40122SD

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2110004

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

RPD: 1 out of 57 outside limits

Spike Recovery: 3 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

241001 1537

Standards Data

241001 1538

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01

Column: DB-624 ID: 0.18 (mm) Calibration Time: 0325

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF3 =5PPB.D RRF4 =10PPB.D RRF5 =20PPB.D

COMPOUND	RRF1	RRF2	RRF3	RRF4	RRF5	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.319	0.262	0.256	0.301	0.261		
Chloromethane #	0.300	0.265	0.250	0.288	0.246		#
Vinyl Chloride *	0.336	0.263	0.302	0.320	0.270		*
Bromomethane	0.236	0.214	0.210	0.244	0.204		
Chloroethane	0.187	0.184	0.171	0.208	0.171		
Trichlorofluoromethane	0.258	0.215	0.207	0.256	0.234		
1,1-Dichloroethene	0.324	0.355	0.300	0.334	0.318		
Methylene Chloride	0.341	0.329	0.288	0.324	0.326		
trans 1,2-Dichloroethene	0.368	0.334	0.292	0.350	0.348		
1,1-Dichloroethane #	0.458	0.451	0.414	0.463	0.451		#
2,2-Dichloropropane	0.225	0.260	0.212	0.242	0.248		
cis-1,2-Dichloroethene	0.292	0.311	0.265	0.328	0.310		
Bromochloromethane	0.133	0.152	0.122	0.145	0.154		
Chloroform *	0.500	0.504	0.452	0.514	0.506		*
1,1,1-Trichloroethane	0.383	0.372	0.328	0.380	0.382		
Carbon tetrachloride	0.275	0.295	0.257	0.313	0.311		
Benzene	1.206	1.164	1.051	1.201	1.196		
1,2-Dichloroethane	0.325	0.328	0.287	0.339	0.338		
Trichloroethylene	0.260	0.292	0.253	0.292	0.287		
1,2-Dichloropropane *	0.271	0.287	0.241	0.283	0.284		*
Dibromomethane	0.175	0.178	0.152	0.185	0.181		
Bromodichloromethane	0.376	0.377	0.317	0.376	0.378		
Toluene *	0.649	0.702	0.625	0.746	0.738		*
1,1,2-Trichloroethane	0.276	0.246	0.230	0.246	0.259		
Tetrachloroethylene	0.229	0.244	0.206	0.247	0.248		
1,3-Dichloropropane	0.494	0.542	0.434	0.567	0.535		
Dibromochloromethane	0.263	0.333	0.264	0.338	0.322		
1,2-Dibromoethane	0.272	0.285	0.234	0.307	0.311		
Chlorobenzene #	1.007	1.162	0.920	1.098	1.089		#
1,1,1,2-Tetrachloroethane	0.260	0.308	0.258	0.303	0.313		
Ethylbenzene *	0.515	0.544	0.470	0.553	0.546		*
p,m-Xylene	0.621	0.658	0.545	0.684	0.676		
o-Xylene	1.215	1.285	1.114	1.311	1.394		
Styrene	0.963	1.146	0.988	1.174	1.220		
Bromoform #	0.154	0.176	0.141	0.181	0.188		#
1-Methylethylbenzene	3.101	3.279	2.677	3.213	3.524		
Bromobenzene	1.506	1.602	1.361	1.688	1.699		
1,1,2,2-Tetrachloroethane #	0.787	0.825	0.658	0.838	0.843		#

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01

Column: DB-624 ID: 0.18 (mm) Calibration Time: 0325

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF3 =5PPB.D RRF4 =10PPB.D RRF5 =20PPB.D

COMPOUND	RRF1	RRF2	RRF3	RRF4	RRF5	$\overline{RRF}$	% RSD
1,2,3- trichloropropane	0.189	0.180	0.178	0.222	0.226		
n-Propylbenzene	3.752	4.164	3.418	4.415	4.544		
2-Chlorotoluene	2.730	2.809	2.458	2.997	2.857		
4-Chlorotoluene	2.423	2.603	2.202	2.856	2.803		
1,3,5-Trimethylbenzene	2.486	2.527	2.262	2.917	2.872		
tert-Butylbenzene	2.164	2.158	2.074	2.666	2.331		
1,2,4-trimethylbenzene	2.396	2.504	2.168	2.814	2.856		
sec-Butylbenzene	3.044	3.163	2.771	3.422	3.620		
1,3-Dichlorobenzene	1.543	1.538	1.342	1.652	1.588		
1,4-Dichlorobenzene *	1.775	1.578	1.343	1.613	1.584		*
p-Isopropyltoluene	2.344	2.556	2.315	2.846	2.970		
n-Butylbenzene	2.548	2.540	2.216	2.790	2.842		
1,2-Dichlorobenzene	1.464	1.505	1.216	1.505	1.476		
1,2-dibromo-3-chloropropane	0.068	0.107	0.108	0.129	0.128		
1,2,4-Trichlorobenzene	0.908	0.855	0.762	0.933	0.897		
Hexachlorobutadiene *	0.123	0.170	0.151	0.179	0.168		*
Naphthalene	2.060	1.980	1.694	2.344	2.360		
1,2,3-trichlorobenzene	0.703	0.733	0.622	0.828	0.792		
Xylenes (Total)	1.999	1.975	1.767	2.084	2.104		
DIBROMOFLUOROMETHANE (surr		0.201	0.266	0.253	0.250		
TOLUENE d8 (surr)		0.828	1.101	1.064	1.087		
4-BROMOFLUOROBENZENE (surr)		0.736	0.946	1.026	0.994		
1,2-DICHLOROETHANE d4 (surr		0.049	0.062	0.062	0.059		

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01

Column: DB-624 ID: 0.18 (mm) Calibration Time: 0325

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF6 =50PPB.D RRF7 =60PPB.D
RRF8 =80PPB.D

COMPOUND		RRF6	RRF7	RRF8			$\overline{RRF}$	% RSD
Dichlorodifluoromethane		0.289	0.284	0.276			0.2810	7.7
Chloromethane	#	0.269	0.261	0.258			0.2671	6.9#
Vinyl Chloride	*	0.224	0.205	0.194			0.2642	20.1*
Bromomethane		0.228	0.224	0.218			0.2222	6.1
Chloroethane		0.188	0.188	0.178			0.1844	6.5
Trichlorofluoromethane		0.252	0.255	0.243			0.2400	8.2
1,1-Dichloroethene		0.351	0.356	0.360			0.3372	6.4
Methylene Chloride		0.324	0.338	0.340			0.3262	5.2
trans 1,2-Dichloroethene		0.362	0.367	0.371			0.3490	7.5
1,1-Dichloroethane	#	0.481	0.487	0.493			0.4622	5.5#
2,2-Dichloropropane		0.268	0.269	0.270			0.2492	8.7
cis-1,2-Dichloroethene		0.339	0.345	0.356			0.3182	9.5
Bromochloromethane		0.150	0.157	0.154			0.1459	8.3
Chloroform	*	0.536	0.528	0.555			0.5119	5.9*
1,1,1-Trichloroethane		0.401	0.406	0.403			0.3819	6.6
Carbon tetrachloride		0.318	0.337	0.346			0.3065	9.7
Benzene		1.249	1.262	1.318			1.2059	6.5
1,2-Dichloroethane		0.339	0.342	0.355			0.3316	6.1
Trichloroethylene		0.312	0.316	0.318			0.2912	8.4
1,2-Dichloropropane	*	0.302	0.303	0.312			0.2854	7.8*
Dibromomethane		0.187	0.184	0.192			0.1792	6.8
Bromodichloromethane		0.396	0.394	0.412			0.3782	7.4
Toluene	*	0.777	0.798	0.809			0.7305	9.2*
1,1,2-Trichloroethane		0.264	0.255	0.275			0.2564	6.0
Tetrachloroethylene		0.257	0.268	0.256			0.2444	7.9
1,3-Dichloropropane		0.563	0.585	0.587			0.5384	9.6
Dibromochloromethane		0.339	0.348	0.359			0.3208	11.5
1,2-Dibromoethane		0.317	0.318	0.324			0.2960	10.3
Chlorobenzene	#	1.105	1.060	1.166			1.0759	7.6#
1,1,1,2-Tetrachloroethane		0.318	0.322	0.327			0.3011	9.0
Ethylbenzene	*	0.592	0.601	0.612			0.5541	8.5*
p,m-Xylene		0.720	0.750	0.719			0.6716	9.7
o-Xylene		1.459	1.487	1.516			1.3476	10.5
Styrene		1.256	1.318	1.344			1.1761	12.0
Bromoform	#	0.188	0.193	0.199			0.1775	11.4#
1-Methylethylbenzene		3.546	3.653	3.869			3.3578	11.1
Bromobenzene		1.643	1.668	1.786			1.6191	8.1
1,1,2,2-Tetrachloroethane	#	0.788	0.794	0.866			0.7999	8.0#

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01

Column: DB-624 ID: 0.18 (mm) Calibration Time: 0325

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF6 =50PPB.D RRF7 =60PPB.D
RRF8 =80PPB.D

COMPOUND	RRF6	RRF7	RRF8			$\overline{RRF}$	% RSD
1,2,3- trichloropropane	0.205	0.216	0.228			0.2055	10.0
n-Propylbenzene	4.459	4.722	4.742			4.2770	11.1
2-Chlorotoluene	3.004	3.041	3.217			2.8891	8.0
4-Chlorotoluene	2.762	2.837	2.941			2.6784	9.4
1,3,5-Trimethylbenzene	2.970	3.057	3.264			2.7944	12.0
tert-Butylbenzene	2.700	2.431	2.984			2.4385	13.1
1,2,4-trimethylbenzene	2.884	2.914	3.112			2.7060	11.7
sec-Butylbenzene	3.666	3.737	4.005			3.4285	11.9
1,3-Dichlorobenzene	1.570	1.656	1.759			1.5810	7.7
1,4-Dichlorobenzene *	1.552	1.671	1.687			1.6004	7.9*
p-Isopropyltoluene	2.956	3.188	3.411			2.8232	13.9
n-Butylbenzene	2.759	3.047	3.149			2.7364	10.9
1,2-Dichlorobenzene	1.408	1.533	1.624			1.4664	8.1
1,2-dibromo-3-chloropropane	0.127	0.134	0.136			0.1171	19.4 <-
1,2,4-Trichlorobenzene	0.902	0.967	1.021			0.9056	8.4
Hexachlorobutadiene *	0.169	0.166	0.185			0.1639	11.7*
Naphthalene	2.367	2.384	2.628			2.2271	13.3
1,2,3-trichlorobenzene	0.779	0.826	0.899			0.7728	11.1
Xylenes (Total)	2.236	2.298	2.321			2.0980	8.9
DIBROMOFLUOROMETHANE (surr	0.255	0.259	0.261			0.2493	8.8
TOLUENE d8 (surr)	1.118	1.117	1.172			1.0696	10.4
4-BROMOFLUOROBENZENE (surr)	0.988	0.992	1.037			0.9598	10.7
1,2-DICHLOROETHANE d4 (surr	0.064	0.066	0.065			0.0610	9.3

Calibration Criteria Is Stated In Narrative

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6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/21/01

Column: RTX 502.2 ID: 0.18 (mm) Calibration Time: 0517

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF3 =5PPB.D RRF4 =10PPB.D RRF5 =20PPB.D

COMPOUND		RRF1	RRF2	RRF3	RRF4	RRF5	$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.297	0.266	0.299	0.315	0.272			
Chloromethane	#	0.456	0.373	0.445	0.423	0.345			#
Vinyl Chloride	*	0.344	0.324	0.325	0.353	0.315			*
Bromomethane		0.165	0.142	0.172	0.176	0.171			
Chloroethane		0.234	0.232	0.222	0.230	0.201			
Trichlorofluoromethane		0.225	0.203	0.249	0.299	0.287			
1,1-Dichloroethene		0.320	0.365	0.355	0.361	0.384			
Methylene Chloride		0.349	0.415	0.409	0.400	0.428			
trans 1,2-Dichloroethene		0.346	0.430	0.379	0.385	0.420			
1,1-Dichloroethane	#	0.492	0.566	0.546	0.523	0.561			#
2,2-Dichloropropane		0.436	0.462	0.432	0.417	0.452			
cis-1,2-Dichloroethene		0.287	0.344	0.314	0.320	0.338			
Bromochloromethane		0.141	0.149	0.149	0.162	0.168			
Chloroform	*	0.486	0.554	0.544	0.537	0.577			*
1,1,1-Trichloroethane		0.403	0.455	0.411	0.430	0.454			
Carbon tetrachloride		0.236	0.277	0.279	0.280	0.315			
Benzene		1.230	1.329	1.203	1.161	1.274			
1,2-Dichloroethane		0.317	0.354	0.366	0.361	0.393			
Trichloroethylene		0.273	0.285	0.275	0.278	0.298			
1,2-Dichloropropane	*	0.298	0.313	0.334	0.316	0.342			*
Dibromomethane		0.194	0.204	0.216	0.214	0.233			
Bromodichloromethane		0.312	0.345	0.345	0.356	0.388			
Toluene	*	0.707	0.762	0.745	0.725	0.778			*
1,1,2-Trichloroethane		0.260	0.298	0.266	0.284	0.300			
Tetrachloroethylene		0.304	0.294	0.253	0.263	0.285			
1,3-Dichloropropane		0.638	0.734	0.698	0.689	0.770			
Dibromochloromethane		0.275	0.342	0.325	0.344	0.391			
1,2-Dibromoethane		0.348	0.384	0.381	0.384	0.417			
Chlorobenzene	#	1.043	1.133	1.096	1.056	1.157			#
1,1,1,2-Tetrachloroethane		0.287	0.318	0.329	0.313	0.363			
Ethylbenzene	*	0.500	0.617	0.567	0.556	0.625			*
p,m-Xylene		0.664	0.722	0.695	0.678	0.750			
o-Xylene		1.421	1.565	1.474	1.433	1.562			
Styrene		1.120	1.277	1.192	1.175	1.322			
Bromoform	#	0.109	0.166	0.173	0.188	0.223			#
1-Methylethylbenzene		0.769	0.988	0.881	0.876	0.962			
Bromobenzene		1.830	2.043	1.908	1.869	2.046			
1,1,2,2-Tetrachloroethane	#	1.115	1.171	1.130	1.158	1.215			#

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/21/01

Column: RTX 502.2 ID: 0.18 (mm) Calibration Time: 0517

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF3 =5PPB.D RRF4 =10PPB.D RRF5 =20PPB.D

COMPOUND	RRF1	RRF2	RRF3	RRF4	RRF5	$\overline{RRF}$	% RSD
1,2,3- trichloropropane	0.344	0.315	0.343	0.344	0.364		
n-Propylbenzene	4.446	4.765	4.424	4.467	4.832		
2-Chlorotoluene	3.133	3.486	3.178	3.181	3.262		
4-Chlorotoluene	2.987	3.131	2.906	2.845	3.177		
1,3,5-Trimethylbenzene	2.659	3.090	2.856	2.890	3.056		
tert-Butylbenzene	2.532	2.811	2.626	2.587	2.745		
1,2,4-trimethylbenzene	2.547	2.927	2.844	2.770	3.045		
sec-Butylbenzene	3.322	3.650	3.337	3.332	3.599		
1,3-Dichlorobenzene	1.564	1.716	1.606	1.604	1.737		
1,4-Dichlorobenzene *	1.623	1.749	1.658	1.612	1.761		*
p-Isopropyltoluene	2.747	2.889	2.731	2.772	2.954		
n-Butylbenzene	2.490	2.656	2.562	2.548	2.768		
1,2-Dichlorobenzene	1.438	1.591	1.549	1.517	1.648		
1,2-dibromo-3-chloropropane	0.073	0.157	0.146	0.142	0.188		
1,2,4-Trichlorobenzene	0.741	0.809	0.813	0.802	0.896		
Hexachlorobutadiene *	0.113	0.138	0.160	0.159	0.168		*
Naphthalene	2.264	2.515	2.487	2.548	2.788		
1,2,3-trichlorobenzene	0.664	0.746	0.722	0.736	0.799		
Xylenes (Total)	1.960	2.155	2.102	2.032	2.177		
DIBROMOFLUOROMETHANE (surr		0.286	0.289	0.296	0.288		
TOLUENE d8 (surr)		1.065	1.073	1.033	1.046		
4-BROMOFLUOROBENZENE (surr)		1.199	1.183	1.182	1.207		
1,2-DICHLOROETHANE d4 (surr		0.065	0.072	0.075	0.074		

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/21/01

Column: RTX 502.2 ID: 0.18 (mm) Calibration Time: 0517

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF6 =50PPB.D RRF7 =60PPB.D
RRF8 =80PPB.D

COMPOUND	RRF6	RRF7	RRF8			$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.293	0.293	0.297			0.2915	5.3
# Chloromethane	0.372	0.367	0.386			0.3959	10.1#
* Vinyl Chloride	0.292	0.276	0.273			0.3128	9.5*
Bromomethane	0.192	0.198	0.200			0.1770	10.9
Chloroethane	0.210	0.202	0.209			0.2175	6.2
Trichlorofluoromethane	0.290	0.294	0.276			0.2654	13.5
1,1-Dichloroethene	0.380	0.376	0.376			0.3646	5.6
Methylene Chloride	0.412	0.373	0.387			0.3966	6.4
trans 1,2-Dichloroethene	0.415	0.414	0.414			0.4004	7.0
# 1,1-Dichloroethane	0.556	0.559	0.564			0.5459	4.7#
2,2-Dichloropropane	0.443	0.436	0.430			0.4385	3.1
cis-1,2-Dichloroethene	0.345	0.341	0.347			0.3295	6.4
Bromochloromethane	0.163	0.158	0.159			0.1561	5.8
* Chloroform	0.572	0.564	0.566			0.5500	5.3*
1,1,1-Trichloroethane	0.454	0.449	0.453			0.4386	4.9
Carbon tetrachloride	0.322	0.322	0.329			0.2950	10.9
Benzene	1.270	1.233	1.249			1.2436	4.0
1,2-Dichloroethane	0.385	0.371	0.369			0.3645	6.3
Trichloroethylene	0.297	0.295	0.296			0.2871	3.6
* 1,2-Dichloropropane	0.336	0.333	0.335			0.3259	4.6*
Dibromomethane	0.229	0.224	0.228			0.2178	6.2
Bromodichloromethane	0.402	0.387	0.396			0.3664	8.6
* Toluene	0.774	0.754	0.760			0.7506	3.2*
1,1,2-Trichloroethane	0.296	0.287	0.293			0.2855	5.2
Tetrachloroethylene	0.286	0.282	0.279			0.2808	5.8
1,3-Dichloropropane	0.759	0.738	0.747			0.7216	6.1
Dibromochloromethane	0.411	0.407	0.412			0.3634	13.7
1,2-Dibromoethane	0.409	0.403	0.414			0.3925	5.9
# Chlorobenzene	1.136	1.107	1.111			1.1049	3.6#
1,1,1,2-Tetrachloroethane	0.359	0.356	0.349			0.3342	8.1
* Ethylbenzene	0.618	0.606	0.603			0.5865	7.3*
p,m-Xylene	0.750	0.741	0.752			0.7190	5.0
o-Xylene	1.533	1.514	1.531			1.5041	3.7
Styrene	1.313	1.283	1.312			1.2492	6.1
# Bromoform	0.240	0.239	0.244			0.1978	24.0#<- JP
1-Methylethylbenzene	0.966	0.977	0.984			0.9254	8.3
Bromobenzene	2.021	1.975	2.022			1.9642	4.3
# 1,1,2,2-Tetrachloroethane	1.186	1.155	1.202			1.1665	2.9#

Calibration Criteria Is Stated In Narrative

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/21/01

Column: RTX 502.2 ID: 0.18 (mm) Calibration Time: 0517

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF6 =50PPB.D RRF7 =60PPB.D
RRF8 =80PPB.D

COMPOUND	RRF6	RRF7	RRF8			$\overline{RRF}$	% RSD
1,2,3- trichloropropane	0.359	0.354	0.361			0.3480	4.5
n-Propylbenzene	4.838	4.969	5.103			4.7305	5.4
2-Chlorotoluene	3.278	3.301	3.349			3.2710	3.4
4-Chlorotoluene	3.105	3.053	3.093			3.0371	3.8
1,3,5-Trimethylbenzene	3.089	3.076	3.100			2.9770	5.4
tert-Butylbenzene	2.732	2.735	2.779			2.6934	3.7
1,2,4-trimethylbenzene	2.930	2.925	2.954			2.8678	5.3
sec-Butylbenzene	3.616	3.610	3.652			3.5148	4.4
1,3-Dichlorobenzene	1.722	1.708	1.723			1.6725	4.1
1,4-Dichlorobenzene *	1.713	1.716	1.715			1.6934	3.3*
p-Isopropyltoluene	2.943	2.960	2.968			2.8705	3.6
n-Butylbenzene	2.685	2.786	2.710			2.6506	4.1
1,2-Dichlorobenzene	1.636	1.600	1.584			1.5704	4.3
1,2-dibromo-3-chloropropane	0.186	0.183	0.185			0.1575	24.9 <-
1,2,4-Trichlorobenzene	0.886	0.873	0.863			0.8354	6.3
Hexachlorobutadiene *	0.167	0.170	0.164			0.1549	12.6*
Naphthalene	2.825	2.766	2.795			2.6235	7.7
1,2,3-trichlorobenzene	0.814	0.781	0.801			0.7579	6.7
Xylenes (Total)	2.167	2.145	2.190			2.1160	3.8
DIBROMOFLUOROMETHANE (surr	0.286	0.289	0.285			0.2884	1.2
TOLUENE d8 (surr)	1.017	1.032	1.020			1.0408	2.1
4-BROMOFLUOROBENZENE (surr)	1.166	1.208	1.197			1.1917	1.3
1,2-DICHLOROETHANE d4 (surr	0.072	0.074	0.074			0.0723	4.9

Calibration Criteria Is Stated In Narrative

 Average Used: 6.4

FORM VI VOA 1/87 Rev.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01 Time: 0723

Lab File ID: 50CCV31 Init. Calib. Date:10/18/01 Time: 0325

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF50 for SPCC(#) = 0.100 Max %D for CCC(*) = 20.0%
(0.300 for Chlorobenzene and 1,1,2,2 tetrachloroethane)

COMPOUND		$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Dichlorodifluoromethane		0.281	0.297	0.01	5.7	20.0
Chloromethane	#	0.267	0.268	0.1	0.4	20.0#
Vinyl Chloride	*	0.264	0.233	0.1	11.7	20.0*
Bromomethane		0.222	0.231	0.1	4.0	20.0
Chloroethane		0.184	0.192	0.01	4.3	20.0
Trichlorofluoromethane		0.240	0.277	0.01	15.4	20.0
1,1-Dichloroethene		0.337	0.359	0.1	6.5	20.0
Methylene Chloride		0.326	0.336	0.01	3.1	20.0
trans 1,2-Dichloroethene		0.349	0.354	0.01	1.4	20.0
1,1-Dichloroethane	#	0.462	0.481	0.1	4.1	20.0#
2,2-Dichloropropane		0.249	0.258	0.01	3.6	20.0
cis-1,2-Dichloroethene		0.318	0.336	0.01	5.7	20.0
Bromochloromethane		0.146	0.149	0.01	2.0	20.0
Chloroform	*	0.512	0.530	0.2	3.5	20.0*
1,1,1-Trichloroethane		0.382	0.402	0.1	5.2	20.0
Carbon tetrachloride		0.306	0.334	0.1	9.2	20.0
Benzene		1.206	1.225	0.5	1.6	20.0
1,2-Dichloroethane		0.332	0.334	0.1	0.6	20.0
Trichloroethylene		0.291	0.306	0.1	5.2	20.0
1,2-Dichloropropane	*	0.285	0.305	0.01	7.0	20.0*
Dibromomethane		0.179	0.182	0.01	1.7	20.0
Bromodichloromethane		0.378	0.397	0.2	5.0	20.0
Toluene	*	0.730	0.793	0.4	8.6	20.0*
1,1,2-Trichloroethane		0.256	0.269	0.1	5.1	20.0
Tetrachloroethylene		0.244	0.255	0.2	4.5	20.0
1,3-Dichloropropane		0.538	0.540	0.01	0.4	20.0
Dibromochloromethane		0.321	0.346	0.1	7.8	20.0
1,2-Dibromoethane		0.296	0.308	0.01	4.0	20.0
Chlorobenzene	#	1.076	1.145	0.5	6.4	20.0#
1,1,1,2-Tetrachloroethane		0.301	0.332	0.01	10.3	20.0
Ethylbenzene	*	0.554	0.604	0.1	9.0	20.0*
p,m-Xylene		0.672	0.747	0.3	11.2	20.0
o-Xylene		1.348	1.461	0.3	8.4	20.0
Styrene		1.176	1.241	0.3	5.5	20.0
Bromoform	#	0.178	0.187	0.1	5.0	20.0#
1-Methylethylbenzene		3.358	3.718	0.01	10.7	20.0
Bromobenzene		1.619	1.785	0.01	10.2	20.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS03 Calibration Date: 10/18/01 Time: 0723

Lab File ID: 50CCV31 Init. Calib. Date:10/18/01 Time: 0325

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF50 for SPCC(#) = 0.100 Max %D for CCC(*) = 20.0%
(0.300 for Chlorobenzene and 1,1,2,2 tetrachloroethane)

COMPOUND		$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,1,2,2-Tetrachloroethane	#	0.800	0.837	0.3	4.6	20.0#
1,2,3- trichloropropane		0.206	0.221	0.01	7.3	20.0
n-Propylbenzene		4.277	4.966	0.01	16.1	20.0
2-Chlorotoluene		2.889	3.192	0.01	10.5	20.0
4-Chlorotoluene		2.678	3.077	0.01	14.9	20.0
1,3,5-Trimethylbenzene		2.794	3.239	0.01	15.9	20.0
tert-Butylbenzene		2.438	2.416	0.01	0.9	20.0
1,2,4-trimethylbenzene		2.706	3.074	0.01	13.6	20.0
sec-Butylbenzene		3.428	3.922	0.01	14.4	20.0
1,3-Dichlorobenzene		1.581	1.736	0.01	9.8	20.0
1,4-Dichlorobenzene	*	1.600	1.690	0.01	5.6	20.0*
p-Isopropyltoluene		2.823	3.225	0.01	14.2	20.0
n-Butylbenzene		2.736	3.213	0.01	17.4	20.0
1,2-Dichlorobenzene		1.466	1.630	0.01	11.2	20.0
1,2-dibromo-3-chloropropane		0.117	0.137	0.01	17.1	20.0
1,2,4-Trichlorobenzene		0.906	0.992	0.01	9.5	20.0
Hexachlorobutadiene	*	0.164	0.191	0.01	16.5	20.0*
Naphthalene		2.227	2.468	0.01	10.8	20.0
1,2,3-trichlorobenzene		0.773	0.872	0.01	12.8	20.0
Xylenes (Total)		2.098	2.281	0.3	8.7	20.0
DIBROMOFLUOROMETHANE (surr)		0.249	0.255	0.01	2.4	20.0
TOLUENE d8 (surr)		1.070	1.107	0.01	3.4	20.0
4-BROMOFLUOROBENZENE (surr)		0.960	1.070	0.01	11.4	20.0
1,2-DICHLOROETHANE d4 (surr)		0.061	0.064	0.01	4.9	20.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/23/01 Time: 0738

Lab File ID: 50CCV21 Init. Calib. Date:10/21/01 Time: 0517

GC Column: RTX 502.2 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF50 for SPCC(#) = 0.100 Max %D for CCC(*) = 20.0%
(0.300 for Chlorobenzene and 1,1,2,2 tetrachloroethane)

COMPOUND		$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane		0.292	0.295	0.01	1.0	20.0	
Chloromethane	#	0.396	0.347	0.1	12.4	20.0#	
Vinyl Chloride	*	0.313	0.307	0.1	1.9	20.0*	
Bromomethane		0.177	0.215	0.1	21.5	20.0	<- TP
Chloroethane		0.218	0.225	0.01	3.2	20.0	
Trichlorofluoromethane		0.265	0.331	0.01	24.9	20.0	<- TP
1,1-Dichloroethene		0.365	0.379	0.1	3.8	20.0	
Methylene Chloride		0.397	0.446	0.01	12.3	20.0	
trans 1,2-Dichloroethene		0.400	0.414	0.01	3.5	20.0	
1,1-Dichloroethane	#	0.546	0.572	0.1	4.8	20.0#	
2,2-Dichloropropane		0.438	0.450	0.01	2.7	20.0	
cis-1,2-Dichloroethene		0.330	0.361	0.01	9.4	20.0	
Bromochloromethane		0.156	0.150	0.01	3.8	20.0	
Chloroform	*	0.550	0.574	0.2	4.4	20.0*	
1,1,1-Trichloroethane		0.439	0.461	0.1	5.0	20.0	
Carbon tetrachloride		0.295	0.347	0.1	17.6	20.0	
Benzene		1.244	1.271	0.5	2.2	20.0	
1,2-Dichloroethane		0.364	0.353	0.1	3.0	20.0	
Trichloroethylene		0.287	0.294	0.1	2.4	20.0	
1,2-Dichloropropane	*	0.326	0.349	0.01	7.0	20.0*	
Dibromomethane		0.218	0.223	0.01	2.3	20.0	
Bromodichloromethane		0.366	0.400	0.2	9.3	20.0	
Toluene	*	0.751	0.788	0.4	4.9	20.0*	
1,1,2-Trichloroethane		0.286	0.295	0.1	3.1	20.0	
Tetrachloroethylene		0.281	0.274	0.2	2.5	20.0	
1,3-Dichloropropane		0.722	0.734	0.01	1.7	20.0	
Dibromochloromethane		0.363	0.412	0.1	13.5	20.0	
1,2-Dibromoethane		0.392	0.406	0.01	3.6	20.0	
Chlorobenzene	#	1.105	1.153	0.5	4.3	20.0#	
1,1,1,2-Tetrachloroethane		0.334	0.362	0.01	8.4	20.0	
Ethylbenzene	*	0.586	0.626	0.1	6.8	20.0*	
p,m-Xylene		0.719	0.764	0.3	6.2	20.0	
o-Xylene		1.504	1.574	0.3	4.6	20.0	
Styrene		1.249	1.369	0.3	9.6	20.0	
Bromoform	#	0.198	0.233	0.1	17.7	20.0#	
1-Methylethylbenzene		0.925	1.011	0.01	9.3	20.0	
Bromobenzene		1.964	2.016	0.01	2.6	20.0	

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2110004

Instrument ID: VMS02 Calibration Date: 10/23/01 Time: 0738

Lab File ID: 50CCV21 Init. Calib. Date:10/21/01 Time: 0517

GC Column: RTX 502.2 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF50 for SPCC(#) = 0.100 Max %D for CCC(*) = 20.0%
(0.300 for Chlorobenzene and 1,1,2,2 tetrachloroethane)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
1,1,2,2-Tetrachloroethane #	1.166	1.208	0.3	3.6	20.0#	
1,2,3- trichloropropane	0.348	0.360	0.01	3.4	20.0	
n-Propylbenzene	4.730	5.264	0.01	11.3	20.0	
2-Chlorotoluene	3.271	3.398	0.01	3.9	20.0	
4-Chlorotoluene	3.037	3.218	0.01	6.0	20.0	
1,3,5-Trimethylbenzene	2.977	3.224	0.01	8.3	20.0	
tert-Butylbenzene	2.693	2.890	0.01	7.3	20.0	
1,2,4-trimethylbenzene	2.868	2.193	0.01	23.5	20.0	<-
sec-Butylbenzene	3.515	3.846	0.01	9.4	20.0	
1,3-Dichlorobenzene	1.672	1.794	0.01	7.3	20.0	
1,4-Dichlorobenzene *	1.693	1.798	0.01	6.2	20.0*	
p-Isopropyltoluene	2.870	3.159	0.01	10.1	20.0	
n-Butylbenzene	2.651	2.962	0.01	11.7	20.0	
1,2-Dichlorobenzene	1.570	1.688	0.01	7.5	20.0	
1,2-dibromo-3-chloropropane	0.158	0.173	0.01	9.5	20.0	
1,2,4-Trichlorobenzene	0.835	0.918	0.01	9.9	20.0	
Hexachlorobutadiene *	0.155	0.179	0.01	15.5	20.0*	
Naphthalene	2.624	2.805	0.01	6.9	20.0	
1,2,3-trichlorobenzene	0.758	0.810	0.01	6.9	20.0	
Xylenes (Total)	2.116	2.272	0.3	7.4	20.0	
DIBROMOFLUOROMETHANE (surr)	0.288	0.287	0.01	0.3	20.0	
TOLUENE d8 (surr)	1.041	1.028	0.01	1.2	20.0	
4-BROMOFLUOROBENZENE (surr)	1.192	1.188	0.01	0.3	20.0	
1,2-DICHLOROETHANE d4 (surr)	0.072	0.076	0.01	5.6	20.0	

Average Used: 7.22436

FORM VII VOA

Chain of Custody Documentation

241001 1538

K110-0004 M.A.

H2M Hill Constructors, Inc.
5 Perimeter Center Place, Suite 700
anta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-14

OJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
A.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
OJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
3rd Street arterly GW Re-Sampling	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
OJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
ll Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

EM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SMW11-Q3R-01-15	CEF-103-SMW-11 Re-sample	W	08/30/01	13:40	III/C	14	3										Grab		01
2	062-TB-Q3R-01-15	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared by Lab	02
	NA	Temperature Blank	W	NA	NA	III/C	14		1											
								* Sample date is 10/10/01 per client 10/15/01												
	Temp upon rec'd 4°C	pH < 2 (8260)																		

MPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ndy Dumaop / Anthony Cain A. Jones Environmental Services	Federal Express TRK # 7916 7607 7250.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
nted Name and Signature:			Printed Name and Signature:		
Dumaop	10/10/01	17:30	Federal Express	10/10/01	17:30
nted Name and Signature:			Printed Name and Signature:		
FedEx			Michael A. Kulay	10/11/01	10:10
nted Name and Signature:			Printed Name and Signature:		

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Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project #: 2110-603

Client: CH2MHILL	Date Recd: 10-11-01
Project: N.A.S. Cecil	Due Date: 10-22-01
Log In Tech: Noll	Recd Via: Client Crosstown FedEx
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C) 4°C	✓		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL pH < 2 (9260)	✓		Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: STND / RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2110-003 By Noll

Client/Project Chemtech/ Cecil Field Date 10-11-01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other pH
2110-004-01					3 pH<2	
02					3 pH<2	

2110-004 NAS Cecil Field CH2MHILL

Sample#	Parameter	Rel'd	Rec'd	Date	time
01-02	8260(w)		SL	10/15/01	0815
01-02	8260 (w)			10/19/01	1000
1	8260			10/23/01	1000

Addendum

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	10-11-01; 10:10 AM
Date to be Reported:	10-25-01
Laboratory Submission Number/SDG:	2110004
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 2 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8260.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 2 analyses on 2 samples (including QC) *12-Oct-01*

Report/SDG #: 2110004

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
62SMW11Q3R0	211000401	CEF-103-SMW-	W	8/30/01 1:40:00 PM	10/11/01 10:10:00 AM

Method		
8260	Volatile Organic Compounds	8260

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
62TBQ3R0115	211000402	Trip Blank	WQ	10/11/01	10/11/01 10:10:00 AM

Method		
8260	Volatile Organic Compounds	8260

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	11-28-01; 10:20 AM
Date Reported:	12-10-01
PEL Submission Number:	2111099
Project:	NAS Cecil Field (103RD Street)

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method: 8260, 8310, 6010, and FLPRO

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Organics **1**
METHOD8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 42
Standards Data 59
METHOD8310 HPLC PAH ORGANICS 66
Sample Data 70
QC Summary 80
Standards Data 90
METHODFL-PRO GC FL- PRO ORGANICS 102
Sample Data 106
QC Summary 116
Standards Data 126

Inorganics **138**
METALS DATA PACKAGE TOTALS 140
Sample Data 144
QC Summary 154

Chain of Custody Documentation **181**

Addendum **188**

Organics

101201 1025

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when incicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated bland as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

N This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as clorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

101201 1025

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

The initial calibration for the water matrix met the criteria. Dichlorodifluoromethane, Trichlorofluoromethane, Methylene Chloride, Carbon tetrachloride, 1,2-Dichloroethane, Trichloroethene, Tetrachloroethene, Bromoform, tert-Butylbenzene, and Hexachlorobutadiene required a linear fit in the water calibration and met the criteria with an R squared value > 0.99. The continuing calibration verification for the water met the criteria using the average percent D allowed by SW846 EPA method 8000.

B. Blanks:

The blank for the water samples met all criteria.

C. Surrogates:

All surrogate criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

D. Spikes:

Laboratory Control Samples (LCS)

All criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, SMW11Q40118, was analyzed as an MS/SD at a dilution of 1:5 where one out of 114 analytes did not meet the acceptance criteria for percent recovery. All criteria were met for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. Sample SMW11Q40118 required a 1:5 dilution due to a high concentration of 1,2,4-Trimethylbenzene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Celo **DATE:** 12/6/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: **8260**

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
SMW11Q40118DL1	211109907DL1
062DUPQ40118	211109910
062EQBQ40118	211109911
062TBQ40118	211109912

101201 1025

Sample Data

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID 09901.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1108

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID 09901.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1108

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109901

Lab File ID 09901.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1108

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID 09902.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1133

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID 09902.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1133

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109902

Lab File ID 09902.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1133

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID 09903.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1159

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID 09903.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1159

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109903

Lab File ID 09903.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1159

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID 09905.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1249

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID 09905.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1249

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109905

Lab File ID 09905.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1249

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID 09906.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1314

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID 09906.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1314

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109906

Lab File ID 09906.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1314

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID 09907.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1455

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	0.42	J
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	0.19	J
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID 09907.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1455

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	44	
511-39-00	p,m-Xylene	35	
95-47-6	o-Xylene	0.91	J
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	18	
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	18	
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	13	
98-06-6	tert-Butylbenzene	14	
95-63-6	1,2,4-Trimethylbenzene	114	E
135-98-8	sec-Butylbenzene	9.4	
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	8.3	
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109907

Lab File ID 09907.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1455

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	83	
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	36	

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907DL1 Lab File ID 09907R.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1701

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
594-20-7	2,2-Dichloropropane	2.2	U
156-59-2	cis-1,2-Dichloroethene	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	3	U
108-88-3	Toluene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
124-48-1	Dibromochloromethane	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907DL1 Lab File ID 09907R.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1701

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	1.2	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	37	
511-39-00	p,m-Xylene	32	
95-47-6	o-Xylene	1.2	J
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene (Cumene)	17	
108-86-1	Bromobenzene	0.75	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	2.3	U
103-65-1	n-Propylbenzene	15	
95-49-8	2-Chlorotoluene	5	U
106-43-4	4-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	15	
98-06-6	tert-Butylbenzene	1.9	U
95-63-6	1,2,4-Trimethylbenzene	123	
135-98-8	sec-Butylbenzene	8.2	
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
99-87-6	4-Isopropyltoluene	0.95	U
104-51-8	n-Butylbenzene	1.8	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.8	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	2.3	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109907DL1

Lab File ID 09907R.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1701

PercentSolids: 0

decanted :

Dilution Factor: 5

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	58	
87-61-6	1,2,3-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	33	

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109910

Lab File ID 09910.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1339

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID 09910.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1339

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Duplicate Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109910

Lab File ID 09910.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1339

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID 09911.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109911

Lab File ID 09911.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1405

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109911

Lab File ID 09911.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1405

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109912

Lab File ID 09912.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1430

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TBQ40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099

Matrix: WATER
Lab Sample ID: 211109912
Lab File ID 09912.D

Sample wt/vol: 5
Units: ML
Date Received: 11/28/01

Concentrated Extract Volume: 5
Date Extracted:

Level:(low/med) LOW
Date Analyzed: 12/03/01
Time: 1430

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: PURGETRAP
Station ID: Trip Blank
Method: 8260

GPC Cleanup : (Y/N)
pH:

Column(1): DB-624
ID: 0.18
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109912

Lab File ID 09912.D

Sample wt/vol: 5

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1430

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

101201 1025

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099

Matrix: WATER
Lab Sample ID: 1203BLKA12
Lab File ID XBLKA14.D

Sample wt/vol: 5
Units: ML
Date Received: 12/03/01

Concentrated Extract Volume: 5
Date Extracted:

Level:(low/med) LOW
Date Analyzed: 12/03/01
Time: 0926

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: PURGETRAP
Station ID: QC
Method: 8260

GPC Cleanup : (Y/N)
pH:

Column(1): DB-624
ID: 0.18
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 1203BLKA12

Lab File ID XBLKA14.D

Sample wt/vol: 5

Units: ML

Date Received: 12/03/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 0926

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID XBLKA14.D Lab Sample ID: 1203BLKA12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 0926

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
2	SMW01Q40118	211109901	09901.D	12/03/01	1108
3	SMW02Q40118	211109902	09902.D	12/03/01	1133
4	SMW05Q40118	211109903	09903.D	12/03/01	1159
5	SMW06Q40118	211109904	09904.D	12/03/01	1224
6	SMW07Q40118	211109905	09905.D	12/03/01	1249
7	SMW10Q40118	211109906	09906.D	12/03/01	1314
8	062DUPQ40118	211109910	09910.D	12/03/01	1339
9	062EQBQ40118	211109911	09911.D	12/03/01	1405
10	062TBQ40118	211109912	09912.D	12/03/01	1430
11	SMW11Q40118	211109907	09907.D	12/03/01	1455
12	SMW11Q40118DL1MS	211109908DL1	09908SR.D	12/03/01	1610
13	SMW11Q40118DL1SD	211109909DL1	09909SR.D	12/03/01	1636
14	SMW11Q40118DL1	211109907DL1	09907R.D	12/03/01	1701

COMMENTS:

2

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111099

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	106.0	106.0	106.4	110.8			0
062EQBQ40118	105.2	104.0	102.8	106.8			0
062TBQ40118	102.0	105.4	103.8	102.8			0
1203BLKA12	103.2	104.4	106.6	100.8			0
1203LCSA11	108.0	104.6	101.6	107.2			0
SMW01Q40118	99.8	101.2	102.2	105.2			0
SMW02Q40118	105.4	104.0	105.6	109.0			0
SMW05Q40118	102.8	103.6	104.0	105.2			0
SMW06Q40118	104.0	102.0	104.4	104.0			0
SMW07Q40118	103.2	102.8	103.2	98.2			0
SMW10Q40118	104.6	105.4	103.8	107.2			0
SMW11Q40118	99.8	101.8	96.2	100.0			0
SMW11Q40118DL1	106.8	103.2	106.0	108.4			0
SMW11Q40118DL1MS	107.6	103.6	102.0	106.2			0
SMW11Q40118DL1SD	105.4	100.6	100.0	107.6			0

Control Limits

S1	=	Dibromofluoromethane	86 - 118
S2	=	Toluene d8	88 - 110
S3	=	4-Bromofluorobenzene	86 - 115
S4	=	1,2-Dichloroethane-d4	80 - 120

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

101201 1026

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: BFB13.D BFB Injection Date: 11/30/01

Instrument ID: VMS01 BFB Injection Time: 1441

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	18.5	
75	30.0 - 60.0% of mass 95	51	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.2	(0.3)1
174	50.0 - 100.0% of mass 95	87.7	
175	5.0 - 9.0% of mass 174	5.5	(6.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.6	(95.4)1
177	5.0 - 9.0% of mass 176	6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1634	1PPBSTD	1PPB.D	11/30/01	1646
2	STD1635	2PPBSTD	2PPB.D	11/30/01	1712
3	STD1636	5PPBSTD	5PPB.D	11/30/01	1737
4	STD1637	10PPBSTD	10PPB.D	11/30/01	1803
5	STD1638	20PPBSTD	20PPB.D	11/30/01	1828
6	STD1639	50PPBSTD	50PPB.D	11/30/01	1854
7	STD1640	60PPBSTD	60PPB.D	11/30/01	1920
8	STD1641	80PPBSTD	80PPB.D	11/30/01	1946

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: BFB13.D BFB Injection Date: 12/03/01

Instrument ID: VMS01 BFB Injection Time: 0602

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.9	
75	30.0 - 60.0% of mass 95	46.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	5.6	
173	Less than 2.0% of mass 174	0.1	(0.2)1
174	50.0 - 100.0% of mass 95	80.3	
175	5.0 - 9.0% of mass 174	5.2	(6.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.1	(98.6)1
177	5.0 - 9.0% of mass 176	5.6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1817	1203CCVA11	50CCV12.D	12/03/01	0657
2	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
3	1203BLKA12	1203BLKA12	XBLKA14.D	12/03/01	0926
4	SMW01Q40118	211109901	09901.D	12/03/01	1108
5	SMW02Q40118	211109902	09902.D	12/03/01	1133
6	SMW05Q40118	211109903	09903.D	12/03/01	1159
7	SMW06Q40118	211109904	09904.D	12/03/01	1224
8	SMW07Q40118	211109905	09905.D	12/03/01	1249
9	SMW10Q40118	211109906	09906.D	12/03/01	1314
10	062DUPQ40118	211109910	09910.D	12/03/01	1339
11	062EQBQ40118	211109911	09911.D	12/03/01	1405
12	062TBQ40118	211109912	09912.D	12/03/01	1430
13	SMW11Q40118	211109907	09907.D	12/03/01	1455
14	SMW11Q40118DL1M	211109908DL1	09908SR.D	12/03/01	1610
15	SMW11Q40118DL1S	211109909DL1	09909SR.D	12/03/01	1636
16	SMW11Q40118DL1	211109907DL1	09907R.D	12/03/01	1701

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VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID (Standard): 20PPB.D Date Analyzed: 11/30/2001

Instrument ID: VMS01 Time Analyzed: 18:28

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	883098		9.88	470145		12.21	1205268		6.63
	UPPER LIMIT	1766196		10.38	940290		12.71	2410536		7.13
	LOWER LIMIT	441549		9.38	235072.5		11.71	602634		6.13
	EPA SAMPLE NO.									
1	1203LCSA11	1082323		9.87	590699		12.21	1446570		6.62
2	1203BLKA12	997477		9.87	502728		12.21	1330332		6.62
3	SMW01Q40118	959668		9.87	490195		12.21	1319034		6.62
4	SMW02Q40118	939519		9.87	475858		12.21	1253855		6.62
5	SMW05Q40118	931626		9.87	470857		12.21	1239690		6.62
6	SMW06Q40118	949574		9.87	476370		12.21	1279443		6.62
7	SMW07Q40118	926267		9.87	470284		12.21	1243290		6.62
8	SMW10Q40118	920158		9.87	470672		12.21	1227541		6.62
9	062DUPQ40118	890777		9.88	455531		12.21	1208955		6.63
10	062EQBQ40118	887063		9.88	455489		12.21	1211637		6.63
11	062TBQ40118	892788		9.88	453692		12.21	1208199		6.63
12	SMW11Q40118	914055		9.87	517506		12.21	1226445		6.62
13	SMW11Q40118DL1MS	1014537		9.88	540568		12.21	1363235		6.62
14	SMW11Q40118DL1SD	1015372		9.87	550559		12.21	1361170		6.62
15	SMW11Q40118DL1	1006808		9.87	528962		12.21	1363119		6.62

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

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VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	17	85.0	68 - 116
Chloromethane	20	18	90.0	55 - 144
Vinyl chloride	20	18	90.0	63 - 133
Bromomethane	20	19	95.0	76 - 135
Chloroethane	20	22	110.0	69 - 136
Trichlorofluoromethane	20	22	110.0	59 - 144
1,1-Dichloroethene	20	22	110.0	52 - 150
Methylene chloride	20	21	105.0	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	64 - 131
1,1-Dichloroethane	20	23	115.0	76 - 122
2,2-Dichloropropane	20	26	130.0	69 - 132
cis-1,2-Dichloroethene	20	23	115.0	71 - 122
Bromochloromethane	20	22	110.0	80 - 113
Chloroform	20	22	110.0	77 - 121
1,1,1-Trichloroethane	20	24	120.0	69 - 126
Carbon tetrachloride	20	22	110.0	68 - 127
Benzene	20	23	115.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	21	105.0	76 - 120
1,2-Dichloropropane	20	22	110.0	79 - 119
Dibromomethane	20	22	110.0	80 - 117
Bromodichloromethane	20	23	115.0	72 - 120
Toluene	20	23	115.0	76 - 119
1,1,2-Trichloroethane	20	22	110.0	79 - 116
Tetrachloroethene	20	22	110.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	22	110.0	75 - 124
1,1,1,2-Tetrachloroethane	20	22	110.0	75 - 110
Ethylbenzene	20	22	110.0	71 - 129
p,m-Xylene	40	44	110.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

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VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	22	110.0	75 - 124
Styrene	20	22	110.0	78 - 118
Bromoform	20	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	22	110.0	76 - 126
Bromobenzene	20	20	100.0	80 - 118
1,1,2,2-Tetrachloroethane	20	21	105.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
n-Propylbenzene	20	22	110.0	76 - 125
2-Chlorotoluene	20	21	105.0	72 - 119
4-Chlorotoluene	20	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	22	110.0	76 - 126
tert-Butylbenzene	20	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	22	110.0	75 - 128
sec-Butylbenzene	20	22	110.0	6 - 178
1,3-Dichlorobenzene	20	23	115.0	80 - 115
1,4-Dichlorobenzene	20	22	110.0	78 - 117
4-Isopropyltoluene	20	22	110.0	6 - 178
n-Butylbenzene	20	22	110.0	76 - 134
1,2-Dichlorobenzene	20	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	21	105.0	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	72 - 131
Hexachlorobutadiene	20	21	105.0	79 - 129
Naphthalene	20	22	110.0	70 - 140
1,2,3-Trichlorobenzene	20	22	110.0	67 - 139
Xylene (total)	60	66	110.0	74 - 1270

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118DL1MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	100	0	96	96.0	68 - 116
Chloromethane	100	0	88	88.0	55 - 144
Vinyl chloride	100	0	90	90.0	63 - 133
Bromomethane	100	0	103	103.0	76 - 135
Chloroethane	100	0	104	104.0	69 - 136
Trichlorofluoromethane	100	0	113	113.0	59 - 144
1,1-Dichloroethene	100	0	113	113.0	52 - 150
Methylene chloride	100	0	101	101.0	72 - 123
trans-1,2-Dichloroethene	100	0	125	125.0	64 - 131
1,1-Dichloroethane	100	0	118	118.0	76 - 122
2,2-Dichloropropane	100	0	132	132.0	69 - 132
cis-1,2-Dichloroethene	100	0	116	116.0	71 - 122
Bromochloromethane	100	0	106	106.0	80 - 113
Chloroform	100	0	111	111.0	77 - 121
1,1,1-Trichloroethane	100	0	117	117.0	69 - 126
Carbon tetrachloride	100	0	109	109.0	68 - 127
Benzene	100	0	114	114.0	77 - 118
1,2-Dichloroethane	100	0	113	113.0	73 - 124
Trichloroethene	100	0	108	108.0	76 - 120
1,2-Dichloropropane	100	0	106	106.0	79 - 119
Dibromomethane	100	0	105	105.0	80 - 117
Bromodichloromethane	100	0	107	107.0	72 - 120
Toluene	100	0	112	112.0	76 - 119
1,1,2-Trichloroethane	100	0	110	110.0	79 - 116
Tetrachloroethene	100	0	103	103.0	72 - 123
1,3-Dichloropropane	100	0	104	104.0	82 - 114
Dibromochloromethane	100	0	108	108.0	68 - 118
1,2-Dibromoethane(EDB)	100	0	107	107.0	76 - 116
Chlorobenzene	100	0	104	104.0	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118DL1MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	100	0	108	108.0	75 - 110
Ethylbenzene	100	37	136	99.0	71 - 129
p,m-Xylene	200	32	243	105.5	74 - 127
o-Xylene	100	1.2	108	106.8	75 - 124
Styrene	100	0	110	110.0	78 - 118
Bromoform	100	0	98	98.0	58 - 124
Isopropylbenzene (Cumene)	100	17	124	107.0	76 - 126
Bromobenzene	100	0	103	103.0	80 - 118
1,1,2,2-Tetrachloroethane	100	0	109	109.0	79 - 114
1,2,3-Trichloropropane	100	0	120	120.0 *	79 - 111
n-Propylbenzene	100	15	122	107.0	76 - 125
2-Chlorotoluene	100	0	108	108.0	72 - 119
4-Chlorotoluene	100	0	108	108.0	32 - 158
1,3,5-Trimethylbenzene	100	15	120	105.0	76 - 126
tert-Butylbenzene	100	0	100	100.0	70 - 124
1,2,4-Trimethylbenzene	100	123	216	93.0	75 - 128
sec-Butylbenzene	100	8.2	118	109.8	6 - 178
1,3-Dichlorobenzene	100	0	110	110.0	80 - 115
1,4-Dichlorobenzene	100	0	108	108.0	78 - 117
4-Isopropyltoluene	100	0	117	117.0	6 - 178
n-Butylbenzene	100	0	118	118.0	76 - 134
1,2-Dichlorobenzene	100	0	109	109.0	80 - 116
1,2-Dibromo-3-chloropropane	100	0	116	116.0	43 - 152
1,2,4-Trichlorobenzene	100	0	120	120.0	72 - 131
Hexachlorobutadiene	100	0	108	108.0	79 - 129
Naphthalene	100	58	179	121.0	70 - 140
1,2,3-Trichlorobenzene	100	0	112	112.0	67 - 139
Xylene (total)	300	33	351	106.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118DL1MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.

Spike Recovery: 1 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1026

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118DL1SD

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	100	92	92.0	4.2	40	68 - 116
Chloromethane	100	83	83.0	5.6	17	55 - 144
Vinyl chloride	100	99	99.0	10.2	18	63 - 133
Bromomethane	100	104	104.0	0.6	20	76 - 135
Chloroethane	100	100	100.0	4.8	20	69 - 136
Trichlorofluoromethane	100	117	117.0	3.0	16	59 - 144
1,1-Dichloroethene	100	118	118.0	4.2	20	52 - 150
Methylene chloride	100	102	102.0	1.4	23	72 - 123
trans-1,2-Dichloroethene	100	117	117.0	6.6	18	64 - 131
1,1-Dichloroethane	100	115	115.0	2.2	20	76 - 122
2,2-Dichloropropane	100	130	130.0	1.9	20	69 - 132
cis-1,2-Dichloroethene	100	117	117.0	0.5	20	71 - 122
Bromochloromethane	100	105	105.0	0.9	20	80 - 113
Chloroform	100	111	111.0	0.4	20	77 - 121
1,1,1-Trichloroethane	100	116	116.0	0.4	22	69 - 126
Carbon tetrachloride	100	107	107.0	2.3	25	68 - 127
Benzene	100	113	113.0	1.0	18	77 - 118
1,2-Dichloroethane	100	108	108.0	4.3	20	73 - 124
Trichloroethene	100	100	100.0	7.7	21	76 - 120
1,2-Dichloropropane	100	107	107.0	1.4	20	79 - 119
Dibromomethane	100	104	104.0	1.0	20	80 - 117
Bromodichloromethane	100	110	110.0	3.3	20	72 - 120
Toluene	100	111	111.0	1.1	20	76 - 119
1,1,2-Trichloroethane	100	110	110.0	0.2	23	79 - 116
Tetrachloroethene	100	100	100.0	3.5	20	72 - 123
1,3-Dichloropropane	100	106	106.0	1.4	18	82 - 114
Dibromochloromethane	100	106	106.0	1.5	20	68 - 118
1,2-Dibromoethane(EDB)	100	105	105.0	1.4	22	76 - 116
Chlorobenzene	100	105	105.0	0.8	20	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1026

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118DL1SD

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	100	105	105.0	2.7	21	75 - 110
Ethylbenzene	100	135	98.0	0.6	21	71 - 129
p,m-Xylene	200	242	105.0	0.2	20	74 - 127
o-Xylene	100	107	105.8	0.9	20	75 - 124
Styrene	100	109	109.0	1.2	20	78 - 118
Bromoform	100	97	97.0	1.0	20	58 - 124
Isopropylbenzene (Cumene)	100	118	101.0	5.3	20	76 - 126
Bromobenzene	100	100	100.0	3.6	18	80 - 118
1,1,2,2-Tetrachloroethane	100	106	106.0	3.2	20	79 - 114
1,2,3-Trichloropropane	100	109	109.0	9.7	19	79 - 111
n-Propylbenzene	100	118	103.0	3.4	20	76 - 125
2-Chlorotoluene	100	105	105.0	2.8	30	72 - 119
4-Chlorotoluene	100	105	105.0	3.5	30	32 - 158
1,3,5-Trimethylbenzene	100	120	105.0	0.2	21	76 - 126
tert-Butylbenzene	100	95	95.0	5.0	22	70 - 124
1,2,4-Trimethylbenzene	100	208	85.0	3.9	19	75 - 128
sec-Butylbenzene	100	112	103.8	5.4	30	6 - 178
1,3-Dichlorobenzene	100	105	105.0	4.8	18	80 - 115
1,4-Dichlorobenzene	100	105	105.0	2.8	19	78 - 117
4-Isopropyltoluene	100	114	114.0	2.5	30	6 - 178
n-Butylbenzene	100	115	115.0	3.1	16	76 - 134
1,2-Dichlorobenzene	100	106	106.0	2.6	16	80 - 116
1,2-Dibromo-3-chloropropane	100	108	108.0	7.6	23	43 - 152
1,2,4-Trichlorobenzene	100	115	115.0	4.1	22	72 - 131
Hexachlorobutadiene	100	100	100.0	7.8	26	79 - 129
Naphthalene	100	171	113.0	4.9	26	70 - 140
1,2,3-Trichlorobenzene	100	112	112.0	0.2	27	67 - 139
Xylene (total)	300	349	105.3	0.4	40	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1026

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118DL1SD

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

RPD: 0 out of 57 outside limits

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

101201 1026

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.145	0.169	0.164	0.195	0.185			
Chloromethane	#	0.237	0.245	0.246	0.239	0.262			#
Vinyl chloride	*	0.177	0.213	0.200	0.201	0.210			*
Bromomethane		0.134	0.184	0.132	0.154	0.175			
Chloroethane		0.148	0.129	0.126	0.123	0.172			
Trichlorofluoromethane		0.153	0.203	0.218	0.260	0.251			
1,1-Dichloroethene		0.253	0.268	0.269	0.321	0.306			
Methylene chloride		0.482	0.383	0.327	0.366	0.339			
trans-1,2-Dichloroethene		0.262	0.255	0.262	0.304	0.303			
1,1-Dichloroethane	#	0.330	0.353	0.376	0.411	0.401			#
2,2-Dichloropropane		0.241	0.205	0.237	0.260	0.261			
cis-1,2-Dichloroethene		0.210	0.210	0.210	0.250	0.258			
Bromochloromethane		0.157	0.124	0.105	0.139	0.145			
Chloroform	*	0.328	0.380	0.368	0.466	0.448			*
1,1,1-Trichloroethane		0.269	0.281	0.266	0.333	0.332			
Carbon tetrachloride		0.179	0.200	0.207	0.284	0.272			
Benzene		0.718	0.784	0.754	0.926	0.903			
1,2-Dichloroethane		0.697	0.286	0.276	0.327	0.322			
Trichloroethene		0.211	0.209	0.213	0.261	0.254			
1,2-Dichloropropane	*	0.216	0.261	0.220	0.250	0.259			*
Dibromomethane		0.184	0.163	0.160	0.179	0.177			
Bromodichloromethane		0.277	0.280	0.252	0.321	0.313			
Toluene	*	0.441	0.441	0.488	0.567	0.589			*
1,1,2-Trichloroethane		0.169	0.198	0.179	0.223	0.222			
Tetrachloroethene		0.160	0.197	0.196	0.261	0.239			
1,3-Dichloropropane		0.497	0.485	0.465	0.551	0.544			
Dibromochloromethane		0.275	0.277	0.274	0.349	0.346			
1,2-Dibromoethane(EDB)		0.293	0.255	0.276	0.313	0.324			
Chlorobenzene	#	0.791	0.785	0.784	0.921	0.920			#
1,1,1,2-Tetrachloroethane		0.238	0.258	0.255	0.312	0.300			
Ethylbenzene	*	0.354	0.377	0.403	0.468	0.474			*
p,m-Xylene		0.435	0.453	0.497	0.595	0.569			
o-Xylene		0.925	0.988	0.999	1.250	1.217			
Styrene		0.681	0.776	0.823	1.033	0.985			

Calibration Criteria Is Stated In Narrative

101201 1026

FORM VI

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Bromoform	#	0.170	0.156	0.166	0.206	0.222			#
Isopropylbenzene (Cumene)		2.152	2.153	2.292	2.737	2.678			
Bromobenzene		0.958	1.045	1.013	1.156	1.116			
1,1,2,2-Tetrachloroethane	#	0.662	0.694	0.645	0.782	0.748			#
1,2,3-Trichloropropane		0.139	0.186	0.198	0.212	0.227			
n-Propylbenzene		2.676	2.696	3.058	3.560	3.529			
2-Chlorotoluene		1.885	1.857	1.882	2.157	2.103			
4-Chlorotoluene		1.999	1.985	2.118	2.437	2.411			
1,3,5-Trimethylbenzene		1.720	1.874	1.960	2.311	2.258			
tert-Butylbenzene		1.423	1.459	1.533	1.869	2.135			
1,2,4-Trimethylbenzene		1.607	1.796	1.840	2.246	2.201			
sec-Butylbenzene		2.060	2.328	2.493	2.975	2.978			
1,3-Dichlorobenzene		1.034	1.131	1.210	1.350	1.414			
1,4-Dichlorobenzene	*	1.061	1.133	1.211	1.476	1.407			*
4-Isopropyltoluene		1.910	1.960	2.099	2.446	2.476			
n-Butylbenzene		1.763	1.826	1.927	2.487	2.388			
1,2-Dichlorobenzene		1.034	1.113	1.053	1.313	1.279			
1,2-Dibromo-3-chloropropane		0.097	0.100	0.089	0.117	0.116			
1,2,4-Trichlorobenzene		0.686	0.636	0.731	0.877	0.844			
Hexachlorobutadiene	*	0.132	0.169	0.183	0.203	0.202			*
Naphthalene		1.849	1.749	1.653	2.063	2.096			
1,2,3-Trichlorobenzene		0.827	0.658	0.625	0.761	0.794			
Xylene (total)		0.442	0.470	0.477	0.586	0.575			
==========									
Dibromofluoromethane			0.253	0.219	0.246	0.255			
Toluene d8			0.784	0.776	0.804	0.812			
4-Bromofluorobenzene			0.815	0.789	0.826	0.829			
1,2-Dichloroethane-d4			0.062	0.044	0.053	0.059			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.221	0.228	0.231			0.1924	0.99831	
Chloromethane	#	0.254	0.257	0.250			0.24873	3.5	#
Vinyl chloride	*	0.200	0.207	0.204			0.20146	5.5	*
Bromomethane		0.161	0.152	0.130			0.15273	13.3	
Chloroethane		0.139	0.129	0.113			0.1351	13.4	
Trichlorofluoromethane		0.272	0.297	0.281			0.24196	1	
1,1-Dichloroethene		0.303	0.298	0.287			0.28834	8	
Methylene chloride		0.325	0.327	0.323			0.35887	0.99978	
trans-1,2-Dichloroethene		0.299	0.296	0.309			0.28613	7.9	
1,1-Dichloroethane	#	0.402	0.408	0.409			0.38621	7.9	#
2,2-Dichloropropane		0.267	0.267	0.267			0.25056	8.7	
cis-1,2-Dichloroethene		0.265	0.263	0.268			0.24163	11.1	
Bromochloromethane		0.140	0.142	0.141			0.13661	11.5	
Chloroform	*	0.441	0.446	0.439			0.41451	11.9	*
1,1,1-Trichloroethane		0.339	0.350	0.349			0.31499	11.5	
Carbon tetrachloride		0.300	0.310	0.307			0.25727	0.99936	
Benzene		0.909	0.938	0.915			0.85594	10.3	
1,2-Dichloroethane		0.320	0.316	0.315			0.35726	0.99964	
Trichloroethene		0.261	0.270	0.264			0.24281	0.99956	
1,2-Dichloropropane	*	0.258	0.270	0.259			0.24906	8	*
Dibromomethane		0.175	0.182	0.176			0.17441	4.9	
Bromodichloromethane		0.318	0.329	0.333			0.30295	9.7	
Toluene	*	0.584	0.591	0.583			0.53564	12.6	*
1,1,2-Trichloroethane		0.228	0.221	0.222			0.20771	11	
Tetrachloroethene		0.254	0.261	0.258			0.2283	0.99957	
1,3-Dichloropropane		0.536	0.548	0.528			0.5191	6.3	
Dibromochloromethane		0.367	0.375	0.368			0.32892	13.8	
1,2-Dibromoethane(EDB)		0.316	0.314	0.308			0.29997	7.9	
Chlorobenzene	#	0.903	0.917	0.882			0.86301	7.5	#
1,1,1,2-Tetrachloroethane		0.312	0.318	0.310			0.28792	11.2	
Ethylbenzene	*	0.464	0.467	0.461			0.43362	11.1	*
p,m-Xylene		0.569	0.562	0.544			0.52808	11.2	
o-Xylene		1.190	1.232	1.172			1.12176	11.5	
Styrene		1.003	1.013	0.973			0.91086	14.5	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Bromoform	#	0.237	0.234	0.235			0.20332	0.99977	#
Isopropylbenzene (Cumene)		2.750	2.820	2.757			2.54244	11.4	
Bromobenzene		1.108	1.123	1.096			1.07663	6.1	
1,1,2,2-Tetrachloroethane	#	0.741	0.713	0.701			0.71077	6.4	#
1,2,3-Trichloropropane		0.213	0.207	0.202			0.19803	13.5	
n-Propylbenzene		3.567	3.600	3.462			3.26864	12.2	
2-Chlorotoluene		2.126	2.152	1.986			2.01854	6.5	
4-Chlorotoluene		2.373	2.405	2.348			2.25954	8.5	
1,3,5-Trimethylbenzene		2.302	2.294	2.270			2.12362	11.1	
tert-Butylbenzene		1.900	2.197	2.157			1.83417	0.99518	
1,2,4-Trimethylbenzene		2.222	2.283	2.209			2.0505	12.7	
sec-Butylbenzene		2.982	3.007	2.960			2.72286	13.8	
1,3-Dichlorobenzene		1.384	1.436	1.388			1.29322	11.5	
1,4-Dichlorobenzene	*	1.409	1.451	1.383			1.3164	12	*
4-Isopropyltoluene		2.507	2.583	2.465			2.30584	11.7	
n-Butylbenzene		2.384	2.414	2.339			2.19121	13.6	
1,2-Dichlorobenzene		1.299	1.311	1.231			1.2042	9.9	
1,2-Dibromo-3-chloropropane		0.125	0.120	0.115			0.10984	11.6	
1,2,4-Trichlorobenzene		0.906	0.916	0.886			0.81024	13.5	
Hexachlorobutadiene	*	0.228	0.226	0.228			0.19628	0.99955	*
Naphthalene		2.106	2.117	2.057			1.96131	9.4	
1,2,3-Trichlorobenzene		0.815	0.836	0.831			0.76846	10.7	
Xylene (total)		0.563	0.577	0.559			0.5311	10.9	
==========									
Dibromofluoromethane		0.252	0.258	0.255			0.24813	5.3	
Toluene d8		0.817	0.849	0.817			0.80844	3	
4-Bromofluorobenzene		0.830	0.863	0.833			0.82676	2.7	
1,2-Dichloroethane-d4		0.055	0.059	0.057			0.05553	10.8	

Calibration Criteria Is Stated In Narrative

101201 1026

FORM VI

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Dichlorodifluoromethane		54.6	50	LINR	9.2	20.0	
Chloromethane	#	52.8	50	AVRG	5.6	20.0	#
Vinyl chloride	*	51.2	50	AVRG	2.4	20.0	*
Bromomethane		47.6	50	AVRG	4.8	20.0	
Chloroethane		45.4	50	AVRG	9.2	20.0	
Trichlorofluoromethane		50.2	50	WLINR	0.4	20.0	
1,1-Dichloroethene		54.4	50	AVRG	8.8	20.0	
Methylene chloride		50.8	50	LINR	1.6	20.0	
trans-1,2-Dichloroethene		55.9	50	AVRG	11.8	20.0	
1,1-Dichloroethane	#	55.2	50	AVRG	10.4	20.0	#
2,2-Dichloropropane		65.3	50	AVRG	30.6	20.0	<-
cis-1,2-Dichloroethene		57	50	AVRG	14.0	20.0	
Bromochloromethane		53.1	50	AVRG	6.2	20.0	
Chloroform	*	54.3	50	AVRG	8.6	20.0	*
1,1,1-Trichloroethane		58.6	50	AVRG	17.2	20.0	
Carbon tetrachloride		53	50	LINR	6.0	20.0	
Benzene		55.2	50	AVRG	10.4	20.0	
1,2-Dichloroethane		51.5	50	LINR	3.0	20.0	
Trichloroethene		50.3	50	LINR	0.6	20.0	
1,2-Dichloropropane	*	54.1	50	AVRG	8.2	20.0	*
Dibromomethane		52.7	50	AVRG	5.4	20.0	
Bromodichloromethane		56	50	AVRG	12.0	20.0	
Toluene	*	55.8	50	AVRG	11.6	20.0	*
1,1,2-Trichloroethane		56.3	50	AVRG	12.6	20.0	
Tetrachloroethene		52.4	50	LINR	4.8	20.0	
1,3-Dichloropropane		53.7	50	AVRG	7.4	20.0	
Dibromochloromethane		58.2	50	AVRG	16.4	20.0	
1,2-Dibromoethane(EDB)		54.4	50	AVRG	8.8	20.0	
Chlorobenzene	#	54.1	50	AVRG	8.2	20.0	#
1,1,1,2-Tetrachloroethane		56.6	50	AVRG	13.2	20.0	
Ethylbenzene	*	54.5	50	AVRG	9.0	20.0	*
p,m-Xylene		109	100	AVRG	9.0	20.0	
o-Xylene		55.3	50	AVRG	10.6	20.0	
Styrene		57.1	50	AVRG	14.2	20.0	
Bromoform	#	53.7	50	LINR	7.4	20.0	#
Isopropylbenzene (Cumene)		54.5	50	AVRG	9.0	20.0	

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Bromobenzene		50.5	50	AVRG	1.0	20.0	
1,1,2,2-Tetrachloroethane	#	52.2	50	AVRG	4.4	20.0	#
1,2,3-Trichloropropane		52	50	AVRG	4.0	20.0	
n-Propylbenzene		53.4	50	AVRG	6.8	20.0	
2-Chlorotoluene		51.5	50	AVRG	3.0	20.0	
4-Chlorotoluene		51.2	50	AVRG	2.4	20.0	
1,3,5-Trimethylbenzene		51.9	50	AVRG	3.8	20.0	
tert-Butylbenzene		42.7	50	LINR	14.6	20.0	
1,2,4-Trimethylbenzene		53.2	50	AVRG	6.4	20.0	
sec-Butylbenzene		54.2	50	AVRG	8.4	20.0	
1,3-Dichlorobenzene		54.4	50	AVRG	8.8	20.0	
1,4-Dichlorobenzene	*	53.4	50	AVRG	6.8	20.0	*
4-Isopropyltoluene		55.1	50	AVRG	10.2	20.0	
n-Butylbenzene		54.1	50	AVRG	8.2	20.0	
1,2-Dichlorobenzene		54.2	50	AVRG	8.4	20.0	
1,2-Dibromo-3-chloropropane		54.8	50	AVRG	9.6	20.0	
1,2,4-Trichlorobenzene		57.1	50	AVRG	14.2	20.0	
Hexachlorobutadiene	*	53.3	50	LINR	6.6	20.0	*
Naphthalene		54.1	50	AVRG	8.2	20.0	
1,2,3-Trichlorobenzene		54.9	50	AVRG	9.8	20.0	
Xylene (total)		164	150	AVRG	9.3	20.0	
==========							
Dibromofluoromethane		53.9	50	AVRG	7.8	20.0	
Toluene d8		51.8	50	AVRG	3.6	20.0	
4-Bromofluorobenzene		49.9	50	AVRG	0.2	20.0	
1,2-Dichloroethane-d4		52.4	50	AVRG	4.8	20.0	

HPLC PAH ORGANICS

METHOD 8310

101201 1026

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

One client requested MS/SD set was analyzed with the water samples on sample SMW11Q40118, which met all criteria for relative percent difference, however Naphthalene, 2-Methylnaphthalene, and Acenaphthene exceeded criteria in the SD and Acenaphthene exceeded criteria in the MS. This was due to matrix interference from the parent sample and therefore, no further action was taken.

E. Internal standards:

All internal standard criteria were met.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

F. Samples:

Sample analysis proceeded normally.

The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 12-07-01
Jesse Leonard

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: **8310**

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

101201 1026

Sample Data

101201 1026

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099

Matrix: WATER
Lab Sample ID: 211109901
Lab File ID 99-01.D

Sample wt/vol: 890
Units: ML
Date Received: 11/28/01

Concentrated Extract Volume: 1
Date Extracted: 11/30/01

Level:(low/med) LOW
Date Analyzed: 12/05/01
Time: 1054

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310

GPC Cleanup : (Y/N) N
pH:

Column(1): Vydac 201TP54
ID: 4.6
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099
Matrix: WATER
Lab Sample ID: 211109902
Lab File ID 99-02.D
Sample wt/vol: 1000
Units: ML
Date Received: 11/28/01
Concentrated Extract Volume: 1
Date Extracted: 11/30/01
Level:(low/med) LOW
Date Analyzed: 12/05/01
Time: 1128
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099
Matrix: WATER
Lab Sample ID: 211109903
Lab File ID 99-03.D
Sample wt/vol: 925
Units: ML
Date Received: 11/28/01
Concentrated Extract Volume: 1
Date Extracted: 11/30/01
Level:(low/med) LOW
Date Analyzed: 12/05/01
Time: 1203
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099

Matrix: WATER
Lab Sample ID: 211109904
Lab File ID 99-04.D

Sample wt/vol: 960
Units: ML
Date Received: 11/28/01

Concentrated Extract Volume: 1
Date Extracted: 11/30/01

Level:(low/med) LOW
Date Analyzed: 12/05/01
Time: 1237

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310

GPC Cleanup : (Y/N) N
pH:

Column(1): Vydac 201TP54
ID: 4.6
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109905

Lab File ID 99-05.D

Sample wt/vol: 980

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 1

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/05/01

Time: 1321

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID 99-06.D

Sample wt/vol: 1000 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1356

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-1 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099

Matrix: WATER
Lab Sample ID: 211109907
Lab File ID 99-07.D

Sample wt/vol: 900
Units: ML
Date Received: 11/28/01

Concentrated Extract Volume: 1
Date Extracted: 11/30/01

Level:(low/med) LOW
Date Analyzed: 12/05/01
Time: 1431

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310

GPC Cleanup : (Y/N) N
pH:

Column(1): Vydac 201TP54
ID: 4.6
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	19	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	12	
91-57-6	2-Methylnaphthalene	10	
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109910

Lab File ID 99-10.D

Sample wt/vol: 1000

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 1

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/05/01

Time: 1649

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109911

Lab File ID 99-11.D

Sample wt/vol: 925

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 1

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/05/01

Time: 1724

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

101201 1026

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1130AB

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 54706

Lab File ID 1130AB.D

Sample wt/vol: 1000

Units: ML

Date Received: 11/30/01

Concentrated Extract Volume: 1

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1847

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID 1130AB.D Lab Sample ID: 54706

Instrument ID: SLC01 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 1847

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130ALCS	54707	1130ALCS.D	12/03/01	1921
2	SMW01Q40118	211109901	99-01.D	12/05/01	1054
3	SMW02Q40118	211109902	99-02.D	12/05/01	1128
4	SMW05Q40118	211109903	99-03.D	12/05/01	1203
5	SMW06Q40118	211109904	99-04.D	12/05/01	1237
6	SMW07Q40118	211109905	99-05.D	12/05/01	1321
7	SMW10Q40118	211109906	99-06.D	12/05/01	1356
8	SMW11Q40118	211109907	99-07.D	12/05/01	1431
9	SMW11Q40118MS	211109908	99-08.D	12/05/01	1505
10	SMW11Q40118SD	211109909	99-09.D	12/05/01	1615
11	062DUPQ40118	211109910	99-10.D	12/05/01	1649
12	062EQBQ40118	211109911	99-11.D	12/05/01	1724

COMMENTS:

2

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111099

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	49.5						0
062EQBQ40118	51.9						0
1130AB	63.5						0
1130ALCS	78.5						0
SMW01Q40118	64.9						0
SMW02Q40118	66.0						0
SMW05Q40118	59.3						0
SMW06Q40118	60.6						0
SMW07Q40118	51.5						0
SMW10Q40118	63.5						0
SMW11Q40118	58.6						0
SMW11Q40118MS	56.0						0
SMW11Q40118SD	58.1						0

Control Limits

S1 = p-Terphenyl-d14 17 - 130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

101201 1026

PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID (Standard): 15STD.D Date Analyzed: 12/2/2001

Instrument ID: SLC01 Time Analyzed: 1:19

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	4273780		10.36						
	UPPER LIMIT	8547560		10.86						
	LOWER LIMIT	2136890		9.86						
	EPA SAMPLE NO.									
1	1130AB	4156905		10.49						
2	1130ALCS	4035212		10.48						
3	SMW01Q40118	4308061		10.37						
4	SMW02Q40118	4097927		10.38						
5	SMW05Q40118	4260607		10.37						
6	SMW06Q40118	4046817		10.38						
7	SMW07Q40118	4006709		10.37						
8	SMW10Q40118	4060500		10.39						
9	SMW11Q40118	4035501		10.39						
10	SMW11Q40118MS	4137104		10.38						
11	SMW11Q40118SD	4045953		10.38						
12	062DUPQ40118	3950513		10.46						
13	062EQBQ40118	3904190		10.44						

IS1 = Carbazole

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD2203	30STD	12/02/01	0010	18.38	
2	STD2204	20STD	12/02/01	0044	18.38	
3	STD2205	15STD	12/02/01	0119	18.37	
4	STD2206	10STD	12/02/01	0153	18.38	
5	STD2207	5STD	12/02/01	0228	18.37	
6	ZZZZZZ	ZZZZZZ	12/02/01	0303		
7	ZZZZZZ	ZZZZZZ	12/02/01	0337		
8	STD2210	.2STD	12/02/01	0412	18.38	
9	CCV2211	SECSTD1	12/02/01	0446	18.38	
10	ZZZZZZ	ZZZZZZ	12/02/01	0521		
11	ZZZZZZ	ZZZZZZ	12/03/01	1738		
12	CCV2214	CCV1B	12/03/01	1812	18.39	
13	1130AB	54706	12/03/01	1847	18.4	
14	1130ALCS	54707	12/03/01	1921	18.4	
15	1130ABMS	54708	12/03/01	1956		
16	1130ABSD	54709	12/03/01	2030		
17	ZZZZZZ	ZZZZZZ	12/03/01	2105		
18	ZZZZZZ	ZZZZZZ	12/03/01	2140		
19	ZZZZZZ	ZZZZZZ	12/03/01	2214		
20	ZZZZZZ	ZZZZZZ	12/03/01	2249		
21	ZZZZZZ	ZZZZZZ	12/03/01	2323		
22	ZZZZZZ	ZZZZZZ	12/03/01	2358		
23	CCV2225	CCV2	12/04/01	0032	18.42	
24	ZZZZZZ	ZZZZZZ	12/04/01	0107		
25	ZZZZZZ	ZZZZZZ	12/04/01	0142		
26	ZZZZZZ	ZZZZZZ	12/04/01	0216		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/05/01	0944		
28	CCV2232	CCV1B	12/05/01	1019	18.31	
29	SMW01Q40118	211109901	12/05/01	1054	18.23	
30	SMW02Q40118	211109902	12/05/01	1128	18.34	
31	SMW05Q40118	211109903	12/05/01	1203	18.39	
32	SMW06Q40118	211109904	12/05/01	1237	18.39	
33	SMW07Q40118	211109905	12/05/01	1321	18.4	
34	SMW10Q40118	211109906	12/05/01	1356	18.36	
35	SMW11Q40118	211109907	12/05/01	1431	18.37	
36	SMW11Q40118MS	211109908	12/05/01	1505	18.41	
37	CCV2241	CCV2	12/05/01	1540	18.42	
38	SMW11Q40118SD	211109909	12/05/01	1615	18.41	
39	062DUPQ40118	211109910	12/05/01	1649	18.42	
40	062EQBQ40118	211109911	12/05/01	1724	18.42	
41	CCV2245	CCV3	12/05/01	1759	18.42	
42	ZZZZZZ	ZZZZZZ	12/05/01	1833		

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

101201 1026 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1130ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.1	61.0	11 - 85
Acenaphthylene	10	7.1	71.0	22 - 89
1-Methylnaphthalene	10	7.3	73.0	0 - 98
2-Methylnaphthalene	10	7.2	72.0	21 - 89
Acenaphthene	10	6.8	68.0	21 - 91
Fluorene	10	7	70.0	16 - 96
Phenanthrene	10	7.2	72.0	18 - 101
Anthracene	10	7.2	72.0	20 - 97
Fluoranthene	10	7.6	76.0	27 - 104
Pyrene	10	7.6	76.0	42 - 94
Benzo(a)anthracene	10	7.6	76.0	40 - 103
Chrysene	10	7.5	75.0	32 - 108
Benzo(b)fluoranthene	10	7.6	76.0	30 - 102
Benzo(k)fluoranthene	10	7.7	77.0	27 - 100
Benzo(a)pyrene	10	7.6	76.0	34 - 96
Dibenz(a,h)anthracene	10	8.2	82.0	27 - 99
Benzo(g,h,i)perylene	10	7.9	79.0	21 - 95
Indeno(1,2,3-cd)pyrene	10	7.5	75.0	18 - 97

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	11	19	28	81.8	0 - 100
Acenaphthylene	11	0	5.6	50.9	0 - 111
1-Methylnaphthalene	11	12	22	90.9	0 - 135
2-Methylnaphthalene	11	10	20	90.9	6 - 94
Acenaphthene	11	0	14	127.3 *	9 - 96
Fluorene	11	0	5.9	53.6	5 - 101
Phenanthrene	11	0	5.6	50.9	7 - 110
Anthracene	11	0	5.3	48.2	0 - 111
Fluoranthene	11	0	6	54.5	20 - 113
Pyrene	11	0	5.9	53.6	22 - 118
Benzo(a)anthracene	11	0	5.7	51.8	26 - 113
Chrysene	11	0	5.7	51.8	27 - 113
Benzo(b)fluoranthene	11	0	5.6	50.9	26 - 107
Benzo(k)fluoranthene	11	0	5.6	50.9	24 - 107
Benzo(a)pyrene	11	0	5.7	51.8	23 - 107
Dibenz(a,h)anthracene	11	0	6.2	56.4	9 - 105
Benzo(g,h,i)perylene	11	0	5.9	53.6	21 - 99
Indeno(1,2,3-cd)pyrene	11	0	5.5	50.0	20 - 100

Spike Recovery: 1 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1026

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	30	110.0 *	8.6	65	0 - 100
Acenaphthylene	10	5.7	57.0	5.4	54	0 - 111
1-Methylnaphthalene	10	23	110.0	6.4	54	0 - 135
2-Methylnaphthalene	10	21	110.0 *	4.9	65	6 - 94
Acenaphthene	10	15	150.0 *	4.0	41	9 - 96
Fluorene	10	5.8	58.0	1.8	48	5 - 101
Phenanthrene	10	5.6	56.0	2.8	41	7 - 110
Anthracene	10	5.2	52.0	1.7	41	0 - 111
Fluoranthene	10	6.1	61.0	3.4	31	20 - 113
Pyrene	10	5.9	59.0	3.4	33	22 - 118
Benzo(a)anthracene	10	5.8	58.0	5.4	26	26 - 113
Chrysene	10	5.9	59.0	5.2	17	27 - 113
Benzo(b)fluoranthene	10	5.8	58.0	7.3	27	26 - 107
Benzo(k)fluoranthene	10	6	60.0	8.2	29	24 - 107
Benzo(a)pyrene	10	5.8	58.0	6.0	27	23 - 107
Dibenz(a,h)anthracene	10	6.3	63.0	4.0	31	9 - 105
Benzo(g,h,i)perylene	10	6.1	61.0	6.4	31	21 - 99
Indeno(1,2,3-cd)pyrene	10	5.7	57.0	7.2	43	20 - 100

RPD: 0 out of 18 outside limits

Spike Recovery: 3 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1026

Standards Data

101201 1026

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF0.2 =PT2STD.D RRF5 =5STD.D
RRF10 =10STD.D RRF15 =15STD.D RRF20 =20STD.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20
Naphthalene	0.013	0.013	0.012	0.012	0.012
Acenaphthylene	0.011	0.010	0.010	0.009	0.009
1-Methylnaphthalene	0.007	0.008	0.008	0.007	0.007
2-Methylnaphthalene	0.011	0.010	0.010	0.010	0.010
Acenaphthene	0.005	0.005	0.005	0.004	0.004
Fluorene	0.070	0.061	0.061	0.059	0.058
Phenanthrene	0.223	0.189	0.189	0.182	0.179
Anthracene	0.039	0.039	0.040	0.041	0.041
Fluoranthene	0.050	0.043	0.044	0.041	0.041
Pyrene	0.034	0.033	0.034	0.033	0.032
Benzo(a)anthracene	0.110	0.099	0.099	0.095	0.094
Chrysene	0.151	0.132	0.132	0.127	0.125
Benzo(b)fluoranthene	0.130	0.113	0.112	0.108	0.107
Benzo(k)fluoranthene	0.101	0.096	0.095	0.091	0.090
Benzo(a)pyrene	0.117	0.098	0.098	0.095	0.094
Dibenz(a,h)anthracene	0.022	0.024	0.024	0.023	0.022
Benzo(g,h,i)perylene	0.037	0.041	0.040	0.039	0.038
Indeno(1,2,3-cd)pyrene	0.136	0.119	0.118	0.115	0.113
==========					
p-Terphenyl-d14	0.039	0.036	0.036	0.034	0.033

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF30 =30STD.D

COMPOUND	RRF30				
Naphthalene	0.012				
Acenaphthylene	0.009				
1-Methylnaphthalene	0.007				
2-Methylnaphthalene	0.010				
Acenaphthene	0.005				
Fluorene	0.059				
Phenanthrene	0.182				
Anthracene	0.042				
Fluoranthene	0.041				
Pyrene	0.033				
Benzo(a)anthracene	0.096				
Chrysene	0.127				
Benzo(b)fluoranthene	0.108				
Benzo(k)fluoranthene	0.091				
Benzo(a)pyrene	0.096				
Dibenz(a,h)anthracene	0.022				
Benzo(g,h,i)perylene	0.039				
Indeno(1,2,3-cd)pyrene	0.115				
==========					
p-Terphenyl-d14	0.035				

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	AVRG		0.012457039	4.4
Acenaphthylene	AVRG		0.009641753	5.5
1-Methylnaphthalene	AVRG		0.007372567	4.1
2-Methylnaphthalene	AVRG		0.010307326	4
Acenaphthene	AVRG		0.004621362	3.9
Fluorene	AVRG		0.061359009	7.4
Phenanthrene	AVRG		0.190595983	8.6
Anthracene	AVRG		0.040243790	3.4
Fluoranthene	AVRG		0.043386240	8.3
Pyrene	AVRG		0.033114466	2.1
Benzo(a)anthracene	AVRG		0.098646680	6
Chrysene	AVRG		0.132132816	7.1
Benzo(b)fluoranthene	AVRG		0.112914762	7.6
Benzo(k)fluoranthene	AVRG		0.094231769	4.4
Benzo(a)pyrene	AVRG		0.09964648	8.9
Dibenz(a,h)anthracene	AVRG		0.022770356	4.1
Benzo(g,h,i)perylene	AVRG		0.039039242	3.2
Indeno(1,2,3-cd)pyrene	AVRG		0.119636576	7
==========				
p-Terphenyl-d14	AVRG		0.035493112	6

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT1: PT2STD.D RT2: 5STD.D
RT3: 10STD.D RT4: 15STD.D RT5: 20STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.547	11.533	11.537	11.540	11.543			
Acenaphthylene	12.770	12.763	12.767	12.770	12.777			
1-Methylnaphthalene	13.430	13.410	13.417	13.420	13.427			
2-Methylnaphthalene	13.770	13.750	13.753	13.757	13.767			
Acenaphthene	14.103	14.083	14.087	14.087	14.097			
Fluorene	14.447	14.433	14.440	14.443	14.450			
Phenanthrene	15.237	15.227	15.233	15.233	15.240			
Anthracene	16.042	16.034	16.039	16.037	16.046			
Fluoranthene	16.807	16.787	16.797	16.793	16.800			
Pyrene	17.340	17.323	17.333	17.333	17.337			
Benzo(a)anthracene	19.167	19.153	19.163	19.160	19.160			
Chrysene	19.567	19.553	19.563	19.560	19.560			
Benzo(b)fluoranthene	21.007	21.000	21.003	21.003	20.997			
Benzo(k)fluoranthene	21.660	21.647	21.653	21.653	21.643			
Benzo(a)pyrene	22.257	22.243	22.247	22.247	22.237			
Dibenz(a,h)anthracene	23.287	23.260	23.257	23.253	23.237			
Benzo(g,h,i)perylene	24.017	24.000	23.997	23.993	23.977			
Indeno(1,2,3-cd)pyrene	24.517	24.500	24.493	24.490	24.470			
==========								
p-Terphenyl-d14	18.380	18.367	18.377	18.373	18.377			

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT6: 30STD.D

COMPOUND	RT6					MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.557					11.545	11.323	11.783
Acenaphthylene	12.787					12.774	12.550	13.010
1-Methylnaphthalene	13.437					13.425	13.200	13.660
2-Methylnaphthalene	13.773					13.764	13.540	14.000
Acenaphthene	14.103					14.095	13.870	14.330
Fluorene	14.457					14.447	14.223	14.683
Phenanthrene	15.243					15.237	15.013	15.473
Anthracene	16.049					16.043	15.743	16.203
Fluoranthene	16.803					16.799	16.573	17.033
Pyrene	17.340					17.336	17.110	17.570
Benzo(a)anthracene	19.163					19.162	18.933	19.393
Chrysene	19.560					19.561	19.330	19.790
Benzo(b)fluoranthene	21.000					21.002	20.773	21.233
Benzo(k)fluoranthene	21.643					21.649	21.420	21.880
Benzo(a)pyrene	22.240					22.244	22.013	22.473
Dibenz(a,h)anthracene	23.240					23.255	23.017	23.477
Benzo(g,h,i)perylene	23.980					23.993	23.757	24.217
Indeno(1,2,3-cd)pyrene	24.473					24.489	24.250	24.710
==========								
p-Terphenyl-d14	18.377					18.376	18.150	18.610

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/02/01 Time: 0446

Lab File ID: SECSTD1.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0126	1.1
Acenaphthylene	0.00964	0.0092	4.6
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0112	8.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0607	1.1
Phenanthrene	0.1906	0.1886	1.0
Anthracene	0.04024	0.0424	5.4
Fluoranthene	0.04339	0.044	1.4
Pyrene	0.03311	0.0339	2.4
Benzo(a)anthracene	0.09865	0.0989	0.3
Chrysene	0.13213	0.1317	0.3
Benzo(b)fluoranthene	0.11291	0.113	0.1
Benzo(k)fluoranthene	0.09423	0.0951	0.9
Benzo(a)pyrene	0.09965	0.0994	0.3
Dibenz(a,h)anthracene	0.02277	0.0235	3.2
Benzo(g,h,i)perylene	0.03904	0.0404	3.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1193	0.3
==========			
p-Terphenyl-d14	0.03549	0.0348	1.9

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/03/01 Time: 1812

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0119	4.5
Acenaphthylene	0.00964	0.0089	7.7
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0107	3.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1757	7.8
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0401	7.6
Pyrene	0.03311	0.0308	7.0
Benzo(a)anthracene	0.09865	0.0923	6.4
Chrysene	0.13213	0.1227	7.1
Benzo(b)fluoranthene	0.11291	0.1054	6.7
Benzo(k)fluoranthene	0.09423	0.0888	5.8
Benzo(a)pyrene	0.09965	0.0935	6.2
Dibenz(a,h)anthracene	0.02277	0.022	3.4
Benzo(g,h,i)perylene	0.03904	0.0375	3.9
Indeno(1,2,3-cd)pyrene	0.11964	0.1121	6.3
==========			
p-Terphenyl-d14	0.03549	0.0329	7.3

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/04/01 Time: 0032

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0127	1.9
Acenaphthylene	0.00964	0.0094	2.5
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0114	10.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0608	0.9
Phenanthrene	0.1906	0.1888	0.9
Anthracene	0.04024	0.0425	5.6
Fluoranthene	0.04339	0.043	0.9
Pyrene	0.03311	0.0335	1.2
Benzo(a)anthracene	0.09865	0.0993	0.7
Chrysene	0.13213	0.1342	1.6
Benzo(b)fluoranthene	0.11291	0.1134	0.4
Benzo(k)fluoranthene	0.09423	0.0965	2.4
Benzo(a)pyrene	0.09965	0.0996	0.1
Dibenz(a,h)anthracene	0.02277	0.024	5.4
Benzo(g,h,i)perylene	0.03904	0.0405	3.7
Indeno(1,2,3-cd)pyrene	0.11964	0.12	0.3
==========			
p-Terphenyl-d14	0.03549	0.0353	0.5

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1019

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0116	6.9
Acenaphthylene	0.00964	0.0085	11.8
1-Methylnaphthalene	0.00737	0.0071	3.7
2-Methylnaphthalene	0.01031	0.0104	0.9
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0553	9.9
Phenanthrene	0.1906	0.1721	9.7
Anthracene	0.04024	0.0399	0.8
Fluoranthene	0.04339	0.04	7.8
Pyrene	0.03311	0.0307	7.3
Benzo(a)anthracene	0.09865	0.0885	10.3
Chrysene	0.13213	0.1174	11.1
Benzo(b)fluoranthene	0.11291	0.1016	10.0
Benzo(k)fluoranthene	0.09423	0.0858	8.9
Benzo(a)pyrene	0.09965	0.0912	8.5
Dibenz(a,h)anthracene	0.02277	0.0216	5.1
Benzo(g,h,i)perylene	0.03904	0.0363	7.0
Indeno(1,2,3-cd)pyrene	0.11964	0.1082	9.6
==========			
p-Terphenyl-d14	0.03549	0.0316	11.0

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1540

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0117	6.1
Acenaphthylene	0.00964	0.0085	11.8
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0106	2.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1755	7.9
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0392	9.7
Pyrene	0.03311	0.031	6.4
Benzo(a)anthracene	0.09865	0.0904	8.4
Chrysene	0.13213	0.1203	9.0
Benzo(b)fluoranthene	0.11291	0.104	7.9
Benzo(k)fluoranthene	0.09423	0.0877	6.9
Benzo(a)pyrene	0.09965	0.0931	6.6
Dibenz(a,h)anthracene	0.02277	0.0213	6.5
Benzo(g,h,i)perylene	0.03904	0.0368	5.7
Indeno(1,2,3-cd)pyrene	0.11964	0.1093	8.6
==========			
p-Terphenyl-d14	0.03549	0.0319	10.1

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1759

Lab File ID: CCV3.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0117	6.1
Acenaphthylene	0.00964	0.0088	8.7
1-Methylnaphthalene	0.00737	0.0073	0.9
2-Methylnaphthalene	0.01031	0.0106	2.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0569	7.3
Phenanthrene	0.1906	0.1761	7.6
Anthracene	0.04024	0.04	0.6
Fluoranthene	0.04339	0.0411	5.3
Pyrene	0.03311	0.0311	6.1
Benzo(a)anthracene	0.09865	0.0908	8.0
Chrysene	0.13213	0.121	8.4
Benzo(b)fluoranthene	0.11291	0.1042	7.7
Benzo(k)fluoranthene	0.09423	0.0866	8.1
Benzo(a)pyrene	0.09965	0.0915	8.2
Dibenz(a,h)anthracene	0.02277	0.0213	6.5
Benzo(g,h,i)perylene	0.03904	0.0369	5.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1095	8.5
==========			
p-Terphenyl-d14	0.03549	0.0324	8.7

GC FL-PRO ORGANICS

METHOD FL-PRO

101201 1026

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. Project specific RLs were used per client request.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 12-07-01
Jesse Leonard

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: **FL-PRO**

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

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Sample Data

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109901

Lab File ID 99-01.D

Sample wt/vol: 930

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1130

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.54	U

101201 1026

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109902

Lab File ID 99-02.D

Sample wt/vol: 970

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1204

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.52	U

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109903

Lab File ID 99-03.D

Sample wt/vol: 935

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1238

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.37	J

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109904

Lab File ID 99-04.D

Sample wt/vol: 970

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1312

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.52	U

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109905

Lab File ID 99-05.D

Sample wt/vol: 990

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1346

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.5	U

101201 1026

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109906

Lab File ID 99-06.D

Sample wt/vol: 980

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1419

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.51	U

101201 1026

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109907

Lab File ID 99-07D2.D

Sample wt/vol: 910

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1747

PercentSolids: 0

decanted :

Dilution Factor: 2

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	20	

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109910

Lab File ID 99-10.D

Sample wt/vol: 965

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1708

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.25	J

101201 1026

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 211109911

Lab File ID 99-11.D

Sample wt/vol: 935

Units: ML

Date Received: 11/28/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 1742

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.53	U

101201 1026

Form I

QC Summary

101201 1026

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1130BLKW

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111099

Matrix: WATER

Lab Sample ID: 54756

Lab File ID 1130BLKW.D

Sample wt/vol: 1000 Units: ML

Date Received: 11/30/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01 Time: 0701

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.5	U

101201 1026

Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111099
Lab File ID 1130BLKW.D
Lab Sample ID: 54756
Instrument ID: SFID02
Date Extracted: 11/30/01
Matrix: WATER
Date Analyzed: 12/01/01
Level:(low/med) LOW
Time Analyzed: 0701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130LCS	54757	1130LCS.D	12/01/01	0736
2	SMW01Q40118	211109901	99-01.D	12/01/01	1130
3	SMW02Q40118	211109902	99-02.D	12/01/01	1204
4	SMW05Q40118	211109903	99-03.D	12/01/01	1238
5	SMW06Q40118	211109904	99-04.D	12/01/01	1312
6	SMW07Q40118	211109905	99-05.D	12/01/01	1346
7	SMW10Q40118	211109906	99-06.D	12/01/01	1419
8	062DUPQ40118	211109910	99-10.D	12/01/01	1708
9	062EQBQ40118	211109911	99-11.D	12/01/01	1742
10	SMW11Q40118	211109907	99-07D2.D	12/03/01	1747
11	SMW11Q40118MS	211109908	99-08D2.D	12/03/01	1821
12	SMW11Q40118SD	211109909	99-09D2.D	12/03/01	1854

COMMENTS:

2

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111099

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	130.0	98.4					0
062EQBQ40118	109.1	98.4					0
1130BLKW	110.0	65.0					0
1130LCS	120.0	80.0					0
SMW01Q40118	109.1	95.3					0
SMW02Q40118	110.0	87.1					0
SMW05Q40118	109.1	81.3					0
SMW06Q40118	140.0	101.6					0
SMW07Q40118	120.0	88.5					0
SMW10Q40118	130.0	149.2					0
SMW11Q40118	136.4	106.1					0
SMW11Q40118MS	136.4	109.2					0
SMW11Q40118SD	136.4	97.0					0

Control Limits

S1 = o-Terphenyl Surrogate 82 - 142

S2 = C39 Surrogate 42 - 193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

101201 1026

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD107	CAL7SV3473	11/19/01	1156	4.71	10.27
2	STD108	CAL6SV3474	11/19/01	1230	4.72	10.29
3	STD109	CAL5SV3475	11/19/01	1304	4.73	10.35
4	STD110	CAL4SV3476	11/19/01	1338	4.73	10.31
5	STD111	CAL3SV3477	11/19/01	1412	4.72	10.31
6	STD112	CAL2SV3478	11/19/01	1446	4.73	10.35
7	STD113	CAL1SV3479	11/19/01	1520	4.72	10.26
8	CCV114	SECSTDSV3480	11/19/01	1554	4.71	10.25
9	ZZZZZZ	ZZZZZZ	12/01/01	0553		
10	CCV1843	CCV1SV3503	12/01/01	0627	4.71	10.24
11	1130BLKW	54756	12/01/01	0701	4.71	10.23
12	1130LCS	54757	12/01/01	0736	4.7	10.2
13	ZZZZZZ	ZZZZZZ	12/01/01	1022		
14	ZZZZZZ	ZZZZZZ	12/01/01	1056		
15	SMW01Q40118	211109901	12/01/01	1130	4.72	10.3
16	SMW02Q40118	211109902	12/01/01	1204	4.72	10.27
17	SMW05Q40118	211109903	12/01/01	1238	4.73	10.35
18	SMW06Q40118	211109904	12/01/01	1312	4.72	10.29
19	SMW07Q40118	211109905	12/01/01	1346	4.73	10.29
20	SMW10Q40118	211109906	12/01/01	1419	4.72	10.29
21	CCV1854	CCV2SV3503	12/01/01	1453	4.72	10.27
22	ZZZZZZ	ZZZZZZ	12/01/01	1527		
23	ZZZZZZ	ZZZZZZ	12/01/01	1601		
24	ZZZZZZ	ZZZZZZ	12/01/01	1635		
25	062DUPQ40118	211109910	12/01/01	1708	4.69	10.18
26	062EQBQ40118	211109911	12/01/01	1742	4.71	10.17

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)
S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/01/01	1816		
28	ZZZZZZ	ZZZZZZ	12/01/01	1850		
29	ZZZZZZ	ZZZZZZ	12/01/01	1924		
30	ZZZZZZ	ZZZZZZ	12/01/01	1958		
31	ZZZZZZ	ZZZZZZ	12/01/01	2032		
32	CCV1865	CCV3SV3503	12/01/01	2106	4.68	10.12
33	ZZZZZZ	ZZZZZZ	12/01/01	2140		
34	ZZZZZZ	ZZZZZZ	12/01/01	2213		
35	ZZZZZZ	ZZZZZZ	12/01/01	2247		
36	ZZZZZZ	ZZZZZZ	12/01/01	2322		
37	ZZZZZZ	ZZZZZZ	12/03/01	1010		
38	ZZZZZZ	ZZZZZZ	12/03/01	1043		
39	ZZZZZZ	ZZZZZZ	12/03/01	1240		
40	ZZZZZZ	ZZZZZZ	12/03/01	1531		
41	ZZZZZZ	ZZZZZZ	12/03/01	1605		
42	ZZZZZZ	ZZZZZZ	12/03/01	1639		
43	CCV1876	CCV2SV3506	12/03/01	1713	4.71	10.22
44	SMW11Q40118	211109907	12/03/01	1747	4.7	10.24
45	SMW11Q40118MS	211109908	12/03/01	1821	4.71	10.22
46	SMW11Q40118SD	211109909	12/03/01	1854	4.68	10.14
47	ZZZZZZ	ZZZZZZ	12/03/01	1928		
48	ZZZZZZ	ZZZZZZ	12/03/01	2002		
49	ZZZZZZ	ZZZZZZ	12/03/01	2036		
50	ZZZZZZ	ZZZZZZ	12/03/01	2110		
51	ZZZZZZ	ZZZZZZ	12/03/01	2143		
52	ZZZZZZ	ZZZZZZ	12/03/01	2217		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
53	CCV1886	CCV3SV3506	12/03/01	2251	4.68	10.17

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

101201 1026 FORM VIII

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1130LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3.4	100.0	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.7	20	22	54.1	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.8	22	52.6	1.8	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1026

Form III

Standards Data

101201 1026

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	26757147.059	9538605.882	4700275.294	4046228.824	3785790.196
==========					
o-Terphenyl Surrogate	3781060.000	3885040.000	3960140.000	4022380.000	3941080.000
C39 Surrogate	2726020.000	3034383.333	2893896.667	2924153.333	2946030.000

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	3683057.647	3567664.706			
==========					
o-Terphenyl Surrogate	3903260.000	3814920.000			
C39 Surrogate	3068433.333	3074806.667			

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
TPH	LINR	-0.2800849	2.89922E-07	0.99972
==========				
o-Terphenyl Surrogate	AVRG		3901125.714	2.1
C39 Surrogate	AVRG		2952531.905	4.2

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT1: CAL1.D RT2: CAL2.D
RT3: CAL3.D RT4: CAL4.D RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
TPH	6.989	6.989	6.989	6.989	6.989			
==========								
o-Terphenyl Surrogate	4.720	4.733	4.723	4.727	4.733			
C39 Surrogate	10.260	10.353	10.307	10.310	10.353			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
TPH	6.989	6.989				6.989	2.129	11.849
==========								
o-Terphenyl Surrogate	4.723	4.707				4.724	4.650	4.790
C39 Surrogate	10.293	10.273				10.307	9.960	10.560

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 11/19/01 Time: 1554

Lab File ID: SECSTD.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.7	2.6	LINR	3.8	25.0
==========					
C39 Surrogate	0.32	0.3	AVRG	6.7	25.0
o-Terphenyl Surrogate	0.052	0.05	AVRG	4.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 0627

Lab File ID: CCV1.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
C39 Surrogate	0.31	0.3	AVRG	3.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 1453

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.8	2.6	LINR	7.7	25.0
==========					
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0
o-Terphenyl Surrogate	0.054	0.05	AVRG	8.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2106

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/03/01 Time: 1713

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3.1	2.6	LINR	19.2	25.0
==========					
C39 Surrogate	0.33	0.3	AVRG	10.0	25.0
o-Terphenyl Surrogate	0.06	0.05	AVRG	20.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/03/01 Time: 2251

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
C39 Surrogate	0.34	0.3	AVRG	13.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

Inorganics

101201 1026

Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P ICP
A Flame AA
F Furnace AA
CV Manual Cold Vapor AA
TC Total Organic Carbon
AS Semi-Automated Spectrophotometric
CA Midi-Distillation Spectrophotometric
T Titrimetric
C Manual Spectrophotometric
GR Gravimetric
NR Analyte was not required by your lab

METALS DATA PACKAGE
TOTALS

101201 1026

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111099

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA Method 6010B for metals analysis. All methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

IV. PREPARATION

EPA Method 3010A for water metals. Methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

V. ANALYSIS 12/6, 7/01 (6010B)

A. **Calibration:** All quality control criteria were met.

B. **Blanks:** All calibration and preparation blank quality control criteria were met.

C. **Spikes:** All recovery criteria were met.

D. **Duplicates:** All percent difference criteria were met.

E. **Samples:** All sample analysis proceeded normally. Please note that sample SMW11Q40118 was diluted for Lead due to negative interferences.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

G. **Laboratory Control Samples :** All percent recovery quality control criteria were met.

H. **Serial Dilution:** All dilution quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111099

I. Post Digestion Spike: All recovery criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Mark Carlson DATE: 12/10/01
Section Leader or designee

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2111099

SOW No.:

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark Gudnason Name: Mark Gudnason

Date: 12/10/01 Title: Metals Section Leader

101201 1026

Sample Data

101201 1026

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	68			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	25			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	8.2			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

QC Summary

101201 1026

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	381.615	95.4	500	468.371	93.7	468.120	93.6	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	475.250	95.0	480.418	96.1	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	482.282	96.5	477.143	95.4	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	371.363	92.8	500	471.193	94.2	471.255	94.3	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	480.970	96.2	459.236	91.8	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil): 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
Lead	2	U	2	U	2	U	2	U	2	U	P

101201 1026

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			2	U	2	U	2	U			P

101201 1026

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 7	C	8	C	9	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U			P

101201 1026

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 10	C	11	C	12	C	Prepa-ration Blank	C	M
Lead			2	U							P

101201 1026

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.4	92.8			

101201 1026

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.3	92.6			

101201 1026

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	460		10	U	500	92.0		P

Comments:

101201 1026

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	458		10	U	500	91.6		P

Comments:

101201 1026

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	460		10.00	U	500	92.0		P

Comments:

101201 1026

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DUPLICATES

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	460		458		0.4		P

Comments:

101201 1026

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LABORATORY CONTROL SAMPLE

EPA Sample No.

54713LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Solid LCS Source:

Aqueous LCS Source: MET-15503, 0JF123-60

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	478	95.6				-	

101201 1026

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ICP SERIAL DILUTIONS

EPA Sample No.

SMW11Q40118L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	10.00	U	10	U			P

Comments:

101201 1026

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID Number : ICAP Date: 10/1/2001

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		2	2	P

Comments:

101201 1026

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.: 2111099

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for:				
		Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.00036				

Comments:

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11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.:

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length		Interelement Correction Factors for: Mn	Mo	Sb	V	
Lead	220.3						

Comments:

101201 1026

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ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID NUMBER ICAP DATE : 5/1/2001

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

101201 1026

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
062DUPQ40118	30 Nov 01		50
062EQBQ40118	30 Nov 01		50
54712BLK	30 Nov 01		50
54713LCS	30 Nov 01		50
SMW01Q40118	30 Nov 01		50
SMW02Q40118	30 Nov 01		50
SMW05Q40118	30 Nov 01		50
SMW06Q40118	30 Nov 01		50
SMW07Q40118	30 Nov 01		50
SMW10Q40118	30 Nov 01		50
SMW11Q40118	30 Nov 01		50
SMW11Q40118MS	30 Nov 01		50
SMW11Q40118SD	30 Nov 01		50

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	15:07																					X						
STD3	1	15:14																					X						
STD2	1	15:19																											
ICV	1	15:25																					X						
ICB	1	15:32																					X						
ZZZZZZ	1	15:38																											
ICSA	1	15:44																					X						
ICSAB	1	15:51																					X						
CCV	1	15:57																					X						
CCB	1	16:03																					X						
54712BLK	1	16:10																					X						
54713LCS	1	16:16																					X						
ZZZZZZ	1	16:22																											
SMW11Q40118L	5	16:29																					X						
SMW11Q40118A	1	16:35																					X						
SMW11Q40118MS	1	16:41																					X						
SMW11Q40118SD	1	16:48																					X						
062DUPQ40118	1	16:54																					X						
062EQBQ40118	1	17:00																					X						
SMW01Q40118	1	17:06																					X						
CCV	1	17:13																					X						
CCB	1	17:19																					X						
SMW02Q40118	1	17:25																					X						
SMW05Q40118	1	17:32																					X						
SMW06Q40118	1	17:38																					X						
SMW07Q40118	1	17:44																					X						
SMW10Q40118	1	17:51																					X						
ZZZZZZ	1	17:57																											
ZZZZZZ	1	18:03																											
ZZZZZZ	1	18:10																											
ZZZZZZ	1	18:16																											
ZZZZZZ	1	18:22																											
CCV	1	18:28																					X						
CCB	1	18:35																					X						
ZZZZZZ	1	18:41																											
ZZZZZZ	1	18:47																											

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U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	18:54																											
ZZZZZZ	1	19:00																											
ZZZZZZ	5	19:06																											
ZZZZZZ	1	19:13																											
ZZZZZZ	1	19:19																											
ZZZZZZ	1	19:25																											
ZZZZZZ	1	19:32																											
ZZZZZZ	1	19:38																											
CCV	1	19:44																					X						
CCB	1	19:51																					X						
ZZZZZZ	1	19:57																											
ZZZZZZ	1	20:03																											
ZZZZZZ	1	20:09																											
ZZZZZZ	1	20:16																											
ZZZZZZ	1	20:22																											
ZZZZZZ	1	20:28																											
ZZZZZZ	1	20:35																											
ZZZZZZ	1	20:41																											
ZZZZZZ	1	20:47																											
ZZZZZZ	1	20:54																											
CCV	1	21:00																					X						
CCB	1	21:06																					X						
ZZZZZZ	1	21:13																											
CCV	1	21:19																					X						
CCB	1	21:25																					X						

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	10:48																					X						
STD3	1	10:54																					X						
STD2	1	11:00																											
ICV	1	11:05																					X						
ICB	1	11:11																					X						
ZZZZZZ	1	11:18																											
ICSA	1	11:24																					X						
ICSAB	1	11:30																					X						
CCV	1	11:37																					X						
CCB	1	11:43																					X						
SMW11Q40118	5	11:49																					X						
ZZZZZZ	5	11:56																											
ZZZZZZ	5	12:02																											
ZZZZZZ	5	12:08																											
ZZZZZZ	5	12:15																											
ZZZZZZ	1	12:21																											
ZZZZZZ	1	12:27																											
ZZZZZZ	1	12:33																											
ZZZZZZ	5	12:41																											
ZZZZZZ	1	12:47																											
CCV	1	12:53																					X						
CCB	1	13:00																					X						
ZZZZZZ	1	13:06																											
ZZZZZZ	1	13:12																											
ZZZZZZ	1	13:18																											
ZZZZZZ	1	13:25																											
ZZZZZZ	1	13:31																											
ZZZZZZ	1	13:37																											
ZZZZZZ	1	13:44																											
ZZZZZZ	1	13:50																											
ZZZZZZ	1	13:56																											
ZZZZZZ	1	14:03																											
CCV	1	14:09																					X						
CCB	1	14:15																					X						
ZZZZZZ	1	14:22																											
ZZZZZZ	1	14:28																											

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U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	14:34																											
ZZZZZZ	1	14:40																											
CCV	1	14:51																					X						
CCB	1	14:57																					X						

101201 1026

Chain of Custody Documentation

101201 1026

2M Hill Constructors, Inc.
rimeter Center Place, Suite 700
, GA 30346-1278
(770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 11/29/01 (MK) 11/29/01 #2111-099 MK

COC NUMBER: 163151-020

CT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
S. Cecil Field Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
CT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
Street terly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
CT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537	*Extra 1L Ambers rec'd for all 8310's + Pro's*	

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

ER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
y Dumaop / Anthony Cain / Garnett McCurdy ones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rec't 4°C / pH<2 (Pro's) (VOC's: 01,03,04,06-12) pH = 3 (VOC's: 02,05) (Lead: 04) / pH = 5 (Lead: 06,11) pH = 7 (Lead: 05) / pH = 8 (Lead: 01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature:		
op	11/27/01	17:30	Federal Express	11/27/01	17:30
Name and Signature:			Printed Name and Signature:		
			Michael A. Kelley / PEL	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
nta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

11/29/01

CHAIN-OF-CUSTODY RECORD

Unrevised COC rec'd with Samples

2111-099 MK

COC NUMBER: 163151-020

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
A.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
3rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
	062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
	062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
	062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
	062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
	062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
	062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
	062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
	062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
	062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

LER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ly Dumaop / Anthony Cain / Garnett McCurdy Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rect 4°C / pH=3(VOC's:02,05)(Metals:04) pH<2(Pro's, VOC's:01,03,04 06-12) / pH=5(Metals:06,11) pH=7(Metals:05) pH=8(Metals:01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature: aop	11/27/01	17:30	Printed Name and Signature: Federal Express	11/27/01	17:30
Name and Signature: Fed Ex			Printed Name and Signature: Michael A. Kuley / PEL	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-099

Client: CH2M Hill	Date Recd: 11/28/01
Project: Cecil Field 0062	Due Date: —
Log In Tech: MK	Recd Via: Client Crosstown (FedEx)
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C)	4		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL		✓	Correct Sample Containers	✓	
Soil Origin Domestic NA			Soil Origin Foreign NA		

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: (STND)/RUSH		
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results		✓
COC Received/Dated by PEL	✓		Client Requests FAX Results		✓
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2111-099 By MK

Client/Project Cham Hill / Cecil Field 0062 Date 11/28/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other ____ pH ____
2111-099-01	(2) pH<2	(1) pH = 8			(3) pH<2	
-02					(3) pH = 3	
-03					(3) pH<2	
-04		(1) pH = 3				
-05		(1) pH = 7			(3) pH = 3	
-06		(1) pH = 5			(3) pH<2	
-07		(1) pH = 8				
-08						
-09						
-10						
-11		(1) pH = 5				
-12						

Changed Client ID's for CH2M Hill

Project Type: LS7 Project Name: Cecil Field Project: Cecil Field

PROJECT SEQ: 2111099 **REQNBR:** 20410

OLD CUST ID	OLD LENGTH	NEW CUST ID	NEW LENGTH
062DUPQ40118	12	Not Changed	Not Changed
062EQBQ40118	12	Not Changed	Not Changed
062SMW01Q40118	14	SMW01Q40118	11
062SMW02Q40118	14	SMW02Q40118	11
062SMW05Q40118	14	SMW05Q40118	11
062SMW06Q40118	14	SMW06Q40118	11
062SMW07Q40118	14	SMW07Q40118	11
062SMW10Q40118	14	SMW10Q40118	11
062SMW11Q40118	14	SMW11Q40118	11
062SMW11Q40118MS	16	SMW11Q40118MS	13
062SMW11Q40118SD	16	SMW11Q40118SD	13
062TBQ40118	11	Not Changed	Not Changed

CHAM Hill / Cecil Field 0062 2111-099

Sample #	Parameter	Rel'd	Rec'd	DATE	TIME
1-12	~~8021~~ (w) 8260	✓ MS	DK	12/3/01	0900
1-12	~~8021~~ (w)		KWS	12/4/01	8:00
7,8,9	8260	✓ MS	MS	12/3/01	15:30
			KWS	12/4/01	08:00
1-11	8310 (w)	✓	RW	11/30/01	1230
1-11	8310 (w)	RW	~~Consumed~~	11/30/01	1230
1-11	Lead (w)	✓	GK	11/30/01	2000
1-11	Lead (w)	GK	✓	11/30/01	2130
1-11	Fl Pro (w)	✓	AM	11.30.01	1400
1-11	Fl Pro (w)	Consumed			

Addendum

101201 1026

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	11-28-01; 10:20 AM
Date to be Reported:	12-12-01
Laboratory Submission Number/SDG:	2111099
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 45 analyses on 12 samples (including QC) *29-Nov-01*

Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW01Q40118	211109901	CEF-103-SMW-	W	11/27/01 11:00:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW02Q40118	211109902	CEF-103-SMW-	W	11/27/01 2:20:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW05Q40118	211109903	CEF-103-SMW-	W	11/27/01 12:05:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW06Q40118	211109904	CEF-103-SMW-	W	11/27/01 1:35:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW07Q40118	211109905	CEF-103-SMW-	W	11/27/01 10:45:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW10Q40118	211109906	CEF-103-SMW-	W	11/27/01 11:35:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118	211109907	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118MS	211109908	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118SD	211109909	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062DUPQ40118	211109910	Duplicate	W	11/27/01	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062EQBQ40118	211109911	Equipment	W	11/27/01 3:00:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TBQ40118	211109912	Trip Blank	W	11/28/01	11/28/01 10:20:00 AM

Method		
8260	Volatile Organic Compounds	8260

2M Hill Constructors, Inc.
erimeter Center Place, Suite 700
a, GA 30346-1278
(770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-020

*Revised COC rec'd on 11/29/01 (MK) 11/29/01 *

2111-099 MK

ECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
.S. Cecil Field d Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
ECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
d Street rterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
ECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537	*Extra 1L Ambers rec'd for all 8310's + Pro's*	

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

ANALYSES REQUIRED (Include Method Numbers)

ER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
y Dumaop / Anthony Cain / Garnett McCurdy Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rect 4°C / pH<2 (Pro's) (VOC's: 01,03,04,06-12) pH = 3 (VOC's: 02,05) (Lead: 04) / pH = 5 (Lead: 06,11) pH = 7 (Lead: 05) / pH = 8 (Lead: 01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature:		
aop	11/27/01	17:30	Federal Express	11/27/01	17:30
Name and Signature:			Printed Name and Signature:		
			Michael A. Kelley / PEL	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

11/29/01 THU 09:51 FAX 3047774262 CH2M HILL CONSTRUCTORS 002

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
nta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

11/29/01

CHAIN-OF-CUSTODY RECORD

Unrevised COC rec'd with Samples

2111-099 MK

COC NUMBER: 163151-020

OJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
A.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
OJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
3rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
OJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
l Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
	062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
	062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
	062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
	062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
	062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
	062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
	062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
	062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
	062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

LER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
dy Dumaop / Anthony Cain / Garnett McCurdy Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rect 4°C / pH=5(VOC's:02,05)(Metals:04) pH<2(Pro's, VOC's:01,03,04,06-12) / pH=5(Metals:06,11) pH=7(Metals:05) pH=5(Metals:01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
l Name and Signature:			Printed Name and Signature:		
naop	11/27/01	17:30	Federal Express	11/27/01	17:30
l Name and Signature: Fed Ex			Printed Name and Signature:		
Name and Signature:			Michael A. Kulay / PEL	11/28/01	10:20
			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

Changed Client ID's for CH2M Hill

Project Type: LS7 Project Name: Cecil Field Project: Cecil Field

PROJECT SEQ: 2111099 **REQNBR:** 20410

OLD CUST ID	OLD LENGTH	NEW CUST ID	NEW LENGTH
062DUPQ40118	12	Not Changed	Not Changed
062EQBQ40118	12	Not Changed	Not Changed
062SMW01Q40118	14	SMW01Q40118	11
062SMW02Q40118	14	SMW02Q40118	11
062SMW05Q40118	14	SMW05Q40118	11
062SMW06Q40118	14	SMW06Q40118	11
062SMW07Q40118	14	SMW07Q40118	11
062SMW10Q40118	14	SMW10Q40118	11
062SMW11Q40118	14	SMW11Q40118	11
062SMW11Q40118MS	16	SMW11Q40118MS	13
062SMW11Q40118SD	16	SMW11Q40118SD	13
062TBQ40118	11	Not Changed	Not Changed

PEL Laboratories, Inc.

Customer Name: CH2MHILL
Date & Time Received: 11-28-01; 10:20 AM
Date Reported: 12-10-01
PEL Submission Number: 2111102
Project: NAS Cecil Field (103RD Street)

Samples: The submission consisted of 3 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method: 8260, 8310, 6010, and FLPRO

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Organics **1**
METHOD8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 18
Standards Data 35
METHOD8310 HPLC PAH ORGANICS 42
Sample Data 46
QC Summary 49
Standards Data 58
METHODFL-PRO GC FL- PRO ORGANICS 67
Sample Data 71
QC Summary 74
Standards Data 83

Inorganics **94**
METALS DATA PACKAGE TOTALS 96
Sample Data 100
QC Summary 103

Chain of Custody Documentation **130**

Addendum **136**

Organics

101201 1032

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when incicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated bland as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

N This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as clorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

101201 1032

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

The initial calibration for the water matrix met the criteria. Dichlorodifluoromethane, Trichlorofluoromethane, Methylene Chloride, Carbon tetrachloride, 1,2-Dichloroethane, Trichloroethene, Tetrachloroethene, Bromoform, tert-Butylbenzene, and Hexachlorobutadiene required a linear fit in the water calibration and met the criteria with an R squared value > 0.99. The continuing calibration verification for the water met the criteria using the average percent D allowed by SW846 EPA method 8000.

B. Blanks:

The blank for the water samples met all criteria.

C. Surrogates:

All surrogate criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

D. Spikes:

Laboratory Control Samples (LCS)

All criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client did not specify a sample to be spiked. Reagent water spikes were analyzed as an MS/SD where seven out of 114 analytes did not meet the acceptance criteria for percent recovery. All criteria were met for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Ira Pelo **DATE:** 12/7/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: **8260**

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202
062TB2Q40118	211110203

101201 1032

Sample Data

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID 10201.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1043

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-3 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID 10201.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1043

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-3 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110201

Lab File ID 10201.D

Sample wt/vol: 5

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1043

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-3

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID 10202.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1016

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-4 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID 10202.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1016

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-4 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110202

Lab File ID 10202.D

Sample wt/vol: 5

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 1016

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-4

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TB2Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110203 Lab File ID 10203.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0951

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank No.2 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TB2Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110203 Lab File ID 10203.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0951

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank No.2 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TB2Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110203

Lab File ID 10203.D

Sample wt/vol: 5

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 0951

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank No.2

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

101201 1032

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111102

Matrix: WATER
Lab Sample ID: 1203BLKA12
Lab File ID XBLKA14.D

Sample wt/vol: 5
Units: ML
Date Received: 12/03/01

Concentrated Extract Volume: 5
Date Extracted:

Level:(low/med) LOW
Date Analyzed: 12/03/01
Time: 0926

PercentSolids: 0
decanted :
Dilution Factor: 1

Extraction: PURGETRAP
Station ID: QC
Method: 8260

GPC Cleanup : (Y/N)
pH:

Column(1): DB-624
ID: 0.18
(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 1203BLKA12

Lab File ID XBLKA14.D

Sample wt/vol: 5

Units: ML

Date Received: 12/03/01

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 0926

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID XBLKA14.D Lab Sample ID: 1203BLKA12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 0926

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
2	1203BLKA12MS	1203BLKA12MS	BLKMS.D	12/03/01	0810
3	1203BLKA12MSD	1203BLKA12MSD	BLKSD.D	12/03/01	0836
4	062TB2Q40118	211110203	10203.D	12/03/01	0951
5	SMW4Q40118	211110202	10202.D	12/03/01	1016
6	SMW3Q40118	211110201	10201.D	12/03/01	1043

COMMENTS:

2

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111102

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062TB2Q40118	104.4	105.8	105.8	106.0			0
1203BLKA12	103.2	104.4	106.6	100.8			0
1203BLKA12MS	107.4	101.2	99.4	109.4			0
1203BLKA12MSD	106.0	101.6	99.2	105.6			0
1203LCSA11	108.0	104.6	101.6	107.2			0
SMW3Q40118	105.4	99.4	96.8	104.6			0
SMW4Q40118	104.6	104.2	100.2	102.6			0

Control Limits

S1	=	Dibromofluoromethane	86 -	118
S2	=	Toluene d8	88 -	110
S3	=	4-Bromofluorobenzene	86 -	115
S4	=	1,2-Dichloroethane-d4	80 -	120

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

101201 1032

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID: BFB13.D BFB Injection Date: 11/30/01

Instrument ID: VMS01 BFB Injection Time: 1441

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	18.5	
75	30.0 - 60.0% of mass 95	51	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.2	(0.3)1
174	50.0 - 100.0% of mass 95	87.7	
175	5.0 - 9.0% of mass 174	5.5	(6.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.6	(95.4)1
177	5.0 - 9.0% of mass 176	6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1634	1PPBSTD	1PPB.D	11/30/01	1646
2	STD1635	2PPBSTD	2PPB.D	11/30/01	1712
3	STD1636	5PPBSTD	5PPB.D	11/30/01	1737
4	STD1637	10PPBSTD	10PPB.D	11/30/01	1803
5	STD1638	20PPBSTD	20PPB.D	11/30/01	1828
6	STD1640	60PPBSTD	60PPB.D	11/30/01	1920
7	STD1641	80PPBSTD	80PPB.D	11/30/01	1946

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID: BFB13.D BFB Injection Date: 12/03/01

Instrument ID: VMS01 BFB Injection Time: 0602

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.9	
75	30.0 - 60.0% of mass 95	46.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	5.6	
173	Less than 2.0% of mass 174	0.1	(0.2)1
174	50.0 - 100.0% of mass 95	80.3	
175	5.0 - 9.0% of mass 174	5.2	(6.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.1	(98.6)1
177	5.0 - 9.0% of mass 176	5.6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1817	1203CCVA11	50CCV12.D	12/03/01	0657
2	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
3	1203BLKA12MS	1203BLKA12M	BLKMS.D	12/03/01	0810
4	1203BLKA12MSD	1203BLKA12M	BLKSD.D	12/03/01	0836
5	1203BLKA12	1203BLKA12	XBLKA14.D	12/03/01	0926
6	062TB2Q40118	211110203	10203.D	12/03/01	0951
7	SMW4Q40118	211110202	10202.D	12/03/01	1016
8	SMW3Q40118	211110201	10201.D	12/03/01	1043

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID (Standard): 20PPB.D Date Analyzed: 11/30/2001

Instrument ID: VMS01 Time Analyzed: 18:28

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	883098		9.88	470145		12.21	1205268		6.63
	UPPER LIMIT	1766196		10.38	940290		12.71	2410536		7.13
	LOWER LIMIT	441549		9.38	235072.5		11.71	602634		6.13
	EPA SAMPLE NO.									
1	1203LCSA11	1082323		9.87	590699		12.21	1446570		6.62
2	1203BLKA12MS	1055841		9.87	567557		12.21	1413404		6.62
3	1203BLKA12MSD	1032046		9.87	561663		12.21	1381620		6.62
4	1203BLKA12	997477		9.87	502728		12.21	1330332		6.62
5	062TB2Q40118	960922		9.87	492749		12.21	1290390		6.62
6	SMW4Q40118	963420		9.87	504633		12.21	1289719		6.62
7	SMW3Q40118	973573		9.87	500566		12.21	1304888		6.62

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	17	85.0	68 - 116
Chloromethane	20	18	90.0	55 - 144
Vinyl chloride	20	18	90.0	63 - 133
Bromomethane	20	19	95.0	76 - 135
Chloroethane	20	22	110.0	69 - 136
Trichlorofluoromethane	20	22	110.0	59 - 144
1,1-Dichloroethene	20	22	110.0	52 - 150
Methylene chloride	20	21	105.0	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	64 - 131
1,1-Dichloroethane	20	23	115.0	76 - 122
2,2-Dichloropropane	20	26	130.0	69 - 132
cis-1,2-Dichloroethene	20	23	115.0	71 - 122
Bromochloromethane	20	22	110.0	80 - 113
Chloroform	20	22	110.0	77 - 121
1,1,1-Trichloroethane	20	24	120.0	69 - 126
Carbon tetrachloride	20	22	110.0	68 - 127
Benzene	20	23	115.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	21	105.0	76 - 120
1,2-Dichloropropane	20	22	110.0	79 - 119
Dibromomethane	20	22	110.0	80 - 117
Bromodichloromethane	20	23	115.0	72 - 120
Toluene	20	23	115.0	76 - 119
1,1,2-Trichloroethane	20	22	110.0	79 - 116
Tetrachloroethene	20	22	110.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	22	110.0	75 - 124
1,1,1,2-Tetrachloroethane	20	22	110.0	75 - 110
Ethylbenzene	20	22	110.0	71 - 129
p,m-Xylene	40	44	110.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1032

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	22	110.0	75 - 124
Styrene	20	22	110.0	78 - 118
Bromoform	20	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	22	110.0	76 - 126
Bromobenzene	20	20	100.0	80 - 118
1,1,2,2-Tetrachloroethane	20	21	105.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
n-Propylbenzene	20	22	110.0	76 - 125
2-Chlorotoluene	20	21	105.0	72 - 119
4-Chlorotoluene	20	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	22	110.0	76 - 126
tert-Butylbenzene	20	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	22	110.0	75 - 128
sec-Butylbenzene	20	22	110.0	6 - 178
1,3-Dichlorobenzene	20	23	115.0	80 - 115
1,4-Dichlorobenzene	20	22	110.0	78 - 117
4-Isopropyltoluene	20	22	110.0	6 - 178
n-Butylbenzene	20	22	110.0	76 - 134
1,2-Dichlorobenzene	20	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	21	105.0	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	72 - 131
Hexachlorobutadiene	20	21	105.0	79 - 129
Naphthalene	20	22	110.0	70 - 140
1,2,3-Trichlorobenzene	20	22	110.0	67 - 139
Xylene (total)	60	66	110.0	74 - 127

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1032

Form III

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	16	80.0	68 - 116
Chloromethane	20	0	18	90.0	55 - 144
Vinyl chloride	20	0	18	90.0	63 - 133
Bromomethane	20	0	21	105.0	76 - 135
Chloroethane	20	0	19	95.0	69 - 136
Trichlorofluoromethane	20	0	22	110.0	59 - 144
1,1-Dichloroethene	20	0	23	115.0	52 - 150
Methylene chloride	20	0	20	100.0	72 - 123
trans-1,2-Dichloroethene	20	0	21	105.0	64 - 131
1,1-Dichloroethane	20	0	22	110.0	76 - 122
2,2-Dichloropropane	20	0	25	125.0	69 - 132
cis-1,2-Dichloroethene	20	0	22	110.0	71 - 122
Bromochloromethane	20	0	22	110.0	80 - 113
Chloroform	20	0	22	110.0	77 - 121
1,1,1-Trichloroethane	20	0	23	115.0	69 - 126
Carbon tetrachloride	20	0	21	105.0	68 - 127
Benzene	20	0	22	110.0	77 - 118
1,2-Dichloroethane	20	0	21	105.0	73 - 124
Trichloroethene	20	0	21	105.0	76 - 120
1,2-Dichloropropane	20	0	21	105.0	79 - 119
Dibromomethane	20	0	22	110.0	80 - 117
Bromodichloromethane	20	0	23	115.0	72 - 120
Toluene	20	0	22	110.0	76 - 119
1,1,2-Trichloroethane	20	0	22	110.0	79 - 116
Tetrachloroethene	20	0	20	100.0	72 - 123
1,3-Dichloropropane	20	0	21	105.0	82 - 114
Dibromochloromethane	20	0	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	0	21	105.0	76 - 116
Chlorobenzene	20	0	22	110.0	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1032

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	0	21	105.0	75 - 110
Ethylbenzene	20	0	21	105.0	71 - 129
p,m-Xylene	40	0	43	107.5	74 - 127
o-Xylene	20	0	22	110.0	75 - 124
Styrene	20	0	22	110.0	78 - 118
Bromoform	20	0	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	0	22	110.0	76 - 126
Bromobenzene	20	0	21	105.0	80 - 118
1,1,2,2-Tetrachloroethane	20	0	21	105.0	79 - 114
1,2,3-Trichloropropane	20	0	21	105.0	79 - 111
n-Propylbenzene	20	0	22	110.0	76 - 125
2-Chlorotoluene	20	0	21	105.0	72 - 119
4-Chlorotoluene	20	0	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	0	22	110.0	76 - 126
tert-Butylbenzene	20	0	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	0	22	110.0	75 - 128
sec-Butylbenzene	20	0	22	110.0	6 - 178
1,3-Dichlorobenzene	20	0	22	110.0	80 - 115
1,4-Dichlorobenzene	20	0	22	110.0	78 - 117
4-Isopropyltoluene	20	0	22	110.0	6 - 178
n-Butylbenzene	20	0	22	110.0	76 - 134
1,2-Dichlorobenzene	20	0	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	0	19	95.0	43 - 152
1,2,4-Trichlorobenzene	20	0	23	115.0	72 - 131
Hexachlorobutadiene	20	0	21	105.0	79 - 129
Naphthalene	20	0	21	105.0	70 - 140
1,2,3-Trichlorobenzene	20	0	21	105.0	67 - 139
Xylene (total)	60	0	65	108.3	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1032

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1032

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	16	80.0	4.4	40	68 - 116
Chloromethane	20	19	95.0	10.0	17	55 - 144
Vinyl chloride	20	20	100.0	10.3	18	63 - 133
Bromomethane	20	21	105.0	2.3	20	76 - 135
Chloroethane	20	20	100.0	4.2	20	69 - 136
Trichlorofluoromethane	20	24	120.0	8.4	16	59 - 144
1,1-Dichloroethene	20	25	125.0	7.6	20	52 - 150
Methylene chloride	20	21	105.0	3.2	23	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	9.7	18	64 - 131
1,1-Dichloroethane	20	24	120.0	7.3	20	76 - 122
2,2-Dichloropropane	20	27	135.0 *	9.8	20	69 - 132
cis-1,2-Dichloroethene	20	24	120.0	7.9	20	71 - 122
Bromochloromethane	20	23	115.0 *	0.5	20	80 - 113
Chloroform	20	23	115.0	4.1	20	77 - 121
1,1,1-Trichloroethane	20	25	125.0	9.6	22	69 - 126
Carbon tetrachloride	20	23	115.0	10.2	25	68 - 127
Benzene	20	24	120.0 *	7.0	18	77 - 118
1,2-Dichloroethane	20	22	110.0	1.2	20	73 - 124
Trichloroethene	20	22	110.0	8.8	21	76 - 120
1,2-Dichloropropane	20	23	115.0	5.3	20	79 - 119
Dibromomethane	20	22	110.0	0.2	20	80 - 117
Bromodichloromethane	20	23	115.0	2.4	20	72 - 120
Toluene	20	24	120.0 *	5.6	20	76 - 119
1,1,2-Trichloroethane	20	22	110.0	3.3	23	79 - 116
Tetrachloroethene	20	23	115.0	14.1	20	72 - 123
1,3-Dichloropropane	20	22	110.0	4.5	18	82 - 114
Dibromochloromethane	20	23	115.0	5.8	20	68 - 118
1,2-Dibromoethane(EDB)	20	22	110.0	3.0	22	76 - 116
Chlorobenzene	20	23	115.0	5.0	20	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1032

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	23	115.0 *	6.4	21	75 - 110
Ethylbenzene	20	23	115.0	8.2	21	71 - 129
p,m-Xylene	40	47	117.5	9.3	20	74 - 127
o-Xylene	20	23	115.0	6.1	20	75 - 124
Styrene	20	24	120.0 *	7.0	20	78 - 118
Bromoform	20	21	105.0	0.5	20	58 - 124
Isopropylbenzene (Cumene)	20	24	120.0	8.3	20	76 - 126
Bromobenzene	20	22	110.0	2.2	18	80 - 118
1,1,2,2-Tetrachloroethane	20	22	110.0	7.3	20	79 - 114
1,2,3-Trichloropropane	20	23	115.0 *	5.4	19	79 - 111
n-Propylbenzene	20	23	115.0	7.8	20	76 - 125
2-Chlorotoluene	20	22	110.0	5.0	30	72 - 119
4-Chlorotoluene	20	22	110.0	8.8	30	32 - 158
1,3,5-Trimethylbenzene	20	23	115.0	6.1	21	76 - 126
tert-Butylbenzene	20	20	100.0	6.7	22	70 - 124
1,2,4-Trimethylbenzene	20	23	115.0	6.1	19	75 - 128
sec-Butylbenzene	20	23	115.0	8.0	30	6 - 178
1,3-Dichlorobenzene	20	23	115.0	5.8	18	80 - 115
1,4-Dichlorobenzene	20	23	115.0	4.8	19	78 - 117
4-Isopropyltoluene	20	23	115.0	4.7	30	6 - 178
n-Butylbenzene	20	23	115.0	3.7	16	76 - 134
1,2-Dichlorobenzene	20	23	115.0	5.1	16	80 - 116
1,2-Dibromo-3-chloropropane	20	22	110.0	10.7	23	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	1.8	22	72 - 131
Hexachlorobutadiene	20	21	105.0	0.0	26	79 - 129
Naphthalene	20	22	110.0	6.2	26	70 - 140
1,2,3-Trichlorobenzene	20	23	115.0	6.1	27	67 - 139
Xylene (total)	60	70	116.7	8.2	40	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1032

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

RPD: 0 out of 57 outside limits

Spike Recovery: 7 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

101201 1032

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.145	0.169	0.164	0.195	0.185			
Chloromethane	#	0.237	0.245	0.246	0.239	0.262			#
Vinyl chloride	*	0.177	0.213	0.200	0.201	0.210			*
Bromomethane		0.134	0.184	0.132	0.154	0.175			
Chloroethane		0.148	0.129	0.126	0.123	0.172			
Trichlorofluoromethane		0.153	0.203	0.218	0.260	0.251			
1,1-Dichloroethene		0.253	0.268	0.269	0.321	0.306			
Methylene chloride		0.482	0.383	0.327	0.366	0.339			
trans-1,2-Dichloroethene		0.262	0.255	0.262	0.304	0.303			
1,1-Dichloroethane	#	0.330	0.353	0.376	0.411	0.401			#
2,2-Dichloropropane		0.241	0.205	0.237	0.260	0.261			
cis-1,2-Dichloroethene		0.210	0.210	0.210	0.250	0.258			
Bromochloromethane		0.157	0.124	0.105	0.139	0.145			
Chloroform	*	0.328	0.380	0.368	0.466	0.448			*
1,1,1-Trichloroethane		0.269	0.281	0.266	0.333	0.332			
Carbon tetrachloride		0.179	0.200	0.207	0.284	0.272			
Benzene		0.718	0.784	0.754	0.926	0.903			
1,2-Dichloroethane		0.697	0.286	0.276	0.327	0.322			
Trichloroethene		0.211	0.209	0.213	0.261	0.254			
1,2-Dichloropropane	*	0.216	0.261	0.220	0.250	0.259			*
Dibromomethane		0.184	0.163	0.160	0.179	0.177			
Bromodichloromethane		0.277	0.280	0.252	0.321	0.313			
Toluene	*	0.441	0.441	0.488	0.567	0.589			*
1,1,2-Trichloroethane		0.169	0.198	0.179	0.223	0.222			
Tetrachloroethene		0.160	0.197	0.196	0.261	0.239			
1,3-Dichloropropane		0.497	0.485	0.465	0.551	0.544			
Dibromochloromethane		0.275	0.277	0.274	0.349	0.346			
1,2-Dibromoethane(EDB)		0.293	0.255	0.276	0.313	0.324			
Chlorobenzene	#	0.791	0.785	0.784	0.921	0.920			#
1,1,1,2-Tetrachloroethane		0.238	0.258	0.255	0.312	0.300			
Ethylbenzene	*	0.354	0.377	0.403	0.468	0.474			*
p,m-Xylene		0.435	0.453	0.497	0.595	0.569			
o-Xylene		0.925	0.988	0.999	1.250	1.217			
Styrene		0.681	0.776	0.823	1.033	0.985			

Calibration Criteria Is Stated In Narrative

101201 1032

FORM VI

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Bromoform	#	0.170	0.156	0.166	0.206	0.222			#
Isopropylbenzene (Cumene)		2.152	2.153	2.292	2.737	2.678			
Bromobenzene		0.958	1.045	1.013	1.156	1.116			
1,1,2,2-Tetrachloroethane	#	0.662	0.694	0.645	0.782	0.748			#
1,2,3-Trichloropropane		0.139	0.186	0.198	0.212	0.227			
n-Propylbenzene		2.676	2.696	3.058	3.560	3.529			
2-Chlorotoluene		1.885	1.857	1.882	2.157	2.103			
4-Chlorotoluene		1.999	1.985	2.118	2.437	2.411			
1,3,5-Trimethylbenzene		1.720	1.874	1.960	2.311	2.258			
tert-Butylbenzene		1.423	1.459	1.533	1.869	2.135			
1,2,4-Trimethylbenzene		1.607	1.796	1.840	2.246	2.201			
sec-Butylbenzene		2.060	2.328	2.493	2.975	2.978			
1,3-Dichlorobenzene		1.034	1.131	1.210	1.350	1.414			
1,4-Dichlorobenzene	*	1.061	1.133	1.211	1.476	1.407			*
4-Isopropyltoluene		1.910	1.960	2.099	2.446	2.476			
n-Butylbenzene		1.763	1.826	1.927	2.487	2.388			
1,2-Dichlorobenzene		1.034	1.113	1.053	1.313	1.279			
1,2-Dibromo-3-chloropropane		0.097	0.100	0.089	0.117	0.116			
1,2,4-Trichlorobenzene		0.686	0.636	0.731	0.877	0.844			
Hexachlorobutadiene	*	0.132	0.169	0.183	0.203	0.202			*
Naphthalene		1.849	1.749	1.653	2.063	2.096			
1,2,3-Trichlorobenzene		0.827	0.658	0.625	0.761	0.794			
Xylene (total)		0.442	0.470	0.477	0.586	0.575			
==========									
Dibromofluoromethane			0.253	0.219	0.246	0.255			
Toluene d8			0.784	0.776	0.804	0.812			
4-Bromofluorobenzene			0.815	0.789	0.826	0.829			
1,2-Dichloroethane-d4			0.062	0.044	0.053	0.059			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.221	0.228	0.231			0.1924	0.99831	
Chloromethane	#	0.254	0.257	0.250			0.24873	3.5	#
Vinyl chloride	*	0.200	0.207	0.204			0.20146	5.5	*
Bromomethane		0.161	0.152	0.130			0.15273	13.3	
Chloroethane		0.139	0.129	0.113			0.1351	13.4	
Trichlorofluoromethane		0.272	0.297	0.281			0.24196	1	
1,1-Dichloroethene		0.303	0.298	0.287			0.28834	8	
Methylene chloride		0.325	0.327	0.323			0.35887	0.99978	
trans-1,2-Dichloroethene		0.299	0.296	0.309			0.28613	7.9	
1,1-Dichloroethane	#	0.402	0.408	0.409			0.38621	7.9	#
2,2-Dichloropropane		0.267	0.267	0.267			0.25056	8.7	
cis-1,2-Dichloroethene		0.265	0.263	0.268			0.24163	11.1	
Bromochloromethane		0.140	0.142	0.141			0.13661	11.5	
Chloroform	*	0.441	0.446	0.439			0.41451	11.9	*
1,1,1-Trichloroethane		0.339	0.350	0.349			0.31499	11.5	
Carbon tetrachloride		0.300	0.310	0.307			0.25727	0.99936	
Benzene		0.909	0.938	0.915			0.85594	10.3	
1,2-Dichloroethane		0.320	0.316	0.315			0.35726	0.99964	
Trichloroethene		0.261	0.270	0.264			0.24281	0.99956	
1,2-Dichloropropane	*	0.258	0.270	0.259			0.24906	8	*
Dibromomethane		0.175	0.182	0.176			0.17441	4.9	
Bromodichloromethane		0.318	0.329	0.333			0.30295	9.7	
Toluene	*	0.584	0.591	0.583			0.53564	12.6	*
1,1,2-Trichloroethane		0.228	0.221	0.222			0.20771	11	
Tetrachloroethene		0.254	0.261	0.258			0.2283	0.99957	
1,3-Dichloropropane		0.536	0.548	0.528			0.5191	6.3	
Dibromochloromethane		0.367	0.375	0.368			0.32892	13.8	
1,2-Dibromoethane(EDB)		0.316	0.314	0.308			0.29997	7.9	
Chlorobenzene	#	0.903	0.917	0.882			0.86301	7.5	#
1,1,1,2-Tetrachloroethane		0.312	0.318	0.310			0.28792	11.2	
Ethylbenzene	*	0.464	0.467	0.461			0.43362	11.1	*
p,m-Xylene		0.569	0.562	0.544			0.52808	11.2	
o-Xylene		1.190	1.232	1.172			1.12176	11.5	
Styrene		1.003	1.013	0.973			0.91086	14.5	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Bromoform	#	0.237	0.234	0.235			0.20332	0.99977	#
Isopropylbenzene (Cumene)		2.750	2.820	2.757			2.54244	11.4	
Bromobenzene		1.108	1.123	1.096			1.07663	6.1	
1,1,2,2-Tetrachloroethane	#	0.741	0.713	0.701			0.71077	6.4	#
1,2,3-Trichloropropane		0.213	0.207	0.202			0.19803	13.5	
n-Propylbenzene		3.567	3.600	3.462			3.26864	12.2	
2-Chlorotoluene		2.126	2.152	1.986			2.01854	6.5	
4-Chlorotoluene		2.373	2.405	2.348			2.25954	8.5	
1,3,5-Trimethylbenzene		2.302	2.294	2.270			2.12362	11.1	
tert-Butylbenzene		1.900	2.197	2.157			1.83417	0.99518	
1,2,4-Trimethylbenzene		2.222	2.283	2.209			2.0505	12.7	
sec-Butylbenzene		2.982	3.007	2.960			2.72286	13.8	
1,3-Dichlorobenzene		1.384	1.436	1.388			1.29322	11.5	
1,4-Dichlorobenzene	*	1.409	1.451	1.383			1.3164	12	*
4-Isopropyltoluene		2.507	2.583	2.465			2.30584	11.7	
n-Butylbenzene		2.384	2.414	2.339			2.19121	13.6	
1,2-Dichlorobenzene		1.299	1.311	1.231			1.2042	9.9	
1,2-Dibromo-3-chloropropane		0.125	0.120	0.115			0.10984	11.6	
1,2,4-Trichlorobenzene		0.906	0.916	0.886			0.81024	13.5	
Hexachlorobutadiene	*	0.228	0.226	0.228			0.19628	0.99955	*
Naphthalene		2.106	2.117	2.057			1.96131	9.4	
1,2,3-Trichlorobenzene		0.815	0.836	0.831			0.76846	10.7	
Xylene (total)		0.563	0.577	0.559			0.5311	10.9	
==========									
Dibromofluoromethane		0.252	0.258	0.255			0.24813	5.3	
Toluene d8		0.817	0.849	0.817			0.80844	3	
4-Bromofluorobenzene		0.830	0.863	0.833			0.82676	2.7	
1,2-Dichloroethane-d4		0.055	0.059	0.057			0.05553	10.8	

Calibration Criteria Is Stated In Narrative

101201 1032

FORM VI

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Dichlorodifluoromethane		54.6	50	LINR	9.2	20.0	
Chloromethane	#	52.8	50	AVRG	5.6	20.0	#
Vinyl chloride	*	51.2	50	AVRG	2.4	20.0	*
Bromomethane		47.6	50	AVRG	4.8	20.0	
Chloroethane		45.4	50	AVRG	9.2	20.0	
Trichlorofluoromethane		50.2	50	WLINR	0.4	20.0	
1,1-Dichloroethene		54.4	50	AVRG	8.8	20.0	
Methylene chloride		50.8	50	LINR	1.6	20.0	
trans-1,2-Dichloroethene		55.9	50	AVRG	11.8	20.0	
1,1-Dichloroethane	#	55.2	50	AVRG	10.4	20.0	#
2,2-Dichloropropane		65.3	50	AVRG	30.6	20.0	<-
cis-1,2-Dichloroethene		57	50	AVRG	14.0	20.0	
Bromochloromethane		53.1	50	AVRG	6.2	20.0	
Chloroform	*	54.3	50	AVRG	8.6	20.0	*
1,1,1-Trichloroethane		58.6	50	AVRG	17.2	20.0	
Carbon tetrachloride		53	50	LINR	6.0	20.0	
Benzene		55.2	50	AVRG	10.4	20.0	
1,2-Dichloroethane		51.5	50	LINR	3.0	20.0	
Trichloroethene		50.3	50	LINR	0.6	20.0	
1,2-Dichloropropane	*	54.1	50	AVRG	8.2	20.0	*
Dibromomethane		52.7	50	AVRG	5.4	20.0	
Bromodichloromethane		56	50	AVRG	12.0	20.0	
Toluene	*	55.8	50	AVRG	11.6	20.0	*
1,1,2-Trichloroethane		56.3	50	AVRG	12.6	20.0	
Tetrachloroethene		52.4	50	LINR	4.8	20.0	
1,3-Dichloropropane		53.7	50	AVRG	7.4	20.0	
Dibromochloromethane		58.2	50	AVRG	16.4	20.0	
1,2-Dibromoethane(EDB)		54.4	50	AVRG	8.8	20.0	
Chlorobenzene	#	54.1	50	AVRG	8.2	20.0	#
1,1,1,2-Tetrachloroethane		56.6	50	AVRG	13.2	20.0	
Ethylbenzene	*	54.5	50	AVRG	9.0	20.0	*
p,m-Xylene		109	100	AVRG	9.0	20.0	
o-Xylene		55.3	50	AVRG	10.6	20.0	
Styrene		57.1	50	AVRG	14.2	20.0	
Bromoform	#	53.7	50	LINR	7.4	20.0	#
Isopropylbenzene (Cumene)		54.5	50	AVRG	9.0	20.0	

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Bromobenzene		50.5	50	AVRG	1.0	20.0	
1,1,2,2-Tetrachloroethane	#	52.2	50	AVRG	4.4	20.0	#
1,2,3-Trichloropropane		52	50	AVRG	4.0	20.0	
n-Propylbenzene		53.4	50	AVRG	6.8	20.0	
2-Chlorotoluene		51.5	50	AVRG	3.0	20.0	
4-Chlorotoluene		51.2	50	AVRG	2.4	20.0	
1,3,5-Trimethylbenzene		51.9	50	AVRG	3.8	20.0	
tert-Butylbenzene		42.7	50	LINR	14.6	20.0	
1,2,4-Trimethylbenzene		53.2	50	AVRG	6.4	20.0	
sec-Butylbenzene		54.2	50	AVRG	8.4	20.0	
1,3-Dichlorobenzene		54.4	50	AVRG	8.8	20.0	
1,4-Dichlorobenzene	*	53.4	50	AVRG	6.8	20.0	*
4-Isopropyltoluene		55.1	50	AVRG	10.2	20.0	
n-Butylbenzene		54.1	50	AVRG	8.2	20.0	
1,2-Dichlorobenzene		54.2	50	AVRG	8.4	20.0	
1,2-Dibromo-3-chloropropane		54.8	50	AVRG	9.6	20.0	
1,2,4-Trichlorobenzene		57.1	50	AVRG	14.2	20.0	
Hexachlorobutadiene	*	53.3	50	LINR	6.6	20.0	*
Naphthalene		54.1	50	AVRG	8.2	20.0	
1,2,3-Trichlorobenzene		54.9	50	AVRG	9.8	20.0	
Xylene (total)		164	150	AVRG	9.3	20.0	
==========							
Dibromofluoromethane		53.9	50	AVRG	7.8	20.0	
Toluene d8		51.8	50	AVRG	3.6	20.0	
4-Bromofluorobenzene		49.9	50	AVRG	0.2	20.0	
1,2-Dichloroethane-d4		52.4	50	AVRG	4.8	20.0	

HPLC PAH ORGANICS

METHOD 8310

101201 1033

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

All internal standard criteria were met.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

F. Samples:

Sample analysis proceeded normally.

The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 12-07-01
Jesse Leonard

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: **8310**

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

101201 1033

Sample Data

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111102
Matrix: WATER
Lab Sample ID: 211110201
Lab File ID 102-01.D
Sample wt/vol: 925
Units: ML
Date Received: 11/29/01
Concentrated Extract Volume: 1
Date Extracted: 11/30/01
Level:(low/med) LOW
Date Analyzed: 12/03/01
Time: 2105
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-3
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110202

Lab File ID 102-02.D

Sample wt/vol: 980

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 1

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/03/01

Time: 2140

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-4

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	1.1	
193-39-5	Indeno(1,2,3-cd)pyrene	0.74	

QC Summary

101201 1033

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1130AB

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111102
Matrix: WATER
Lab Sample ID: 54706
Lab File ID 1130AB.D
Sample wt/vol: 1000
Units: ML
Date Received: 11/30/01
Concentrated Extract Volume: 1
Date Extracted: 11/30/01
Level:(low/med) LOW
Date Analyzed: 12/03/01
Time: 1847
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: QC
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID 1130AB.D Lab Sample ID: 54706

Instrument ID: SLC01 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 1847

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130ALCS	54707	1130ALCS.D	12/03/01	1921
2	1130ABMS	54708	1130ABMS.D	12/03/01	1956
3	1130ABSD	54709	1130ABSD.D	12/03/01	2030
4	SMW3Q40118	211110201	102-01.D	12/03/01	2105
5	SMW4Q40118	211110202	102-02.D	12/03/01	2140

COMMENTS:

2

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111102

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
1130AB	63.5						0
1130ABMS	75.5						0
1130ABSD	72.5						0
1130ALCS	78.5						0
SMW3Q40118	58.3						0
SMW4Q40118	57.8						0

Control Limits

S1 = p-Terphenyl-d14 17 - 130

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

101201 1033

8

PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID (Standard): 15STD.D Date Analyzed: 12/2/2001

Instrument ID: SLC01 Time Analyzed: 1:19

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	4273780		10.36						
	UPPER LIMIT	8547560		10.86						
	LOWER LIMIT	2136890		9.86						
	EPA SAMPLE NO.									
1	1130AB	4156905		10.49						
2	1130ALCS	4035212		10.48						
3	1130ABMS	4114752		10.47						
4	1130ABSD	4146390		10.48						
5	SMW3Q40118	3977068		10.48						
6	SMW4Q40118	3941685		10.49						

IS1 = Carbazole

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD2203	30STD	12/02/01	0010	18.38	
2	STD2204	20STD	12/02/01	0044	18.38	
3	STD2205	15STD	12/02/01	0119	18.37	
4	STD2206	10STD	12/02/01	0153	18.38	
5	STD2207	5STD	12/02/01	0228	18.37	
6	ZZZZZZ	ZZZZZZ	12/02/01	0303		
7	ZZZZZZ	ZZZZZZ	12/02/01	0337		
8	STD2210	.2STD	12/02/01	0412	18.38	
9	CCV2211	SECSTD1	12/02/01	0446	18.38	
10	ZZZZZZ	ZZZZZZ	12/02/01	0521		
11	ZZZZZZ	ZZZZZZ	12/03/01	1738		
12	CCV2214	CCV1B	12/03/01	1812	18.39	
13	1130AB	54706	12/03/01	1847	18.4	
14	1130ALCS	54707	12/03/01	1921	18.4	
15	1130ABMS	54708	12/03/01	1956	18.39	
16	1130ABSD	54709	12/03/01	2030	18.4	
17	SMW3Q40118	211110201	12/03/01	2105	18.4	
18	SMW4Q40118	211110202	12/03/01	2140	18.4	
19	ZZZZZZ	ZZZZZZ	12/03/01	2214		
20	ZZZZZZ	ZZZZZZ	12/03/01	2249		
21	ZZZZZZ	ZZZZZZ	12/03/01	2323		
22	ZZZZZZ	ZZZZZZ	12/03/01	2358		
23	CCV2225	CCV2	12/04/01	0032	18.42	
24	ZZZZZZ	ZZZZZZ	12/04/01	0107		
25	ZZZZZZ	ZZZZZZ	12/04/01	0142		
26	ZZZZZZ	ZZZZZZ	12/04/01	0216		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

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101201 1033 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1130ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.1	61.0	11 - 85
Acenaphthylene	10	7.1	71.0	22 - 89
1-Methylnaphthalene	10	7.3	73.0	0 - 98
2-Methylnaphthalene	10	7.2	72.0	21 - 89
Acenaphthene	10	6.8	68.0	21 - 91
Fluorene	10	7	70.0	16 - 96
Phenanthrene	10	7.2	72.0	18 - 101
Anthracene	10	7.2	72.0	20 - 97
Fluoranthene	10	7.6	76.0	27 - 104
Pyrene	10	7.6	76.0	42 - 94
Benzo(a)anthracene	10	7.6	76.0	40 - 103
Chrysene	10	7.5	75.0	32 - 108
Benzo(b)fluoranthene	10	7.6	76.0	30 - 102
Benzo(k)fluoranthene	10	7.7	77.0	27 - 100
Benzo(a)pyrene	10	7.6	76.0	34 - 96
Dibenz(a,h)anthracene	10	8.2	82.0	27 - 99
Benzo(g,h,i)perylene	10	7.9	79.0	21 - 95
Indeno(1,2,3-cd)pyrene	10	7.5	75.0	18 - 97

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130ABMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	6.2	62.0	0 - 100
Acenaphthylene	10	0	6.9	69.0	0 - 111
1-Methylnaphthalene	10	0	7.6	76.0	0 - 135
2-Methylnaphthalene	10	0	7.2	72.0	6 - 94
Acenaphthene	10	0	6.6	66.0	9 - 96
Fluorene	10	0	6.8	68.0	5 - 101
Phenanthrene	10	0	7	70.0	7 - 110
Anthracene	10	0	7	70.0	0 - 111
Fluoranthene	10	0	7.5	75.0	20 - 113
Pyrene	10	0	7.4	74.0	22 - 118
Benzo(a)anthracene	10	0	7.4	74.0	26 - 113
Chrysene	10	0	7.4	74.0	27 - 113
Benzo(b)fluoranthene	10	0	7.4	74.0	26 - 107
Benzo(k)fluoranthene	10	0	7.4	74.0	24 - 107
Benzo(a)pyrene	10	0	7.3	73.0	23 - 107
Dibenz(a,h)anthracene	10	0	7.6	76.0	9 - 105
Benzo(g,h,i)perylene	10	0	7.3	73.0	21 - 99
Indeno(1,2,3-cd)pyrene	10	0	7	70.0	20 - 100

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

101201 1033

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130ABSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	5.5	55.0	11.9	65	0 - 100
Acenaphthylene	10	6.6	66.0	4.9	54	0 - 111
1-Methylnaphthalene	10	7	70.0	7.7	54	0 - 135
2-Methylnaphthalene	10	6.8	68.0	5.5	65	6 - 94
Acenaphthene	10	6.3	63.0	4.1	41	9 - 96
Fluorene	10	6.4	64.0	5.5	48	5 - 101
Phenanthrene	10	6.6	66.0	5.9	41	7 - 110
Anthracene	10	6.6	66.0	5.3	41	0 - 111
Fluoranthene	10	6.8	68.0	10.2	31	20 - 113
Pyrene	10	7	70.0	6.0	33	22 - 118
Benzo(a)anthracene	10	7	70.0	5.7	26	26 - 113
Chrysene	10	7	70.0	5.2	17	27 - 113
Benzo(b)fluoranthene	10	6.9	69.0	6.0	27	26 - 107
Benzo(k)fluoranthene	10	7	70.0	5.4	29	24 - 107
Benzo(a)pyrene	10	6.9	69.0	5.6	27	23 - 107
Dibenz(a,h)anthracene	10	6.8	68.0	11.1	31	9 - 105
Benzo(g,h,i)perylene	10	6.5	65.0	11.4	31	21 - 99
Indeno(1,2,3-cd)pyrene	10	6.5	65.0	6.4	43	20 - 100

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

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6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF0.2 =PT2STD.D RRF5 =5STD.D
RRF10 =10STD.D RRF15 =15STD.D RRF20 =20STD.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20
Naphthalene	0.013	0.013	0.012	0.012	0.012
Acenaphthylene	0.011	0.010	0.010	0.009	0.009
1-Methylnaphthalene	0.007	0.008	0.008	0.007	0.007
2-Methylnaphthalene	0.011	0.010	0.010	0.010	0.010
Acenaphthene	0.005	0.005	0.005	0.004	0.004
Fluorene	0.070	0.061	0.061	0.059	0.058
Phenanthrene	0.223	0.189	0.189	0.182	0.179
Anthracene	0.039	0.039	0.040	0.041	0.041
Fluoranthene	0.050	0.043	0.044	0.041	0.041
Pyrene	0.034	0.033	0.034	0.033	0.032
Benzo(a)anthracene	0.110	0.099	0.099	0.095	0.094
Chrysene	0.151	0.132	0.132	0.127	0.125
Benzo(b)fluoranthene	0.130	0.113	0.112	0.108	0.107
Benzo(k)fluoranthene	0.101	0.096	0.095	0.091	0.090
Benzo(a)pyrene	0.117	0.098	0.098	0.095	0.094
Dibenz(a,h)anthracene	0.022	0.024	0.024	0.023	0.022
Benzo(g,h,i)perylene	0.037	0.041	0.040	0.039	0.038
Indeno(1,2,3-cd)pyrene	0.136	0.119	0.118	0.115	0.113
==========					
p-Terphenyl-d14	0.039	0.036	0.036	0.034	0.033

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF30 =30STD.D

COMPOUND	RRF30				
Naphthalene	0.012				
Acenaphthylene	0.009				
1-Methylnaphthalene	0.007				
2-Methylnaphthalene	0.010				
Acenaphthene	0.005				
Fluorene	0.059				
Phenanthrene	0.182				
Anthracene	0.042				
Fluoranthene	0.041				
Pyrene	0.033				
Benzo(a)anthracene	0.096				
Chrysene	0.127				
Benzo(b)fluoranthene	0.108				
Benzo(k)fluoranthene	0.091				
Benzo(a)pyrene	0.096				
Dibenz(a,h)anthracene	0.022				
Benzo(g,h,i)perylene	0.039				
Indeno(1,2,3-cd)pyrene	0.115				
==========					
p-Terphenyl-d14	0.035				

Calibration Criteria Is Stated In Narrative

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	AVRG		0.012457039	4.4
Acenaphthylene	AVRG		0.009641753	5.5
1-Methylnaphthalene	AVRG		0.007372567	4.1
2-Methylnaphthalene	AVRG		0.010307326	4
Acenaphthene	AVRG		0.004621362	3.9
Fluorene	AVRG		0.061359009	7.4
Phenanthrene	AVRG		0.190595983	8.6
Anthracene	AVRG		0.040243790	3.4
Fluoranthene	AVRG		0.043386240	8.3
Pyrene	AVRG		0.033114466	2.1
Benzo(a)anthracene	AVRG		0.098646680	6
Chrysene	AVRG		0.132132816	7.1
Benzo(b)fluoranthene	AVRG		0.112914762	7.6
Benzo(k)fluoranthene	AVRG		0.094231769	4.4
Benzo(a)pyrene	AVRG		0.09964648	8.9
Dibenz(a,h)anthracene	AVRG		0.022770356	4.1
Benzo(g,h,i)perylene	AVRG		0.039039242	3.2
Indeno(1,2,3-cd)pyrene	AVRG		0.119636576	7
==========				
p-Terphenyl-d14	AVRG		0.035493112	6

Calibration Criteria Is Stated In Narrative

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FORM VI

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT1: PT2STD.D RT2: 5STD.D
RT3: 10STD.D RT4: 15STD.D RT5: 20STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.547	11.533	11.537	11.540	11.543			
Acenaphthylene	12.770	12.763	12.767	12.770	12.777			
1-Methylnaphthalene	13.430	13.410	13.417	13.420	13.427			
2-Methylnaphthalene	13.770	13.750	13.753	13.757	13.767			
Acenaphthene	14.103	14.083	14.087	14.087	14.097			
Fluorene	14.447	14.433	14.440	14.443	14.450			
Phenanthrene	15.237	15.227	15.233	15.233	15.240			
Anthracene	16.042	16.034	16.039	16.037	16.046			
Fluoranthene	16.807	16.787	16.797	16.793	16.800			
Pyrene	17.340	17.323	17.333	17.333	17.337			
Benzo(a)anthracene	19.167	19.153	19.163	19.160	19.160			
Chrysene	19.567	19.553	19.563	19.560	19.560			
Benzo(b)fluoranthene	21.007	21.000	21.003	21.003	20.997			
Benzo(k)fluoranthene	21.660	21.647	21.653	21.653	21.643			
Benzo(a)pyrene	22.257	22.243	22.247	22.247	22.237			
Dibenz(a,h)anthracene	23.287	23.260	23.257	23.253	23.237			
Benzo(g,h,i)perylene	24.017	24.000	23.997	23.993	23.977			
Indeno(1,2,3-cd)pyrene	24.517	24.500	24.493	24.490	24.470			
==========								
p-Terphenyl-d14	18.380	18.367	18.377	18.373	18.377			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT6: 30STD.D

COMPOUND	RT6					MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.557					11.545	11.323	11.783
Acenaphthylene	12.787					12.774	12.550	13.010
1-Methylnaphthalene	13.437					13.425	13.200	13.660
2-Methylnaphthalene	13.773					13.764	13.540	14.000
Acenaphthene	14.103					14.095	13.870	14.330
Fluorene	14.457					14.447	14.223	14.683
Phenanthrene	15.243					15.237	15.013	15.473
Anthracene	16.049					16.043	15.743	16.203
Fluoranthene	16.803					16.799	16.573	17.033
Pyrene	17.340					17.336	17.110	17.570
Benzo(a)anthracene	19.163					19.162	18.933	19.393
Chrysene	19.560					19.561	19.330	19.790
Benzo(b)fluoranthene	21.000					21.002	20.773	21.233
Benzo(k)fluoranthene	21.643					21.649	21.420	21.880
Benzo(a)pyrene	22.240					22.244	22.013	22.473
Dibenz(a,h)anthracene	23.240					23.255	23.017	23.477
Benzo(g,h,i)perylene	23.980					23.993	23.757	24.217
Indeno(1,2,3-cd)pyrene	24.473					24.489	24.250	24.710
==========								
p-Terphenyl-d14	18.377					18.376	18.150	18.610

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/02/01 Time: 0446

Lab File ID: SECSTD1.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0126	1.1
Acenaphthylene	0.00964	0.0092	4.6
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0112	8.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0607	1.1
Phenanthrene	0.1906	0.1886	1.0
Anthracene	0.04024	0.0424	5.4
Fluoranthene	0.04339	0.044	1.4
Pyrene	0.03311	0.0339	2.4
Benzo(a)anthracene	0.09865	0.0989	0.3
Chrysene	0.13213	0.1317	0.3
Benzo(b)fluoranthene	0.11291	0.113	0.1
Benzo(k)fluoranthene	0.09423	0.0951	0.9
Benzo(a)pyrene	0.09965	0.0994	0.3
Dibenz(a,h)anthracene	0.02277	0.0235	3.2
Benzo(g,h,i)perylene	0.03904	0.0404	3.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1193	0.3
==========			
p-Terphenyl-d14	0.03549	0.0348	1.9

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/03/01 Time: 1812

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0119	4.5
Acenaphthylene	0.00964	0.0089	7.7
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0107	3.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1757	7.8
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0401	7.6
Pyrene	0.03311	0.0308	7.0
Benzo(a)anthracene	0.09865	0.0923	6.4
Chrysene	0.13213	0.1227	7.1
Benzo(b)fluoranthene	0.11291	0.1054	6.7
Benzo(k)fluoranthene	0.09423	0.0888	5.8
Benzo(a)pyrene	0.09965	0.0935	6.2
Dibenz(a,h)anthracene	0.02277	0.022	3.4
Benzo(g,h,i)perylene	0.03904	0.0375	3.9
Indeno(1,2,3-cd)pyrene	0.11964	0.1121	6.3
==========			
p-Terphenyl-d14	0.03549	0.0329	7.3

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/04/01 Time: 0032

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0127	1.9
Acenaphthylene	0.00964	0.0094	2.5
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0114	10.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0608	0.9
Phenanthrene	0.1906	0.1888	0.9
Anthracene	0.04024	0.0425	5.6
Fluoranthene	0.04339	0.043	0.9
Pyrene	0.03311	0.0335	1.2
Benzo(a)anthracene	0.09865	0.0993	0.7
Chrysene	0.13213	0.1342	1.6
Benzo(b)fluoranthene	0.11291	0.1134	0.4
Benzo(k)fluoranthene	0.09423	0.0965	2.4
Benzo(a)pyrene	0.09965	0.0996	0.1
Dibenz(a,h)anthracene	0.02277	0.024	5.4
Benzo(g,h,i)perylene	0.03904	0.0405	3.7
Indeno(1,2,3-cd)pyrene	0.11964	0.12	0.3
==========			
p-Terphenyl-d14	0.03549	0.0353	0.5

GC FL-PRO ORGANICS

METHOD FL-PRO

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CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. Project specific RLs were used per client request.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 12-07-01
Jesse Leonard

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: **FL-PRO**

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

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Sample Data

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110201

Lab File ID 102-01.D

Sample wt/vol: 970

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 2213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-3

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.95	

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 211110202

Lab File ID 102-02.D

Sample wt/vol: 955

Units: ML

Date Received: 11/29/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 2247

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-4

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	7.8	

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Form I

QC Summary

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1130BLKW

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2111102

Matrix: WATER

Lab Sample ID: 54756

Lab File ID 1130BLKW.D

Sample wt/vol: 1000

Units: ML

Date Received: 11/30/01

Concentrated Extract Volume: 2

Date Extracted: 11/30/01

Level:(low/med) LOW

Date Analyzed: 12/01/01

Time: 0701

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.5	U

101201 1033

Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2111102
Lab File ID 1130BLKW.D
Lab Sample ID: 54756
Instrument ID: SFID02
Date Extracted: 11/30/01
Matrix: WATER
Date Analyzed: 12/01/01
Level:(low/med) LOW
Time Analyzed: 0701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130LCS	54757	1130LCS.D	12/01/01	0736
2	1130BLKWMS	54758	1130MS.D	12/01/01	1022
3	1130BLKWSD	54759	1130MSD.D	12/01/01	1056
4	SMW3Q40118	211110201	102-01.D	12/01/01	2213
5	SMW4Q40118	211110202	102-02.D	12/01/01	2247

COMMENTS:

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Form IV

2

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111102

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
1130BLKW	110.0	65.0					0
1130BLKWMS	120.0	96.7					0
1130BLKWSD	120.0	98.3					0
1130LCS	120.0	80.0					0
SMW3Q40118	130.0	103.2					0
SMW4Q40118	130.0	82.5					0

Control Limits

S1	=	o-Terphenyl Surrogate	82 -	142
S2	=	C39 Surrogate	42 -	193

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

101201 1033

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD107	CAL7SV3473	11/19/01	1156	4.71	10.27
2	STD108	CAL6SV3474	11/19/01	1230	4.72	10.29
3	STD109	CAL5SV3475	11/19/01	1304	4.73	10.35
4	STD110	CAL4SV3476	11/19/01	1338	4.73	10.31
5	STD111	CAL3SV3477	11/19/01	1412	4.72	10.31
6	STD112	CAL2SV3478	11/19/01	1446	4.73	10.35
7	STD113	CAL1SV3479	11/19/01	1520	4.72	10.26
8	CCV114	SECSTDSV3480	11/19/01	1554	4.71	10.25
9	ZZZZZZ	ZZZZZZ	12/01/01	0553		
10	CCV1843	CCV1SV3503	12/01/01	0627	4.71	10.24
11	1130BLKW	54756	12/01/01	0701	4.71	10.23
12	1130LCS	54757	12/01/01	0736	4.7	10.2
13	1130BLKWMS	54758	12/01/01	1022	4.7	10.23
14	1130BLKWSD	54759	12/01/01	1056	4.7	10.2
15	ZZZZZZ	ZZZZZZ	12/01/01	1130		
16	ZZZZZZ	ZZZZZZ	12/01/01	1204		
17	ZZZZZZ	ZZZZZZ	12/01/01	1238		
18	ZZZZZZ	ZZZZZZ	12/01/01	1312		
19	ZZZZZZ	ZZZZZZ	12/01/01	1346		
20	ZZZZZZ	ZZZZZZ	12/01/01	1419		
21	CCV1854	CCV2SV3503	12/01/01	1453	4.72	10.27
22	ZZZZZZ	ZZZZZZ	12/01/01	1527		
23	ZZZZZZ	ZZZZZZ	12/01/01	1601		
24	ZZZZZZ	ZZZZZZ	12/01/01	1635		
25	ZZZZZZ	ZZZZZZ	12/01/01	1708		
26	ZZZZZZ	ZZZZZZ	12/01/01	1742		

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)
S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/01/01	1816		
28	ZZZZZZ	ZZZZZZ	12/01/01	1850		
29	ZZZZZZ	ZZZZZZ	12/01/01	1924		
30	ZZZZZZ	ZZZZZZ	12/01/01	1958		
31	ZZZZZZ	ZZZZZZ	12/01/01	2032		
32	CCV1865	CCV3SV3503	12/01/01	2106	4.68	10.12
33	ZZZZZZ	ZZZZZZ	12/01/01	2140		
34	SMW3Q40118	211110201	12/01/01	2213	4.69	10.17
35	SMW4Q40118	211110202	12/01/01	2247	4.7	10.19
36	CCV1869	CCV4SV3503	12/01/01	2322	4.69	10.14

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1130LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3.4	100.0	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130BLKWMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.4	0	3.3	97.1	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130BLKWSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.4	3.4	100.0	2.9	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

101201 1033

Form III

Standards Data

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FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	26757147.059	9538605.882	4700275.294	4046228.824	3785790.196
==========					
o-Terphenyl Surrogate	3781060.000	3885040.000	3960140.000	4022380.000	3941080.000
C39 Surrogate	2726020.000	3034383.333	2893896.667	2924153.333	2946030.000

Calibration Criteria Is Stated In Narrative

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FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	3683057.647	3567664.706			
==========					
o-Terphenyl Surrogate	3903260.000	3814920.000			
C39 Surrogate	3068433.333	3074806.667			

Calibration Criteria Is Stated In Narrative

101201 1033

FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
TPH	LINR	-0.2800849	2.89922E-07	0.99972
==========				
o-Terphenyl Surrogate	AVRG		3901125.714	2.1
C39 Surrogate	AVRG		2952531.905	4.2

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT1: CAL1.D RT2: CAL2.D
RT3: CAL3.D RT4: CAL4.D RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
TPH	6.989	6.989	6.989	6.989	6.989			
==========								
o-Terphenyl Surrogate	4.720	4.733	4.723	4.727	4.733			
C39 Surrogate	10.260	10.353	10.307	10.310	10.353			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
TPH	6.989	6.989				6.989	2.129	11.849
==========								
o-Terphenyl Surrogate	4.723	4.707				4.724	4.650	4.790
C39 Surrogate	10.293	10.273				10.307	9.960	10.560

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 11/19/01 Time: 1554

Lab File ID: SECSTD.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.7	2.6	LINR	3.8	25.0
==========					
C39 Surrogate	0.32	0.3	AVRG	6.7	25.0
o-Terphenyl Surrogate	0.052	0.05	AVRG	4.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 0627

Lab File ID: CCV1.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
C39 Surrogate	0.31	0.3	AVRG	3.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 1453

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.8	2.6	LINR	7.7	25.0
==========					
o-Terphenyl Surrogate	0.054	0.05	AVRG	8.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2106

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2322

Lab File ID: CCV4.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
==========					
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0
o-Terphenyl Surrogate	0.056	0.05	AVRG	12.0	25.0

Inorganics

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Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P ICP
A Flame AA
F Furnace AA
CV Manual Cold Vapor AA
TC Total Organic Carbon
AS Semi-Automated Spectrophotometric
CA Midi-Distillation Spectrophotometric
T Titrimetric
C Manual Spectrophotometric
GR Gravimetric
NR Analyte was not required by your lab

METALS DATA PACKAGE
TOTALS

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CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111102

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA Method 6010B for metals analysis. All methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

IV. PREPARATION

EPA Method 3010A for water metals. Methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures. The batch quality control samples are referenced in SDG 2111099.

V. ANALYSIS 12/6, 7/01 (6010B)

A. **Calibration:** All quality control criteria were met.

B. **Blanks:** All calibration and preparation blank quality control criteria were met.

C. **Spikes:** All recovery criteria were met.

D. **Duplicates:** All percent difference criteria were met.

E. **Samples:** All sample analysis proceeded normally.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

G. **Laboratory Control Samples :** All percent recovery quality control criteria were met.

H. **Serial Dilution:** All dilution quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111102

I. Post Digestion Spike: All recovery criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Mark Cu DATE: 12/18/01
Section Leader or designee

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2111102

SOW No.:

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark Gudnason Name: Mark Gudnason

Date: 12/10/01 Title: Metals Section Leader

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Sample Data

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201

Level:(low/med) LOW Date Received: 11/29/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	122			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202

Level:(low/med) LOW Date Received: 11/29/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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QC Summary

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	381.615	95.4	500	468.371	93.7	468.120	93.6	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	475.250	95.0	480.418	96.1	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	482.282	96.5	477.143	95.4	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	371.363	92.8	500	471.193	94.2	471.255	94.3	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	480.970	96.2	459.236	91.8	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

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BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil): 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
Lead	2	U	2	U	2	U	2	U	2	U	P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			2	U	2	U	2	U			P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 7	C	8	C	9	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U			P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 10	C	11	C	12	C	Prepa-ration Blank	C	M
Lead			2	U							P

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.4	92.8			

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.3	92.6			

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	460		10	U	500	92.0		P

Comments:

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	458		10	U	500	91.6		P

Comments:

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	460		10.00	U	500	92.0		P

Comments:

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DUPLICATES

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	460		458		0.4		P

Comments:

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LABORATORY CONTROL SAMPLE

EPA Sample No.

54713LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Solid LCS Source:

Aqueous LCS Source: MET-15503, 0JF123-60

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	478	95.6				-	

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ICP SERIAL DILUTIONS

EPA Sample No.

SMW11Q40118L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	10.00	U	10	U			P

Comments:

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID Number : ICAP Date: 10/1/2001

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		2	2	P

Comments:

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.: 2111102

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for:				
		Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.00036				

Comments:

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11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.:

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length		Interelement Correction Factors for:				
			Mn	Mo	Sb	V	
Lead	220.3						

Comments:

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ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID NUMBER ICAP DATE : 5/1/2001

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
54712BLK	30 Nov 01		50
54713LCS	30 Nov 01		50
SMW11Q40118	30 Nov 01		50
SMW11Q40118MS	30 Nov 01		50
SMW11Q40118SD	30 Nov 01		50
SMW3Q40118	30 Nov 01		50
SMW4Q40118	30 Nov 01		50

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	15:07																					X						
STD3	1	15:14																					X						
STD2	1	15:19																											
ICV	1	15:25																					X						
ICB	1	15:32																					X						
ZZZZZZ	1	15:38																											
ICSA	1	15:44																					X						
ICSAB	1	15:51																					X						
CCV	1	15:57																					X						
CCB	1	16:03																					X						
54712BLK	1	16:10																					X						
54713LCS	1	16:16																					X						
ZZZZZZ	1	16:22																											
SMW11Q40118L	5	16:29																					X						
SMW11Q40118A	1	16:35																					X						
SMW11Q40118MS	1	16:41																					X						
SMW11Q40118SD	1	16:48																					X						
ZZZZZZ	1	16:54																											
ZZZZZZ	1	17:00																											
ZZZZZZ	1	17:06																											
CCV	1	17:13																					X						
CCB	1	17:19																					X						
ZZZZZZ	1	17:25																											
ZZZZZZ	1	17:32																											
ZZZZZZ	1	17:38																											
ZZZZZZ	1	17:44																											
ZZZZZZ	1	17:51																											
SMW3Q40118	1	17:57																					X						
SMW4Q40118	1	18:03																					X						
ZZZZZZ	1	18:10																											
ZZZZZZ	1	18:16																											
ZZZZZZ	1	18:22																											
CCV	1	18:28																					X						
CCB	1	18:35																					X						
ZZZZZZ	1	18:41																											
ZZZZZZ	1	18:47																											

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	18:54																											
ZZZZZZ	1	19:00																											
ZZZZZZ	5	19:06																											
ZZZZZZ	1	19:13																											
ZZZZZZ	1	19:19																											
ZZZZZZ	1	19:25																											
ZZZZZZ	1	19:32																											
ZZZZZZ	1	19:38																											
CCV	1	19:44																					X						
CCB	1	19:51																					X						
ZZZZZZ	1	19:57																											
ZZZZZZ	1	20:03																											
ZZZZZZ	1	20:09																											
ZZZZZZ	1	20:16																											
ZZZZZZ	1	20:22																											
ZZZZZZ	1	20:28																											
ZZZZZZ	1	20:35																											
ZZZZZZ	1	20:41																											
ZZZZZZ	1	20:47																											
ZZZZZZ	1	20:54																											
CCV	1	21:00																					X						
CCB	1	21:06																					X						
ZZZZZZ	1	21:13																											
CCV	1	21:19																					X						
CCB	1	21:25																					X						

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	10:48																					X						
STD3	1	10:54																					X						
STD2	1	11:00																											
ICV	1	11:05																					X						
ICB	1	11:11																					X						
ZZZZZZ	1	11:18																											
ICSA	1	11:24																					X						
ICSAB	1	11:30																					X						
CCV	1	11:37																					X						
CCB	1	11:43																					X						
SMW11Q40118	5	11:49																					X						
ZZZZZZ	5	11:56																											
ZZZZZZ	5	12:02																											
ZZZZZZ	5	12:08																											
ZZZZZZ	5	12:15																											
ZZZZZZ	1	12:21																											
ZZZZZZ	1	12:27																											
ZZZZZZ	1	12:33																											
ZZZZZZ	5	12:41																											
ZZZZZZ	1	12:47																											
CCV	1	12:53																					X						
CCB	1	13:00																					X						
ZZZZZZ	1	13:06																											
ZZZZZZ	1	13:12																											
ZZZZZZ	1	13:18																											
ZZZZZZ	1	13:25																											
ZZZZZZ	1	13:31																											
ZZZZZZ	1	13:37																											
ZZZZZZ	1	13:44																											
ZZZZZZ	1	13:50																											
ZZZZZZ	1	13:56																											
ZZZZZZ	1	14:03																											
CCV	1	14:09																					X						
CCB	1	14:15																					X						
ZZZZZZ	1	14:22																											
ZZZZZZ	1	14:28																											

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																							
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	14:34																											
ZZZZZZ	1	14:40																											
CCV	1	14:51																					X						
CCB	1	14:57																					X						

101201 1033

Chain of Custody Documentation

101201 1033

2M Hill Constructors, Inc.
erimeter Center Place, Suite 700
a, GA 30346-1278
(770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 10/29/01 (MK) *

2111-102

COC NUMBER 163151-21

ECT NAME: S. Cecil Field d Street	PROJECT NUMBER: 163151	LAB NAME AND CONTACT: PEL / Darcy Wiseman	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company) Bill Canelos / J.A Jones Env. Services	RECIPIENT 1 (Address, Tel No. , and Fax No.): 6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
ECT PHASE/SITE/TASK: d Street rterly GW Sampling Event	CTO OR DO NUMBER: 0062	LAB PO NUMBER: 2712	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company) Christelle Newsome / CH2M Hill Constuctors, Inc.	RECIPIENT 2 (Address, Tel No. , and Fax No.): 115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
ECT CONTACT: Canelos	PROJECT TEL NO AND FAX NO: Ph:(904)777-4812 Fax:(904) 777-4262	LAB TEL NO AND FAX NO: Ph: (813)247-2805 Fax: (813)248-1537	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	
Temp 4°C	pH<2 (8260, PRO, Metals) None / 0.1X Na-T 8310 / PRO Ambers rec'd / pH<2 (Metals)																		

ER(S) AND COMPANY: (please print) / Dumaop / Anthony Cain onES Environmental Services	COURIER AND SHIPPING NUMBER: Federal Express TRK #791715762117.	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature: op	11/28/01	11:00	Printed Name and Signature: Mike Noll Federal Express 10:40	11/28/01	11:00
Name and Signature:			Printed Name and Signature:		
Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

[2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
ta, GA 30346-1278
o (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

Unrevised COC rec'd w/ Samples (MK) 10/29/01 2111-102

COC NUMBER: 163151-21

ECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
.S. Cecil Field rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
ECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
rd Street urterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
ECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
	062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
	062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
	NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	

Temp upon rec't 4°C pH<2(8260, PRO, ~~metals~~ NO3) Extra pro-8310 containers pH = 7 (metals) 11/29/01

PLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ndy Dumaop / Anthony Cain . Jones Environmental Services	Federal Express TRK #791715762117.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ed Name and Signature:			Printed Name and Signature:		
maop	11/28/01	11:00	Federal Express	11/28/01	11:00
ed Name and Signature:			Printed Name and Signature: Mike Noll		
FED-X			PEL	11/29/01	10:40
ed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-102

Client: CH2MHill	Date Recd: 11/29/01
Project: Cecil Field	Due Date: ~~12/10/01~~ 12/4
Log In Tech: Doll	Recd Via: Client Crosstown ~~FedEx~~
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C) 4°C	✓		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL pH<2 (8260, 8010, [illegible])	✓	✓	Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: ~~STND~~/ RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Contract Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2111-102

By Noll

Client/Project

Date 11/29/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other pH
2111-102-01	(2) pH<2	(1) pH=7			(3) pH<2	
-02	↓	↓			↓	
-03	—	—				

2111-102 CHZMHILL Cecil Field 0062

Sample #	Parameter	Rel'd	Rec'd	DATE	TIME	Sampl
~~8260~~ NOII						01-(
~~8260~~ NOII						01-
01-03	8260 (w)	✓ NS	[illegible]	12/3/01 12/4/01	0900 8:00	
01-03	8260 (w)		✓			
01-02	PRO (w)	✓	AQ	11.30.01	1400	
01-02	PRO (w)	CONSUMED				
01-02	8310 (w)	✓	RR	11-30-01	1230	
01-02	8310 (w)	CONSUMED				
01-02	6010 (w)	✓	GK	11/30/01	2000	
01-02	6010 (w)	GK	✓	11/30/01	2130	

Addendum

101201 1033

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	11-28-01; 10:20 AM
Date to be Reported:	12-12-01
Laboratory Submission Number/SDG:	2111102
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 3 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods: 8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 9 analyses on 3 samples (including QC) *29-Nov-01*

Report/SDG #: 2111102

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW3Q40118	211110201	CEF-103-SMW-	W	11/28/01 9:20:00 AM	11/29/01 10:40:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW4Q40118	211110202	CEF-103-SMW-	W	11/28/01 9:40:00 AM	11/29/01 10:40:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TB2Q40118	211110203	Trip Blank No.2	WQ	11/29/01	11/29/01 10:40:00 AM

Method		
8260	Volatile Organic Compounds	8260

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
nta, GA 30346-1278
lo (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 10/29/01 (MK) * 2111-102 m.a.

COC NUMBER: 163151-21

JECT NAME: .S. Cecil Field rd Street	PROJECT NUMBER: 163151	LAB NAME AND CONTACT: PEL / Darcy Wiseman	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company): Bill Canelos / J.A Jones Env. Services	RECIPIENT 1 (Address, Tel No., and Fax No.): 6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
JECT PHASE/SITE/TASK: rd Street arterly GW Sampling Event	CTO OR DO NUMBER: 0062	LAB PO NUMBER: 2712	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company): Christelle Newsome / CH2M Hill Constuctors, Inc.	RECIPIENT 2 (Address, Tel No., and Fax No.): 115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
JECT CONTACT: Canelos	PROJECT TEL NO AND FAX NO: Ph:(904)777-4812 Fax:(904) 777-4262	LAB TEL NO AND FAX NO: Ph: (813)247-2805 Fax: (813)248-1537	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company):	RECIPIENT 3 (Address, Tel No., and Fax No.):

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
	062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
	062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
	NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	
	Temp 4°C	pH<2 (8260, PRO, metals)	(MK)																Prepared By Lab / Extract 8310 / PRO Ambers rec'd / pH<2 (Metals)	

ER(S) AND COMPANY: (please print)
y Dumaop / Anthony Cain
Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791715762117.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature: aop	11/28/01	11:00	Printed Name and Signature: Mike Noll Federal Express	11/28/01	11:00
Name and Signature:			Printed Name and Signature:		
Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
anta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Unrevised COC rec'd w/ Samples (MK) 10/29/01 *

COC NUMBER: 2111-102 163151-21

OJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
A.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
OJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
3rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
OJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
l Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

EM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
2	062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
3	062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
4	NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	
				11/29/01																
	Temp upon rec't 4°C pH<2(8260, PRO, ~~metals~~ Nall) Extra pro-8310 containers pH = 7 (metals)																			

MPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ndy Dumaop / Anthony Cain A. Jones Environmental Services	Federal Express TRK #791715762117.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ted Name and Signature:			Printed Name and Signature:		
umaop	11/28/01	11:00	Federal Express	11/28/01	11:00
ted Name and Signature:			Printed Name and Signature: Mike Nall		
FED-X			PEL	11/29/01	10:40
ted Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-102

Client: CH2MHill	Date Recd: 11/29/01
Project: Cecil Field	Due Date: ~~12/10/01~~ 12/4
Log In Tech: Noll	Recd Via: Client Crosstown ~~FedEx~~
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C) 4°C	✓		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL pH < 2 (8260, 8010, ~~[illegible]~~) 12/4	~~[illegible]~~ 12/4	✓	Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: ~~STND~~/ RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Contract Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

PEL Laboratories, Inc.

4420 Pendola Point Road
Tampa, FL 33619

Remit To:
P. O. Box 23428
Tampa, FL 33623

Phone: 813-247-2805
Fax: 813-248-1537

Invoice

DATE	INVOICE #
2/28/2002	2202117

BILL TO
CH2M HILL attn: Tatiana Romanova 115 Perimeter Center Place NE Suite 700 Atlanta GA 30346

TERMS	P.O. NO.	PROJECT ID
Net 30	2712	163151 / CTO 62

DESCRIPTION	QTY	RATE	AMOUNT
NAS CECIL FIELD 103rd Street			
EPA 6010 Lead	13	20.00	260.00
EPA 8260 Volatile Organics	14	120.00	1,680.00
EPA 8310 Polyaromatic Hydrocarbons	13	100.00	1,300.00
FL PRO Petroleum Hydrocarbons	13	90.00	1,170.00
Sales Tax		7.00%	0.00
		Total	**$4,410.00**

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	2-27-02; 10:00 AM
Date Reported:	3-14-02
PEL Submission Number:	2202117
Project:	NAS Cecil Field (103RD Street)

Samples: The submission consisted of 14 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
8260, 8310, 6010, and FL PRO

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2202117-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2202117	0228ABLK	MB	64079	0228ABLK
Cecil Field	2202117	0228ALCS	BS	64080	0228ALCS
Cecil Field	2202117	0228BLKA32	MB	0228BLKA32	0228BLKA32
Cecil Field	2202117	0228LCSA31	BS	0228LCSA31	0228LCSA31
Cecil Field	2202117	301WBLK	MB	64174	301WBLK
Cecil Field	2202117	301WLCS	BS	64175	301WLCS
Cecil Field	2202117	63935BLK	MB	63935	63935BLK
Cecil Field	2202117	63936LCS	BS	63936	63936LCS
Cecil Field	2202117	DUPQ10221	FD	220211712	062-DUP-Q1-02-21
Cecil Field	2202117	EQBQ10221	EB	220211713	062-EQB-Q1-02-21
Cecil Field	2202117	SMW01Q10221	N	220211701	062-SMW01-Q1-02-21
Cecil Field	2202117	SMW02Q10221	N	220211702	062-SMW02-Q1-02-21
Cecil Field	2202117	SMW03Q10221	N	220211703	062-SMW03-Q1-02-21
Cecil Field	2202117	SMW04Q10221	N	220211704	062-SMW04-Q1-02-21
Cecil Field	2202117	SMW05Q10221	N	220211705	062-SMW05-Q1-02-21
Cecil Field	2202117	SMW06Q10221	N	220211706	062-SMW06-Q1-02-21
Cecil Field	2202117	SMW07Q10221	N	220211707	062-SMW07-Q1-02-21
Cecil Field	2202117	SMW10Q10221	N	220211708	062-SMW10-Q1-02-21
Cecil Field	2202117	SMW11Q10221	N	220211709	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221DL1	DL	220211709DL1	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221DL1MS	MS	220211710DL1MS	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221DL1SD	SD	220211711DL1SD	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221MS	MS	220211710	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221MS	MS	220211710MS	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221SD	SD	220211711	062-SMW11-Q1-02-21
Cecil Field	2202117	SMW11Q10221SD	SD	220211711SD	062-SMW11-Q1-02-21

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2202117	TBQ10221	TB	220211714	062-TB-Q1-02-21

Organics 1
METHOD 8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 48
Standards Data 67
METHOD 8310 HPLC PAH ORGANICS 76
Sample Data 80
QC Summary 92
Standards Data 104
METHOD FL-PRO GC FL- PRO ORGANICS 119
Sample Data 123
QC Summary 135
Standards Data 144

Inorganics 154
METALS DATA PACKAGE TOTALS 157
Sample Data 161
QC Summary 173

Chain of Custody Documentation 197

Addendum 203

Organics

140302 1511

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" qualifier.

N This qualifier indicates presumptive evidence of an analyte. This qualifier is only used for tentatively identified compounds (TIC), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

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CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by SW846/5030 for EPA8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

The blank met the criteria.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Samples (LCS)

The LCS met the criteria.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

Spikes continued:

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, SMW11Q10221, was analyzed as an MS/SD where Ethylbenzene and 1,2,4-Trimethylbenzene fell below the acceptance criteria for percent recovery in the SD sample, and 1,2-Dibromo-3-chloropropane was above the acceptance criteria for percent recovery in the SD sample. All criteria were met for Relative Percent Difference. This MS/SD set was reanalyzed at a dilution of 1:5 where all criteria were met. No further action was necessary.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. Sample SMW11Q10221 required a dilution of 1:5 for spiking purposes only.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: [signature] **DATE:** 03-06-02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Method: **8260**

EPA Sample No	Lab Sample ID
SMW01Q10221	220211701
SMW02Q10221	220211702
SMW03Q10221	220211703
SMW04Q10221	220211704
SMW05Q10221	220211705
SMW06Q10221	220211706
SMW07Q10221	220211707
SMW10Q10221	220211708
SMW11Q10221	220211709
SMW11Q10221DL1	220211709DL1
DUPQ10221	220211712
EQBQ10221	220211713
TBQ10221	220211714

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Sample Data

140302 1511

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211701 Lab File ID: 11701.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1126

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211701
Lab File ID: 11701.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1126
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211701

Lab File ID: 11701.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1126

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211702 Lab File ID: 11702.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1149

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211702

Lab File ID: 11702.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1149

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211702

Lab File ID: 11702.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1149

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211703
Lab File ID: 11703.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1213
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211703

Lab File ID: 11703.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211703

Lab File ID: 11703.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211704
Lab File ID: 11704.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1236
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211704

Lab File ID: 11704.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1236

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211704

Lab File ID: 11704.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1236

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211705 Lab File ID: 11705.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1300

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211705 Lab File ID: 11705.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1300

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211705

Lab File ID: 11705.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1300

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211706
Lab File ID: 11706.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1324
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211706 Lab File ID: 11706.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1324

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211706

Lab File ID: 11706.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1324

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211707
Lab File ID: 11707.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1348
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211707 Lab File ID: 11707.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211707

Lab File ID: 11707.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1348

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211708 Lab File ID: 11708.D

Sample wt/vol: 5 Units: ML Date Received: 02/27/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 02/28/02 Time: 1412

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211708
Lab File ID: 11708.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1412
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211708

Lab File ID: 11708.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1412

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211709

Lab File ID: 11709.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1039

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	0.32	J
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	0.28	J
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211709

Lab File ID: 11709.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1039

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	39	
511-39-00	p,m-Xylene	35	
95-47-6	o-Xylene	1.5	
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	18.4	
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	17.7	
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	8.4	
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	78.9	
135-98-8	sec-Butylbenzene	8.7	
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	7.9	
104-51-8	n-Butylbenzene	7.2	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211709

Lab File ID: 11709.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1039

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	64.6	
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	36.5	

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221DL1

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211709DL1
Lab File ID: 11709D.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1546
PercentSolids: 0
decanted :
Dilution Factor: 5
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***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
75-09-2	Methylene chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
594-20-7	2,2-Dichloropropane	2.2	U
156-59-2	cis-1,2-Dichloroethene	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	3	U
108-88-3	Toluene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
124-48-1	Dibromochloromethane	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221DL1

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211709DL1
Lab File ID: 11709D.D
Sample wt/vol: 5
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 1546
PercentSolids: 0
decanted :
Dilution Factor: 5
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
106-93-4	1,2-Dibromoethane(EDB)	1.2	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	37.2	
511-39-00	p,m-Xylene	32.1	
95-47-6	o-Xylene	1.4	J
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene (Cumene)	16.5	
108-86-1	Bromobenzene	0.75	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	2.3	U
103-65-1	n-Propylbenzene	15.7	
95-49-8	2-Chlorotoluene	5	U
106-43-4	4-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	7.7	
98-06-6	tert-Butylbenzene	1.9	U
95-63-6	1,2,4-Trimethylbenzene	72.7	
135-98-8	sec-Butylbenzene	7.4	
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
99-87-6	4-Isopropyltoluene	7	
104-51-8	n-Butylbenzene	6	
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.8	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	2.3	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221DL1

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211709DL1

Lab File ID: 11709D.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1546

PercentSolids: 0

decanted :

Dilution Factor: 5

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	50.6	
87-61-6	1,2,3-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	33.5	

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211712

Lab File ID: 11712.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1435

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211712

Lab File ID: 11712.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1435

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211712

Lab File ID: 11712.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1435

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211713

Lab File ID: 11713.D

Sample wt/vol: 5 Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02 Time: 1459

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	2.7	
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	2.4	
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211713

Lab File ID: 11713.D

Sample wt/vol: 5 Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02 Time: 1459

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211713

Lab File ID: 11713.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1459

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211714

Lab File ID: 11714.D

Sample wt/vol: 5 Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02 Time: 1523

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211714

Lab File ID: 11714.D

Sample wt/vol: 5 Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02 Time: 1523

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211714

Lab File ID: 11714.D

Sample wt/vol: 5

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 1523

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0228BLKA32

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 0228BLKA32
Lab File ID: BLK32.D
Sample wt/vol: 5
Units: ML
Date Received: 02/28/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 02/28/02
Time: 0951
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: QC
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0228BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 0228BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5

Units: ML

Date Received: 02/28/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 0951

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0228BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 0228BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5

Units: ML

Date Received: 02/28/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 02/28/02

Time: 0951

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0228BLKA32

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117

Lab File ID: BLK32.D
Lab Sample ID: 0228BLKA32

Instrument ID: VMS03
Date Extracted:

Matrix: WATER
Date Analyzed: 02/28/02

Level:(low/med) LOW
Time Analyzed: 0951

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0228LCSA31	0228LCSA31	LCS31.D	02/28/02	0706
2	SMW11Q10221MS	220211710MS	11710.D	02/28/02	0816
3	SMW11Q10221SD	220211711SD	11711.D	02/28/02	0840
4	SMW11Q10221	220211709	11709.D	02/28/02	1039
5	SMW01Q10221	220211701	11701.D	02/28/02	1126
6	SMW02Q10221	220211702	11702.D	02/28/02	1149
7	SMW03Q10221	220211703	11703.D	02/28/02	1213
8	SMW04Q10221	220211704	11704.D	02/28/02	1236
9	SMW05Q10221	220211705	11705.D	02/28/02	1300
10	SMW06Q10221	220211706	11706.D	02/28/02	1324
11	SMW07Q10221	220211707	11707.D	02/28/02	1348
12	SMW10Q10221	220211708	11708.D	02/28/02	1412
13	DUPQ10221	220211712	11712.D	02/28/02	1435
14	EQBQ10221	220211713	11713.D	02/28/02	1459
15	TBQ10221	220211714	11714.D	02/28/02	1523
16	SMW11Q10221DL1	220211709DL1	11709D.D	02/28/02	1546
17	SMW11Q10221DL1MS	220211710DL1MS	11710D.D	02/28/02	1610
18	SMW11Q10221DL1SD	220211711DL1SD	11711D.D	02/28/02	1633

COMMENTS:

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Form IV

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2202117

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0228BLKA32	102.4	102.6	101.6	106.6			0
0228LCSA31	105.4	103.6	99.4	107.4			0
DUPQ10221	104.6	103.0	103.2	104.4			0
EQBQ10221	104.0	102.2	102.8	105.0			0
SMW01Q10221	106.0	104.4	101.8	108.8			0
SMW02Q10221	104.0	102.8	103.2	104.6			0
SMW03Q10221	101.6	99.6	100.6	103.6			0
SMW04Q10221	103.4	101.6	101.6	102.6			0
SMW05Q10221	104.4	102.8	103.2	103.4			0
SMW06Q10221	103.6	102.6	103.2	104.6			0
SMW07Q10221	102.6	101.4	100.4	102.8			0
SMW10Q10221	102.0	101.0	102.0	105.0			0
SMW11Q10221	103.6	103.6	100.6	105.6			0
SMW11Q10221DL1	102.8	101.6	96.6	104.4			0
SMW11Q10221DL1MS	103.0	101.0	99.4	106.4			0
SMW11Q10221DL1SD	102.8	102.6	100.6	108.6			0
SMW11Q10221MS	104.4	102.0	100.0	101.4			0
SMW11Q10221SD	100.6	101.2	100.0	98.8			0
TBQ10221	102.6	100.6	103.0	107.0			0

Control Limits

S1	=	Dibromofluoromethane	86 -	118
S2	=	Toluene d8	88 -	110
S3	=	4-Bromofluorobenzene	86 -	115
S4	=	1,2-Dichloroethane-d4	80 -	120

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Lab File ID: BFB31.D BFB Injection Date: 02/25/02

Instrument ID: VMS03 BFB Injection Time: 0559

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	23.5	
75	30.0 - 60.0% of mass 95	51.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.1	
173	Less than 2.0% of mass 174	0.4	(0.6)1
174	50.0 - 100.0% of mass 95	68.8	
175	5.0 - 9.0% of mass 174	5.2	(7.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	68.8	(100.1)1
177	5.0 - 9.0% of mass 176	4.2	(6.2)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD16092	80PPBCAL	80PPB.D	02/25/02	0626
2	STD16093	60PPBCAL	60PPB.D	02/25/02	0650
3	STD16094	50PPBCAL	50PPB.D	02/25/02	0714
4	STD16095	20PPBCAL	20PPB.D	02/25/02	0738
5	STD16096	10PPBCAL	10PPB.D	02/25/02	0801
6	STD16097	5PPBCAL	5PPB.D	02/25/02	0825
7	STD16098	2PPBCAL	2PPB.D	02/25/02	0848
8	STD16099	1PPBCAL	1PPB.D	02/25/02	0912
9	SSC16100	SEC31	SEC31.D	02/25/02	1024

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Lab File ID: BFB31.D BFB Injection Date: 02/28/02

Instrument ID: VMS03 BFB Injection Time: 0551

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	24	
75	30.0 - 60.0% of mass 95	49.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.2	(0.4)1
174	50.0 - 100.0% of mass 95	67.1	
175	5.0 - 9.0% of mass 174	5.7	(8.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67	(99.9)1
177	5.0 - 9.0% of mass 176	4.1	(6.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV17410	0228CCVA32	50CCV32.D	02/28/02	0642
2	0228LCSA31	0228LCSA31	LCS31.D	02/28/02	0706
3	SMW11Q10221MS	220211710MS	11710.D	02/28/02	0816
4	SMW11Q10221SD	220211711SD	11711.D	02/28/02	0840
5	0228BLKA32	0228BLKA32	BLK32.D	02/28/02	0951
6	SMW11Q10221	220211709	11709.D	02/28/02	1039
7	SMW01Q10221	220211701	11701.D	02/28/02	1126
8	SMW02Q10221	220211702	11702.D	02/28/02	1149
9	SMW03Q10221	220211703	11703.D	02/28/02	1213
10	SMW04Q10221	220211704	11704.D	02/28/02	1236
11	SMW05Q10221	220211705	11705.D	02/28/02	1300
12	SMW06Q10221	220211706	11706.D	02/28/02	1324
13	SMW07Q10221	220211707	11707.D	02/28/02	1348
14	SMW10Q10221	220211708	11708.D	02/28/02	1412
15	DUPQ10221	220211712	11712.D	02/28/02	1435
16	EQBQ10221	220211713	11713.D	02/28/02	1459
17	TBQ10221	220211714	11714.D	02/28/02	1523
18	SMW11Q10221DL1	220211709DL1	11709D.D	02/28/02	1546
19	SMW11Q10221DL1M	220211710DL1	11710D.D	02/28/02	1610
20	SMW11Q10221DL1SD	220211711DL1	11711D.D	02/28/02	1633

8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Lab File ID (Standard): 20PPB.D Date Analyzed: 2/25/2002

Instrument ID: VMS03 Time Analyzed: 7:38

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	486883		11.08	253909		13.50	684592		7.79
	UPPER LIMIT	973766		11.58	507818		14.00	1369184		8.29
	LOWER LIMIT	243441.5		10.58	126954.5		13.00	342296		7.29
	EPA SAMPLE NO.									
1	0228LCSA31	487289		11.07	263522		13.50	684151		7.79
2	SMW11Q10221MS	484294		11.07	259021		13.50	670498		7.79
3	SMW11Q10221SD	481523		11.08	255075		13.50	665235		7.79
4	0228BLKA32	483794		11.08	244660		13.50	665491		7.79
5	SMW11Q10221	483174		11.07	253461		13.50	665010		7.79
6	SMW01Q10221	473196		11.08	242691		13.50	654619		7.79
7	SMW02Q10221	473666		11.08	237868		13.50	656570		7.79
8	SMW03Q10221	464197		11.08	236144		13.50	651194		7.79
9	SMW04Q10221	472954		11.07	240532		13.50	654802		7.79
10	SMW05Q10221	471070		11.08	236010		13.50	652638		7.79
11	SMW06Q10221	467548		11.08	240216		13.50	649600		7.79
12	SMW07Q10221	471070		11.08	240127		13.50	657837		7.79
13	SMW10Q10221	467622		11.08	238644		13.50	652099		7.79
14	DUPQ10221	463831		11.08	238250		13.50	650468		7.79
15	EQBQ10221	466445		11.08	235597		13.50	645653		7.79
16	TBQ10221	462374		11.08	230907		13.50	641334		7.79
17	SMW11Q10221DL1	466427		11.08	245170		13.50	645520		7.79
18	SMW11Q10221DL1MS	461638		11.08	248100		13.50	645597		7.79
19	SMW11Q10221DL1SD	468885		11.08	247788		13.50	641550		7.79

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0228LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	18.4	92.0	56 - 144
Chloromethane	20	18.7	93.5	48 - 149
Vinyl chloride	20	19.9	99.5	66 - 128
Bromomethane	20	17.4	87.0	55 - 159
Chloroethane	20	20.4	102.0	77 - 144
Trichlorofluoromethane	20	19.9	99.5	65 - 190
1,1-Dichloroethene	20	22.2	111.0	75 - 150
Methylene chloride	20	21.5	107.5	81 - 129
trans-1,2-Dichloroethene	20	20.5	102.5	84 - 135
1,1-Dichloroethane	20	20.3	101.5	88 - 127
2,2-Dichloropropane	20	19.3	96.5	77 - 136
cis-1,2-Dichloroethene	20	20	100.0	88 - 127
Bromochloromethane	20	18.4	92.0	80 - 124
Chloroform	20	20	100.0	83 - 127
1,1,1-Trichloroethane	20	19.9	99.5	83 - 132
Carbon tetrachloride	20	19.4	97.0	74 - 140
Benzene	20	19.7	98.5	82 - 129
1,2-Dichloroethane	20	20.1	100.5	86 - 120
Trichloroethene	20	19.4	97.0	82 - 127
1,2-Dichloropropane	20	19.5	97.5	83 - 126
Dibromomethane	20	19.6	98.0	83 - 120
Bromodichloromethane	20	19.4	97.0	84 - 127
Toluene	20	19.9	99.5	82 - 128
1,1,2-Trichloroethane	20	20	100.0	86 - 117
Tetrachloroethene	20	19.8	99.0	87 - 124
1,3-Dichloropropane	20	20.3	101.5	85 - 115
Dibromochloromethane	20	19.4	97.0	87 - 123
1,2-Dibromoethane(EDB)	20	20.9	104.5	79 - 117
Chlorobenzene	20	19.9	99.5	87 - 117
1,1,1,2-Tetrachloroethane	20	19.8	99.0	81 - 124
Ethylbenzene	20	19.4	97.0	89 - 121
p,m-Xylene	40	39.7	99.2	89 - 119

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

140302 1512

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0228LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	19.7	98.5	86 - 120
Styrene	20	20	100.0	80 - 127
Bromoform	20	20.1	100.5	67 - 129
Isopropylbenzene (Cumene)	20	19.4	97.0	96 - 118
Bromobenzene	20	18.9	94.5	87 - 114
1,1,2,2-Tetrachloroethane	20	20.2	101.0	87 - 116
1,2,3-Trichloropropane	20	19.9	99.5	84 - 118
n-Propylbenzene	20	18.9	94.5	86 - 121
2-Chlorotoluene	20	18.8	94.0	92 - 113
4-Chlorotoluene	20	19.1	95.5	91 - 117
1,3,5-Trimethylbenzene	20	19	95.0	93 - 115
tert-Butylbenzene	20	19.1	95.5	83 - 122
1,2,4-Trimethylbenzene	20	18.9	94.5	86 - 126
sec-Butylbenzene	20	19.1	95.5	94 - 118
1,3-Dichlorobenzene	20	18.9	94.5	88 - 121
1,4-Dichlorobenzene	20	18.6	93.0	88 - 118
4-Isopropyltoluene	20	19.3	96.5	94 - 118
n-Butylbenzene	20	19.2	96.0	86 - 124
1,2-Dichlorobenzene	20	19	95.0	91 - 116
1,2-Dibromo-3-chloropropane	20	20.6	103.0	82 - 127
1,2,4-Trichlorobenzene	20	18.8	94.0	84 - 124
Hexachlorobutadiene	20	19.8	99.0	90 - 137
Naphthalene	20	19.3	96.5	82 - 130
1,2,3-Trichlorobenzene	20	18.5	92.5	91 - 122
Xylene (total)	60	59.4	99.0	82 - 124

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

140302 1512

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221DL1MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	100	0	100	100.0	54 - 127
Chloromethane	100	0	99.5	99.5	74 - 113
Vinyl chloride	100	0	105	105.0	60 - 118
Bromomethane	100	0	110	110.0	88 - 117
Chloroethane	100	0	107	107.0	90 - 117
Trichlorofluoromethane	100	0	98.8	98.8	65 - 162
1,1-Dichloroethene	100	0	118	118.0	84 - 129
Methylene chloride	100	0	112	112.0	75 - 133
trans-1,2-Dichloroethene	100	0	108	108.0	73 - 141
1,1-Dichloroethane	100	0	106	106.0	79 - 135
2,2-Dichloropropane	100	0	95.1	95.1	78 - 143
cis-1,2-Dichloroethene	100	0	100	100.0	77 - 128
Bromochloromethane	100	0	97.2	97.2	76 - 130
Chloroform	100	0	102	102.0	76 - 134
1,1,1-Trichloroethane	100	0	103	103.0	79 - 134
Carbon tetrachloride	100	0	91.8	91.8	75 - 132
Benzene	100	0	101	101.0	51 - 141
1,2-Dichloroethane	100	0	106	106.0	80 - 133
Trichloroethene	100	0	98.5	98.5	76 - 128
1,2-Dichloropropane	100	0	102	102.0	79 - 128
Dibromomethane	100	0	108	108.0	83 - 119
Bromodichloromethane	100	0	97.4	97.4	79 - 130
Toluene	100	0	102	102.0	75 - 132
1,1,2-Trichloroethane	100	0	103	103.0	77 - 126
Tetrachloroethene	100	0	99.3	99.3	86 - 120
1,3-Dichloropropane	100	0	104	104.0	84 - 120
Dibromochloromethane	100	0	94.3	94.3	80 - 128
1,2-Dibromoethane(EDB)	100	0	103	103.0	75 - 124
Chlorobenzene	100	0	100	100.0	82 - 123
1,1,1,2-Tetrachloroethane	100	0	95.2	95.2	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221DL1MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Ethylbenzene	100	37.2	134	96.8	77 - 124
p,m-Xylene	200	32.1	236	102.0	83 - 121
o-Xylene	100	1.4	103	101.6	88 - 121
Styrene	100	0	104	104.0	83 - 127
Bromoform	100	0	86.8	86.8	78 - 121
Isopropylbenzene (Cumene)	100	16.5	117	100.5	81 - 128
Bromobenzene	100	0	97.9	97.9	83 - 119
1,1,2,2-Tetrachloroethane	100	0	106	106.0	88 - 117
1,2,3-Trichloropropane	100	0	104	104.0	75 - 129
n-Propylbenzene	100	15.7	116	100.3	81 - 127
2-Chlorotoluene	100	0	101	101.0	87 - 116
4-Chlorotoluene	100	0	99.2	99.2	84 - 121
1,3,5-Trimethylbenzene	100	7.7	112	104.3	94 - 109
tert-Butylbenzene	100	0	89.4	89.4	78 - 128
1,2,4-Trimethylbenzene	100	72.7	170	97.3	74 - 131
sec-Butylbenzene	100	7.4	107	99.6	80 - 130
1,3-Dichlorobenzene	100	0	97.8	97.8	81 - 130
1,4-Dichlorobenzene	100	0	99	99.0	80 - 125
4-Isopropyltoluene	100	7	109	102.0	82 - 129
n-Butylbenzene	100	6	107	101.0	78 - 136
1,2-Dichlorobenzene	100	0	102	102.0	81 - 126
1,2-Dibromo-3-chloropropane	100	0	109	109.0	81 - 123
1,2,4-Trichlorobenzene	100	0	97.7	97.7	75 - 133
Hexachlorobutadiene	100	0	98.3	98.3	69 - 144
Naphthalene	100	50.6	156	105.4	69 - 140
1,2,3-Trichlorobenzene	100	0	99.2	99.2	75 - 138
Xylene (total)	300	33.5	339	101.8	86 - 129

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q10221DL1SD

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	100	99	99.0	1.4	21	54 - 127
Chloromethane	100	94.5	94.5	5.1	18	74 - 113
Vinyl chloride	100	103	103.0	1.8	24	60 - 118
Bromomethane	100	111	111.0	1.5	20	88 - 117
Chloroethane	100	104	104.0	3.0	12	90 - 117
Trichlorofluoromethane	100	98.6	98.6	0.3	14	65 - 162
1,1-Dichloroethene	100	113	113.0	4.6	14	84 - 129
Methylene chloride	100	116	116.0	3.7	8.7	75 - 133
trans-1,2-Dichloroethene	100	104	104.0	4.1	14	73 - 141
1,1-Dichloroethane	100	103	103.0	2.9	10	79 - 135
2,2-Dichloropropane	100	91.1	91.1	4.2	13	78 - 143
cis-1,2-Dichloroethene	100	102	102.0	1.7	11	77 - 128
Bromochloromethane	100	95.9	95.9	1.4	12	76 - 130
Chloroform	100	102	102.0	0.4	13	76 - 134
1,1,1-Trichloroethane	100	103	103.0	0.1	12	79 - 134
Carbon tetrachloride	100	94.6	94.6	3.1	15	75 - 132
Benzene	100	100	100.0	1.0	10	51 - 141
1,2-Dichloroethane	100	102	102.0	4.1	8.4	80 - 133
Trichloroethene	100	96.8	96.8	1.8	13	76 - 128
1,2-Dichloropropane	100	100	100.0	2.3	11	79 - 128
Dibromomethane	100	104	104.0	3.4	13	83 - 119
Bromodichloromethane	100	97.9	97.9	0.5	13	79 - 130
Toluene	100	101	101.0	0.9	13	75 - 132
1,1,2-Trichloroethane	100	104	104.0	0.6	13	77 - 126
Tetrachloroethene	100	95.8	95.8	3.7	11	86 - 120
1,3-Dichloropropane	100	102	102.0	1.4	10	84 - 120
Dibromochloromethane	100	89.2	89.2	5.5	12	80 - 128
1,2-Dibromoethane(EDB)	100	101	101.0	1.3	11	75 - 124
Chlorobenzene	100	98.5	98.5	1.7	12	82 - 123
1,1,1,2-Tetrachloroethane	100	93.2	93.2	2.1	14	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221DL1SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ethylbenzene	100	132	94.8	0.9	13	77 - 124
p,m-Xylene	200	230	99.0	2.3	10	83 - 121
o-Xylene	100	100	98.6	2.9	10	88 - 121
Styrene	100	98.9	98.9	4.8	13	83 - 127
Bromoform	100	86.5	86.5	0.3	10	78 - 121
Isopropylbenzene (Cumene)	100	116	99.5	1.6	10	81 - 128
Bromobenzene	100	96.8	96.8	1.1	12	83 - 119
1,1,2,2-Tetrachloroethane	100	107	107.0	0.6	9.1	88 - 117
1,2,3-Trichloropropane	100	104	104.0	0.1	15	75 - 129
n-Propylbenzene	100	114	98.3	1.8	16	81 - 127
2-Chlorotoluene	100	99	99.0	1.7	11	87 - 116
4-Chlorotoluene	100	98.9	98.9	0.4	10	84 - 121
1,3,5-Trimethylbenzene	100	110	102.3	0.9	14	94 - 109
tert-Butylbenzene	100	90.2	90.2	0.9	20	78 - 128
1,2,4-Trimethylbenzene	100	170	97.3	0.6	16	74 - 131
sec-Butylbenzene	100	108	100.6	0.8	13	80 - 130
1,3-Dichlorobenzene	100	97	97.0	0.8	13	81 - 130
1,4-Dichlorobenzene	100	96.1	96.1	3.0	11	80 - 125
4-Isopropyltoluene	100	109	102.0	0.3	11	82 - 129
n-Butylbenzene	100	105	99.0	1.8	16	78 - 136
1,2-Dichlorobenzene	100	100	100.0	1.0	13	81 - 126
1,2-Dibromo-3-chloropropane	100	103	103.0	5.7	17	81 - 123
1,2,4-Trichlorobenzene	100	97.2	97.2	0.5	11	75 - 133
Hexachlorobutadiene	100	102	102.0	3.2	18	69 - 144
Naphthalene	100	155	104.4	0.6	11	69 - 140
1,2,3-Trichlorobenzene	100	97.2	97.2	2.0	11	75 - 138
Xylene (total)	300	330	98.8	2.5	9.4	86 - 129

RPD: 0 out of 57 outside limits

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	18.9	94.5	54 - 127
Chloromethane	20	0	18.1	90.5	74 - 113
Vinyl chloride	20	0	20.4	102.0	60 - 118
Bromomethane	20	0	21.7	108.5	88 - 117
Chloroethane	20	0	21.6	108.0	90 - 117
Trichlorofluoromethane	20	0	20.4	102.0	65 - 162
1,1-Dichloroethene	20	0	22.6	113.0	84 - 129
Methylene chloride	20	0	22.9	114.5	75 - 133
trans-1,2-Dichloroethene	20	0	21.4	107.0	73 - 141
1,1-Dichloroethane	20	0	20.7	103.5	79 - 135
2,2-Dichloropropane	20	0	18.9	94.5	78 - 143
cis-1,2-Dichloroethene	20	0	20.2	101.0	77 - 128
Bromochloromethane	20	0	18.5	92.5	76 - 130
Chloroform	20	0	20.3	101.5	76 - 134
1,1,1-Trichloroethane	20	0	20.8	104.0	79 - 134
Carbon tetrachloride	20	0	19.4	97.0	75 - 132
Benzene	20	0.32	20.2	99.4	51 - 141
1,2-Dichloroethane	20	0	20.7	103.5	80 - 133
Trichloroethene	20	0	19.5	97.5	76 - 128
1,2-Dichloropropane	20	0	19.9	99.5	79 - 128
Dibromomethane	20	0	19.8	99.0	83 - 119
Bromodichloromethane	20	0	20.1	100.5	79 - 130
Toluene	20	0.28	20.4	100.6	75 - 132
1,1,2-Trichloroethane	20	0	20.2	101.0	77 - 126
Tetrachloroethene	20	0	19.9	99.5	86 - 120
1,3-Dichloropropane	20	0	20.2	101.0	84 - 120
Dibromochloromethane	20	0	19.2	96.0	80 - 128
1,2-Dibromoethane(EDB)	20	0	19	95.0	75 - 124
Chlorobenzene	20	0	20	100.0	82 - 123
1,1,1,2-Tetrachloroethane	20	0	19.4	97.0	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Ethylbenzene	20	39	56	85.0	77 - 124
p,m-Xylene	40	35	73.1	95.2	83 - 121
o-Xylene	20	1.5	21.6	100.5	88 - 121
Styrene	20	0	20.2	101.0	83 - 127
Bromoform	20	0	18	90.0	78 - 121
Isopropylbenzene (Cumene)	20	18.4	36.7	91.5	81 - 128
Bromobenzene	20	0	19.1	95.5	83 - 119
1,1,2,2-Tetrachloroethane	20	0	22.2	111.0	88 - 117
1,2,3-Trichloropropane	20	0	19.1	95.5	75 - 129
n-Propylbenzene	20	17.7	36.7	95.0	81 - 127
2-Chlorotoluene	20	0	20.3	101.5	87 - 116
4-Chlorotoluene	20	0	19.5	97.5	84 - 121
1,3,5-Trimethylbenzene	20	8.4	28.1	98.5	94 - 109
tert-Butylbenzene	20	0	16.8	84.0	78 - 128
1,2,4-Trimethylbenzene	20	78.9	93.9	75.0	74 - 131
sec-Butylbenzene	20	8.7	28.6	99.5	80 - 130
1,3-Dichlorobenzene	20	0	19.9	99.5	81 - 130
1,4-Dichlorobenzene	20	0	20.1	100.5	80 - 125
4-Isopropyltoluene	20	7.9	28.6	103.5	82 - 129
n-Butylbenzene	20	7.2	27.4	101.0	78 - 136
1,2-Dichlorobenzene	20	0	20.6	103.0	81 - 126
1,2-Dibromo-3-chloropropane	20	0	22.7	113.5	81 - 123
1,2,4-Trichlorobenzene	20	0	20.7	103.5	75 - 133
Hexachlorobutadiene	20	0	20.4	102.0	69 - 144
Naphthalene	20	64.6	83.7	95.5	69 - 140
1,2,3-Trichlorobenzene	20	0	21.6	108.0	75 - 138
Xylene (total)	60	36.5	94.6	96.8	86 - 129

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q10221SD

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	18.8	94.0	0.6	21	54 - 127
Chloromethane	20	17.4	87.0	3.9	18	74 - 113
Vinyl chloride	20	20.1	100.5	1.4	24	60 - 118
Bromomethane	20	20.6	103.0	4.9	20	88 - 117
Chloroethane	20	19.6	98.0	9.5	12	90 - 117
Trichlorofluoromethane	20	19.8	99.0	3.1	14	65 - 162
1,1-Dichloroethene	20	22.8	114.0	0.5	14	84 - 129
Methylene chloride	20	22.8	114.0	0.4	8.7	75 - 133
trans-1,2-Dichloroethene	20	20.8	104.0	2.9	14	73 - 141
1,1-Dichloroethane	20	20.2	101.0	2.3	10	79 - 135
2,2-Dichloropropane	20	18.8	94.0	0.4	13	78 - 143
cis-1,2-Dichloroethene	20	19.6	98.0	2.7	11	77 - 128
Bromochloromethane	20	18.4	92.0	0.9	12	76 - 130
Chloroform	20	19.9	99.5	1.9	13	76 - 134
1,1,1-Trichloroethane	20	20.1	100.5	2.9	12	79 - 134
Carbon tetrachloride	20	18.8	94.0	3.1	15	75 - 132
Benzene	20	20	98.4	1.3	10	51 - 141
1,2-Dichloroethane	20	20.3	101.5	1.7	8.4	80 - 133
Trichloroethene	20	19.1	95.5	2.2	13	76 - 128
1,2-Dichloropropane	20	20.2	101.0	1.2	11	79 - 128
Dibromomethane	20	19.7	98.5	0.7	13	83 - 119
Bromodichloromethane	20	19.2	96.0	4.8	13	79 - 130
Toluene	20	19.9	98.1	2.3	13	75 - 132
1,1,2-Trichloroethane	20	20.3	101.5	0.5	13	77 - 126
Tetrachloroethene	20	19	95.0	4.5	11	86 - 120
1,3-Dichloropropane	20	20.2	101.0	0.4	10	84 - 120
Dibromochloromethane	20	18.9	94.5	1.5	12	80 - 128
1,2-Dibromoethane(EDB)	20	20.5	102.5	7.1	11	75 - 124
Chlorobenzene	20	19.8	99.0	1.0	12	82 - 123
1,1,1,2-Tetrachloroethane	20	19.1	95.5	1.5	14	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q10221SD

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ethylbenzene	20	54.3	76.5 *	3.1	13	77 - 124
p,m-Xylene	40	71.5	91.2	2.2	10	83 - 121
o-Xylene	20	20.9	97.0	3.1	10	88 - 121
Styrene	20	19.8	99.0	2.3	13	83 - 127
Bromoform	20	18.2	91.0	0.8	10	78 - 121
Isopropylbenzene (Cumene)	20	36.1	88.5	1.6	10	81 - 128
Bromobenzene	20	19.4	97.0	1.4	12	83 - 119
1,1,2,2-Tetrachloroethane	20	23.4	117.0	5.1	9.1	88 - 117
1,2,3-Trichloropropane	20	20.7	103.5	8.1	15	75 - 129
n-Propylbenzene	20	36.1	92.0	1.7	16	81 - 127
2-Chlorotoluene	20	20	100.0	1.7	11	87 - 116
4-Chlorotoluene	20	20	100.0	2.3	10	84 - 121
1,3,5-Trimethylbenzene	20	27.8	97.0	1.1	14	94 - 109
tert-Butylbenzene	20	16.5	82.5	2.2	20	78 - 128
1,2,4-Trimethylbenzene	20	93.3	72.0 *	0.7	16	74 - 131
sec-Butylbenzene	20	27.7	95.0	3.0	13	80 - 130
1,3-Dichlorobenzene	20	19.6	98.0	1.8	13	81 - 130
1,4-Dichlorobenzene	20	20	100.0	0.6	11	80 - 125
4-Isopropyltoluene	20	28.2	101.5	1.1	11	82 - 129
n-Butylbenzene	20	27.1	99.5	1.3	16	78 - 136
1,2-Dichlorobenzene	20	20.7	103.5	0.5	13	81 - 126
1,2-Dibromo-3-chloropropane	20	25	125.0 *	10.0	17	81 - 123
1,2,4-Trichlorobenzene	20	20.4	102.0	1.4	11	75 - 133
Hexachlorobutadiene	20	20.8	104.0	2.2	18	69 - 144
Naphthalene	20	87.5	114.5	4.5	11	69 - 140
1,2,3-Trichlorobenzene	20	21.9	109.5	1.3	11	75 - 138
Xylene (total)	60	92.4	93.2	2.4	9.4	86 - 129

RPD: 0 out of 57 outside limits

Spike Recovery: 3 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

Standards Data

140302 1512

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 Calibration Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0912

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2	
Dichlorodifluoromethane		0.312	0.252	0.265	0.201	0.241			
Chloromethane	#	0.491	0.387	0.366	0.279	0.318			#
Vinyl chloride	*	0.335	0.287	0.282	0.219	0.222			*
Bromomethane		0.174	0.146	0.144	0.117	0.141			
Chloroethane		0.275	0.213	0.196	0.160	0.172			
Trichlorofluoromethane		0.330	0.279	0.282	0.223	0.264			
1,1-Dichloroethene	*	0.471	0.454	0.436	0.382	0.424			*
Methylene chloride		0.331	0.296	0.293	0.205	0.254			
trans-1,2-Dichloroethene		0.468	0.475	0.460	0.407	0.460			
1,1-Dichloroethane	#	0.613	0.628	0.589	0.527	0.596			#
2,2-Dichloropropane		0.351	0.342	0.307	0.288	0.316			
cis-1,2-Dichloroethene		0.346	0.325	0.296	0.257	0.295			
Bromochloromethane		0.189	0.171	0.136	0.125	0.136			
Chloroform	*	0.603	0.542	0.515	0.471	0.525			*
1,1,1-Trichloroethane		0.430	0.456	0.440	0.391	0.438			
Carbon tetrachloride		0.356	0.365	0.325	0.299	0.339			
Benzene		1.428	1.332	1.185	1.061	1.201			
1,2-Dichloroethane		0.475	0.480	0.444	0.430	0.468			
Trichloroethene		0.329	0.307	0.285	0.255	0.287			
1,2-Dichloropropane	*	0.370	0.366	0.336	0.313	0.354			*
Dibromomethane		0.184	0.165	0.158	0.159	0.170			
Bromodichloromethane		0.376	0.381	0.362	0.342	0.386			
Toluene	*	0.768	0.785	0.677	0.627	0.710			*
1,1,2-Trichloroethane		0.236	0.274	0.226	0.218	0.247			
Tetrachloroethene		0.326	0.315	0.280	0.267	0.294			
1,3-Dichloropropane		0.669	0.690	0.593	0.584	0.645			
Dibromochloromethane		0.317	0.326	0.289	0.303	0.341			
1,2-Dibromoethane(EDB)		0.346	0.331	0.315	0.285	0.327			
Chlorobenzene	#	1.140	1.121	1.020	0.979	1.072			#
1,1,1,2-Tetrachloroethane		0.320	0.344	0.317	0.283	0.340			
Ethylbenzene	*	0.619	0.596	0.580	0.517	0.568			*
p,m-Xylene		0.802	0.746	0.671	0.620	0.706			
o-Xylene		1.626	1.622	1.490	1.373	1.513			
Styrene		1.322	1.193	1.166	1.088	1.221			

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 Calibration Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0912

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND	RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2
Bromoform #	0.146	0.175	0.167	0.166	0.191		#
Isopropylbenzene (Cumene)	3.756	3.735	3.489	3.065	3.469		
Bromobenzene	1.856	1.725	1.557	1.443	1.578		
1,1,2,2-Tetrachloroethane #	0.944	0.866	0.746	0.703	0.800		#
1,2,3-Trichloropropane	0.304	0.273	0.218	0.224	0.249		
n-Propylbenzene	4.587	4.649	4.172	3.789	4.298		
2-Chlorotoluene	3.244	3.332	2.920	2.567	3.000		
4-Chlorotoluene	3.282	3.138	2.700	2.654	2.840		
1,3,5-Trimethylbenzene	3.170	3.168	2.828	2.615	2.957		
tert-Butylbenzene	2.948	2.957	2.769	2.500	2.812		
1,2,4-Trimethylbenzene	3.266	3.132	2.763	2.558	2.845		
sec-Butylbenzene	3.803	3.702	3.373	3.043	3.428		
1,3-Dichlorobenzene	1.955	1.793	1.604	1.468	1.612		
1,4-Dichlorobenzene	1.891	1.753	1.542	1.429	1.597		
4-Isopropyltoluene	3.114	3.091	2.835	2.657	2.994		
n-Butylbenzene	2.827	2.779	2.496	2.301	2.639		
1,2-Dichlorobenzene	1.707	1.615	1.474	1.364	1.478		
1,2-Dibromo-3-chloropropane	0.139	0.151	0.144	0.153	0.168		
1,2,4-Trichlorobenzene	1.184	1.176	1.031	0.950	1.054		
Hexachlorobutadiene	0.217	0.263	0.227	0.193	0.223		
Naphthalene	2.702	2.770	2.330	2.194	2.503		
1,2,3-Trichlorobenzene	1.074	0.998	0.911	0.832	0.960		
Xylene (total)	0.754	0.730	0.667	0.609	0.693		
==========							
Dibromofluoromethane(SURR)		0.226	0.225	0.230	0.230		
Toluene d8(SURR)		1.002	1.002	1.011	1.011		
4-Bromofluorobenzene(SURR)		1.087	1.107	1.063	1.048		
1,2-Dichloroethane-d4(SURR)		0.059	0.055	0.055	0.056		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 Calibration Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0912

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND		RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2		
Dichlorodifluoromethane		0.245	0.264	0.273			0.25675	12.3		
Chloromethane	#	0.309	0.303	0.266			0.33979	21.6	#	<-
Vinyl chloride	*	0.207	0.210	0.207			0.24605	19.8	*	
Bromomethane		0.139	0.144	0.146			0.1437	10.7		
Chloroethane		0.181	0.181	0.185			0.19531	18.4		<-
Trichlorofluoromethane		0.279	0.293	0.316			0.28315	11.5		
1,1-Dichloroethene	*	0.411	0.435	0.436			0.43127	6.2	*	
Methylene chloride		0.241	0.281	0.328			0.27872	15.5		<-
trans-1,2-Dichloroethene		0.441	0.454	0.456			0.45245	4.7		
1,1-Dichloroethane	#	0.566	0.593	0.581			0.58654	5.2	#	
2,2-Dichloropropane		0.306	0.316	0.306			0.31618	6.5		
cis-1,2-Dichloroethene		0.283	0.295	0.291			0.29854	9		
Bromochloromethane		0.129	0.132	0.130			0.14349	16.3		<-
Chloroform	*	0.509	0.528	0.529			0.52777	7	*	
1,1,1-Trichloroethane		0.426	0.449	0.446			0.43431	4.6		
Carbon tetrachloride		0.344	0.360	0.369			0.34467	6.8		
Benzene		1.137	1.172	1.160			1.2096	9.6		
1,2-Dichloroethane		0.454	0.470	0.466			0.4608	3.7		
Trichloroethene		0.272	0.283	0.280			0.28721	7.8		
1,2-Dichloropropane	*	0.340	0.348	0.342			0.34627	5.2	*	
Dibromomethane		0.164	0.171	0.167			0.16722	4.9		
Bromodichloromethane		0.379	0.393	0.393			0.37639	4.6		
Toluene	*	0.683	0.697	0.695			0.70516	7.2	*	
1,1,2-Trichloroethane		0.233	0.240	0.237			0.23891	7		
Tetrachloroethene		0.286	0.293	0.298			0.29491	6.4		
1,3-Dichloropropane		0.632	0.635	0.653			0.6377	5.6		
Dibromochloromethane		0.346	0.358	0.368			0.33112	8.3		
1,2-Dibromoethane(EDB)		0.317	0.319	0.325			0.32076	5.4		
Chlorobenzene	#	1.025	1.039	1.056			1.05643	5.1	#	
1,1,1,2-Tetrachloroethane		0.333	0.333	0.343			0.32672	6.2		
Ethylbenzene	*	0.557	0.562	0.564			0.57045	5.3	*	
p,m-Xylene		0.679	0.684	0.697			0.70048	7.7		
o-Xylene		1.496	1.515	1.555			1.5238	5.3		
Styrene		1.193	1.217	1.257			1.20722	5.6		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 Calibration Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0912

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND	RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2
Bromoform #	0.204	0.206	0.219			0.18442	13.4 #
Isopropylbenzene (Cumene)	3.316	3.374	3.320			3.44056	6.6
Bromobenzene	1.496	1.498	1.499			1.58149	8.9
1,1,2,2-Tetrachloroethane #	0.772	0.773	0.758			0.79512	9.6 #
1,2,3-Trichloropropane	0.239	0.239	0.234			0.2477	11.4
n-Propylbenzene	4.129	4.174	4.196			4.24924	6.4
2-Chlorotoluene	2.862	2.903	2.914			2.96783	8
4-Chlorotoluene	2.677	2.736	2.665			2.8363	8.5
1,3,5-Trimethylbenzene	2.833	2.902	2.900			2.92171	6.3
tert-Butylbenzene	2.686	2.736	2.748			2.76956	5.3
1,2,4-Trimethylbenzene	2.768	2.863	2.822			2.87716	7.7
sec-Butylbenzene	3.386	3.472	3.477			3.46037	6.6
1,3-Dichlorobenzene	1.540	1.589	1.568			1.64115	9.5
1,4-Dichlorobenzene	1.559	1.590	1.572			1.61658	8.8
4-Isopropyltoluene	2.975	3.079	3.086			2.97892	5.3
n-Butylbenzene	2.655	2.758	2.768			2.65274	6.7
1,2-Dichlorobenzene	1.461	1.487	1.474			1.50754	7
1,2-Dibromo-3-chloropropane	0.164	0.166	0.166			0.15631	7.2
1,2,4-Trichlorobenzene	1.006	1.043	1.035			1.05989	7.6
Hexachlorobutadiene	0.220	0.220	0.231			0.22437	8.6
Naphthalene	2.325	2.393	2.328			2.44306	8.2
1,2,3-Trichlorobenzene	0.923	0.923	0.915			0.94185	7.6
Xylene (total)	0.671	0.689	0.691			0.68806	6.3
==========							
Dibromofluoromethane(SURR)	0.237	0.242	0.234			0.23201	2.6
Toluene d8(SURR)	1.021	1.045	1.014			1.01514	1.4
4-Bromofluorobenzene(SURR)	1.065	1.059	1.014			1.06319	2.7
1,2-Dichloroethane-d4(SURR)	0.058	0.062	0.059			0.05783	4.5

Average Used: 7.9

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 CalibrationDate: 02/25/02 Time: 1024

Lab File ID: SEC31.D Init. Calib. Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF0	%D	
Dichlorodifluoromethane		0.25675	0.2543	1.0	
Chloromethane	#	0.33979	0.3401	0.1	#
Vinyl chloride	*	0.24605	0.2389	2.9	*
Bromomethane		0.1437	0.1598	11.2	
Chloroethane		0.19531	0.2001	2.5	
Trichlorofluoromethane		0.28315	0.2993	5.7	
1,1-Dichloroethene	*	0.43127	0.4909	13.8	*
Methylene chloride		0.27872	0.2643	5.2	
trans-1,2-Dichloroethene		0.45245	0.483	6.8	
1,1-Dichloroethane	#	0.58654	0.6107	4.1	#
2,2-Dichloropropane		0.31618	0.3111	1.6	
cis-1,2-Dichloroethene		0.29854	0.3034	1.6	
Bromochloromethane		0.14349	0.1339	6.7	
Chloroform	*	0.52777	0.5328	1.0	*
1,1,1-Trichloroethane		0.43431	0.4583	5.5	
Carbon tetrachloride		0.34467	0.3622	5.1	
Benzene		1.2096	1.215	0.4	
1,2-Dichloroethane		0.4608	0.4641	0.7	
Trichloroethene		0.28721	0.2922	1.7	
1,2-Dichloropropane	*	0.34627	0.3526	1.8	*
Dibromomethane		0.16722	0.1768	5.7	
Bromodichloromethane		0.37639	0.3844	2.1	
Toluene	*	0.70516	0.7117	0.9	*
1,1,2-Trichloroethane		0.23891	0.2408	0.8	
Tetrachloroethene		0.29491	0.3031	2.8	
1,3-Dichloropropane		0.6377	0.65	1.9	
Dibromochloromethane		0.33112	0.3354	1.3	
1,2-Dibromoethane(EDB)		0.32076	0.3231	0.7	
Chlorobenzene	#	1.05643	1.06	0.3	#
1,1,1,2-Tetrachloroethane		0.32672	0.3319	1.6	
Ethylbenzene	*	0.57045	0.5717	0.2	*
p,m-Xylene		0.70048	0.7096	1.3	
o-Xylene		1.5238	1.553	1.9	
Styrene		1.20722	1.245	3.1	
Bromoform	#	0.18442	0.194	5.2	#
Isopropylbenzene (Cumene)		3.44056	3.472	0.9	

140302 1512

FORM VII

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 CalibrationDate: 02/25/02 Time: 1024

Lab File ID: SEC31.D Init. Calib. Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF0	%D
Bromobenzene	1.58149	1.528	3.4
1,1,2,2-Tetrachloroethane #	0.79512	0.7447	6.3 #
1,2,3-Trichloropropane	0.2477	0.237	4.3
n-Propylbenzene	4.24924	4.306	1.3
2-Chlorotoluene	2.96783	2.962	0.2
4-Chlorotoluene	2.8363	2.781	1.9
1,3,5-Trimethylbenzene	2.92171	2.962	1.4
tert-Butylbenzene	2.76956	2.787	0.6
1,2,4-Trimethylbenzene	2.87716	2.815	2.2
sec-Butylbenzene	3.46037	3.531	2.0
1,3-Dichlorobenzene	1.64115	1.593	2.9
1,4-Dichlorobenzene	1.61658	1.577	2.4
4-Isopropyltoluene	2.97892	3.092	3.8
n-Butylbenzene	2.65274	2.721	2.6
1,2-Dichlorobenzene	1.50754	1.496	0.8
1,2-Dibromo-3-chloropropane	0.15631	0.1665	6.5
1,2,4-Trichlorobenzene	1.05989	1.031	2.7
Hexachlorobutadiene	0.22437	0.2235	0.4
Naphthalene	2.44306	2.357	3.5
1,2,3-Trichlorobenzene	0.94185	0.9045	4.0
Xylene (total)	0.68806	0.6997	1.7
==========			
Dibromofluoromethane	0.23201	0.2278	1.8
Toluene d8	1.01514	0.9932	2.2
4-Bromofluorobenzene	1.06319	1.023	3.8
1,2-Dichloroethane-d4	0.05783	0.0602	4.1

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 CalibrationDate: 02/28/02 Time: 0642

Lab File ID: 50CCV32.D Init. Calib. Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF50	%D	
Dichlorodifluoromethane		0.25675	0.2713	5.7	
Chloromethane	#	0.33979	0.2988	12.1	#
Vinyl chloride	*	0.24605	0.2249	8.6	*
Bromomethane		0.1437	0.147	2.3	
Chloroethane		0.19531	0.188	3.7	
Trichlorofluoromethane		0.28315	0.3124	10.3	
1,1-Dichloroethene	*	0.43127	0.4661	8.1	*
Methylene chloride		0.27872	0.3182	14.2	
trans-1,2-Dichloroethene		0.45245	0.4632	2.4	
1,1-Dichloroethane	#	0.58654	0.6008	2.4	#
2,2-Dichloropropane		0.31618	0.3076	2.7	
cis-1,2-Dichloroethene		0.29854	0.298	0.2	
Bromochloromethane		0.14349	0.137	4.5	
Chloroform	*	0.52777	0.5344	1.3	*
1,1,1-Trichloroethane		0.43431	0.4419	1.7	
Carbon tetrachloride		0.34467	0.3537	2.6	
Benzene		1.2096	1.191	1.5	
1,2-Dichloroethane		0.4608	0.4741	2.9	
Trichloroethene		0.28721	0.2799	2.5	
1,2-Dichloropropane	*	0.34627	0.3495	0.9	*
Dibromomethane		0.16722	0.1722	3.0	
Bromodichloromethane		0.37639	0.3889	3.3	
Toluene	*	0.70516	0.6996	0.8	*
1,1,2-Trichloroethane		0.23891	0.25	4.6	
Tetrachloroethene		0.29491	0.2867	2.8	
1,3-Dichloropropane		0.6377	0.6561	2.9	
Dibromochloromethane		0.33112	0.3499	5.7	
1,2-Dibromoethane(EDB)		0.32076	0.329	2.6	
Chlorobenzene	#	1.05643	1.037	1.8	#
1,1,1,2-Tetrachloroethane		0.32672	0.3277	0.3	
Ethylbenzene	*	0.57045	0.5591	2.0	*
p,m-Xylene		0.70048	0.6884	1.7	
o-Xylene		1.5238	1.526	0.1	
Styrene		1.20722	1.227	1.6	
Bromoform	#	0.18442	0.2024	9.7	#
Isopropylbenzene (Cumene)		3.44056	3.348	2.7	

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: VMS03 CalibrationDate: 02/28/02 Time: 0642

Lab File ID: 50CCV32.D Init. Calib. Date: 02/25/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF50	%D
Bromobenzene	1.58149	1.49	5.8
1,1,2,2-Tetrachloroethane #	0.79512	0.8184	2.9 #
1,2,3-Trichloropropane	0.2477	0.2417	2.4
n-Propylbenzene	4.24924	4.156	2.2
2-Chlorotoluene	2.96783	2.915	1.8
4-Chlorotoluene	2.8363	2.636	7.1
1,3,5-Trimethylbenzene	2.92171	2.886	1.2
tert-Butylbenzene	2.76956	2.697	2.6
1,2,4-Trimethylbenzene	2.87716	2.773	3.6
sec-Butylbenzene	3.46037	3.396	1.9
1,3-Dichlorobenzene	1.64115	1.573	4.2
1,4-Dichlorobenzene	1.61658	1.545	4.4
4-Isopropyltoluene	2.97892	3.009	1.0
n-Butylbenzene	2.65274	2.673	0.8
1,2-Dichlorobenzene	1.50754	1.497	0.7
1,2-Dibromo-3-chloropropane	0.15631	0.1732	10.8
1,2,4-Trichlorobenzene	1.05989	1.048	1.1
Hexachlorobutadiene	0.22437	0.2277	1.5
Naphthalene	2.44306	2.462	0.8
1,2,3-Trichlorobenzene	0.94185	0.9225	2.1
Xylene (total)	0.68806	0.7019	2.0
==========			
Dibromofluoromethane	0.23201	0.2417	4.2
Toluene d8	1.01514	1.043	2.7
4-Bromofluorobenzene	1.06319	1.036	2.6
1,2-Dichloroethane-d4	0.05783	0.0608	5.1

HPLC PAH ORGANICS

METHOD 8310

140302 1512

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All acceptance criteria were met with the exception of:

MS- Naphthalene was recovered at 81.9%, which is above the acceptance criteria of (45-78%), and Acenaphthene was recovered at 111.4%, which is above the acceptance criteria of (52-86%).

SD- Naphthalene was recovered at 82.6%, which is above the acceptance criteria of (45-78%), and Acenaphthene was recovered at 123.9%, which is above the acceptance criteria of (52-86%). All relative percent difference criteria were met. No further action was taken.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

E. Internal standards:

All acceptance criteria were met. Sample SMQ04Q10221 required a dilution of one to five to eliminate possible matrix effects on the analysis. See Samples section for more information.

F. Samples:

Sample analysis preceded normally with the exception of sample SMQ04Q10221, which was analyzed at a one to one, and a one to two dilution where the internal standard was not recovered in the extract. The Analyst noted a heavy emulsion during the extraction process, which may have contributed to the internal standard not meeting criteria. The sample was analyzed at a one to five dilution, where there were positive values found of Anthracene and Benzo (g, h, i) perylene.

The following analytes were quantified by the VWD detector: Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Acenaphthene and Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 3-14-02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Method: **8310**

EPA Sample No	Lab Sample ID
SMW01Q10221	220211701
SMW02Q10221	220211702
SMW03Q10221	220211703
SMW04Q10221	220211704
SMW05Q10221	220211705
SMW06Q10221	220211706
SMW07Q10221	220211707
SMW10Q10221	220211708
SMW11Q10221	220211709
DUPQ10221	220211712
EQBQ10221	220211713

140302 1512

Sample Data

140302 1512

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211701
Lab File ID: 117-1.D
Sample wt/vol: 960
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/04/02
Time: 1605
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211702
Lab File ID: 117-2.D
Sample wt/vol: 948
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/04/02
Time: 1639
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211703

Lab File ID: 117-3.D

Sample wt/vol: 890

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 1

Date Extracted: 02/28/02

Level:(low/med) LOW

Date Analyzed: 03/04/02

Time: 1714

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211704
Lab File ID: 117-4D5.D
Sample wt/vol: 850
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/07/02
Time: 1615
PercentSolids: 0
decanted :
Dilution Factor: 5
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1.2	U
208-96-8	Acenaphthylene	1.2	U
90-12-0	1-Methylnaphthalene	1.2	U
91-57-6	2-Methylnaphthalene	1.2	U
83-32-9	Acenaphthene	1.2	U
86-73-7	Fluorene	1.2	U
85-01-8	Phenanthrene	1.2	U
120-12-7	Anthracene	1.9	
206-44-0	Fluoranthene	1.2	U
129-00-0	Pyrene	1.2	U
56-55-3	Benzo(a)anthracene	1.2	U
218-01-9	Chrysene	1.2	U
205-99-2	Benzo(b)fluoranthene	1.2	U
207-08-9	Benzo(k)fluoranthene	1.2	U
50-32-8	Benzo(a)pyrene	1.2	U
53-70-3	Dibenz(a,h)anthracene	1.2	U
191-24-2	Benzo(g,h,i)perylene	1.9	
193-39-5	Indeno(1,2,3-cd)pyrene	1.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211705
Lab File ID: 117-5.D
Sample wt/vol: 952
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/04/02
Time: 1857
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211706

Lab File ID: 117-6.D

Sample wt/vol: 970

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 1

Date Extracted: 02/28/02

Level:(low/med) LOW

Date Analyzed: 03/04/02

Time: 2041

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211707
Lab File ID: 117-7.D
Sample wt/vol: 950
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/04/02
Time: 2116
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211708
Lab File ID: 117-8.D
Sample wt/vol: 1000
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/10/02
Time: 1559
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211709
Lab File ID: 117-9.D
Sample wt/vol: 920
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 1
Date Extracted: 02/28/02
Level:(low/med) LOW
Date Analyzed: 03/04/02
Time: 2225
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	20.7	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	19.2	
91-57-6	2-Methylnaphthalene	11.9	
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211712

Lab File ID: 117-12.D

Sample wt/vol: 949

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 1

Date Extracted: 02/28/02

Level:(low/med) LOW

Date Analyzed: 03/05/02

Time: 0009

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211713

Lab File ID: 117-13.D

Sample wt/vol: 890

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 1

Date Extracted: 02/28/02

Level:(low/med) LOW

Date Analyzed: 03/05/02

Time: 0043

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

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1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0228ABLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 64079

Lab File ID: 0228AB.D

Sample wt/vol: 1000

Units: ML

Date Received: 02/28/02

Concentrated Extract Volume: 1

Date Extracted: 02/28/02

Level:(low/med) LOW

Date Analyzed: 03/04/02

Time: 1346

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

0228ABLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Lab File ID: 0228AB.D Lab Sample ID: 64079

Instrument ID: SLC01 Date Extracted: 02/28/02

Matrix: WATER Date Analyzed: 03/04/02

Level:(low/med) LOW Time Analyzed: 1346

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0228ALCS	64080	0228ALCS.D	03/04/02	1421
2	SMW01Q10221	220211701	117-1.D	03/04/02	1605
3	SMW02Q10221	220211702	117-2.D	03/04/02	1639
4	SMW03Q10221	220211703	117-3.D	03/04/02	1714
5	SMW05Q10221	220211705	117-5.D	03/04/02	1857
6	SMW06Q10221	220211706	117-6.D	03/04/02	2041
7	SMW07Q10221	220211707	117-7.D	03/04/02	2116
8	SMW11Q10221	220211709	117-9.D	03/04/02	2225
9	SMW11Q10221MS	220211710	117-10MS.D	03/04/02	2300
10	SMW11Q10221SD	220211711	117-11SD.D	03/04/02	2334
11	DUPQ10221	220211712	117-12.D	03/05/02	0009
12	EQBQ10221	220211713	117-13.D	03/05/02	0043
13	SMW04Q10221	220211704	117-4D5.D	03/07/02	1615
14	SMW10Q10221	220211708	117-8.D	03/10/02	1559

COMMENTS:

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Form IV

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2202117

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0228ABLK	69.5						0
0228ALCS	69.5						0
DUPQ10221	70.6						0
EQBQ10221	42.7						0
SMW01Q10221	68.7						0
SMW02Q10221	67.3						0
SMW03Q10221	84.4						0
SMW04Q10221	91.5						0
SMW05Q10221	68.6						0
SMW06Q10221	61.7						0
SMW07Q10221	82.4						0
SMW10Q10221	77.5						0
SMW11Q10221	63.1						0
SMW11Q10221MS	64.0						0
SMW11Q10221SD	68.3						0

Control Limits

S1 = p-Terphenyl-d14 39 - 107

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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8A

PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Lab File ID (Standard): 10STD.D Date Analyzed: 2/23/2002

Instrument ID: SLC01 Time Analyzed: 21:27

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	3617666		11.79						
	UPPER LIMIT	7235332		12.29						
	LOWER LIMIT	1808833		11.29						
	EPA SAMPLE NO.									
1	0228ABLK	3699649		11.82						
2	0228ALCS	3848315		11.81						
3	SMW01Q10221	3878408		11.79						
4	SMW02Q10221	4128066		11.81						
5	SMW03Q10221	3475546		11.80						
6	SMW05Q10221	4083719		11.81						
7	SMW06Q10221	4020210		11.81						
8	SMW07Q10221	3357132		11.81						
9	SMW11Q10221	3923918		11.81						
10	SMW11Q10221MS	3949540		11.80						
11	SMW11Q10221SD	3941569		11.81						
12	DUPQ10221	3605186		11.81						
13	EQBQ10221	4098758		11.81						
14	SMW04Q10221	3072444		11.80						
15	SMW10Q10221	3551712		11.80						

IS1 = Carbazole

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 02/23/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.98 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
1	STD16917	30std	02/23/02	1943	18.97			
2	STD16918	20std	02/23/02	2018	18.98			
3	STD16919	15std	02/23/02	2052	18.98			
4	STD16920	10std	02/23/02	2127	18.99			
5	STD16921	5std	02/23/02	2202	18.98			
6	STD16922	1std	02/23/02	2236	18.99			
7	STD16923	pt2std	02/23/02	2311	18.98			
8	CCV18102	SV3898	02/23/02	2345	18.98			
9	ZZZZZZ	ZZZZZZ	03/04/02	1208				
10	CCV18315	SV3898	03/04/02	1242	18.92			
11	0228ABLK	64079	03/04/02	1346	18.92			
12	0228ALCS	64080	03/04/02	1421	18.92			
13	ZZZZZZ	ZZZZZZ	03/04/02	1455				
14	ZZZZZZ	ZZZZZZ	03/04/02	1530				
15	SMW01Q10221	220211701	03/04/02	1605	18.91			
16	SMW02Q10221	220211702	03/04/02	1639	18.91			
17	SMW03Q10221	220211703	03/04/02	1714	18.92			
18	ZZZZZZ	ZZZZZZ	03/04/02	1748				
19	ZZZZZZ	ZZZZZZ	03/04/02	1823				
20	SMW05Q10221	220211705	03/04/02	1857	18.92			
21	CCV18326	SV3898	03/04/02	1932	18.92			
22	ZZZZZZ	ZZZZZZ	03/04/02	2007				
23	SMW06Q10221	220211706	03/04/02	2041	18.92			
24	SMW07Q10221	220211707	03/04/02	2116	18.92			
25	ZZZZZZ	ZZZZZZ	03/04/02	2150				
26	SMW11Q10221	220211709	03/04/02	2225	18.92			

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

140302 1512 FORM VIII

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PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 02/23/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.98 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
27	SMW11Q10221MS	220211710	03/04/02	2300	18.93			
28	SMW11Q10221SD	220211711	03/04/02	2334	18.92			
29	DUPQ10221	220211712	03/05/02	0009	18.92			
30	EQBQ10221	220211713	03/05/02	0043	18.92			
31	ZZZZZZ	ZZZZZZ	03/05/02	0118				
32	ZZZZZZ	ZZZZZZ	03/05/02	0153				
33	CCV18338	SV3898	03/05/02	0227	18.92			
34	ZZZZZZ	ZZZZZZ	03/05/02	0302				
35	ZZZZZZ	ZZZZZZ	03/06/02	0726				
36	ZZZZZZ	ZZZZZZ	03/06/02	0801				
37	ZZZZZZ	ZZZZZZ	03/06/02	0835				
38	ZZZZZZ	ZZZZZZ	03/06/02	0953				
39	ZZZZZZ	ZZZZZZ	03/06/02	1037				
40	ZZZZZZ	ZZZZZZ	03/06/02	1131				
41	ZZZZZZ	ZZZZZZ	03/06/02	1206				
42	ZZZZZZ	ZZZZZZ	03/06/02	1240				
43	ZZZZZZ	ZZZZZZ	03/06/02	1315				
44	ZZZZZZ	ZZZZZZ	03/06/02	1350				
45	ZZZZZZ	ZZZZZZ	03/06/02	1424				
46	ZZZZZZ	ZZZZZZ	03/06/02	1534				
47	ZZZZZZ	ZZZZZZ	03/06/02	1616				
48	ZZZZZZ	ZZZZZZ	03/06/02	1705				
49	ZZZZZZ	ZZZZZZ	03/06/02	1740				
50	ZZZZZZ	ZZZZZZ	03/06/02	1815				
51	ZZZZZZ	ZZZZZZ	03/06/02	1850				
52	ZZZZZZ	ZZZZZZ	03/06/02	1924				

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

140302 1512 FORM VIII

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 02/23/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.98 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
53	ZZZZZZ	ZZZZZZ	03/06/02	1959		
54	ZZZZZZ	ZZZZZZ	03/06/02	2033		
55	ZZZZZZ	ZZZZZZ	03/06/02	2108		
56	ZZZZZZ	ZZZZZZ	03/06/02	2143		
57	ZZZZZZ	ZZZZZZ	03/06/02	2217		
58	ZZZZZZ	ZZZZZZ	03/06/02	2252		
59	ZZZZZZ	ZZZZZZ	03/06/02	2326		
60	ZZZZZZ	ZZZZZZ	03/07/02	0001		
61	ZZZZZZ	ZZZZZZ	03/07/02	0036		
62	ZZZZZZ	ZZZZZZ	03/07/02	0110		
63	ZZZZZZ	ZZZZZZ	03/07/02	0145		
64	ZZZZZZ	ZZZZZZ	03/07/02	0219		
65	ZZZZZZ	ZZZZZZ	03/07/02	0254		
66	ZZZZZZ	ZZZZZZ	03/07/02	0329		
67	ZZZZZZ	ZZZZZZ	03/07/02	1116		
68	ZZZZZZ	ZZZZZZ	03/07/02	1151		
69	CCV17842	SV3898	03/07/02	1226	18.9	
70	SMW04Q10221	220211704	03/07/02	1615	18.91	
71	ZZZZZZ	ZZZZZZ	03/07/02	1650		
72	ZZZZZZ	ZZZZZZ	03/07/02	1724		
73	ZZZZZZ	ZZZZZZ	03/07/02	1759		
74	ZZZZZZ	ZZZZZZ	03/07/02	1834		
75	ZZZZZZ	ZZZZZZ	03/07/02	1908		
76	ZZZZZZ	ZZZZZZ	03/07/02	1943		
77	ZZZZZZ	ZZZZZZ	03/07/02	2017		
78	CCV17851	SV3898	03/07/02	2052	18.93	

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 02/23/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.98 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
79	CCV18340	SV3898	03/10/02	1450	18.9			
80	ZZZZZZ	ZZZZZZ	03/10/02	1524				
81	SMW10Q10221	220211708	03/10/02	1559	18.91			
82	ZZZZZZ	ZZZZZZ	03/10/02	1651				
83	CCV18344	SV3898	03/10/02	1735	18.91			

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

140302 1512 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0228ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.9	59.0	45 - 78
Acenaphthylene	10	6	60.0	50 - 91
1-Methylnaphthalene	10	6.5	65.0	48 - 92
2-Methylnaphthalene	10	6.2	62.0	52 - 88
Acenaphthene	10	5.9	59.0	52 - 86
Fluorene	10	6.7	67.0	51 - 92
Phenanthrene	10	6.9	69.0	52 - 98
Anthracene	10	6.9	69.0	44 - 105
Fluoranthene	10	7	70.0	58 - 99
Pyrene	10	7.5	75.0	56 - 102
Benzo(a)anthracene	10	7.1	71.0	59 - 103
Chrysene	10	7.1	71.0	58 - 104
Benzo(b)fluoranthene	10	7.2	72.0	53 - 108
Benzo(k)fluoranthene	10	7.1	71.0	52 - 107
Benzo(a)pyrene	10	7.2	72.0	56 - 101
Dibenz(a,h)anthracene	10	5.6	56.0	41 - 114
Benzo(g,h,i)perylene	10	6	60.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	6.7	67.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

140302 1512

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10.5	20.7	29.3	81.9 *	45 - 78
Acenaphthylene	10.5	0	8.4	80.0	50 - 91
1-Methylnaphthalene	10.5	19.2	26.6	70.5	48 - 92
2-Methylnaphthalene	10.5	11.9	18.6	63.8	52 - 88
Acenaphthene	10.5	0	11.7	111.4 *	52 - 86
Fluorene	10.5	0	6.8	64.8	51 - 92
Phenanthrene	10.5	0	7	66.7	52 - 98
Anthracene	10.5	0	6.9	65.7	44 - 105
Fluoranthene	10.5	0	7.2	68.6	58 - 99
Pyrene	10.5	0	7.4	70.5	56 - 102
Benzo(a)anthracene	10.5	0	6.8	64.8	59 - 103
Chrysene	10.5	0	6.7	63.8	58 - 104
Benzo(b)fluoranthene	10.5	0	6.4	61.0	53 - 108
Benzo(k)fluoranthene	10.5	0	6.8	64.8	52 - 107
Benzo(a)pyrene	10.5	0	6.5	61.9	56 - 101
Dibenz(a,h)anthracene	10.5	0	6	57.1	41 - 114
Benzo(g,h,i)perylene	10.5	0	6.1	58.1	41 - 109
Indeno(1,2,3-cd)pyrene	10.5	0	6.4	61.0	42 - 105

Spike Recovery: 2 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10.9	29.7	82.6 *	2.3	27	45 - 78
Acenaphthylene	10.9	9.5	87.2	8.8	34	50 - 91
1-Methylnaphthalene	10.9	28	80.7	1.5	29	48 - 92
2-Methylnaphthalene	10.9	19.6	70.6	1.3	34	52 - 88
Acenaphthene	10.9	13.5	123.9 *	11.1	37	52 - 86
Fluorene	10.9	7.7	70.6	8.5	28	51 - 92
Phenanthrene	10.9	7.7	70.6	6.4	32	52 - 98
Anthracene	10.9	7.4	67.9	3.7	34	44 - 105
Fluoranthene	10.9	7.9	72.5	6.3	28	58 - 99
Pyrene	10.9	8	73.4	5.2	30	56 - 102
Benzo(a)anthracene	10.9	7.3	67.0	4.4	28	59 - 103
Chrysene	10.9	7.3	67.0	5.9	21	58 - 104
Benzo(b)fluoranthene	10.9	7	64.2	6.4	21	53 - 108
Benzo(k)fluoranthene	10.9	7.4	67.9	5.1	20	52 - 107
Benzo(a)pyrene	10.9	7	64.2	4.4	22	56 - 101
Dibenz(a,h)anthracene	10.9	6.5	59.6	5.1	21	41 - 114
Benzo(g,h,i)perylene	10.9	6.8	62.4	7.5	21	41 - 109
Indeno(1,2,3-cd)pyrene	10.9	7	64.2	5.5	28	42 - 105

RPD: 0 out of 18 outside limits

Spike Recovery: 2 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

Standards Data

140302 1512

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 Calibration Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2311

LAB FILE ID: RRF0.2 =PT2STD.D RRF1 =1STD.D
RRF5 =5STD.D RRF10 =10STD.D RRF15 =15STD.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	0.015	0.014	0.014	0.014	0.014
Acenaphthylene	0.013	0.012	0.010	0.011	0.010
1-Methylnaphthalene	0.009	0.009	0.008	0.008	0.008
2-Methylnaphthalene	0.013	0.013	0.012	0.012	0.012
Acenaphthene	0.006	0.005	0.006	0.005	0.006
Fluorene	0.073	0.073	0.066	0.065	0.064
Phenanthrene	0.243	0.219	0.195	0.197	0.191
Anthracene	0.054	0.043	0.048	0.053	0.053
Fluoranthene	0.054	0.052	0.045	0.046	0.044
Pyrene	0.042	0.043	0.039	0.039	0.038
Benzo(a)anthracene	0.122	0.109	0.102	0.103	0.107
Chrysene	0.167	0.151	0.138	0.140	0.136
Benzo(b)fluoranthene	0.123	0.128	0.116	0.116	0.112
Benzo(k)fluoranthene	0.095	0.098	0.097	0.100	0.099
Benzo(a)pyrene	0.095	0.098	0.097	0.100	0.099
Dibenz(a,h)anthracene	0.025	0.026	0.023	0.024	0.023
Benzo(g,h,i)perylene	0.041	0.046	0.041	0.041	0.040
Indeno(1,2,3-cd)pyrene	0.124	0.127	0.118	0.120	0.117
==========					
p-Terphenyl-d14(SURR)	0.042	0.042	0.038	0.038	0.037

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 Calibration Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2311

LAB FILE ID: RRF20 =20STD.D RRF30 =30STD.D

COMPOUND	RRF20	RRF30			
Naphthalene	0.014	0.014			
Acenaphthylene	0.010	0.010			
1-Methylnaphthalene	0.008	0.008			
2-Methylnaphthalene	0.012	0.012			
Acenaphthene	0.005	0.006			
Fluorene	0.063	0.064			
Phenanthrene	0.188	0.193			
Anthracene	0.053	0.055			
Fluoranthene	0.043	0.044			
Pyrene	0.038	0.038			
Benzo(a)anthracene	0.101	0.100			
Chrysene	0.134	0.136			
Benzo(b)fluoranthene	0.111	0.112			
Benzo(k)fluoranthene	0.098	0.101			
Benzo(a)pyrene	0.098	0.101			
Dibenz(a,h)anthracene	0.023	0.023			
Benzo(g,h,i)perylene	0.040	0.041			
Indeno(1,2,3-cd)pyrene	0.116	0.118			
==========					
p-Terphenyl-d14(SURR)	0.037	0.037			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 Calibration Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2311

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	AVRG		0.0140323377	2.5
Acenaphthylene	AVRG		0.0109893268	9.5
1-Methylnaphthalene	AVRG		0.0084096128	3
2-Methylnaphthalene	AVRG		0.0122610105	4.5
Acenaphthene	AVRG		0.0057216793	8.6
Fluorene	AVRG		0.0667300837	6.1
Phenanthrene	AVRG		0.203714133	9.8
Anthracene	AVRG		0.0511675525	8.5
Fluoranthene	AVRG		0.0468616283	9
Pyrene	AVRG		0.039640428	4.4
Benzo(a)anthracene	AVRG		0.1063830786	7.3
Chrysene	AVRG		0.1430305186	8.4
Benzo(b)fluoranthene	AVRG		0.1170370798	5.4
Benzo(k)fluoranthene	AVRG		0.0982520813	1.8
Benzo(a)pyrene	AVRG		0.0982520813	1.8
Dibenz(a,h)anthracene	AVRG		0.0239850448	5
Benzo(g,h,i)perylene	AVRG		0.0414196157	5
Indeno(1,2,3-cd)pyrene	AVRG		0.1199872507	3.5
==========				
p-Terphenyl-d14(SURR)	AVRG		0.0388109748	5.7

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 Calibration Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2311

LAB FILE ID: RT1: PT2STD.D RT2: 1STD.D
RT3: 5STD.D RT4: 10STD.D RT5: 15STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	12.690	12.680	12.683	12.693	12.690			
Acenaphthylene	13.787	13.777	13.777	13.783	13.783			
1-Methylnaphthalene	14.327	14.333	14.333	14.340	14.337			
2-Methylnaphthalene	14.640	14.640	14.640	14.647	14.643			
Acenaphthene	14.947	14.933	14.940	14.940	14.940			
Fluorene	15.280	15.280	15.280	15.283	15.283			
Phenanthrene	16.030	16.027	16.027	16.030	16.030			
Anthracene	16.804	16.794	16.795	16.795	16.795			
Fluoranthene	17.490	17.487	17.487	17.487	17.483			
Pyrene	18.000	17.997	18.000	18.000	17.997			
Benzo(a)anthracene	19.723	19.727	19.723	19.727	19.720			
Chrysene	20.137	20.137	20.133	20.133	20.130			
Benzo(b)fluoranthene	21.470	21.473	21.470	21.470	21.467			
Benzo(k)fluoranthene	22.703	22.703	22.697	22.693	22.693			
Benzo(a)pyrene	22.703	22.703	22.697	22.693	22.693			
Dibenz(a,h)anthracene	23.727	23.737	23.723	23.717	23.710			
Benzo(g,h,i)perylene	24.370	24.373	24.370	24.360	24.357			
Indeno(1,2,3-cd)pyrene	24.913	24.917	24.907	24.897	24.890			
==========								
p-Terphenyl-d14(SURR)	18.983	18.987	18.983	18.987	18.980			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 Calibration Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2311

LAB FILE ID: RT6: 20STD.D RT7: 30STD.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	12.687	12.697				12.688	12.457	12.917
Acenaphthylene	13.777	13.783				13.780	13.547	14.007
1-Methylnaphthalene	14.333	14.340				14.334	14.100	14.560
2-Methylnaphthalene	14.640	14.643				14.641	14.407	14.867
Acenaphthene	14.937	14.943				14.939	14.703	15.163
Fluorene	15.280	15.283				15.280	15.047	15.507
Phenanthrene	16.027	16.030				16.027	15.790	16.250
Anthracene	16.793	16.793				16.794	16.554	17.014
Fluoranthene	17.483	17.483				17.485	17.247	17.707
Pyrene	17.997	17.993				17.996	17.757	18.217
Benzo(a)anthracene	19.720	19.713				19.720	19.480	19.940
Chrysene	20.123	20.117				20.128	19.883	20.343
Benzo(b)fluoranthene	21.457	21.447				21.462	21.217	21.677
Benzo(k)fluoranthene	22.680	22.663				22.687	22.437	22.897
Benzo(a)pyrene	22.680	22.663				22.687	22.437	22.897
Dibenz(a,h)anthracene	23.697	23.677				23.708	23.447	23.907
Benzo(g,h,i)perylene	24.347	24.327				24.352	24.090	24.550
Indeno(1,2,3-cd)pyrene	24.877	24.853				24.887	24.613	25.073
==========								
p-Terphenyl-d14(SURR)	18.980	18.973				18.980	18.740	19.200

7SSC

PAH ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 02/23/02 Time: 2345

Lab File ID: CCVSEC.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0133	5.2
Acenaphthylene	0.01099	0.0099	9.9
1-Methylnaphthalene	0.00841	0.0074	12.0
2-Methylnaphthalene	0.01226	0.0115	6.2
Acenaphthene	0.00572	0.005	12.6
Fluorene	0.06673	0.0622	6.8
Phenanthrene	0.20371	0.1861	8.6
Anthracene	0.05117	0.051	0.3
Fluoranthene	0.04686	0.0427	8.9
Pyrene	0.03964	0.0375	5.4
Benzo(a)anthracene	0.10638	0.0977	8.2
Chrysene	0.14303	0.1324	7.4
Benzo(b)fluoranthene	0.11704	0.11	6.0
Benzo(k)fluoranthene	0.09825	0.093	5.3
Benzo(a)pyrene	0.09825	0.093	5.3
Dibenz(a,h)anthracene	0.02398	0.0223	7.0
Benzo(g,h,i)perylene	0.04142	0.039	5.8
Indeno(1,2,3-cd)pyrene	0.11999	0.1131	5.7
==========			
p-Terphenyl-d14	0.03881	0.0385	0.8

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7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/04/02 Time: 1242

Lab File ID: CCV1A.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0132	5.9
Acenaphthylene	0.01099	0.0095	13.6
1-Methylnaphthalene	0.00841	0.0074	12.0
2-Methylnaphthalene	0.01226	0.0111	9.5
Acenaphthene	0.00572	0.0049	14.3
Fluorene	0.06673	0.0624	6.5
Phenanthrene	0.20371	0.1923	5.6
Anthracene	0.05117	0.0459	10.3
Fluoranthene	0.04686	0.0439	6.3
Pyrene	0.03964	0.0384	3.1
Benzo(a)anthracene	0.10638	0.0943	11.4
Chrysene	0.14303	0.1331	6.9
Benzo(b)fluoranthene	0.11704	0.1124	4.0
Benzo(k)fluoranthene	0.09825	0.0925	5.9
Benzo(a)pyrene	0.09825	0.0969	1.4
Dibenz(a,h)anthracene	0.02398	0.0236	1.6
Benzo(g,h,i)perylene	0.04142	0.0411	0.8
Indeno(1,2,3-cd)pyrene	0.11999	0.1179	1.7
==========			
p-Terphenyl-d14	0.03881	0.0397	2.3

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/04/02 Time: 1932

Lab File ID: CCV2B.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0145	3.3
Acenaphthylene	0.01099	0.0106	3.5
1-Methylnaphthalene	0.00841	0.0078	7.3
2-Methylnaphthalene	0.01226	0.0122	0.5
Acenaphthene	0.00572	0.0054	5.6
Fluorene	0.06673	0.0682	2.2
Phenanthrene	0.20371	0.2101	3.1
Anthracene	0.05117	0.0527	3.0
Fluoranthene	0.04686	0.0477	1.8
Pyrene	0.03964	0.0418	5.4
Benzo(a)anthracene	0.10638	0.1077	1.2
Chrysene	0.14303	0.1433	0.2
Benzo(b)fluoranthene	0.11704	0.1214	3.7
Benzo(k)fluoranthene	0.09825	0.103	4.8
Benzo(a)pyrene	0.09825	0.1027	4.5
Dibenz(a,h)anthracene	0.02398	0.0248	3.4
Benzo(g,h,i)perylene	0.04142	0.0434	4.8
Indeno(1,2,3-cd)pyrene	0.11999	0.129	7.5
==========			
p-Terphenyl-d14	0.03881	0.0394	1.5

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/05/02 Time: 0227

Lab File ID: CCV4B.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0144	2.6
Acenaphthylene	0.01099	0.0111	1.0
1-Methylnaphthalene	0.00841	0.0082	2.5
2-Methylnaphthalene	0.01226	0.0128	4.4
Acenaphthene	0.00572	0.0055	3.8
Fluorene	0.06673	0.0691	3.6
Phenanthrene	0.20371	0.2121	4.1
Anthracene	0.05117	0.055	7.5
Fluoranthene	0.04686	0.0482	2.9
Pyrene	0.03964	0.0411	3.7
Benzo(a)anthracene	0.10638	0.1091	2.6
Chrysene	0.14303	0.1451	1.4
Benzo(b)fluoranthene	0.11704	0.1234	5.4
Benzo(k)fluoranthene	0.09825	0.1047	6.6
Benzo(a)pyrene	0.09825	0.1035	5.3
Dibenz(a,h)anthracene	0.02398	0.0248	3.4
Benzo(g,h,i)perylene	0.04142	0.0437	5.5
Indeno(1,2,3-cd)pyrene	0.11999	0.1302	8.5
==========			
p-Terphenyl-d14	0.03881	0.0398	2.6

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/07/02 Time: 1226

Lab File ID: CCV7B.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0135	3.8
Acenaphthylene	0.01099	0.0101	8.1
1-Methylnaphthalene	0.00841	0.0075	10.8
2-Methylnaphthalene	0.01226	0.0118	3.8
Acenaphthene	0.00572	0.005	12.6
Fluorene	0.06673	0.0646	3.2
Phenanthrene	0.20371	0.2137	4.9
Anthracene	0.05117	0.0495	3.3
Fluoranthene	0.04686	0.0478	2.0
Pyrene	0.03964	0.0399	0.7
Benzo(a)anthracene	0.10638	0.1039	2.3
Chrysene	0.14303	0.1306	8.7
Benzo(b)fluoranthene	0.11704	0.1167	0.3
Benzo(k)fluoranthene	0.09825	0.1077	9.6
Benzo(a)pyrene	0.09825	0.0998	1.6
Dibenz(a,h)anthracene	0.02398	0.0231	3.7
Benzo(g,h,i)perylene	0.04142	0.0418	0.9
Indeno(1,2,3-cd)pyrene	0.11999	0.1345	12.1
==========			
p-Terphenyl-d14	0.03881	0.0367	5.4

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/07/02 Time: 2052

Lab File ID: CCV8B.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0143	1.9
Acenaphthylene	0.01099	0.0104	5.4
1-Methylnaphthalene	0.00841	0.0079	6.1
2-Methylnaphthalene	0.01226	0.0123	0.3
Acenaphthene	0.00572	0.0053	7.3
Fluorene	0.06673	0.0671	0.6
Phenanthrene	0.20371	0.2151	5.6
Anthracene	0.05117	0.0509	0.5
Fluoranthene	0.04686	0.0494	5.4
Pyrene	0.03964	0.0409	3.2
Benzo(a)anthracene	0.10638	0.107	0.6
Chrysene	0.14303	0.1375	3.9
Benzo(b)fluoranthene	0.11704	0.12	2.5
Benzo(k)fluoranthene	0.09825	0.107	8.9
Benzo(a)pyrene	0.09825	0.1017	3.5
Dibenz(a,h)anthracene	0.02398	0.0241	0.5
Benzo(g,h,i)perylene	0.04142	0.043	3.8
Indeno(1,2,3-cd)pyrene	0.11999	0.1334	11.2
==========			
p-Terphenyl-d14	0.03881	0.0386	0.5

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/10/02 Time: 1450

Lab File ID: CCV1A.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0129	8.1
Acenaphthylene	0.01099	0.0097	11.7
1-Methylnaphthalene	0.00841	0.0072	14.4
2-Methylnaphthalene	0.01226	0.0114	7.0
Acenaphthene	0.00572	0.005	12.6
Fluorene	0.06673	0.0611	8.4
Phenanthrene	0.20371	0.201	1.3
Anthracene	0.05117	0.055	7.5
Fluoranthene	0.04686	0.0445	5.0
Pyrene	0.03964	0.038	4.1
Benzo(a)anthracene	0.10638	0.0978	8.1
Chrysene	0.14303	0.1245	13.0
Benzo(b)fluoranthene	0.11704	0.1076	8.1
Benzo(k)fluoranthene	0.09825	0.0966	1.7
Benzo(a)pyrene	0.09825	0.0966	1.7
Dibenz(a,h)anthracene	0.02398	0.0227	5.3
Benzo(g,h,i)perylene	0.04142	0.0389	6.1
Indeno(1,2,3-cd)pyrene	0.11999	0.1261	5.1
==========			
p-Terphenyl-d14	0.03881	0.0352	9.3

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SLC01 CalibrationDate: 03/10/02 Time: 1735

Lab File ID: CCV2B.D Init. Calib. Date: 02/23/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01403	0.0128	8.8
Acenaphthylene	0.01099	0.0098	10.8
1-Methylnaphthalene	0.00841	0.0073	13.2
2-Methylnaphthalene	0.01226	0.0114	7.0
Acenaphthene	0.00572	0.0049	14.3
Fluorene	0.06673	0.0621	6.9
Phenanthrene	0.20371	0.2031	0.3
Anthracene	0.05117	0.0527	3.0
Fluoranthene	0.04686	0.0454	3.1
Pyrene	0.03964	0.0381	3.9
Benzo(a)anthracene	0.10638	0.0998	6.2
Chrysene	0.14303	0.1266	11.5
Benzo(b)fluoranthene	0.11704	0.1119	4.4
Benzo(k)fluoranthene	0.09825	0.0968	1.5
Benzo(a)pyrene	0.09825	0.0968	1.5
Dibenz(a,h)anthracene	0.02398	0.0223	7.0
Benzo(g,h,i)perylene	0.04142	0.0405	2.2
Indeno(1,2,3-cd)pyrene	0.11999	0.1265	5.4
==========			
p-Terphenyl-d14	0.03881	0.0361	7.0

GC FL-PRO ORGANICS

METHOD FL-PRO

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CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met with the exception of O-Terphenyl, which was below acceptable criteria for samples SMW11Q10221, SMW11Q10221MS, and SMW11Q10221SD. Since the other surrogate and all other criteria were met, no further action was taken. Upon review of the data, it is possible that matrix interference could cause the surrogates to be below acceptable criteria.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

This method does not require the use of internal standards.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202117

F. Samples:

Sample analysis proceeded normally. Samples SMW11Q10221, SMW11Q10221MS, and SMW11Q10221SD were analyzed at a one to two dilution due to over-calibration hits of TPH. Since this is the only analyte reported, only the dilutions of the samples are reported. Project specific RLs were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 3-13-02

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Method: **FL-PRO**

EPA Sample No	Lab Sample ID
SMW01Q10221	220211701
SMW02Q10221	220211702
SMW03Q10221	220211703
SMW04Q10221	220211704
SMW05Q10221	220211705
SMW06Q10221	220211706
SMW07Q10221	220211707
SMW10Q10221	220211708
SMW11Q10221	220211709
DUPQ10221	220211712
EQBQ10221	220211713

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Sample Data

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Matrix: WATER
Lab Sample ID: 220211701
Lab File ID: 117-1.D
Sample wt/vol: 892
Units: ML
Date Received: 02/27/02
Concentrated Extract Volume: 2
Date Extracted: 03/01/02
Level:(low/med) LOW
Date Analyzed: 03/11/02
Time: 1835
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column(1): RTX-5
ID: 0.53 (mm)
CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211702

Lab File ID: 117-2.D

Sample wt/vol: 883

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 1909

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.23	U

140302 1512

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211703

Lab File ID: 117-3.D

Sample wt/vol: 890

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 1943

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211704

Lab File ID: 117-4.D

Sample wt/vol: 920

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 2017

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.64	

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211705

Lab File ID: 117-5.D

Sample wt/vol: 925

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 2051

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211706

Lab File ID: 117-6.D

Sample wt/vol: 951

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 2126

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211707

Lab File ID: 117-7.D

Sample wt/vol: 919

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 2308

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211708

Lab File ID: 117-8.D

Sample wt/vol: 970

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 2342

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211709

Lab File ID: 117-9D2.D

Sample wt/vol: 918

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/12/02

Time: 0017

PercentSolids: 0

decanted :

Dilution Factor: 2

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	6.2	

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211712

Lab File ID: 117-12.D

Sample wt/vol: 973

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/12/02

Time: 0200

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.2	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 220211713

Lab File ID: 117-13.D

Sample wt/vol: 855

Units: ML

Date Received: 02/27/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/12/02

Time: 0234

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.23	U

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Form I

QC Summary

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

301WBLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202117

Matrix: WATER

Lab Sample ID: 64174

Lab File ID: 301WBLK.D

Sample wt/vol: 1000

Units: ML

Date Received: 03/01/02

Concentrated Extract Volume: 2

Date Extracted: 03/01/02

Level:(low/med) LOW

Date Analyzed: 03/11/02

Time: 1618

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.2	U

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Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 301WBLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202117
Lab File ID: 301WBLK.D
Lab Sample ID: 64174
Instrument ID: SFID02
Date Extracted: 03/01/02
Matrix: WATER
Date Analyzed: 03/11/02
Level:(low/med) LOW
Time Analyzed: 1618

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	301WLCS	64175	301WLCS.D	03/11/02	1652
2	SMW01Q10221	220211701	117-1.D	03/11/02	1835
3	SMW02Q10221	220211702	117-2.D	03/11/02	1909
4	SMW03Q10221	220211703	117-3.D	03/11/02	1943
5	SMW04Q10221	220211704	117-4.D	03/11/02	2017
6	SMW05Q10221	220211705	117-5.D	03/11/02	2051
7	SMW06Q10221	220211706	117-6.D	03/11/02	2126
8	SMW07Q10221	220211707	117-7.D	03/11/02	2308
9	SMW10Q10221	220211708	117-8.D	03/11/02	2342
10	SMW11Q10221	220211709	117-9D2.D	03/12/02	0017
11	SMW11Q10221MS	220211710	117-10D2.D	03/12/02	0050
12	SMW11Q10221SD	220211711	117-11D2.D	03/12/02	0126
13	DUPQ10221	220211712	117-12.D	03/12/02	0200
14	EQBQ10221	220211713	117-13.D	03/12/02	0234

COMMENTS:

2A

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2202117

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
301WBLK	94.0	110.0					0
301WLCS	100.0	90.0					0
DUPQ10221	88.0	93.5					0
EQBQ10221	91.7	88.6					0
SMW01Q10221	100.0	97.0					0
SMW02Q10221	90.9	91.2					0
SMW03Q10221	82.7	88.1					0
SMW04Q10221	89.1	96.9					0
SMW05Q10221	85.5	89.2					0
SMW06Q10221	89.0	92.1					0
SMW07Q10221	85.5	90.8					0
SMW10Q10221	88.0	90.3					0
SMW11Q10221	72.7 D	72.3					0
SMW11Q10221MS	68.2 D	84.6					0
SMW11Q10221SD	78.0 D	81.0					0

Control Limits

S1	=	o-Terphenyl Surrogate	82	-	142
S2	=	C39 Surrogate	42	-	193

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

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FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 03/10/02

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.74 S2 : 10.45

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD18427	SV4331	03/10/02	1554	4.76	10.51
2	STD18428	SV4332	03/10/02	1628	4.76	10.54
3	STD18429	SV4333	03/10/02	1702	4.73	10.43
4	STD18430	SV4334	03/10/02	1735	4.72	10.36
5	STD18431	SV4335	03/10/02	1809	4.71	10.37
6	STD18432	SV4336	03/10/02	1843	4.73	10.43
7	STD18433	SV4337	03/10/02	1917	4.72	10.38
8	SSC18434	SV4338	03/10/02	1952	4.72	10.38
9	ZZZZZZ	ZZZZZZ	03/11/02	1509		
10	CCV18546	SV4345B	03/11/02	1544	4.76	10.53
11	301WBLK	64174	03/11/02	1618	4.76	10.53
12	301WLCS	64175	03/11/02	1652	4.75	10.47
13	ZZZZZZ	ZZZZZZ	03/11/02	1726		
14	ZZZZZZ	ZZZZZZ	03/11/02	1801		
15	SMW01Q10221	220211701	03/11/02	1835	4.75	10.49
16	SMW02Q10221	220211702	03/11/02	1909	4.74	10.47
17	SMW03Q10221	220211703	03/11/02	1943	4.75	10.5
18	SMW04Q10221	220211704	03/11/02	2017	4.75	10.45
19	SMW05Q10221	220211705	03/11/02	2051	4.73	10.43
20	SMW06Q10221	220211706	03/11/02	2126	4.72	10.4
21	CCV18557	SV4345B	03/11/02	2200	4.71	10.31
22	ZZZZZZ	ZZZZZZ	03/11/02	2234		
23	SMW07Q10221	220211707	03/11/02	2308	4.73	10.39
24	SMW10Q10221	220211708	03/11/02	2342	4.72	10.38
25	SMW11Q10221	220211709	03/12/02	0017	4.73	10.38
26	SMW11Q10221MS	220211710	03/12/02	0050	4.73	10.35

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)

S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 03/10/02

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.74 S2 : 10.45

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	SMW11Q10221SD	220211711	03/12/02	0126	4.73	10.41
28	DUPQ10221	220211712	03/12/02	0200	4.72	10.36
29	EQBQ10221	220211713	03/12/02	0234	4.73	10.41
30	CCV18566	SV4345B	03/12/02	0336	4.71	10.38
31	ZZZZZZ	ZZZZZZ	03/12/02	0411		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

301WLCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3.4	100.0	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

140302 1512

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q10221MS

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.7	6.2	9.7	94.6	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

140302 1512

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q10221SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.6	9.6	94.4	0.8	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

140302 1512

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 Calibration Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1917

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	71732058.824	19705064.706	9174202.353	7768375.882	7678025.098
==========					
o-Terphenyl Surrogate(SURR)	5572520.000	5604120.000	6029860.000	6043380.000	5869420.000
C39 Surrogate(SURR)	7602990.000	7838760.000	7953543.333	7610436.667	7299146.667

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 Calibration Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1917

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	6860124.510	6647811.176			
==========					
o-Terphenyl Surrogate(SURR)	6254740.000	6039680.000			
C39 Surrogate(SURR)	7692666.667	7672110.000			

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 Calibration Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1917

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
TPH	LINR	-0.290485613	1.542928E-07	0.99686
==========				
o-Terphenyl Surrogate(SURR)	AVRG		5916245.7143	4.2
C39 Surrogate(SURR)	AVRG		7667093.3333	2.7

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 Calibration Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1917

LAB FILE ID: RT1: CAL1.D RT2: CAL2.D
RT3: CAL3.D RT4: CAL4.D RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.775	6.775	6.775	6.775	6.775			
==========								
o-Terphenyl Surrogate(SURR)	4.723	4.730	4.713	4.723	4.733			
C39 Surrogate(SURR)	10.380	10.427	10.373	10.363	10.427			

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 Calibration Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1917

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
TPH	6.775	6.775				6.775	1.683	11.867
==========								
o-Terphenyl Surrogate(SURR)	4.763	4.760				4.741	4.707	4.847
C39 Surrogate(SURR)	10.537	10.507				10.454	10.293	10.893

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 CalibrationDate: 03/11/02 Time: 1544

Lab File ID: CCV1.D Init. Calib. Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.32	2.55	LINR	9.0	25.0
==========					
C39 Surrogate	0.26	0.3	AVRG	13.3	25.0
o-Terphenyl Surrogate	0.0494	0.05	AVRG	1.2	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 CalibrationDate: 03/11/02 Time: 2200

Lab File ID: CCV2.D Init. Calib. Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.26	2.55	LINR	11.4	25.0
==========					
C39 Surrogate	0.266	0.3	AVRG	11.3	25.0
o-Terphenyl Surrogate	0.0464	0.05	AVRG	7.2	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 CalibrationDate: 03/12/02 Time: 0336

Lab File ID: CCV3.D Init. Calib. Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.77	2.55	LINR	8.6	25.0
==========					
o-Terphenyl Surrogate	0.0579	0.05	AVRG	15.8	25.0
C39 Surrogate	0.323	0.3	AVRG	7.7	25.0

7SSC

FL-PRO ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID: SFID02 CalibrationDate: 03/10/02 Time: 1952

Lab File ID: SECCCV.D Init. Calib. Date: 03/10/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
TPH	2.78	2.55	LINR	9.0	25.0
==========					
C39 Surrogate	0.307	0.3	AVRG	2.3	25.0
o-Terphenyl Surrogate	0.0549	0.05	AVRG	9.8	25.0

Inorganics

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Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P ICP
A Flame AA
F Furnace AA
CV Manual Cold Vapor AA
TC Total Organic Carbon
AS Semi-Automated Spectrophotometric
CA Midi-Distillation Spectrophotometric
T Titrimetric
C Manual Spectrophotometric
GR Gravimetric
NR Analyte was not required by your lab

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Inorganic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for inorganic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

METALS DATA PACKAGE
TOTALS

140302 1512

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2202117

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

Analyses were performed according to PEL Laboratory's Standard Operating Procedures and EPA Method 6010B for ICP metals.

IV. PREPARATION

Water samples were prepared according to PEL Laboratory's Standard Operating Procedures and EPA Method 3010A for ICP.

V. ANALYSIS SUMMARY

A. **Calibration:** All quality control criteria were met.

B. **Blanks:** All calibration and preparation blank quality control criteria were met. No further action required

C. **Spikes:** All percent recovery quality control criteria were met. SMW11Q10221 was the native sample.

D. **Spike Duplicates:** All percent difference quality control criteria were met.

E. **Samples:** All sample analysis proceeded normally.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

G. **Laboratory Control Samples :** All percent recovery quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2202117

H. Serial Dilution: All percent difference quality control criteria were met. The native sample from the spikes was referenced.

I. Post Digestion Spike: All percent recovery quality control criteria were met The native sample from the spikes was referenced.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: Jason [illegible] DATE: 3/7/2

Section Leader or designee

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2202117

SOW No.:

EPA Sample No	Lab Sample ID
SMW01Q10221	220211701
SMW02Q10221	220211702
SMW03Q10221	220211703
SMW04Q10221	220211704
SMW05Q10221	220211705
SMW06Q10221	220211706
SMW07Q10221	220211707
SMW10Q10221	220211708
SMW11Q10221	220211709
DUPQ10221	220211712
EQBQ10221	220211713

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Jason Reinhardt

Date: 3-14-02 Title: Metals Section Leader

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Sample Data

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211701

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211702

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

140302 1512

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW03Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211703

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	22.2			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

140302 1512

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211704

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211705

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211706

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211707

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	3.8	B		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211708

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211709

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211712

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10221

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Lab Sample ID: 220211713

Level:(low/med) LOW Date Received: 2/27/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

140302 1512

QC Summary

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Initial Calibration Source: MET-20904

Continuing Calibration Source: MET-20401

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	386.126	96.5	500	486.647	97.3	514.938	103.0	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Initial Calibration Source: MET-20904

Continuing Calibration Source: MET-20401

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	388.573	97.1	500	503.668	100.7	514.972	103.0	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

140302 1512

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Initial Calibration Source:

Continuing Calibration Source: MET-20401

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	522.234	104.4	520.674	104.1	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

140302 1512

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Initial Calibration Source:

Continuing Calibration Source: MET-20401

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	513.576	102.7			P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

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BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Preparation Blank Matrix (water/soil): 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
Lead	5	U	5	U	5	U			5	U	P

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BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (UG/L)	C	Continuing Calibration Blank (UG/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead	5	U	5	U	5	U	5	U			P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (UG/L)	C	Continuing Calibration Blank (UG/L) 7	C	8	C	9	C	Prepa-ration Blank	C	M
Lead			5	U	5	U					P

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

ICP ID#: ICAP ICSA Source: MET-20901

ICSAB Source: MET-20903

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		42.4	84.9			

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

ICP ID#: ICAP ICSA Source: MET-20901

ICSAB Source: MET-20903

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		47.4	94.9			

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q10221MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	475		5	U	500	95.0		P

Comments:

140302 1512

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q10221SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	483		5	U	500	96.6		P

Comments:

140302 1512

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q10221A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	474		5.00	U	500	94.8		P

Comments:

140302 1512

U.S. EPA - CLP

6

DUPLICATES

EPA Sample No.

SMW11Q10221SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	475		483		1.8		P

Comments:

140302 1512

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

EPA Sample No.

63936LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Solid LCS Source:

Aqueous LCS Source: MET-15503, MET-15502

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	487	97.4				-	

140302 1512

U.S. EPA - CLP

9

ICP SERIAL DILUTIONS

EPA Sample No.

SMW11Q10221L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	5.00	U	25	U			P

Comments:

140302 1512

U.S. EPA - CLP

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

ICP ID Number : ICAP Date: 10/1/2001

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		5	2	P

Comments:

140302 1512

U.S. EPA - CLP

11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.: 2202117

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length	Interelement Correction Factors for:				
		Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.000023	-0.000014		0.000055	

Comments:

140302 1512

U.S. EPA - CLP

11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.:

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length		Interelement Correction Factors for:				
			Mn	Mo	Sb	V	
Lead	220.3			-0.000814			

Comments:

140302 1512

U.S. EPA - CLP

12

ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

ICP ID NUMBER ICAP DATE : 1/26/2002

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

140302 1512

U.S. EPA - CLP

13

PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
63935BLK	27 Feb 02		50
63936LCS	27 Feb 02		50
DUPQ10221	27 Feb 02		50
EQBQ10221	27 Feb 02		50
SMW01Q10221	27 Feb 02		50
SMW02Q10221	27 Feb 02		50
SMW03Q10221	27 Feb 02		50
SMW04Q10221	27 Feb 02		50
SMW05Q10221	27 Feb 02		50
SMW06Q10221	27 Feb 02		50
SMW07Q10221	27 Feb 02		50
SMW10Q10221	27 Feb 02		50
SMW11Q10221	27 Feb 02		50
SMW11Q10221MS	27 Feb 02		50
SMW11Q10221SD	27 Feb 02		50

140302 1512

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID Number : ICAP Method : P

Start Date : 3/1/2002 End Date : 3/1/2002

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
STD1-B	1	21:44																					X								
STD3	1	21:49																					X								
STD2	1	21:54																													
ICV	1	21:58																					X								
ICB	1	22:10																					X								
ZZZZZZ	1	22:16																													
ZZZZZZ	1	22:21																													
ICSA	1	22:29																					X								
ICSAB	1	22:34																					X								
CCV	1	22:39																					X								
CCB	1	22:45																					X								
63935BLK	1	22:50																					X								
63936LCS	1	22:55																					X								
SMW11Q10221	1	23:01																					X								
SMW11Q10221A	1	23:06																					X								
SMW11Q10221MS	1	23:11																					X								
SMW11Q10221SD	1	23:17																					X								
SMW11Q10221L	5	23:22																					X								
DUPQ10221	1	23:28																					X								
EQBQ10221	1	23:33																					X								
SMW01Q10221	1	23:38																					X								
CCV	1	23:44																					X								
CCB	1	23:49																					X								

140302 1512

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID Number : ICAP Method : P

Start Date : 3/4/2002 End Date : 3/4/2002

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
STD1-B	1	10:25																					X								
STD3	1	10:30																					X								
STD2	1	10:35																													
ICV	1	10:40																					X								
ICB	1	10:45																					X								
ZZZZZZ	1	10:50																													
ZZZZZZ	1	10:56																													
ZZZZZZ	1	11:14																													
ICSA	1	11:22																					X								
ICSAB	1	11:27																					X								
CCV	1	11:34																					X								
CCB	1	11:40																					X								
SMW02Q10221	1	11:45																					X								
SMW03Q10221	1	11:51																					X								
SMW04Q10221	1	11:56																					X								
SMW05Q10221	1	12:01																					X								
SMW06Q10221	1	12:07																					X								
SMW07Q10221	1	12:12																					X								
SMW10Q10221	1	12:17																					X								
ZZZZZZ	1	12:23																													
ZZZZZZ	1	12:28																													
ZZZZZZ	1	12:34																													
ZZZZZZ	1	12:39																													
CCV	1	12:46																					X								
CCB	1	12:51																					X								
ZZZZZZ	1	12:56																													
ZZZZZZ	1	13:02																													
ZZZZZZ	1	13:07																													
ZZZZZZ	1	13:13																													
ZZZZZZ	1	13:18																													
ZZZZZZ	1	13:23																													
ZZZZZZ	1	13:29																													
ZZZZZZ	1	13:34																													
ZZZZZZ	1	13:39																													
ZZZZZZ	1	13:45																													
CCV	1	13:50																					X								

140302 1512

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202117

Instrument ID Number : ICAP Method : P

Start Date : 3/4/2002 End Date : 3/4/2002

EPA Sample No.	D/F	Time	%R	Analytes																								
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
CCB	1	13:56																					X							
ZZZZZZ	1	14:01																												
ZZZZZZ	5	14:06																												
ZZZZZZ	1	14:12																												
ZZZZZZ	1	14:17																												
ZZZZZZ	1	14:22																												
ZZZZZZ	1	14:28																												
ZZZZZZ	1	14:33																												
ZZZZZZ	1	14:39																												
ZZZZZZ	1	14:44																												
ZZZZZZ	1	14:49																												
CCV	1	14:55																					X							
CCB	1	15:00																					X							
ZZZZZZ	1	15:05																												
ZZZZZZ	1	15:11																												
ZZZZZZ	1	15:16																												
ZZZZZZ	1	15:22																												
ZZZZZZ	1	15:27																												
ZZZZZZ	1	15:32																												
ZZZZZZ	1	15:38																												
CCV	1	15:43																					X							
CCB	1	15:49																					X							

140302 1512

Chain of Custody Documentation

140302 1512

CH2M Hill Constructors, Inc.
15 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

2202-117 KWB

COC NUMBER
163151-029 Page 1 of

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
J.A.S. Cecil Field 03rd Street	163151	PEL / Darcy Wise nan	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
03rd Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SMW01-Q1-02-21	CEF-103-SMW-01	W	02/26/02	9:45	III/C	14	3	2	1	2							Grab		01
2	062-SMW02-Q1-02-21	CEF-103-SMW-02	W	02/26/02	13:35	III/C	14	3	2	1	2							Grab		02
3	062-SMW03-Q1-02-21	CEF-103-SMW-03	W	02/26/02	10:15	III/C	14	3	1	1	1							Grab		03
4	062-SMW04-Q1-02-21	CEF-103-SMW-04	W	02/26/02	11:15	III/C	14	3	1	1	1							Grab		04
5	062-SMW05-Q1-02-21	CEF-103-SMW-05	W	02/26/02	10:45	III/C	14	3	2	1	2							Grab		05
6	062-SMW06-Q1-02-21	CEF-103-SMW-06	W	02/26/02	14:50	III/C	14	3	2	1	2							Grab		06
7	062-SMW07-Q1-02-21	CEF-103-SMW-07	W	02/26/02	14:10	III/C	14	3	2	1	2							Grab		07
8	062-SMW10-Q1-02-21	CEF-103-SMW-10	W	02/26/02	15:30	III/C	14	3	2	1	2							Grab		08
9	062-SMW11-Q1-02-21	CEF-103-SMW-11	W	02/26/02	11:45	III/C	14	9	6	3	6							Grab	MS/MSD	09,10,11
10	062-DUP-Q1-02-21	Duplicate	W	02/26/02	NA	III/C	14	3	2	1	2							Grab		12

SAMPLER(S) AND COMPANY: (please print)
Andy Dumaop / Sean Smith
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK # 792493782795, 792493782935, 792493782980, 791176155331, 790323167385, 790323167010 . (6 Coolers)
Temp upon rect 4°C / pH<2 (8260's, Metals, Pro's)

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
*Extra 1L amber rec'd for 8310's & PRO's
KWB 02/27/02

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Dumaop	2/26/02	17:30	Printed Name and Signature: Federal Express	2/26/02	17:30
Printed Name and Signature:			Printed Name and Signature: Keith W Brenner / Keith W Brenner / PEL	02/27/02	10:00
Printed Name and Signature:			Printed Name and Signature:		

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

2202-117 KWB

COC NUMBER
163151-029 Page 2 o

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 3 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB I
1	062-EQB-Q1-02-21	Equipment Blank	W	02/26/02	11:55	III/C	14	3	2	1	2							Grab		13
2	062-TB-Q1-02-21	Trip Blank	W	NA	NA	III/C	14	3										Grab		14
3	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6								
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ndy Dumaop / Sean Smith A. Jones Environmental Services	Federal Express TRK # 792493782795, 792493782935, 792493782980, 7911761553.1, 790323167385, 790323167010 . (6 Coolers)	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ted Name and Signature: umaop			Printed Name and Signature: Federal Express	2/26/02	17:30
ted Name and Signature:	/26/02	17:30	Printed Name and Signature: Keith W. Brenner		
ed Name and Signature:			Printed Name and Signature:	02/27/02	10:00

PEL LABS SAMPLE LOG IN SHEET

Project # 2202-0117

Client Information

Client: CH2M HILL	Date Rec'd: 02/27/02
Project: Cecil Field	Due Date: —
Log In Tech: Keith	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4°C		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	pH<2		Correct Sample Containers?	✓	
Soil Origin Domestic?	N	A	Soil Origin Foreign?	N	A

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH	✓	
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?	✓	
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?	✓	
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2202-117

By [illegible]

Client/Project CH2M HILL / Cecil Field

Date 02/27/02

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other ____ pH ____
01	(2) pH<2	(1) pH<2			(3) pH<2	
02	(2) pH<2					
03	(1) pH<2					
04	(1) pH<2					
05	(2) pH<2					
06						
07						
08						
09						
10						
11						
12						
13	(2) pH<2	(1) pH<2				
14					(3) pH<2	

Sample #	Parameter	Rel'd	Rec'd	Date	Time
01-13	6010 (w)	KWB	JJ	2/27/2	16:00
01-13	6010 (w)	JJ	KWB	2/27/2	17:00
01-14	8260 (w)	KWB	MZ	2/28/02	6:00
01-14	8260 (w)	MZ	KWB	3/1/02	7:30
01-13	8310 (w)	KWB	am.	2/28/02	1200
01-13	8310 (w)		consumed		
01-13	FL PRO (w)	KWB	AS	3.1.02	1300
01-13	FL PRO (w)		consumed	w/ 1xt	back up

Addendum

140302 1512

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	2-27-02; 10:00 AM
Date to be Reported:	3-13-02
Laboratory Submission Number/SDG:	2202117
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 14 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 53 analyses on 14 samples (including QC) *28-Feb-02*

Report/SDG #: 2202117

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW01Q10221	220211701	CEF-103-SMW-	W	2/26/02 9:45:00 AM	2/27/02 10:00:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW02Q10221	220211702	CEF-103-SMW-	W	2/26/02 1:35:00 PM	2/27/02 10:00:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW03Q10221	220211703	CEF-103-SMW-	W	2/26/02 10:15:00 AM	2/27/02 10:00:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW04Q10221	220211704	CEF-103-SMW-	W	2/26/02 11:15:00 AM	2/27/02 10:00:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

Report/SDG #: 2202117

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW05Q10221	220211705	CEF-103-SMW-	W	2/26/02 10:45:00 AM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW06Q10221	220211706	CEF-103-SMW-	W	2/26/02 2:50:00 PM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW07Q10221	220211707	CEF-103-SMW-	W	2/26/02 2:10:00 PM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW10Q10221	220211708	CEF-103-SMW-	W	2/26/02 3:30:00 PM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2202117

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q10221	220211709	CEF-103-SMW-	W	2/26/02 11:45:00 AM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q10221MS	220211710	CEF-103-SMW-	WQ	2/26/02 11:45:00 AM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q10221SD	220211711	CEF-103-SMW-	WQ	2/26/02 11:45:00 AM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DUPQ10221	220211712	Duplicate	W	2/26/02	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2202117

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
EQBQ10221	220211713	Equipment	WQ	2/26/02 11:55:00 AM	2/27/02 10:00:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TBQ10221	220211714	Trip Blank	WQ	2/27/02	2/27/02 10:00:00 AM

Method		
8260	Volatile Organic Compounds	8260

2202-117 KWB

M Hill Consu. ..tors, Inc.
meter Center Place, Suite 700
GA 30346-1278
70) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC N ER
163151-029 Page 1 of 2

T NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
Cecil Field	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
T PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
Street	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
erly GW Sampling Event T CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
anelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q1-02-21	CEF-103-SMW-01	W	02/26/02	9:45	III/C	14	3	2	1	2							Grab		01
062-SMW02-Q1-02-21	CEF-103-SMW-02	W	02/26/02	13:35	III/C	14	3	2	1	2							Grab		02
062-SMW03-Q1-02-21	CEF-103-SMW-03	W	02/26/02	10:15	III/C	14	3	1	1	1							Grab		03
062-SMW04-Q1-02-21	CEF-103-SMW-04	W	02/26/02	11:15	III/C	14	3	1	1	1							Grab		04
062-SMW05-Q1-02-21	CEF-103-SMW-05	W	02/26/02	10:45	III/C	14	3	2	1	2							Grab		05
062-SMW06-Q1-02-21	CEF-103-SMW-06	W	02/26/02	14:50	III/C	14	3	2	1	2							Grab		06
062-SMW07-Q1-02-21	CEF-103-SMW-07	W	02/26/02	14:10	III/C	14	3	2	1	2							Grab		07
062-SMW10-Q1-02-21	CEF-103-SMW-10	W	02/26/02	15:30	III/C	14	3	2	1	2							Grab		08
062-SMW11-Q1-02-21	CEF-103-SMW-11	W	02/26/02	11:45	III/C	14	9	6	3	6							Grab	MS/MSD	09,10,11
062-DUP-Q1-02-21	Duplicate	W	02/26/02	NA	III/C	14	3	2	1	2							Grab		12

PLER(S) AND COMPANY: (please print)
ndy Dumaop / Sean Smith
. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK # 792493782795, 792493782935, 792493782980, 791176155331, 790323167385, 790323167010 . (6 Coolers)
Temp upon rect 4°C / pH<2 (8260's, Metals, Pro's)

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
* Extra 1 Lambers rec'd for 8310's & PRO's
KWB 02/27/02

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ed Name and Signature: umaop	2/26/02	17:30	Printed Name and Signature: Federal Express	2/26/02	17:30
ed Name and Signature:			Printed Name and Signature: Keith W Brenner / Keith W Brenner / PEL	02/27/02	10:00
ed Name and Signature			Printed Name and Signature:		

2202-117

12M Hill Co uctors, Inc.
Perimeter Center Place, Suite 700
ta, GA 30346-1278
o (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC MBER
163151-029 Page 2 of 2

ECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
.S. Cecil Field rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
ECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
rd Street urterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 3034 (770)604-9182 Ext.561 FAX:604-9282
ECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-EQB-Q1-02-21	Equipment Blank	W	02/26/02	11:55	III/C	14	3	2	1	2							Grab		13
	062-TB-Q1-02-21	Trip Blank	W	NA	NA	III/C	14	3										Grab		14
	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6								

PLER(S) AND COMPANY: (please print)
ndy Dumaop / Sean Smith
. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK # 792493782795, 792493782935, 792493782980, 791176155331, 790323167385, 790323167010 . (6 Coolers)

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ed Name and Signature:			Printed Name and Signature:		
maop	2/26/02	17:30	Federal Express	2/26/02	17:30
ed Name and Signature:			Printed Name and Signature:		
			Keith W. Brenner	02/27/02	10:00
ed Name and Signature:			Printed Name and Signature:		

PEL LABS SAMPLE LOG IN SHEET

Project # 2202-0117

Client Information

Client: CH2M HILL	Date Rec'd: 02/27/02
Project: Cecil Field	Due Date: ———
Log In Tech: Keith	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4°C		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	pH<2		Correct Sample Containers?	✓	
Soil Origin Domestic?	N	A	Soil Origin Foreign?	N	A

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH	✓	
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?	✓	
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?	✓	
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	5-22-02; 9:45 AM
Date Reported:	6-3-02
PEL Submission Number:	2204095
Project:	NAS Cecil Field

Samples: The submission consisted of 10 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA methods: 8260, 8310, 6010, and FLPRO.

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparentlyidentical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2204095-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2204095	0523BLKA32	MB	0523BLKA32	0523BLKA32
Cecil Field	2204095	0523LCSA31	BS	0523LCSA31	0523LCSA31
Cecil Field	2204095	523BLK	MB	69662	523BLK
Cecil Field	2204095	523LCS	BS	69663	523LCS
Cecil Field	2204095	69732BLK	MB	69732	69732BLK
Cecil Field	2204095	69733LCS	BS	69733	69733LCS
Cecil Field	2204095	BLK	MB	69666	BLK
Cecil Field	2204095	DMW01Q20224	N	220409505	062-DMW01-Q2-02-24
Cecil Field	2204095	DUPQ20224	FD	220409508	062-DUP-Q2-02-24
Cecil Field	2204095	EQBQ20224	EB	220409509	062-EQB-Q2-02-24
Cecil Field	2204095	LCS	BS	69667	LCS
Cecil Field	2204095	SMW01Q20224	N	220409501	062-SMW01-Q2-02-24
Cecil Field	2204095	SMW01Q20224MS	MS	220409506	062-SMW01-Q2-02-24
Cecil Field	2204095	SMW01Q20224SD	SD	220409507	062-SMW01-Q2-02-24
Cecil Field	2204095	SMW02Q20224	N	220409502	062-SMW02-Q2-02-24
Cecil Field	2204095	SMW05Q20224	N	220409503	062-SMW05-Q2-02-24
Cecil Field	2204095	SMW12Q20224	N	220409504	062-SMW12-Q2-02-24
Cecil Field	2204095	TB1Q20224	TB	220409510	062-TB1-Q2-02-24

Organics **1**
METHOD 8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 33
Standards Data 48
METHOD 8310 HPLC PAH ORGANICS 57
Sample Data 61
QC Summary 69
Standards Data 78
METHOD FL-PRO GC FL- PRO ORGANICS 88
Sample Data 92
QC Summary 100
Standards Data 109

Inorganics **119**
METALS DATA PACKAGE TOTALS 122
Sample Data 126
QC Summary 134

Chain of Custody Documentation **151**

Addendum **157**

Organics

030602 1602

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" qualifier.

N This qualifier indicates presumptive evidence of an analyte. This qualifier is only used for tentatively identified compounds (TIC), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

030602 1602

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by SW846/5030B for EPA8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met.

E. Internal Standards:

All acceptance criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

F. Samples:

Sample analysis proceeded normally. Client specified reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 05/30/02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Method: **8260**

EPA Sample No	Lab Sample ID
SMW01Q20224	220409501
SMW02Q20224	220409502
SMW05Q20224	220409503
SMW12Q20224	220409504
DMW01Q20224	220409505
DUPQ20224	220409508
EQBQ20224	220409509
TB1Q20224	220409510

030602 1602

Sample Data

030602 1602

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409501 Lab File ID: 09501.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1038

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409501

Lab File ID: 09501.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1038

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409501

Lab File ID: 09501.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1038

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409502
Lab File ID: 09502.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1101
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409502
Lab File ID: 09502.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1101
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409502

Lab File ID: 09502.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1101

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409503 Lab File ID: 09503.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409503
Lab File ID: 09503.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1125
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409503

Lab File ID: 09503.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1125

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409504 Lab File ID: 09504.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1149

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409504
Lab File ID: 09504.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1149
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409504

Lab File ID: 09504.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1149

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409505 Lab File ID: 09505.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 0839

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-DMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409505

Lab File ID: 09505.D

Sample wt/vol: 5 Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02 Time: 0839

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-DMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409505

Lab File ID: 09505.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 0839

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-DMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409508

Lab File ID: 09508.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409508

Lab File ID: 09508.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409508

Lab File ID: 09508.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1213

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409509 Lab File ID: 09509.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409509 Lab File ID: 09509.D

Sample wt/vol: 5 Units: ML Date Received: 05/22/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409509

Lab File ID: 09509.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 0926

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB1Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409510
Lab File ID: 09510.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 0902
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: Trip Blank #1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB1Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409510
Lab File ID: 09510.D
Sample wt/vol: 5
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 0902
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: Trip Blank #1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB1Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409510

Lab File ID: 09510.D

Sample wt/vol: 5

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 0902

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank #1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

030602 1602

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 0523BLKA32
Lab File ID: BLK32.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 0815
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID:
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 0523BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 0815

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID:

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 0523BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 0815

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID:

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0523BLKA32

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095

Lab File ID: BLK32.D
Lab Sample ID: 0523BLKA32

Instrument ID: VMS03
Date Extracted:

Matrix: WATER
Date Analyzed: 05/23/02

Level:(low/med) LOW
Time Analyzed: 0815

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0523LCSA31	0523LCSA31	LCS31.D	05/23/02	0640
2	SMW01Q20224MS	220409506	09506.D	05/23/02	0704
3	SMW01Q20224SD	220409507	09507.D	05/23/02	0727
4	DMW01Q20224	220409505	09505.D	05/23/02	0839
5	TB1Q20224	220409510	09510.D	05/23/02	0902
6	EQBQ20224	220409509	09509.D	05/23/02	0926
7	SMW01Q20224	220409501	09501.D	05/23/02	1038
8	SMW02Q20224	220409502	09502.D	05/23/02	1101
9	SMW05Q20224	220409503	09503.D	05/23/02	1125
10	SMW12Q20224	220409504	09504.D	05/23/02	1149
11	DUPQ20224	220409508	09508.D	05/23/02	1213

COMMENTS:

Page 1 of 1

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204095

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0523BLKA32	103.0	102.4	104.0	108.6			0
0523LCSA31	98.6	100.6	103.0	104.2			0
DMW01Q20224	98.8	99.6	102.0	103.6			0
DUPQ20224	98.4	101.0	105.0	106.4			0
EQBQ20224	99.2	99.6	100.6	105.4			0
SMW01Q20224	99.6	100.0	101.6	105.6			0
SMW01Q20224MS	100.2	99.4	98.8	101.4			0
SMW01Q20224SD	95.2	96.8	98.2	102.4			0
SMW02Q20224	101.4	101.0	100.4	107.2			0
SMW05Q20224	98.0	100.2	100.8	108.4			0
SMW12Q20224	100.0	99.6	101.4	106.0			0
TB1Q20224	96.6	98.8	99.8	108.2			0

Control Limits

S1	=	Dibromofluoromethane	86 -	118
S2	=	Toluene d8	88 -	110
S3	=	4-Bromofluorobenzene	86 -	115
S4	=	1,2-Dichloroethane-d4	80 -	120

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

030602 1602

5

OLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFI

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Lab File ID: BFB31.D BFB Injection Date: 05/13/02

Instrument ID: VMS03 BFB Injection Time: 0529

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	23.2	
75	30.0 - 60.0% of mass 95	50.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0	(0)1
174	50.0 - 100.0% of mass 95	68.4	
175	5.0 - 9.0% of mass 174	5.1	(7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67.3	(98.4)1
177	5.0 - 9.0% of mass 176	4.2	(6.2)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD23125	80PPBCAL	80PPB.D	05/13/02	0553
2	STD23124	60PPBCAL	60PPB.D	05/13/02	0616
3	STD23122	50PPBCAL	50PPB.D	05/13/02	0640
4	STD23109	20PPBCAL	20PPB.D	05/13/02	0704
5	STD23107	10PPBCAL	10PPB.D	05/13/02	0727
6	STD23123	5PPBCAL	5PPB.D	05/13/02	0751
7	STD23119	2PPBCAL	2PPB.D	05/13/02	0815
8	STD23108	1PPBCAL	1PPB.D	05/13/02	0838
9	SSC23129	SEC31	SEC31.D	05/13/02	0949

5

ɔLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFI

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Lab File ID: BFB31.D BFB Injection Date: 05/23/02

Instrument ID: VMS03 BFB Injection Time: 0528

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	22.6	
75	30.0 - 60.0% of mass 95	50.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.3	
173	Less than 2.0% of mass 174	0.6	(0.8)1
174	50.0 - 100.0% of mass 95	69.6	
175	5.0 - 9.0% of mass 174	5.7	(8.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67	(96.2)1
177	5.0 - 9.0% of mass 176	4.3	(6.5)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV24091	0523CCVA31	50CCV31.D	05/23/02	0552
2	0523LCSA31	0523LCSA31	LCS31.D	05/23/02	0640
3	SMW01Q20224MS	220409506	09506.D	05/23/02	0704
4	SMW01Q20224SD	220409507	09507.D	05/23/02	0727
5	0523BLKA32	0523BLKA32	BLK32.D	05/23/02	0815
6	DMW01Q20224	220409505	09505.D	05/23/02	0839
7	TB1Q20224	220409510	09510.D	05/23/02	0902
8	EQBQ20224	220409509	09509.D	05/23/02	0926
9	SMW01Q20224	220409501	09501.D	05/23/02	1038
10	SMW02Q20224	220409502	09502.D	05/23/02	1101
11	SMW05Q20224	220409503	09503.D	05/23/02	1125
12	SMW12Q20224	220409504	09504.D	05/23/02	1149
13	DUPQ20224	220409508	09508.D	05/23/02	1213

8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Lab File ID (Standard): 20PPB.D Date Analyzed: 5/13/2002

Instrument ID: VMS03 Time Analyzed: 7:04

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	440219		11.08	228257		13.50	606838		7.79
	UPPER LIMIT	880438		11.58	456514		14.00	1213676		8.29
	LOWER LIMIT	220109.5		10.58	114128.5		13.00	303419		7.29
	EPA SAMPLE NO.									
1	0523LCSA31	432478		11.07	228046		13.50	621171		7.79
2	SMW01Q20224MS	446755		11.07	231278		13.50	609883		7.79
3	SMW01Q20224SD	437574		11.07	233995		13.50	618006		7.79
4	0523BLKA32	427054		11.07	216668		13.50	598567		7.79
5	DMW01Q20224	426427		11.07	219152		13.50	607136		7.79
6	TB1Q20224	438333		11.08	218750		13.50	610941		7.79
7	EQBQ20224	432074		11.07	219041		13.50	599623		7.79
8	SMW01Q20224	428913		11.08	217895		13.50	600306		7.79
9	SMW02Q20224	424728		11.07	213537		13.50	590751		7.79
10	SMW05Q20224	429479		11.07	216245		13.50	597417		7.79
11	SMW12Q20224	426541		11.08	215041		13.50	590015		7.79
12	DUPQ20224	424701		11.08	215942		13.50	597687		7.80

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0523LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	22.5	112.5	56 - 144
Chloromethane	20	19.8	99.0	48 - 149
Vinyl chloride	20	18.9	94.5	66 - 128
Bromomethane	20	20.4	102.0	55 - 159
Chloroethane	20	20.6	103.0	77 - 144
Trichlorofluoromethane	20	22	110.0	65 - 190
1,1-Dichloroethene	20	20.1	100.5	75 - 150
Methylene chloride	20	19.4	97.0	81 - 129
trans-1,2-Dichloroethene	20	20.5	102.5	84 - 135
1,1-Dichloroethane	20	20.9	104.5	88 - 127
2,2-Dichloropropane	20	20	100.0	77 - 136
cis-1,2-Dichloroethene	20	21	105.0	88 - 127
Bromochloromethane	20	21.3	106.5	80 - 124
Chloroform	20	20.5	102.5	83 - 127
1,1,1-Trichloroethane	20	20.9	104.5	83 - 132
Carbon tetrachloride	20	20.3	101.5	74 - 140
Benzene	20	20.3	101.5	82 - 129
1,2-Dichloroethane	20	20.3	101.5	86 - 120
Trichloroethene	20	20.8	104.0	82 - 127
1,2-Dichloropropane	20	20.4	102.0	83 - 126
Dibromomethane	20	21.8	109.0	83 - 120
Bromodichloromethane	20	20.4	102.0	84 - 127
Toluene	20	20.8	104.0	82 - 128
1,1,2-Trichloroethane	20	20.6	103.0	86 - 117
Tetrachloroethene	20	21.4	107.0	87 - 124
1,3-Dichloropropane	20	21.5	107.5	85 - 115
Dibromochloromethane	20	21.3	106.5	87 - 123
1,2-Dibromoethane(EDB)	20	21.8	109.0	79 - 117
Chlorobenzene	20	21.5	107.5	87 - 117
1,1,1,2-Tetrachloroethane	20	21.9	109.5	81 - 124
Ethylbenzene	20	21.7	108.5	89 - 121
p,m-Xylene	40	42.6	106.5	89 - 119

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

030602 1602

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0523LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	21.3	106.5	86 - 120
Styrene	20	22.2	111.0	80 - 127
Bromoform	20	20.8	104.0	67 - 129
Isopropylbenzene (Cumene)	20	21.9	109.5	96 - 118
Bromobenzene	20	21.7	108.5	87 - 114
1,1,2,2-Tetrachloroethane	20	21.7	108.5	87 - 116
1,2,3-Trichloropropane	20	21.2	106.0	84 - 118
n-Propylbenzene	20	22.2	111.0	86 - 121
2-Chlorotoluene	20	20.8	104.0	92 - 113
4-Chlorotoluene	20	22	110.0	91 - 117
1,3,5-Trimethylbenzene	20	22	110.0	93 - 115
tert-Butylbenzene	20	21.7	108.5	83 - 122
1,2,4-Trimethylbenzene	20	22.1	110.5	86 - 126
sec-Butylbenzene	20	22	110.0	94 - 118
1,3-Dichlorobenzene	20	21.3	106.5	88 - 121
1,4-Dichlorobenzene	20	21.4	107.0	88 - 118
4-Isopropyltoluene	20	21.8	109.0	94 - 118
n-Butylbenzene	20	21.6	108.0	86 - 124
1,2-Dichlorobenzene	20	20.9	104.5	91 - 116
1,2-Dibromo-3-chloropropane	20	19.8	99.0	82 - 127
1,2,4-Trichlorobenzene	20	20.4	102.0	84 - 124
Hexachlorobutadiene	20	20.3	101.5	90 - 137
Naphthalene	20	20.4	102.0	82 - 130
1,2,3-Trichlorobenzene	20	20.5	102.5	91 - 122
Xylene (total)	60	63.9	106.5	82 - 124

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

030602 1602

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	22.6	113.0	54 - 127
Chloromethane	20	0	20.6	103.0	74 - 113
Vinyl chloride	20	0	20.4	102.0	60 - 118
Bromomethane	20	0	20.1	100.5	88 - 117
Chloroethane	20	0	21.6	108.0	90 - 117
Trichlorofluoromethane	20	0	22.1	110.5	65 - 162
1,1-Dichloroethene	20	0	20.4	102.0	84 - 129
Methylene chloride	20	0	19.2	96.0	75 - 133
trans-1,2-Dichloroethene	20	0	20.2	101.0	73 - 141
1,1-Dichloroethane	20	0	20.7	103.5	79 - 135
2,2-Dichloropropane	20	0	20.2	101.0	78 - 143
cis-1,2-Dichloroethene	20	0	21.6	108.0	77 - 128
Bromochloromethane	20	0	20.8	104.0	76 - 130
Chloroform	20	0	20.9	104.5	76 - 134
1,1,1-Trichloroethane	20	0	20.8	104.0	79 - 134
Carbon tetrachloride	20	0	19.4	97.0	75 - 132
Benzene	20	0	20.5	102.5	51 - 141
1,2-Dichloroethane	20	0	20.4	102.0	80 - 133
Trichloroethene	20	0	20.7	103.5	76 - 128
1,2-Dichloropropane	20	0	20.5	102.5	79 - 128
Dibromomethane	20	0	21.4	107.0	83 - 119
Bromodichloromethane	20	0	20.4	102.0	79 - 130
Toluene	20	0	21	105.0	75 - 132
1,1,2-Trichloroethane	20	0	20.4	102.0	77 - 126
Tetrachloroethene	20	0	19.8	99.0	86 - 120
1,3-Dichloropropane	20	0	20.6	103.0	84 - 120
Dibromochloromethane	20	0	19.8	99.0	80 - 128
1,2-Dibromoethane(EDB)	20	0	20.2	101.0	75 - 124
Chlorobenzene	20	0	21	105.0	82 - 123
1,1,1,2-Tetrachloroethane	20	0	20.2	101.0	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Ethylbenzene	20	0	20.7	103.5	77 - 124
p,m-Xylene	40	0	41.1	102.7	83 - 121
o-Xylene	20	0	20.5	102.5	88 - 121
Styrene	20	0	20.9	104.5	83 - 127
Bromoform	20	0	19	95.0	78 - 121
Isopropylbenzene (Cumene)	20	0	21.3	106.5	81 - 128
Bromobenzene	20	0	20.7	103.5	83 - 119
1,1,2,2-Tetrachloroethane	20	0	20.5	102.5	88 - 117
1,2,3-Trichloropropane	20	0	20.8	104.0	75 - 129
n-Propylbenzene	20	0	21.3	106.5	81 - 127
2-Chlorotoluene	20	0	20.1	100.5	87 - 116
4-Chlorotoluene	20	0	21	105.0	84 - 121
1,3,5-Trimethylbenzene	20	0	21	105.0	94 - 109
tert-Butylbenzene	20	0	20.9	104.5	78 - 128
1,2,4-Trimethylbenzene	20	0	21	105.0	74 - 131
sec-Butylbenzene	20	0	21.2	106.0	80 - 130
1,3-Dichlorobenzene	20	0	20.6	103.0	81 - 130
1,4-Dichlorobenzene	20	0	21.1	105.5	80 - 125
4-Isopropyltoluene	20	0	21.2	106.0	82 - 129
n-Butylbenzene	20	0	21.1	105.5	78 - 136
1,2-Dichlorobenzene	20	0	20.8	104.0	81 - 126
1,2-Dibromo-3-chloropropane	20	0	19.5	97.5	81 - 123
1,2,4-Trichlorobenzene	20	0	19.7	98.5	75 - 133
Hexachlorobutadiene	20	0	20.6	103.0	69 - 144
Naphthalene	20	0	19	95.0	69 - 140
1,2,3-Trichlorobenzene	20	0	19.5	97.5	75 - 138
Xylene (total)	60	0	61.5	102.5	86 - 129

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW01Q20224SD

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	22.2	111.0	1.5	21	54 - 127
Chloromethane	20	19.6	98.0	4.9	18	74 - 113
Vinyl chloride	20	19.1	95.5	6.7	24	60 - 118
Bromomethane	20	19.5	97.5	2.9	20	88 - 117
Chloroethane	20	21	105.0	2.8	12	90 - 117
Trichlorofluoromethane	20	21.9	109.5	0.8	14	65 - 162
1,1-Dichloroethene	20	19.4	97.0	4.7	14	84 - 129
Methylene chloride	20	18.2	91.0	5.0	9	75 - 133
trans-1,2-Dichloroethene	20	20.1	100.5	0.6	14	73 - 141
1,1-Dichloroethane	20	20.3	101.5	1.8	10	79 - 135
2,2-Dichloropropane	20	19.9	99.5	1.8	13	78 - 143
cis-1,2-Dichloroethene	20	20.5	102.5	5.3	11	77 - 128
Bromochloromethane	20	20.6	103.0	0.8	12	76 - 130
Chloroform	20	20.4	102.0	2.5	13	76 - 134
1,1,1-Trichloroethane	20	20.6	103.0	1.4	12	79 - 134
Carbon tetrachloride	20	18.9	94.5	2.4	15	75 - 132
Benzene	20	20.2	101.0	1.0	10	51 - 141
1,2-Dichloroethane	20	20.1	100.5	1.2	8	80 - 133
Trichloroethene	20	20.5	102.5	0.8	13	76 - 128
1,2-Dichloropropane	20	20.1	100.5	2.2	11	79 - 128
Dibromomethane	20	21.4	107.0	0.0	13	83 - 119
Bromodichloromethane	20	19.9	99.5	2.7	13	79 - 130
Toluene	20	20.3	101.5	3.6	13	75 - 132
1,1,2-Trichloroethane	20	20.8	104.0	2.3	13	77 - 126
Tetrachloroethene	20	20.9	104.5	5.5	11	86 - 120
1,3-Dichloropropane	20	20.8	104.0	0.8	10	84 - 120
Dibromochloromethane	20	20.3	101.5	2.8	12	80 - 128
1,2-Dibromoethane(EDB)	20	21	105.0	4.0	11	75 - 124
Chlorobenzene	20	20.7	103.5	1.1	12	82 - 123
1,1,1,2-Tetrachloroethane	20	20.7	103.5	2.5	14	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ethylbenzene	20	20.4	102.0	1.1	13	77 - 124
p,m-Xylene	40	42	105.0	2.2	10	83 - 121
o-Xylene	20	21	105.0	2.4	10	88 - 121
Styrene	20	21.3	106.5	1.8	13	83 - 127
Bromoform	20	20.2	101.0	6.0	10	78 - 121
Isopropylbenzene (Cumene)	20	20.6	103.0	3.1	10	81 - 128
Bromobenzene	20	20.6	103.0	0.6	12	83 - 119
1,1,2,2-Tetrachloroethane	20	21.5	107.5	5.0	9	88 - 117
1,2,3-Trichloropropane	20	21.1	105.5	1.6	15	75 - 129
n-Propylbenzene	20	20.8	104.0	2.0	16	81 - 127
2-Chlorotoluene	20	20	100.0	0.3	11	87 - 116
4-Chlorotoluene	20	20.4	102.0	2.7	10	84 - 121
1,3,5-Trimethylbenzene	20	20.8	104.0	0.7	14	94 - 109
tert-Butylbenzene	20	20.5	102.5	1.8	20	78 - 128
1,2,4-Trimethylbenzene	20	20.6	103.0	2.1	16	74 - 131
sec-Butylbenzene	20	20.9	104.5	1.7	13	80 - 130
1,3-Dichlorobenzene	20	20.4	102.0	0.8	13	81 - 130
1,4-Dichlorobenzene	20	20.3	101.5	4.1	11	80 - 125
4-Isopropyltoluene	20	20.8	104.0	2.2	11	82 - 129
n-Butylbenzene	20	20.3	101.5	3.9	16	78 - 136
1,2-Dichlorobenzene	20	19.6	98.0	6.0	13	81 - 126
1,2-Dibromo-3-chloropropane	20	19	95.0	2.4	17	81 - 123
1,2,4-Trichlorobenzene	20	20.1	100.5	1.8	11	75 - 133
Hexachlorobutadiene	20	19.7	98.5	4.5	18	69 - 144
Naphthalene	20	19.5	97.5	2.2	11	69 - 140
1,2,3-Trichlorobenzene	20	19.7	98.5	0.7	11	75 - 138
Xylene (total)	60	63	105.0	2.3	9	86 - 129

RPD: 0 out of 57 outside limits

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

Standards Data

030602 1602

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2
Dichlorodifluoromethane		0.274	0.313	0.349	0.318	0.383		
Chloromethane	#	0.468	0.459	0.418	0.392	0.462		#
Vinyl chloride	*	0.354	0.320	0.315	0.307	0.345		*
Bromomethane		0.171	0.149	0.163	0.166	0.188		
Chloroethane		0.194	0.183	0.193	0.193	0.219		
Trichlorofluoromethane		0.193	0.208	0.215	0.235	0.297		
1,1-Dichloroethene	*	0.437	0.471	0.471	0.422	0.544		*
Methylene chloride		0.654	0.594	0.563	0.491	0.561		
trans-1,2-Dichloroethene		0.465	0.488	0.473	0.429	0.519		
1,1-Dichloroethane	#	0.523	0.605	0.608	0.556	0.649		#
2,2-Dichloropropane		0.276	0.332	0.323	0.311	0.362		
cis-1,2-Dichloroethene		0.269	0.300	0.314	0.264	0.331		
Bromochloromethane		0.112	0.127	0.130	0.124	0.144		
Chloroform	*	0.468	0.573	0.559	0.502	0.597		*
1,1,1-Trichloroethane		0.383	0.434	0.439	0.407	0.496		
Carbon tetrachloride		0.306	0.320	0.334	0.316	0.400		
Benzene		1.178	1.271	1.165	1.065	1.282		
1,2-Dichloroethane		0.446	0.477	0.491	0.446	0.522		
Trichloroethene		0.253	0.279	0.288	0.260	0.313		
1,2-Dichloropropane	*	0.356	0.357	0.344	0.298	0.380		*
Dibromomethane		0.134	0.169	0.151	0.149	0.183		
Bromodichloromethane		0.329	0.382	0.383	0.359	0.442		
Toluene	*	0.644	0.751	0.716	0.648	0.784		*
1,1,2-Trichloroethane		0.239	0.215	0.235	0.233	0.259		
Tetrachloroethene		0.303	0.312	0.292	0.281	0.332		
1,3-Dichloropropane		0.565	0.639	0.602	0.590	0.662		
Dibromochloromethane		0.218	0.303	0.298	0.289	0.361		
1,2-Dibromoethane(EDB)		0.254	0.333	0.316	0.286	0.351		
Chlorobenzene	#	0.872	1.116	1.037	0.928	1.123		#
1,1,1,2-Tetrachloroethane		0.266	0.334	0.342	0.312	0.380		
Ethylbenzene	*	0.560	0.570	0.567	0.492	0.610		*
p,m-Xylene		0.646	0.736	0.708	0.639	0.758		
o-Xylene		1.385	1.515	1.489	1.353	1.650		
Styrene		0.997	1.098	1.177	1.057	1.309		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND	RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2
Bromoform #	0.123	0.173	0.165	0.172	0.218		#
Isopropylbenzene (Cumene)	2.876	3.426	3.432	3.112	3.786		
Bromobenzene	1.535	1.629	1.627	1.467	1.712		
1,1,2,2-Tetrachloroethane #	0.671	0.802	0.780	0.721	0.834		#
1,2,3-Trichloropropane	0.221	0.226	0.240	0.234	0.265		
n-Propylbenzene	3.587	4.089	4.150	3.841	4.692		
2-Chlorotoluene	2.659	3.084	3.018	2.639	3.216		
4-Chlorotoluene	2.585	2.789	2.812	2.653	3.067		
1,3,5-Trimethylbenzene	2.457	2.894	2.808	2.637	3.221		
tert-Butylbenzene	2.420	2.710	2.708	2.475	3.006		
1,2,4-Trimethylbenzene	2.475	2.819	2.929	2.645	3.196		
sec-Butylbenzene	2.901	3.266	3.287	3.048	3.735		
1,3-Dichlorobenzene	1.483	1.596	1.629	1.422	1.722		
1,4-Dichlorobenzene	1.535	1.599	1.619	1.451	1.741		
4-Isopropyltoluene	2.517	2.872	2.854	2.612	3.256		
n-Butylbenzene	2.376	2.394	2.487	2.358	2.882		
1,2-Dichlorobenzene	1.349	1.562	1.500	1.389	1.602		
1,2-Dibromo-3-chloropropane	0.146	0.152	0.130	0.151	0.173		
1,2,4-Trichlorobenzene	0.955	1.024	1.017	0.928	1.115		
Hexachlorobutadiene	0.206	0.251	0.240	0.211	0.258		
Naphthalene	2.238	2.507	2.336	2.154	2.501		
1,2,3-Trichlorobenzene	0.863	0.990	0.966	0.879	0.970		
Xylene (total)	0.635	0.714	0.694	0.631	0.766		
==========							
Dibromofluoromethane(SURR)		0.238	0.244	0.244	0.252		
Toluene d8(SURR)		1.006	1.041	1.045	1.071		
4-Bromofluorobenzene(SURR)		1.038	1.091	1.075	1.094		
1,2-Dichloroethane-d4(SURR)		0.050	0.047	0.060	0.058		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND		RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2		
Dichlorodifluoromethane		0.391	0.371	0.391			0.34863	12.3		
Chloromethane	#	0.436	0.428	0.424			0.43591	5.9	#	
Vinyl chloride	*	0.312	0.298	0.292			0.31781	6.8	*	
Bromomethane		0.174	0.173	0.170			0.16937	6.6		
Chloroethane		0.222	0.209	0.218			0.20376	7.2		
Trichlorofluoromethane		0.298	0.326	0.344			0.26447	22.1		<-
1,1-Dichloroethene	*	0.529	0.519	0.529			0.49046	9.4	*	
Methylene chloride		0.550	0.532	0.552			0.56218	8.4		
trans-1,2-Dichloroethene		0.524	0.497	0.507			0.48786	6.4		
1,1-Dichloroethane	#	0.627	0.613	0.615			0.59962	6.8	#	
2,2-Dichloropropane		0.352	0.336	0.349			0.33012	8.2		
cis-1,2-Dichloroethene		0.325	0.312	0.316			0.30392	8.2		
Bromochloromethane		0.140	0.137	0.140			0.13176	8		
Chloroform	*	0.590	0.568	0.576			0.55404	8.1	*	
1,1,1-Trichloroethane		0.500	0.483	0.496			0.45487	9.9		
Carbon tetrachloride		0.403	0.402	0.412			0.36157	12.8		
Benzene		1.266	1.228	1.228			1.21042	6		
1,2-Dichloroethane		0.512	0.517	0.517			0.49087	6.4		
Trichloroethene		0.311	0.303	0.304			0.2887	8		
1,2-Dichloropropane	*	0.369	0.358	0.360			0.35284	6.9	*	
Dibromomethane		0.183	0.182	0.183			0.16672	11.6		
Bromodichloromethane		0.449	0.445	0.448			0.40465	11.7		
Toluene	*	0.747	0.742	0.744			0.72215	7	*	
1,1,2-Trichloroethane		0.251	0.252	0.255			0.24223	6		
Tetrachloroethene		0.329	0.332	0.319			0.31265	6.2		
1,3-Dichloropropane		0.669	0.676	0.647			0.63127	6.5		
Dibromochloromethane		0.376	0.382	0.374			0.32511	17.8		<-
1,2-Dibromoethane(EDB)		0.349	0.355	0.342			0.32301	11.2		
Chlorobenzene	#	1.117	1.097	1.062			1.04386	9.1	#	
1,1,1,2-Tetrachloroethane		0.379	0.375	0.370			0.34472	11.7		
Ethylbenzene	*	0.601	0.593	0.570			0.57045	6.4	*	
p,m-Xylene		0.750	0.744	0.709			0.71116	6.5		
o-Xylene		1.635	1.620	1.540			1.52318	7.3		
Styrene		1.288	1.275	1.227			1.17852	9.9		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND	RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2	
Bromoform #	0.229	0.241	0.232			0.19418	21.5 #	<-
Isopropylbenzene (Cumene)	3.548	3.586	3.378			3.39304	8.4	
Bromobenzene	1.610	1.633	1.562			1.59692	4.6	
1,1,2,2-Tetrachloroethane #	0.789	0.809	0.771			0.77204	6.8 #	
1,2,3-Trichloropropane	0.241	0.259	0.246			0.24143	6.2	
n-Propylbenzene	4.441	4.479	4.266			4.19337	8.6	
2-Chlorotoluene	3.045	3.036	2.918			2.95182	6.9	
4-Chlorotoluene	2.888	2.886	2.770			2.8062	5.3	
1,3,5-Trimethylbenzene	3.073	3.059	2.978			2.89096	8.7	
tert-Butylbenzene	2.891	2.901	2.811			2.74044	7.5	
1,2,4-Trimethylbenzene	3.072	3.038	2.924			2.88734	8.2	
sec-Butylbenzene	3.656	3.636	3.555			3.3857	9.1	
1,3-Dichlorobenzene	1.614	1.631	1.599			1.58707	5.9	
1,4-Dichlorobenzene	1.677	1.654	1.633			1.61362	5.5	
4-Isopropyltoluene	3.167	3.189	3.106			2.94656	9.4	
n-Butylbenzene	2.869	2.876	2.846			2.63607	9.5	
1,2-Dichlorobenzene	1.536	1.540	1.509			1.49828	5.8	
1,2-Dibromo-3-chloropropane	0.169	0.181	0.177			0.15989	11.2	
1,2,4-Trichlorobenzene	1.057	1.088	1.066			1.03114	6.2	
Hexachlorobutadiene	0.253	0.254	0.245			0.23972	8.4	
Naphthalene	2.409	2.490	2.328			2.37027	5.5	
1,2,3-Trichlorobenzene	0.945	0.953	0.957			0.94044	4.8	
Xylene (total)	0.749	0.730	0.724			0.7053	7	
==========								
Dibromofluoromethane(SURR)	0.260	0.248	0.256			0.24891	3.1	
Toluene d8(SURR)	1.071	1.045	1.069			1.04961	2.2	
4-Bromofluorobenzene(SURR)	1.059	1.069	1.062			1.06976	1.8	
1,2-Dichloroethane-d4(SURR)	0.063	0.060	0.062			0.05712	10.5	

Average Used: 8.2

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 CalibrationDate: 05/13/02 Time: 0949

Lab File ID: SEC31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF0	%D	
Dichlorodifluoromethane		0.34863	0.3461	0.7	
Chloromethane	#	0.43591	0.4183	4.0	#
Vinyl chloride	*	0.31781	0.2993	5.8	*
Bromomethane		0.16937	0.1722	1.7	
Chloroethane		0.20376	0.21	3.1	
Trichlorofluoromethane		0.26447	0.2752	4.1	
1,1-Dichloroethene	*	0.49046	0.5047	2.9	*
Methylene chloride		0.56218	0.5263	6.4	
trans-1,2-Dichloroethene		0.48786	0.5012	2.7	
1,1-Dichloroethane	#	0.59962	0.6077	1.3	#
2,2-Dichloropropane		0.33012	0.3308	0.2	
cis-1,2-Dichloroethene		0.30392	0.3061	0.7	
Bromochloromethane		0.13176	0.1365	3.6	
Chloroform	*	0.55404	0.5654	2.1	*
1,1,1-Trichloroethane		0.45487	0.4758	4.6	
Carbon tetrachloride		0.36157	0.3826	5.8	
Benzene		1.21042	1.218	0.6	
1,2-Dichloroethane		0.49087	0.4997	1.8	
Trichloroethene		0.2887	0.2979	3.2	
1,2-Dichloropropane	*	0.35284	0.3558	0.8	*
Dibromomethane		0.16672	0.1766	5.9	
Bromodichloromethane		0.40465	0.418	3.3	
Toluene	*	0.72215	0.7312	1.3	*
1,1,2-Trichloroethane		0.24223	0.2462	1.6	
Tetrachloroethene		0.31265	0.3234	3.4	
1,3-Dichloropropane		0.63127	0.6545	3.7	
Dibromochloromethane		0.32511	0.3508	7.9	
1,2-Dibromoethane(EDB)		0.32301	0.3398	5.2	
Chlorobenzene	#	1.04386	1.06	1.5	#
1,1,1,2-Tetrachloroethane		0.34472	0.3543	2.8	
Ethylbenzene	*	0.57045	0.5769	1.1	*
p,m-Xylene		0.71116	0.7196	1.2	
o-Xylene		1.52318	1.577	3.5	
Styrene		1.17852	1.245	5.6	
Bromoform	#	0.19418	0.2083	7.3	#
Isopropylbenzene (Cumene)		3.39304	3.428	1.0	

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 CalibrationDate: 05/13/02 Time: 0949

Lab File ID: SEC31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF0	%D
Bromobenzene	1.59692	1.577	1.2
1,1,2,2-Tetrachloroethane #	0.77204	0.7576	1.9 #
1,2,3-Trichloropropane	0.24143	0.244	1.1
n-Propylbenzene	4.19337	4.256	1.5
2-Chlorotoluene	2.95182	2.987	1.2
4-Chlorotoluene	2.8062	2.735	2.5
1,3,5-Trimethylbenzene	2.89096	2.968	2.7
tert-Butylbenzene	2.74044	2.78	1.4
1,2,4-Trimethylbenzene	2.88734	2.944	2.0
sec-Butylbenzene	3.3857	3.486	3.0
1,3-Dichlorobenzene	1.58707	1.558	1.8
1,4-Dichlorobenzene	1.61362	1.611	0.2
4-Isopropyltoluene	2.94656	3.039	3.1
n-Butylbenzene	2.63607	2.699	2.4
1,2-Dichlorobenzene	1.49828	1.462	2.4
1,2-Dibromo-3-chloropropane	0.15989	0.1646	2.9
1,2,4-Trichlorobenzene	1.03114	1.02	1.1
Hexachlorobutadiene	0.23972	0.2293	4.3
Naphthalene	2.37027	2.29	3.4
1,2,3-Trichlorobenzene	0.94044	0.9042	3.9
Xylene (total)	0.7053	0.7232	2.5
==========			
Dibromofluoromethane	0.24891	0.2466	0.9
Toluene d8	1.04961	1.031	1.8
4-Bromofluorobenzene	1.06976	1.033	3.4
1,2-Dichloroethane-d4	0.05712	0.0608	6.4

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VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 CalibrationDate: 05/23/02 Time: 0552

Lab File ID: 50CCV31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF50	%D	
Dichlorodifluoromethane		0.34863	0.406	16.5	
Chloromethane	#	0.43591	0.4221	3.2	#
Vinyl chloride	*	0.31781	0.305	4.0	*
Bromomethane		0.16937	0.1743	2.9	
Chloroethane		0.20376	0.2185	7.2	
Trichlorofluoromethane		0.26447	0.3169	19.8	
1,1-Dichloroethene	*	0.49046	0.4913	0.2	*
Methylene chloride		0.56218	0.5271	6.2	
trans-1,2-Dichloroethene		0.48786	0.4857	0.4	
1,1-Dichloroethane	#	0.59962	0.5959	0.6	#
2,2-Dichloropropane		0.33012	0.3304	0.1	
cis-1,2-Dichloroethene		0.30392	0.3085	1.5	
Bromochloromethane		0.13176	0.1372	4.1	
Chloroform	*	0.55404	0.5535	0.1	*
1,1,1-Trichloroethane		0.45487	0.4603	1.2	
Carbon tetrachloride		0.36157	0.3637	0.6	
Benzene		1.21042	1.171	3.3	
1,2-Dichloroethane		0.49087	0.4915	0.1	
Trichloroethene		0.2887	0.2901	0.5	
1,2-Dichloropropane	*	0.35284	0.3574	1.3	*
Dibromomethane		0.16672	0.1791	7.4	
Bromodichloromethane		0.40465	0.4174	3.2	
Toluene	*	0.72215	0.7205	0.2	*
1,1,2-Trichloroethane		0.24223	0.2477	2.3	
Tetrachloroethene		0.31265	0.3109	0.6	
1,3-Dichloropropane		0.63127	0.6628	5.0	
Dibromochloromethane		0.32511	0.352	8.3	
1,2-Dibromoethane(EDB)		0.32301	0.3386	4.8	
Chlorobenzene	#	1.04386	1.051	0.7	#
1,1,1,2-Tetrachloroethane		0.34472	0.3514	1.9	
Ethylbenzene	*	0.57045	0.554	2.9	*
p,m-Xylene		0.71116	0.7133	0.3	
o-Xylene		1.52318	1.542	1.2	
Styrene		1.17852	1.235	4.8	
Bromoform	#	0.19418	0.2151	10.8	#
Isopropylbenzene (Cumene)		3.39304	3.374	0.6	

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VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: VMS03 CalibrationDate: 05/23/02 Time: 0552

Lab File ID: 50CCV31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF50	%D
Bromobenzene	1.59692	1.57	1.7
1,1,2,2-Tetrachloroethane #	0.77204	0.795	3.0 #
1,2,3-Trichloropropane	0.24143	0.242	0.2
n-Propylbenzene	4.19337	4.233	0.9
2-Chlorotoluene	2.95182	2.936	0.5
4-Chlorotoluene	2.8062	2.688	4.2
1,3,5-Trimethylbenzene	2.89096	2.899	0.3
tert-Butylbenzene	2.74044	2.744	0.1
1,2,4-Trimethylbenzene	2.88734	2.931	1.5
sec-Butylbenzene	3.3857	3.394	0.2
1,3-Dichlorobenzene	1.58707	1.579	0.5
1,4-Dichlorobenzene	1.61362	1.609	0.3
4-Isopropyltoluene	2.94656	3.035	3.0
n-Butylbenzene	2.63607	2.729	3.5
1,2-Dichlorobenzene	1.49828	1.496	0.2
1,2-Dibromo-3-chloropropane	0.15989	0.167	4.4
1,2,4-Trichlorobenzene	1.03114	1.033	0.2
Hexachlorobutadiene	0.23972	0.2213	7.7
Naphthalene	2.37027	2.365	0.2
1,2,3-Trichlorobenzene	0.94044	0.9008	4.2
Xylene (total)	0.7053	0.7127	1.0
==========			
Dibromofluoromethane	0.24891	0.246	1.2
Toluene d8	1.04961	1.057	0.7
4-Bromofluorobenzene	1.06976	1.032	3.5
1,2-Dichloroethane-d4	0.05712	0.0613	7.3

HPLC PAH ORGANICS

METHOD 8310

030602 1602

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference(RPD) criteria were met with the exception of:
SD - SMW01Q20224SD was analyzed with the water samples extracted on 05/23/02. The following analyte(s) were recovered below criteria: 1-Methylnaphthalene at 44.8 % with criteria of (48-92).

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.
Project specific Reporting Limits were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6-3-02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Method: **8310**

EPA Sample No	Lab Sample ID
SMW01Q20224	220409501
SMW02Q20224	220409502
SMW05Q20224	220409503
SMW12Q20224	220409504
DMW01Q20224	220409505
DUPQ20224	220409508
EQBQ20224	220409509

030602 1602

Sample Data

030602 1602

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409501

Lab File ID: 95-1.D

Sample wt/vol: 950

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1615

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409502

Lab File ID: 95-2.D

Sample wt/vol: 950

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1649

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Matrix: WATER
Lab Sample ID: 220409503
Lab File ID: 95-3.D
Sample wt/vol: 950
Units: ML
Date Received: 05/22/02
Concentrated Extract Volume: 1
Date Extracted: 05/23/02
Level:(low/med) LOW
Date Analyzed: 05/24/02
Time: 1724
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409504

Lab File ID: 95-4.D

Sample wt/vol: 950

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1758

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.23	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409505

Lab File ID: 95-5.D

Sample wt/vol: 950

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1942

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-DMW-0

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409508

Lab File ID: 95-8.D

Sample wt/vol: 955

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 2017

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.24	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409509

Lab File ID: 95-9.D

Sample wt/vol: 930

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 2051

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

030602 1602

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

523BLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 69662

Lab File ID: 523BLK.D

Sample wt/vol: 1000

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 1

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1247

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID:

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.2	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 523BLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095

Lab File ID: 523BLK.D
Lab Sample ID: 69662

Instrument ID: SLC02
Date Extracted: 05/23/02

Matrix: WATER
Date Analyzed: 05/24/02

Level:(low/med) LOW
Time Analyzed: 1247

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	523LCS	69663	523LCS.D	05/24/02	1322
2	SMW01Q20224MS	220409506	95-6MS.D	05/24/02	1505
3	SMW01Q20224SD	220409507	95-7MSD.D	05/24/02	1540
4	SMW01Q20224	220409501	95-1.D	05/24/02	1615
5	SMW02Q20224	220409502	95-2.D	05/24/02	1649
6	SMW05Q20224	220409503	95-3.D	05/24/02	1724
7	SMW12Q20224	220409504	95-4.D	05/24/02	1758
8	DMW01Q20224	220409505	95-5.D	05/24/02	1942
9	DUPQ20224	220409508	95-8.D	05/24/02	2017
10	EQBQ20224	220409509	95-9.D	05/24/02	2051

COMMENTS:

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204095

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
523BLK	84.0						0
523LCS	89.5						0
DMW01Q20224	83.8						0
DUPQ20224	86.6						0
EQBQ20224	86.0						0
SMW01Q20224	89.5						0
SMW01Q20224MS	93.7						0
SMW01Q20224SD	84.7						0
SMW02Q20224	86.2						0
SMW05Q20224	93.3						0
SMW12Q20224	84.3						0

Control Limits

S1 = p-Terphenyl-d14 39 - 107

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

030602 1602

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 05/16/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.52 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD24156	SV4946	05/16/02	0748	18.51	
2	STD24155	SV4945	05/16/02	0823	18.54	
3	STD24154	SV4944	05/16/02	0857	18.53	
4	STD24153	SV4943	05/16/02	0932	18.53	
5	STD24148	SV4942	05/16/02	1007	18.52	
6	STD24147	SV4941	05/16/02	1041	18.52	
7	STD24146	SV4940	05/16/02	1116	18.51	
8	SSC24157	SV4948	05/16/02	1150	18.53	
9	ZZZZZZ	ZZZZZZ	05/24/02	1138		
10	CCV24754	SV4942	05/24/02	1213	18.48	
11	523BLK	69662	05/24/02	1247	18.47	
12	523LCS	69663	05/24/02	1322	18.45	
13	ZZZZZZ	ZZZZZZ	05/24/02	1356		
14	ZZZZZZ	ZZZZZZ	05/24/02	1431		
15	SMW01Q20224MS	220409506	05/24/02	1505	18.45	
16	SMW01Q20224SD	220409507	05/24/02	1540	18.45	
17	SMW01Q20224	220409501	05/24/02	1615	18.46	
18	SMW02Q20224	220409502	05/24/02	1649	18.45	
19	SMW05Q20224	220409503	05/24/02	1724	18.45	
20	SMW12Q20224	220409504	05/24/02	1758	18.45	
21	ZZZZZZ	ZZZZZZ	05/24/02	1833		
22	CCV24756	SV4942	05/24/02	1908	18.46	
23	DMW01Q20224	220409505	05/24/02	1942	18.45	
24	DUPQ20224	220409508	05/24/02	2017	18.44	
25	EQBQ20224	220409509	05/24/02	2051	18.45	
26	ZZZZZZ	ZZZZZZ	05/24/02	2126		

QC LIMITS
(+/- 0.23 MINUTES)

S1 = p-Terphenyl-d14

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

030602 1602

FORM VIII

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 05/16/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.52 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
27	ZZZZZZ	ZZZZZZ	05/24/02	2201				
28	ZZZZZZ	ZZZZZZ	05/24/02	2235				
29	CCV24757	SV4942	05/24/02	2310	18.45			
30	ZZZZZZ	ZZZZZZ	05/24/02	2344				

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

030602 1602 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

523LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.9	59.0	45 - 78
Acenaphthylene	10	6.4	64.0	50 - 91
1-Methylnaphthalene	10	5.4	54.0	48 - 92
2-Methylnaphthalene	10	6.1	61.0	52 - 88
Acenaphthene	10	6.2	62.0	52 - 86
Fluorene	10	7.1	71.0	51 - 92
Phenanthrene	10	7.6	76.0	52 - 98
Anthracene	10	8.3	83.0	44 - 105
Fluoranthene	10	8.1	81.0	58 - 99
Pyrene	10	7.8	78.0	56 - 102
Benzo(a)anthracene	10	8.5	85.0	59 - 103
Chrysene	10	8.6	86.0	58 - 104
Benzo(b)fluoranthene	10	8.6	86.0	53 - 108
Benzo(k)fluoranthene	10	8.6	86.0	52 - 107
Benzo(a)pyrene	10	8.4	84.0	56 - 101
Dibenz(a,h)anthracene	10	9.1	91.0	41 - 114
Benzo(g,h,i)perylene	10	8	80.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	7.9	79.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

030602 1602

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10.4	0	6.6	63.5	45 - 78
Acenaphthylene	10.4	0	7.1	68.3	50 - 91
1-Methylnaphthalene	10.4	0	6.1	58.7	48 - 92
2-Methylnaphthalene	10.4	0	6.8	65.4	52 - 88
Acenaphthene	10.4	0	7	67.3	52 - 86
Fluorene	10.4	0	7.6	73.1	51 - 92
Phenanthrene	10.4	0	8.4	80.8	52 - 98
Anthracene	10.4	0	9.1	87.5	44 - 105
Fluoranthene	10.4	0	9.3	89.4	58 - 99
Pyrene	10.4	0	9.1	87.5	56 - 102
Benzo(a)anthracene	10.4	0	9.7	93.3	59 - 103
Chrysene	10.4	0	9.7	93.3	58 - 104
Benzo(b)fluoranthene	10.4	0	9.8	94.2	53 - 108
Benzo(k)fluoranthene	10.4	0	9.8	94.2	52 - 107
Benzo(a)pyrene	10.4	0	9.6	92.3	56 - 101
Dibenz(a,h)anthracene	10.4	0	10.8	103.8	41 - 114
Benzo(g,h,i)perylene	10.4	0	9.6	92.3	41 - 109
Indeno(1,2,3-cd)pyrene	10.4	0	9.2	88.5	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10.5	5.4	51.4	21.6	27	45 - 78
Acenaphthylene	10.5	6.1	58.1	16.2	34	50 - 91
1-Methylnaphthalene	10.5	4.7	44.8 *	28.3	29	48 - 92
2-Methylnaphthalene	10.5	5.6	53.3	20.7	34	52 - 88
Acenaphthene	10.5	5.8	55.2	20.3	37	52 - 86
Fluorene	10.5	6.6	62.9	14.6	28	51 - 92
Phenanthrene	10.5	7.5	71.4	11.4	32	52 - 98
Anthracene	10.5	8.4	80.0	8.8	34	44 - 105
Fluoranthene	10.5	8.5	81.0	9.9	28	58 - 99
Pyrene	10.5	8.2	78.1	11.0	30	56 - 102
Benzo(a)anthracene	10.5	8.8	83.8	10.2	28	59 - 103
Chrysene	10.5	8.9	84.8	9.8	21	58 - 104
Benzo(b)fluoranthene	10.5	8.8	83.8	11.7	21	53 - 108
Benzo(k)fluoranthene	10.5	9	85.7	8.8	20	52 - 107
Benzo(a)pyrene	10.5	8.8	83.8	10.8	22	56 - 101
Dibenz(a,h)anthracene	10.5	9.5	90.5	13.4	21	41 - 114
Benzo(g,h,i)perylene	10.5	8.4	80.0	14.8	21	41 - 109
Indeno(1,2,3-cd)pyrene	10.5	8	76.2	14.1	28	42 - 105

RPD: 0 out of 18 outside limits

Spike Recovery: 1 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

030602 1602

Standards Data

030602 1602

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RRF0.2 =200PPT.D RRF1 =1PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF15 =15PPB.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	5720.000	5080.000	5044.200	5133.500	4867.333
Acenaphthylene	4100.000	4154.000	3744.000	3818.700	3660.800
1-Methylnaphthalene	6550.000	13284.000	13956.600	15988.200	16102.400
2-Methylnaphthalene	4550.000	4611.000	4369.400	4449.800	4174.733
Acenaphthene	27610.000	16702.000	19081.600	21154.500	21246.267
Fluorene	25475.000	23252.000	23382.000	23509.700	22528.800
Phenanthrene	432495.000	505847.000	539349.000	550458.700	527843.933
Anthracene	149720.000	153201.000	152777.400	150540.600	140845.067
Fluoranthene	15155.000	16569.000	15486.000	15396.600	14813.467
Pyrene	11770.000	13448.000	13297.600	12168.500	11681.867
Benzo(a)anthracene	31140.000	38440.000	36202.400	36517.500	34919.200
Chrysene	49570.000	47195.000	49137.800	50825.200	49707.000
Benzo(b)fluoranthene	28920.000	34226.000	38320.400	39236.200	37893.667
Benzo(k)fluoranthene	32720.000	27369.000	28969.600	30089.700	29028.200
Benzo(a)pyrene	141580.000	140462.000	189816.000	202187.500	195444.467
Dibenz(a,h)anthracene	9945.000	8100.000	8726.400	8563.400	8061.333
Benzo(g,h,i)perylene	13670.000	9543.000	11559.800	12763.000	12592.200
Indeno(1,2,3-cd)pyrene	39525.000	29916.000	29779.000	32864.300	34615.867
==========					
p-Terphenyl-d14(SURR)	17065.000	14242.000	13899.000	14028.100	13389.533

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D

COMPOUND	RRF20	RRF30			
Naphthalene	5045.150	5283.000			
Acenaphthylene	3836.300	3936.467			
1-Methylnaphthalene	17078.900	17766.700			
2-Methylnaphthalene	4364.250	4546.400			
Acenaphthene	22505.800	21861.333			
Fluorene	23133.200	24256.300			
Phenanthrene	541590.300	553245.567			
Anthracene	137233.050	136827.167			
Fluoranthene	14997.500	15837.167			
Pyrene	12071.900	13081.767			
Benzo(a)anthracene	35989.350	37814.433			
Chrysene	49500.500	51824.567			
Benzo(b)fluoranthene	39334.150	42010.933			
Benzo(k)fluoranthene	30029.500	31613.800			
Benzo(a)pyrene	201921.100	210709.333			
Dibenz(a,h)anthracene	8255.100	8482.033			
Benzo(g,h,i)perylene	13250.300	13456.533			
Indeno(1,2,3-cd)pyrene	34076.650	36806.767			
==========					
p-Terphenyl-d14(SURR)	13788.600	14025.033			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	LINR		0.0001937806	0.99796
Acenaphthylene	LINR		0.0002585939	0.99859
1-Methylnaphthalene	LINR		5.800494E-05	0.99527
2-Methylnaphthalene	LINR		0.0002248703	0.99797
Acenaphthene	LINR		4.574517E-05	0.99846
Fluorene	LINR		4.217949E-05	0.99819
Phenanthrene	LINR		1.829164E-06	0.99937
Anthracene	LINR		7.211822E-06	0.99822
Fluoranthene	LINR		6.462131E-05	0.99818
Pyrene	LINR		7.923605E-05	0.99519
Benzo(a)anthracene	LINR		2.709457E-05	0.99793
Chrysene	LINR		1.964936E-05	0.99893
Benzo(b)fluoranthene	LINR		2.460711E-05	0.9962
Benzo(k)fluoranthene	LINR		3.249304E-05	0.9975
Benzo(a)pyrene	LINR		4.858816E-06	0.99787
Dibenz(a,h)anthracene	LINR		0.0001193117	0.9991
Benzo(g,h,i)perylene	LINR		7.560402E-05	0.99804
Indeno(1,2,3-cd)pyrene	LINR		2.811606E-05	0.99546
==========				
p-Terphenyl-d14(SURR)	LINR		7.203011E-05	0.99942

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RT1: 200PPT.D RT2: 1PPB.D
RT3: 5PPB.D RT4: 10PPB.D RT5: 15PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.700	11.777	11.783	11.783	11.770			
Acenaphthylene	12.937	12.993	12.993	13.000	12.980			
1-Methylnaphthalene	13.655	13.711	13.704	13.714	13.694			
2-Methylnaphthalene	13.913	13.953	13.950	13.953	13.937			
Acenaphthene	14.342	14.377	14.374	14.373	14.359			
Fluorene	14.607	14.643	14.640	14.640	14.623			
Phenanthrene	15.510	15.542	15.536	15.529	15.522			
Anthracene	16.147	16.177	16.167	16.163	16.153			
Fluoranthene	16.983	17.007	16.997	16.993	16.983			
Pyrene	17.523	17.550	17.540	17.533	17.527			
Benzo(a)anthracene	19.327	19.340	19.327	19.320	19.313			
Chrysene	19.717	19.730	19.720	19.710	19.707			
Benzo(b)fluoranthene	21.147	21.147	21.133	21.127	21.127			
Benzo(k)fluoranthene	21.777	21.773	21.757	21.747	21.743			
Benzo(a)pyrene	22.492	22.469	22.454	22.444	22.444			
Dibenz(a,h)anthracene	23.380	23.363	23.343	23.323	23.320			
Benzo(g,h,i)perylene	24.107	24.090	24.073	24.060	24.060			
Indeno(1,2,3-cd)pyrene	24.573	24.557	24.537	24.520	24.520			
==========								
p-Terphenyl-d14(SURR)	18.513	18.543	18.533	18.527	18.517			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.783	11.770				11.768	11.550	12.010
Acenaphthylene	13.000	12.980				12.986	12.767	13.227
1-Methylnaphthalene	13.714	13.697				13.701	13.390	13.850
2-Methylnaphthalene	13.957	13.937				13.945	13.720	14.180
Acenaphthene	14.380	14.359				14.368	14.053	14.513
Fluorene	14.643	14.623				14.633	14.407	14.867
Phenanthrene	15.540	15.524				15.530	15.207	15.667
Anthracene	16.170	16.150				16.162	15.933	16.393
Fluoranthene	16.993	16.980				16.992	16.763	17.223
Pyrene	17.533	17.520				17.533	17.303	17.763
Benzo(a)anthracene	19.317	19.307				19.322	19.087	19.547
Chrysene	19.707	19.697				19.713	19.477	19.937
Benzo(b)fluoranthene	21.127	21.117				21.132	20.897	21.357
Benzo(k)fluoranthene	21.743	21.730				21.753	21.513	21.973
Benzo(a)pyrene	22.444	22.432				22.454	22.113	22.573
Dibenz(a,h)anthracene	23.317	23.297				23.335	23.090	23.550
Benzo(g,h,i)perylene	24.057	24.040				24.069	23.827	24.287
Indeno(1,2,3-cd)pyrene	24.513	24.493				24.529	24.283	24.743
==========								
p-Terphenyl-d14(SURR)	18.520	18.510				18.525	18.297	18.757

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 CalibrationDate: 05/24/02 Time: 1213

Lab File ID: CCV12.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	14.8	15	LINR	1.3	15.0
Acenaphthylene	14.7	15	LINR	2.0	15.0
1-Methylnaphthalene	14.8	15	LINR	1.3	15.0
2-Methylnaphthalene	14.6	15	LINR	2.7	15.0
Acenaphthene	15.4	15	LINR	2.7	15.0
Fluorene	14.8	15	LINR	1.3	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	15.9	15	LINR	6.0	15.0
Fluoranthene	14.7	15	LINR	2.0	15.0
Pyrene	14.5	15	LINR	3.3	15.0
Benzo(a)anthracene	14.8	15	LINR	1.3	15.0
Chrysene	14.6	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15	15	LINR	0.0	15.0
Benzo(k)fluoranthene	14.9	15	LINR	0.7	15.0
Benzo(a)pyrene	15.5	15	LINR	3.3	15.0
Dibenz(a,h)anthracene	16.3	15	LINR	8.7	15.0
Benzo(g,h,i)perylene	15.5	15	LINR	3.3	15.0
Indeno(1,2,3-cd)pyrene	14.6	15	LINR	2.7	15.0
==========					
p-Terphenyl-d14	15.2	15	LINR	1.3	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 CalibrationDate: 05/24/02 Time: 1908

Lab File ID: CCV22.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	14.8	15	LINR	1.3	15.0
Acenaphthylene	14.6	15	LINR	2.7	15.0
1-Methylnaphthalene	14.5	15	LINR	3.3	15.0
2-Methylnaphthalene	14.6	15	LINR	2.7	15.0
Acenaphthene	15.2	15	LINR	1.3	15.0
Fluorene	14.8	15	LINR	1.3	15.0
Phenanthrene	15	15	LINR	0.0	15.0
Anthracene	16	15	LINR	6.7	15.0
Fluoranthene	15	15	LINR	0.0	15.0
Pyrene	14.5	15	LINR	3.3	15.0
Benzo(a)anthracene	14.8	15	LINR	1.3	15.0
Chrysene	14.9	15	LINR	0.7	15.0
Benzo(b)fluoranthene	15	15	LINR	0.0	15.0
Benzo(k)fluoranthene	14.9	15	LINR	0.7	15.0
Benzo(a)pyrene	15	15	LINR	0.0	15.0
Dibenz(a,h)anthracene	15.8	15	LINR	5.3	15.0
Benzo(g,h,i)perylene	14.9	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	14.2	15	LINR	5.3	15.0
==========					
p-Terphenyl-d14	15.1	15	LINR	0.7	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 CalibrationDate: 05/24/02 Time: 2310

Lab File ID: CCV31.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	14.8	15	LINR	1.3	15.0
Acenaphthylene	14.7	15	LINR	2.0	15.0
1-Methylnaphthalene	14.1	15	LINR	6.0	15.0
2-Methylnaphthalene	14.6	15	LINR	2.7	15.0
Acenaphthene	15.2	15	LINR	1.3	15.0
Fluorene	14.9	15	LINR	0.7	15.0
Phenanthrene	14.7	15	LINR	2.0	15.0
Anthracene	16	15	LINR	6.7	15.0
Fluoranthene	15.1	15	LINR	0.7	15.0
Pyrene	16	15	LINR	6.7	15.0
Benzo(a)anthracene	14.9	15	LINR	0.7	15.0
Chrysene	14.5	15	LINR	3.3	15.0
Benzo(b)fluoranthene	14.9	15	LINR	0.7	15.0
Benzo(k)fluoranthene	14.8	15	LINR	1.3	15.0
Benzo(a)pyrene	14.9	15	LINR	0.7	15.0
Dibenz(a,h)anthracene	13.2	15	LINR	12.0	15.0
Benzo(g,h,i)perylene	14.7	15	LINR	2.0	15.0
Indeno(1,2,3-cd)pyrene	14.1	15	LINR	6.0	15.0
==========					
p-Terphenyl-d14	15.3	15	LINR	2.0	15.0

7SSC

PAH ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SLC02 CalibrationDate: 05/16/02 Time: 1150

Lab File ID: SECCCV.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.1	15	LINR	0.7	15.0
Acenaphthylene	14.3	15	LINR	4.7	15.0
1-Methylnaphthalene	15.3	15	LINR	2.0	15.0
2-Methylnaphthalene	14.6	15	LINR	2.7	15.0
Acenaphthene	15.3	15	LINR	2.0	15.0
Fluorene	15	15	LINR	0.0	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	15.5	15	LINR	3.3	15.0
Fluoranthene	15.1	15	LINR	0.7	15.0
Pyrene	14.6	15	LINR	2.7	15.0
Benzo(a)anthracene	14.8	15	LINR	1.3	15.0
Chrysene	15.2	15	LINR	1.3	15.0
Benzo(b)fluoranthene	15	15	LINR	0.0	15.0
Benzo(k)fluoranthene	14.9	15	LINR	0.7	15.0
Benzo(a)pyrene	14.4	15	LINR	4.0	15.0
Dibenz(a,h)anthracene	12.8	15	LINR	14.7	15.0
Benzo(g,h,i)perylene	14.9	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	14.3	15	LINR	4.7	15.0
==========					
p-Terphenyl-d14	15.2	15	LINR	1.3	15.0

GC FL-PRO ORGANICS

METHOD FL-PRO

030602 1602

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by FL PRO for semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met with the exception of:
Sample DMW01Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 75 % with criteria of (82-142). Sample DUPQ20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 80 % with criteria of (82-142). Sample EQBQ20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 70 % with criteria of (82-142). Sample LCS was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 68 % with criteria of (82-142). Sample SMW01Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 67 % with criteria of (82-142 Sample SMW01Q20224MS was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 67.3 % with criteria of (82-142). Sample SMW01Q20224SD was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 78.2 % with criteria of (82-142). Sample SMW02Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 55.5 % with criteria of (82-142). Sample SMW05Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 74.5 % with criteria of (82-142). Sample SMW12Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 65.5 % with criteria of (82-142).
Since the other surrogate met all criteria, and since all of the quality control samples met all criteria no further action was taken.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference(RPD) criteria were met.

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. Upon review of the sample DUPQ20224 PEL was unable to determine which sample this sample was the duplicate of since all of the samples were non-detect and the chromatography for all samples was non-descript.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 5-31-07

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Method: **FL-PRO**

EPA Sample No	Lab Sample ID
SMW01Q20224	220409501
SMW02Q20224	220409502
SMW05Q20224	220409503
SMW12Q20224	220409504
DMW01Q20224	220409505
DUPQ20224	220409508
EQBQ20224	220409509

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Sample Data

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409501

Lab File ID: 95-1.D

Sample wt/vol: 945

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1328

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

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Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409502

Lab File ID: 95-2.D

Sample wt/vol: 925

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1357

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

030602 1602

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409503

Lab File ID: 95-3.D

Sample wt/vol: 935

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1426

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

030602 1602

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409504

Lab File ID: 95-4.D

Sample wt/vol: 940

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1456

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-1

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

030602 1602

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409505

Lab File ID: 95-5.D

Sample wt/vol: 955

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1525

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-DMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

030602 1602

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409508

Lab File ID: 95-8.D

Sample wt/vol: 960

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1723

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.21	U

030602 1602

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 220409509

Lab File ID: 95-9.D

Sample wt/vol: 920

Units: ML

Date Received: 05/22/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1752

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.22	U

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Form I

QC Summary

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1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

BLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204095

Matrix: WATER

Lab Sample ID: 69666

Lab File ID: BLK.D

Sample wt/vol: 1000

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 2

Date Extracted: 05/23/02

Level:(low/med) LOW

Date Analyzed: 05/24/02

Time: 1132

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID:

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.2	U

030602 1602

Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: BLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204095
Lab File ID: BLK.D
Lab Sample ID: 69666
Instrument ID: SFID02
Date Extracted: 05/23/02
Matrix: WATER
Date Analyzed: 05/24/02
Level:(low/med) LOW
Time Analyzed: 1132

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS	69667	LCS.D	05/24/02	1201
2	SMW01Q20224	220409501	95-1.D	05/24/02	1328
3	SMW02Q20224	220409502	95-2.D	05/24/02	1357
4	SMW05Q20224	220409503	95-3.D	05/24/02	1426
5	SMW12Q20224	220409504	95-4.D	05/24/02	1456
6	DMW01Q20224	220409505	95-5.D	05/24/02	1525
7	SMW01Q20224MS	220409506	95-6.D	05/24/02	1555
8	SMW01Q20224SD	220409507	95-7.D	05/24/02	1654
9	DUPQ20224	220409508	95-8.D	05/24/02	1723
10	EQBQ20224	220409509	95-9.D	05/24/02	1752

COMMENTS:

2A

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204095

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
BLK	85.0	81.7					0
DMW01Q20224	75.0 *	112.7					1
DUPQ20224	80.0 *	111.3					1
EQBQ20224	70.0 *	101.5					1
LCS	68.0 *	91.7					1
SMW01Q20224	67.0 *	98.4					1
SMW01Q20224MS	67.3 *	112.5					1
SMW01Q20224SD	78.2 *	95.5					1
SMW02Q20224	55.5 *	92.3					1
SMW05Q20224	74.5 *	98.4					1
SMW12Q20224	65.5 *	118.8					1

Control Limits

S1	=	o-Terphenyl Surrogate	82	-	142
S2	=	C39 Surrogate	42	-	193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 05/23/02

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.66 S2 : 10.1

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD24355	CALSTD7SV5111	05/23/02	1143	4.64	10.03
2	STD24354	CALSTD6SV5112	05/23/02	1211	4.64	9.99
3	STD24353	CALSTD5SV5113	05/23/02	1241	4.66	10.09
4	STD24352	CALSTD4SV5114	05/23/02	1310	4.66	10.07
5	STD24351	CALSTD3SV5115	05/23/02	1339	4.67	10.16
6	STD24350	CALSTD2SV5116	05/23/02	1408	4.68	10.18
7	STD24349	CALSTD1SV5117	05/23/02	1438	4.66	10.16
8	SSC24360	SECSV5118	05/23/02	1507	4.66	10.11
9	ZZZZZZ	ZZZZZZ	05/24/02	0956		
10	CCV24356	CCV1SV5113	05/24/02	1025	4.68	10.18
11	BLK	69666	05/24/02	1132	4.71	10.31
12	LCS	69667	05/24/02	1201	4.64	10
13	ZZZZZZ	ZZZZZZ	05/24/02	1230		
14	ZZZZZZ	ZZZZZZ	05/24/02	1259		
15	SMW01Q20224	220409501	05/24/02	1328	4.66	10.1
16	SMW02Q20224	220409502	05/24/02	1357	4.65	10.08
17	SMW05Q20224	220409503	05/24/02	1426	4.67	10.14
18	SMW12Q20224	220409504	05/24/02	1456	4.66	10.1
19	DMW01Q20224	220409505	05/24/02	1525	4.66	10.1
20	SMW01Q20224MS	220409506	05/24/02	1555	4.66	10.07
21	CCV24357	CCV2SV5115	05/24/02	1624	4.66	10.05
22	SMW01Q20224SD	220409507	05/24/02	1654	4.64	10.05
23	DUPQ20224	220409508	05/24/02	1723	4.65	10.03
24	EQBQ20224	220409509	05/24/02	1752	4.66	10.1
25	ZZZZZZ	ZZZZZZ	05/24/02	1822		
26	ZZZZZZ	ZZZZZZ	05/24/02	1851		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 05/23/02

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.66 S2 : 10.1

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
27	ZZZZZZ	ZZZZZZ	05/24/02	1920				
28	CCV24358	CCV3SV5115	05/24/02	1950	4.65		10.02	

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	2.4	70.6	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.6	0	2.8	77.8	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.8	2.7	71.1	6.2	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

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6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 Calibration Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1438

LAB FILE ID: RRF0.034 =1.D RRF0.17 =2.D
RRF0.85 =3.D RRF1.7 =4.D RRF2.55 =5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	48002264.706	10748011.765	7509758.824	7394946.471	6418604.314
==========					
o-Terphenyl Surrogate(SURR)	4998520.000	6292960.000	5755120.000	6213480.000	5864340.000
C39 Surrogate(SURR)	4588146.667	3936980.000	4138710.000	3999263.333	3920570.000

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 Calibration Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1438

LAB FILE ID: RRF5.1 =6.D RRF6.8 =7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	5944590.980	5521338.824			
==========					
o-Terphenyl Surrogate(SURR)	5397200.000	5946640.000			
C39 Surrogate(SURR)	3722086.667	3086936.667			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 Calibration Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1438

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
TPH	LINR	-0.348109767	1.841715E-07	0.99507
==========				
o-Terphenyl Surrogate(SURR)	AVRG		5781180	7.9
C39 Surrogate(SURR)	AVRG		3913241.9048	11.6

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 Calibration Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1438

LAB FILE ID: RT1: 1.D RT2: 2.D
RT3: 3.D RT4: 4.D RT5: 5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.350	6.350	6.350	6.350	6.350			
==========								
o-Terphenyl Surrogate(SURR)	4.663	4.677	4.673	4.657	4.657			
C39 Surrogate(SURR)	10.160	10.180	10.157	10.073	10.093			

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 Calibration Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1438

LAB FILE ID: RT6: 6.D RT7: 7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
TPH	6.350	6.350				6.350	1.500	11.200
==========								
o-Terphenyl Surrogate(SURR)	4.640	4.643				4.659	4.587	4.727
C39 Surrogate(SURR)	9.987	10.033				10.098	9.793	10.393

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 CalibrationDate: 05/24/02 Time: 1025

Lab File ID: CCV1.D Init. Calib. Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.68	2.55	LINR	5.1	25.0
==========					
C39 Surrogate	0.353	0.3	AVRG	17.7	25.0
o-Terphenyl Surrogate	0.0418	0.05	AVRG	16.4	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 CalibrationDate: 05/24/02 Time: 1624

Lab File ID: CCV2.D Init. Calib. Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.63	2.55	LINR	3.1	25.0
==========					
C39 Surrogate	0.357	0.3	AVRG	19.0	25.0
o-Terphenyl Surrogate	0.0387	0.05	AVRG	22.6	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 CalibrationDate: 05/24/02 Time: 1950

Lab File ID: CCV3.D Init. Calib. Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.68	2.55	LINR	5.1	25.0
==========					
o-Terphenyl Surrogate	0.0398	0.05	AVRG	20.4	25.0
C39 Surrogate	0.356	0.3	AVRG	18.7	25.0

7SSC

FL-PRO ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID: SFID02 CalibrationDate: 05/23/02 Time: 1507

Lab File ID: S.D Init. Calib. Date: 05/23/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
TPH	2.49	2.55	LINR	2.4	25.0
==========					
C39 Surrogate	0.302	0.3	AVRG	0.7	25.0
o-Terphenyl Surrogate	0.0402	0.05	AVRG	19.6	25.0

Inorganics

030602 1602

Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P ICP
A Flame AA
F Furnace AA
CV Manual Cold Vapor AA
TC Total Organic Carbon
AS Semi-Automated Spectrophotometric
CA Midi-Distillation Spectrophotometric
T Titrimetric
C Manual Spectrophotometric
GR Gravimetric
NR Analyte was not required by your lab

Inorganic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for inorganic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

METALS DATA PACKAGE
TOTALS

030602 1602

CASE NARRATIVE
METALS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Analyses were performed according to PEL Laboratory's Standard Operating Procedures and EPA Method 6010B for ICP metals.

IV. PREPARATION

Water samples were prepared according to PEL Laboratory's Standard Operating Procedures and EPA method 3010A.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

1. Calibration Blanks:

All acceptance criteria were met.

2. Method Blanks:

All acceptance criteria were met.

C. Spikes:

1. Laboratory Control Spikes (LCS):

All acceptance criteria were met.

2. Post Digestion Spike:

All acceptance criteria were met.

CASE NARRATIVE
METALS

PEL Lab Reference No./SDG: 2204095

Client: CH2M Hill

3. **Matrix Spike/Matrix Spike Duplicate Samples (MS/SD):**

   A client requested MS/SD set was analyzed.
   All percent recovery and relative percent difference(RPD) criteria were met.

D. Duplicate:

No sample duplicates are reported with this method. (Spike duplicates are referenced above in section C. Spikes.)

E. Serial Dilution:

All acceptance criteria were met.

F. ICP Interference Check Samples:

All acceptance criteria were met.

G. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 5/29/02

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2204095

SOW No.:

EPA Sample No	Lab Sample ID
SMW01Q20224	220409501
SMW02Q20224	220409502
SMW05Q20224	220409503
SMW12Q20224	220409504
DMW01Q20224	220409505
DUPQ20224	220409508
EQBQ20224	220409509

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:

030602 1602

Sample Data

030602 1602

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409501

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409502

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409503

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW12Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409504

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	11.9			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DMW01Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409505

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409508

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Lab Sample ID: 220409509

Level:(low/med) LOW Date Received: 5/22/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

030602 1602

QC Summary

030602 1602

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Initial Calibration Source: MET-23601

Continuing Calibration Source: MET-23701

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	394.438	98.6	500	521.460	104.3	517.096	103.4	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

030602 1602

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Initial Calibration Source:

Continuing Calibration Source: MET-23701

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	525.197	105.0			P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

030602 1602

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Preparation Blank Matrix (water/soil): 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
Lead	5	U	5	U	5	U	5	U	5	U	P

030602 1602

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

ICP ID#: ICAP ICSA Source: MET-23103

ICSAB Source: MET-22607

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		48.8	97.7			

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	535		5	U	500	107.0		P

Comments:

030602 1602

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW01Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	529		5	U	500	105.8		P

Comments:

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

DMW01Q20224A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	536.00		5.00	U	500	107.2		P

Comments:

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6

DUPLICATES

EPA Sample No.

SMW01Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	535		529		1.0		P

Comments:

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LABORATORY CONTROL SAMPLE

EPA Sample No.

69733LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Solid LCS Source:

Aqueous LCS Source: MET-18802, MET-15502

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	489	97.8				-	

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9

ICP SERIAL DILUTIONS

EPA Sample No.

DMW01Q20224L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	5.00	U	25.00	U			P

Comments:

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

ICP ID Number : ICAP Date: 4/1/2002

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		5	2	P

Comments:

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.: 2204095

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length	Interelement Correction Factors for:				
		Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.000023	-0.000014		0.000055	

Comments:

030602 1602

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11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.:

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length		Interelement Correction Factors for:				
			Mn	Mo	Sb	V	
Lead	220.3			-0.000814			

Comments:

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ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

ICP ID NUMBER ICAP DATE : 1/26/2002

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

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U.S. EPA - CLP

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
69732BLK	23 May 02		50
69733LCS	23 May 02		50
DMW01Q20224	23 May 02		50
DUPQ20224	23 May 02		50
EQBQ20224	23 May 02		50
SMW01Q20224	23 May 02		50
SMW01Q20224MS	23 May 02		50
SMW01Q20224SD	23 May 02		50
SMW02Q20224	23 May 02		50
SMW05Q20224	23 May 02		50
SMW12Q20224	23 May 02		50

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204095

Instrument ID Number : ICAP Method : P

Start Date : 5/24/2002 End Date : 5/24/2002

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
STD1-B	1	14:13																					X								
STD3	1	14:18																					X								
STD2	1	14:23																													
ICV	1	14:28																					X								
ICB	1	14:33																					X								
ZZZZZZ	1	14:38																													
ICSA	1	14:44																					X								
ICSAB	1	14:49																					X								
CCV	1	15:00																					X								
CCB	1	15:05																					X								
69732BLK	1	15:11																					X								
69733LCS	1	15:16																					X								
DMW01Q20224	1	15:21																					X								
DMW01Q20224A	1	15:27																					X								
SMW01Q20224MS	1	15:32																					X								
SMW01Q20224SD	1	15:38																					X								
DMW01Q20224L	5	15:43																					X								
SMW01Q20224	1	15:49																					X								
SMW02Q20224	1	15:54																					X								
SMW05Q20224	1	15:59																					X								
CCV	1	16:10																					X								
CCB	1	16:15																					X								
SMW12Q20224	1	16:21																					X								
DUPQ20224	1	16:26																					X								
EQBQ20224	1	16:32																					X								
ZZZZZZ	1	16:37																													
ZZZZZZ	5	16:42																													
ZZZZZZ	1	16:48																													
ZZZZZZ	1	16:53																													
ZZZZZZ	1	16:59																													
ZZZZZZ	1	17:04																													
ZZZZZZ	1	17:10																													
CCV	1	17:15																					X								
CCB	1	17:21																					X								

030602 1603

Chain of Custody Documentation

030602 1603

I Hill Constructors, Inc.
ter Center Place, Suite 700
A 30346-1278
0) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD 2204-095

COC NUMBER 163151-043 Page 1 of 1

NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
Cecil Field reet	163151	PEL / Darcy Weisman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32221 (904) 777-812 FAX: (904) 7774262
PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
reet CW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 561 FAX:604-9282
CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
elos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		**Revised COC rec'd 5/29/02

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q2-02-24	CEF-103-SMW-01	W	05/21/02	10:25	III/C	14	9	6	3	6							Grab	MS/MSD	-01, -06, -07
062-SMW02-Q2-02-24	CEF-103-SMW-02	W	05/21/02	15:50	III/C	14	3	2	1	2							Grab		-02
062-SMW05-Q2-02-24	CEF-103-SMW-05	W	05/21/02	13:55	III/C	14	3	2	1	2							Grab		-03
062-SMW12-Q2-02-24	CEF-103-SMW-12	W	05/21/02	13:10	III/C	14	3	2	1	2							Grab		-04
062-DMW01-Q2-02-24	CEF-103-DMW-01	W	05/21/02	15:10	III/C	14	3	2	1	2							Grab		-05
062-DUP-Q2-02-24	Duplicate	W	05/21/02	NA	III/C	14	3	2	1	2							Grab		-08
062-EQB-Q2-02-24	Equipment Blank	W	05/21/02	12:35	III/C	14	3	2	1	2							Grab		-09
062-TB1-Q2-02-24	Trip Blank #1	W	NA	NA	III/C	14	3										Grab		-10
Temp Blank	Temp Blank	W	NA	NA	III/C	14					5								

*additional sample containers rec'd for 8310 & PRO

(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
umaop / Sean Smith es Environmental Services	Federal Express TRK #792038051623, 791843333774, 792038051851, 791843334049, 792038051965 . (5 Coolers)	Temp upon rect 4°C pH < 2 (8260, Metals, Pro's)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
e and Signature:			Printed Name and Signature:		
	5/21/02	17:30	Federal Express	5/21/02	17:30
e and Signature:			Printed Name and Signature:		
			(See original COC)		
e and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

2204-095

M Hill Constructors, Inc.
meter Center Place, Suite 700
A 30346-1278
0) 604-9182 : Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-043 Page 1 of 1

NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
Cecil Field treet	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 777-812,FAX: (904) 7774262
PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
treet GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
nelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO						SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q2-02-24	CEF-103-SMW-01	W	05/21/02	10:25	III/C	14	3	2	1	2						Grab		01,06,07
062-SMW02-Q2-02-24	CEF-103-SMW-02	W	05/21/02	15:50	III/C	14	3	2	1	2						Grab		02
062-SMW05-Q2-02-24	CEF-103-SMW-05	W	05/21/02	13:55	III/C	14	3	2	1	2						Grab		03
062-SMW12-Q2-02-24	CEF-103-SMW-12	W	05/21/02	13:10	III/C	14	3	2	1	2						Grab		04
062-DMW01-Q2-02-24	CEF-103-DMW-01	W	05/21/02	15:10	III/C	14	9	6	3	6						Grab	MS/MSD	05, ~~06,07~~
062-DUP-Q2-02-24	Duplicate	W	05/21/02	NA	III/C	14	3	2	1	2						Grab		08
062-EQB-Q2-02-24	Equipment Blank	W	05/21/02	12:35	III/C	14	3	2	1	2						Grab		09
062-TB1-Q2-02-24	Trip Blank #1	W	NA	NA	III/C	14	3									Grab		10
Temp Blank	Temp Blank	W	NA	NA	III/C	14					5							
										*	Extra Containers rec'd for FLPRO and 8310. 05/22/02							

R(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Dumaop / Sean Smith nes Environmental Services	Federal Express TRK #792038051623, 791843333774, 792038051851, 791843334049, 792038051965 . (5 Coolers)	Temp upon rec'd 4°C pH<2 (8260's, Metals, FLPRO's)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ame and Signature:			Printed Name and Signature:		
P	5/21/02	17:30	Federal Express	5/21/02	17:30
ame and Signature:			Printed Name and Signature: Keith L. Brenner		
Fed Ex	05/22/02	09:45		05/22/02	09:45
ame and Signature:			Printed Name and Signature:		

PEL LABS SAMPLE LOG IN SHEET

Project # 2204-095

Client Information

Client: Cham Hill	Date Rec'd: 5/22/02
Project: Cecil Field	Due Date: —
Log In Tech: ZK	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For? 5/29/02	✓	✓
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	✓		Correct Sample Containers?	✓	
Soil Origin Domestic? NA			Soil Origin Foreign? NA		

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH		
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?		✓
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?		✓
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET -

WO# 2204-095

By MK

Client/Project CH2M Hill / Cecil Field

Date 5/22/02

EL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other ____ pH ____
204-095-01	(2) pH<2	(1) pH<2			(3) pH<2	
-02						
-03						
-04						
-05						
-06						
-07						
-08						
-09						
-10						

76

CH2M Hill / Cecil Field 2204-095

Sample #	Parameter	Rel'd	Rec'd	Date	Time
1-10	8260(w)	✓	MB	5/22/02	6:15
1-10	8260(w)	MB	✓	5/24/02	5:30
1-9	8310(w)	✓	JB	5/23/02	11:45
1-9	8310(w)	Consumed			
1-9	Pro (w)	✓	Cut	5/23/02	1500
1-9	Pro (w)	Consumed			
1-9	Metals(w)	✓	RH	5/23/2	0910
1-9	Metals(w)	RH	✓	5/23/2	1230

Addendum

030602 1603

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	5-22-02; 9:45 AM
Date to be Reported:	6-5-02
Laboratory Submission Number/SDG:	2204095
Project:	NAS Cecil Field

Samples: The submission consisted of 10 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Level: 4

Total of: 37 analyses on 10 samples (including QC) *22-May-02*

Report/SDG #: 2204095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW01Q20224	220409501	CEF-103-SMW-	W	5/21/02 10:25:00 AM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW02Q20224	220409502	CEF-103-SMW-	W	5/21/02 3:50:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW05Q20224	220409503	CEF-103-SMW-	W	5/21/02 1:55:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW12Q20224	220409504	CEF-103-SMW-	W	5/21/02 1:10:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2204095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DMW01Q20224	220409505	CEF-103-DMW-	W	5/21/02 3:10:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DMW01Q20224MS	220409506	CEF-103-DMW-	WQ	5/21/02 3:10:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DMW01Q20224SD	220409507	CEF-103-DMW-	WQ	5/21/02 3:10:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DUPQ20224	220409508	Duplicate	W	5/21/02	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2204095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
EQBQ20224	220409509	Equipment	WQ	5/21/02 12:35:00 PM	5/22/02 9:45:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TB1Q20224	220409510	Trip Blank #1	WQ	5/22/02	5/22/02 9:45:00 AM

Method		
8260	Volatile Organic Compounds	8260

2204-095

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-043 Page 1

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Annual GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO						SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB
1	062-SMW01-Q2-02-24	CEF-103-SMW-01	W	05/21/02	10:25	III/C	14	3	2	1	2						Grab		01
2	062-SMW02-Q2-02-24	CEF-103-SMW-02	W	05/21/02	15:50	III/C	14	3	2	1	2						Grab		02
3	062-SMW05-Q2-02-24	CEF-103-SMW-05	W	05/21/02	13:55	III/C	14	3	2	1	2						Grab		03
4	062-SMW12-Q2-02-24	CEF-103-SMW-12	W	05/21/02	13:10	III/C	14	3	2	1	2						Grab		04
5	062-DMW01-Q2-02-24	CEF-103-DMW-01	W	05/21/02	15:10	III/C	14	9	6	3	6						Grab	MS/MSD	05,06
6	062-DUP-Q2-02-24	Duplicate	W	05/21/02	NA	III/C	14	3	2	1	2						Grab		08
7	062-EQB-Q2-02-24	Equipment Blank	W	05/21/02	12:35	III/C	14	3	2	1	2						Grab		09
8	062-TB1-Q2-02-24	Trip Blank #1	W	NA	NA	III/C	14	3									Grab		10
9	Temp Blank	Temp Blank	W	NA	NA	III/C	14					5							
10											* Extra Containers rec'd for FLPRO and 8310. 05/22/02								

SAMPLER(S) AND COMPANY: (please print)
Andy Dumaop / Sean Smith
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #792038051623, 791843333774, 792038051851, 791843334049, 792038051965 . (5 Coolers)

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Temp upon rec'd 4°C
pH<2 (8260's, Metals, FLPRO's)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Dumaop	5/21/02	17:30	Printed Name and Signature: Federal Express	5/21/02	17:30
Printed Name and Signature: Fed Ex	05/22/02	09:45	Printed Name and Signature: Keith W Brenner	05/22/02	09:4
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

PEL LABS SAMPLE LOG IN SHEET

Project # 2204-095

Client Information

Client: Cham Hill	Date Rec'd: 5/22/02
Project: Cecil Field	Due Date: —
Log In Tech: ZK	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	✓		Correct Sample Containers?	✓	
Soil Origin Domestic? NA			Soil Origin Foreign? NA		

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD RUSH		
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?		✓
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?		✓
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

1010000 1000101 1100110

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	5-23-02; 10:01 AM
Date Reported:	6-5-02
PEL Submission Number:	2204112
Project:	NAS Cecil Field

Samples: The submission consisted of 8 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA methods: 8260, 8310, 6010, and FLPRO.

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparentlyidentical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2204112-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2204112	0523BLKA32	MB	0523BLKA32	0523BLKA32
Cecil Field	2204112	0523LCSA31	BS	0523LCSA31	0523LCSA31
Cecil Field	2204112	524BLK	MB	69710	524BLK
Cecil Field	2204112	524BLKMS	BS	69712	524BLK
Cecil Field	2204112	524BLKSD	BD	69713	524BLK
Cecil Field	2204112	524LCS	BS	69711	524LCS
Cecil Field	2204112	69988BLK	MB	69988	69988BLK
Cecil Field	2204112	69989LCS	BS	69989	69989LCS
Cecil Field	2204112	BLK	MB	69967	BLK
Cecil Field	2204112	BLKMS	BS	69969	BLK
Cecil Field	2204112	BLKSD	BD	69970	BLK
Cecil Field	2204112	LCS	BS	69968	LCS
Cecil Field	2204112	SMW04Q20224	N	220411201	062-SMW04-Q2-02-24
Cecil Field	2204112	SMW06Q20224	N	220411202	062-SMW06-Q2-02-24
Cecil Field	2204112	SMW07Q20224	N	220411203	062-SMW07-Q2-02-24
Cecil Field	2204112	SMW08Q20224	N	220411204	062-SMW08-Q2-02-24
Cecil Field	2204112	SMW09Q20224	N	220411205	062-SMW09-Q2-02-24
Cecil Field	2204112	SMW10Q20224	N	220411206	062-SMW10-Q2-02-24
Cecil Field	2204112	SMW11Q20224	N	220411207	062-SMW11-Q2-02-24
Cecil Field	2204112	TB2Q20224	TB	220411208	062-TB2-Q2-02-24

Organics **1**
METHOD 8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 33
Standards Data 48
METHOD 8310 HPLC PAH ORGANICS 57
Sample Data 61
QC Summary 69
Standards Data 78
METHOD FL-PRO GC FL- PRO ORGANICS 88
Sample Data 92
QC Summary 100
Standards Data 108

Inorganics **118**
METALS DATA PACKAGE TOTALS 121
Sample Data 125
QC Summary 133

Chain of Custody Documentation **153**

Addendum **158**

Organics

050602 1059

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" qualifier.

N This qualifier indicates presumptive evidence of an analyte. This qualifier is only used for tentatively identified compounds (TIC), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

050602 1059

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by SW846/5030B for EPA8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A MS/SD set (not requested by client) was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met. A Form 3 has been included for your review.

E. Internal Standards:

All acceptance criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 06-05-02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Method: **8260**

EPA Sample No	Lab Sample ID
SMW04Q20224	220411201
SMW06Q20224	220411202
SMW07Q20224	220411203
SMW08Q20224	220411204
SMW09Q20224	220411205
SMW10Q20224	220411206
SMW11Q20224	220411207
TB2Q20224	220411208

050602 1059

Sample Data

050602 1059

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411201 Lab File ID: 11201.D

Sample wt/vol: 5 Units: ML Date Received: 05/23/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1347

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411201
Lab File ID: 11201.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1347
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411201

Lab File ID: 11201.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1347

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411202
Lab File ID: 11202.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1411
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411202
Lab File ID: 11202.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1411
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411202

Lab File ID: 11202.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1411

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411203 Lab File ID: 11203.D

Sample wt/vol: 5 Units: ML Date Received: 05/23/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1435

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411203
Lab File ID: 11203.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1435
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411203

Lab File ID: 11203.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1435

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411204
Lab File ID: 11204.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1458
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411204
Lab File ID: 11204.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1458
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411204

Lab File ID: 11204.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1458

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411205 Lab File ID: 11205.D

Sample wt/vol: 5 Units: ML Date Received: 05/23/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/02 Time: 1522

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411205
Lab File ID: 11205.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1522
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-0
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411205

Lab File ID: 11205.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1522

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-0

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411206
Lab File ID: 11206.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1546
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411206
Lab File ID: 11206.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1546
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411206

Lab File ID: 11206.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1546

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411207
Lab File ID: 11207.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1610
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411207
Lab File ID: 11207.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1610
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: CEF-103-SMW-1
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	3.2	
511-39-00	p,m-Xylene	0.59	J
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	2.3	
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	1.6	
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	0.7	J
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	0.6	J
135-98-8	sec-Butylbenzene	1.6	
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.46	
104-51-8	n-Butylbenzene	0.65	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411207

Lab File ID: 11207.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1610

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-103-SMW-1

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	5.4	
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	0.59	J

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB2Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411208
Lab File ID: 11208.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1633
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: Trip Blank #2
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB2Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411208
Lab File ID: 11208.D
Sample wt/vol: 5
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 5
Date Extracted:
Level:(low/med) LOW
Date Analyzed: 05/23/02
Time: 1633
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: PURGETRAP
Station ID: Trip Blank #2
Method: 8260
GPC Cleanup : (Y/N)
pH:
Column(1): DB-624
ID: 0.18 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB2Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411208

Lab File ID: 11208.D

Sample wt/vol: 5

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02

Time: 1633

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank #2

Method: 8260

GPC Cleanup : (Y/N)

pH:

Column(1): DB-624

ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

QC Summary

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 0523BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5 Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02 Time: 0815

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 0523BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5 Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02 Time: 0815

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0523BLKA32

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 0523BLKA32

Lab File ID: BLK32.D

Sample wt/vol: 5 Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 05/23/02 Time: 0815

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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Form I

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VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0523BLKA32

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112

Lab File ID: BLK32.D
Lab Sample ID: 0523BLKA32

Instrument ID: VMS03
Date Extracted:

Matrix: WATER
Date Analyzed: 05/23/02

Level:(low/med) LOW
Time Analyzed: 0815

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0523LCSA31	0523LCSA31	LCS31.D	05/23/02	0640
2	SMW01Q20224MS	220409506	09506.D	05/23/02	0704
3	SMW01Q20224SD	220409507	09507.D	05/23/02	0727
4	SMW01Q20224	220409501	09501.D	05/23/02	1038
5	SMW04Q20224	220411201	11201.D	05/23/02	1347
6	SMW06Q20224	220411202	11202.D	05/23/02	1411
7	SMW07Q20224	220411203	11203.D	05/23/02	1435
8	SMW08Q20224	220411204	11204.D	05/23/02	1458
9	SMW09Q20224	220411205	11205.D	05/23/02	1522
10	SMW10Q20224	220411206	11206.D	05/23/02	1546
11	SMW11Q20224	220411207	11207.D	05/23/02	1610
12	TB2Q20224	220411208	11208.D	05/23/02	1633

COMMENTS:

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2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2204112

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0523BLKA32	103.0	102.4	104.0	108.6			0
0523LCSA31	98.6	100.6	103.0	104.2			0
SMW04Q20224	99.8	101.4	101.6	107.0			0
SMW06Q20224	100.0	100.4	101.4	108.2			0
SMW07Q20224	99.0	99.4	101.8	100.4			0
SMW08Q20224	99.8	98.2	101.2	108.0			0
SMW09Q20224	100.6	103.2	103.0	106.0			0
SMW10Q20224	100.8	99.6	102.6	108.8			0
SMW11Q20224	99.0	101.2	97.8	105.4			0
TB2Q20224	98.8	100.2	100.8	107.6			0

Control Limits

S1	=	Dibromofluoromethane	86 -	118
S2	=	Toluene d8	88 -	110
S3	=	4-Bromofluorobenzene	86 -	115
S4	=	1,2-Dichloroethane-d4	80 -	120

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Lab File ID: BFB31.D BFB Injection Date: 05/13/02

Instrument ID: VMS03 BFB Injection Time: 0529

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	23.2	
75	30.0 - 60.0% of mass 95	50.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0	(0)1
174	50.0 - 100.0% of mass 95	68.4	
175	5.0 - 9.0% of mass 174	5.1	(7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67.3	(98.4)1
177	5.0 - 9.0% of mass 176	4.2	(6.2)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD23125	80PPBCAL	80PPB.D	05/13/02	0553
2	STD23124	60PPBCAL	60PPB.D	05/13/02	0616
3	STD23122	50PPBCAL	50PPB.D	05/13/02	0640
4	STD23109	20PPBCAL	20PPB.D	05/13/02	0704
5	STD23107	10PPBCAL	10PPB.D	05/13/02	0727
6	STD23123	5PPBCAL	5PPB.D	05/13/02	0751
7	STD23119	2PPBCAL	2PPB.D	05/13/02	0815
8	STD23108	1PPBCAL	1PPB.D	05/13/02	0838
9	SSC23129	SEC31	SEC31.D	05/13/02	0949

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Lab File ID: BFB31.D BFB Injection Date: 05/23/02

Instrument ID: VMS03 BFB Injection Time: 0528

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	22.6	
75	30.0 - 60.0% of mass 95	50.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.3	
173	Less than 2.0% of mass 174	0.6	(0.8)1
174	50.0 - 100.0% of mass 95	69.6	
175	5.0 - 9.0% of mass 174	5.7	(8.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67	(96.2)1
177	5.0 - 9.0% of mass 176	4.3	(6.5)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV24091	0523CCVA31	50CCV31.D	05/23/02	0552
2	0523LCSA31	0523LCSA31	LCS31.D	05/23/02	0640
3	SMW01Q20224MS	220409506	09506.D	05/23/02	0704
4	SMW01Q20224SD	220409507	09507.D	05/23/02	0727
5	0523BLKA32	0523BLKA32	BLK32.D	05/23/02	0815
6	SMW01Q20224	220409501	09501.D	05/23/02	1038
7	SMW04Q20224	220411201	11201.D	05/23/02	1347
8	SMW06Q20224	220411202	11202.D	05/23/02	1411
9	SMW07Q20224	220411203	11203.D	05/23/02	1435
10	SMW08Q20224	220411204	11204.D	05/23/02	1458
11	SMW09Q20224	220411205	11205.D	05/23/02	1522
12	SMW10Q20224	220411206	11206.D	05/23/02	1546
13	SMW11Q20224	220411207	11207.D	05/23/02	1610
14	TB2Q20224	220411208	11208.D	05/23/02	1633

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VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Lab File ID (Standard): 20PPB.D Date Analyzed: 5/13/2002

Instrument ID: VMS03 Time Analyzed: 7:04

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	440219		11.08	228257		13.50	606838		7.79
	UPPER LIMIT	880438		11.58	456514		14.00	1213676		8.29
	LOWER LIMIT	220109.5		10.58	114128.5		13.00	303419		7.29
	EPA SAMPLE NO.									
1	0523LCSA31	432478		11.07	228046		13.50	621171		7.79
2	SMW01Q20224MS	446755		11.07	231278		13.50	609883		7.79
3	SMW01Q20224SD	437574		11.07	233995		13.50	618006		7.79
4	0523BLKA32	427054		11.07	216668		13.50	598567		7.79
5	SMW01Q20224	428913		11.08	217895		13.50	600306		7.79
6	SMW04Q20224	431897		11.08	217198		13.50	593527		7.80
7	SMW06Q20224	423664		11.08	216573		13.50	583399		7.80
8	SMW07Q20224	425643		11.08	215861		13.50	587962		7.80
9	SMW08Q20224	428606		11.08	216825		13.50	594206		7.80
10	SMW09Q20224	420546		11.08	215275		13.50	583852		7.80
11	SMW10Q20224	421390		11.08	211741		13.50	587826		7.80
12	SMW11Q20224	420565		11.08	219756		13.50	584829		7.80
13	TB2Q20224	424080		11.08	212985		13.50	584342		7.80

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0523LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	22.5	112.5	56 - 144
Chloromethane	20	19.8	99.0	48 - 149
Vinyl chloride	20	18.9	94.5	66 - 128
Bromomethane	20	20.4	102.0	55 - 159
Chloroethane	20	20.6	103.0	77 - 144
Trichlorofluoromethane	20	22	110.0	65 - 190
1,1-Dichloroethene	20	20.1	100.5	75 - 150
Methylene chloride	20	19.4	97.0	81 - 129
trans-1,2-Dichloroethene	20	20.5	102.5	84 - 135
1,1-Dichloroethane	20	20.9	104.5	88 - 127
2,2-Dichloropropane	20	20	100.0	77 - 136
cis-1,2-Dichloroethene	20	21	105.0	88 - 127
Bromochloromethane	20	21.3	106.5	80 - 124
Chloroform	20	20.5	102.5	83 - 127
1,1,1-Trichloroethane	20	20.9	104.5	83 - 132
Carbon tetrachloride	20	20.3	101.5	74 - 140
Benzene	20	20.3	101.5	82 - 129
1,2-Dichloroethane	20	20.3	101.5	86 - 120
Trichloroethene	20	20.8	104.0	82 - 127
1,2-Dichloropropane	20	20.4	102.0	83 - 126
Dibromomethane	20	21.8	109.0	83 - 120
Bromodichloromethane	20	20.4	102.0	84 - 127
Toluene	20	20.8	104.0	82 - 128
1,1,2-Trichloroethane	20	20.6	103.0	86 - 117
Tetrachloroethene	20	21.4	107.0	87 - 124
1,3-Dichloropropane	20	21.5	107.5	85 - 115
Dibromochloromethane	20	21.3	106.5	87 - 123
1,2-Dibromoethane(EDB)	20	21.8	109.0	79 - 117
Chlorobenzene	20	21.5	107.5	87 - 117
1,1,1,2-Tetrachloroethane	20	21.9	109.5	81 - 124
Ethylbenzene	20	21.7	108.5	89 - 121
p,m-Xylene	40	42.6	106.5	89 - 119

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

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VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0523LCSA31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	21.3	106.5	86 - 120
Styrene	20	22.2	111.0	80 - 127
Bromoform	20	20.8	104.0	67 - 129
Isopropylbenzene (Cumene)	20	21.9	109.5	96 - 118
Bromobenzene	20	21.7	108.5	87 - 114
1,1,2,2-Tetrachloroethane	20	21.7	108.5	87 - 116
1,2,3-Trichloropropane	20	21.2	106.0	84 - 118
n-Propylbenzene	20	22.2	111.0	86 - 121
2-Chlorotoluene	20	20.8	104.0	92 - 113
4-Chlorotoluene	20	22	110.0	91 - 117
1,3,5-Trimethylbenzene	20	22	110.0	93 - 115
tert-Butylbenzene	20	21.7	108.5	83 - 122
1,2,4-Trimethylbenzene	20	22.1	110.5	86 - 126
sec-Butylbenzene	20	22	110.0	94 - 118
1,3-Dichlorobenzene	20	21.3	106.5	88 - 121
1,4-Dichlorobenzene	20	21.4	107.0	88 - 118
4-Isopropyltoluene	20	21.8	109.0	94 - 118
n-Butylbenzene	20	21.6	108.0	86 - 124
1,2-Dichlorobenzene	20	20.9	104.5	91 - 116
1,2-Dibromo-3-chloropropane	20	19.8	99.0	82 - 127
1,2,4-Trichlorobenzene	20	20.4	102.0	84 - 124
Hexachlorobutadiene	20	20.3	101.5	90 - 137
Naphthalene	20	20.4	102.0	82 - 130
1,2,3-Trichlorobenzene	20	20.5	102.5	91 - 122
Xylene (total)	60	63.9	106.5	82 - 124

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

050602 1059

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	22.6	113.0	54 - 127
Chloromethane	20	0	20.6	103.0	74 - 113
Vinyl chloride	20	0	20.4	102.0	60 - 118
Bromomethane	20	0	20.1	100.5	88 - 117
Chloroethane	20	0	21.6	108.0	90 - 117
Trichlorofluoromethane	20	0	22.1	110.5	65 - 162
1,1-Dichloroethene	20	0	20.4	102.0	84 - 129
Methylene chloride	20	0	19.2	96.0	75 - 133
trans-1,2-Dichloroethene	20	0	20.2	101.0	73 - 141
1,1-Dichloroethane	20	0	20.7	103.5	79 - 135
2,2-Dichloropropane	20	0	20.2	101.0	78 - 143
cis-1,2-Dichloroethene	20	0	21.6	108.0	77 - 128
Bromochloromethane	20	0	20.8	104.0	76 - 130
Chloroform	20	0	20.9	104.5	76 - 134
1,1,1-Trichloroethane	20	0	20.8	104.0	79 - 134
Carbon tetrachloride	20	0	19.4	97.0	75 - 132
Benzene	20	0	20.5	102.5	51 - 141
1,2-Dichloroethane	20	0	20.4	102.0	80 - 133
Trichloroethene	20	0	20.7	103.5	76 - 128
1,2-Dichloropropane	20	0	20.5	102.5	79 - 128
Dibromomethane	20	0	21.4	107.0	83 - 119
Bromodichloromethane	20	0	20.4	102.0	79 - 130
Toluene	20	0	21	105.0	75 - 132
1,1,2-Trichloroethane	20	0	20.4	102.0	77 - 126
Tetrachloroethene	20	0	19.8	99.0	86 - 120
1,3-Dichloropropane	20	0	20.6	103.0	84 - 120
Dibromochloromethane	20	0	19.8	99.0	80 - 128
1,2-Dibromoethane(EDB)	20	0	20.2	101.0	75 - 124
Chlorobenzene	20	0	21	105.0	82 - 123
1,1,1,2-Tetrachloroethane	20	0	20.2	101.0	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

050602 1059

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW01Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Ethylbenzene	20	0	20.7	103.5	77 - 124
p,m-Xylene	40	0	41.1	102.7	83 - 121
o-Xylene	20	0	20.5	102.5	88 - 121
Styrene	20	0	20.9	104.5	83 - 127
Bromoform	20	0	19	95.0	78 - 121
Isopropylbenzene (Cumene)	20	0	21.3	106.5	81 - 128
Bromobenzene	20	0	20.7	103.5	83 - 119
1,1,2,2-Tetrachloroethane	20	0	20.5	102.5	88 - 117
1,2,3-Trichloropropane	20	0	20.8	104.0	75 - 129
n-Propylbenzene	20	0	21.3	106.5	81 - 127
2-Chlorotoluene	20	0	20.1	100.5	87 - 116
4-Chlorotoluene	20	0	21	105.0	84 - 121
1,3,5-Trimethylbenzene	20	0	21	105.0	94 - 109
tert-Butylbenzene	20	0	20.9	104.5	78 - 128
1,2,4-Trimethylbenzene	20	0	21	105.0	74 - 131
sec-Butylbenzene	20	0	21.2	106.0	80 - 130
1,3-Dichlorobenzene	20	0	20.6	103.0	81 - 130
1,4-Dichlorobenzene	20	0	21.1	105.5	80 - 125
4-Isopropyltoluene	20	0	21.2	106.0	82 - 129
n-Butylbenzene	20	0	21.1	105.5	78 - 136
1,2-Dichlorobenzene	20	0	20.8	104.0	81 - 126
1,2-Dibromo-3-chloropropane	20	0	19.5	97.5	81 - 123
1,2,4-Trichlorobenzene	20	0	19.7	98.5	75 - 133
Hexachlorobutadiene	20	0	20.6	103.0	69 - 144
Naphthalene	20	0	19	95.0	69 - 140
1,2,3-Trichlorobenzene	20	0	19.5	97.5	75 - 138
Xylene (total)	60	0	61.5	102.5	86 - 129

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

050602 1059

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW01Q20224SD

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	22.2	111.0	1.5	21	54 - 127
Chloromethane	20	19.6	98.0	4.9	18	74 - 113
Vinyl chloride	20	19.1	95.5	6.7	24	60 - 118
Bromomethane	20	19.5	97.5	2.9	20	88 - 117
Chloroethane	20	21	105.0	2.8	12	90 - 117
Trichlorofluoromethane	20	21.9	109.5	0.8	14	65 - 162
1,1-Dichloroethene	20	19.4	97.0	4.7	14	84 - 129
Methylene chloride	20	18.2	91.0	5.0	9	75 - 133
trans-1,2-Dichloroethene	20	20.1	100.5	0.6	14	73 - 141
1,1-Dichloroethane	20	20.3	101.5	1.8	10	79 - 135
2,2-Dichloropropane	20	19.9	99.5	1.8	13	78 - 143
cis-1,2-Dichloroethene	20	20.5	102.5	5.3	11	77 - 128
Bromochloromethane	20	20.6	103.0	0.8	12	76 - 130
Chloroform	20	20.4	102.0	2.5	13	76 - 134
1,1,1-Trichloroethane	20	20.6	103.0	1.4	12	79 - 134
Carbon tetrachloride	20	18.9	94.5	2.4	15	75 - 132
Benzene	20	20.2	101.0	1.0	10	51 - 141
1,2-Dichloroethane	20	20.1	100.5	1.2	8	80 - 133
Trichloroethene	20	20.5	102.5	0.8	13	76 - 128
1,2-Dichloropropane	20	20.1	100.5	2.2	11	79 - 128
Dibromomethane	20	21.4	107.0	0.0	13	83 - 119
Bromodichloromethane	20	19.9	99.5	2.7	13	79 - 130
Toluene	20	20.3	101.5	3.6	13	75 - 132
1,1,2-Trichloroethane	20	20.8	104.0	2.3	13	77 - 126
Tetrachloroethene	20	20.9	104.5	5.5	11	86 - 120
1,3-Dichloropropane	20	20.8	104.0	0.8	10	84 - 120
Dibromochloromethane	20	20.3	101.5	2.8	12	80 - 128
1,2-Dibromoethane(EDB)	20	21	105.0	4.0	11	75 - 124
Chlorobenzene	20	20.7	103.5	1.1	12	82 - 123
1,1,1,2-Tetrachloroethane	20	20.7	103.5	2.5	14	78 - 131

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

050602 1059

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW01Q20224SD

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ethylbenzene	20	20.4	102.0	1.1	13	77 - 124
p,m-Xylene	40	42	105.0	2.2	10	83 - 121
o-Xylene	20	21	105.0	2.4	10	88 - 121
Styrene	20	21.3	106.5	1.8	13	83 - 127
Bromoform	20	20.2	101.0	6.0	10	78 - 121
Isopropylbenzene (Cumene)	20	20.6	103.0	3.1	10	81 - 128
Bromobenzene	20	20.6	103.0	0.6	12	83 - 119
1,1,2,2-Tetrachloroethane	20	21.5	107.5	5.0	9	88 - 117
1,2,3-Trichloropropane	20	21.1	105.5	1.6	15	75 - 129
n-Propylbenzene	20	20.8	104.0	2.0	16	81 - 127
2-Chlorotoluene	20	20	100.0	0.3	11	87 - 116
4-Chlorotoluene	20	20.4	102.0	2.7	10	84 - 121
1,3,5-Trimethylbenzene	20	20.8	104.0	0.7	14	94 - 109
tert-Butylbenzene	20	20.5	102.5	1.8	20	78 - 128
1,2,4-Trimethylbenzene	20	20.6	103.0	2.1	16	74 - 131
sec-Butylbenzene	20	20.9	104.5	1.7	13	80 - 130
1,3-Dichlorobenzene	20	20.4	102.0	0.8	13	81 - 130
1,4-Dichlorobenzene	20	20.3	101.5	4.1	11	80 - 125
4-Isopropyltoluene	20	20.8	104.0	2.2	11	82 - 129
n-Butylbenzene	20	20.3	101.5	3.9	16	78 - 136
1,2-Dichlorobenzene	20	19.6	98.0	6.0	13	81 - 126
1,2-Dibromo-3-chloropropane	20	19	95.0	2.4	17	81 - 123
1,2,4-Trichlorobenzene	20	20.1	100.5	1.8	11	75 - 133
Hexachlorobutadiene	20	19.7	98.5	4.5	18	69 - 144
Naphthalene	20	19.5	97.5	2.2	11	69 - 140
1,2,3-Trichlorobenzene	20	19.7	98.5	0.7	11	75 - 138
Xylene (total)	60	63	105.0	2.3	9	86 - 129

RPD: 0 out of 57 outside limits

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

050602 1059

Standards Data

050602 1059

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2
Dichlorodifluoromethane		0.274	0.313	0.349	0.318	0.383		
Chloromethane	#	0.468	0.459	0.418	0.392	0.462		#
Vinyl chloride	*	0.354	0.320	0.315	0.307	0.345		*
Bromomethane		0.171	0.149	0.163	0.166	0.188		
Chloroethane		0.194	0.183	0.193	0.193	0.219		
Trichlorofluoromethane		0.193	0.208	0.215	0.235	0.297		
1,1-Dichloroethene	*	0.437	0.471	0.471	0.422	0.544		*
Methylene chloride		0.654	0.594	0.563	0.491	0.561		
trans-1,2-Dichloroethene		0.465	0.488	0.473	0.429	0.519		
1,1-Dichloroethane	#	0.523	0.605	0.608	0.556	0.649		#
2,2-Dichloropropane		0.276	0.332	0.323	0.311	0.362		
cis-1,2-Dichloroethene		0.269	0.300	0.314	0.264	0.331		
Bromochloromethane		0.112	0.127	0.130	0.124	0.144		
Chloroform	*	0.468	0.573	0.559	0.502	0.597		*
1,1,1-Trichloroethane		0.383	0.434	0.439	0.407	0.496		
Carbon tetrachloride		0.306	0.320	0.334	0.316	0.400		
Benzene		1.178	1.271	1.165	1.065	1.282		
1,2-Dichloroethane		0.446	0.477	0.491	0.446	0.522		
Trichloroethene		0.253	0.279	0.288	0.260	0.313		
1,2-Dichloropropane	*	0.356	0.357	0.344	0.298	0.380		*
Dibromomethane		0.134	0.169	0.151	0.149	0.183		
Bromodichloromethane		0.329	0.382	0.383	0.359	0.442		
Toluene	*	0.644	0.751	0.716	0.648	0.784		*
1,1,2-Trichloroethane		0.239	0.215	0.235	0.233	0.259		
Tetrachloroethene		0.303	0.312	0.292	0.281	0.332		
1,3-Dichloropropane		0.565	0.639	0.602	0.590	0.662		
Dibromochloromethane		0.218	0.303	0.298	0.289	0.361		
1,2-Dibromoethane(EDB)		0.254	0.333	0.316	0.286	0.351		
Chlorobenzene	#	0.872	1.116	1.037	0.928	1.123		#
1,1,1,2-Tetrachloroethane		0.266	0.334	0.342	0.312	0.380		
Ethylbenzene	*	0.560	0.570	0.567	0.492	0.610		*
p,m-Xylene		0.646	0.736	0.708	0.639	0.758		
o-Xylene		1.385	1.515	1.489	1.353	1.650		
Styrene		0.997	1.098	1.177	1.057	1.309		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND	RRF1	RRF2	RRF5	RRF10	RRF20	$\overline{RRF}$	%RSD OR R^2
Bromoform #	0.123	0.173	0.165	0.172	0.218		#
Isopropylbenzene (Cumene)	2.876	3.426	3.432	3.112	3.786		
Bromobenzene	1.535	1.629	1.627	1.467	1.712		
1,1,2,2-Tetrachloroethane #	0.671	0.802	0.780	0.721	0.834		#
1,2,3-Trichloropropane	0.221	0.226	0.240	0.234	0.265		
n-Propylbenzene	3.587	4.089	4.150	3.841	4.692		
2-Chlorotoluene	2.659	3.084	3.018	2.639	3.216		
4-Chlorotoluene	2.585	2.789	2.812	2.653	3.067		
1,3,5-Trimethylbenzene	2.457	2.894	2.808	2.637	3.221		
tert-Butylbenzene	2.420	2.710	2.708	2.475	3.006		
1,2,4-Trimethylbenzene	2.475	2.819	2.929	2.645	3.196		
sec-Butylbenzene	2.901	3.266	3.287	3.048	3.735		
1,3-Dichlorobenzene	1.483	1.596	1.629	1.422	1.722		
1,4-Dichlorobenzene	1.535	1.599	1.619	1.451	1.741		
4-Isopropyltoluene	2.517	2.872	2.854	2.612	3.256		
n-Butylbenzene	2.376	2.394	2.487	2.358	2.882		
1,2-Dichlorobenzene	1.349	1.562	1.500	1.389	1.602		
1,2-Dibromo-3-chloropropane	0.146	0.152	0.130	0.151	0.173		
1,2,4-Trichlorobenzene	0.955	1.024	1.017	0.928	1.115		
Hexachlorobutadiene	0.206	0.251	0.240	0.211	0.258		
Naphthalene	2.238	2.507	2.336	2.154	2.501		
1,2,3-Trichlorobenzene	0.863	0.990	0.966	0.879	0.970		
Xylene (total)	0.635	0.714	0.694	0.631	0.766		
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Dibromofluoromethane(SURR)		0.238	0.244	0.244	0.252		
Toluene d8(SURR)		1.006	1.041	1.045	1.071		
4-Bromofluorobenzene(SURR)		1.038	1.091	1.075	1.094		
1,2-Dichloroethane-d4(SURR)		0.050	0.047	0.060	0.058		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND		RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2		
Dichlorodifluoromethane		0.391	0.371	0.391			0.34863	12.3		
Chloromethane	#	0.436	0.428	0.424			0.43591	5.9	#	
Vinyl chloride	*	0.312	0.298	0.292			0.31781	6.8	*	
Bromomethane		0.174	0.173	0.170			0.16937	6.6		
Chloroethane		0.222	0.209	0.218			0.20376	7.2		
Trichlorofluoromethane		0.298	0.326	0.344			0.26447	22.1		<-
1,1-Dichloroethene	*	0.529	0.519	0.529			0.49046	9.4	*	
Methylene chloride		0.550	0.532	0.552			0.56218	8.4		
trans-1,2-Dichloroethene		0.524	0.497	0.507			0.48786	6.4		
1,1-Dichloroethane	#	0.627	0.613	0.615			0.59962	6.8	#	
2,2-Dichloropropane		0.352	0.336	0.349			0.33012	8.2		
cis-1,2-Dichloroethene		0.325	0.312	0.316			0.30392	8.2		
Bromochloromethane		0.140	0.137	0.140			0.13176	8		
Chloroform	*	0.590	0.568	0.576			0.55404	8.1	*	
1,1,1-Trichloroethane		0.500	0.483	0.496			0.45487	9.9		
Carbon tetrachloride		0.403	0.402	0.412			0.36157	12.8		
Benzene		1.266	1.228	1.228			1.21042	6		
1,2-Dichloroethane		0.512	0.517	0.517			0.49087	6.4		
Trichloroethene		0.311	0.303	0.304			0.2887	8		
1,2-Dichloropropane	*	0.369	0.358	0.360			0.35284	6.9	*	
Dibromomethane		0.183	0.182	0.183			0.16672	11.6		
Bromodichloromethane		0.449	0.445	0.448			0.40465	11.7		
Toluene	*	0.747	0.742	0.744			0.72215	7	*	
1,1,2-Trichloroethane		0.251	0.252	0.255			0.24223	6		
Tetrachloroethene		0.329	0.332	0.319			0.31265	6.2		
1,3-Dichloropropane		0.669	0.676	0.647			0.63127	6.5		
Dibromochloromethane		0.376	0.382	0.374			0.32511	17.8		<-
1,2-Dibromoethane(EDB)		0.349	0.355	0.342			0.32301	11.2		
Chlorobenzene	#	1.117	1.097	1.062			1.04386	9.1	#	
1,1,1,2-Tetrachloroethane		0.379	0.375	0.370			0.34472	11.7		
Ethylbenzene	*	0.601	0.593	0.570			0.57045	6.4	*	
p,m-Xylene		0.750	0.744	0.709			0.71116	6.5		
o-Xylene		1.635	1.620	1.540			1.52318	7.3		
Styrene		1.288	1.275	1.227			1.17852	9.9		

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VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 Calibration Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 0838

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF50 =50PPB.D RRF60 =60PPB.D
RRF80 =80PPB.D

COMPOUND	RRF50	RRF60	RRF80			$\overline{RRF}$	%RSD OR R^2
Bromoform #	0.229	0.241	0.232			0.19418	21.5 # <-
Isopropylbenzene (Cumene)	3.548	3.586	3.378			3.39304	8.4
Bromobenzene	1.610	1.633	1.562			1.59692	4.6
1,1,2,2-Tetrachloroethane #	0.789	0.809	0.771			0.77204	6.8 #
1,2,3-Trichloropropane	0.241	0.259	0.246			0.24143	6.2
n-Propylbenzene	4.441	4.479	4.266			4.19337	8.6
2-Chlorotoluene	3.045	3.036	2.918			2.95182	6.9
4-Chlorotoluene	2.888	2.886	2.770			2.8062	5.3
1,3,5-Trimethylbenzene	3.073	3.059	2.978			2.89096	8.7
tert-Butylbenzene	2.891	2.901	2.811			2.74044	7.5
1,2,4-Trimethylbenzene	3.072	3.038	2.924			2.88734	8.2
sec-Butylbenzene	3.656	3.636	3.555			3.3857	9.1
1,3-Dichlorobenzene	1.614	1.631	1.599			1.58707	5.9
1,4-Dichlorobenzene	1.677	1.654	1.633			1.61362	5.5
4-Isopropyltoluene	3.167	3.189	3.106			2.94656	9.4
n-Butylbenzene	2.869	2.876	2.846			2.63607	9.5
1,2-Dichlorobenzene	1.536	1.540	1.509			1.49828	5.8
1,2-Dibromo-3-chloropropane	0.169	0.181	0.177			0.15989	11.2
1,2,4-Trichlorobenzene	1.057	1.088	1.066			1.03114	6.2
Hexachlorobutadiene	0.253	0.254	0.245			0.23972	8.4
Naphthalene	2.409	2.490	2.328			2.37027	5.5
1,2,3-Trichlorobenzene	0.945	0.953	0.957			0.94044	4.8
Xylene (total)	0.749	0.730	0.724			0.7053	7
==========							
Dibromofluoromethane(SURR)	0.260	0.248	0.256			0.24891	3.1
Toluene d8(SURR)	1.071	1.045	1.069			1.04961	2.2
4-Bromofluorobenzene(SURR)	1.059	1.069	1.062			1.06976	1.8
1,2-Dichloroethane-d4(SURR)	0.063	0.060	0.062			0.05712	10.5

Average Used: 8.2

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 CalibrationDate: 05/13/02 Time: 0949

Lab File ID: SEC31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF0	%D	
Dichlorodifluoromethane		0.34863	0.3461	0.7	
Chloromethane	#	0.43591	0.4183	4.0	#
Vinyl chloride	*	0.31781	0.2993	5.8	*
Bromomethane		0.16937	0.1722	1.7	
Chloroethane		0.20376	0.21	3.1	
Trichlorofluoromethane		0.26447	0.2752	4.1	
1,1-Dichloroethene	*	0.49046	0.5047	2.9	*
Methylene chloride		0.56218	0.5263	6.4	
trans-1,2-Dichloroethene		0.48786	0.5012	2.7	
1,1-Dichloroethane	#	0.59962	0.6077	1.3	#
2,2-Dichloropropane		0.33012	0.3308	0.2	
cis-1,2-Dichloroethene		0.30392	0.3061	0.7	
Bromochloromethane		0.13176	0.1365	3.6	
Chloroform	*	0.55404	0.5654	2.1	*
1,1,1-Trichloroethane		0.45487	0.4758	4.6	
Carbon tetrachloride		0.36157	0.3826	5.8	
Benzene		1.21042	1.218	0.6	
1,2-Dichloroethane		0.49087	0.4997	1.8	
Trichloroethene		0.2887	0.2979	3.2	
1,2-Dichloropropane	*	0.35284	0.3558	0.8	*
Dibromomethane		0.16672	0.1766	5.9	
Bromodichloromethane		0.40465	0.418	3.3	
Toluene	*	0.72215	0.7312	1.3	*
1,1,2-Trichloroethane		0.24223	0.2462	1.6	
Tetrachloroethene		0.31265	0.3234	3.4	
1,3-Dichloropropane		0.63127	0.6545	3.7	
Dibromochloromethane		0.32511	0.3508	7.9	
1,2-Dibromoethane(EDB)		0.32301	0.3398	5.2	
Chlorobenzene	#	1.04386	1.06	1.5	#
1,1,1,2-Tetrachloroethane		0.34472	0.3543	2.8	
Ethylbenzene	*	0.57045	0.5769	1.1	*
p,m-Xylene		0.71116	0.7196	1.2	
o-Xylene		1.52318	1.577	3.5	
Styrene		1.17852	1.245	5.6	
Bromoform	#	0.19418	0.2083	7.3	#
Isopropylbenzene (Cumene)		3.39304	3.428	1.0	

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 CalibrationDate: 05/13/02 Time: 0949

Lab File ID: SEC31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF0	%D
Bromobenzene	1.59692	1.577	1.2
1,1,2,2-Tetrachloroethane #	0.77204	0.7576	1.9 #
1,2,3-Trichloropropane	0.24143	0.244	1.1
n-Propylbenzene	4.19337	4.256	1.5
2-Chlorotoluene	2.95182	2.987	1.2
4-Chlorotoluene	2.8062	2.735	2.5
1,3,5-Trimethylbenzene	2.89096	2.968	2.7
tert-Butylbenzene	2.74044	2.78	1.4
1,2,4-Trimethylbenzene	2.88734	2.944	2.0
sec-Butylbenzene	3.3857	3.486	3.0
1,3-Dichlorobenzene	1.58707	1.558	1.8
1,4-Dichlorobenzene	1.61362	1.611	0.2
4-Isopropyltoluene	2.94656	3.039	3.1
n-Butylbenzene	2.63607	2.699	2.4
1,2-Dichlorobenzene	1.49828	1.462	2.4
1,2-Dibromo-3-chloropropane	0.15989	0.1646	2.9
1,2,4-Trichlorobenzene	1.03114	1.02	1.1
Hexachlorobutadiene	0.23972	0.2293	4.3
Naphthalene	2.37027	2.29	3.4
1,2,3-Trichlorobenzene	0.94044	0.9042	3.9
Xylene (total)	0.7053	0.7232	2.5
==========			
Dibromofluoromethane	0.24891	0.2466	0.9
Toluene d8	1.04961	1.031	1.8
4-Bromofluorobenzene	1.06976	1.033	3.4
1,2-Dichloroethane-d4	0.05712	0.0608	6.4

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 CalibrationDate: 05/23/02 Time: 0552

Lab File ID: 50CCV31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		$\overline{RRF}$	RRF50	%D	
Dichlorodifluoromethane		0.34863	0.406	16.5	
Chloromethane	#	0.43591	0.4221	3.2	#
Vinyl chloride	*	0.31781	0.305	4.0	*
Bromomethane		0.16937	0.1743	2.9	
Chloroethane		0.20376	0.2185	7.2	
Trichlorofluoromethane		0.26447	0.3169	19.8	
1,1-Dichloroethene	*	0.49046	0.4913	0.2	*
Methylene chloride		0.56218	0.5271	6.2	
trans-1,2-Dichloroethene		0.48786	0.4857	0.4	
1,1-Dichloroethane	#	0.59962	0.5959	0.6	#
2,2-Dichloropropane		0.33012	0.3304	0.1	
cis-1,2-Dichloroethene		0.30392	0.3085	1.5	
Bromochloromethane		0.13176	0.1372	4.1	
Chloroform	*	0.55404	0.5535	0.1	*
1,1,1-Trichloroethane		0.45487	0.4603	1.2	
Carbon tetrachloride		0.36157	0.3637	0.6	
Benzene		1.21042	1.171	3.3	
1,2-Dichloroethane		0.49087	0.4915	0.1	
Trichloroethene		0.2887	0.2901	0.5	
1,2-Dichloropropane	*	0.35284	0.3574	1.3	*
Dibromomethane		0.16672	0.1791	7.4	
Bromodichloromethane		0.40465	0.4174	3.2	
Toluene	*	0.72215	0.7205	0.2	*
1,1,2-Trichloroethane		0.24223	0.2477	2.3	
Tetrachloroethene		0.31265	0.3109	0.6	
1,3-Dichloropropane		0.63127	0.6628	5.0	
Dibromochloromethane		0.32511	0.352	8.3	
1,2-Dibromoethane(EDB)		0.32301	0.3386	4.8	
Chlorobenzene	#	1.04386	1.051	0.7	#
1,1,1,2-Tetrachloroethane		0.34472	0.3514	1.9	
Ethylbenzene	*	0.57045	0.554	2.9	*
p,m-Xylene		0.71116	0.7133	0.3	
o-Xylene		1.52318	1.542	1.2	
Styrene		1.17852	1.235	4.8	
Bromoform	#	0.19418	0.2151	10.8	#
Isopropylbenzene (Cumene)		3.39304	3.374	0.6	

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VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: VMS03 CalibrationDate: 05/23/02 Time: 0552

Lab File ID: 50CCV31.D Init. Calib. Date: 05/13/02

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND	$\overline{RRF}$	RRF50	%D
Bromobenzene	1.59692	1.57	1.7
1,1,2,2-Tetrachloroethane #	0.77204	0.795	3.0 #
1,2,3-Trichloropropane	0.24143	0.242	0.2
n-Propylbenzene	4.19337	4.233	0.9
2-Chlorotoluene	2.95182	2.936	0.5
4-Chlorotoluene	2.8062	2.688	4.2
1,3,5-Trimethylbenzene	2.89096	2.899	0.3
tert-Butylbenzene	2.74044	2.744	0.1
1,2,4-Trimethylbenzene	2.88734	2.931	1.5
sec-Butylbenzene	3.3857	3.394	0.2
1,3-Dichlorobenzene	1.58707	1.579	0.5
1,4-Dichlorobenzene	1.61362	1.609	0.3
4-Isopropyltoluene	2.94656	3.035	3.0
n-Butylbenzene	2.63607	2.729	3.5
1,2-Dichlorobenzene	1.49828	1.496	0.2
1,2-Dibromo-3-chloropropane	0.15989	0.167	4.4
1,2,4-Trichlorobenzene	1.03114	1.033	0.2
Hexachlorobutadiene	0.23972	0.2213	7.7
Naphthalene	2.37027	2.365	0.2
1,2,3-Trichlorobenzene	0.94044	0.9008	4.2
Xylene (total)	0.7053	0.7127	1.0
==========			
Dibromofluoromethane	0.24891	0.246	1.2
Toluene d8	1.04961	1.057	0.7
4-Bromofluorobenzene	1.06976	1.032	3.5
1,2-Dichloroethane-d4	0.05712	0.0613	7.3

HPLC PAH ORGANICS

METHOD 8310

050602 1059

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met with the exception of:
Blank 524BLK was analyzed with the water samples extracted on 05/25/02. The following analyte(s) were detected above RL: Phenanthrene at 0.23 UG/L. The blank was re-analyzed with similar results, however only one analysis is included.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A reagent MS/SD set was analyzed.
All percent recovery and relative percent difference(RPD) criteria were met.

E. Internal Standards:

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.

Project specific Reporting Limits were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and/or completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6-3-02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Method: **8310**

EPA Sample No	Lab Sample ID
SMW04Q20224	220411201
SMW06Q20224	220411202
SMW07Q20224	220411203
SMW08Q20224	220411204
SMW09Q20224	220411205
SMW10Q20224	220411206
SMW11Q20224	220411207

050602 1059

Sample Data

050602 1059

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411201
Lab File ID: 112-1.D
Sample wt/vol: 870
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1512
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.23	U
208-96-8	Acenaphthylene	0.23	U
90-12-0	1-Methylnaphthalene	0.23	U
91-57-6	2-Methylnaphthalene	0.23	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.23	U
85-01-8	Phenanthrene	0.28	B
120-12-7	Anthracene	0.23	U
206-44-0	Fluoranthene	0.23	U
129-00-0	Pyrene	0.37	
56-55-3	Benzo(a)anthracene	0.23	U
218-01-9	Chrysene	0.23	U
205-99-2	Benzo(b)fluoranthene	0.23	U
207-08-9	Benzo(k)fluoranthene	0.23	U
50-32-8	Benzo(a)pyrene	0.23	U
53-70-3	Dibenz(a,h)anthracene	0.23	U
191-24-2	Benzo(g,h,i)perylene	0.6	
193-39-5	Indeno(1,2,3-cd)pyrene	0.44	

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411202
Lab File ID: 112-2.D
Sample wt/vol: 1000
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1546
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.24	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411203
Lab File ID: 112-3.D
Sample wt/vol: 950
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1621
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.31	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.2	JB
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411204
Lab File ID: 112-4.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1655
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.31	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	B
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411205
Lab File ID: 112-5.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1730
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.34	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411206
Lab File ID: 112-6.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1804
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411207
Lab File ID: 112-7.D
Sample wt/vol: 950
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1948
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	2.3	
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	1.1	
91-57-6	2-Methylnaphthalene	1.1	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.22	B
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

QC Summary

050602 1059

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

524BLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 69710
Lab File ID: 524BLK.D
Sample wt/vol: 1000
Units: ML
Date Received: 05/25/02
Concentrated Extract Volume: 1
Date Extracted: 05/25/02
Level:(low/med) LOW
Date Analyzed: 05/28/02
Time: 1253
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: QC
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6 (mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.23	
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 524BLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Lab File ID: 524BLK.D
Lab Sample ID: 69710
Instrument ID: SLC02
Date Extracted: 05/25/02
Matrix: WATER
Date Analyzed: 05/28/02
Level:(low/med) LOW
Time Analyzed: 1253

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	524LCS	69711	524LCS.D	05/28/02	1328
2	524BLKMS	69712	524BLKMS.D	05/28/02	1402
3	524BLKSD	69713	524BLKSD.D	05/28/02	1437
4	SMW04Q20224	220411201	112-1.D	05/28/02	1512
5	SMW06Q20224	220411202	112-2.D	05/28/02	1546
6	SMW07Q20224	220411203	112-3.D	05/28/02	1621
7	SMW08Q20224	220411204	112-4.D	05/28/02	1655
8	SMW09Q20224	220411205	112-5.D	05/28/02	1730
9	SMW10Q20224	220411206	112-6.D	05/28/02	1804
10	SMW11Q20224	220411207	112-7.D	05/28/02	1948

COMMENTS:

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2204112

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
524BLK	84.0						0
524BLKMS	82.5						0
524BLKSD	84.0						0
524LCS	83.0						0
SMW04Q20224	79.1						0
SMW06Q20224	70.5						0
SMW07Q20224	72.4						0
SMW08Q20224	73.6						0
SMW09Q20224	59.1						0
SMW10Q20224	66.3						0
SMW11Q20224	74.8						0

Control Limits

S1 = p-Terphenyl-d14 39 - 107

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

050602 1059

8

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 05/16/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.52 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD24156	SV4946	05/16/02	0748	18.51	
2	STD24155	SV4945	05/16/02	0823	18.54	
3	STD24154	SV4944	05/16/02	0857	18.53	
4	STD24153	SV4943	05/16/02	0932	18.53	
5	STD24148	SV4942	05/16/02	1007	18.52	
6	STD24147	SV4941	05/16/02	1041	18.52	
7	STD24146	SV4940	05/16/02	1116	18.51	
8	SSC24157	SV4948	05/16/02	1150	18.53	
9	ZZZZZZ	ZZZZZZ	05/28/02	1144		
10	CCV24836	SV4942	05/28/02	1219	18.48	
11	524BLK	69710	05/28/02	1253	18.49	
12	524LCS	69711	05/28/02	1328	18.47	
13	524BLKMS	69712	05/28/02	1402	18.48	
14	524BLKSD	69713	05/28/02	1437	18.48	
15	SMW04Q20224	220411201	05/28/02	1512	18.48	
16	SMW06Q20224	220411202	05/28/02	1546	18.48	
17	SMW07Q20224	220411203	05/28/02	1621	18.49	
18	SMW08Q20224	220411204	05/28/02	1655	18.48	
19	SMW09Q20224	220411205	05/28/02	1730	18.48	
20	SMW10Q20224	220411206	05/28/02	1804	18.48	
21	ZZZZZZ	ZZZZZZ	05/28/02	1839		
22	CCV24838	SV4942	05/28/02	1914	18.49	
23	SMW11Q20224	220411207	05/28/02	1948	18.5	
24	ZZZZZZ	ZZZZZZ	05/28/02	2023		
25	ZZZZZZ	ZZZZZZ	05/28/02	2057		
26	ZZZZZZ	ZZZZZZ	05/28/02	2132		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 05/16/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.52 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	05/28/02	2207		
28	ZZZZZZ	ZZZZZZ	05/28/02	2241		
29	ZZZZZZ	ZZZZZZ	05/28/02	2316		
30	CCV24839	SV4942	05/28/02	2351	18.49	
31	ZZZZZZ	ZZZZZZ	05/29/02	0025		
32	ZZZZZZ	ZZZZZZ	05/29/02	1959		
33	ZZZZZZ	ZZZZZZ	05/29/02	2034		
34	ZZZZZZ	ZZZZZZ	05/29/02	2108		
35	ZZZZZZ	ZZZZZZ	05/29/02	2143		
36	ZZZZZZ	ZZZZZZ	05/29/02	2217		
37	ZZZZZZ	ZZZZZZ	05/29/02	2252		
38	ZZZZZZ	ZZZZZZ	05/29/02	2326		
39	ZZZZZZ	ZZZZZZ	05/30/02	0001		
40	ZZZZZZ	ZZZZZZ	05/30/02	0035		
41	ZZZZZZ	ZZZZZZ	05/30/02	0110		
42	ZZZZZZ	ZZZZZZ	05/30/02	0145		
43	ZZZZZZ	ZZZZZZ	05/30/02	0738		
44	ZZZZZZ	ZZZZZZ	05/30/02	0813		
45	ZZZZZZ	ZZZZZZ	05/30/02	0847		
46	ZZZZZZ	ZZZZZZ	05/30/02	0922		
47	ZZZZZZ	ZZZZZZ	05/30/02	1126		
48	ZZZZZZ	ZZZZZZ	05/30/02	1201		
49	ZZZZZZ	ZZZZZZ	05/30/02	1235		

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

050602 1059 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

524LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.9	59.0	45 - 78
Acenaphthylene	10	6.5	65.0	50 - 91
1-Methylnaphthalene	10	5.2	52.0	48 - 92
2-Methylnaphthalene	10	6.1	61.0	52 - 88
Acenaphthene	10	6.3	63.0	52 - 86
Fluorene	10	7.3	73.0	51 - 92
Phenanthrene	10	7.9	79.0	52 - 98
Anthracene	10	8.5	85.0	44 - 105
Fluoranthene	10	8	80.0	58 - 99
Pyrene	10	7.8	78.0	56 - 102
Benzo(a)anthracene	10	8.5	85.0	59 - 103
Chrysene	10	8.5	85.0	58 - 104
Benzo(b)fluoranthene	10	8.5	85.0	53 - 108
Benzo(k)fluoranthene	10	8.5	85.0	52 - 107
Benzo(a)pyrene	10	8.3	83.0	56 - 101
Dibenz(a,h)anthracene	10	9.3	93.0	41 - 114
Benzo(g,h,i)perylene	10	8.1	81.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	7.8	78.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

050602 1059

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

524BLKMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	5.9	59.0	45 - 78
Acenaphthylene	10	0	6.7	67.0	50 - 91
1-Methylnaphthalene	10	0	5.2	52.0	48 - 92
2-Methylnaphthalene	10	0	6.1	61.0	52 - 88
Acenaphthene	10	0	6.2	62.0	52 - 86
Fluorene	10	0	7.2	72.0	51 - 92
Phenanthrene	10	0.23	7.9	76.7	52 - 98
Anthracene	10	0	8.5	85.0	44 - 105
Fluoranthene	10	0	8	80.0	58 - 99
Pyrene	10	0	8.5	85.0	56 - 102
Benzo(a)anthracene	10	0	8.4	84.0	59 - 103
Chrysene	10	0	8.4	84.0	58 - 104
Benzo(b)fluoranthene	10	0	8.3	83.0	53 - 108
Benzo(k)fluoranthene	10	0	8.8	88.0	52 - 107
Benzo(a)pyrene	10	0	8.1	81.0	56 - 101
Dibenz(a,h)anthracene	10	0	9.2	92.0	41 - 114
Benzo(g,h,i)perylene	10	0	8	80.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	0	7.6	76.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

050602 1059

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

524BLKSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2204112

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	6.6	66.0	9.8	27	45 - 78
Acenaphthylene	10	7.3	73.0	9.8	34	50 - 91
1-Methylnaphthalene	10	5.9	59.0	12.7	29	48 - 92
2-Methylnaphthalene	10	6.8	68.0	11.3	34	52 - 88
Acenaphthene	10	7	70.0	11.2	37	52 - 86
Fluorene	10	7.9	79.0	9.2	28	51 - 92
Phenanthrene	10	8.5	82.7	6.9	32	52 - 98
Anthracene	10	9	90.0	6.6	34	44 - 105
Fluoranthene	10	8.7	87.0	7.8	28	58 - 99
Pyrene	10	8.8	88.0	3.3	30	56 - 102
Benzo(a)anthracene	10	8.6	86.0	2.5	28	59 - 103
Chrysene	10	8.7	87.0	2.7	21	58 - 104
Benzo(b)fluoranthene	10	8.6	86.0	2.9	21	53 - 108
Benzo(k)fluoranthene	10	8.8	88.0	0.2	20	52 - 107
Benzo(a)pyrene	10	8.4	84.0	3.3	22	56 - 101
Dibenz(a,h)anthracene	10	9.5	95.0	2.3	21	41 - 114
Benzo(g,h,i)perylene	10	8.2	82.0	3.2	21	41 - 109
Indeno(1,2,3-cd)pyrene	10	7.9	79.0	4.4	28	42 - 105

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

050602 1059

Standards Data

050602 1059

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RRF0.2 =200PPT.D RRF1 =1PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF15 =15PPB.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	5720.000	5080.000	5044.200	5133.500	4867.333
Acenaphthylene	4100.000	4154.000	3744.000	3818.700	3660.800
1-Methylnaphthalene	6550.000	13284.000	13956.600	15988.200	16102.400
2-Methylnaphthalene	4550.000	4611.000	4369.400	4449.800	4174.733
Acenaphthene	27610.000	16702.000	19081.600	21154.500	21246.267
Fluorene	25475.000	23252.000	23382.000	23509.700	22528.800
Phenanthrene	432495.000	505847.000	539349.000	550458.700	527843.933
Anthracene	149720.000	153201.000	152777.400	150540.600	140845.067
Fluoranthene	15155.000	16569.000	15486.000	15396.600	14813.467
Pyrene	11770.000	13448.000	13297.600	12168.500	11681.867
Benzo(a)anthracene	31140.000	38440.000	36202.400	36517.500	34919.200
Chrysene	49570.000	47195.000	49137.800	50825.200	49707.000
Benzo(b)fluoranthene	28920.000	34226.000	38320.400	39236.200	37893.667
Benzo(k)fluoranthene	32720.000	27369.000	28969.600	30089.700	29028.200
Benzo(a)pyrene	141580.000	140462.000	189816.000	202187.500	195444.467
Dibenz(a,h)anthracene	9945.000	8100.000	8726.400	8563.400	8061.333
Benzo(g,h,i)perylene	13670.000	9543.000	11559.800	12763.000	12592.200
Indeno(1,2,3-cd)pyrene	39525.000	29916.000	29779.000	32864.300	34615.867
==========					
p-Terphenyl-d14(SURR)	17065.000	14242.000	13899.000	14028.100	13389.533

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D

COMPOUND	RRF20	RRF30			
Naphthalene	5045.150	5283.000			
Acenaphthylene	3836.300	3936.467			
1-Methylnaphthalene	17078.900	17766.700			
2-Methylnaphthalene	4364.250	4546.400			
Acenaphthene	22505.800	21861.333			
Fluorene	23133.200	24256.300			
Phenanthrene	541590.300	553245.567			
Anthracene	137233.050	136827.167			
Fluoranthene	14997.500	15837.167			
Pyrene	12071.900	13081.767			
Benzo(a)anthracene	35989.350	37814.433			
Chrysene	49500.500	51824.567			
Benzo(b)fluoranthene	39334.150	42010.933			
Benzo(k)fluoranthene	30029.500	31613.800			
Benzo(a)pyrene	201921.100	210709.333			
Dibenz(a,h)anthracene	8255.100	8482.033			
Benzo(g,h,i)perylene	13250.300	13456.533			
Indeno(1,2,3-cd)pyrene	34076.650	36806.767			
==========					
p-Terphenyl-d14(SURR)	13788.600	14025.033			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	LINR		0.0001937806	0.99796
Acenaphthylene	LINR		0.0002585939	0.99859
1-Methylnaphthalene	LINR		5.800494E-05	0.99527
2-Methylnaphthalene	LINR		0.0002248703	0.99797
Acenaphthene	LINR		4.574517E-05	0.99846
Fluorene	LINR		4.217949E-05	0.99819
Phenanthrene	LINR		1.829164E-06	0.99937
Anthracene	LINR		7.211822E-06	0.99822
Fluoranthene	LINR		6.462131E-05	0.99818
Pyrene	LINR		7.923605E-05	0.99519
Benzo(a)anthracene	LINR		2.709457E-05	0.99793
Chrysene	LINR		1.964936E-05	0.99893
Benzo(b)fluoranthene	LINR		2.460711E-05	0.9962
Benzo(k)fluoranthene	LINR		3.249304E-05	0.9975
Benzo(a)pyrene	LINR		4.858816E-06	0.99787
Dibenz(a,h)anthracene	LINR		0.0001193117	0.9991
Benzo(g,h,i)perylene	LINR		7.560402E-05	0.99804
Indeno(1,2,3-cd)pyrene	LINR		2.811606E-05	0.99546
==========				
p-Terphenyl-d14(SURR)	LINR		7.203011E-05	0.99942

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RT1: 200PPT.D RT2: 1PPB.D
RT3: 5PPB.D RT4: 10PPB.D RT5: 15PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.700	11.777	11.783	11.783	11.770			
Acenaphthylene	12.937	12.993	12.993	13.000	12.980			
1-Methylnaphthalene	13.655	13.711	13.704	13.714	13.694			
2-Methylnaphthalene	13.913	13.953	13.950	13.953	13.937			
Acenaphthene	14.342	14.377	14.374	14.373	14.359			
Fluorene	14.607	14.643	14.640	14.640	14.623			
Phenanthrene	15.510	15.542	15.536	15.529	15.522			
Anthracene	16.147	16.177	16.167	16.163	16.153			
Fluoranthene	16.983	17.007	16.997	16.993	16.983			
Pyrene	17.523	17.550	17.540	17.533	17.527			
Benzo(a)anthracene	19.327	19.340	19.327	19.320	19.313			
Chrysene	19.717	19.730	19.720	19.710	19.707			
Benzo(b)fluoranthene	21.147	21.147	21.133	21.127	21.127			
Benzo(k)fluoranthene	21.777	21.773	21.757	21.747	21.743			
Benzo(a)pyrene	22.492	22.469	22.454	22.444	22.444			
Dibenz(a,h)anthracene	23.380	23.363	23.343	23.323	23.320			
Benzo(g,h,i)perylene	24.107	24.090	24.073	24.060	24.060			
Indeno(1,2,3-cd)pyrene	24.573	24.557	24.537	24.520	24.520			
p-Terphenyl-d14(SURR)	18.513	18.543	18.533	18.527	18.517			

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PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 Calibration Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1116

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.783	11.770				11.768	11.550	12.010
Acenaphthylene	13.000	12.980				12.986	12.767	13.227
1-Methylnaphthalene	13.714	13.697				13.701	13.390	13.850
2-Methylnaphthalene	13.957	13.937				13.945	13.720	14.180
Acenaphthene	14.380	14.359				14.368	14.053	14.513
Fluorene	14.643	14.623				14.633	14.407	14.867
Phenanthrene	15.540	15.524				15.530	15.207	15.667
Anthracene	16.170	16.150				16.162	15.933	16.393
Fluoranthene	16.993	16.980				16.992	16.763	17.223
Pyrene	17.533	17.520				17.533	17.303	17.763
Benzo(a)anthracene	19.317	19.307				19.322	19.087	19.547
Chrysene	19.707	19.697				19.713	19.477	19.937
Benzo(b)fluoranthene	21.127	21.117				21.132	20.897	21.357
Benzo(k)fluoranthene	21.743	21.730				21.753	21.513	21.973
Benzo(a)pyrene	22.444	22.432				22.454	22.113	22.573
Dibenz(a,h)anthracene	23.317	23.297				23.335	23.090	23.550
Benzo(g,h,i)perylene	24.057	24.040				24.069	23.827	24.287
Indeno(1,2,3-cd)pyrene	24.513	24.493				24.529	24.283	24.743
==========								
p-Terphenyl-d14(SURR)	18.520	18.510				18.525	18.297	18.757

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PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 CalibrationDate: 05/28/02 Time: 1219

Lab File ID: CCV12.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.2	15	LINR	1.3	15.0
Acenaphthylene	14.8	15	LINR	1.3	15.0
1-Methylnaphthalene	15	15	LINR	0.0	15.0
2-Methylnaphthalene	15	15	LINR	0.0	15.0
Acenaphthene	15.6	15	LINR	4.0	15.0
Fluorene	15.1	15	LINR	0.7	15.0
Phenanthrene	15.5	15	LINR	3.3	15.0
Anthracene	16.2	15	LINR	8.0	15.0
Fluoranthene	15	15	LINR	0.0	15.0
Pyrene	14.9	15	LINR	0.7	15.0
Benzo(a)anthracene	15.2	15	LINR	1.3	15.0
Chrysene	15	15	LINR	0.0	15.0
Benzo(b)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(k)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(a)pyrene	15.6	15	LINR	4.0	15.0
Dibenz(a,h)anthracene	16.1	15	LINR	7.3	15.0
Benzo(g,h,i)perylene	15.5	15	LINR	3.3	15.0
Indeno(1,2,3-cd)pyrene	14.9	15	LINR	0.7	15.0
==========					
p-Terphenyl-d14	15.4	15	LINR	2.7	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 CalibrationDate: 05/28/02 Time: 1914

Lab File ID: CCV22.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.1	15	LINR	0.7	15.0
Acenaphthylene	14.8	15	LINR	1.3	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	14.8	15	LINR	1.3	15.0
Acenaphthene	15.4	15	LINR	2.7	15.0
Fluorene	15.1	15	LINR	0.7	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	16.3	15	LINR	8.7	15.0
Fluoranthene	15.3	15	LINR	2.0	15.0
Pyrene	16.2	15	LINR	8.0	15.0
Benzo(a)anthracene	15.2	15	LINR	1.3	15.0
Chrysene	15.4	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(k)fluoranthene	15.1	15	LINR	0.7	15.0
Benzo(a)pyrene	15.3	15	LINR	2.0	15.0
Dibenz(a,h)anthracene	16	15	LINR	6.7	15.0
Benzo(g,h,i)perylene	15.2	15	LINR	1.3	15.0
Indeno(1,2,3-cd)pyrene	14.5	15	LINR	3.3	15.0
==========					
p-Terphenyl-d14	15.5	15	LINR	3.3	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 CalibrationDate: 05/28/02 Time: 2351

Lab File ID: CCV31.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.2	15	LINR	1.3	15.0
Acenaphthylene	15.1	15	LINR	0.7	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	14.9	15	LINR	0.7	15.0
Acenaphthene	15.4	15	LINR	2.7	15.0
Fluorene	15.1	15	LINR	0.7	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	16.3	15	LINR	8.7	15.0
Fluoranthene	15.4	15	LINR	2.7	15.0
Pyrene	16.2	15	LINR	8.0	15.0
Benzo(a)anthracene	15.1	15	LINR	0.7	15.0
Chrysene	15.6	15	LINR	4.0	15.0
Benzo(b)fluoranthene	14.5	15	LINR	3.3	15.0
Benzo(k)fluoranthene	15.1	15	LINR	0.7	15.0
Benzo(a)pyrene	15.2	15	LINR	1.3	15.0
Dibenz(a,h)anthracene	15.9	15	LINR	6.0	15.0
Benzo(g,h,i)perylene	15.2	15	LINR	1.3	15.0
Indeno(1,2,3-cd)pyrene	14.5	15	LINR	3.3	15.0
==========					
p-Terphenyl-d14	15.4	15	LINR	2.7	15.0

7SSC

PAH ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SLC02 CalibrationDate: 05/16/02 Time: 1150

Lab File ID: SECCCV.D Init. Calib. Date: 05/16/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.1	15	LINR	0.7	15.0
Acenaphthylene	14.3	15	LINR	4.7	15.0
1-Methylnaphthalene	15.3	15	LINR	2.0	15.0
2-Methylnaphthalene	14.6	15	LINR	2.7	15.0
Acenaphthene	15.3	15	LINR	2.0	15.0
Fluorene	15	15	LINR	0.0	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	15.5	15	LINR	3.3	15.0
Fluoranthene	15.1	15	LINR	0.7	15.0
Pyrene	14.6	15	LINR	2.7	15.0
Benzo(a)anthracene	14.8	15	LINR	1.3	15.0
Chrysene	15.2	15	LINR	1.3	15.0
Benzo(b)fluoranthene	15	15	LINR	0.0	15.0
Benzo(k)fluoranthene	14.9	15	LINR	0.7	15.0
Benzo(a)pyrene	14.4	15	LINR	4.0	15.0
Dibenz(a,h)anthracene	12.8	15	LINR	14.7	15.0
Benzo(g,h,i)perylene	14.9	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	14.3	15	LINR	4.7	15.0
==========					
p-Terphenyl-d14	15.2	15	LINR	1.3	15.0

GC FL-PRO ORGANICS

METHOD FL-PRO

050602 1100

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by FL PRO for semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met with the exception of:
Sample SMW11Q20224 was recovered below criteria for the following surrogate(s): o-Terphenyl Surrogate at 79 % with criteria of (82-142). Upon review of the chromatography of the sample, it is possible that the surrogate not meeting criteria could be attributed to matrix interference.

Samples coded accordingly.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A reagent MS/SD set was analyzed.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

All percent recovery and relative percent difference(RPD) criteria were met.

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6-4-02

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Method: **FL-PRO**

EPA Sample No	Lab Sample ID
SMW04Q20224	220411201
SMW06Q20224	220411202
SMW07Q20224	220411203
SMW08Q20224	220411204
SMW09Q20224	220411205
SMW10Q20224	220411206
SMW11Q20224	220411207

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Sample Data

050602 1100

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411201
Lab File ID: 112-1.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 2
Date Extracted: 05/29/02
Level:(low/med) LOW
Date Analyzed: 05/31/02
Time: 2146
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column(1): RTX-5
ID: 0.53 (mm)
CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	1.5	

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411202

Lab File ID: 112-2.D

Sample wt/vol: 960

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 2

Date Extracted: 05/29/02

Level:(low/med) LOW

Date Analyzed: 05/31/02

Time: 2215

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.52	U

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411203

Lab File ID: 112-3.D

Sample wt/vol: 950

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 2

Date Extracted: 05/29/02

Level:(low/med) LOW

Date Analyzed: 05/31/02

Time: 2244

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.53	U

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 220411204

Lab File ID: 112-4.D

Sample wt/vol: 960

Units: ML

Date Received: 05/23/02

Concentrated Extract Volume: 2

Date Extracted: 05/29/02

Level:(low/med) LOW

Date Analyzed: 05/31/02

Time: 2313

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-103-SMW-0

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.56	

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411205
Lab File ID: 112-5.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 2
Date Extracted: 05/29/02
Level:(low/med) LOW
Date Analyzed: 05/31/02
Time: 2342
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-0
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column(1): RTX-5
ID: 0.53 (mm)
CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.28	J

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411206
Lab File ID: 112-6.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 2
Date Extracted: 05/29/02
Level:(low/med) LOW
Date Analyzed: 06/01/02
Time: 0012
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column(1): RTX-5
ID: 0.53 (mm)
CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.52	U

050602 1100

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204112
Matrix: WATER
Lab Sample ID: 220411207
Lab File ID: 112-7.D
Sample wt/vol: 960
Units: ML
Date Received: 05/23/02
Concentrated Extract Volume: 2
Date Extracted: 05/29/02
Level:(low/med) LOW
Date Analyzed: 06/01/02
Time: 0110
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-103-SMW-1
Method: FL-PRO
GPC Cleanup : (Y/N) N
pH:
Column(1): RTX-5
ID: 0.53 (mm)
CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	1.5	

050602 1100

Form I

QC Summary

050602 1100

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

BLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204112

Matrix: WATER

Lab Sample ID: 69967

Lab File ID: BLK.D

Sample wt/vol: 1000

Units: ML

Date Received: 05/29/02

Concentrated Extract Volume: 2

Date Extracted: 05/29/02

Level:(low/med) LOW

Date Analyzed: 05/31/02

Time: 1949

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: FL-PRO

GPC Cleanup : (Y/N) N

pH:

Column(1): RTX-5

ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
5289290-40-0	TPH	0.5	U

050602 1100

Form I

4

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

BLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Lab File ID: BLK.D Lab Sample ID: 69967

Instrument ID: SFID02 Date Extracted: 05/29/02

Matrix: WATER Date Analyzed: 05/31/02

Level:(low/med) LOW Time Analyzed: 1949

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS	69968	LCS.D	05/31/02	2018
2	BLKMS	69969	BLKMS.D	05/31/02	2047
3	BLKSD	69970	BLKMSD.D	05/31/02	2117
4	SMW04Q20224	220411201	112-1.D	05/31/02	2146
5	SMW06Q20224	220411202	112-2.D	05/31/02	2215
6	SMW07Q20224	220411203	112-3.D	05/31/02	2244
7	SMW08Q20224	220411204	112-4.D	05/31/02	2313
8	SMW09Q20224	220411205	112-5.D	05/31/02	2342
9	SMW10Q20224	220411206	112-6.D	06/01/02	0012
10	SMW11Q20224	220411207	112-7.D	06/01/02	0110

COMMENTS:

Page 1 of 1

2A

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2204112

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
BLK	95.0	71.7					0
BLKMS	120.0	70.0					0
BLKSD	95.0	66.7					0
LCS	89.0	86.7					0
SMW04Q20224	99.0	74.2					0
SMW06Q20224	96.0	74.2					0
SMW07Q20224	91.0	79.4					0
SMW08Q20224	91.0	88.7					0
SMW09Q20224	82.0	64.5					0
SMW10Q20224	83.0	72.6					0
SMW11Q20224	79.0 *	80.6					1

Control Limits

S1	=	o-Terphenyl Surrogate	82	-	142
S2	=	C39 Surrogate	42	-	193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

050602 1100

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 05/16/02

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.65 S2 : 10.05

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD24871	CAL7SV5069	05/15/02	1754	4.66	10.11
2	STD24870	CAL6SV5070	05/15/02	1828	4.64	10.05
3	STD24869	CAL5SV5071	05/15/02	1903	4.63	9.99
4	STD24868	CAL4SV5072	05/15/02	1937	4.63	9.98
5	STD24867	CAL3SV5073	05/15/02	2011	4.64	10.03
6	STD24866	CAL2SV5074	05/15/02	2044	4.63	9.99
7	STD24865	CAL1SV5073A	05/16/02	0958	4.66	10.1
8	SSC24875	SECSV5074A	05/16/02	1156	4.66	10.12
9	CCV24872	CCV1SSV5113	05/31/02	1919	4.64	9.99
10	BLK	69967	05/31/02	1949	4.63	10.01
11	LCS	69968	05/31/02	2018	4.63	9.98
12	BLKMS	69969	05/31/02	2047	4.63	10
13	BLKSD	69970	05/31/02	2117	4.62	9.92
14	SMW04Q20224	220411201	05/31/02	2146	4.63	9.96
15	SMW06Q20224	220411202	05/31/02	2215	4.62	9.95
16	SMW07Q20224	220411203	05/31/02	2244	4.62	9.93
17	SMW08Q20224	220411204	05/31/02	2313	4.63	9.94
18	SMW09Q20224	220411205	05/31/02	2342	4.62	9.92
19	SMW10Q20224	220411206	06/01/02	0012	4.64	9.99
20	CCV24873	CCV2SSV5113	06/01/02	0041	4.63	9.96
21	SMW11Q20224	220411207	06/01/02	0110	4.62	9.91
22	ZZZZZZ	ZZZZZZ	06/01/02	0140		
23	CCV24874	CCV3SSV5113	06/01/02	0209	4.62	9.88

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

050602 1100 FORM VIII

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3	88.2	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

050602 1100

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

BLKMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2204112

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.4	0	3.4	100.0	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

050602 1100

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

BLKSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2204112

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.4	2.9	85.3	18.4	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Form III

050602 1100

Standards Data

050602 1100

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 Calibration Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0958

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	50407382.353	11166958.824	6175969.412	5762105.882	5095267.843
==========					
o-Terphenyl Surrogate(SURR)	4409160.000	4221400.000	3736020.000	4282340.000	3915840.000
C39 Surrogate(SURR)	5540980.000	5415623.333	5763726.667	5191886.667	4912360.000

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 Calibration Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0958

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	4828724.706	4564228.382			
==========					
o-Terphenyl Surrogate(SURR)	3760940.000	3550480.000			
C39 Surrogate(SURR)	4634120.000	4585900.000			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 Calibration Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0958

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
TPH	LINR	-0.3694202	2.266537E-07	0.99833
==========				
o-Terphenyl Surrogate(SURR)	AVRG		3982311.43	8.1
C39 Surrogate(SURR)	AVRG		5149228.1	8.8

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 Calibration Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0958

LAB FILE ID: RT1: CAL1.D RT2: CAL2.D
RT3: CAL3.D RT4: CAL4.D RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989	6.989	6.989	6.989			
==========								
o-Terphenyl Surrogate(SURR)	4.663	4.630	4.640	4.627	4.633			
C39 Surrogate(SURR)	10.097	9.990	10.027	9.977	9.990			

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 Calibration Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 0958

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989				6.989	1.700	12.278
==========								
o-Terphenyl Surrogate(SURR)	4.643	4.660				4.646	4.590	4.730
C39 Surrogate(SURR)	10.047	10.107				10.052	9.820	10.420

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 CalibrationDate: 05/31/02 Time: 1919

Lab File ID: CCV1S.D Init. Calib. Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.85	2.55	LINR	11.8	25.0
==========					
o-Terphenyl Surrogate	0.0618	0.05	AVRG	23.6	25.0
C39 Surrogate	0.265	0.3	AVRG	11.7	25.0

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 CalibrationDate: 06/01/02 Time: 0041

Lab File ID: CCVS2.D Init. Calib. Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.86	2.55	LINR	12.2	25.0
==========					
C39 Surrogate	0.282	0.3	AVRG	6.0	25.0
o-Terphenyl Surrogate	0.055	0.05	AVRG	10.0	25.0

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FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 CalibrationDate: 06/01/02 Time: 0209

Lab File ID: CCVS3.D Init. Calib. Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3.03	2.55	LINR	18.8	25.0
==========					
C39 Surrogate	0.269	0.3	AVRG	10.3	25.0
o-Terphenyl Surrogate	0.0606	0.05	AVRG	21.2	25.0

7SSC

FL-PRO ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID: SFID02 CalibrationDate: 05/16/02 Time: 1156

Lab File ID: SEC.D Init. Calib. Date: 05/16/02

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
TPH	2.59	2.55	LINR	1.6	25.0
==========					
C39 Surrogate	0.327	0.3	AVRG	9.0	25.0
o-Terphenyl Surrogate	0.061	0.05	AVRG	22.0	25.0

Inorganics

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Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P ICP
A Flame AA
F Furnace AA
CV Manual Cold Vapor AA
TC Total Organic Carbon
AS Semi-Automated Spectrophotometric
CA Midi-Distillation Spectrophotometric
T Titrimetric
C Manual Spectrophotometric
GR Gravimetric
NR Analyte was not required by your lab

Inorganic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for inorganic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

METALS DATA PACKAGE
TOTALS

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CASE NARRATIVE
METALS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Analyses were performed according to PEL Laboratory's Standard Operating Procedures and EPA Method 6010B for ICP metals.

IV. PREPARATION

Water samples were prepared according to PEL Laboratory's Standard Operating Procedures and EPA method 3010A.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

1. Calibration Blanks:

All acceptance criteria were met.

2. Method Blanks:

All acceptance criteria were met.

C. Spikes:

1. Laboratory Control Spikes (LCS):

All acceptance criteria were met.

2. Post Digestion Spike:

All acceptance criteria were met.

CASE NARRATIVE
METALS

PEL Lab Reference No./SDG: 2204112

Client: CH2M Hill

3. **Matrix Spike/Matrix Spike Duplicate Samples (MS/SD):**

   A non client requested MS/SD set was analyzed.
   All percent recovery and relative percent difference(RPD) criteria were met.

D. Duplicate:

No sample duplicates are reported with this method. (Spike duplicates are referenced above in section C. Spikes.)

E. Serial Dilution:

All acceptance criteria were met.

F. ICP Interference Check Samples:

All acceptance criteria were met.

G. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6/3/02

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2204112

SOW No.:

EPA Sample No	Lab Sample ID
SMW04Q20224	220411201
SMW06Q20224	220411202
SMW07Q20224	220411203
SMW08Q20224	220411204
SMW09Q20224	220411205
SMW10Q20224	220411206
SMW11Q20224	220411207

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:

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Sample Data

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW04Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411201

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	3.5	B		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411202

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10.1			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411203

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10.6			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW08Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411204

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW09Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411205

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411206

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	4.7	B		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q20224

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Lab Sample ID: 220411207

Level:(low/med) LOW Date Received: 5/23/2002

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	5	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

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QC Summary

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Initial Calibration Source: MET-23601

Continuing Calibration Source: MET-23701

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	372.905	93.2	500	466.790	93.4	469.379	93.9	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Initial Calibration Source:

Continuing Calibration Source: MET-23701

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	463.673	92.7	465.965	93.2	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

050602 1100

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Initial Calibration Source:

Continuing Calibration Source: MET-23701

Concentration Units: (UG/L)

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	464.356	92.9	466.305	93.3	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

ICV is Second Source

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Preparation Blank Matrix (water/soil): 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
Lead	5	U	5	U	5	U	5	U	5	U	P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (UG/L)	C	Continuing Calibration Blank (UG/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			5	U	5	U	5	U			P

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

ICP ID#: ICAP ICSA Source: MET-23103

ICSAB Source: MET-22607

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		51.0	102.0			

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW04Q20224MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	469		3.5	B	500	93.1		P

Comments:

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW04Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	474		3.5	B	500	94.1		P

Comments:

050602 1100

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW04Q20224A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	470.00		3.50	B	500	93.3		P

Comments:

050602 1100

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6

DUPLICATES

EPA Sample No.

SMW04Q20224SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	469		474		0.9		P

Comments:

050602 1100

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LABORATORY CONTROL SAMPLE

EPA Sample No.

69989LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Solid LCS Source:

Aqueous LCS Source: MET-18802, MET-15502

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	470	94.0				-	

050602 1100

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ICP SERIAL DILUTIONS

EPA Sample No.

SMW04Q20224L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	3.50	B	11.20	B	220		P

Comments:

050602 1100

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

ICP ID Number : ICAP Date: 4/1/2002

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		5	2	P

Comments:

050602 1100

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No.: _____ SDG No.: 2204112

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length		Interelement Correction Factors for:				
			Al	Ca	Cr	Fe	Mg
Lead	220.3		-0.000023	-0.000014		0.000055	

Comments:

050602 1100

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11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No.: _____ SDG No.:

ICP ID Number : ICAP Date: 1/26/2002

Analyte	Wave-length		Interelement Correction Factors for: Mn	Mo	Sb	V	
Lead	220.3			-0.000814			

Comments:

050602 1100

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12

ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

ICP ID NUMBER ICAP DATE : 1/26/2002

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

050602 1100

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
69988BLK	24 May 02		50
69989LCS	24 May 02		50
SMW04Q20224	24 May 02		50
SMW04Q20224MS	24 May 02		50
SMW04Q20224SD	24 May 02		50
SMW06Q20224	24 May 02		50
SMW07Q20224	24 May 02		50
SMW08Q20224	24 May 02		50
SMW09Q20224	24 May 02		50
SMW10Q20224	24 May 02		50
SMW11Q20224	24 May 02		50

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID Number : ICAP Method : P

Start Date : 5/29/2002 End Date : 5/29/2002

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
STD1-B	1	11:59																					X								
STD3	1	12:05																					X								
STD2	1	12:10																													
ICV	1	12:14																					X								
ICB	1	12:20																					X								
ZZZZZZ	1	12:26																													
ICSA	1	12:31																					X								
ICSAB	1	12:37																					X								
CCV	1	12:42																					X								
CCB	1	12:48																					X								
ZZZZZZ	1	12:53																													
ZZZZZZ	1	12:59																													
ZZZZZZ	1	13:04																													
ZZZZZZ	1	13:10																													
ZZZZZZ	1	13:15																													
ZZZZZZ	1	13:21																													
ZZZZZZ	5	13:26																													
ZZZZZZ	1	13:32																													
ZZZZZZ	1	13:37																													
ZZZZZZ	1	13:43																													
ZZZZZZ	1	13:48																													
CCV	1	13:54																					X								
CCB	1	13:59																					X								
ZZZZZZ	1	14:05																													
ZZZZZZ	1	14:10																													
ZZZZZZ	1	14:16																													
ZZZZZZ	1	14:21																													
ZZZZZZ	1	14:27																													
ZZZZZZ	1	14:32																													
ZZZZZZ	1	14:37																													
ZZZZZZ	1	14:43																													
ZZZZZZ	1	14:48																													
ZZZZZZ	1	14:54																													
ZZZZZZ	1	14:59																													
CCV	1	15:09																					X								
CCB	1	15:15																					X								

050602 1100

U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204112

Instrument ID Number : ICAP Method : P

Start Date : 5/29/2002 End Date : 5/29/2002

EPA Sample No.	D/F	Time	%R	Analytes																								
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	SR	TI	TL	V	ZN
ZZZZZZ	1	15:20																													
ZZZZZZ	1	15:26																													
ZZZZZZ	1	15:31																													
ZZZZZZ	1	15:37																													
ZZZZZZ	1	15:42																													
CCV	1	15:47																					X								
CCB	1	15:53																					X								
69988BLK	1	16:03																					X								
69989LCS	1	16:08																					X								
SMW04Q20224	1	16:14																					X								
SMW04Q20224A	1	16:19																					X								
SMW04Q20224MS	1	16:24																					X								
SMW04Q20224SD	1	16:30																					X								
SMW04Q20224L	5	16:35																					X								
SMW06Q20224	1	16:41																					X								
SMW07Q20224	1	16:46																					X								
CCV	1	17:00																					X								
CCB	1	17:07																					X								
SMW08Q20224	1	17:12																					X								
SMW09Q20224	1	17:17																					X								
SMW10Q20224	1	17:23																					X								
SMW11Q20224	1	17:28																					X								
ZZZZZZ	1	17:34																													
ZZZZZZ	1	17:39																													
ZZZZZZ	5	17:45																													
ZZZZZZ	1	17:50																													
ZZZZZZ	1	17:55																													
ZZZZZZ	1	18:01																													
ZZZZZZ	1	18:06																													
CCV	1	18:12																					X								
CCB	1	18:17																					X								

050602 1100

Chain of Custody Documentation

050602 1100

2204-112

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 : Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-044 Page 1 of

PROJECT NAME:	PROJECT NUMBER	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Serv.ces	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
103rd Street Annual GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 3 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO.	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB
1	062-SMW04-Q2-02-24	CEF-103-SMW-04	W	05/22/02	9:05	III/C	14	3	1	1	1							Grab	Well would not recharge.	01
2	062-SMW06-Q2-02-24	CEF-103-SMW-06	W	05/22/02	13:10	III/C	14	3	2	1	2							Grab		02
3	062-SMW07-Q2-02-24	CEF-103-SMW-07	W	05/22/02	11:55	III/C	14	3	2	1	2							Grab		03
4	062-SMW08-Q2-02-24	CEF-103-SMW-08	W	05/22/02	11:20	III/C	14	3	2	1	2							Grab		04
5	062-SMW09-Q2-02-24	CEF-103-SMW-09	W	05/22/02	14:30	III/C	14	3	2	1	2							Grab		05
6	062-SMW10-Q2-02-24	CEF-103-SMW-10	W	05/22/02	13:55	III/C	14	3	2	1	2							Grab		06
7	062-SMW11-Q2-02-24	CEF-103-SMW-11	W	05/22/02	10:10	III/C	14	3	2	1	2							Grab		07
8	062-TB2-Q2-02-24	Trip Blank #2	W	05/22/02	NA	III/C	14	3										Grab		08
9	Temp Blank	Temp Blank	W	05/22/02	NA	III/C	14					4								
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 792038839392, 792727645270, 792038839462, 792727645291. (4 Coolers)	Temp upon rec't 4°C pH<2 (8260, Lead, Pro)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: R.Dumaop	5/22/02	17:30	Printed Name and Signature: Federal Express	5/22/02	17:30
Printed Name and Signature: Fed Ex			Printed Name and Signature: Michael A. Kulex	5/23/02	10:01
Printed Name and Signature:			Printed Name and Signature:		

PEL LABS SAMPLE LOG IN SHEET

Project # 2204-112

Client Information

Client: CH2M Hill	Date Rec'd: 5/23/02
Project: Cecil Field CTO 062	Due Date: ~~6~~
Log In Tech: MK	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	✓		Correct Sample Containers?	✓	
Soil Origin Domestic? NA			Soil Origin Foreign? NA		

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH		
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?	✓	
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?	✓	
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2204-112 By MK

Client/Project CH2M Hill / Cecil Field Date 5/23/02

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other _____ pH _____
2204-112-01	(1) pH<2	(1) pH<2			pH<2 (3)	
-02	(2) pH<2					
-03						
-04						
-05						
-06						
-07						
-08	—	—				

CHam Hill/Cecil Field CTO 062 2204-112

Sample#	Parameter	Rel'd	Rec'd	Date	Time
1-8	8260(w)			5/23/02	14:00
1-8	8260(w)			5/24/02	5:30
1-7	8310(w)		Cut	5/24/02	1400
1-7	8310(w)		consumed		
1-7	Lead (w)			5/24/2	1900
1-7	Lead (w)			5/24/2	2000
1-7	FL Pro(w)		Cut	5/29/02	0645
1-7	FL Pro(w)		consumed		

Addendum

050602 1100

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	5-23-02; 10:01 AM
Date to be Reported:	6-6-02
Laboratory Submission Number/SDG:	2204112
Project:	NAS Cecil Field

Samples: The submission consisted of 8 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparentlyidentical or similar materials.

Log-in Report

Level: 4

Total of: 29 analyses on 8 samples (including QC) *24-May-02*

Report/SDG #: 2204112

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW04Q20224	220411201	CEF-103-SMW	W	5/22/02 9:05:00 AM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW06Q20224	220411202	CEF-103-SMW	W	5/22/02 1:10:00 PM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW07Q20224	220411203	CEF-103-SMW	W	5/22/02 11:55:00 AM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW08Q20224	220411204	CEF-103-SMW	W	5/22/02 11:20:00 AM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2204112

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW09Q20224	220411205	CEF-103-SMW	W	5/22/02 2:30:00 PM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW10Q20224	220411206	CEF-103-SMW	W	5/22/02 1:55:00 PM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q20224	220411207	CEF-103-SMW	W	5/22/02 10:10:00 AM	5/23/02 10:01:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TB2Q20224	220411208	Trip Blank #2	W	5/22/02	5/23/02 10:01:00 AM

Method		
8260	Volatile Organic Compounds	8260

Appendix D

System Deactivation Correspondence

CCI NAVY RAC
CH2MHILL Constructors, Inc.
115 Perimeter Center Place, NE
Suite 700
Atlanta, GA
30346-1278
TEL 770.604.9095
FAX 770.604.9282

May 31, 2002

Mr. David Grabka
Remedial Project Manager
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Contract N62467-98-D-0995
Contract Task Order No. 0029
103rd Street and A Avenue Air Sparge/Soil Vapor Extraction System
Recommendations

Dear Mr. Grabka:

Based upon current groundwater concentration data at the referenced site, the following recommendations are provided:

1. Deactivate air sparge wells AS1 through AS5, and AS11 through AS20. Monitoring wells in the vicinity of these points (CEF-103-SMW-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12 and DMW1) have been below GCTLs for at least one year, each with at least two sampling events during that period.
2. Operate the air sparge system with only AS6 through AS10, AS21 (new well) and AS 22 (new well) in operation. AS21 and AS22 will address the low level concentrations in CEF-103-SMW-11. The purpose for operating AS6 through AS10 would be to maintain an acceptable output for the air compressor and these wells will be on the same manifold as AS21 and AS22.
3. Deactivate the SVE system. The SVE system was initially installed to recover sparge vapors. Based upon the groundwater concentrations currently at the site this should no longer be necessary.
4. Temporarily discontinue sampling of all monitoring wells except CEF-103-SMW-11, CEF-103-SMW-02 and CEF-103-SMW-04. When CEF-103-SMW-11 achieves concentrations that are below GCTLs, shut the air sparge system down and submit a Post-Active Remediation Monitoring Plan in accordance with Florida Administrative Code 62-770.750.

Mr. David Grabka
May 31, 2002

Please review the data presented in the March 2002, *Quarterly Operations and Maintenance Report, Air Sparging & Soil Vapor Extraction System, 103rd St. and "A" Ave., Jet Fuel Transfer Pipeline* and respond with your comments regarding our recommendations. If the FDEP concurs with the above recommendations, the operation of the remediation system will be modified accordingly, and a status of these actions will be provided in subsequent quarterly operations and maintenance status reports.

Sincerely,

Samuel M. Ross

Samuel Ross, P.E.
Project Manager

Pc: Wayne Hansel, Southern Division

ENGINEER'S CERTIFICATION
The recommendations provided in the letter dated April 26, 2002, from Samuel Ross of CCI/J.A. Jones, to David Grabka of FDEP, Subject: Contract N62467-98-D-0995; Contract Task Order No. 0029 103rd Street and A Avenue Air Sparge/Soil Vapor Extraction System Recommendations are based upon commonly accepted engineering practices and standards. The recommendations were developed under the supervision of the undersigned professional engineer, registered in the State of Florida.

Samuel M. Ross
5/30/02

NAME AND TITLE OF CERTIFYING OFFICIAL:

Samuel M. Ross
Project Manager
CCI/J.A. Jones Navy RAC
Florida P.E. Number 52753
Expires February 28, 2003

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

July 31, 2002

Mr. Wayne Hansel
Code ES245 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

RE: Fourth Quarter 2001 Operations and Maintenance Status Report, AS/SVE 103rd Street and ▒A▒ Avenue Jet Fuel Transfer Pipeline, with additional recommendations, Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Hansel:

The Department has completed its review of the Fourth Quarter 2001 Operations and Maintenance Status Report, AS/SVE 103rd Street and ▒A▒ Avenue Jet Fuel Transfer Pipeline, Naval Air Station Cecil Field, dated March 2002 (received March 6, 2002), with additional recommendations for the AS/SVE system dated May 31, 2002 (received June 5, 2002).

The Department for the most part concurs with CH2M Constructors' recommendations for the AS/SVE system. The Department concurs with deactivating air sparge wells AS1 through AS5 and AS11 through AS20; operating air sparge wells AS6 through AS10 and new air sparge wells AS21 and AS22; and deactivating the soil vapor extraction system. The Department does not concur with temporarily discontinuing sampling of all monitoring wells except wells SMW-11, SMW-02 and SMW-11 until well SMW-11 achieves concentrations below groundwater cleanup target levels. The Department believes that select wells within the former plume area should be monitored for a rebound in contaminant concentrations. Depending on whether a rebound occurs and the magnitude of contaminant concentrations detected, either reactivating the deactivated air sparge wells, monitoring for natural attenuation or some other remedial alternative may be necessary.

The technical protions of the report and supplemental information are adequate for their intent. I have attached a memorandum from Greg Brown, P.E., to this letter.

If I can be of any further assistance with this matter, please contact me at (850) 921-9991.

Sincerely,

David P. Grabka, P.G.
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Mark Speranza, TetraTech NUS, Pittsburgh
Paul Malewicki, JA Jones/CCI, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB _____ JJC _____ ESN _____