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FIRST QUARTER 2002 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

7/1/2002

CH2MHILL CONSTRUCTORS INC

First Quarter 2002
Operations and Maintenance Status Report

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

January 1, 2002 – March 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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Contents

Acronym List ..... **iii**
1.0 Introduction **1-1**
1.1 Objective 1-1
1.2 Site History 1-1
1.3 Remediation System/Technology Description 1-1
2.0 System Performance Monitoring **2-1**
2.1 Operational Efficiencies 2-1
2.1.1 Air Sparging System 2-1
2.1.2 Soil Vapor Extraction System: 2-1
2.2 Summary of Maintenance and System Downtime 2-1
2.2.1 AS System 2-1
2.2.2 SVE System 2-2
2.3 Pressure/Flow Rate Monitoring 2-2
2.3.1 Air Sparge System 2-2
2.3.2 Vapor Extraction System 2-11
2.4 Water Level Measurements 2-20
3.0 Summary of Sampling and Laboratory Analytical Results **3-1**
3.1 Vapor Monitoring 3-1
3.2 Groundwater Monitoring 3-1
4.0 Conclusions and Recommendations **4-1**
5.0 References **5-1**

Figure

1-1 Air Sparging/SVE Groundwater Monitoring Well Location Map 1-3

Tables

2-1 Air Sparging System—Sparge Well Measurements 2-2
2-2 SVE System—Extraction Well Measurements 2-11
2-3 Groundwater Monitoring Well—Water Level and Free Product Data 2-20
3-1 SVE System—Pre-Treatment Vapor Analytical Results 3-2
3-2 SVE System—Mid-Carbon Vapor Analytical Results 3-3
3-3 SVE System—Post-Treatment Analytical Results 3-4
3-4 Mass Loading/Emission Rate 3-5
3-5 Groundwater Analytical Results 3-6
3-6 Monitoring Well Field Measurements 3-10

Appendices

A Laboratory Analytical Reports for Air Samples
B Laboratory Analytical Reports for Groundwater Samples

Acronym List

bls	below land surface
^{o}C	degrees Celsius
CCI	CH2M HILL Constructors, Inc.
cfm	cubic feet per minute
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
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	semivolatile organic compound
TtNUS	TetraTech NUS, Inc.
VOCs	volatile organic compounds

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) has been contracted by the Department of the Navy, Southern Division, Naval Facilities Engineering Command, 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 No. 0062. The purpose of this First Quarter 2002 O&M Report is to provide a summary of activities performed at the site during the period of January 1, 2002, to March 31, 2002.

1.1 Objective

The objective of the remedial action at the site of 103rd Street and "A" Avenue is to reduce the concentrations of petroleum-related contaminants in the groundwater and unsaturated soils to target levels specified by Florida Administrative Code (FAC) 62-777. Air sparging/soil vapor extraction is the technology being utilized to achieve this objective.

1.2 Site History

The 103rd Street and "A" Avenue site is located approximately 1/4-mile east of the "A" Avenue gate to former 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, Inc. [TtNUS], 1999).

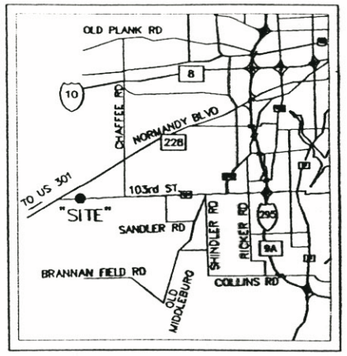
Site assessment activities were performed by TtNUS from 1998 to 1999 to delineate the extent of the light non-aqueous phase liquid (LNAPL), and soil and groundwater contamination at the site. A Remedial Action Plan (RAP) was subsequently submitted in August 1999. The RAP specified air sparging and soil 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 Environmental Services (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 since start-up.

1.3 Remediation System/Technology Description

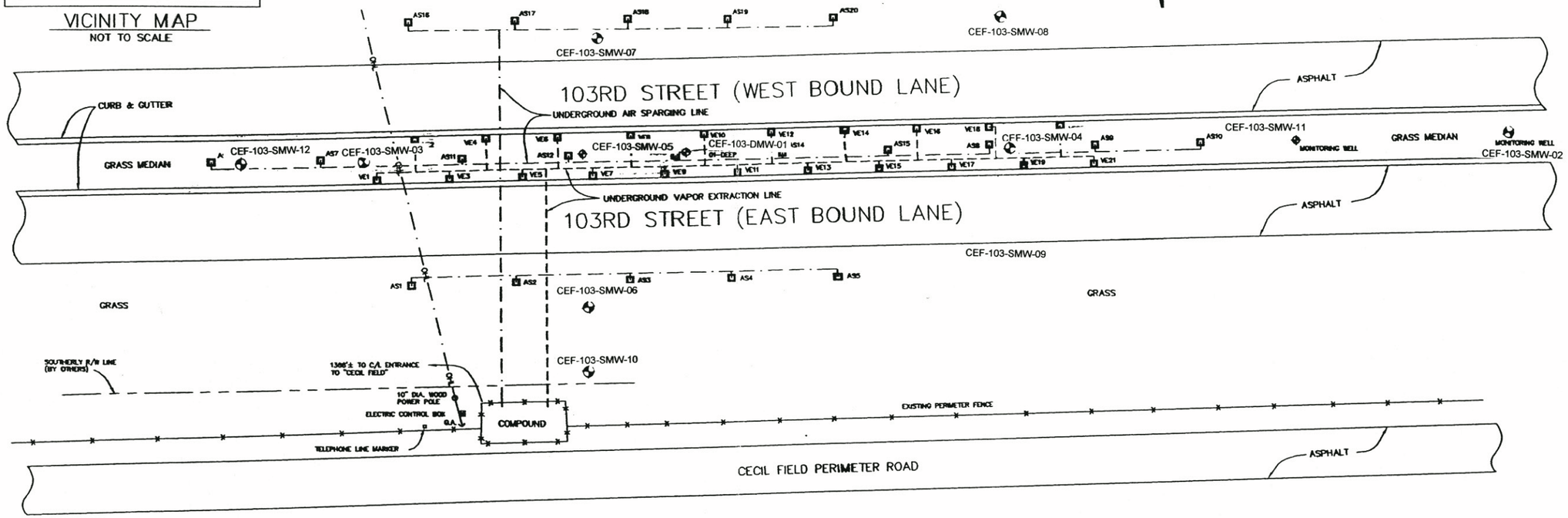
Air sparging is a method of expediting the transfer of saturated zone volatile organic compounds (VOCs) from the groundwater table to the vadose zone, where a soil vapor extraction (SVE) system can complete the VOC removal process. Hydrocarbon-free air is injected into air sparge wells, which are screened 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 air sparge 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 (bls), a rotary screw-type compressor, a receiver tank, and associated piping and instrumentation. The air sparge 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 in Figure 1-1.

Soil vapor extraction 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, labeled 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 SVE system was initially equipped with two 1,000-lb granular activated carbon (GAC) units placed in series to treat the soil vapors prior to being discharged to the atmosphere. The GACs were subsequently removed when the effluent VOC concentration decreased below the Florida Department of Environmental Protection (FDEP) requirement and the mandatory 30-day period had been satisfied (see section 3.1). 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 (in 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. System checks were performed weekly during the monitoring period.

During an O&M check, a preventative maintenance checklist (based upon manufacturer's recommendations) is completed, and any required maintenance activity is performed. A system check consists of an O&M check and system performance monitoring, including reading of all meters and gauges and sample collection.

2.1 Operational Efficiencies

2.1.1 Air Sparging System

	Period	To Date
Hours of Possible Operation:	2,160	16,248
Hours of Actual Operation:	1,752	11,068
Percent Hours of Operation:	81.1	68.1

2.1.2 Soil Vapor Extraction System

	Period	To Date
Hours of Possible Operation:	2,160	16,248
Hours of Actual Operation:	1,115	12,427
Percent Hours of Operation:	51.6	76.5

2.2 Summary of Maintenance and System Downtime

2.2.1 AS System

During the period of January 31, 2002, to March 31, 2002, the AS system ran a total of 73 days out of a possible 90 days, resulting in 408 hours of down time. The AS system down time is detailed as follows:

- Down for total of 172 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 was restarted.
- 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. Replaced switch and restarted system.
- Down for total of 56 hours due to power interruption.

- Manually shut down for total of 26 hours for the quarterly groundwater sampling event.
- Manually shut down for total of 2 hours for routine maintenance.

2.2.2 SVE System

During the period of January 1, 2002, to March 31, 2002, the SVE system ran a total of 46.5 days out of a possible 90 days, resulting in 1,045 hours of down time. The SVE system down time is detailed as follows:

- Down for total of 865 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 80 hours to replace the 550-gallon, SVE moisture-separator storage tank with a 2100-gallon tank and re-pipe.
- Down for total of 72 hours for defective SVE moisture-separator storage tank level switch. Replaced switch and restarted system
- Manually shut down for total of 26 hours for the quarterly groundwater sampling event.
- Manually shut down for total of 2 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 purpose was to increase storage capacity to allow continuous operation of the SVE system and reduce down time.

2.3 Pressure/Flow Rate Monitoring

2.3.1 Air Sparge System

During the monitoring period, pressure was measured at each sparge wellhead on a monthly basis for the period of January 1, 2002, to March 31, 2002. The wellhead pressures for the shallow sparge wells averaged 9.9 psi during the monitoring period, compared to the design pressure of 9 psi. The data is provided in Table 2-1.

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
AS-1	05/26/2000	NM	10
	06/02/2000	NM	11
	06/09/2000	0	9
	06/22/2000	0	0
	07/24/2000	NM	NM
	08/29/2000	NM	0
	10/30/2000	NM	8
	11/27/2000	NM	8

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	01/30/2002	NM	8
	02/25/2002	NM	10
	03/28/2002	NM	9
AS-16	05/26/2000	NM	11
	06/02/2000	NM	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NM	NM
	08/29/2000	NM	10
	10/30/2000	NM	10
	11/27/2000	NM	10
	12/18/2000	NM	10
	01/30/2001	NM	6
	02/26/2001	NM	10
	03/26/2001	NM	10
	04/30/2001	NM	10
	05/21/2001	NM	8
	07/24/2001	NM	10
	08/29/2001	NM	10
	09/19/2001	NM	10
	10/29/2001	NM	9
	11/27/2001	NM	10
	12/20/2001	NM	10
	01/30/2002	NM	10
	02/25/2002	NM	10
	03/28/2002	NM	10
AS-17	05/26/2000	NM	9
	06/02/2000	NM	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NM	NM
	08/29/2000	NM	10
	10/30/2000	NM	10
	11/27/2000	NM	8
	12/18/2000	NM	10
	01/30/2001	NM	7
	02/26/2001	NM	10
	03/26/2001	NM	9
	04/30/2001	NM	10
	05/21/2001	NM	10
	07/24/2001	NM	10
	08/29/2001	NM	8
	09/19/2001	NM	10
	10/29/2001	NM	9
	11/27/2001	NM	10
	12/20/2001	NM	11
	01/30/2002	NM	10
	02/25/2002	NM	11
	03/28/2002	NM	9.5
AS-18	05/26/2000	NM	11
	06/02/2000	NM	9
	06/09/2000	0	10
	06/22/2000	0	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	07/24/2000	NM	NM
	08/29/2000	NM	0
	10/30/2000	NM	10
	11/27/2000	NM	12
	12/18/2000	NM	10
	01/30/2001	NM	7
	02/26/2001	NM	12
	03/26/2001	NM	11
	04/30/2001	NM	12
	05/21/2001	NM	11
	07/24/2001	NM	12
	08/29/2001	NM	9
	09/19/2001	NM	12
	10/29/2001	NM	10
	11/27/2001	NM	12
	12/20/2001	NM	10
	01/30/2002	NM	12
	02/25/2002	NM	10
	03/28/2002	NM	10
AS-19	05/26/2000	NM	11
	06/02/2000	NM	9
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NM	14
	08/29/2000	NM	8
	10/30/2000	NM	8
	11/27/2000	NM	12
	12/18/2000	NM	10
	01/30/2001	NM	8
	02/26/2001	NM	8
	03/26/2001	NM	8
	04/30/2001	NM	8
	05/21/2001	NM	8
	07/24/2001	NM	8
	08/29/2001	NM	9
	09/19/2001	NM	8
	10/29/2001	NM	9
	11/27/2001	NM	8
	12/20/2001	NM	10
	01/30/2002	NM	8
	02/25/2002	NM	9
	03/28/2002	NM	8
AS-20	05/26/2000	NM	11
	06/02/2000	NM	11
	06/09/2000	0	10
	06/22/2000	0	8
	07/24/2000	NM	12
	08/29/2000	NM	4
	10/30/2000	NM	2
	11/27/2000	NM	10
	12/18/2000	NM	10
	01/30/2001	NM	8
	02/26/2001	NM	0

TABLE 2-1
Air Sparge System - Sparge Well Measurements
NAS Cecil Field, Jacksonville, Florida

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
	03/26/2001	NM	0
	04/30/2001	NM	NM
	05/21/2001	NM	8
	07/24/2001	NM	4
	08/29/2001	NM	10
	09/19/2001	NM	8
	10/29/2001	NM	9
	11/27/2001	NM	9
	12/20/2001	NM	11
	01/30/2002	NM	9
	02/25/2002	NM	10
	03/28/2002	NM	10

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

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 January 1, 2002, to March 31, 2002. The data from the flow and vacuum pressure measurement events are provided in Table 2-2.

During the monitoring period, the wellhead vacuum pressures for the vapor extraction wells averaged 26.7 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 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 904.2 standard cubic feet per minute (scfm) during the monitoring period, compared to the design flow rate of 350 scfm. The airflow rates averaged 43.1 scfm for the extraction well system, 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 between the wells and the system.

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
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
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
	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

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
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
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
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
	02/26/2001	38	11.6
	03/26/2001	18	11.9

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
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
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
VEW-9	05/26/2000	NM	NM
	06/02/2000	NM	NM

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
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
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

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	07/24/2001	4	12.1
	08/29/2001	1	0.0
	09/19/2001	0	17.2
	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
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
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
VEW-14	05/26/2000	NM	NM
	06/02/2000	NM	NM
	06/09/2000	24	9.1
	06/22/2000	20	11.9

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
	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
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
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

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
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
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
VEW-19	05/26/2000	NM	NM
	06/02/2000	NM	NM

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
	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
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
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

TABLE 2-2
SVE System - Extraction Well Measurements
NAS Cecil Field, Jacksonville, Florida

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
	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
	12/20/2001	30	16.6
	01/30/2002	27	31.1
	02/25/2002	44	68.0
	03/28/2002	8	59.0

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

2.4 Water Level Measurements

Depth to water measurements were recorded at selected monitoring wells on a monthly basis during the monitoring period. The top of casing elevation, depth to water measurements, and calculated water level elevations are provided in Table 2-3.

LNAPL was not noted in any monitoring well during the monitoring period.

TABLE 2-3
Groundwater Monitoring Well - Water Level & Free Product Data
NAS Cecil Field, Jacksonville, Florida

Well Identification	Well Total Depth (feet bls)	Date	Top of Casing Elevation (feet)	Depth to Product (feet)	Depth to Water (feet)	Water Level Elevation (feet)
CEF-103-SMW-01	13.00	08/30/2000	81.85	no product	4.56	77.29
		09/28/2000		no product	3.07	78.78
		10/31/2000		no product	4.19	77.66
		11/27/2000		NM	NM	NM
		12/20/2000		no product	5.38	76.47
		02/27/2001		no product	5.10	76.75
		03/27/2001		no product	3.54	78.31
		04/30/2001		no product	4.82	77.03
		05/22/2001		no product	5.57	76.28
		07/24/2001		no product	2.97	78.88
		08/30/2001		no product	3.50	78.35
		11/27/2001		no product	4.56	77.29
		12/20/2001		no product	3.32	78.53
		02/26/2002		no product	3.89	77.96
		03/28/2002		no product	3.70	78.15
CEF-103-SMW-02	13.25	08/30/2000	82.30	4.99	5.00	77.30
		09/28/2000		no product	4.05	78.25
		10/31/2000		no product	5.50	76.80
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.53	75.77
		02/27/2001		no product	6.89	75.41

TABLE 2-3
Groundwater Monitoring Well - Water Level & Free Product Data
NAS Cecil Field, Jacksonville, Florida

Well Identification	Well Total Depth (feet bls)	Date	Top of Casing Elevation (feet)	Depth to Product (feet)	Depth to Water (feet)	Water Level Elevation (feet)
		03/27/2001		no product	4.81	77.49
		04/30/2001		no product	6.59	75.71
		05/22/2001		no product	7.56	74.74
		07/24/2001		no product	4.26	78.04
		08/30/2001		no product	4.75	77.55
		11/27/2001		no product	5.80	76.50
		12/20/2001		no product	4.08	78.22
		02/26/2002		no product	5.74	76.56
		03/28/2002		no product	5.14	77.16
CEF-103-SMW-03	12.60	08/30/2000	82.03	NM	NM	NM
		09/28/2000		no product	12.60	69.43
		10/31/2000		no product	12.14	69.89
		11/27/2000		NM	NM	NM
		12/20/2000		no product	8.67	73.36
		02/27/2001		no product	9.63	72.40
		03/27/2001		no product	4.97	77.06
		04/30/2001		no product	NM	NM
		05/22/2001		no product	10.90	71.13
		07/24/2001		no product	4.20	77.83
		08/30/2001		no product	5.03	77.00
		11/27/2001		no product	8.45	73.58
		12/20/2001		no product	4.60	77.43
		02/26/2002		no product	8.76	73.27
		03/28/2002		no product	4.50	77.53
CEF-103-SMW-04	12.66	08/30/2000	82.23	NM	NM	NM
		09/28/2000		NM	NM	NM
		10/31/2000		no product	6.46	75.77
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.75	75.48
		02/27/2001		no product	7.02	75.21
		03/27/2001		no product	4.41	77.82
		04/30/2001		no product	5.88	76.35
		05/22/2001		no product	8.45	73.78
		07/24/2001		no product	2.70	79.53
		08/30/2001		no product	5.24	76.99
		11/27/2001		no product	6.52	75.71
		12/20/2001		no product	2.30	79.93
		02/26/2002		no product	10.55	71.68
		03/28/2002		no product	3.49	78.74
CEF-103-SMW-05	13.26	08/30/2000	82.37	no product	5.52	76.85
		09/28/2000		NM	NM	NM
		10/31/2000		no product	5.87	76.50
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.47	75.90
		02/27/2001		no product	6.24	76.13
		03/27/2001		no product	3.98	78.39
		04/30/2001		no product	4.61	77.76
		05/22/2001		no product	6.72	75.65
		07/24/2001		no product	1.70	80.67
		08/30/2001		no product	4.17	78.20
		11/27/2001		no product	4.70	77.67
		12/20/2001		no product	2.81	79.56
		02/26/2002		no product	4.74	77.63
		03/28/2002		no product	3.35	79.02

TABLE 2-3
Groundwater Monitoring Well - Water Level & Free Product Data
NAS Cecil Field, Jacksonville, Florida

Well Identification	Well Total Depth (feet bls)	Date	Top of Casing Elevation (feet)	Depth to Product (feet)	Depth to Water (feet)	Water Level Elevation (feet)
CEF-103-SMW-06	13.18	08/30/2000	77.33	NM	NM	NM
		09/28/2000		NM	NM	NM
		10/31/2000		no product	8.26	69.07
		11/27/2000		no product	0.00	77.33
		12/20/2000		no product	3.15	74.18
		02/27/2001		no product	5.23	72.10
		03/27/2001		no product	0.50	76.83
		04/30/2001		no product	2.78	74.55
		05/22/2001		no product	6.59	70.74
		07/24/2001		no product	0.10	77.23
		08/30/2001		no product	2.77	74.56
		11/27/2001		no product	2.10	75.23
		12/20/2001		no product	0.00	77.33
		02/26/2002		no product	4.70	72.63
		03/28/2002		no product	0.00	77.33
CEF-103-SMW-07	13.29	08/30/2000	79.35	7.62	7.63	71.72
		09/28/2000		no product	7.91	71.44
		10/31/2000		no product	8.10	71.25
		11/27/2000		no product	3.10	76.25
		12/20/2000		no product	5.60	73.75
		02/27/2001		no product	6.51	72.84
		03/27/2001		no product	2.16	77.19
		04/30/2001		no product	3.12	76.23
		05/22/2001		no product	7.89	71.46
		07/24/2001		no product	2.41	76.94
		08/30/2001		no product	3.51	75.84
		11/27/2001		no product	4.02	75.33
		12/20/2001		no product	0.05	79.30
		02/26/2002		no product	6.10	73.25
		03/28/2002		no product	2.90	76.45
CEF-103-SMW-08	18.23	08/30/2000	79.55	no product	2.53	77.02
		09/28/2000		NM	NM	NM
		10/31/2000		no product	3.28	76.27
		11/27/2000		no product	2.95	76.60
		12/20/2000		no product	4.04	75.51
		02/27/2001		no product	4.48	75.07
		03/27/2001		no product	2.22	77.33
		04/30/2001		no product	3.67	75.88
		05/22/2001		no product	5.70	73.85
		07/24/2001		no product	2.38	77.17
		08/30/2001		no product	2.30	77.25
		11/27/2001		no product	3.45	76.10
		12/20/2001		no product	2.44	77.11
		02/26/2002		no product	2.90	76.65
		03/28/2002		no product	2.75	76.80
CEF-103-SMW-09	13.24	08/30/2000	79.67	no product	4.56	75.11
		09/28/2000		NM	NM	NM
		10/31/2000		no product	4.65	75.02
		11/27/2000		no product	2.99	76.68
		12/20/2000		no product	4.55	75.12
		02/27/2001		no product	5.13	74.54
		03/27/2001		no product	2.70	76.97
		04/30/2001		no product	4.68	74.99
		05/22/2001		no product	7.15	72.52

TABLE 2-3
Groundwater Monitoring Well - Water Level & Free Product Data
NAS Cecil Field, Jacksonville, Florida

Well Identification	Well Total Depth (feet bls)	Date	Top of Casing Elevation (feet)	Depth to Product (feet)	Depth to Water (feet)	Water Level Elevation (feet)
		07/24/2001		no product	1.60	78.07
		08/30/2001		no product	5.43	74.24
		11/27/2001		no product	4.00	75.67
		12/20/2001		no product	0.84	78.83
		02/26/2002		no product	4.90	74.77
		03/28/2002		no product	2.40	77.27
CEF-103-SMW-10	11.63	08/30/2000	77.29	NM	NM	NM
		09/28/2000		no product	0.45	76.84
		10/31/2000		no product	2.35	74.94
		11/27/2000		no product	1.05	76.24
		12/20/2000		no product	2.11	75.18
		02/27/2001		no product	2.95	74.34
		03/27/2001		no product	0.50	76.79
		04/30/2001		no product	3.27	74.02
		05/22/2001		no product	4.89	72.40
		07/24/2001		no product	0.00	77.29
		08/30/2001		no product	1.88	75.41
		11/27/2001		no product	1.30	75.99
		12/20/2001		no product	0.55	76.74
		02/26/2002		no product	1.00	76.29
		03/28/2002		no product	1.05	76.24
CEF-103-SMW-11	16.10	08/30/2000	82.48	no product	5.55	76.93
		09/28/2000		no product	4.60	77.88
		10/31/2000		no product	6.06	76.42
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.78	75.70
		02/27/2001		no product	7.14	75.34
		03/27/2001		no product	5.02	77.46
		04/30/2001		no product	NM	NM
		05/22/2001		no product	7.64	74.84
		07/24/2001		no product	5.56	76.92
		08/30/2001		no product	5.17	77.31
		11/27/2001		no product	6.24	76.24
		12/20/2001		no product	4.28	78.20
		02/26/2002		no product	5.82	76.66
		03/28/2002		no product	5.28	77.20
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 product	6.51	75.53
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.28	75.76
		02/27/2001		no product	6.93	75.11
		03/27/2001		no product	3.84	78.20
		04/30/2001		no product	5.34	76.70
		05/22/2001		no product	8.26	73.78
		07/24/2001		no product	2.94	79.10
		08/30/2001		no product	4.45	77.59
		11/27/2001		no product	5.40	76.64
		12/20/2001		no product	2.77	79.27
		02/26/2002		no product	5.81	76.23
		03/28/2002		no product	4.15	77.89
CEF-103-DMW-01	38.75	08/30/2000	82.40	no product	6.96	75.44
		09/28/2000		NM	NM	NM
		10/31/2000		no product	7.06	75.34

TABLE 2-3
Groundwater Monitoring Well - Water Level & Free Product Data
NAS Cecil Field, Jacksonville, Florida

Well Identification	Well Total Depth (feet bls)	Date	Top of Casing Elevation (feet)	Depth to Product (feet)	Depth to Water (feet)	Water Level Elevation (feet)
		11/27/2000		NM	NM	NM
		12/20/2000		no product	6.96	75.44
		02/27/2001		no product	7.92	74.48
		03/27/2001		no product	5.37	77.03
		04/30/2001		no product	8.18	74.22
		05/22/2001		no product	9.62	72.78
		07/24/2001		no product	4.38	78.02
		08/30/2001		no product	4.41	77.99
		11/27/2001		no product	6.50	75.90
		12/20/2001		no product	5.70	76.70
		02/26/2002		no product	5.99	76.41
		03/28/2002		no product	5.86	76.54

NM = not measured
bgs = below ground surface
Elevation is referenced to National Geodetic Vertical Datum 1929 (NGVD 1929)
Depth to product 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 United States 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 A, and analytical results are summarized on Tables 3-1, 3-2, and 3-3. The pounds per day loading (air emission) rate summary is provided on Table 3-4.

Based upon an average pounds per day VOC removal rate and an on-stream time of 46.5 days, a total of 0.069 pound of VOCs was 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, semivolatile organic compounds (SVOCs), lead, and total recoverable petroleum hydrocarbon on February 26, 2002. Eight of the nine monitoring wells sampled are located within the treatment zone and have exhibited significant decreases in contaminant concentrations from the baseline groundwater sampling event that was performed on March 20, 2000, prior to system start up. The contaminant concentrations for these eight monitoring wells are below groundwater cleanup target levels (GCTLs) for all constituents. The ninth monitoring well sampled, CEF-103-SMW-11, is the easternmost monitoring well, which is located outside the treatment zone of the air sparge system. This well has exhibited decreases in contaminant concentrations but the levels are still above the GCTLs for trimethylbenzene, isopropylbenzene, naphthalene, ethylbenzene, and total xylenes. Monitoring wells CEF-103-SMW-08, CEF-103-SMW-09, CEF-103-SMW-12, and CEF-103-DMW-01 are not sampled during the quarterly sampling events. The locations of the wells are shown on Figure 1-1. Copies of the analytical laboratory reports from the groundwater sampling events are provided in Appendix B, and analytical results are summarized on Table 3-5.

TABLE 3-1
SVE System - Pre-Treatment Vapor Analytical Results
NAS Cecil Field, Jacksonville, Florida

Compound (µg/m^3)	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
NAS Cecil Field, Jacksonville, Florida

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

TABLE 3-3
SVE System - Post-Treatment Analytical Results
NAS Cecil Field, Jacksonville, Florida

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	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
OVA-FID (ppm)	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	<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	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1,2-Trichloro-1,2,2-trifluoroethane	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,1-Dichloroethene	<1.982	<1.982	<1.982	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2,4-Trichlorobenzene	<3.710	<3.710	<3.710	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,2,4-Trimethylbenzene	<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
1,2-Dibromoethane	<3.842	<3.842	<3.842	NA	NA	NA	NA	NA	NA	NA	NA	<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	<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	<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	<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	3.19	<3.006	<3.006	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
1,3,5-Trimethylbenzene	<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
2-Chlorotoluene	<2.588	<2.588	<2.588	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
4-Ethyltoluene	<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
Alpha-Chlorotoluene	<2.834	<2.834	<2.834	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	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
Bromoform	<5.168	<5.168	<5.168	NA	NA	NA	NA	NA	NA	NA	NA	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Bromodichloromethane	<3.349	<3.349	<3.349	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Carbon Disulfide	<1.556	<1.556	<1.556	NA	NA	NA	NA	NA	NA	NA	NA	<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	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Chloroethane	<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
Chloroform	<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
Chloromethane	<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
cis-1,2-Dichloroethene	<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
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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dibromochloromethane	<1.762	<1.762	<1.762	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dichlorodifluoromethane	<2.472	<2.472	<2.472	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Dichlorotetrafluoroethane	<3.495	<3.495	<3.495	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Ethylbenzene	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
Freon 113	<3.831	<3.831	<3.831	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	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	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Hexane	<1.762	<1.762	<1.762	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
m,p-Xylene	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
Methyl Tert Butyl Ether	<1.802	<1.802	<1.802	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Methylene Chloride	<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
o-Xylene	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
Styrene	<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
Tetrachloroethene	<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
Toluene	<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
trans-1,2-Dichloroethene	<1.982	<1.982	<1.982	NA	NA	NA	NA	NA	NA	NA	NA	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
trans-1,3-Dichloropropene	<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
trans-1,4-Dichloro-2-butene	<2.556	<2.556	<2.556	NA	NA	NA	NA	NA	NA	NA	NA	<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	15.05	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Trichlorofluoromethane	<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
Trichlorotrifluoroethane	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	<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	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Xylenes (total)	<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
Total Volatile Organics (mg/m^3)	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

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
NAS Cecil Field, Jacksonville, Florida

Location	Sample Date	Flow Rate (SCFM)	Total VOC Concentration (mg/m3)	Loading Rate (lbs/day)
Pre-Carbon Unit	07/24/2000	624.2	1.545	0.0868
(influent)	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	07/24/2000	624.2	0.008	0.0004
(mid-fluent)	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	07/24/2000	624.2	0.105	0.0059
(effluent)	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	518.8	0.280	0.0131
	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	820.8	0.060	0.0044

TABLE 3-5
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

	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	Naphthalene (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
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
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
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
	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
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

TABLE 3-5
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

	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	Naphthalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
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
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
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
	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
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
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

TABLE 3-5
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

	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	Naphthalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
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
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
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
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. NADSC = Natural Attenuatin Default Source Concentrations
5. Shade = concentration is above groundwater cleanup target levels (GCTLs)

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

TABLE 3-6
Monitoring Well Field Measurements
NAS Cecil Field, Jacksonville, Florida

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
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
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
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
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
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
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

TABLE 3-6
Monitoring Well Field Measurements
NAS Cecil Field, Jacksonville, Florida

Well Identification	Date/ Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/l)	Temperature (^oC)
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
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	R	NR	NR	NR
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
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
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

NR = no reading taken

4.0 Conclusions and Recommendations

Of the nine monitoring wells sampled during the quarter, only one well (CEF-103-SMW11) was found to have contaminant concentrations greater than the GCTLs. This monitoring well is located outside the treatment zone of the air sparge system. The concentrations in CEF-103-SMW11 were decreased from the baseline sampling event and were below the Natural Attenuation Default Source Concentrations specified by FAC 62-777 except for isopropylbenzene.

FDEP approval was received to extend the air sparge system to include the CEF-103-SMW-11 area. Two new air sparge wells will be installed in this area. The new air sparge wells will be connected to the existing header piping and will have the same construction details as the existing air sparge wells. Construction will begin in the second quarter of 2002 after all the required Florida DOT permits are obtained.

LNAPL was not noted in any monitoring well during the monitoring period.

5.0 References

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

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.

Appendix A

Laboratory Analytical Reports for Air Samples

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

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Received: 04 FEB 02
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

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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

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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: 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
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
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 ###

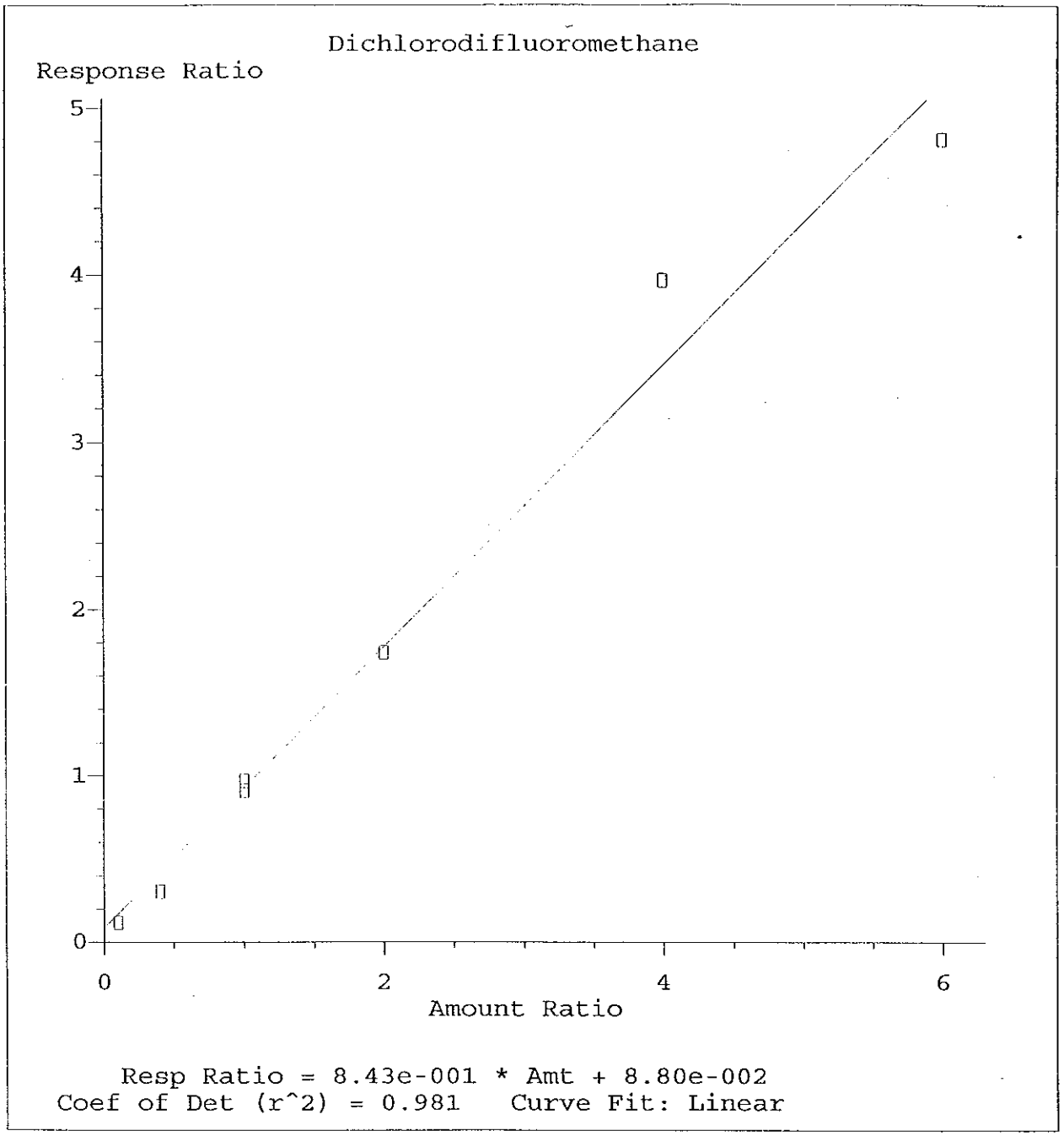
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration

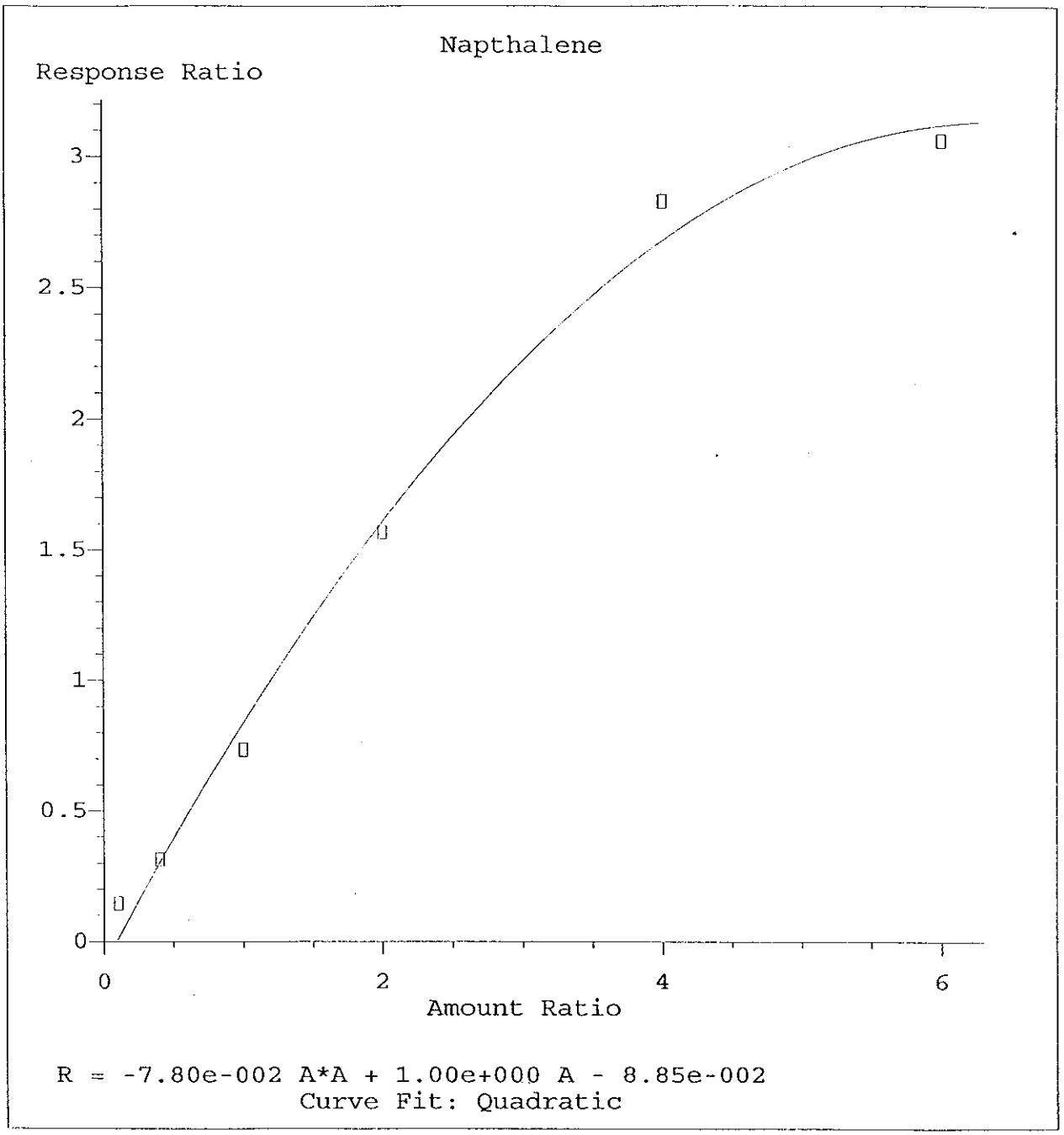
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		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		

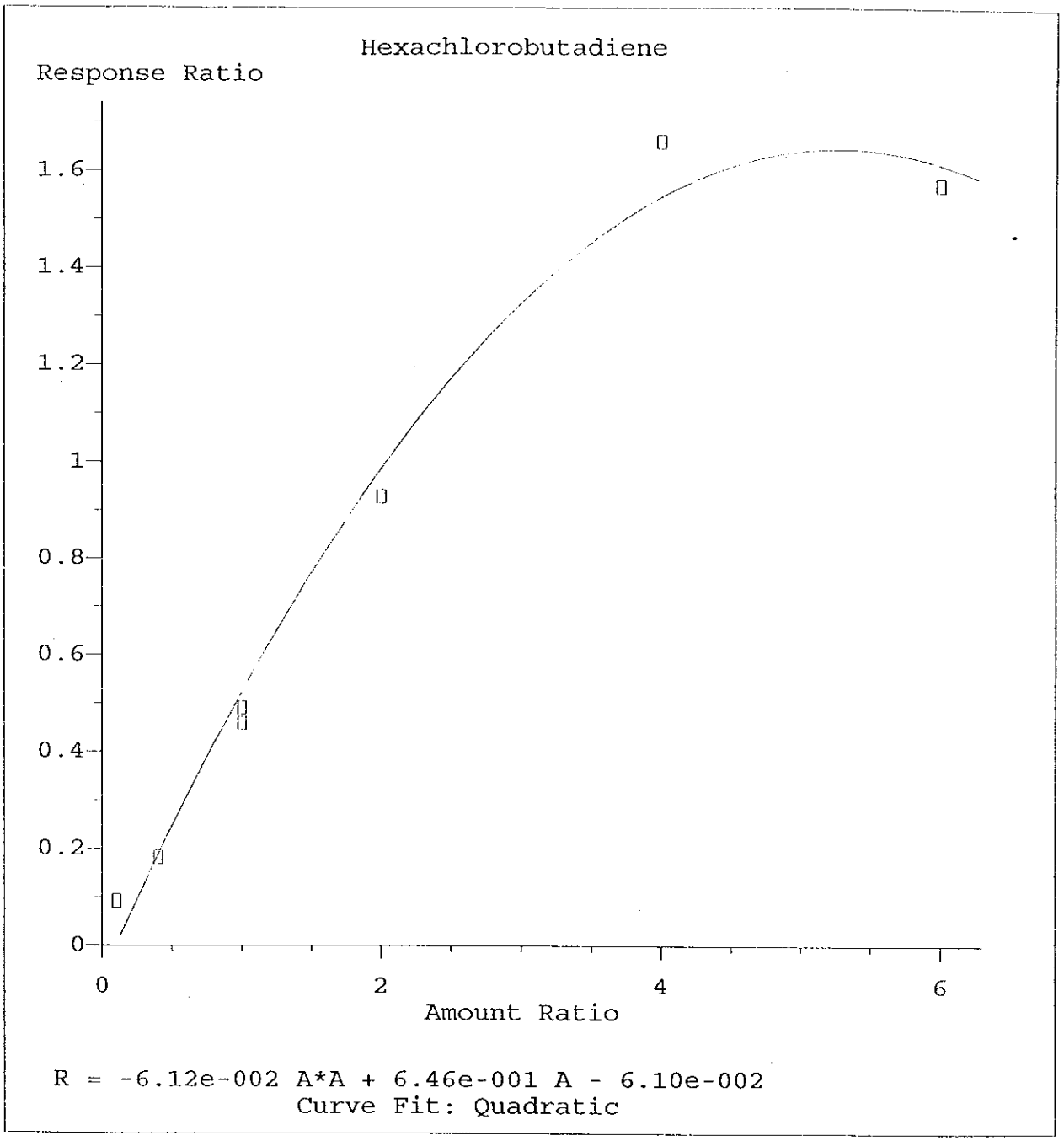
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Thu Feb 14 14:25:14 2002



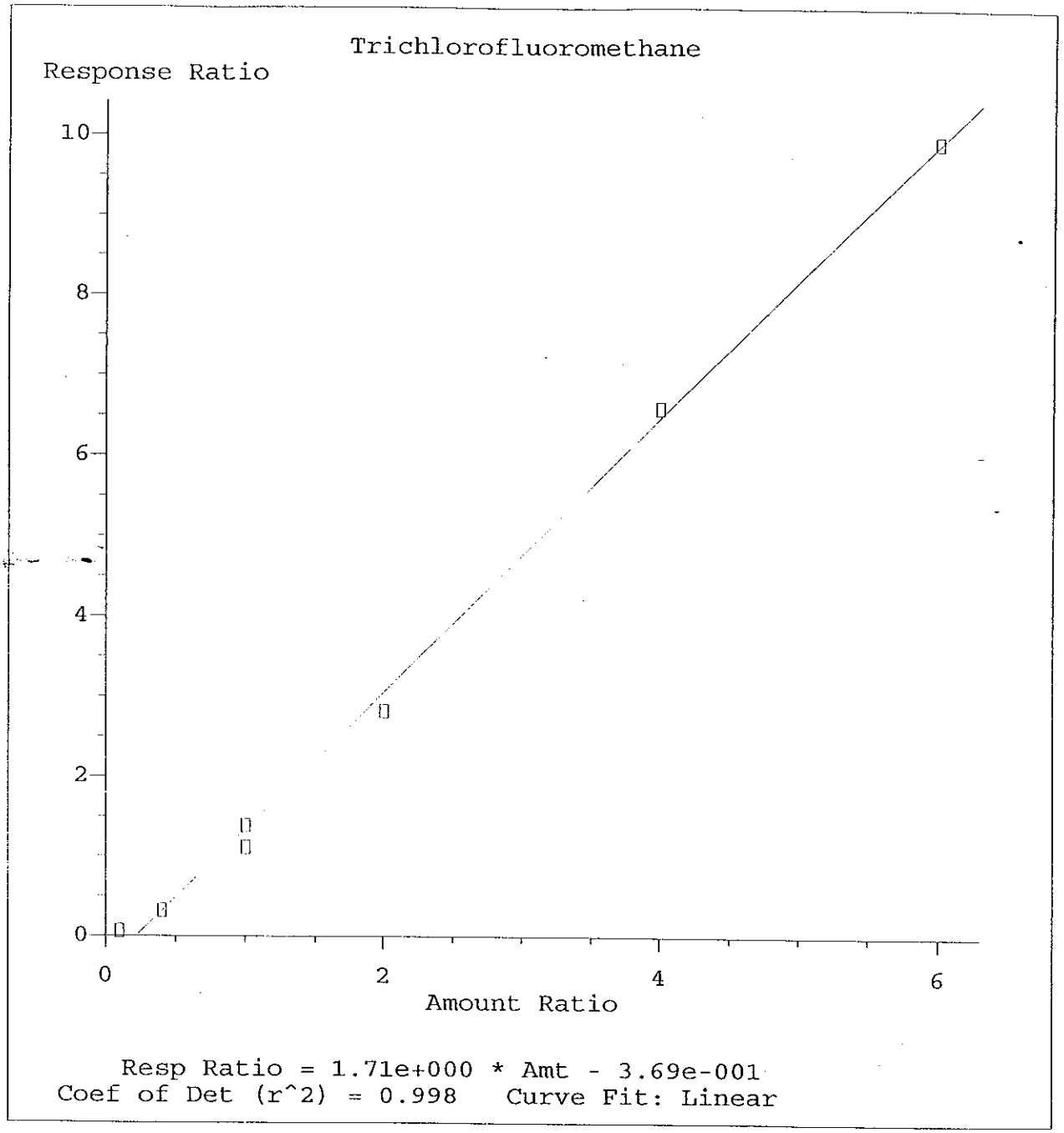
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



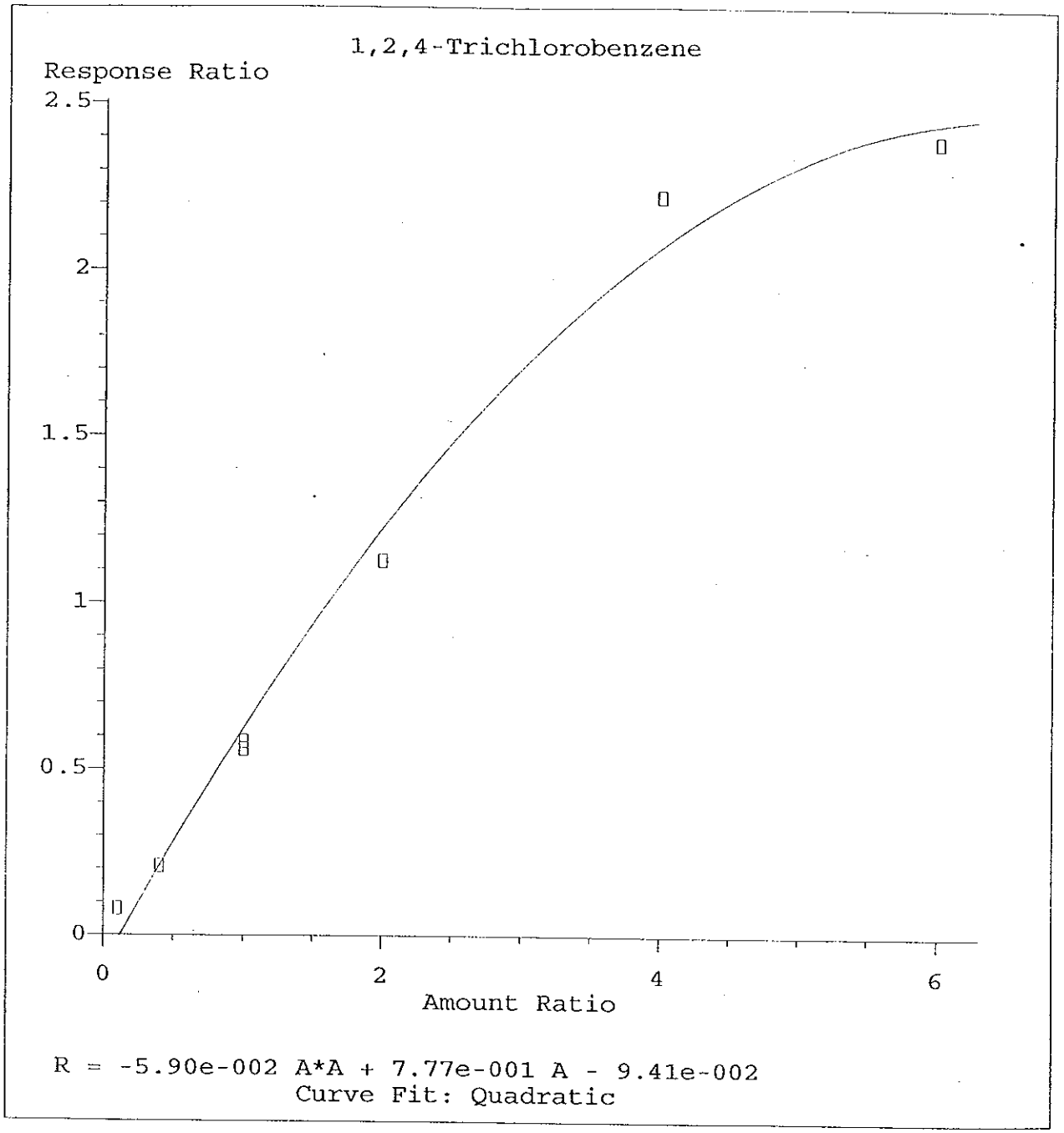
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



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.

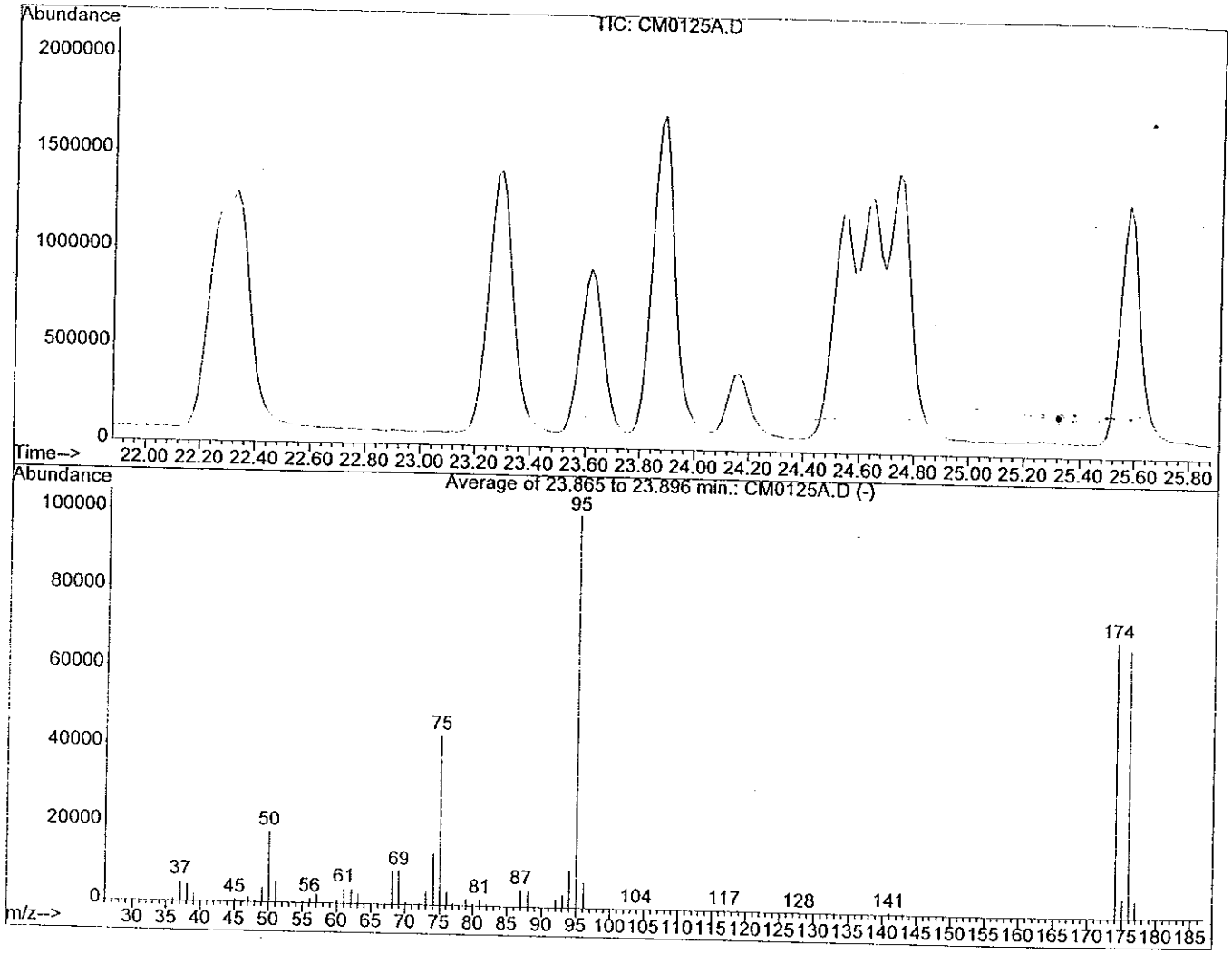
...ftware and generic Forms II and VIII that are located in the daily folder

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

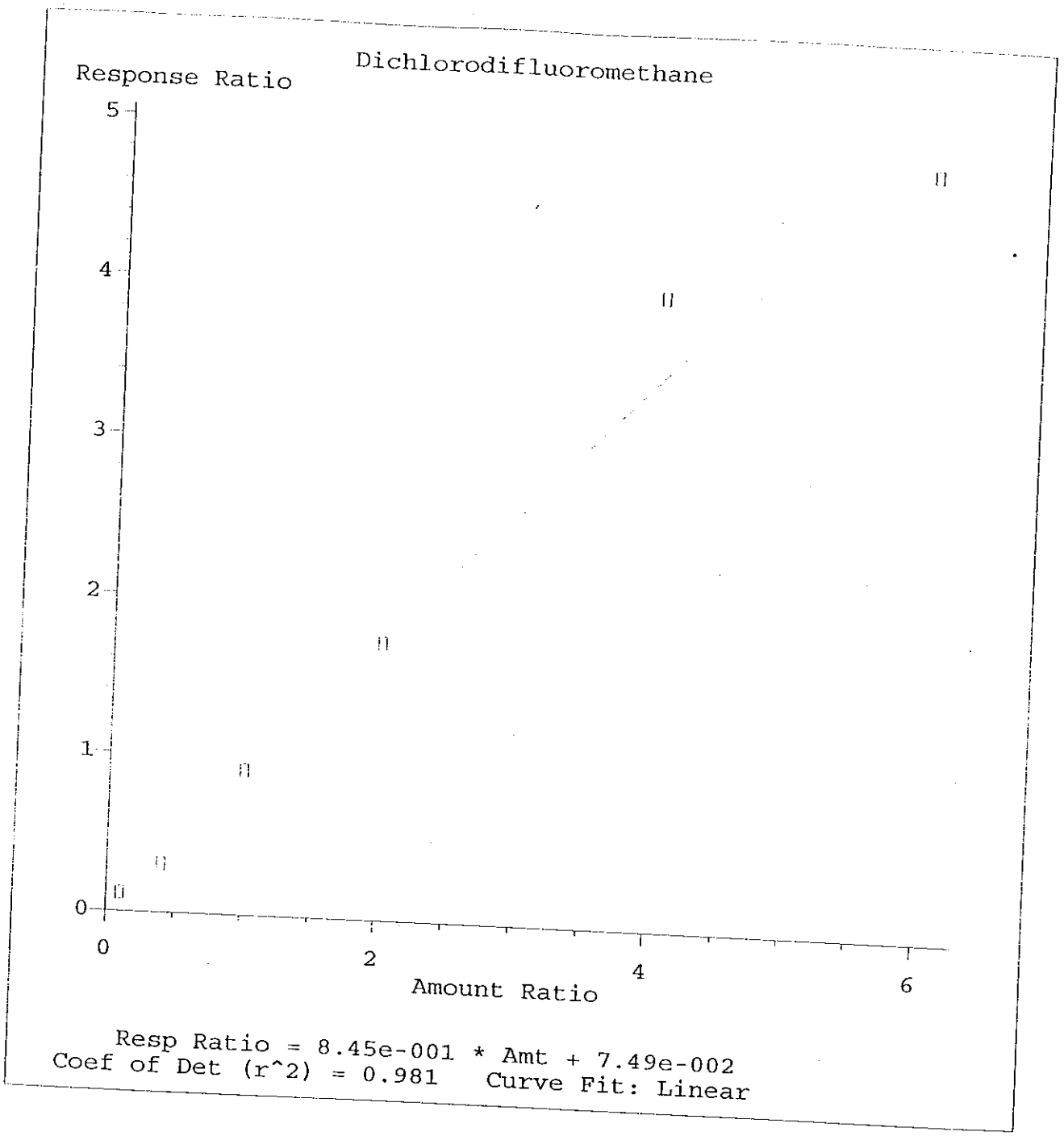
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Fri Jan 25 19:04:23 2002

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

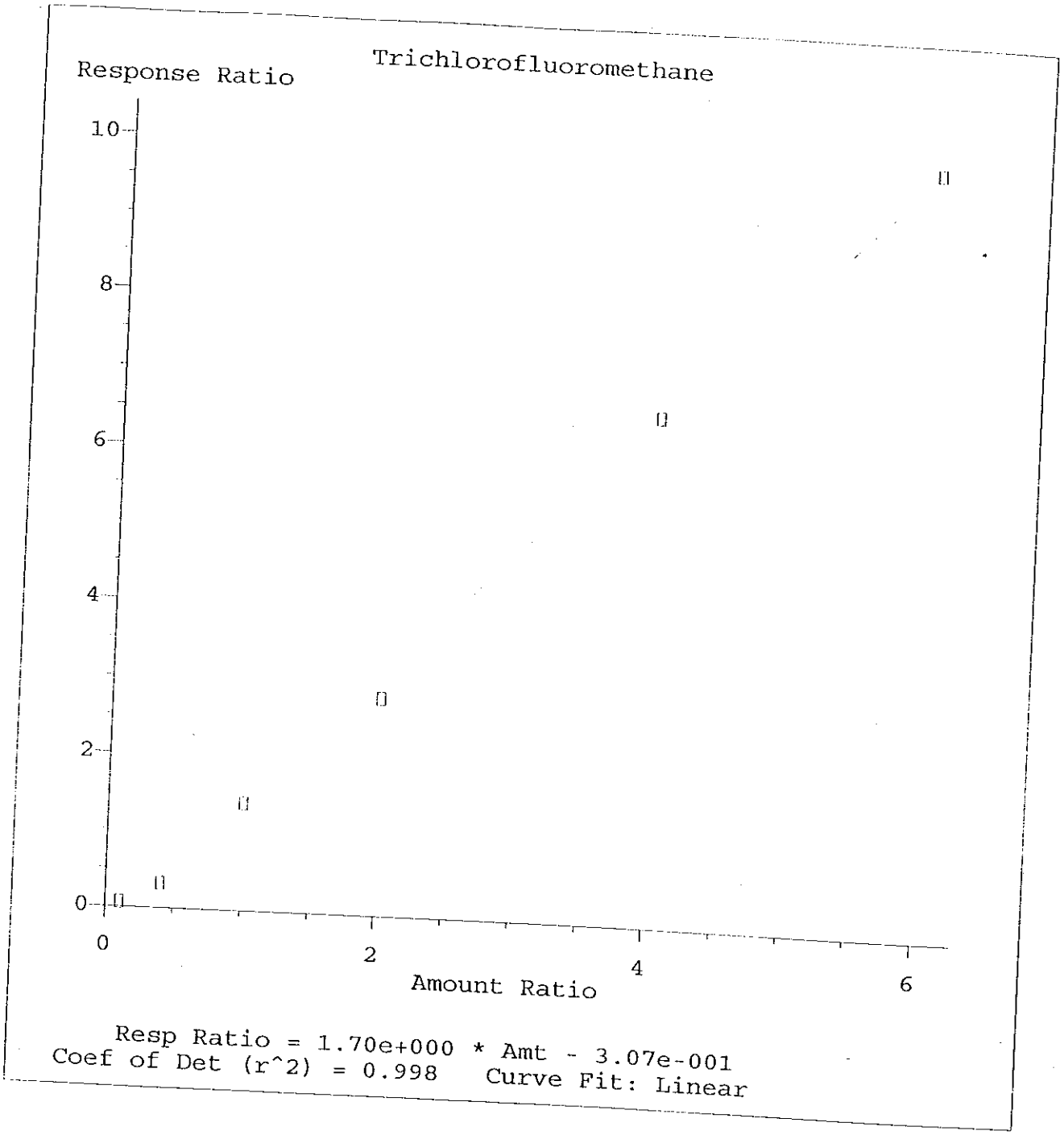
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		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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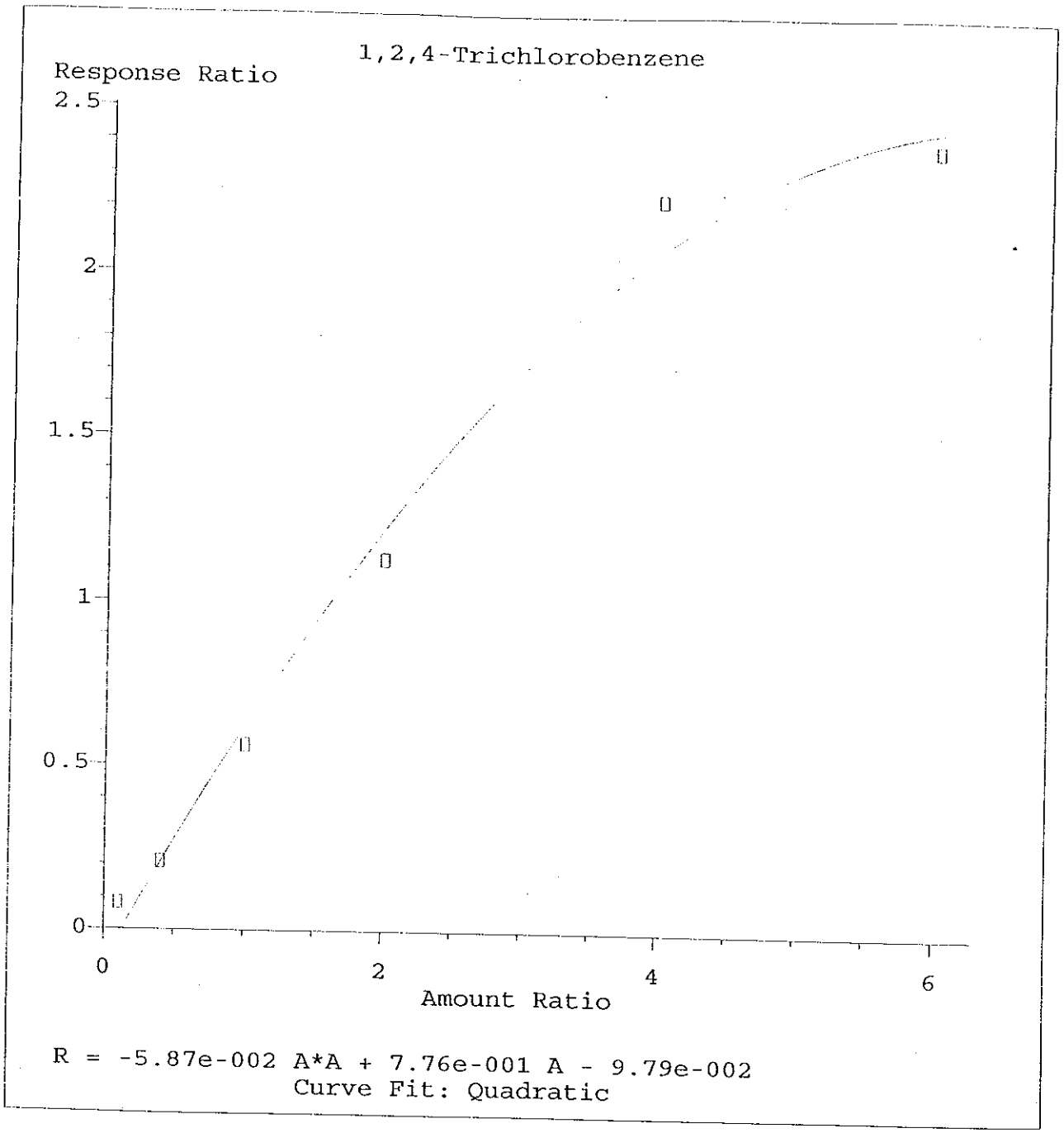
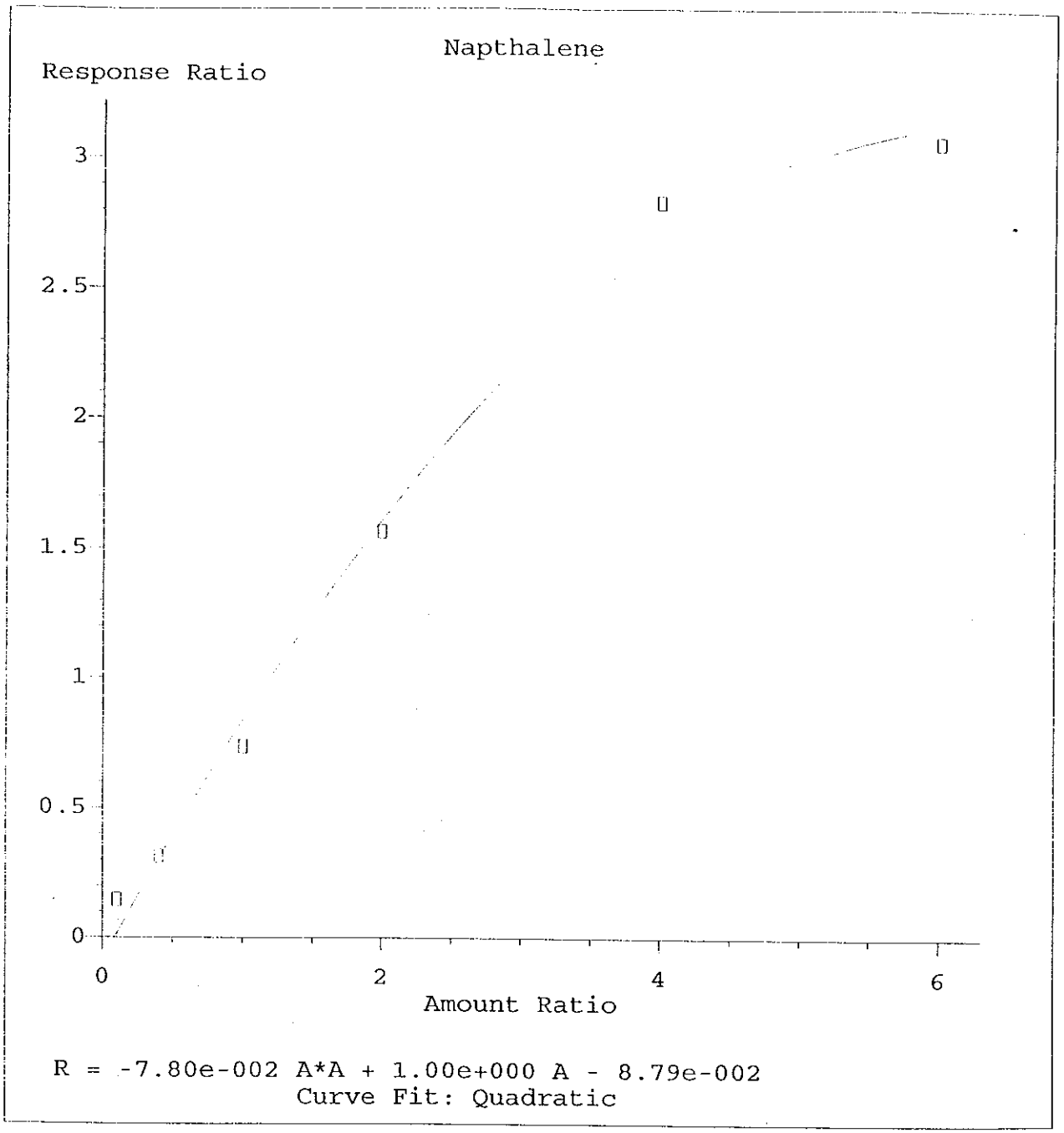
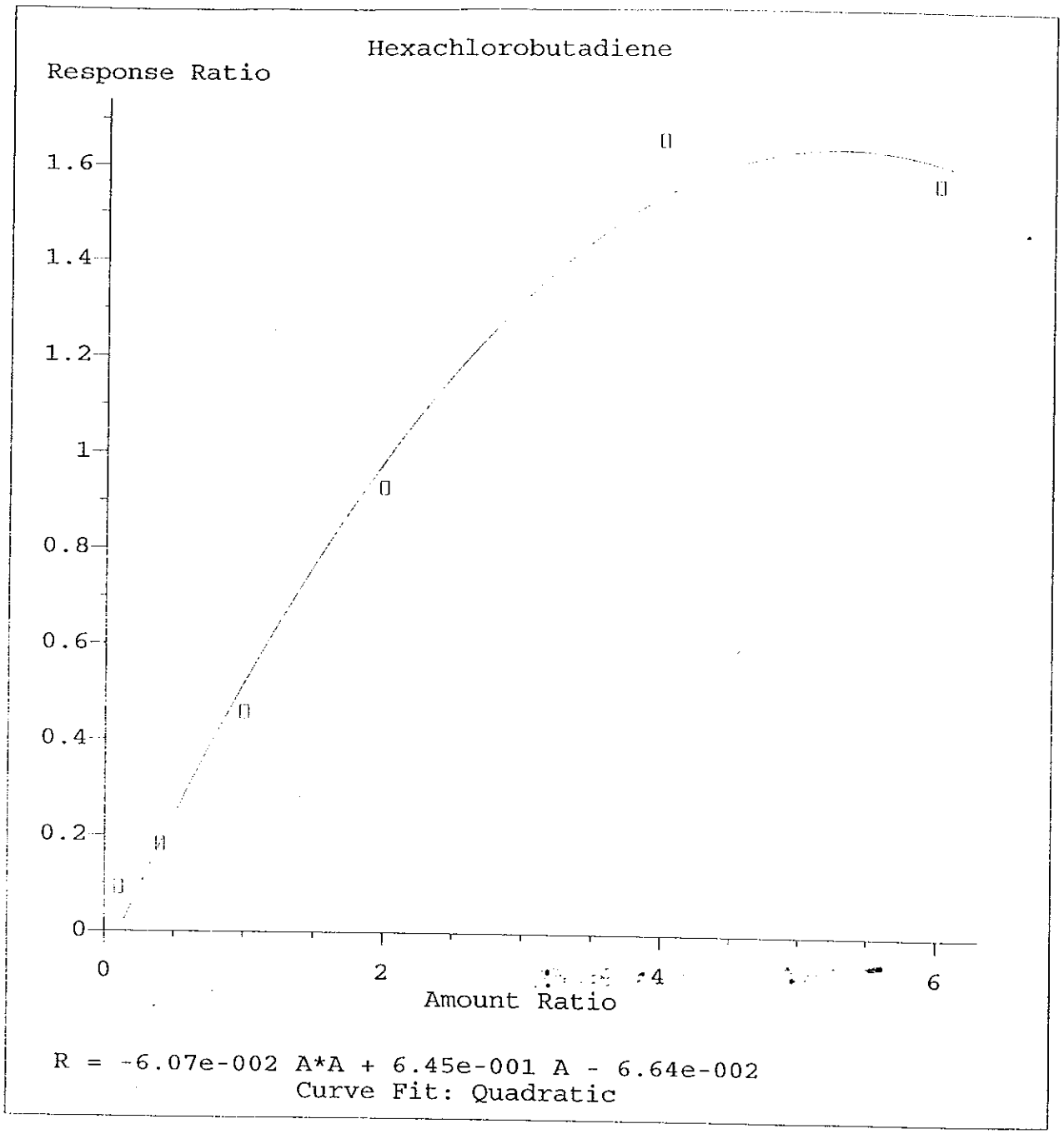
Calibration Table Last Updated: Fri Jan 25 18:59:32 2002



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

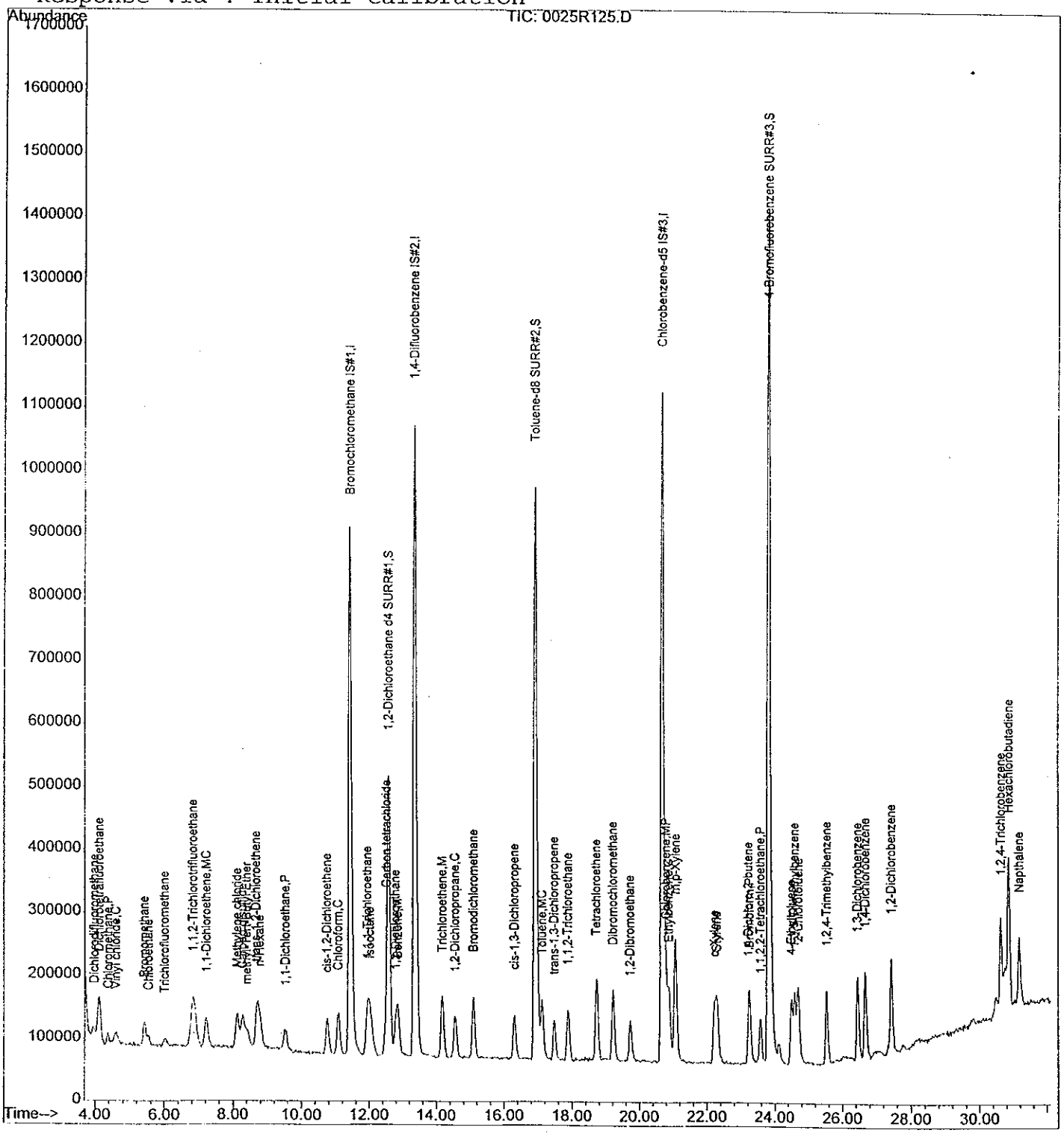
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

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

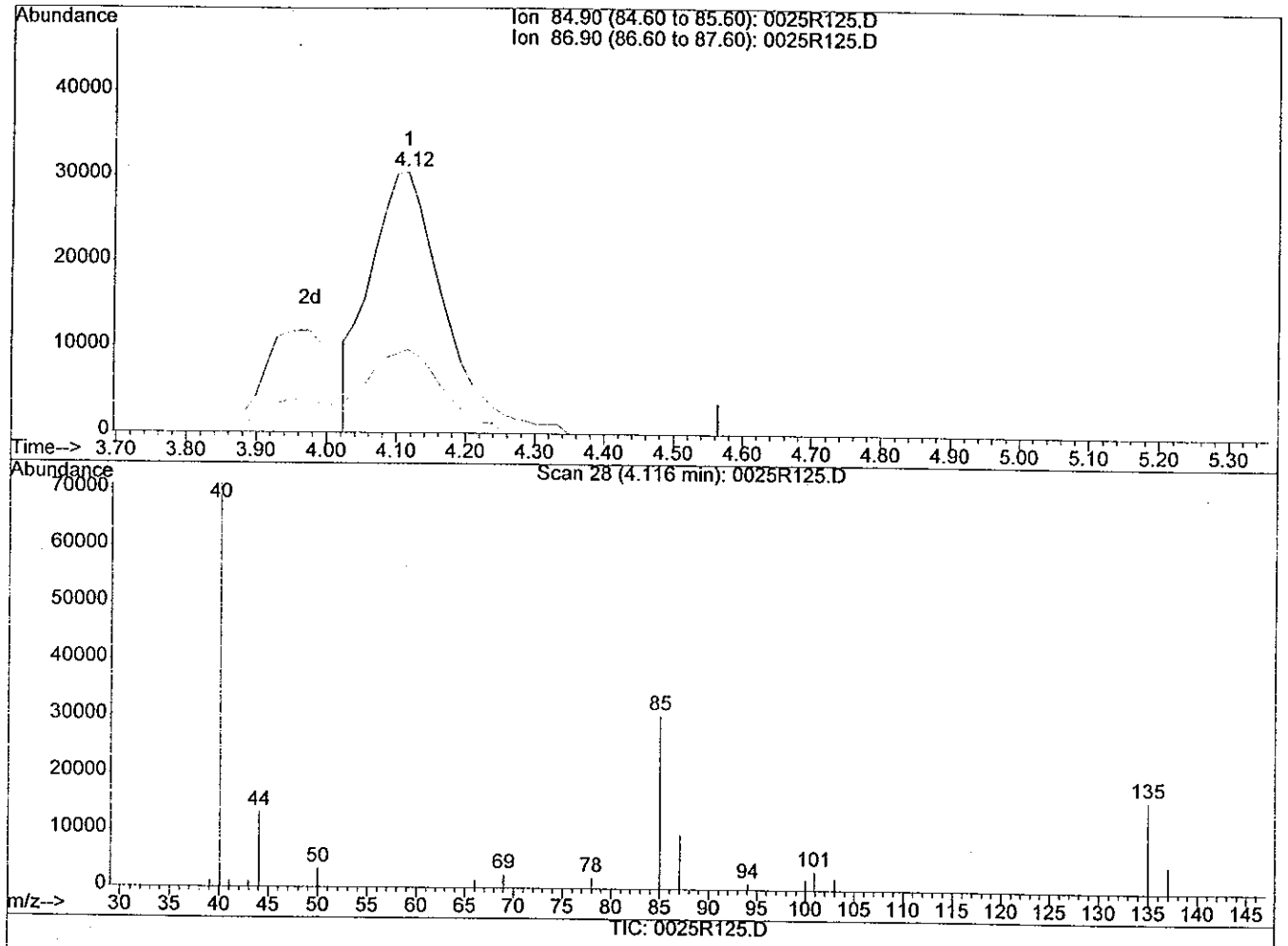


Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

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

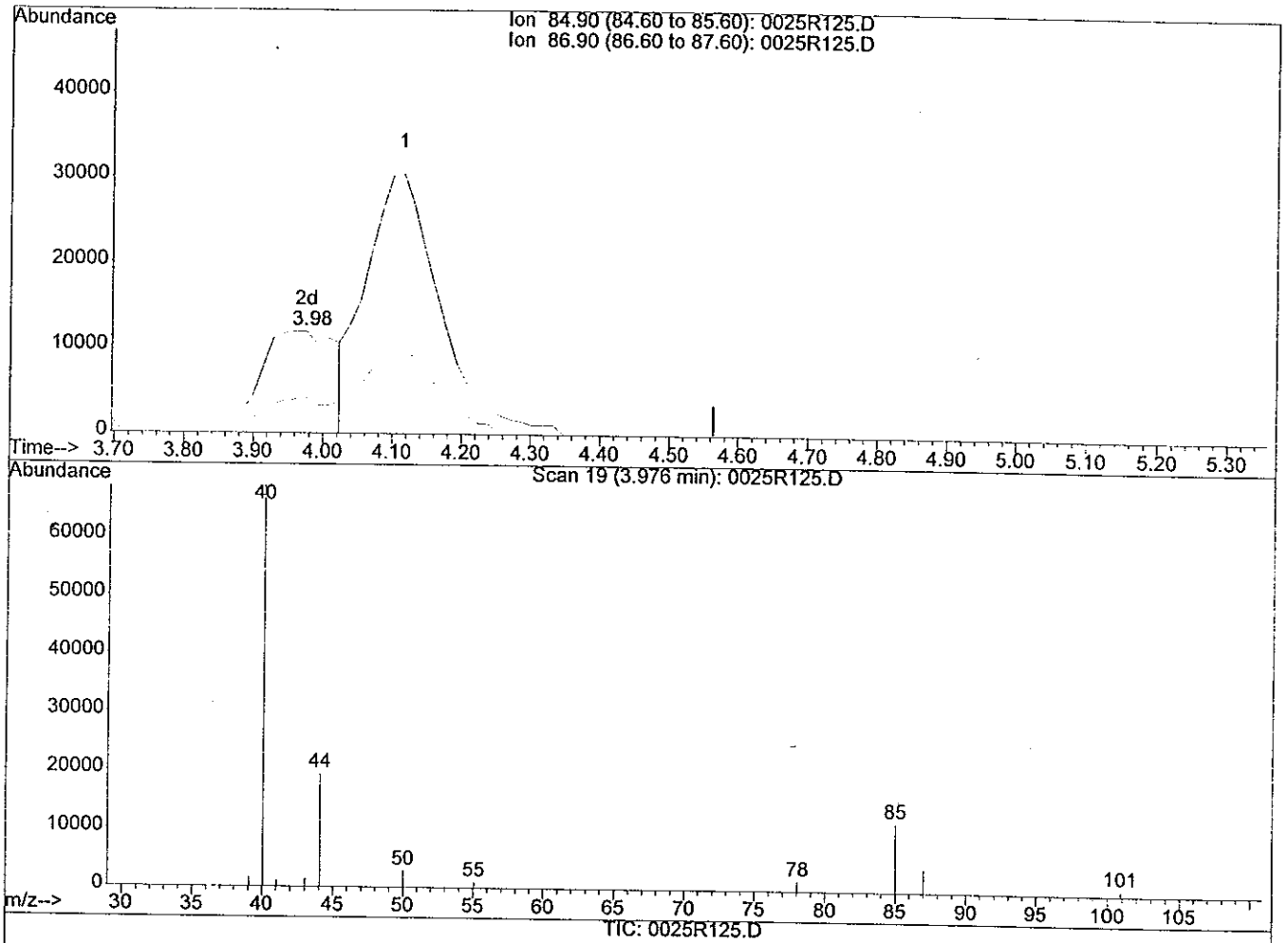
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

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

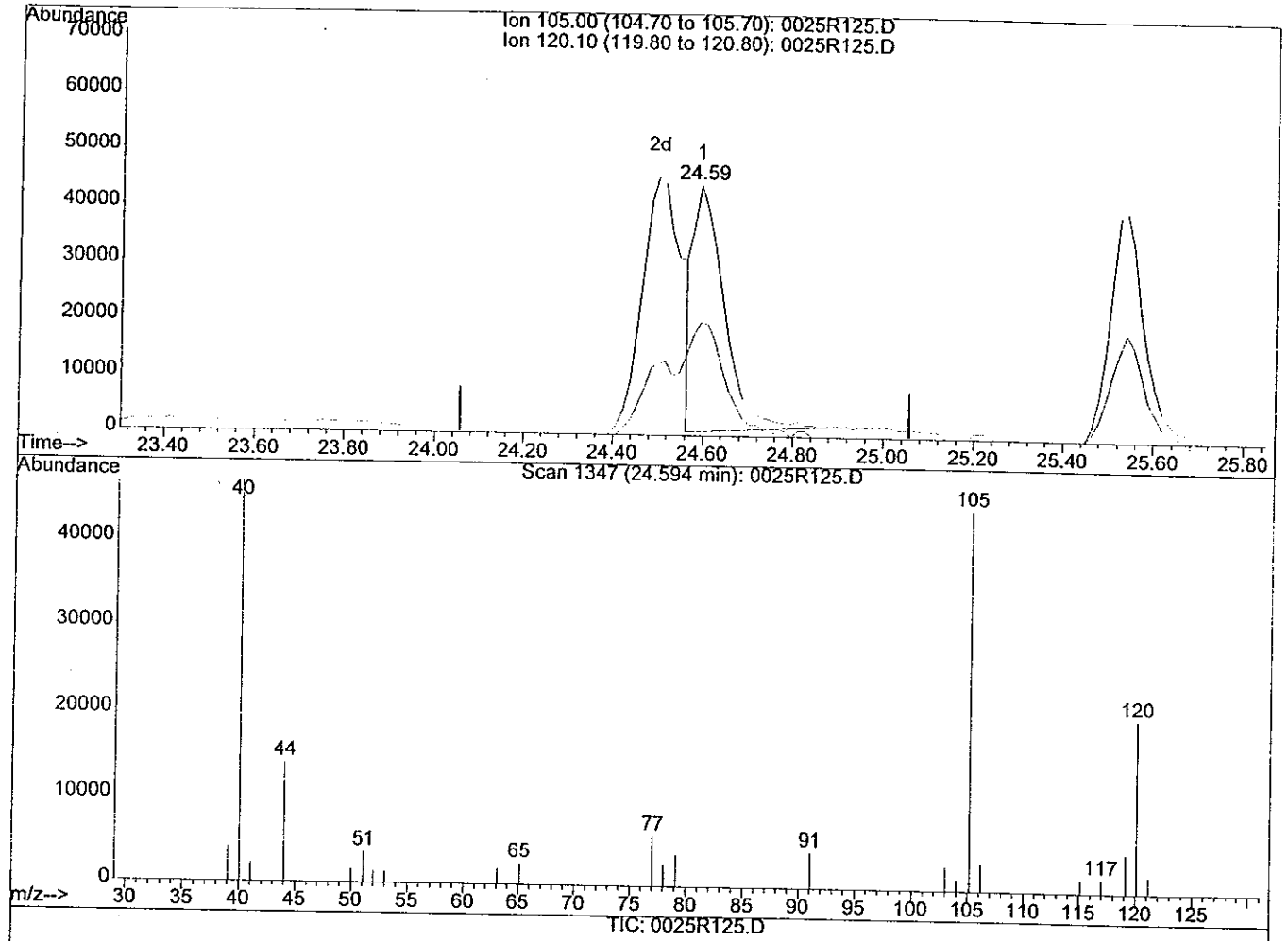
Quantitation Report (Qedit)

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

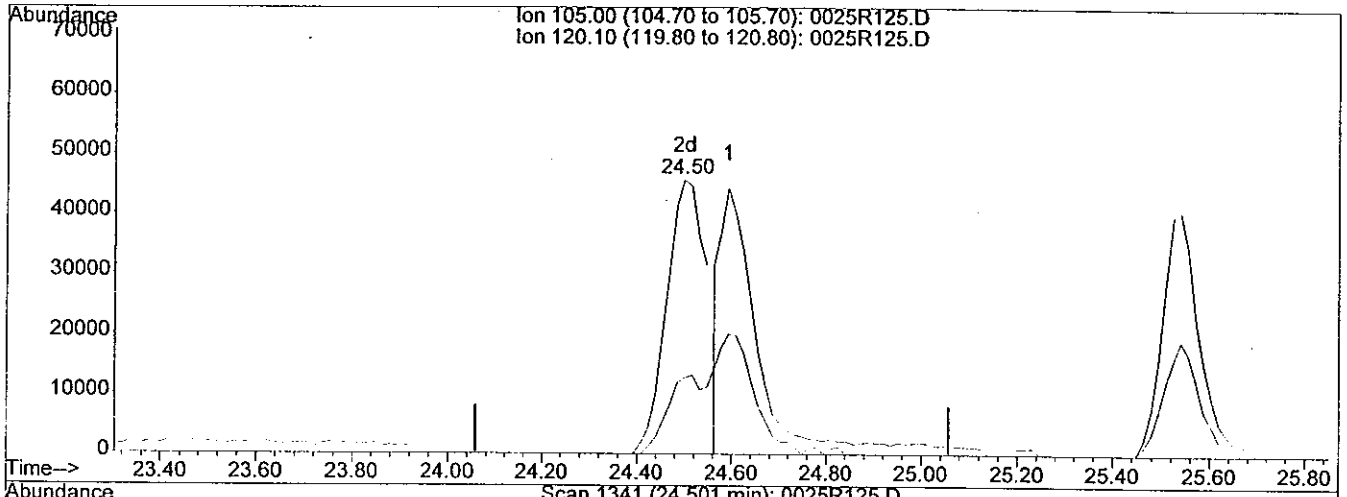
response 208705

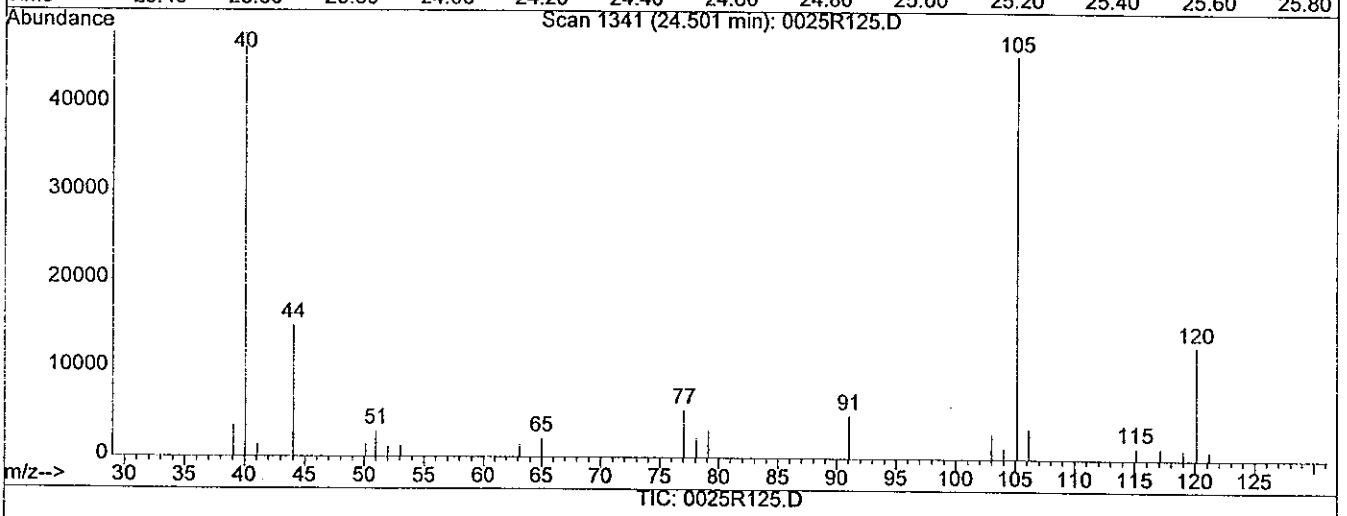
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

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

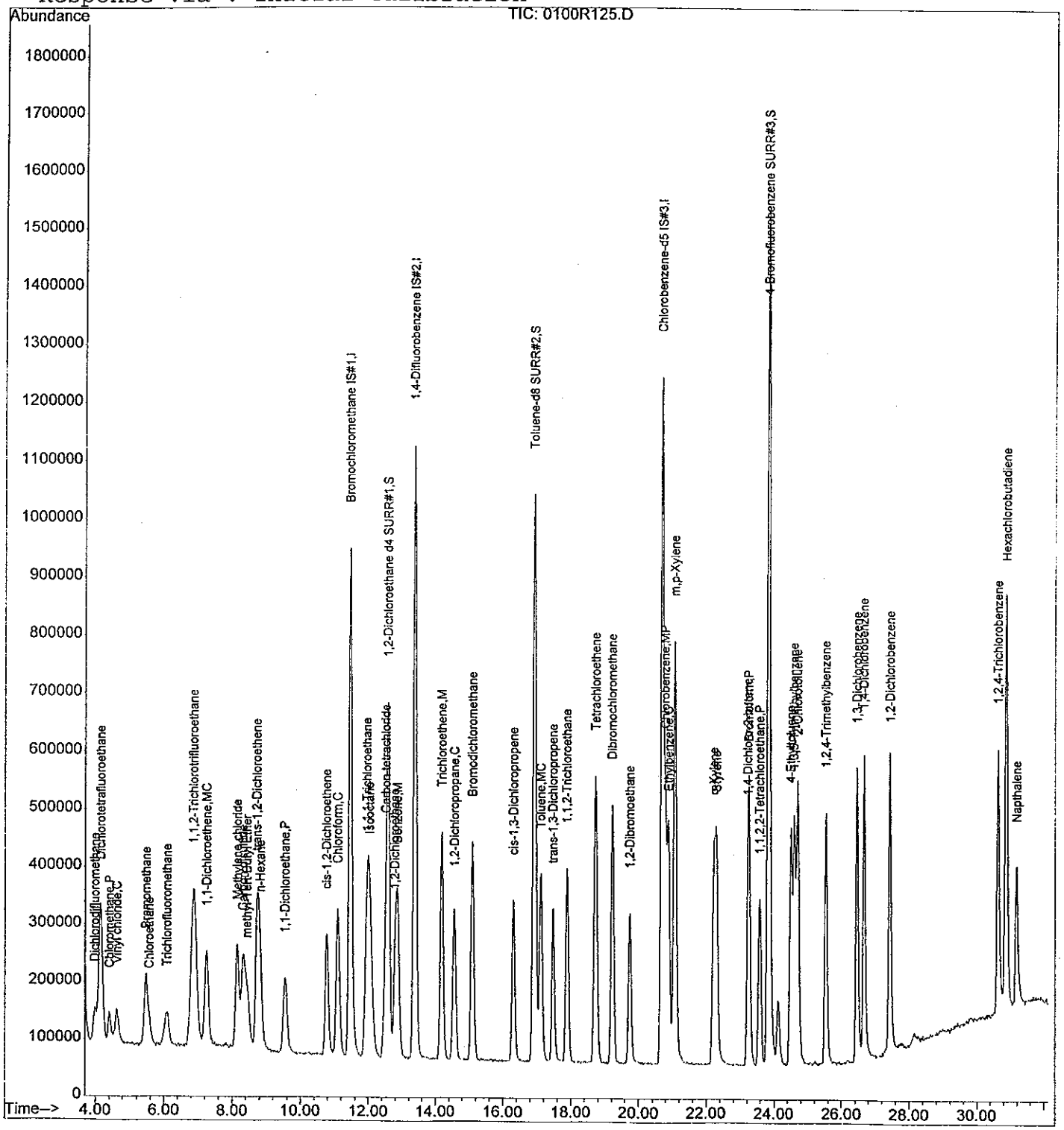
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

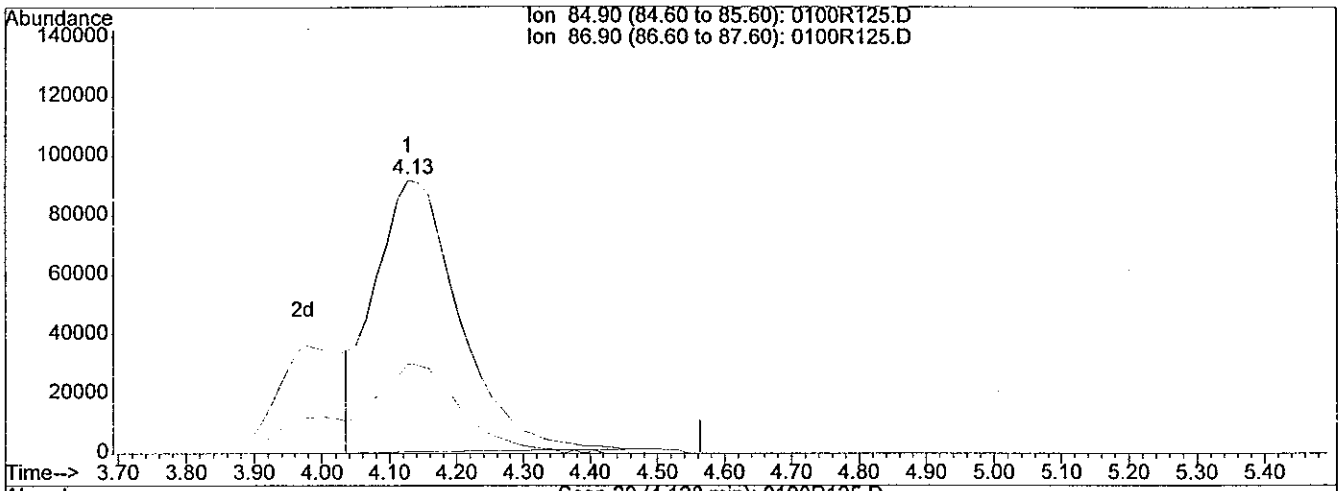
Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

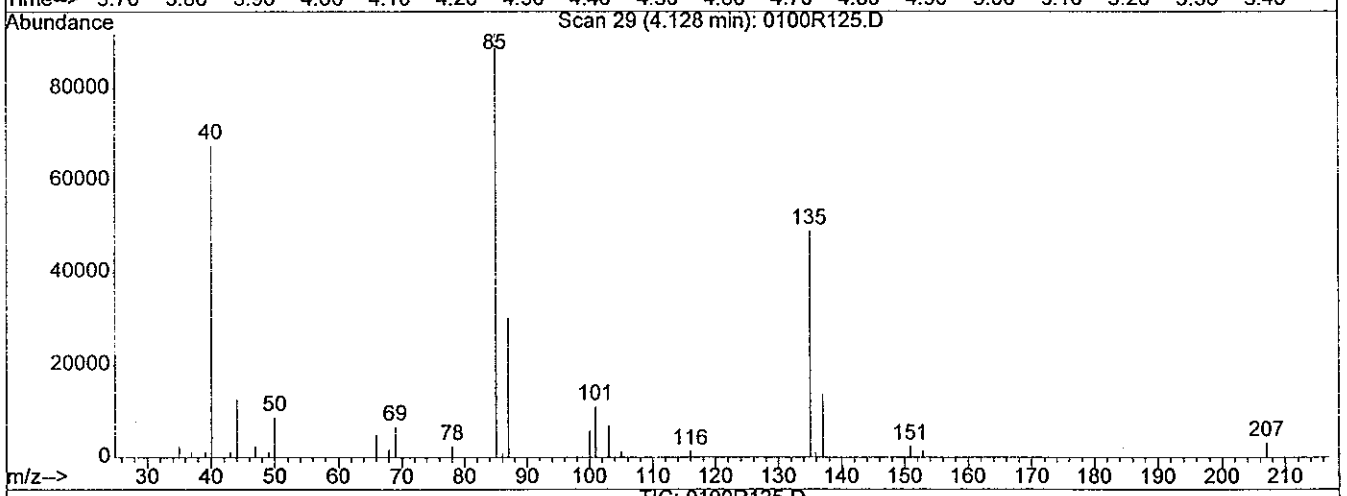
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



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

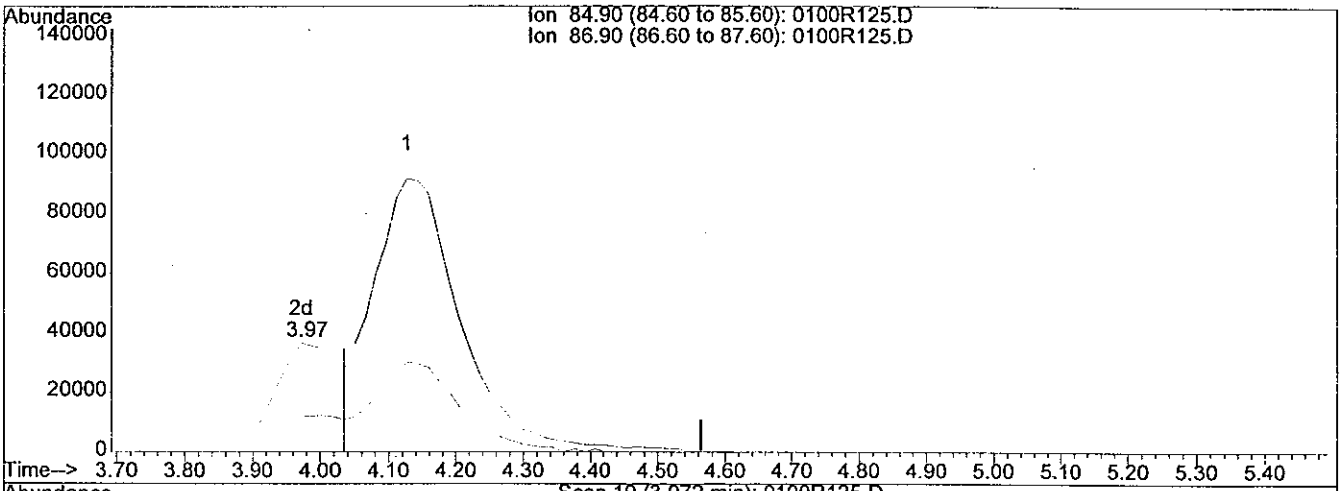
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

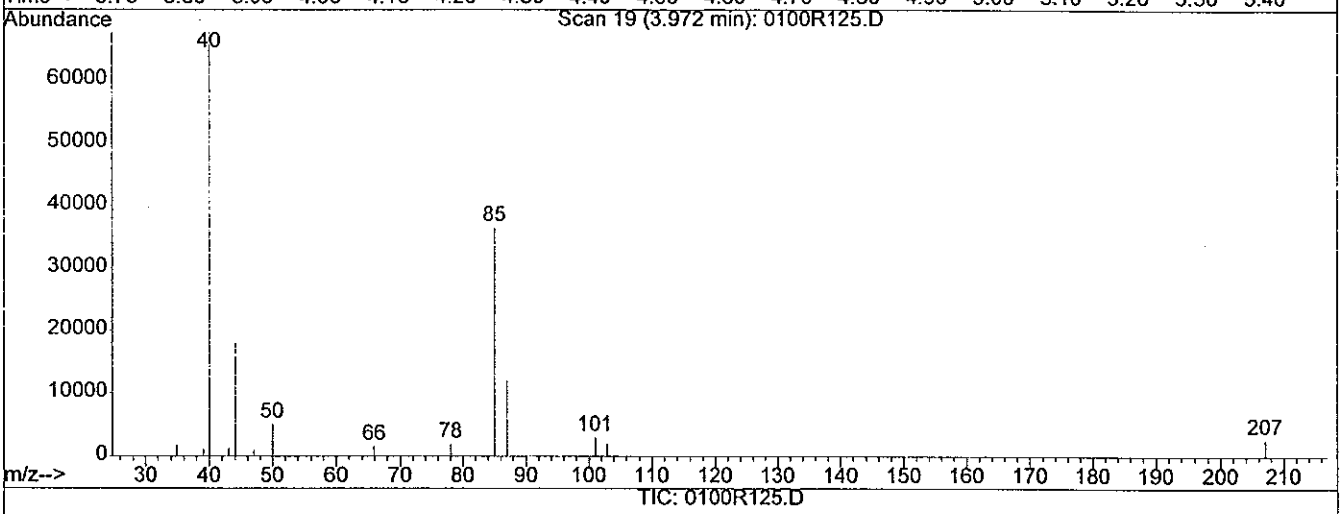
coelution
wrong peak

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

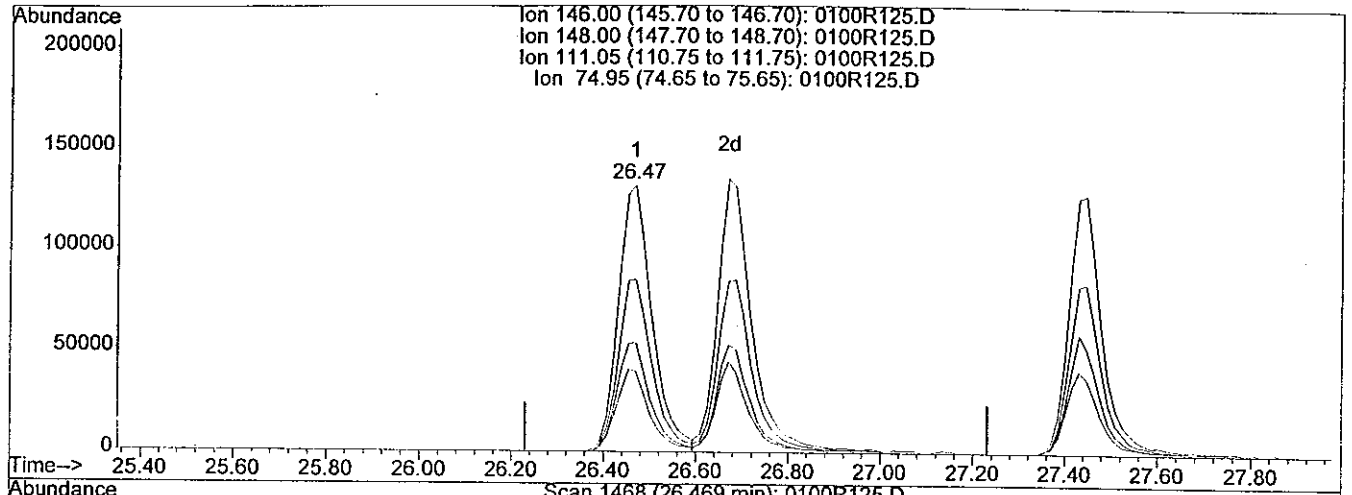
1-28-02

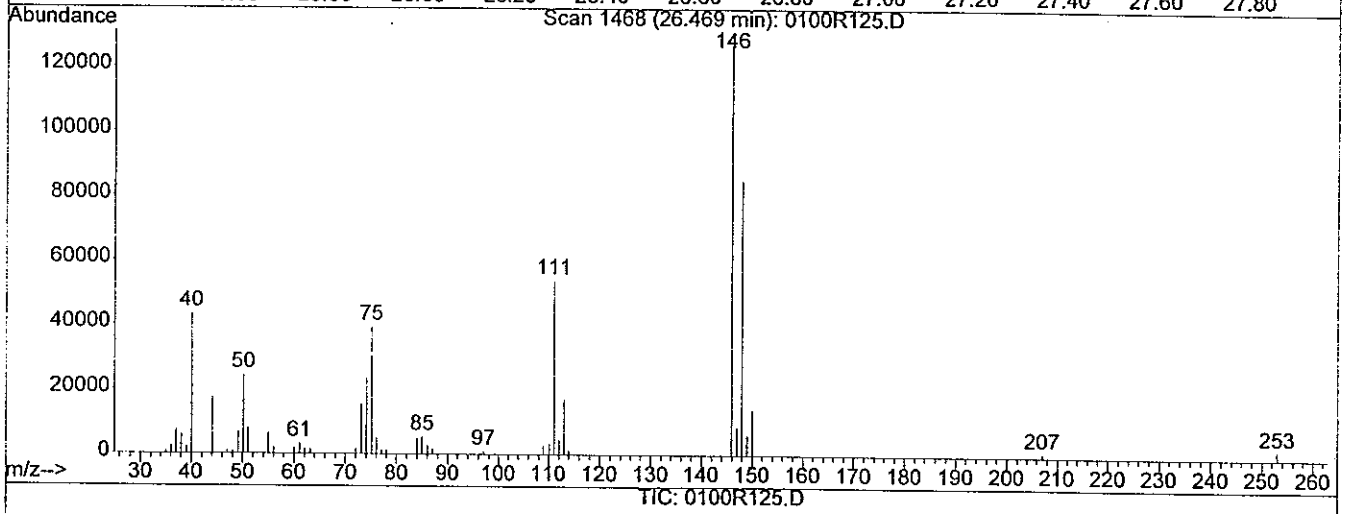
0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

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

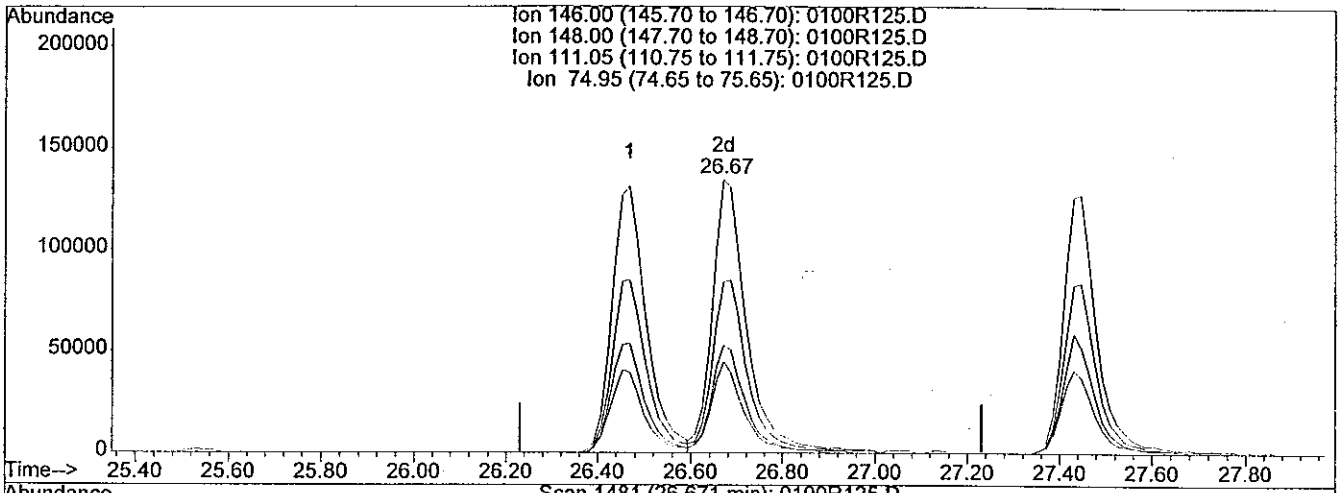
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

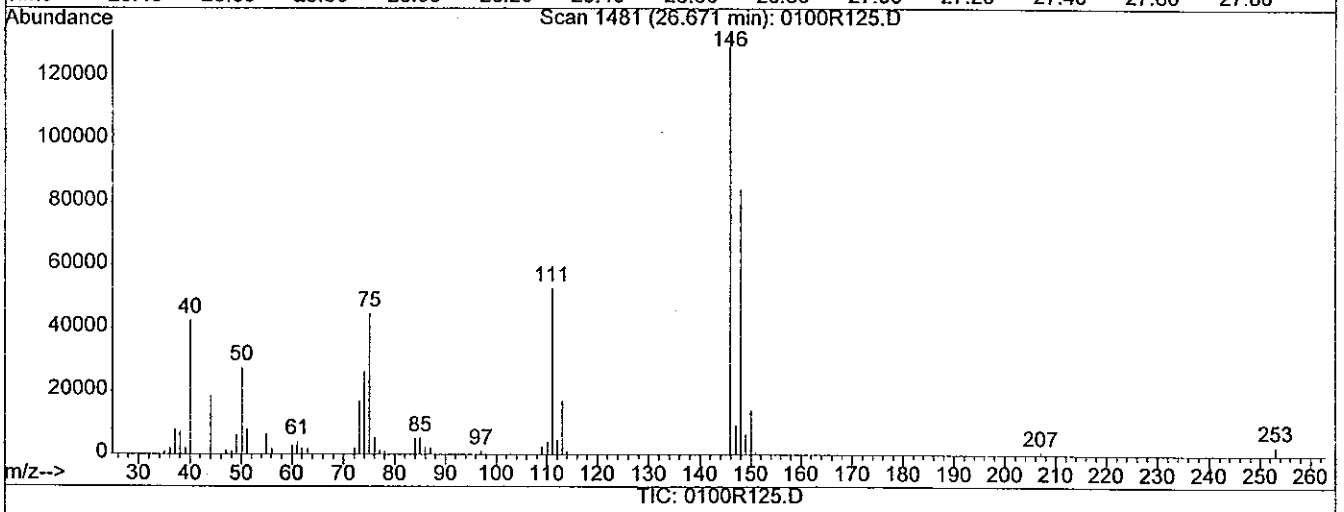
wrong peaks

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

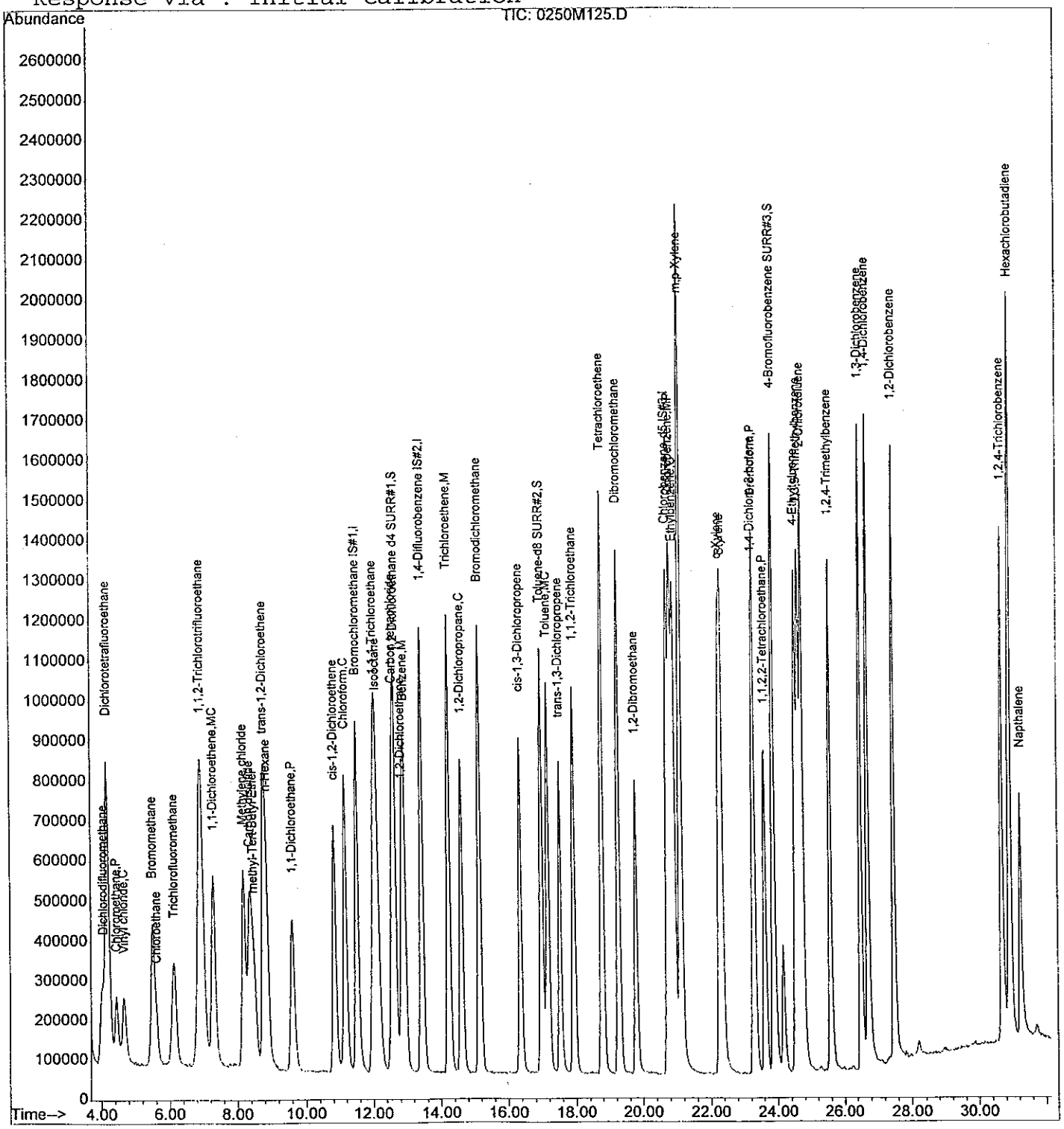
(#) = qualifier out of range (m) = manual integration

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

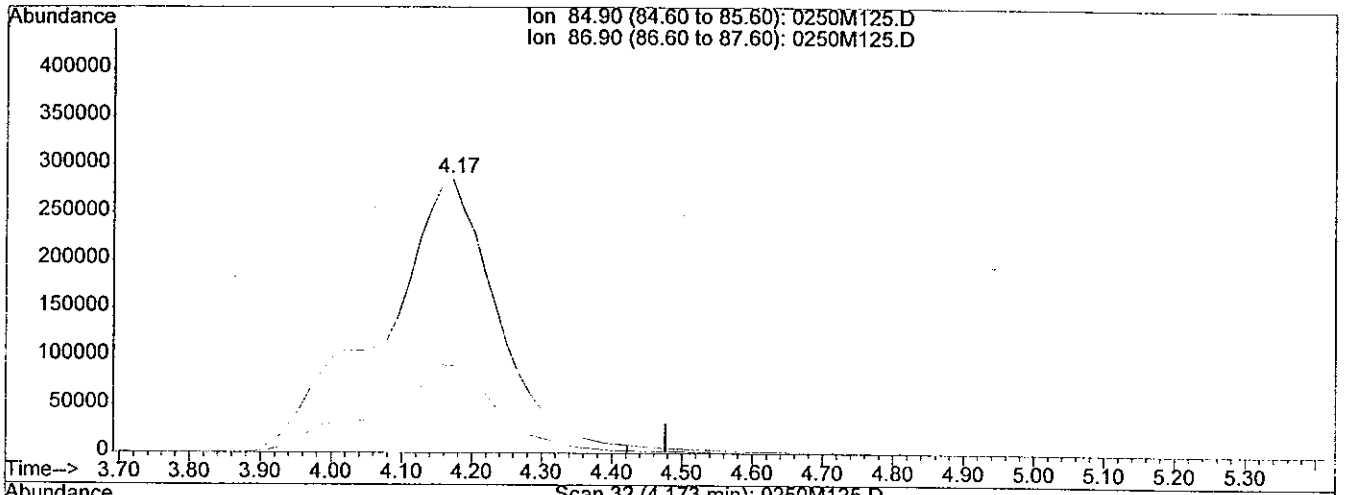


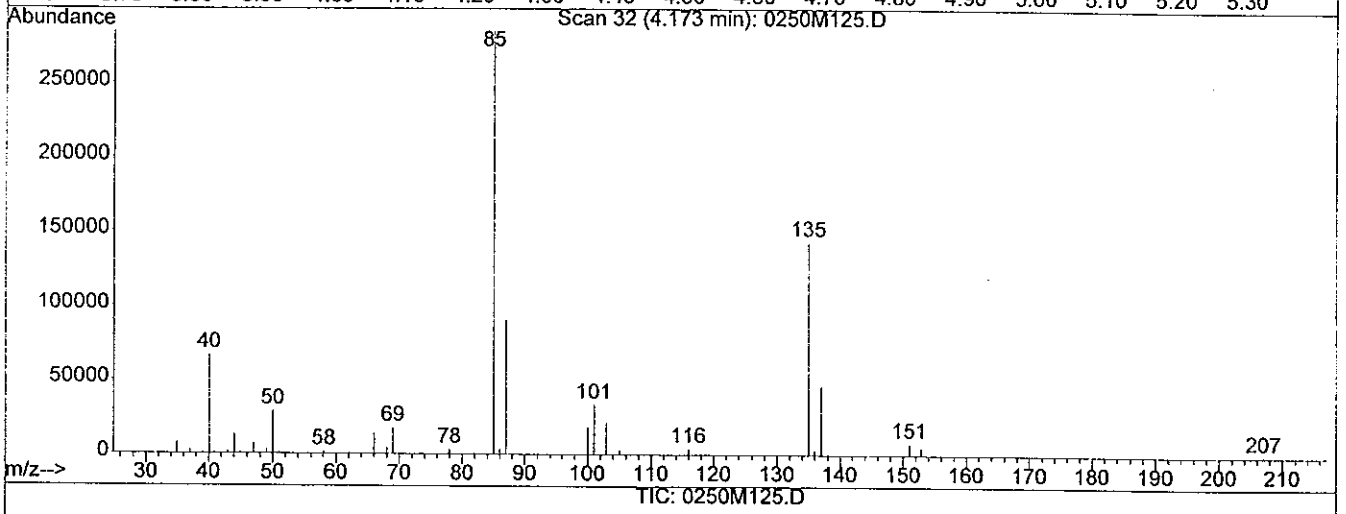
Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

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

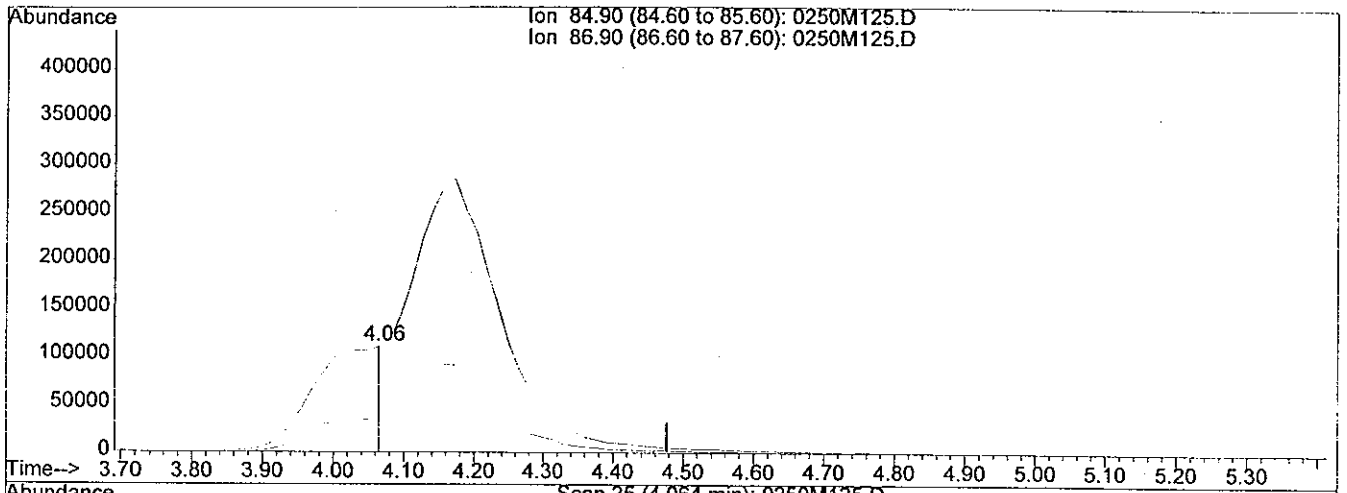
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

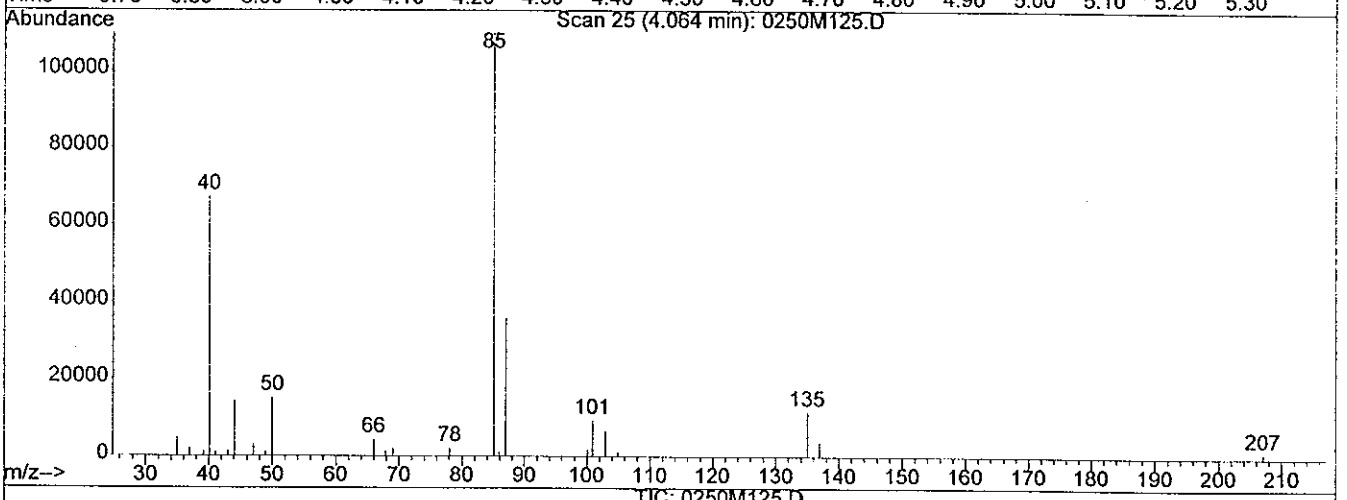
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

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

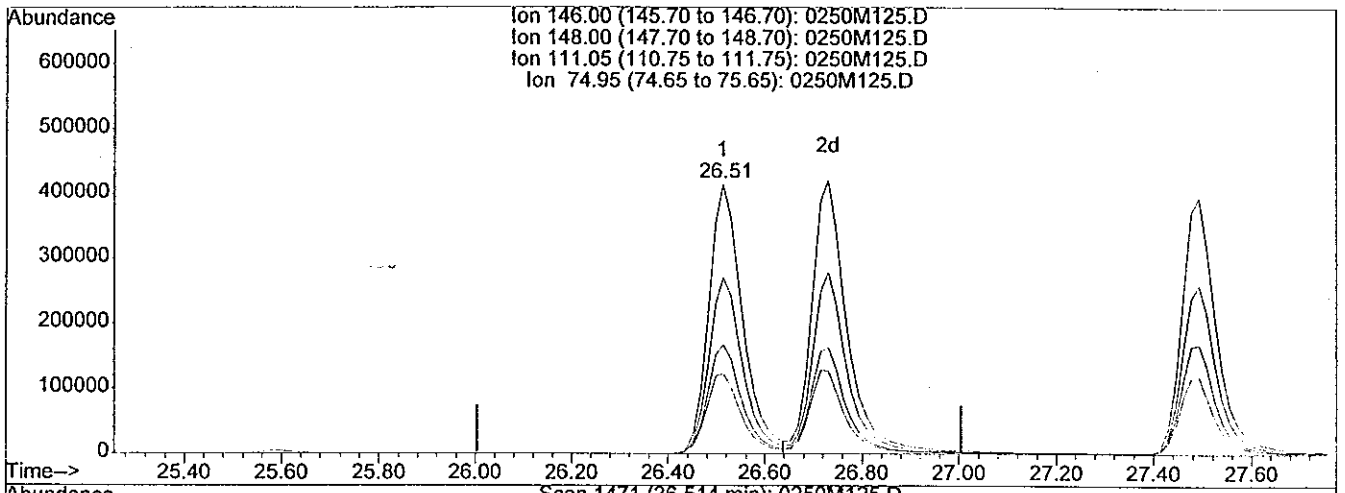
response 732577

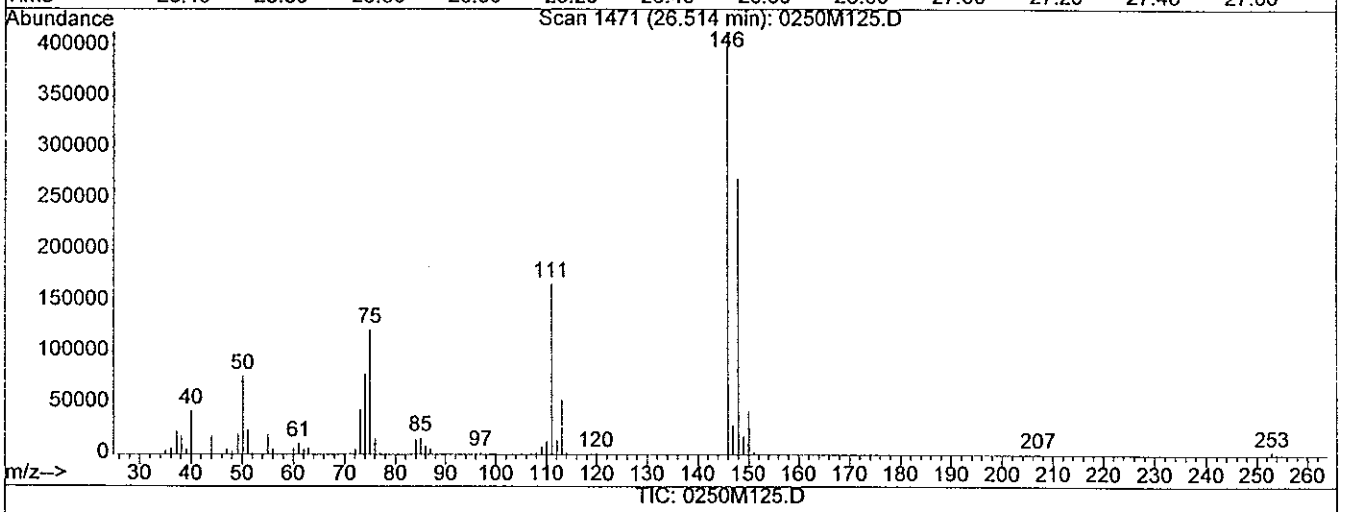
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

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

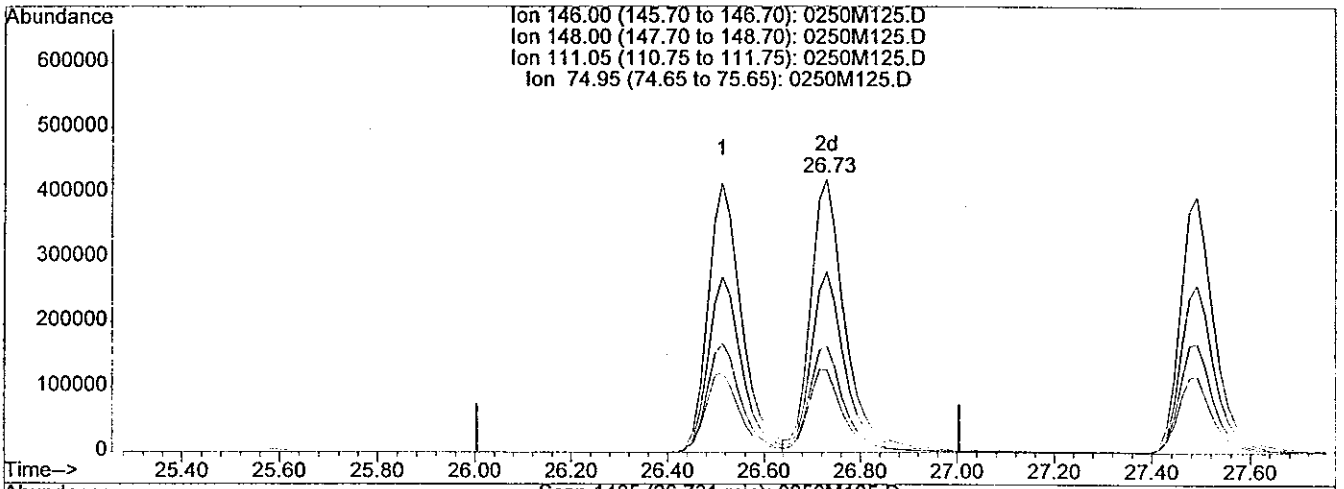
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

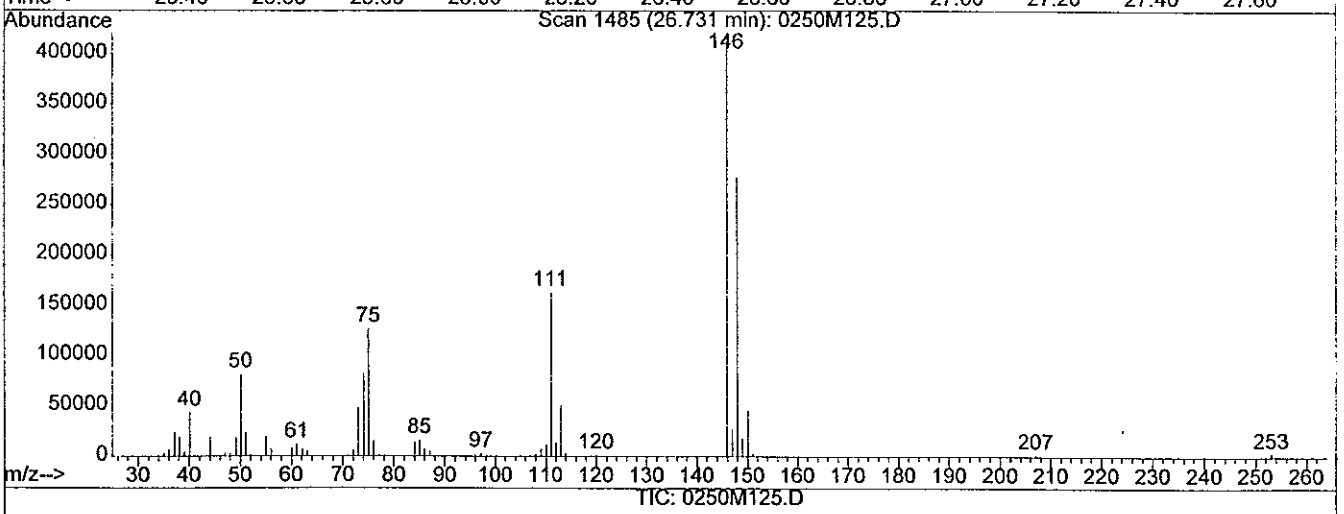
0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

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

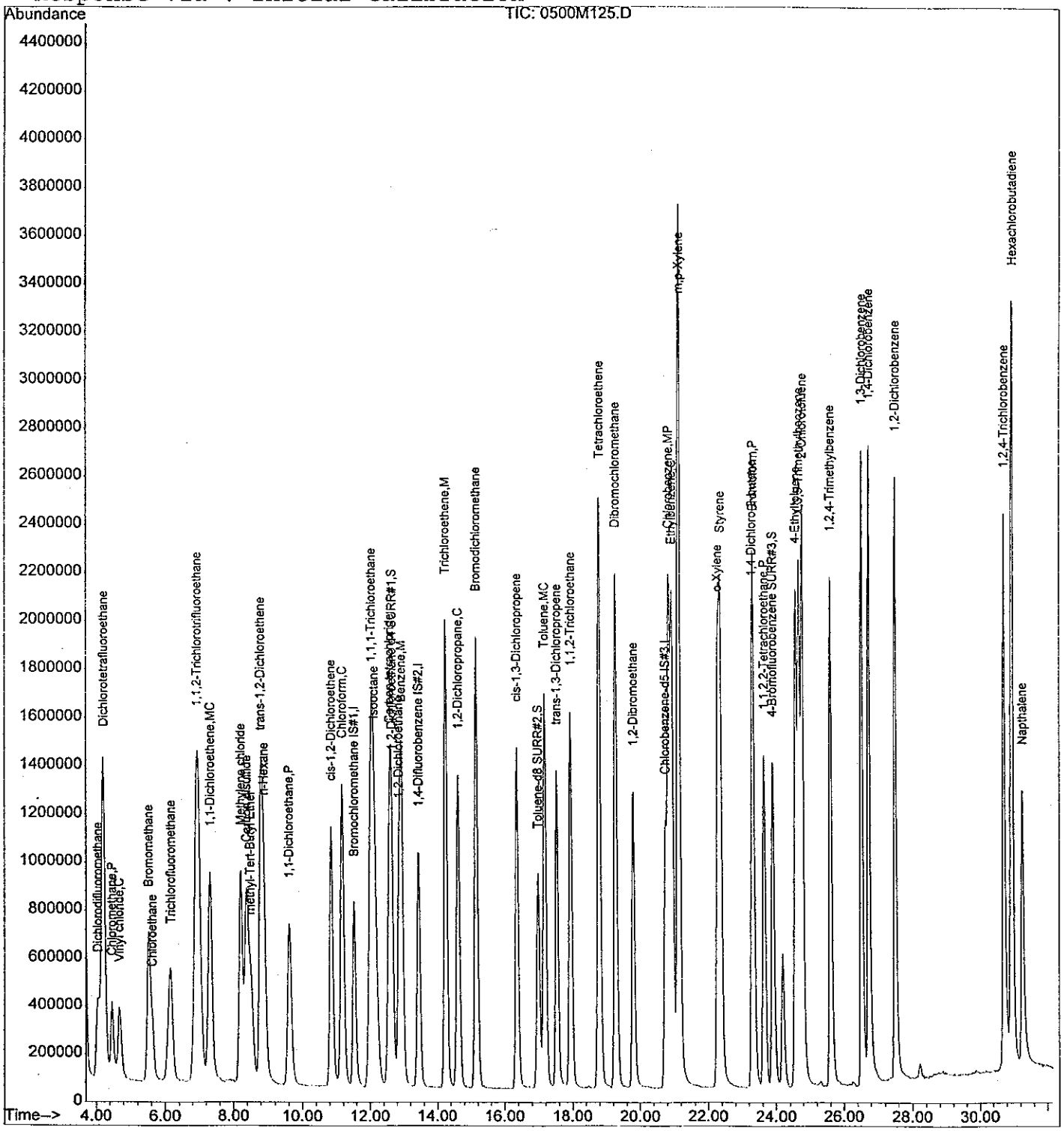
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 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

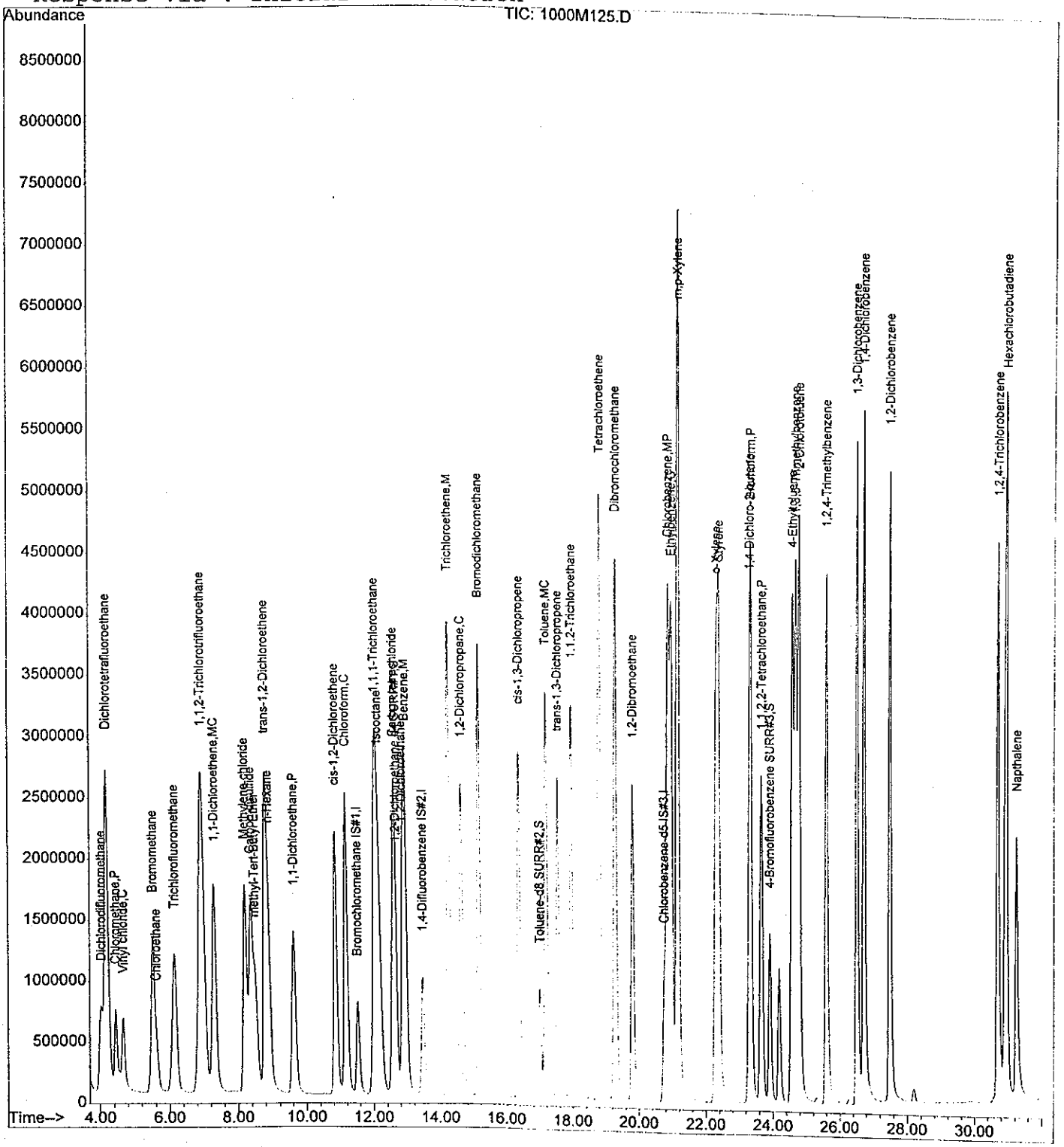
Quantitation Report

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



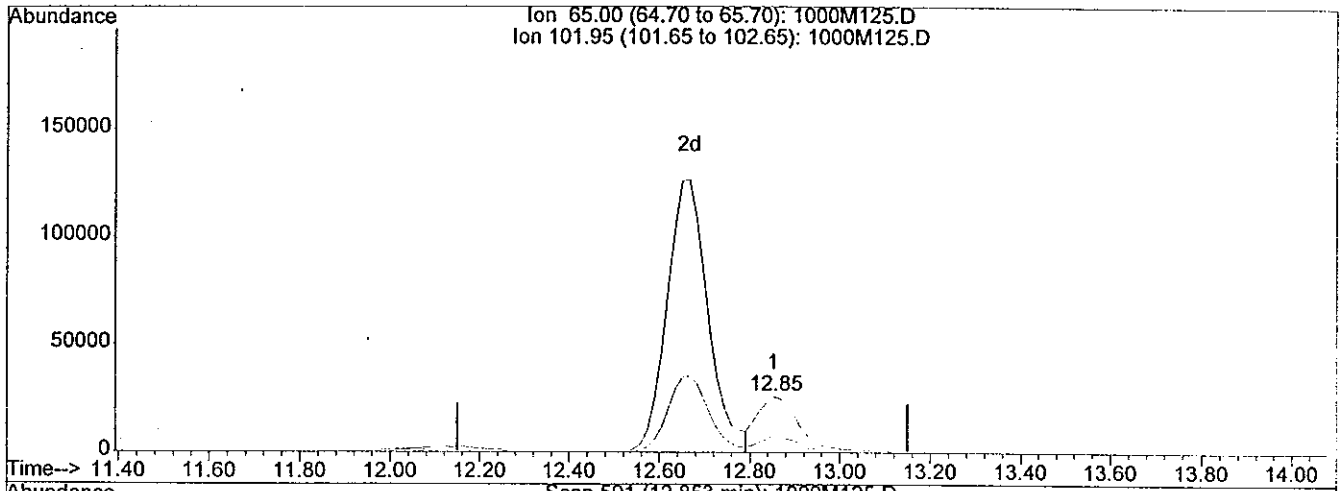
1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

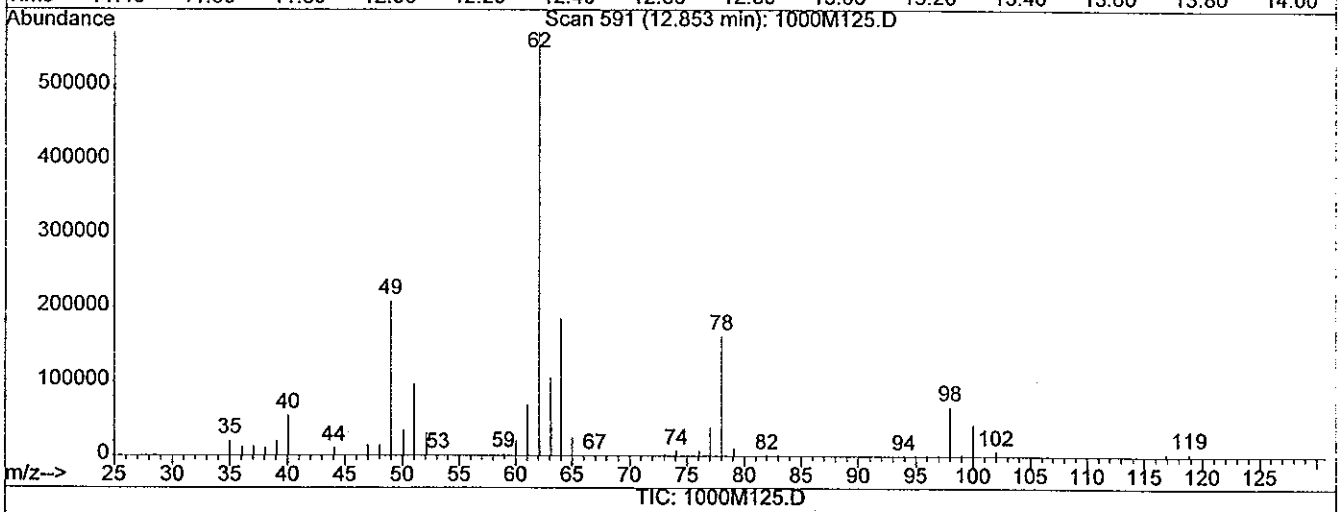
Quantitation Report (Qedit)

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

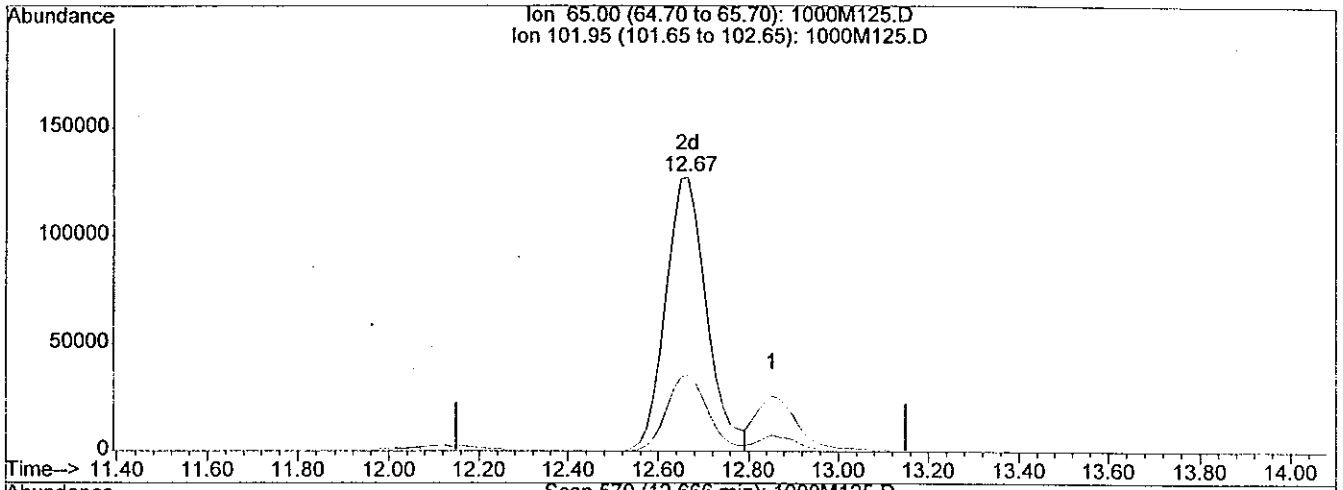
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

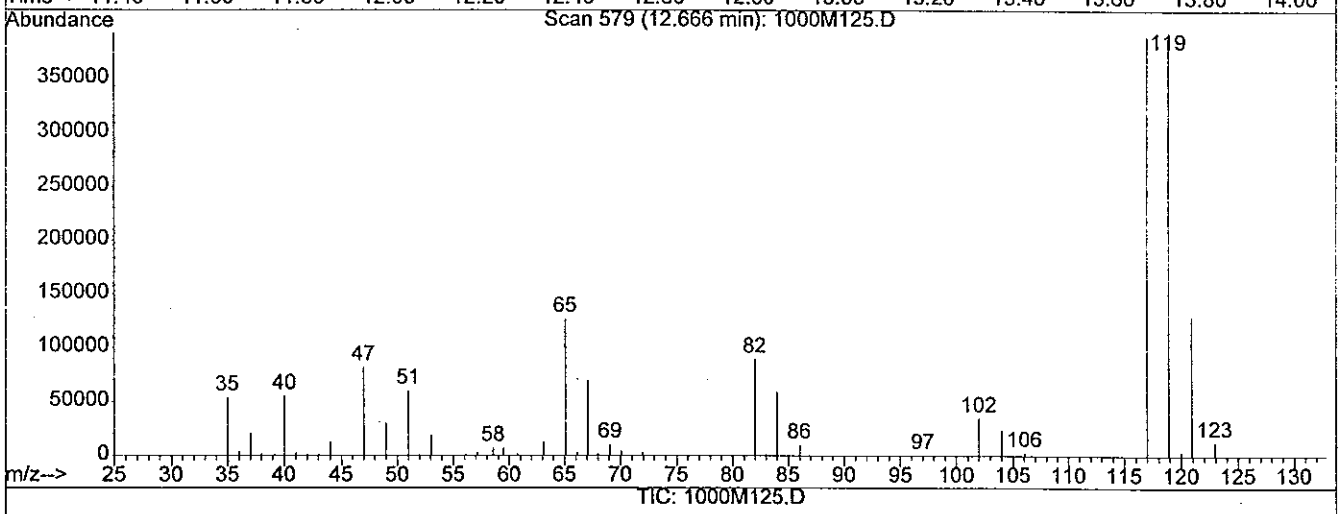
1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

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

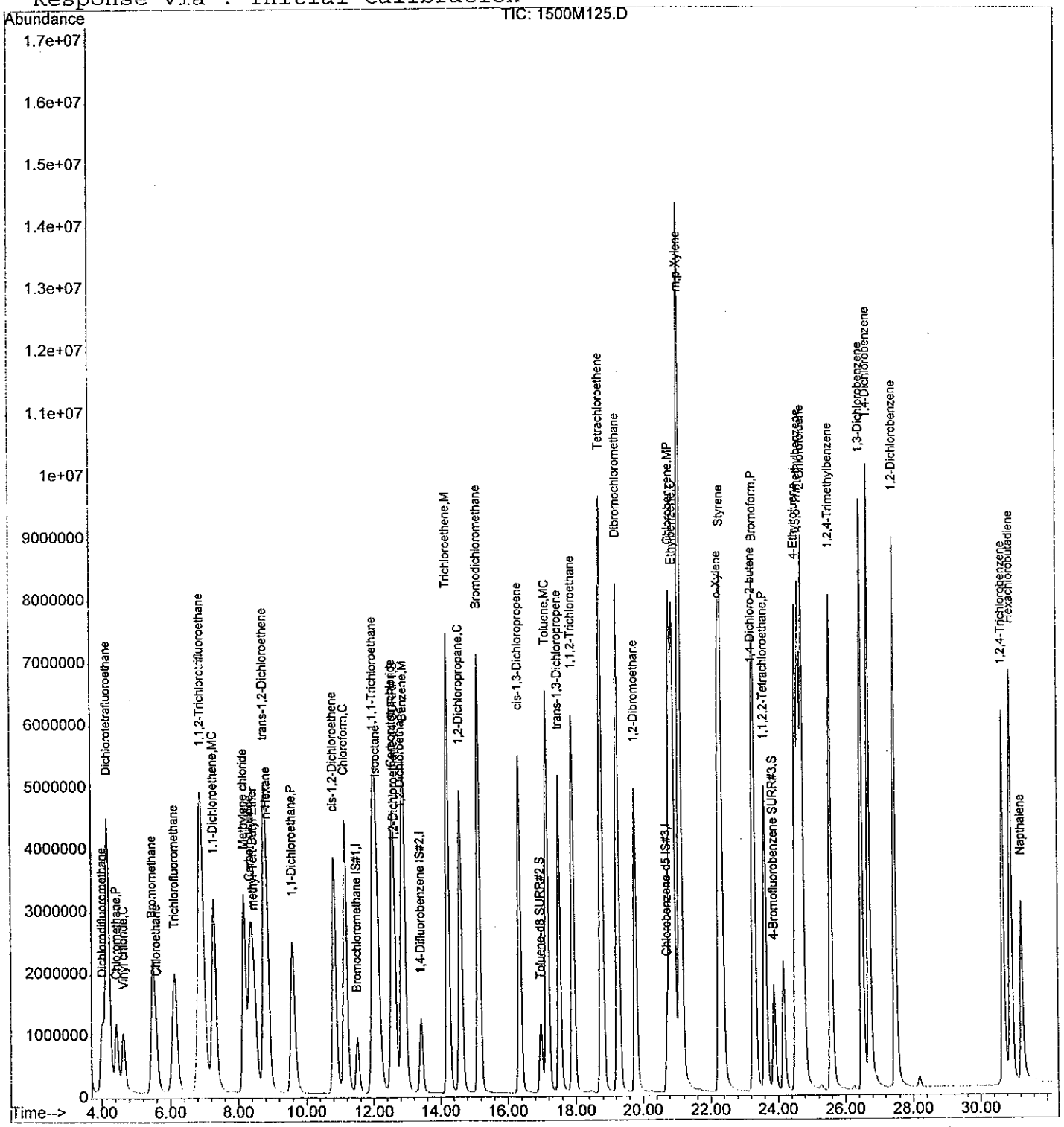
(#) = qualifier out of range (m) = manual integration

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

76

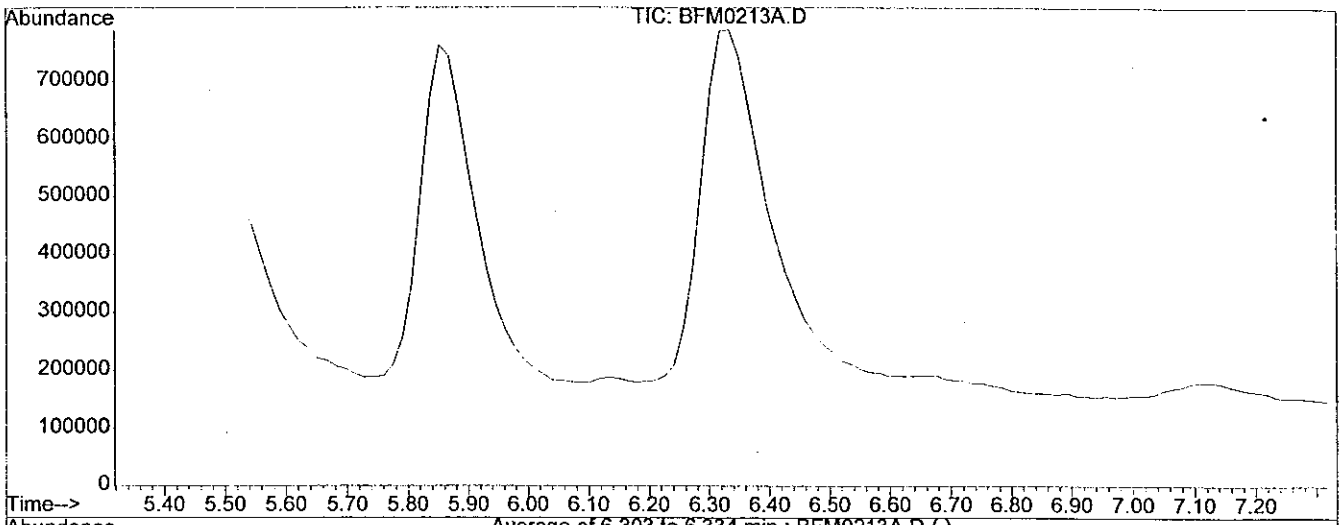
TIME	POS	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:49	1#3	BFB512	BFM0213A	50ppb			W		BH	Daily 12hr. BFB Tune
10:11	14	TO14S.m	CM 0213A	50ppb		Y N	W	YES	BH	Daily Cal Check/bfb tune/95 ion area =
11:23	15	↓	MA025A BK	ST		Y N	↓	↓	↓	Daily Method Blank
12:00	16	↓	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				
:						Y N				screend water samples 02285(1-5)+02283(1-2)
:						Y N				@ X100 dilution

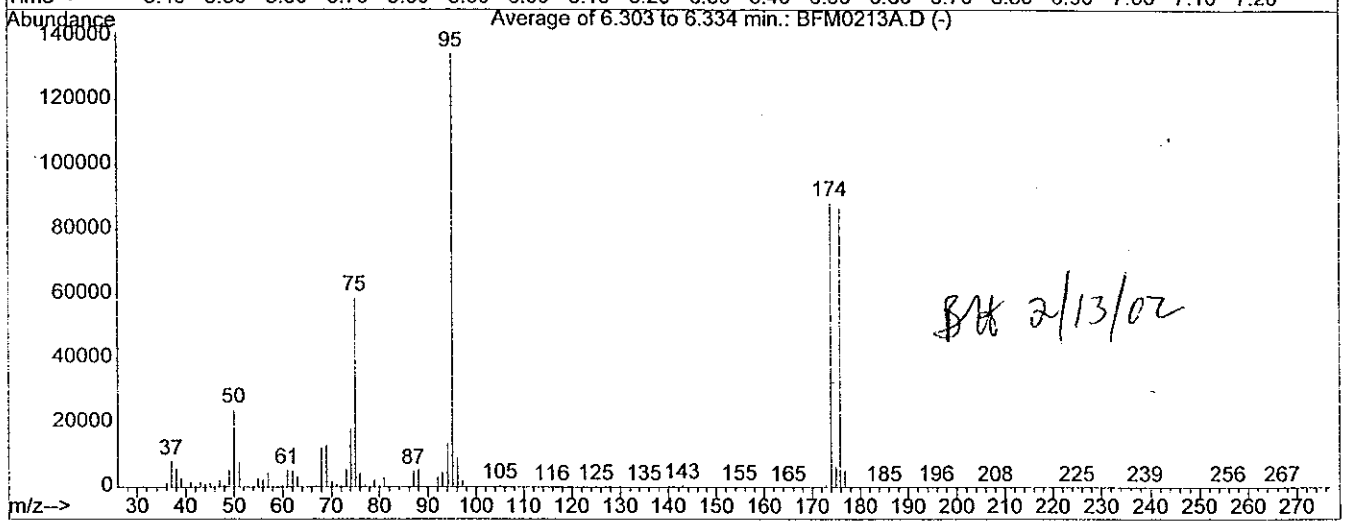
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis

NAS Cecil Field CTO 0002

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

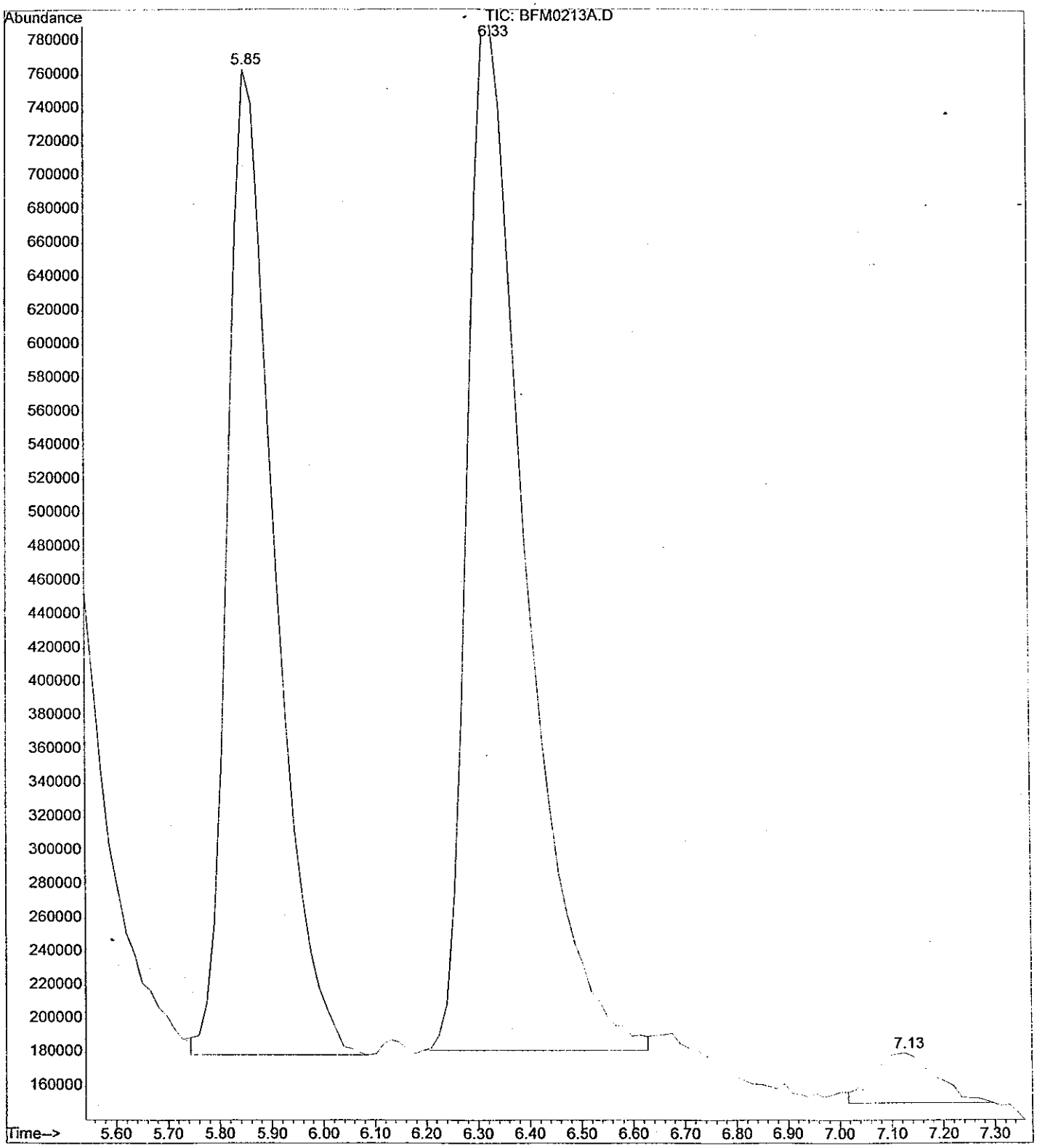
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.853	14	21	36	rVB	584710	3709517	77.61%	42.463%
2	6.334	43	52	71	rBV	607629	4779479	100.00%	54.711%
3	7.126	96	103	114	rVB6	29285	246816	5.16%	2.825%

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

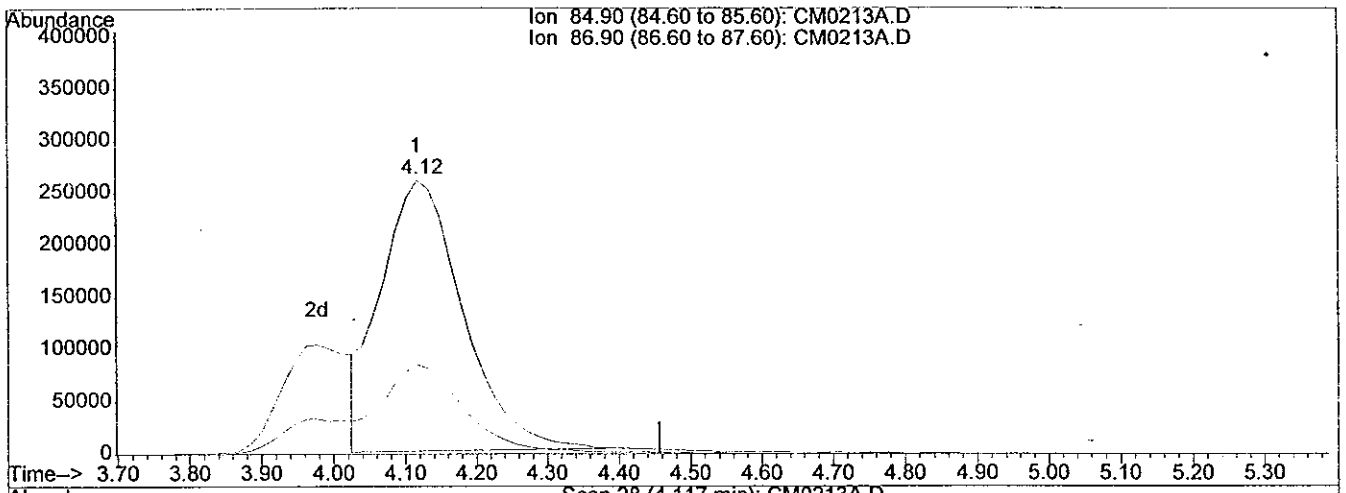
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.15	130	1242865	250.60 ng		95
29)	1,2-Dichloropropane	14.53	63	967926	256.25 ng		98
30)	Bromodichloromethane	15.06	83	2394422	260.57 ng		100
31)	cis-1,3-Dichloropropene	16.27	75	1500124	262.47 ng		99
33)	Toluene	17.10	92	1416850	251.25 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

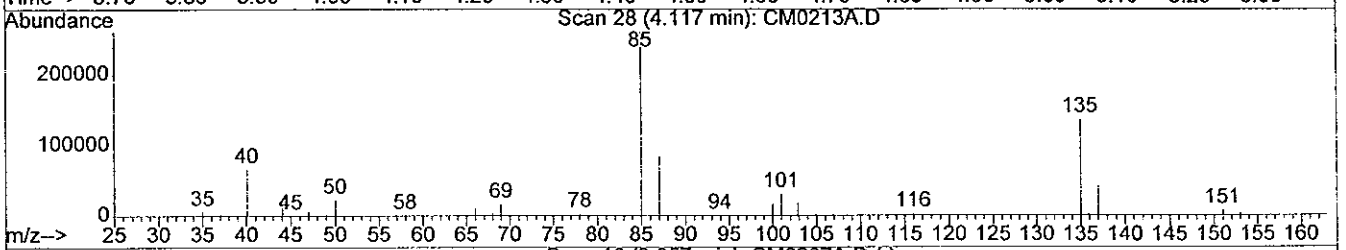
(#) = qualifier out of range (m) = manual integration

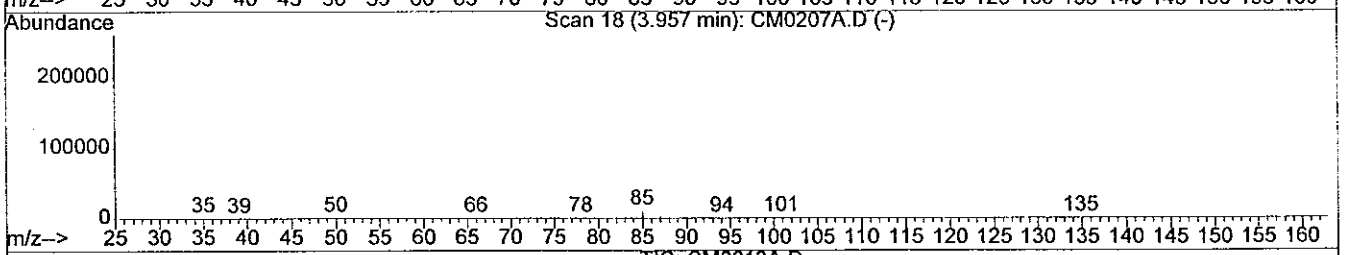
Quantitation Report (Qedit)

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)

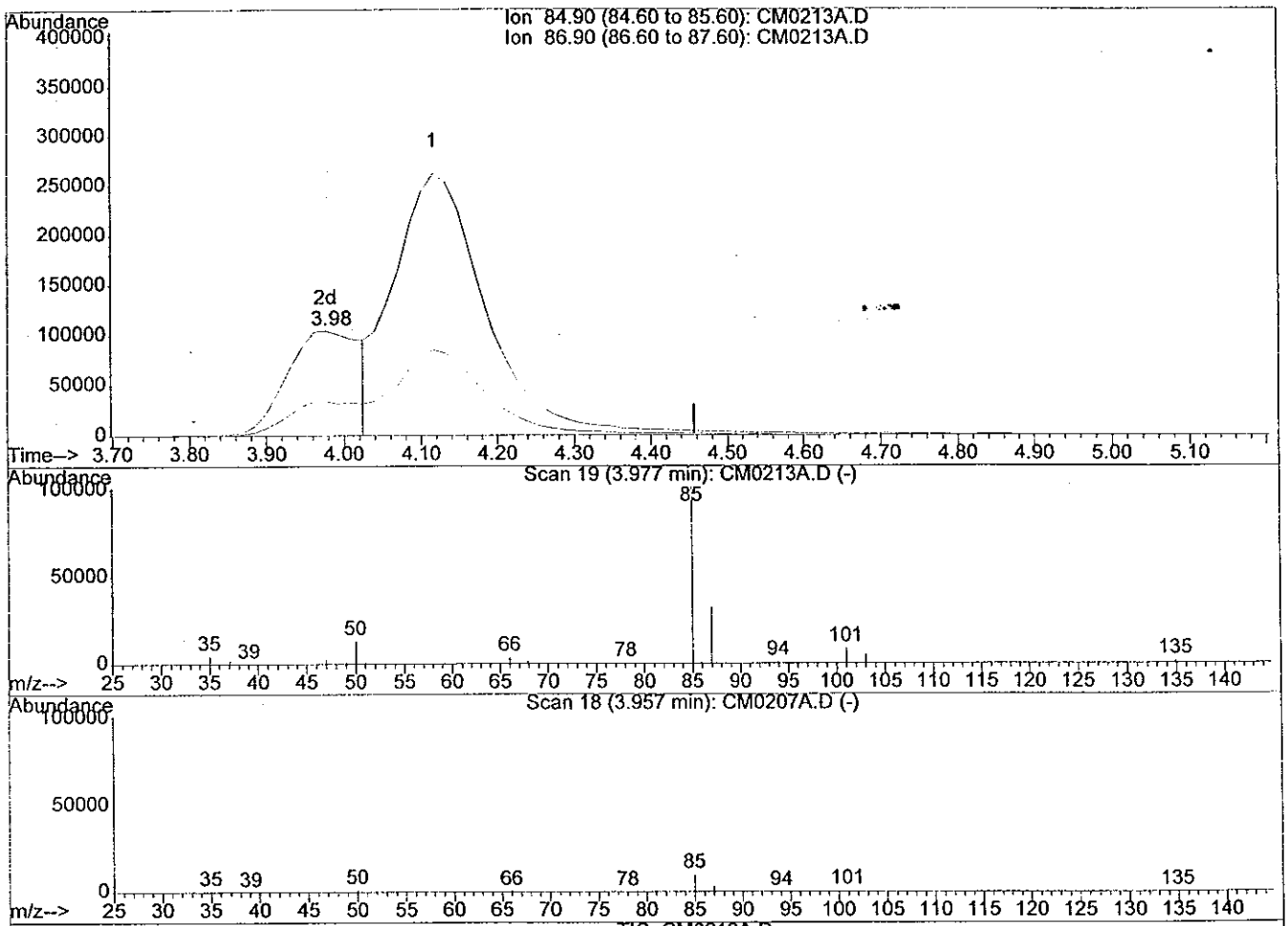
CM0213A.D TO14S.M Wed Feb 13 10:49:20 2002

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

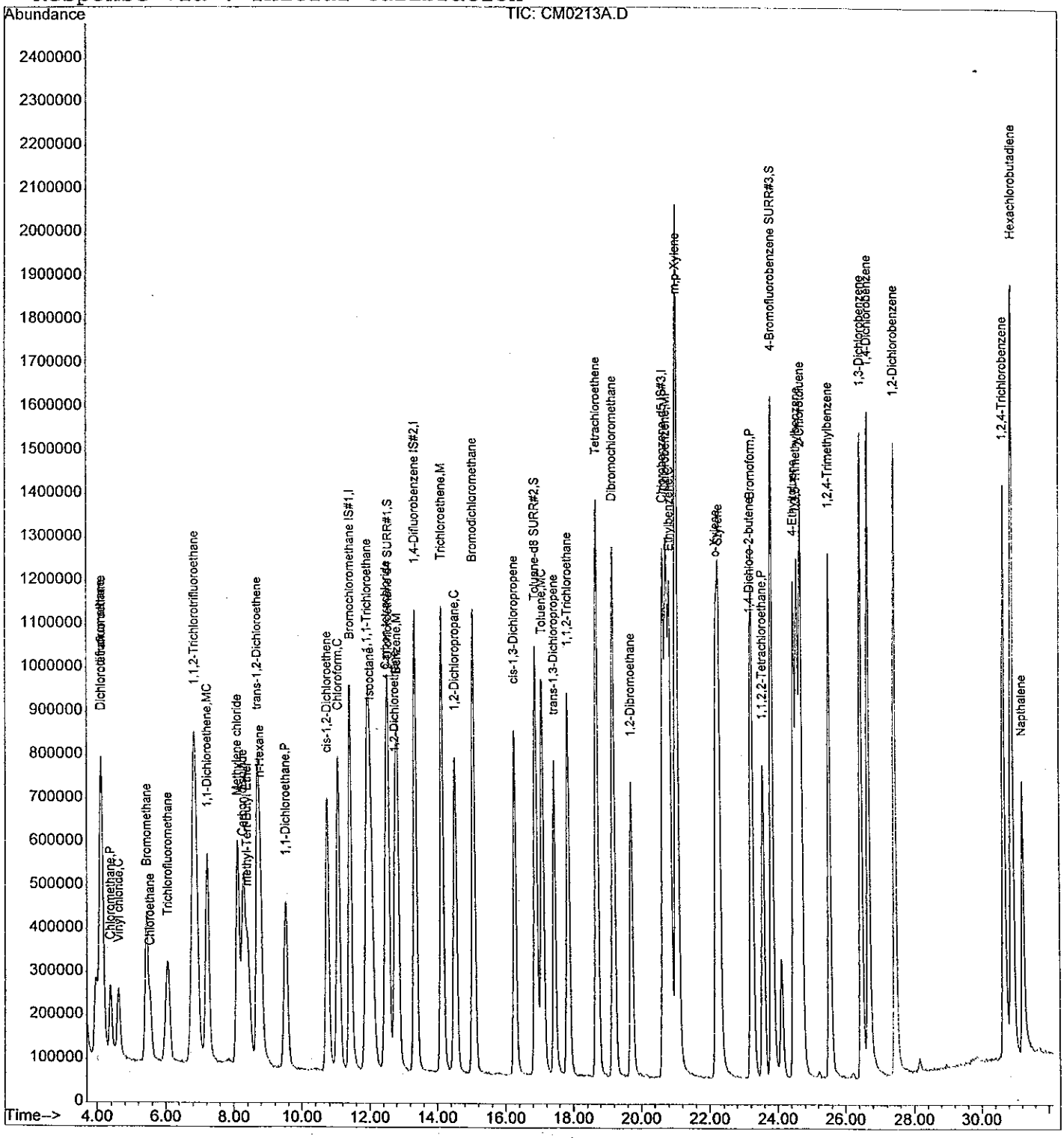
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

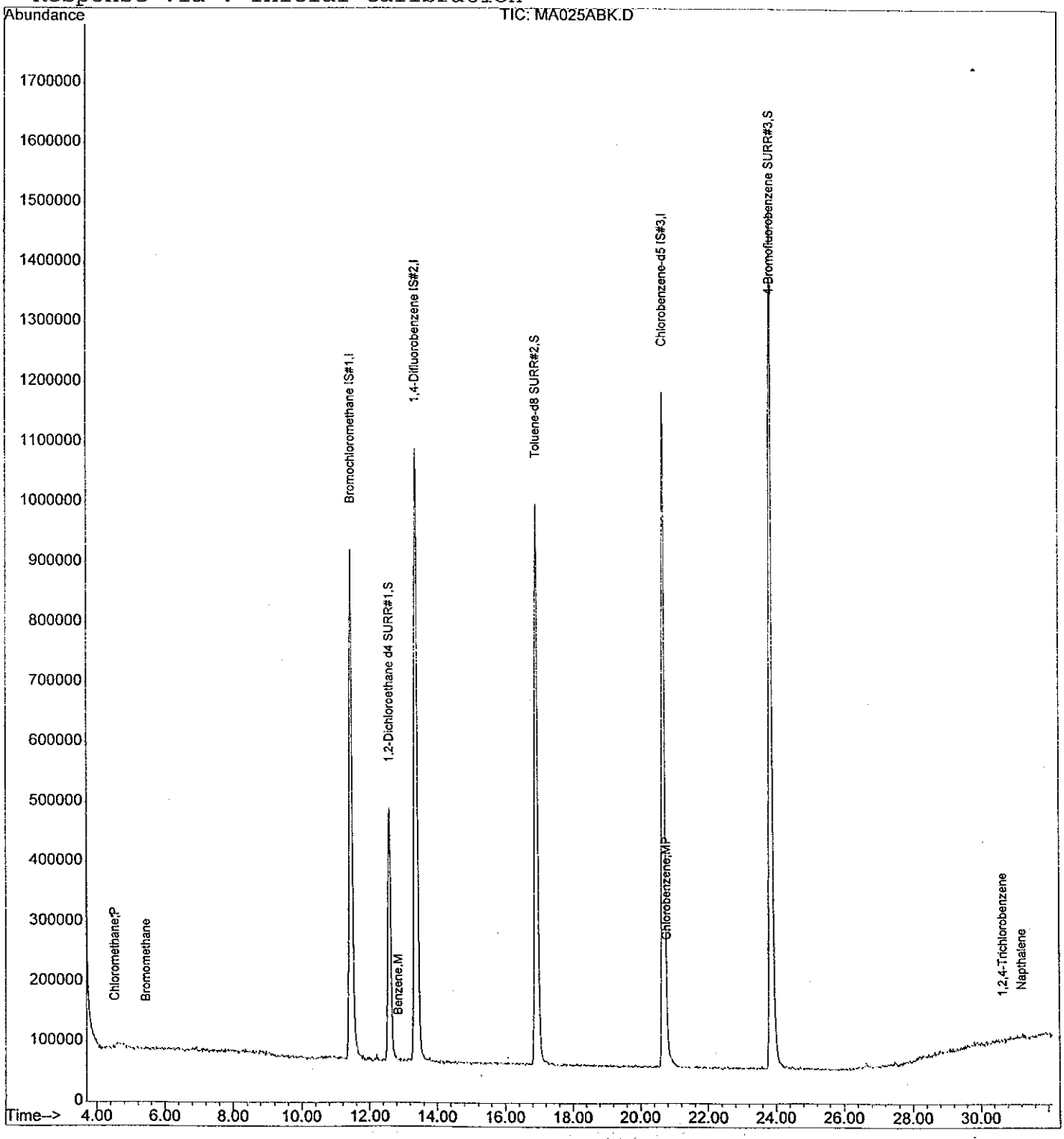
(#) = qualifier out of range (m) = manual integration
MA025ABK.D TO14S.M Wed Feb 13 11:56:01 2002 Page 1

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

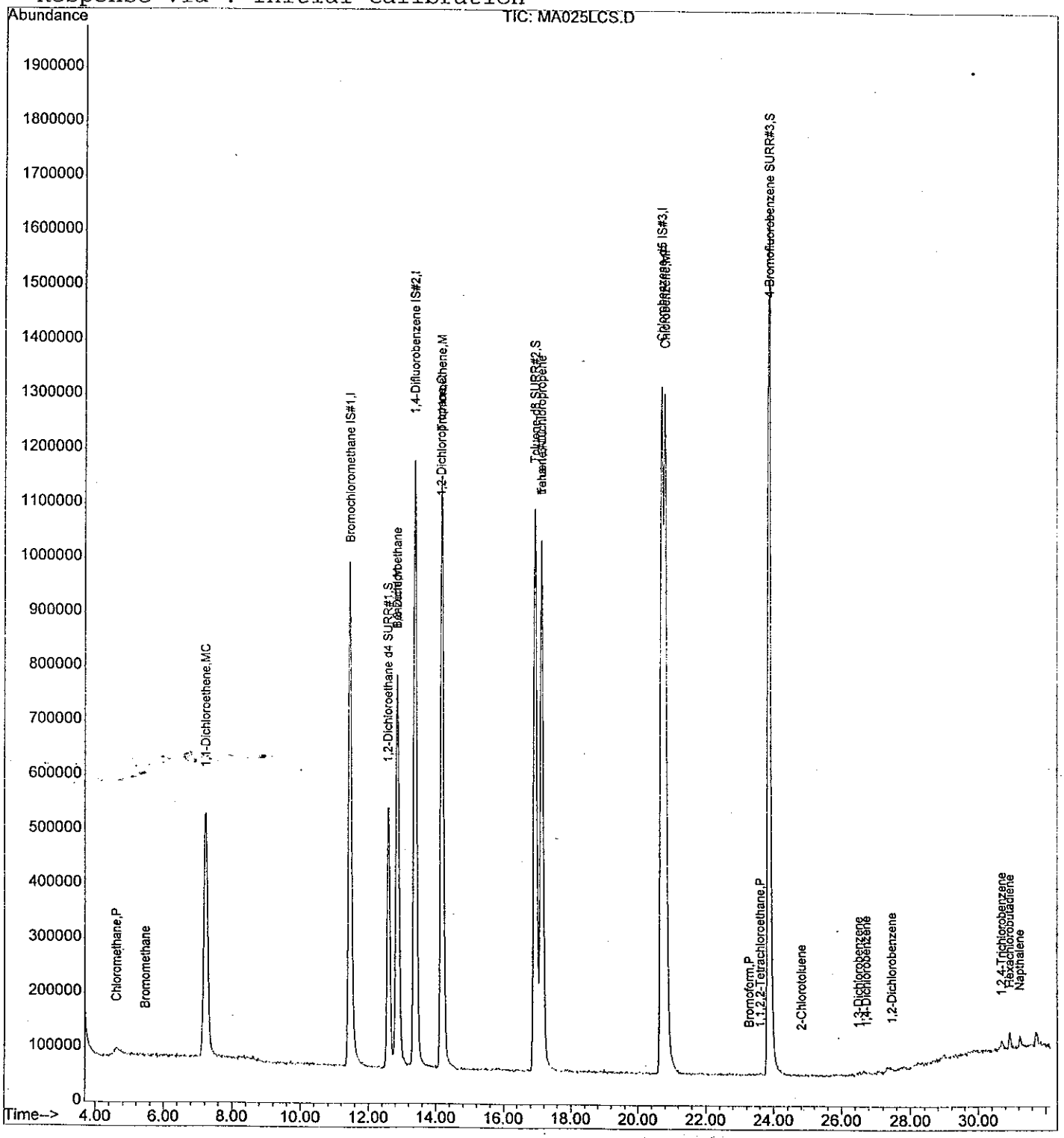
23) 1,2-Dichloroethane d4 SURR	12.59	65	1021882	252.51	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.00%						
32) Toluene-d8 SURR#2	16.95	98	2537635	253.64	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.46%						
46) 4-Bromofluorobenzene SURR#	23.88	95	2230301	252.09	ng	0.02
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

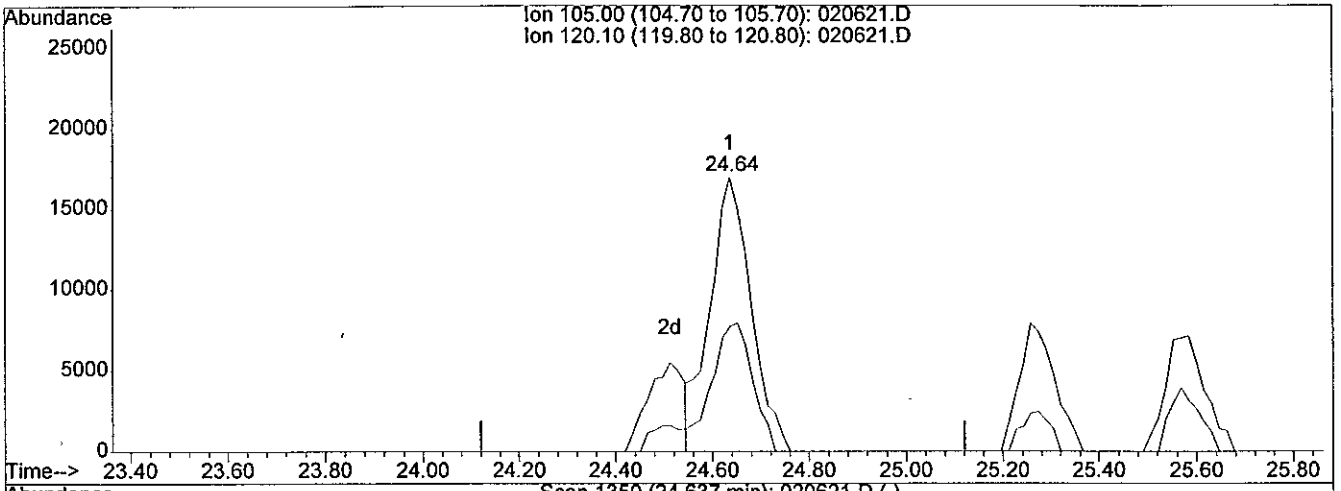
(#) = qualifier out of range (m) = manual integration
020621.D TO14S.M Wed Feb 13 15:19:48 2002 Page 1

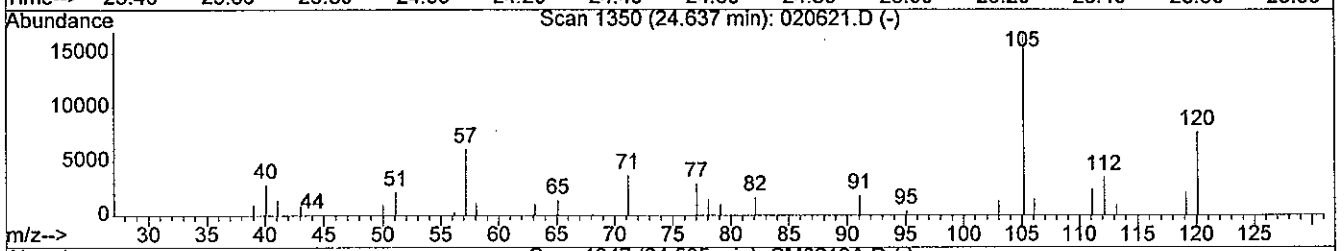
NAS Cecil Field CTO 0062

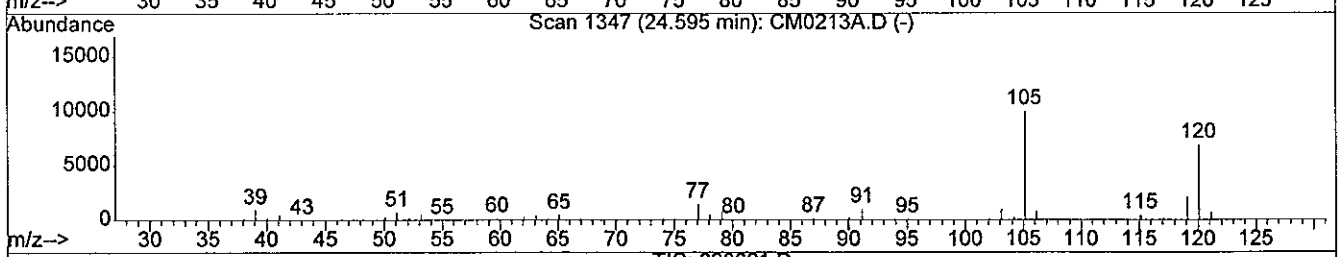
Quantitation Report (Qedit)

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

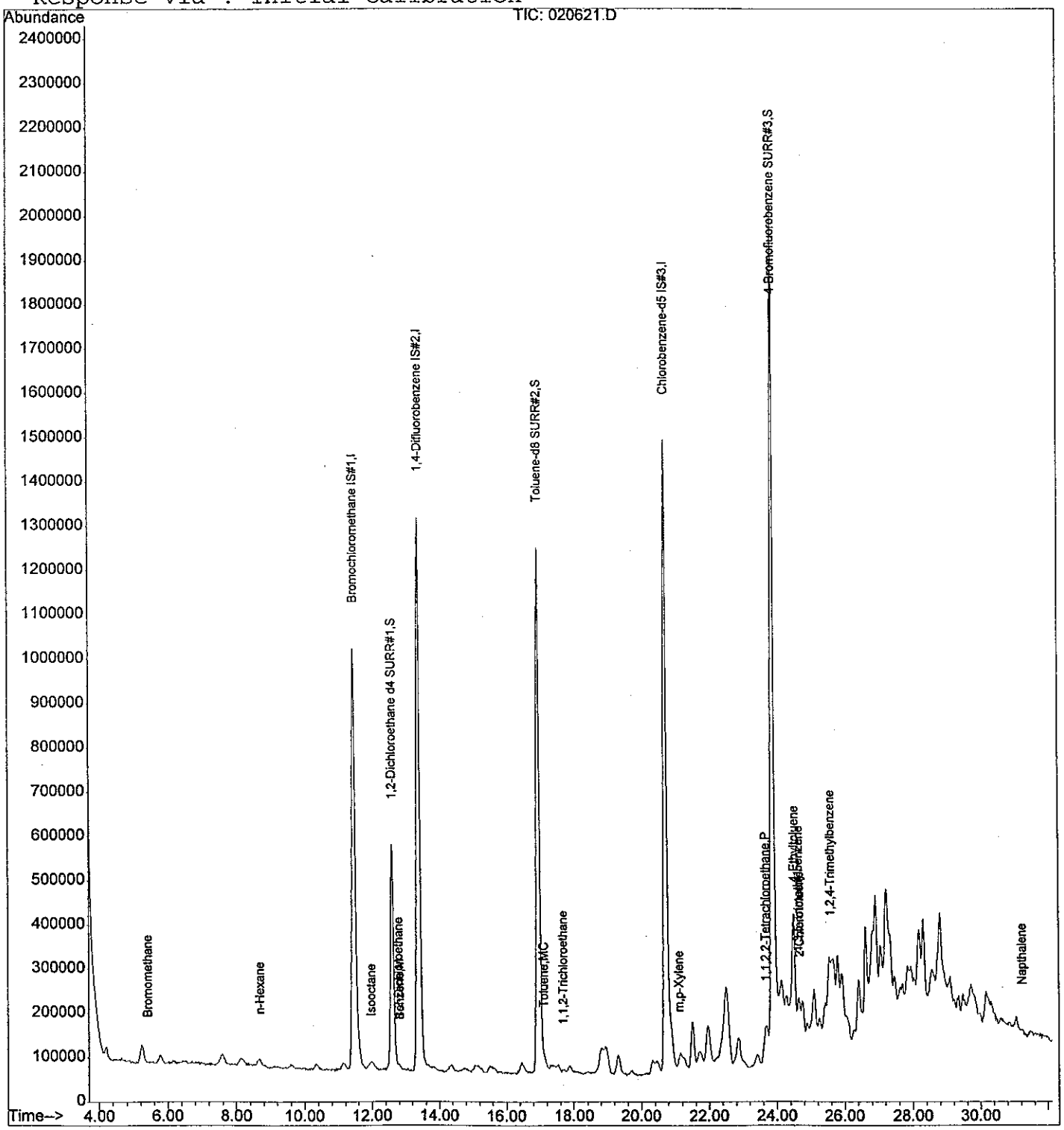
						Qvalue
6) Bromomethane	5.42	94	4034	0.88	ng	# 9
16) n-Hexane	8.69	57	23360	5.51	ng	# 31
20) Isooctane	11.98	57	88008	6.19	ng	79
24) 1,2-Dichloroethane	12.79	62	1220	0.24	ng	# 49
27) Benzene	12.82	78	24120	2.21	ng	# 59
33) Toluene	17.11	92	26838	3.89	ng	# 85
35) 1,1,2-Trichloroethane	17.68	97	8537	1.78	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:

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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 -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

* 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	# 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

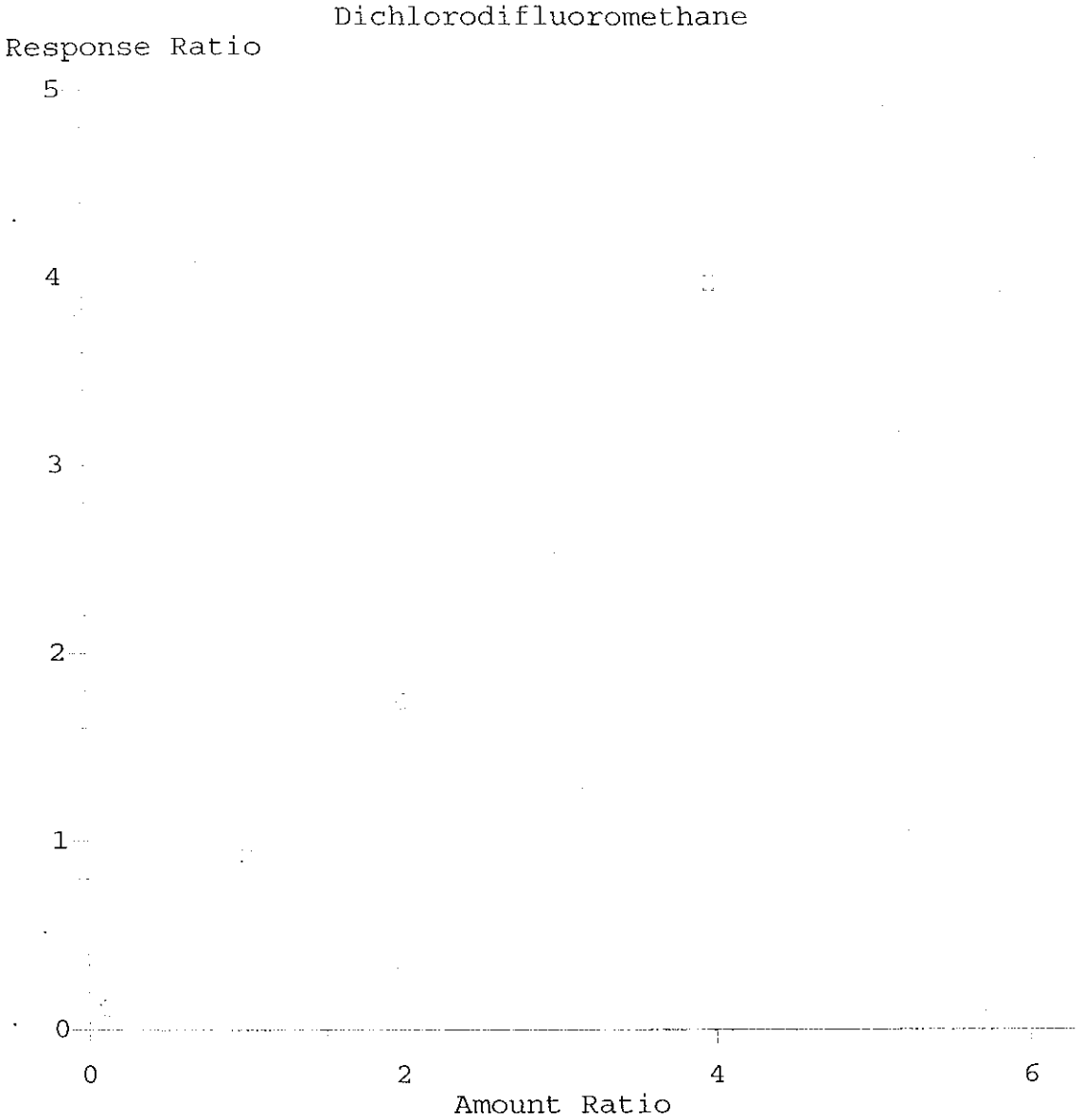
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integratc
Title : TO14
Last Update : Mon Mar 04 09:06:07 2002
Response via : Initial Calibration

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 ###

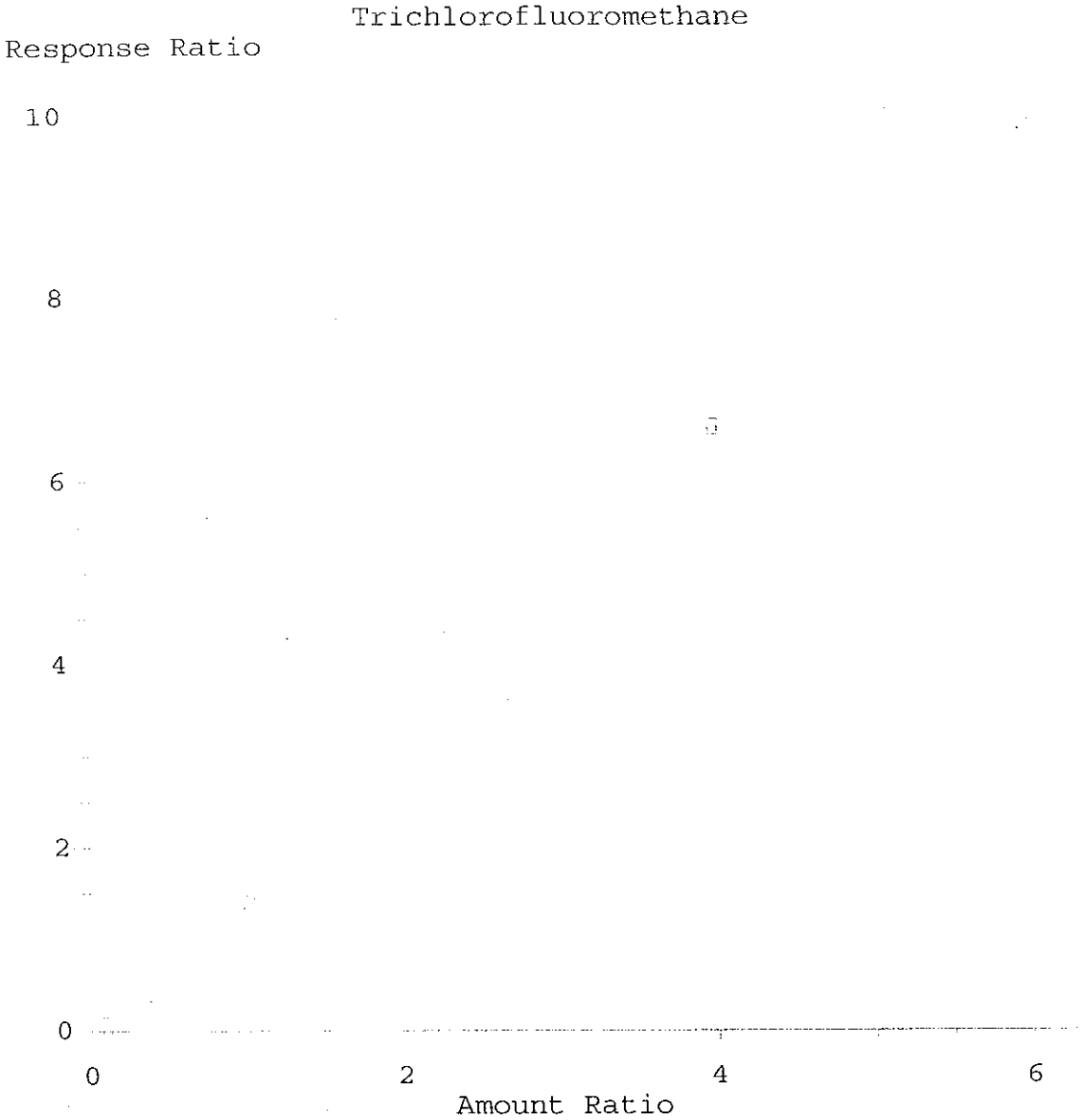
Dichlorodifluoromethane



Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

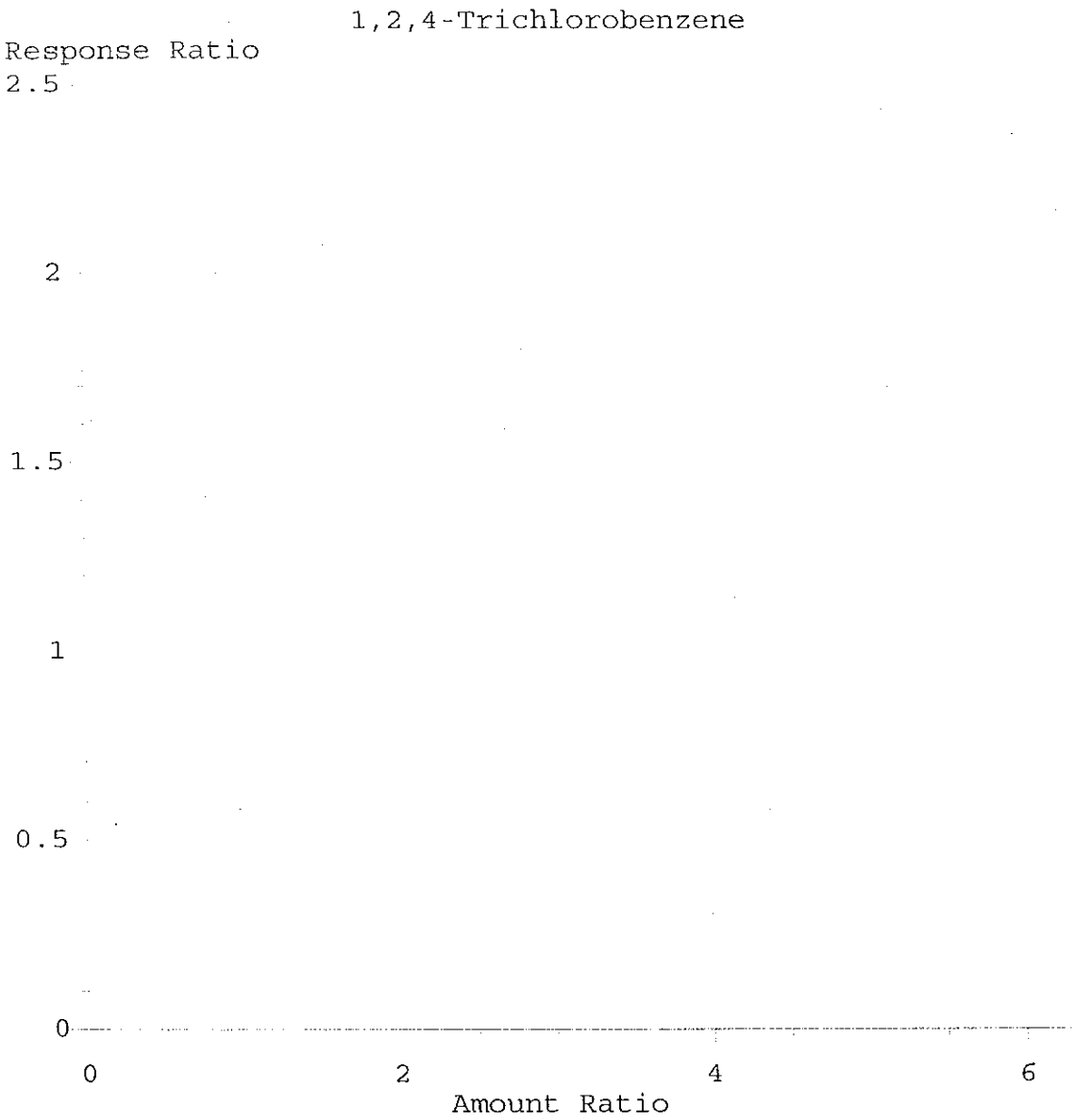
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002

Trichlorofluoromethane



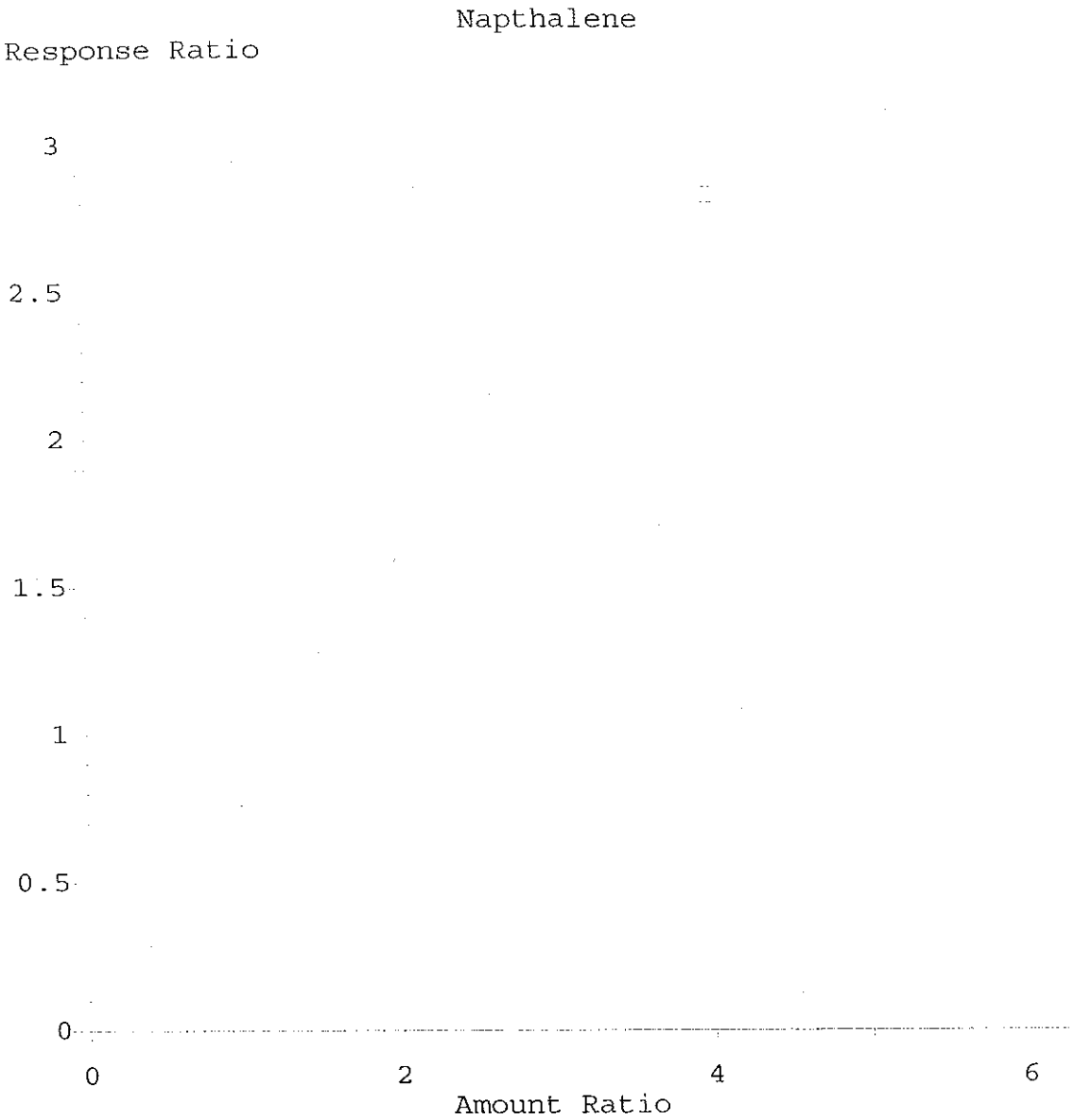
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002



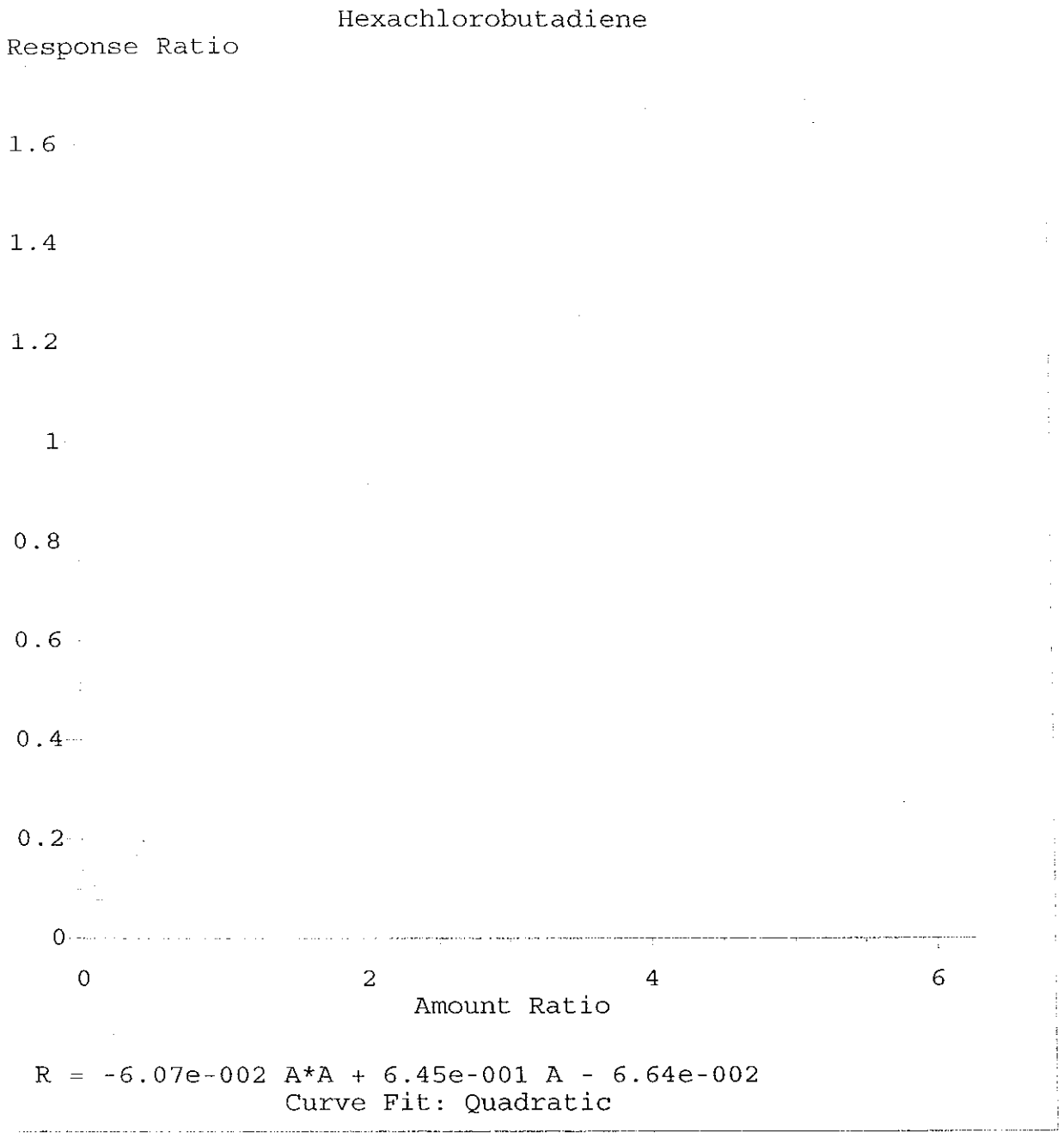
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

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

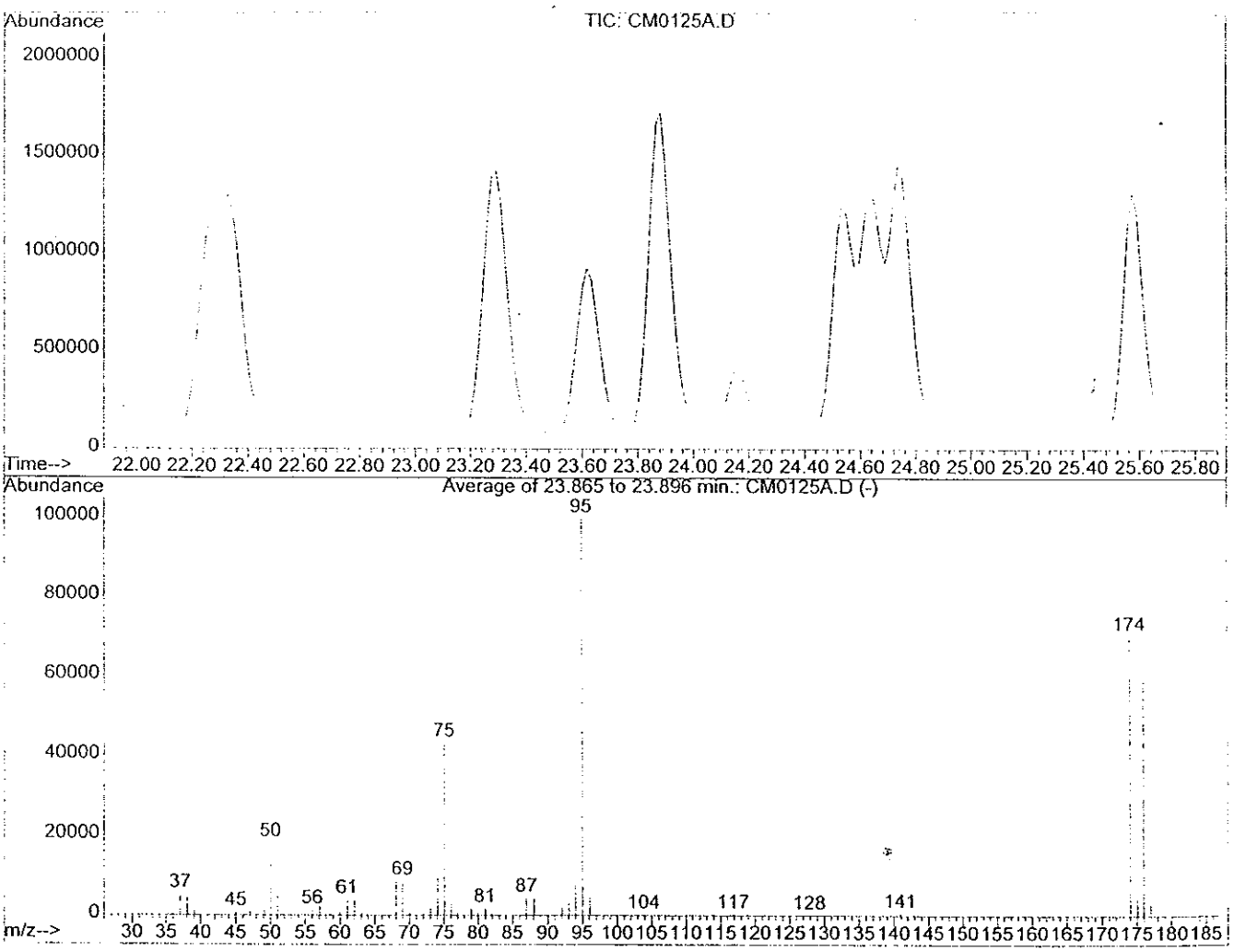
TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:34	14		CM0125A	50ppb		Y N				Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
13:18	14		0025M125			Y N		x		bad 5ml syringe reboot
3:56	15		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 ###

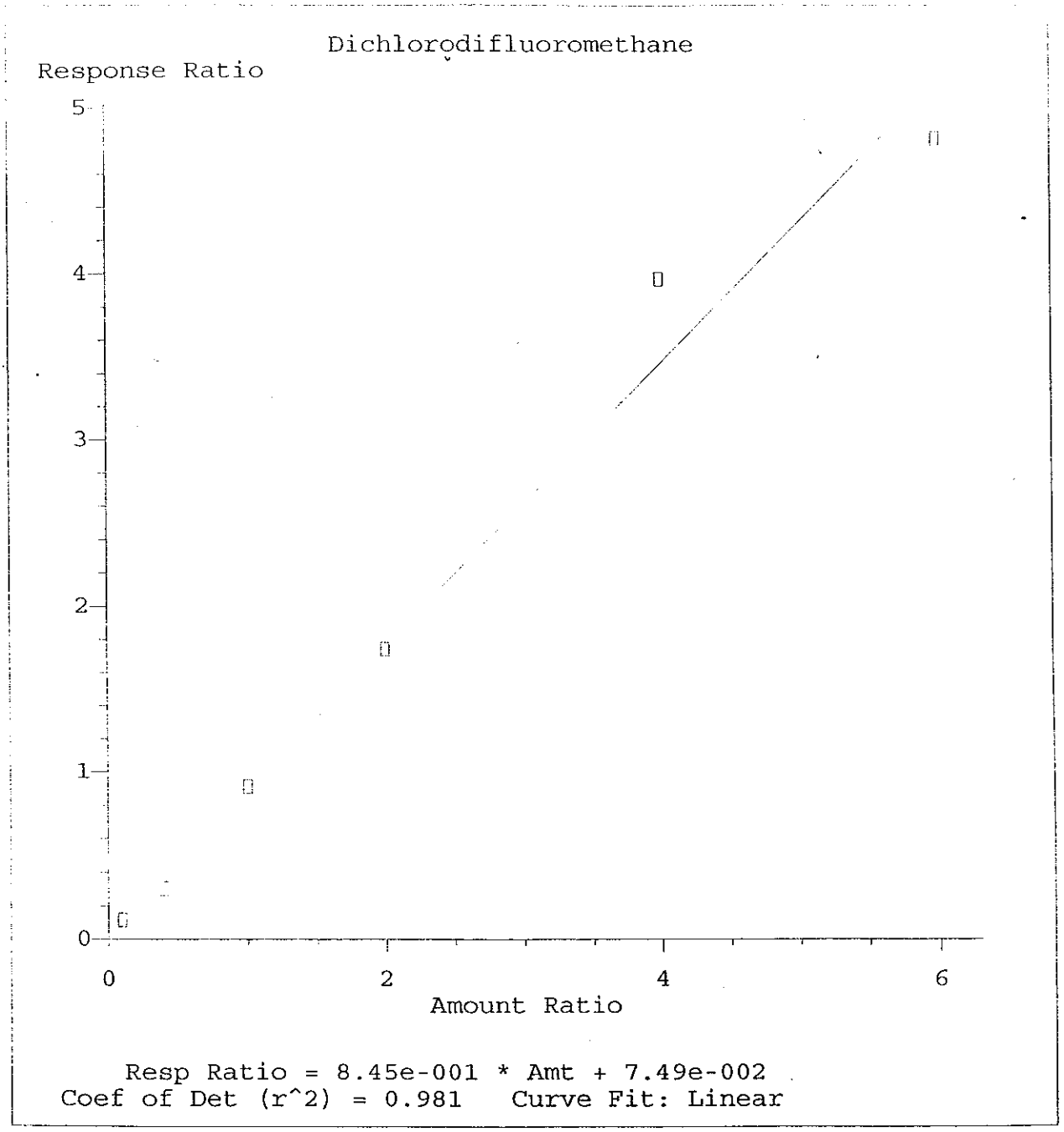
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

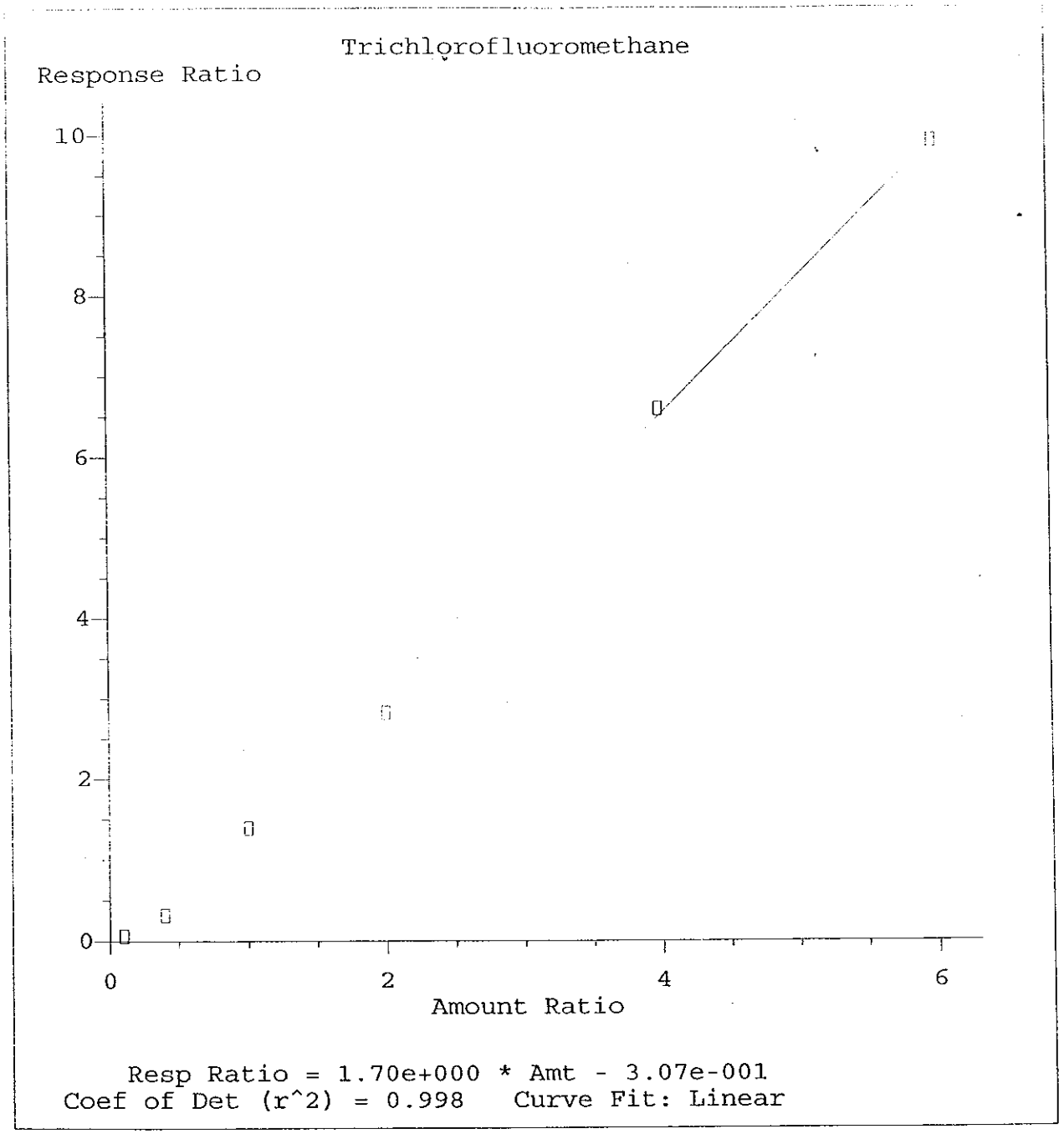
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		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		

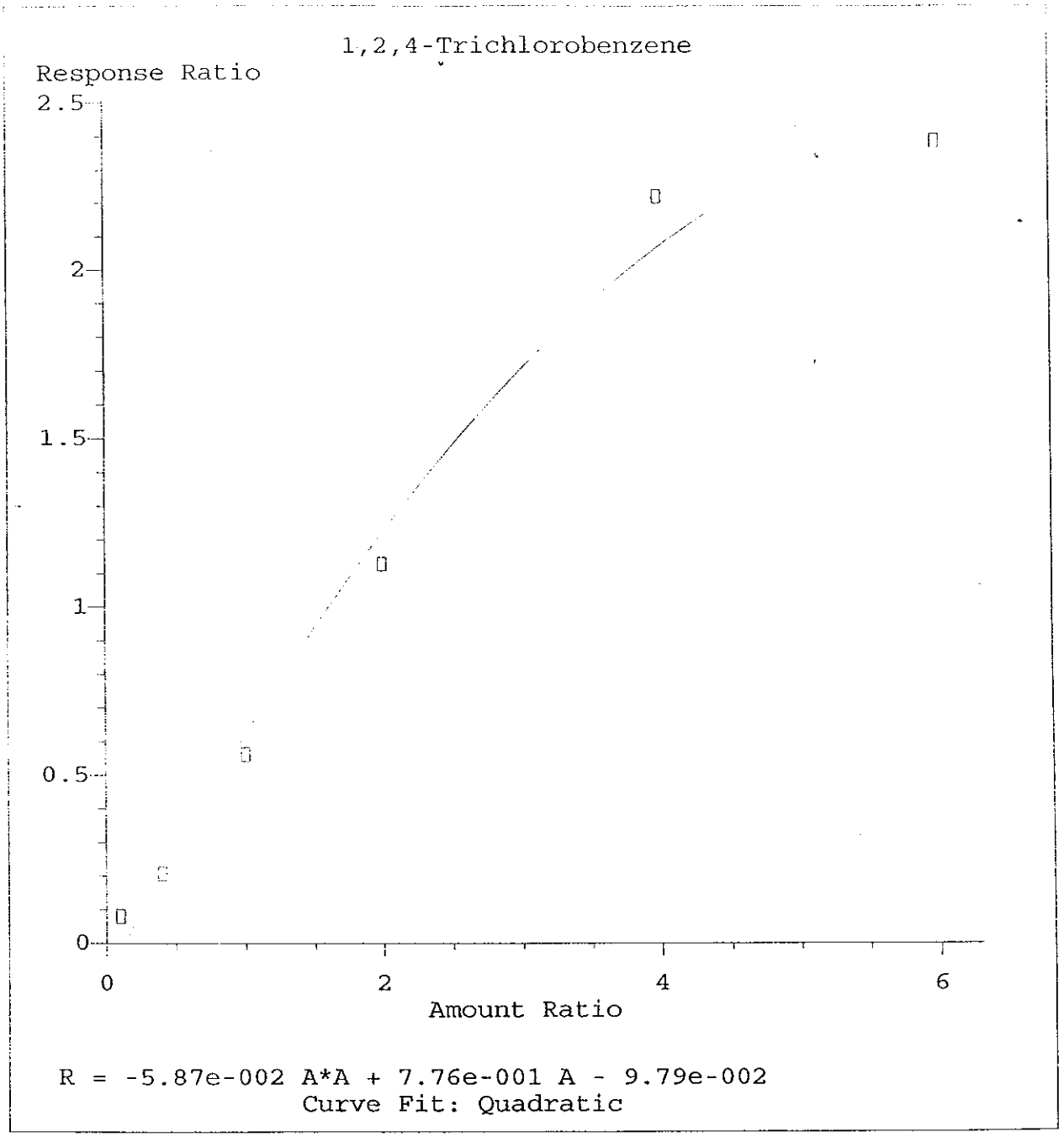
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



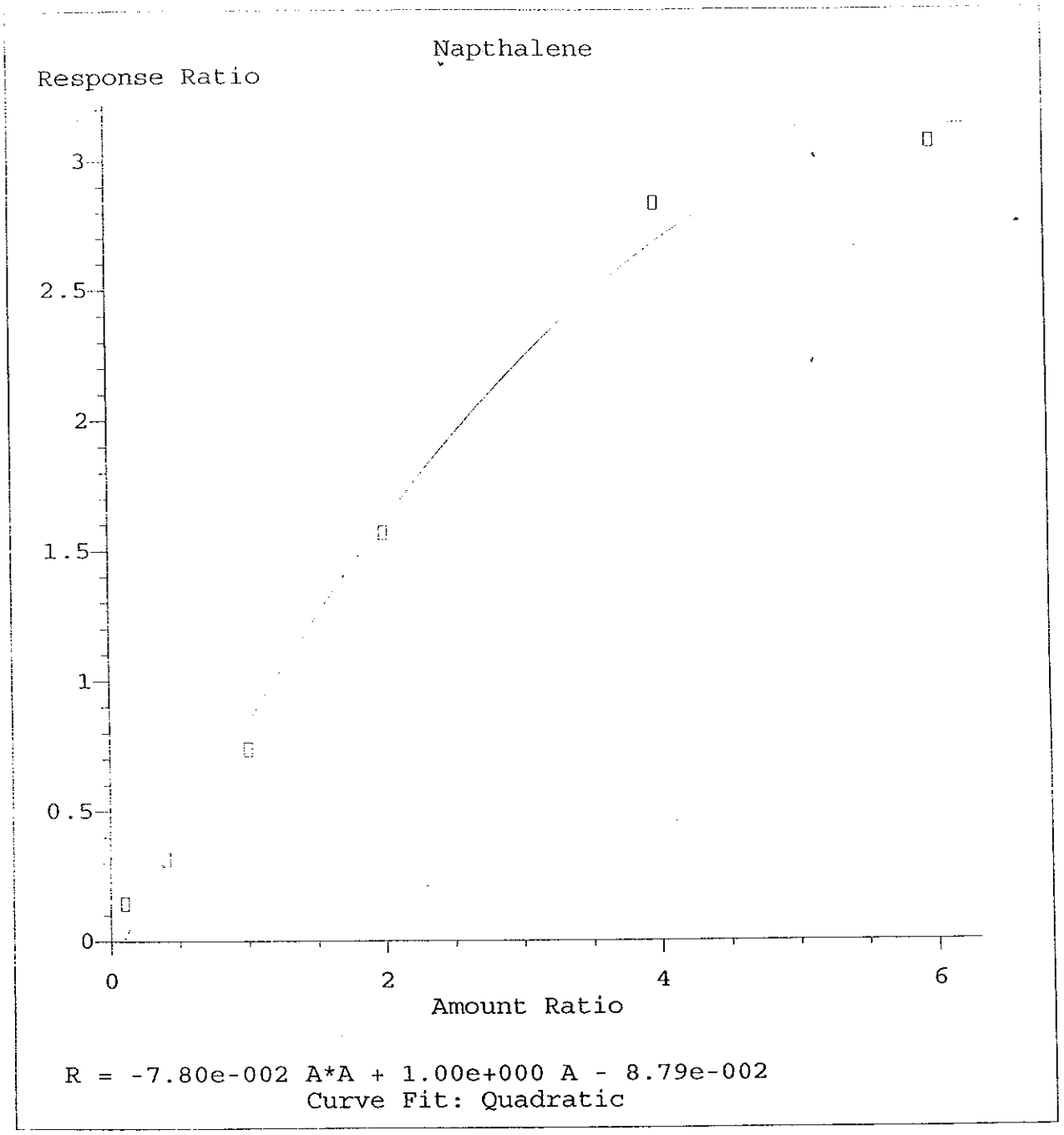
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



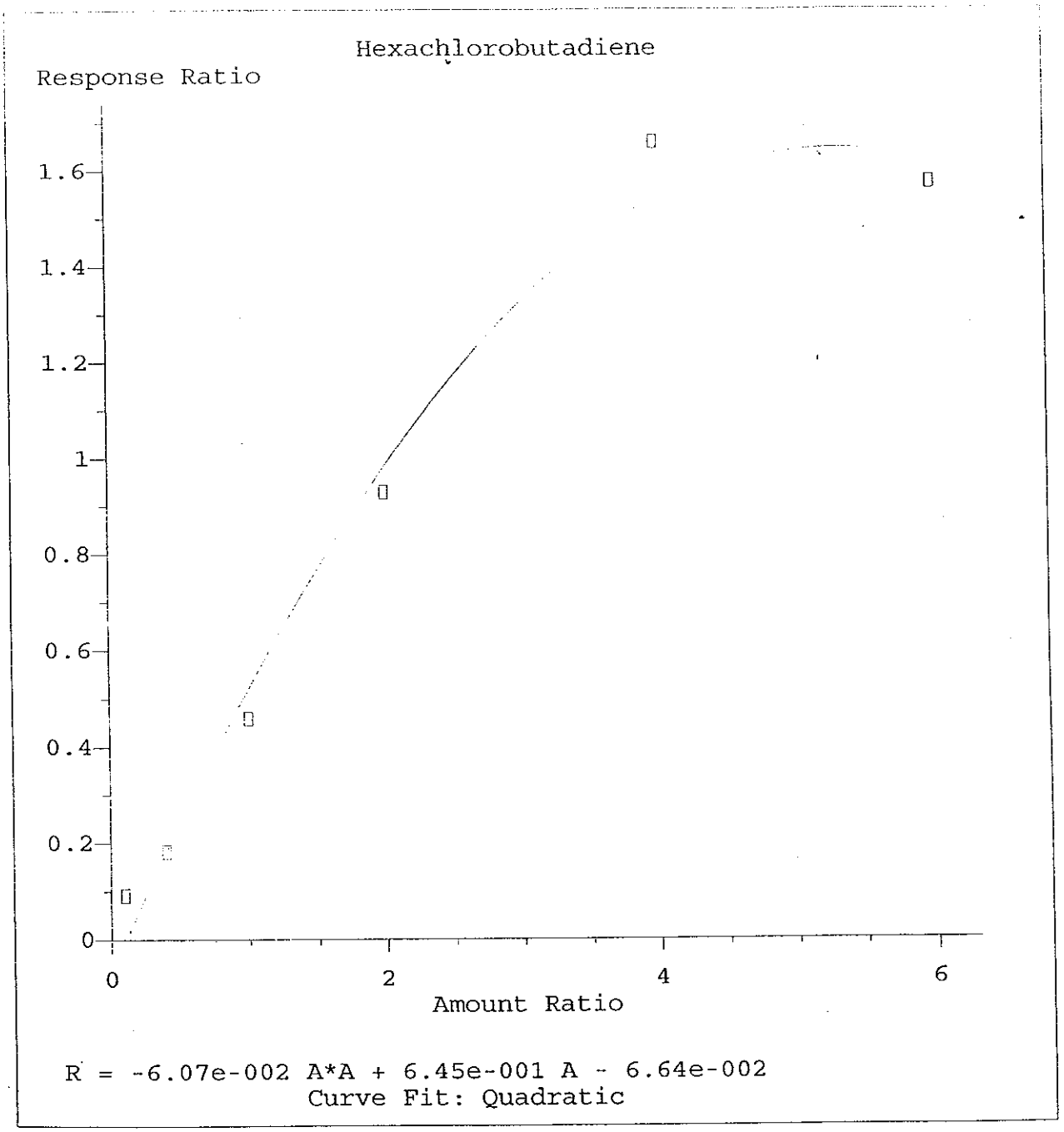
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:06:09 2002



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

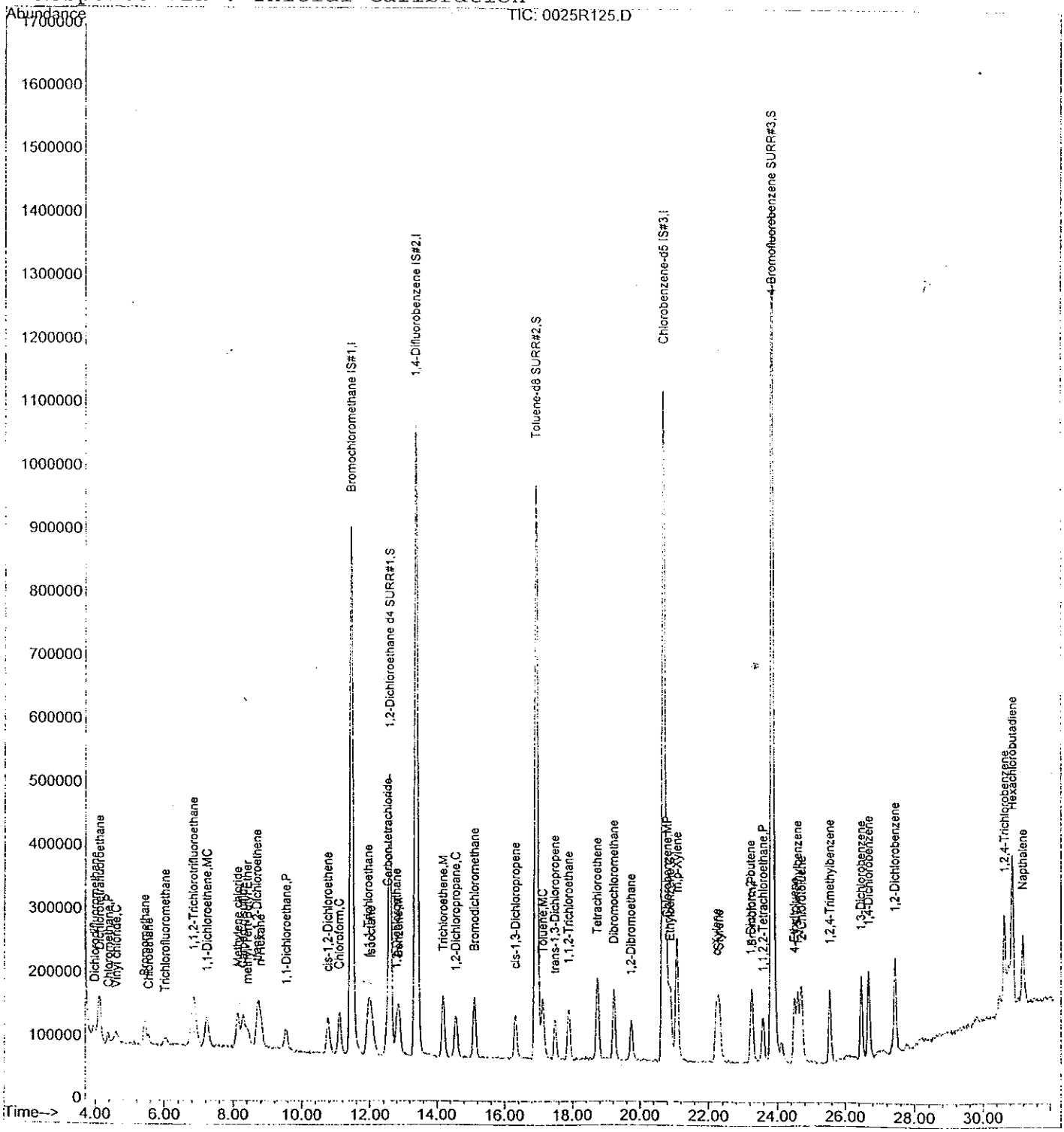
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

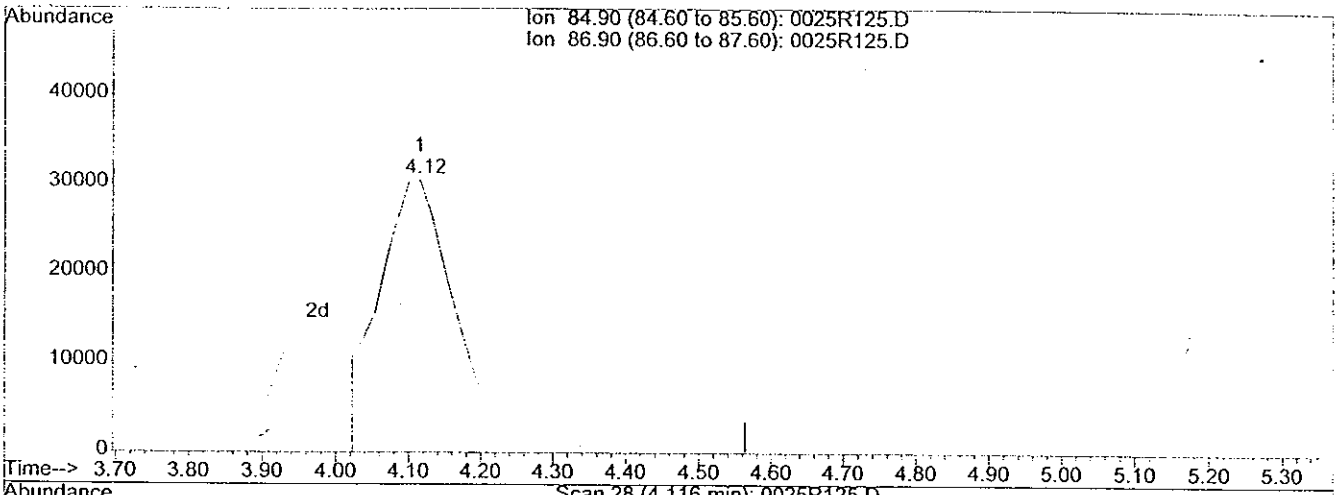
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D Vial: 14
Acq On : 25 Jan 2002 17:43 Operator: LAD
Sample : VSTD0025 25ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002 Quant Results File: TO14S.RES

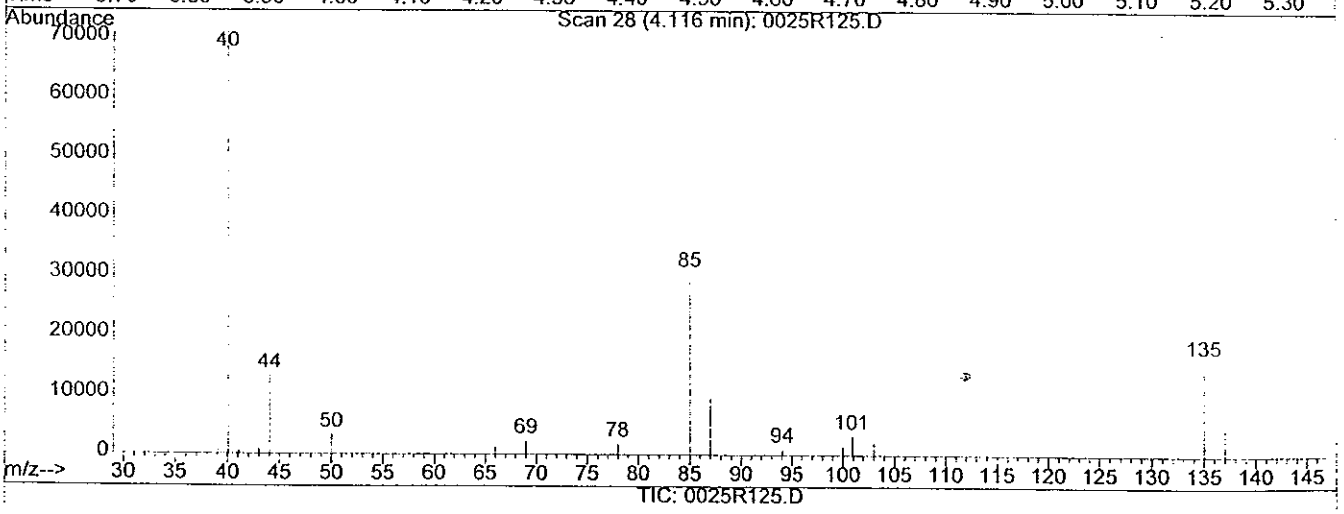
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



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

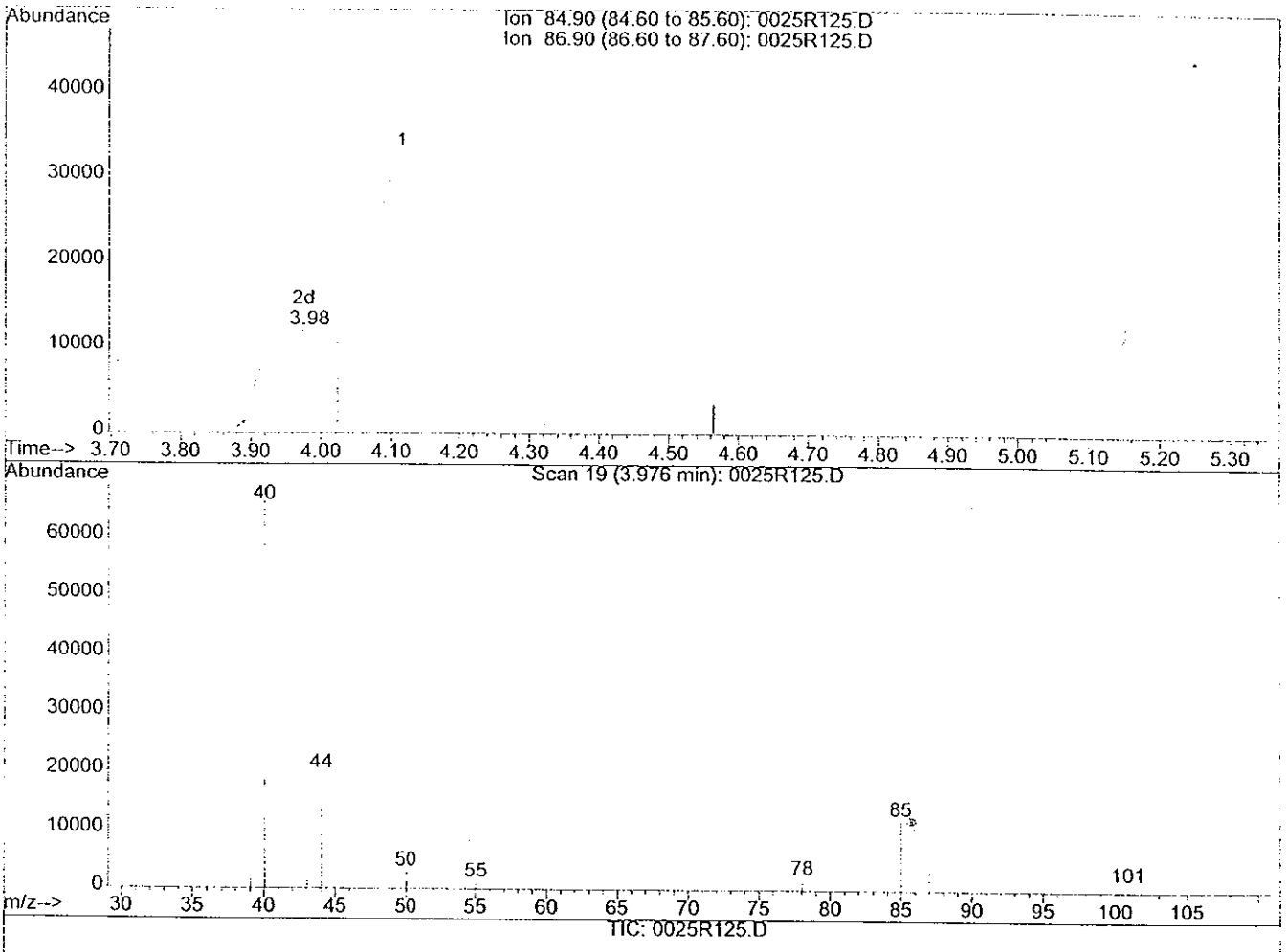
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

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

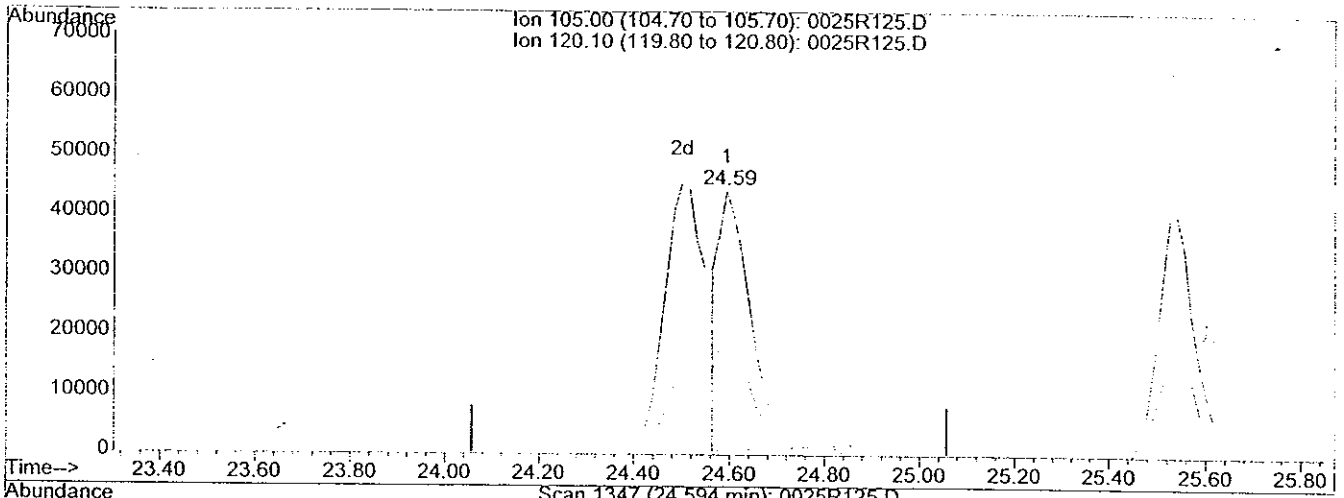
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

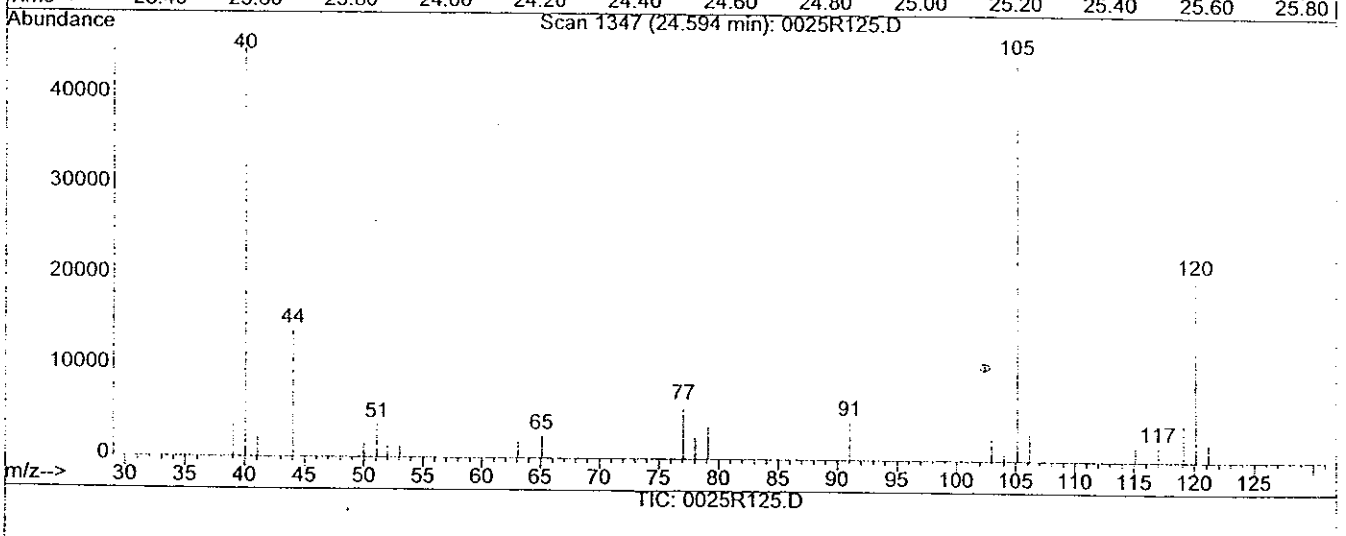
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

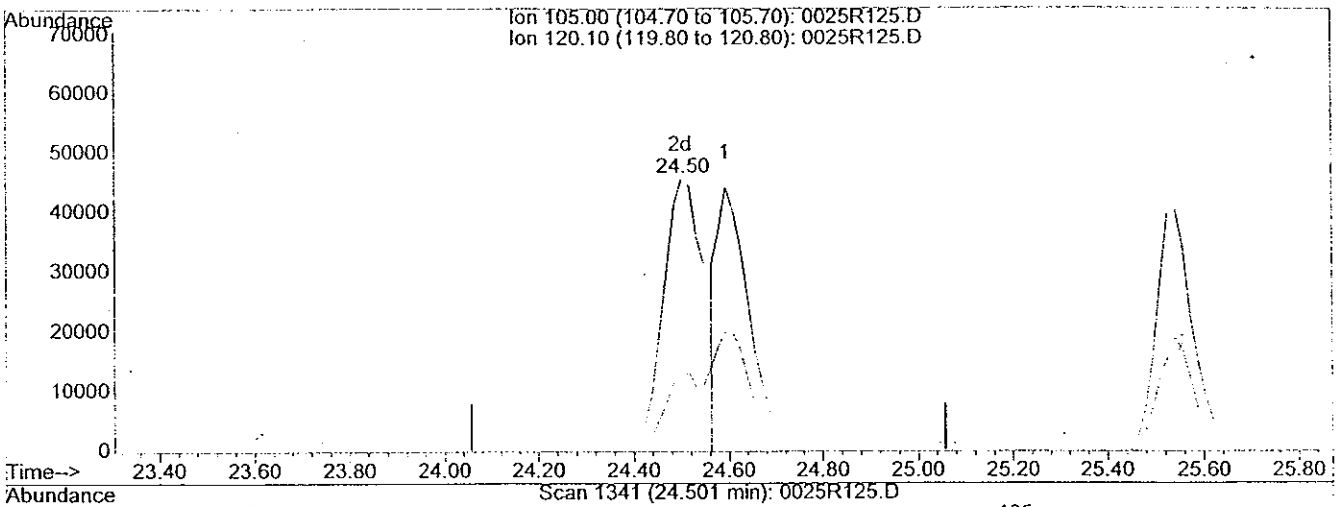
response 208705

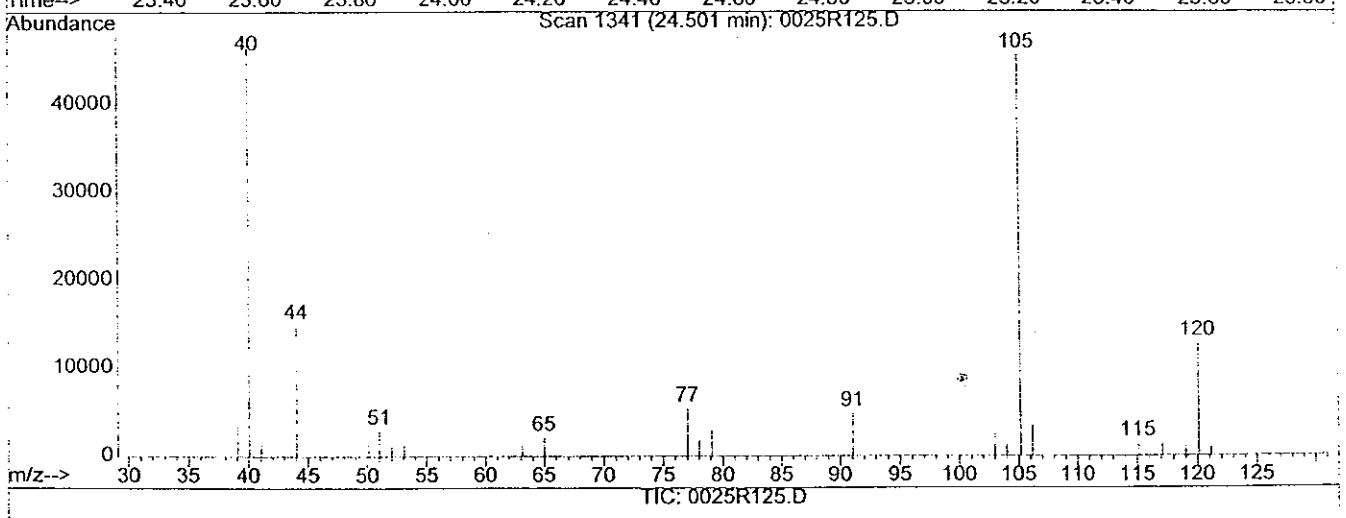
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

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

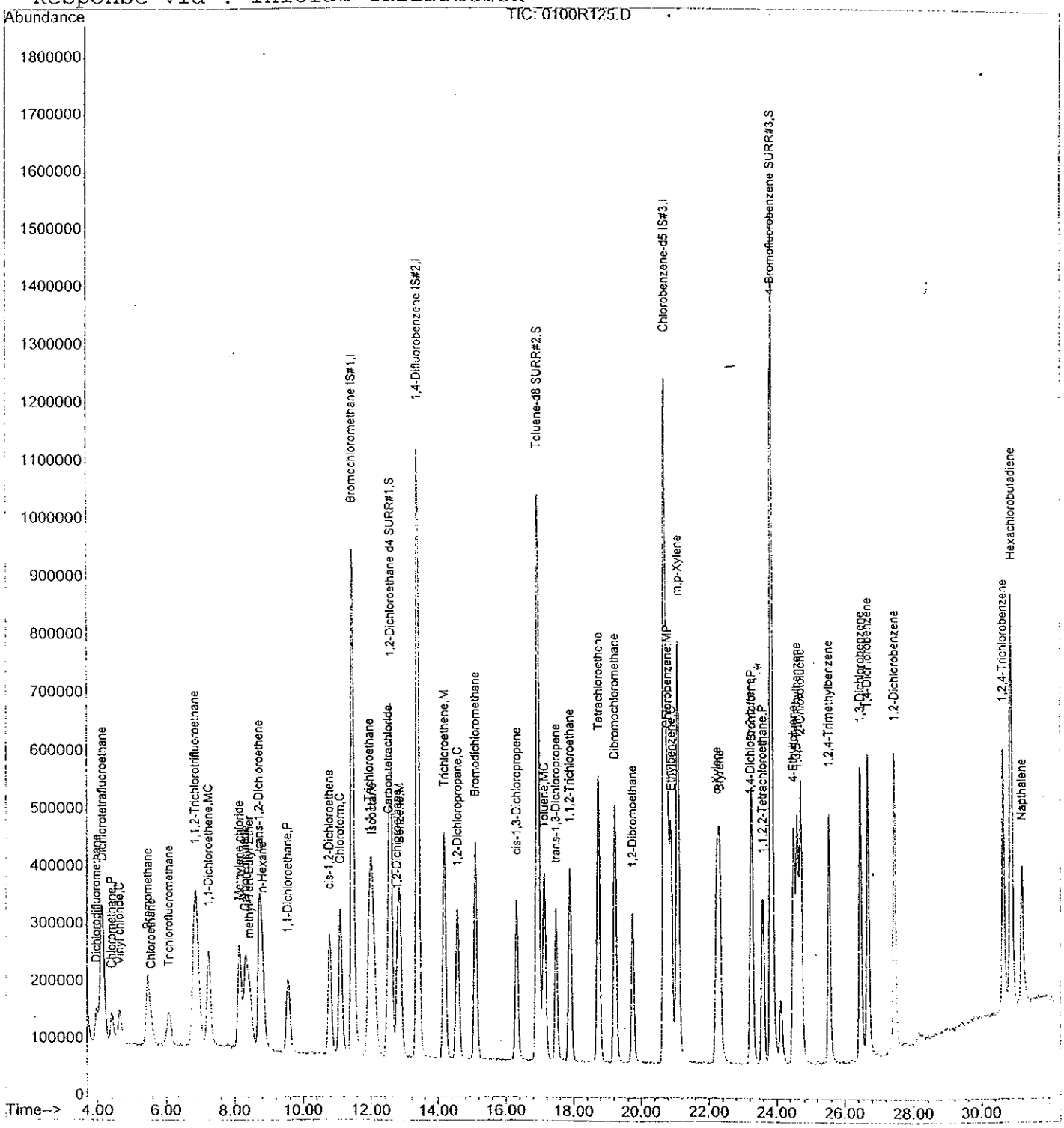
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

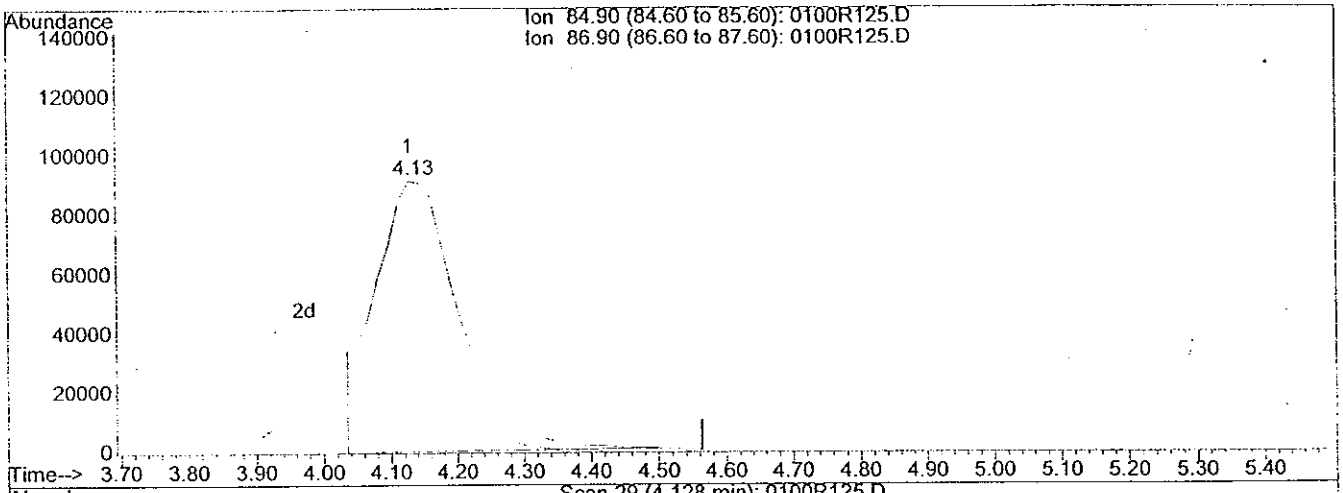


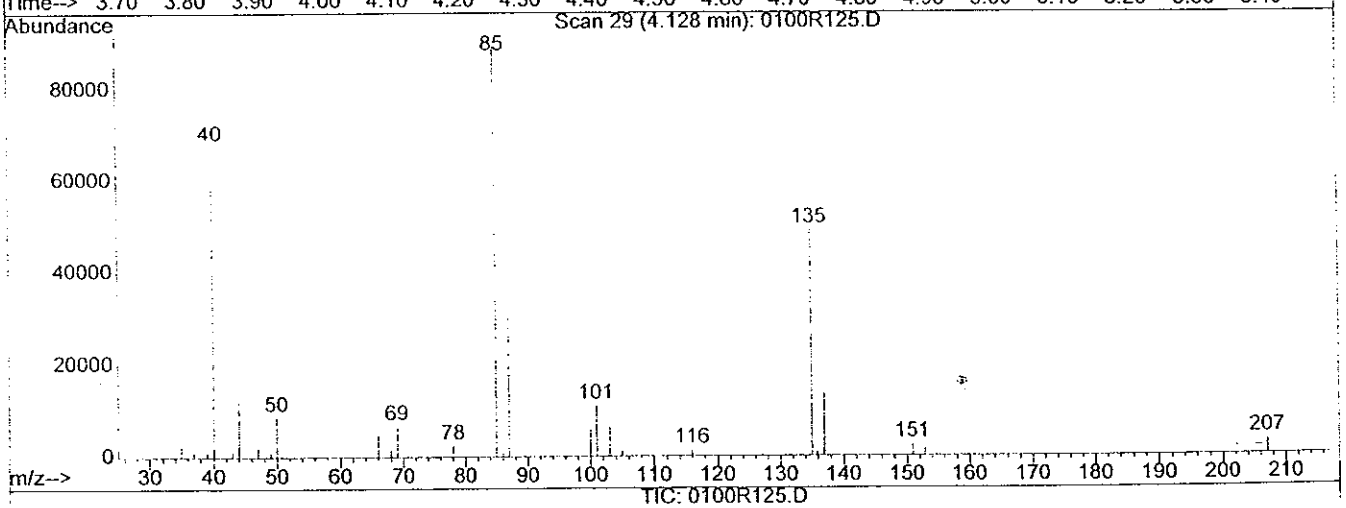
0100R125.D TO14S.M Fri Jan 25 18:55:14 2002 Page 3

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

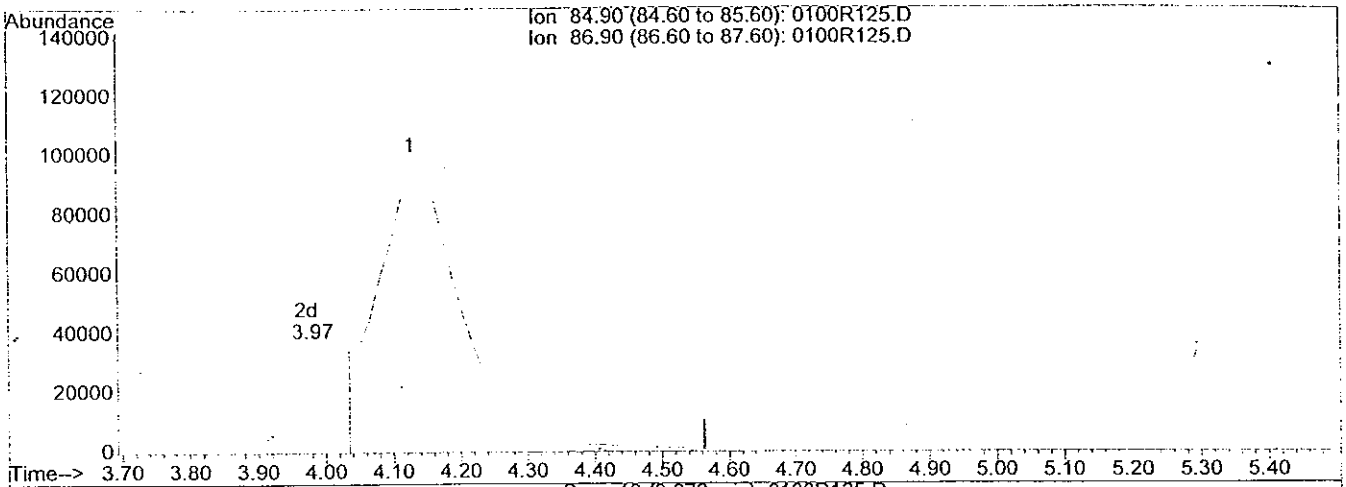
coelution
wrong peak

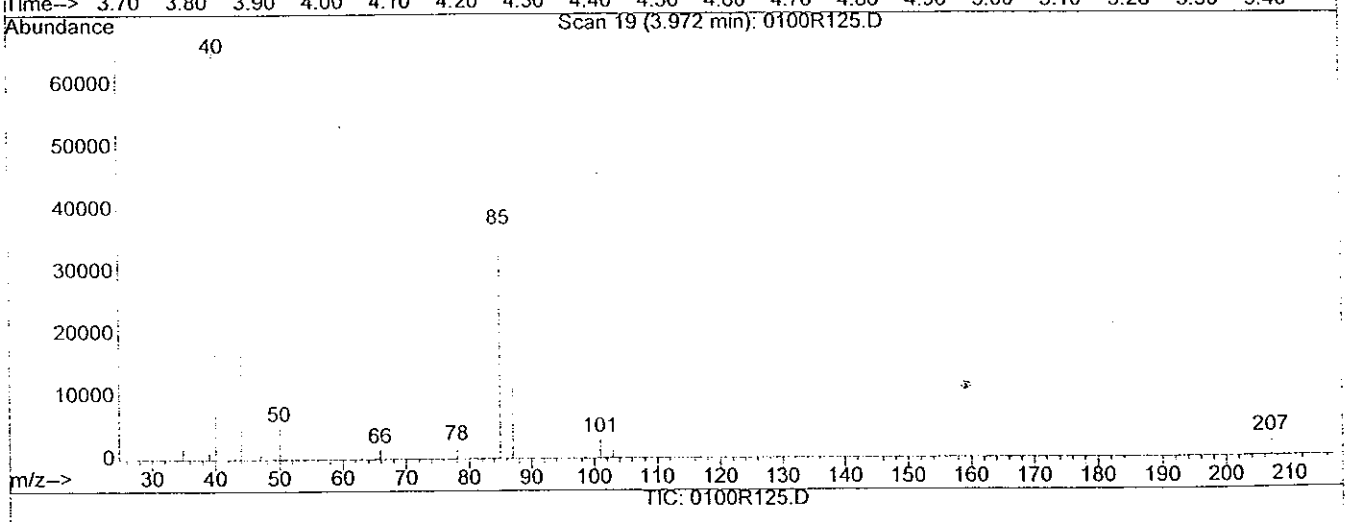
0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

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

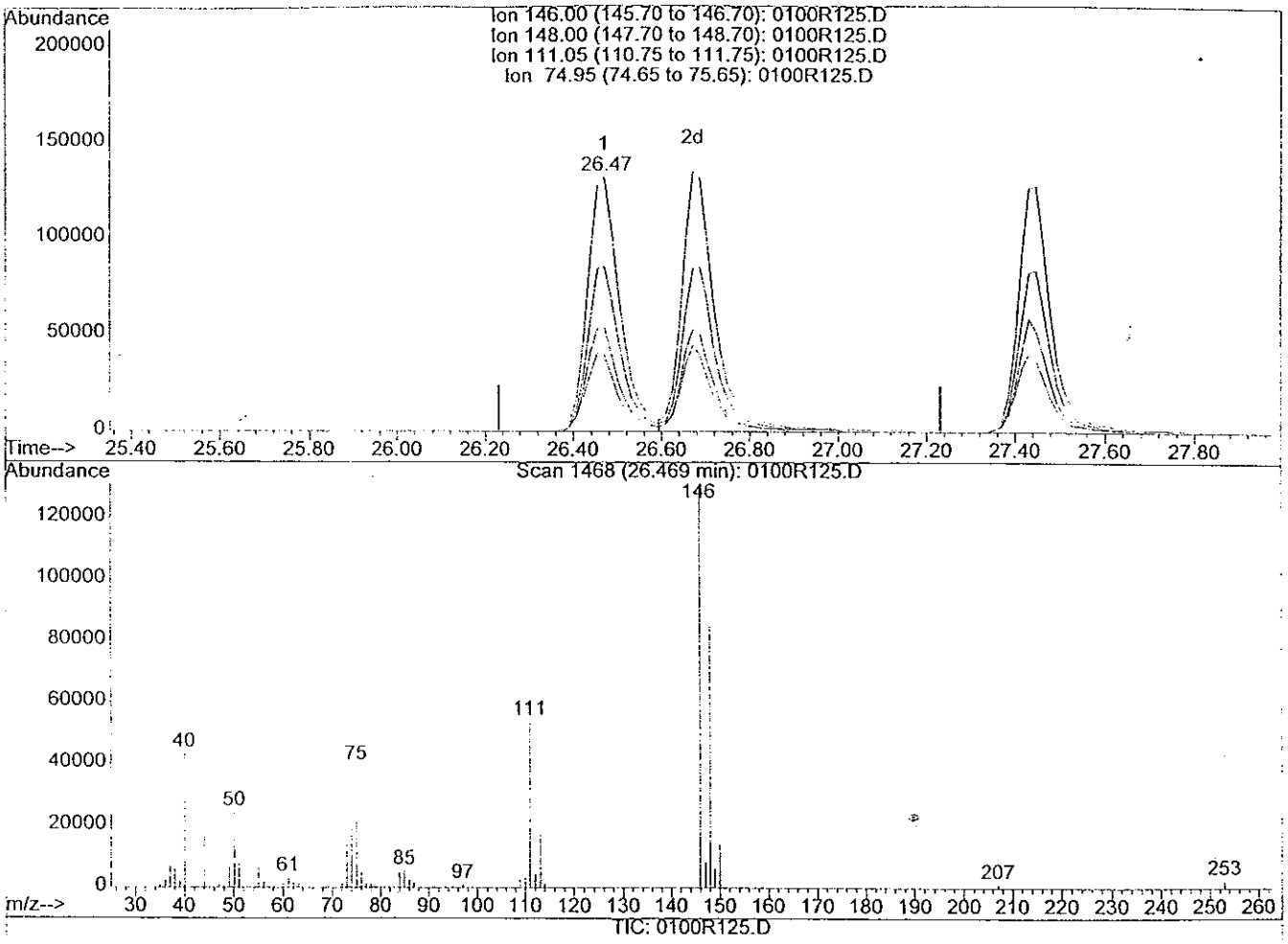
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

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

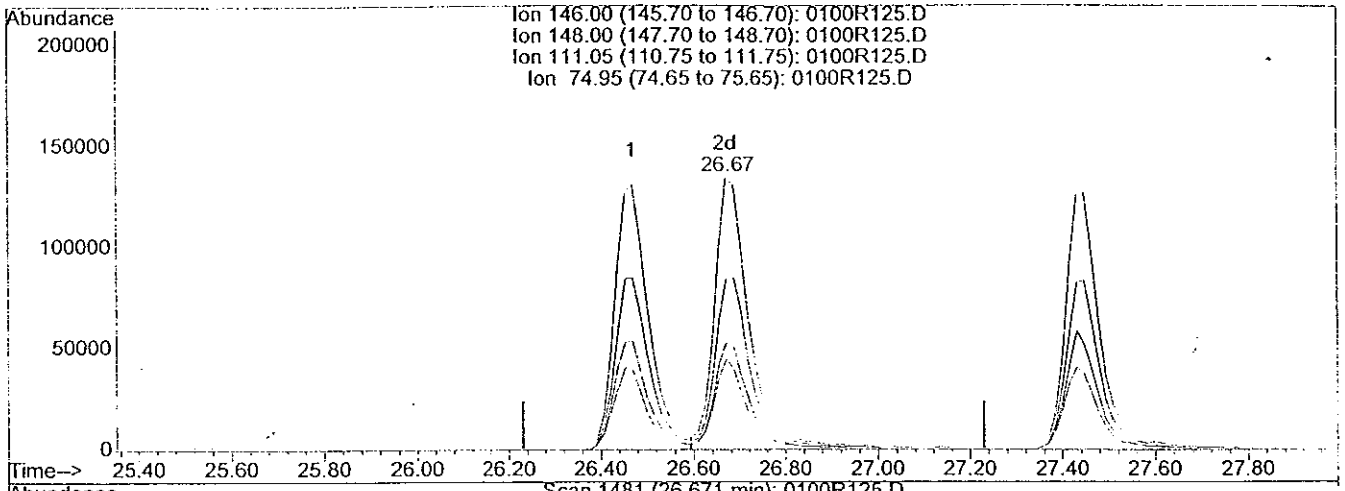
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

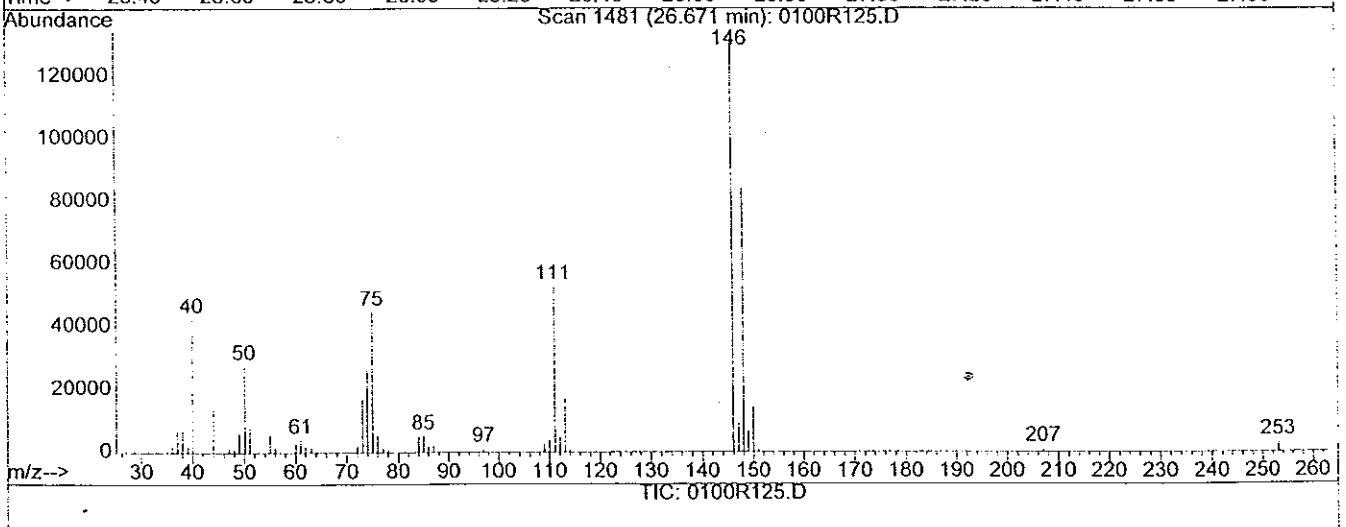
wrong peak

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

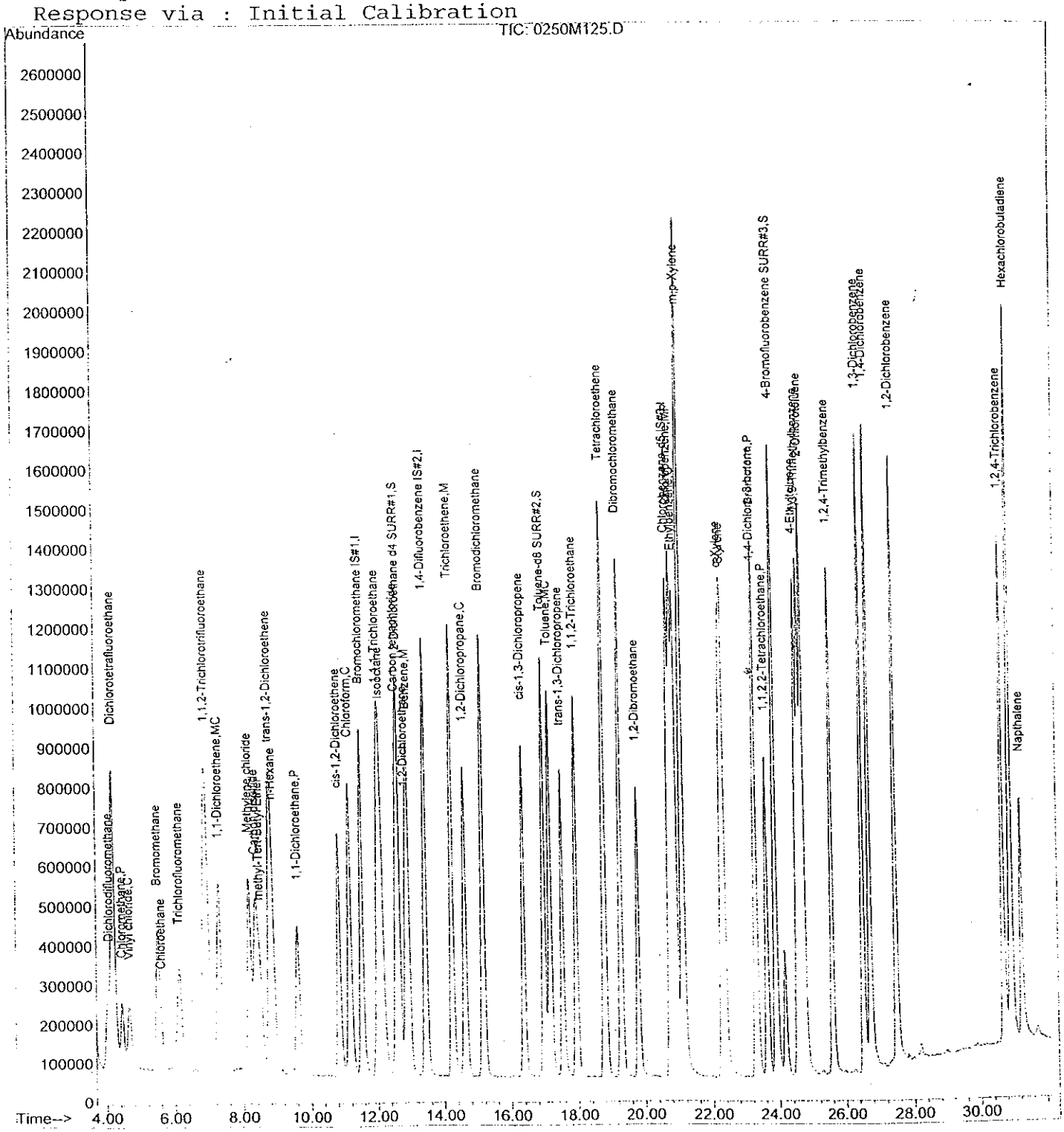
(#) = qualifier out of range (m) = manual integration

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

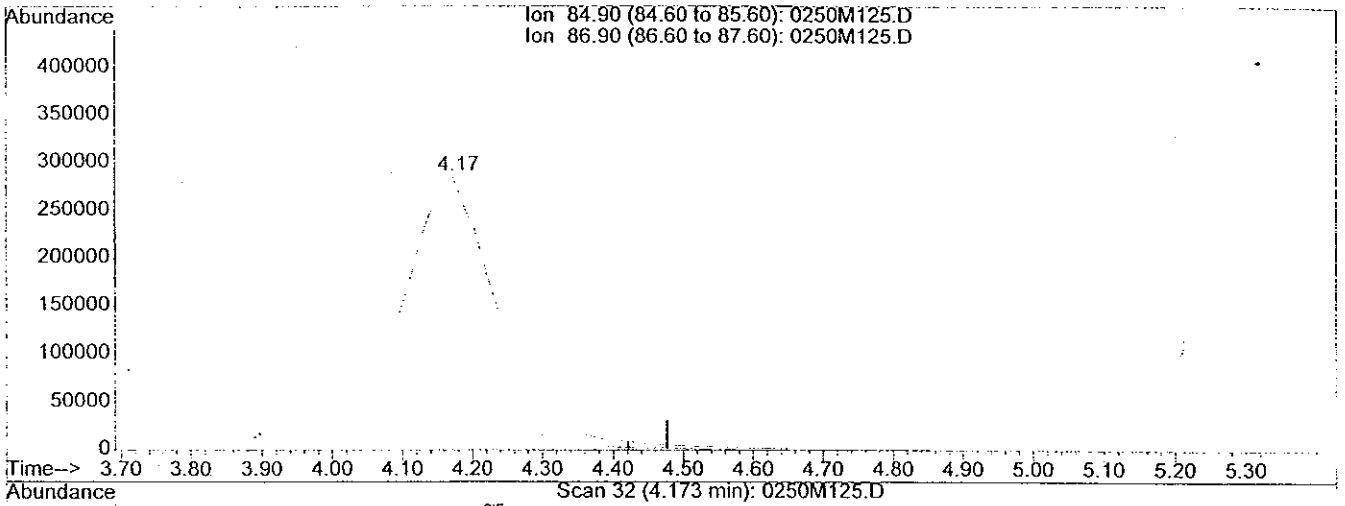
Quant Results File: TO14S.RES

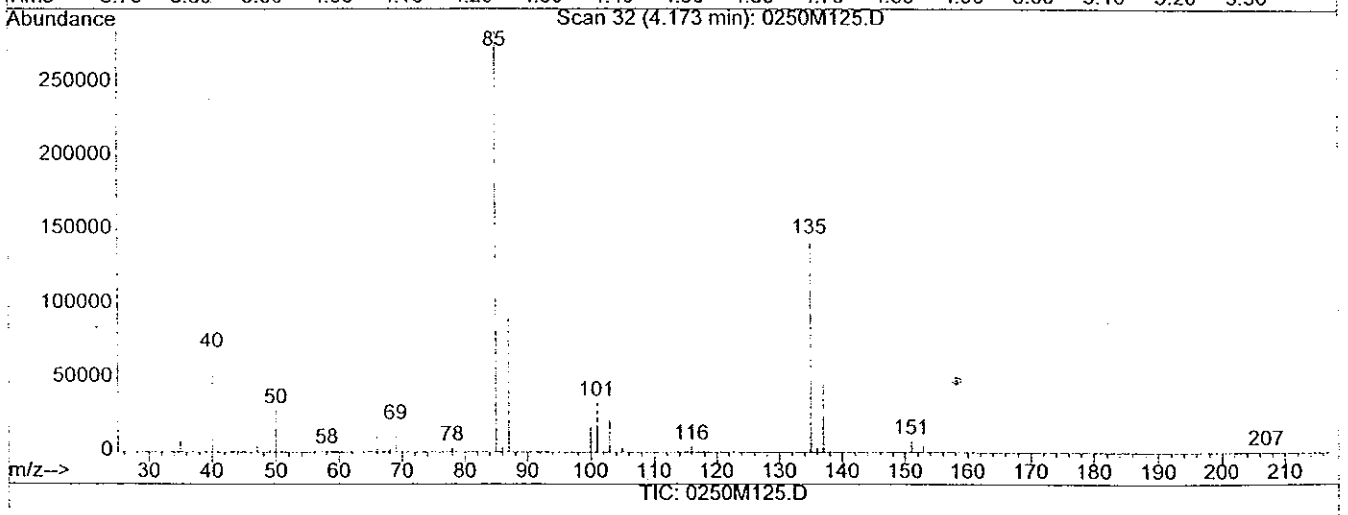
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



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

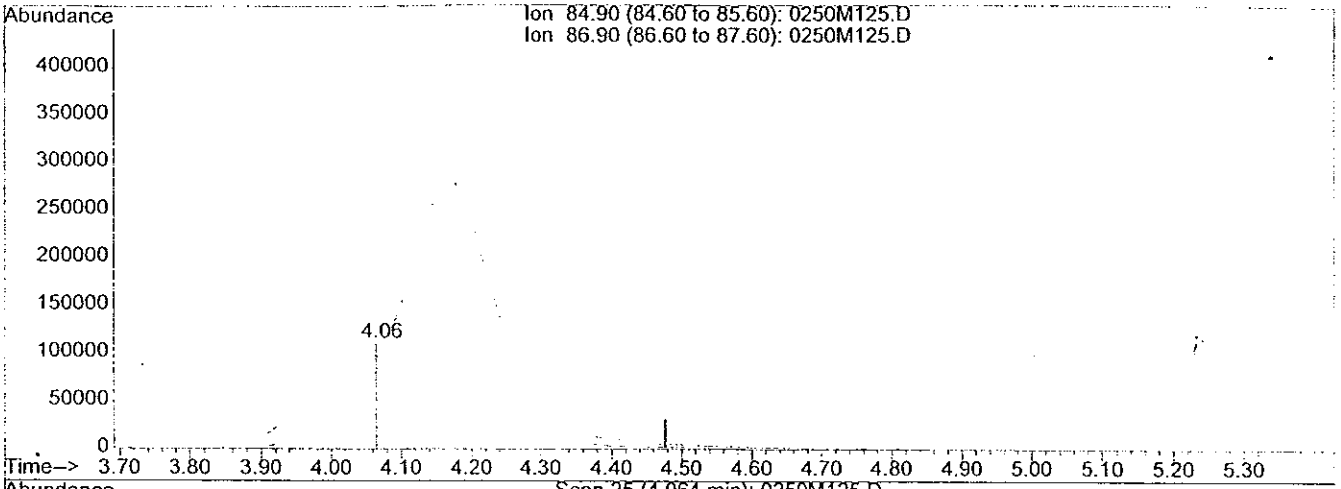
response 3299163

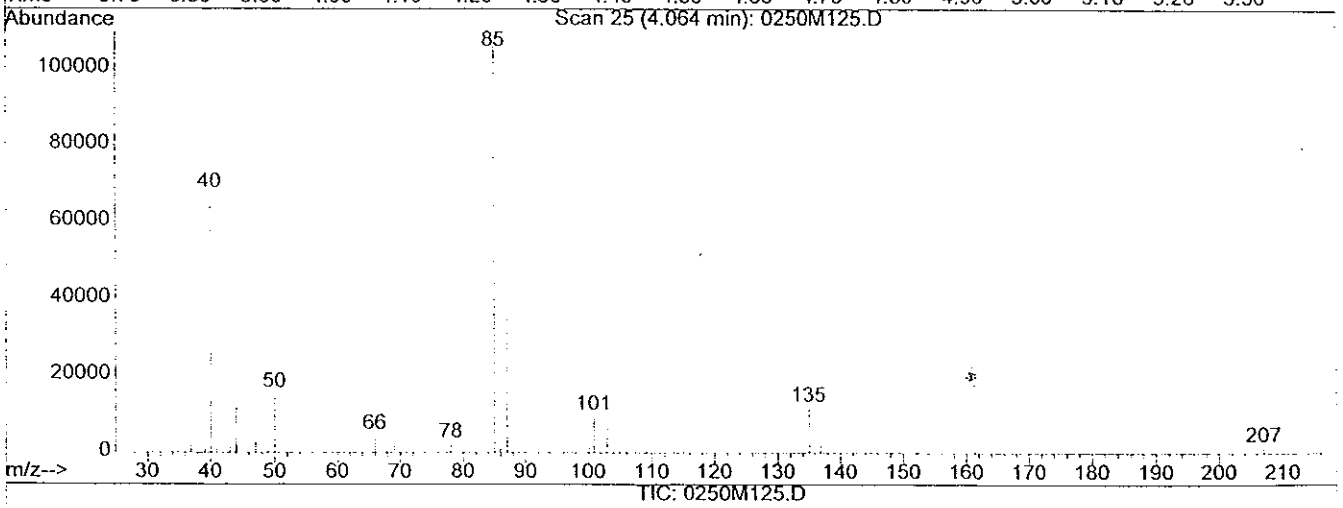
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

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

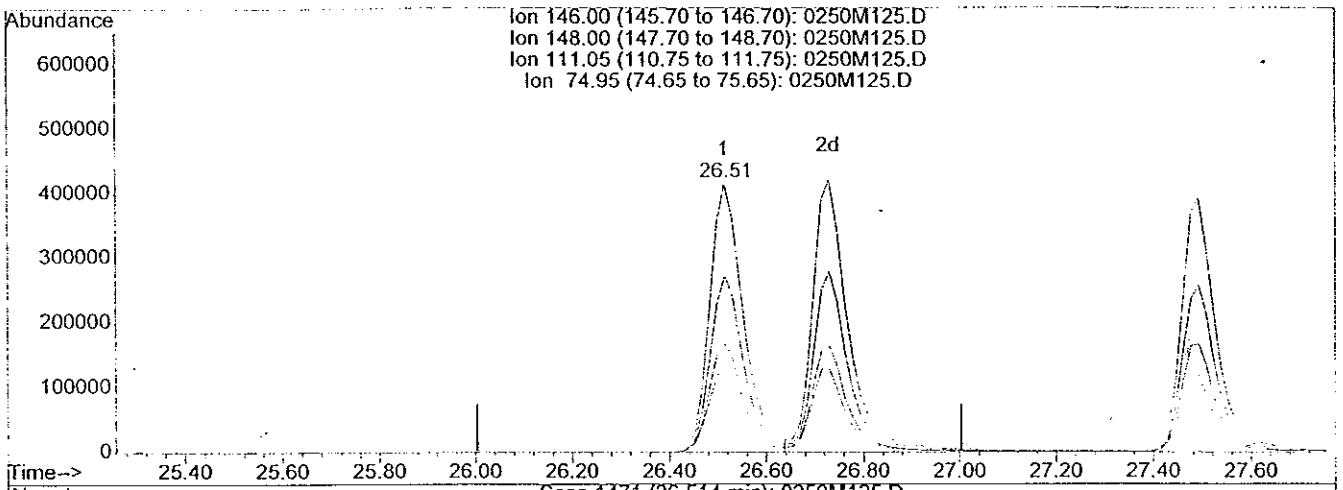
response 732577

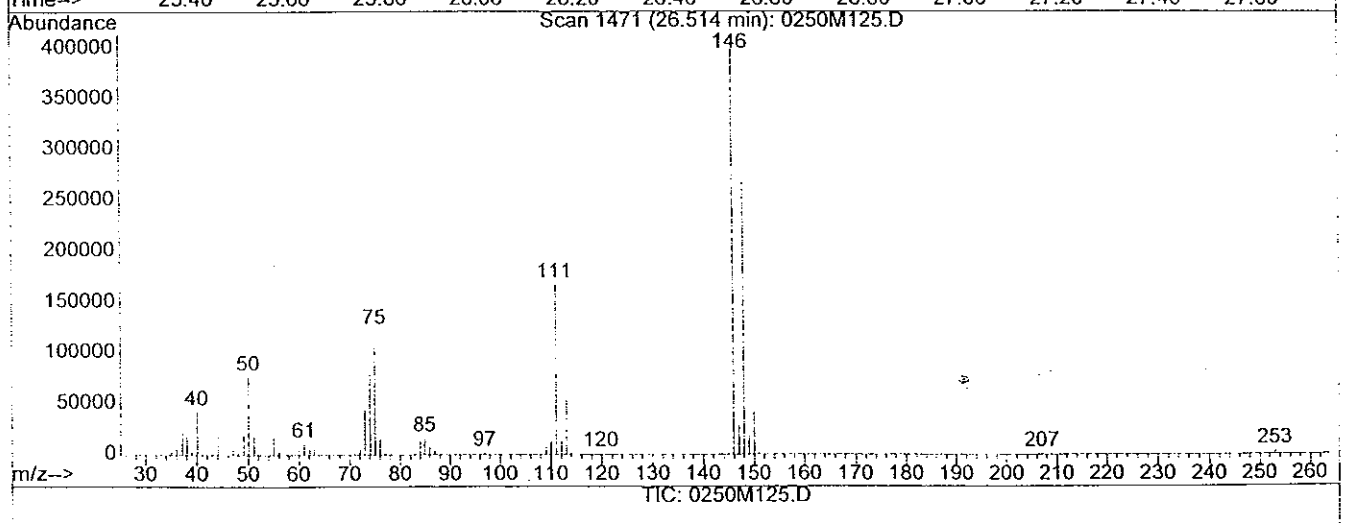
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

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

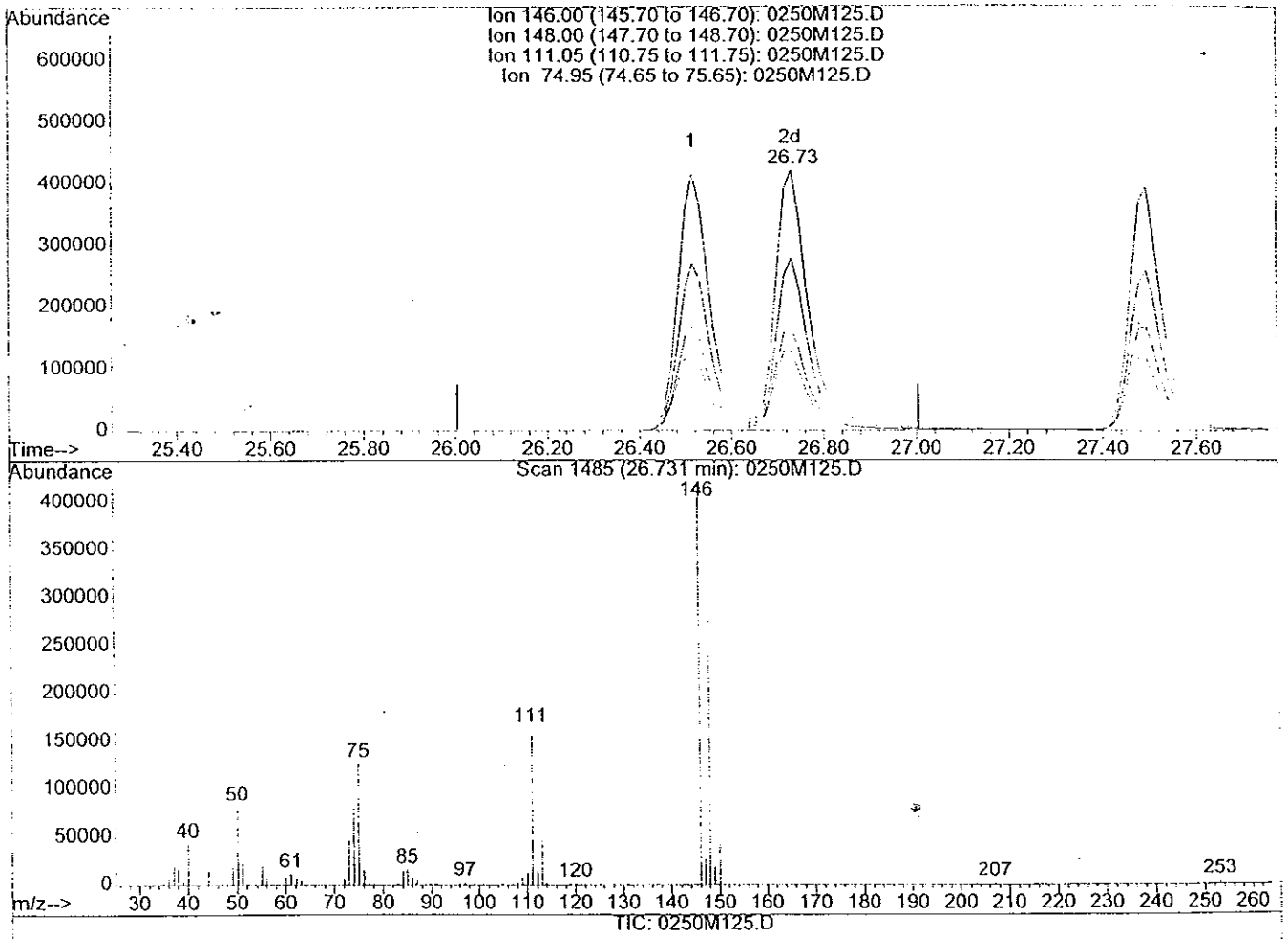
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

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

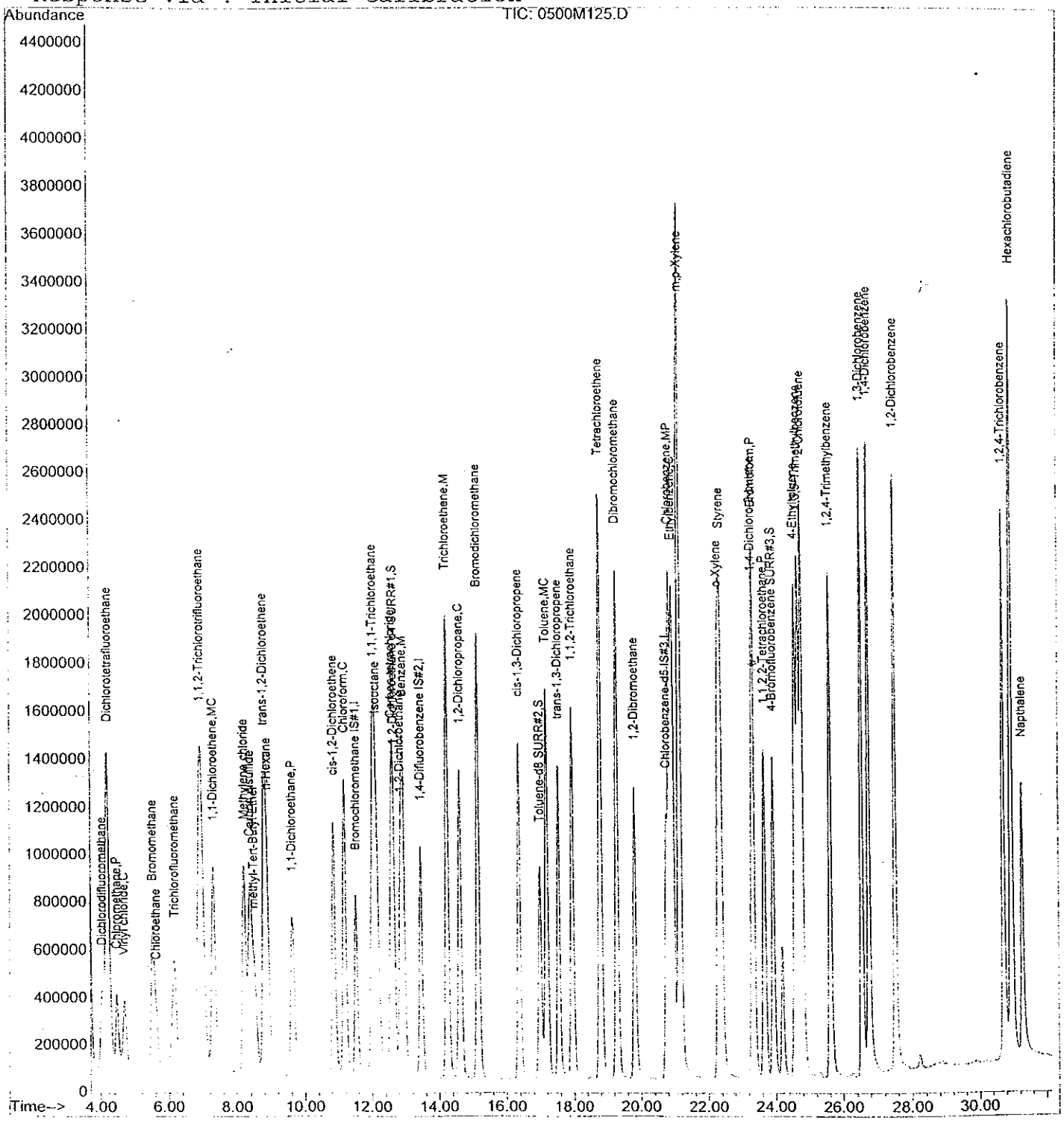
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

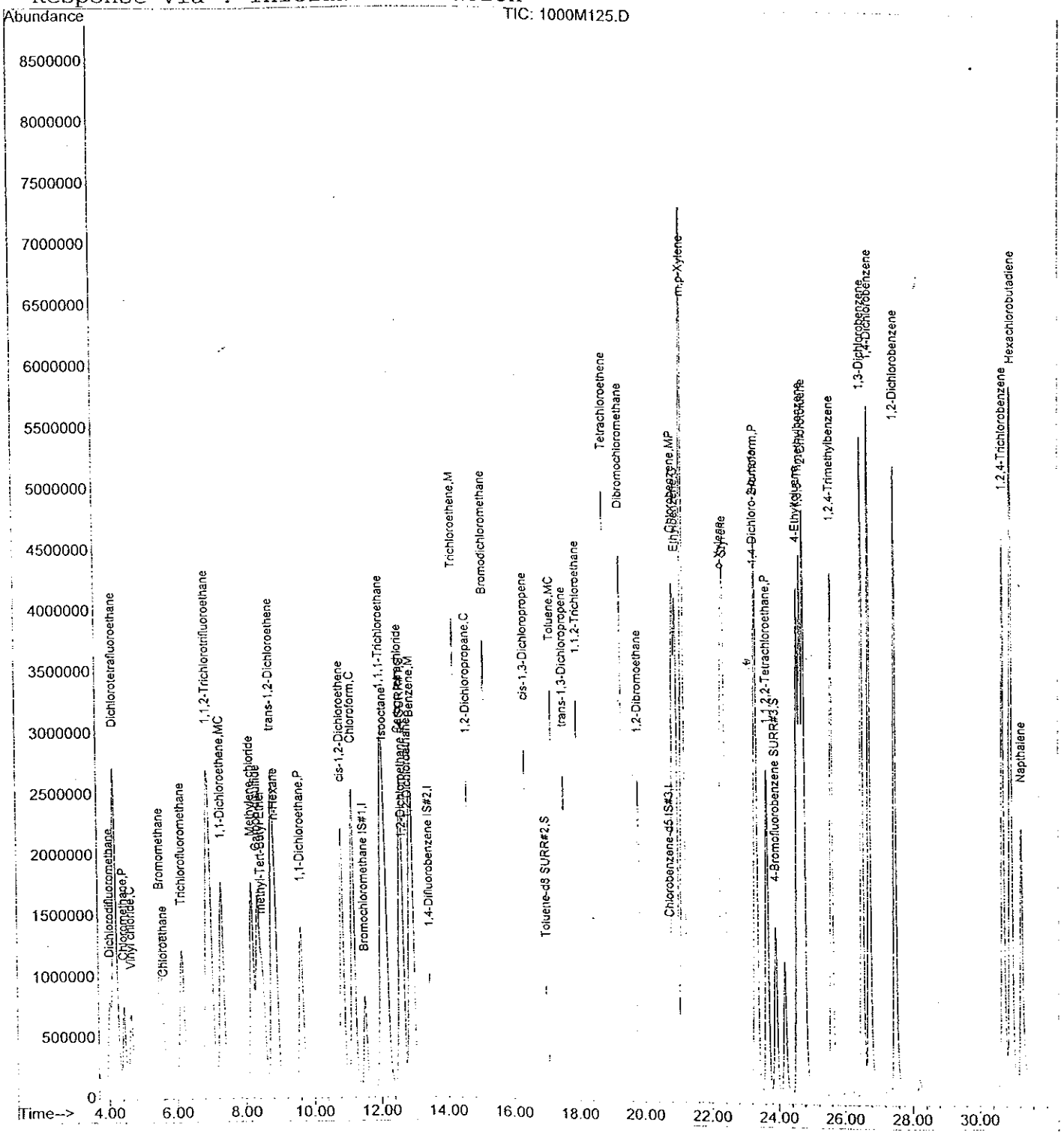
(#) = qualifier out of range (m) = manual integration

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

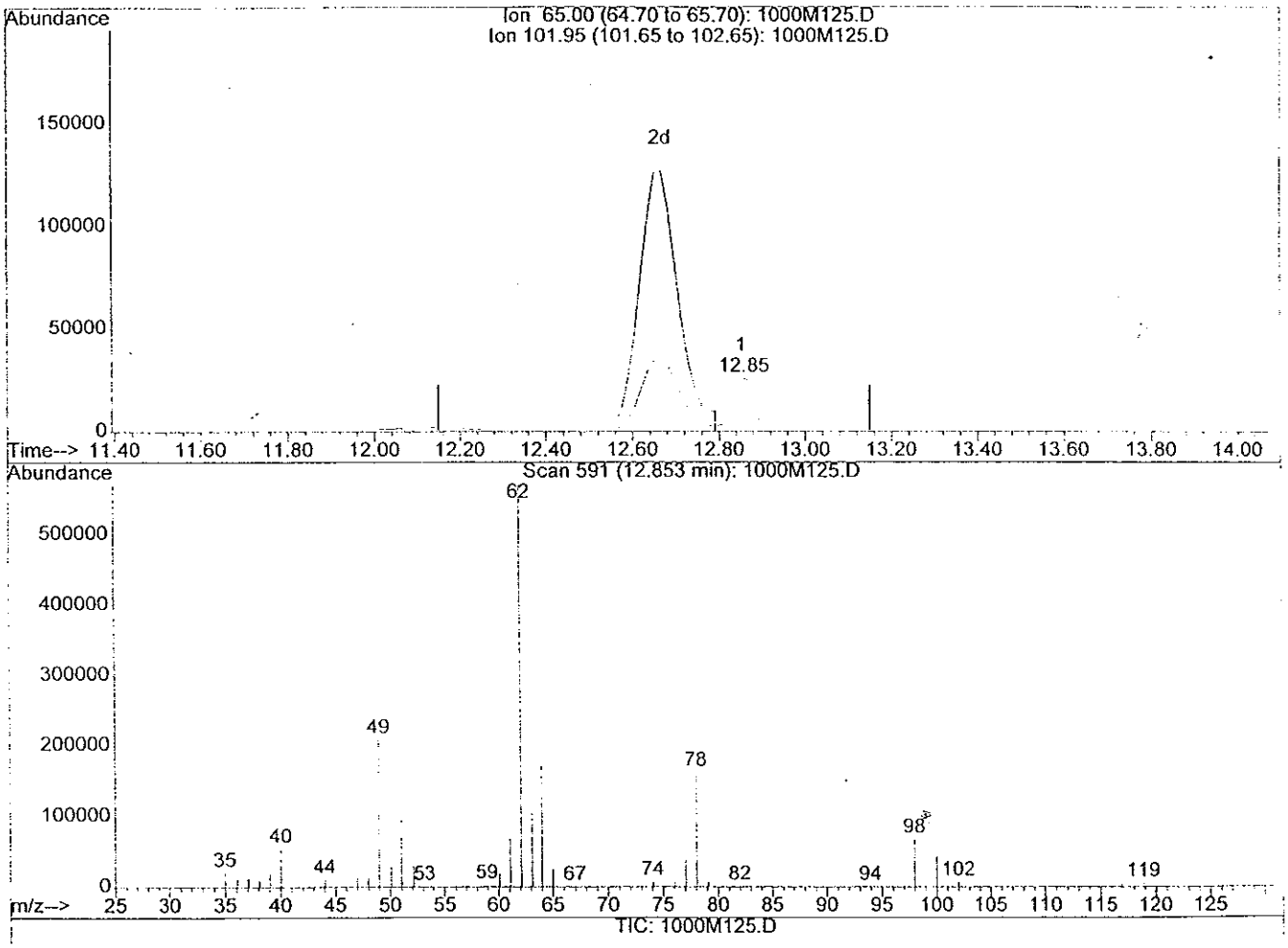
Quant Results File: TO14S.RES

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

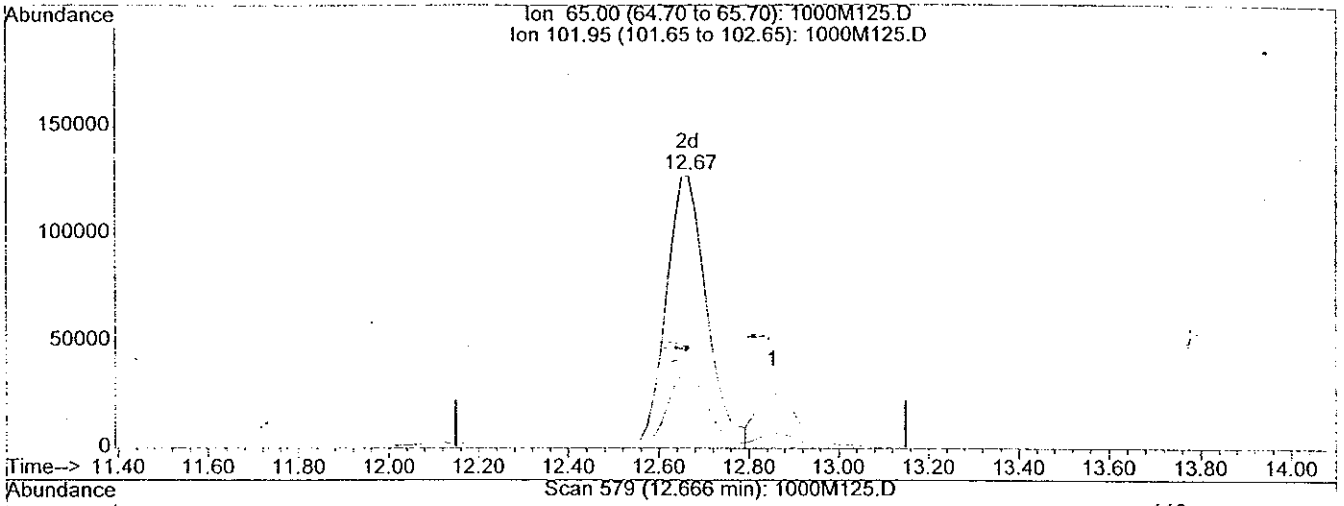
response 171340

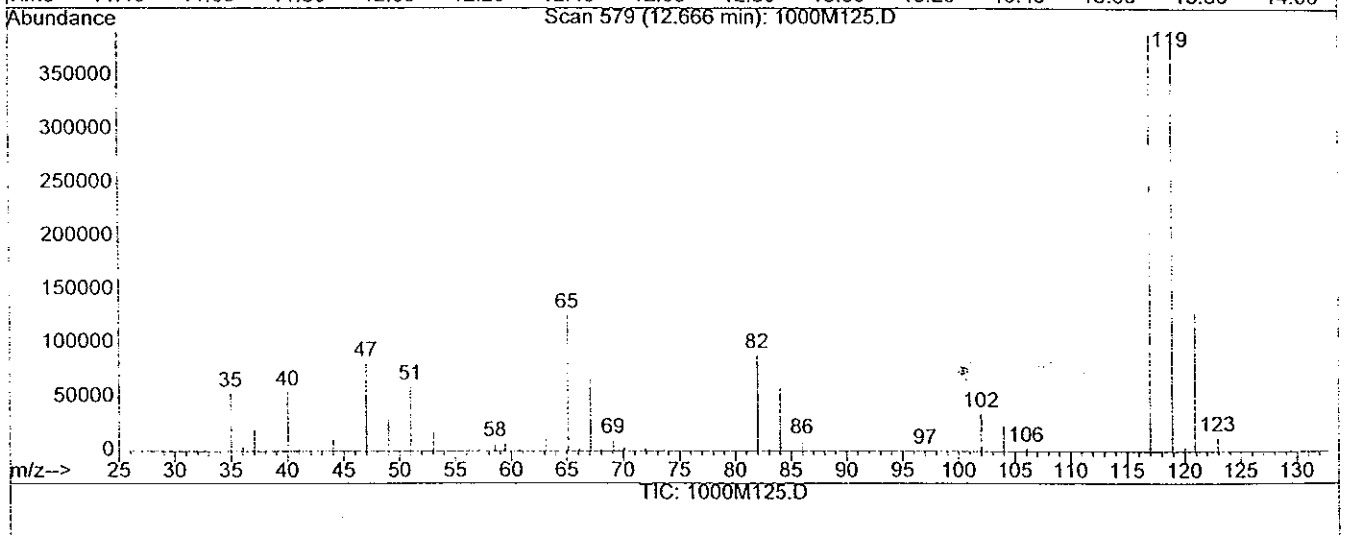
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

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

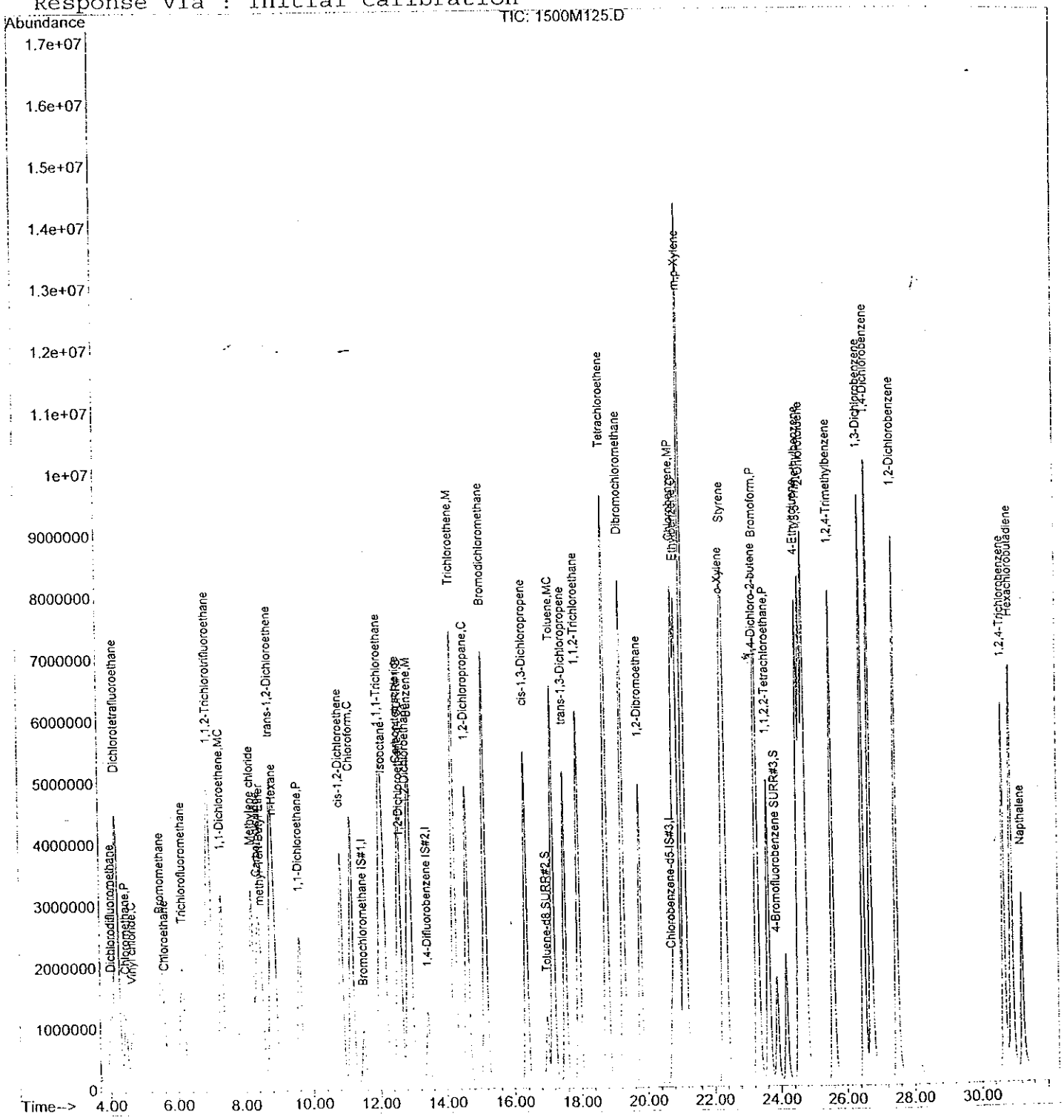
(#) = qualifier out of range (m) = manual integration

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				

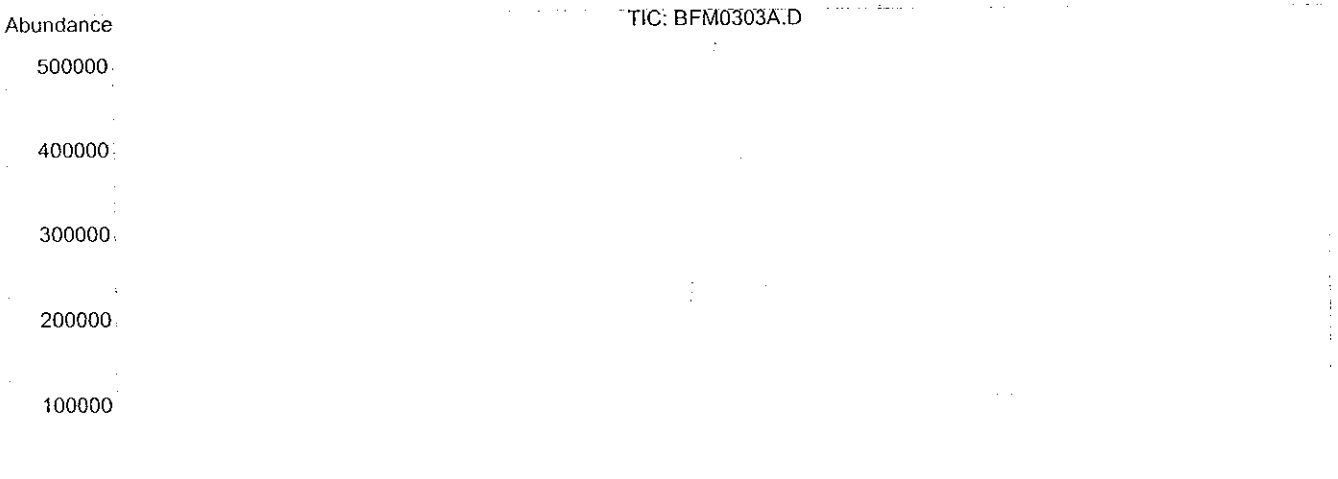
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

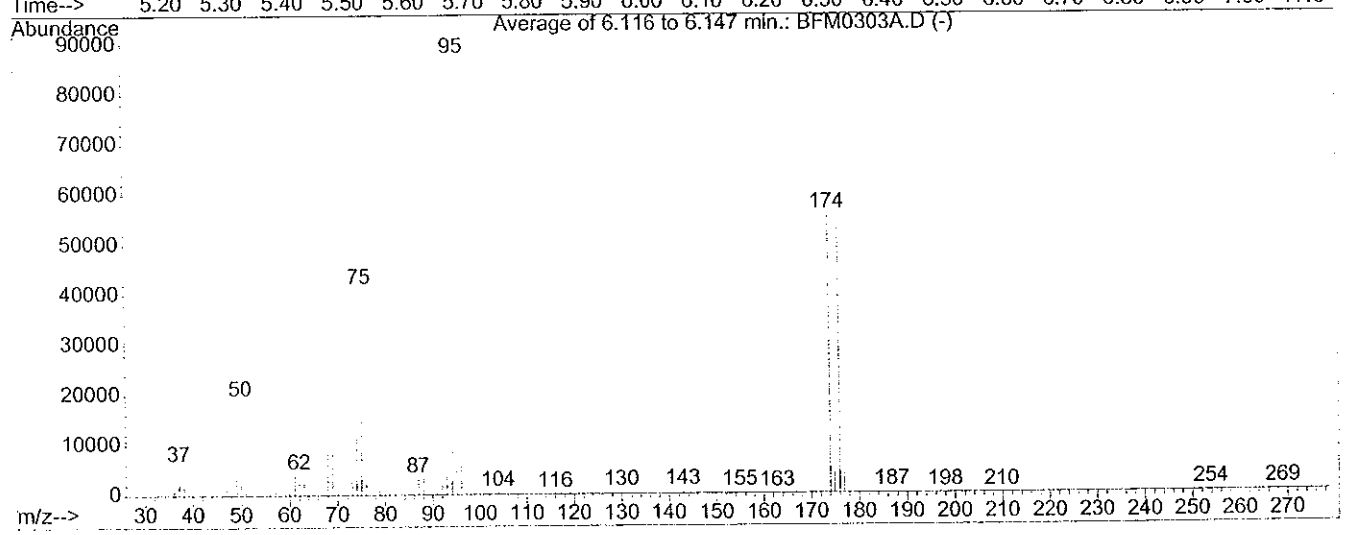
[illegible] automatically using the software and generic Forms II and VIII that are located in the daily folder

77
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

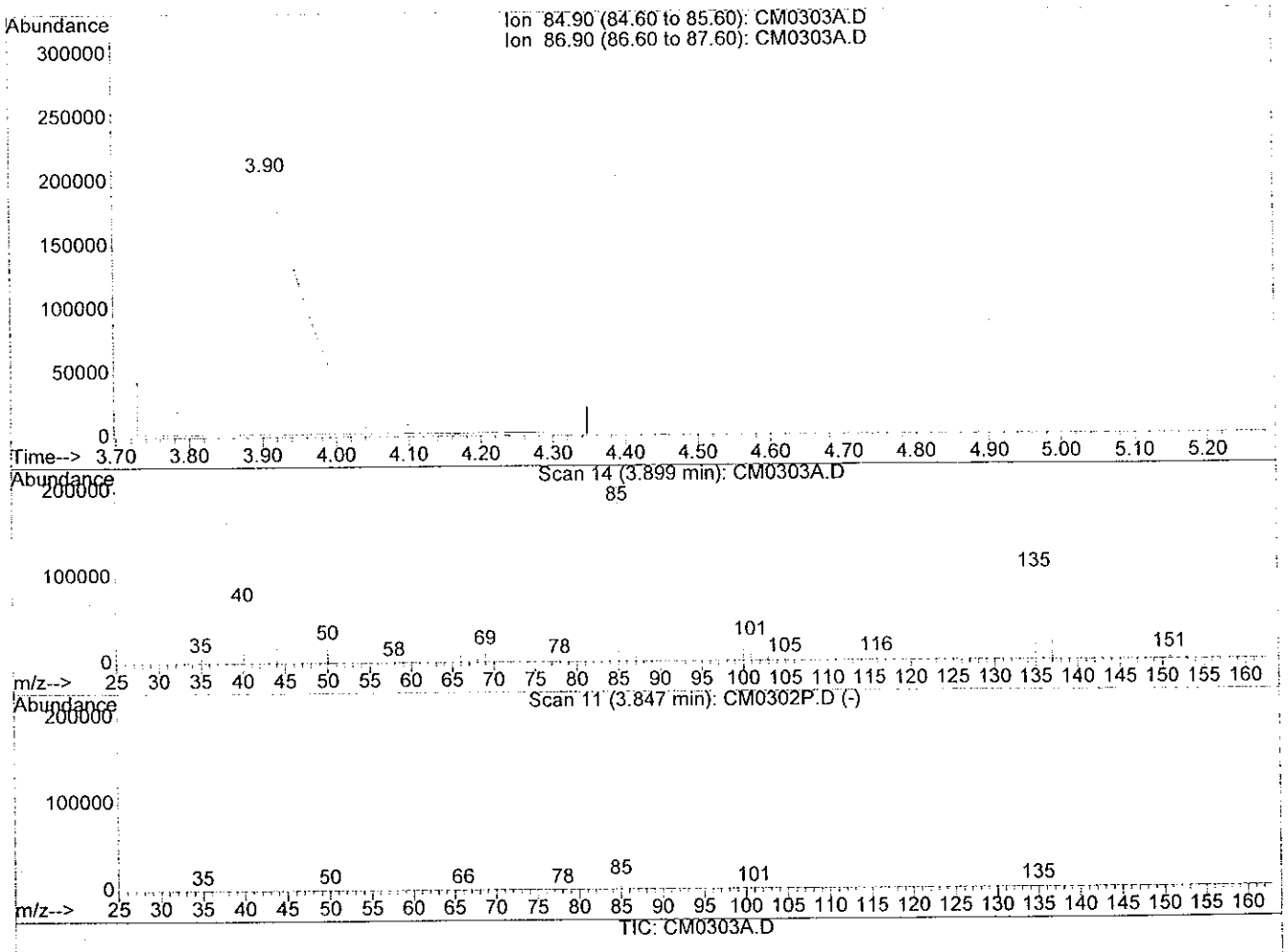
(#) = qualifier out of range (m) = manual integration

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)

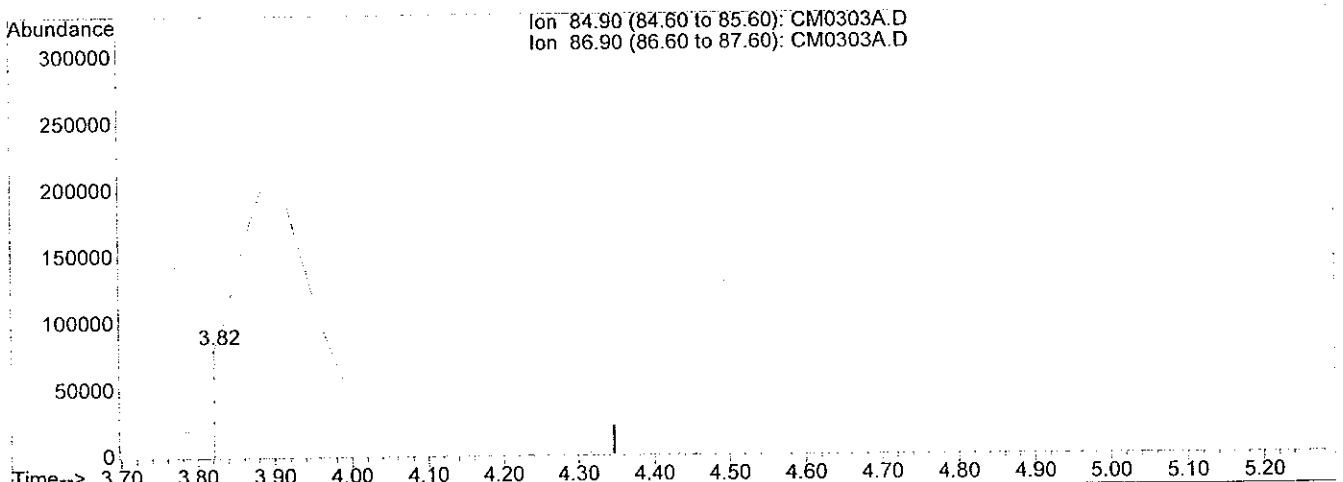
CM0303A.D TO14S.M Sun Mar 03 13:00:35 2002

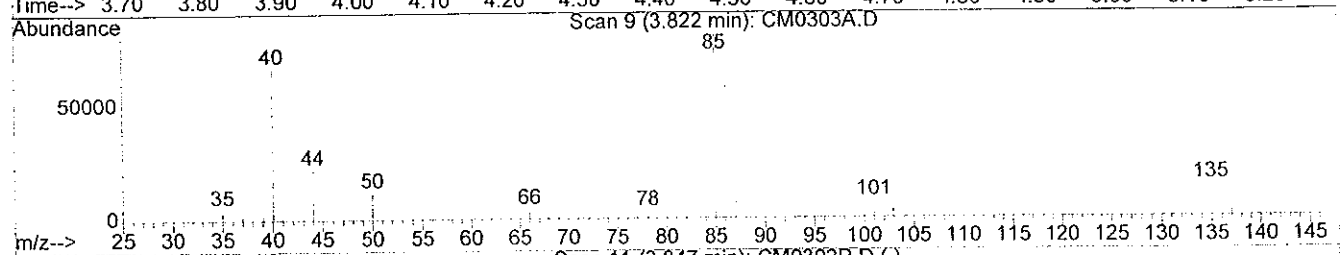
Quantitation Report (Qedit)

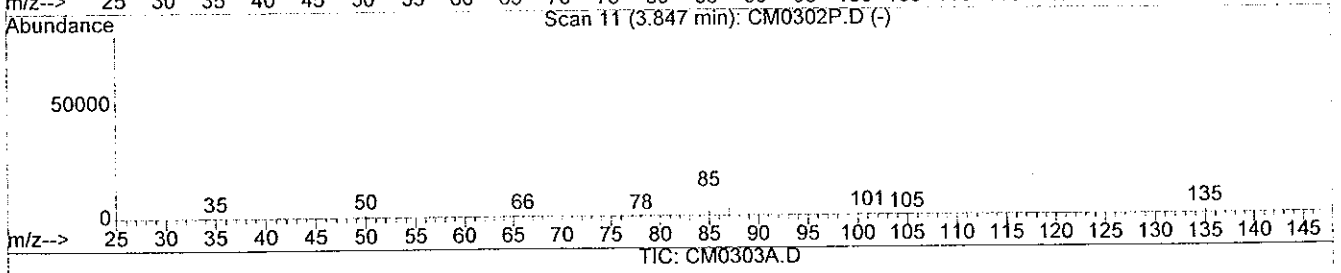
Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 13:00 2002

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

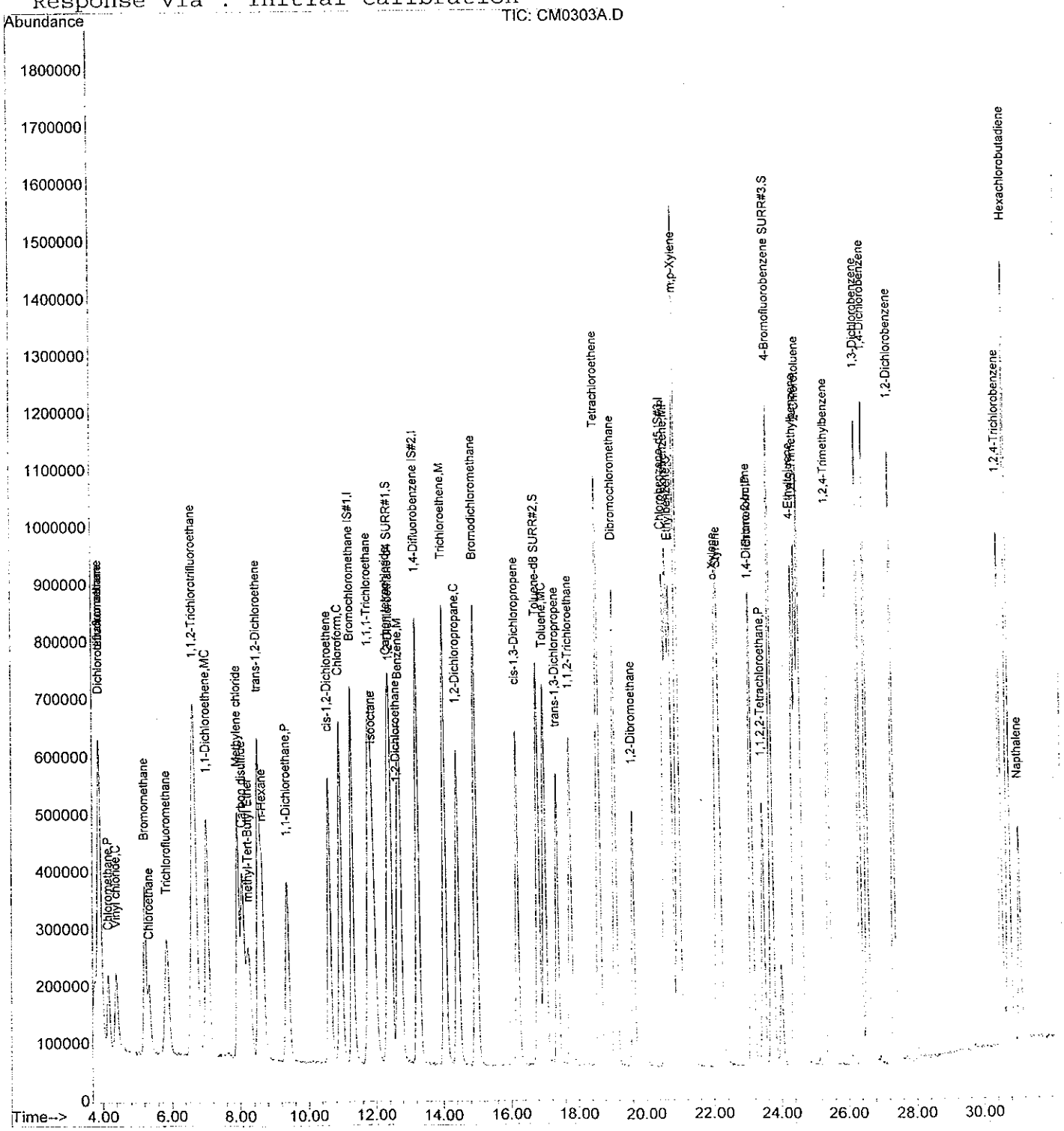
Quantitation Report

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%			

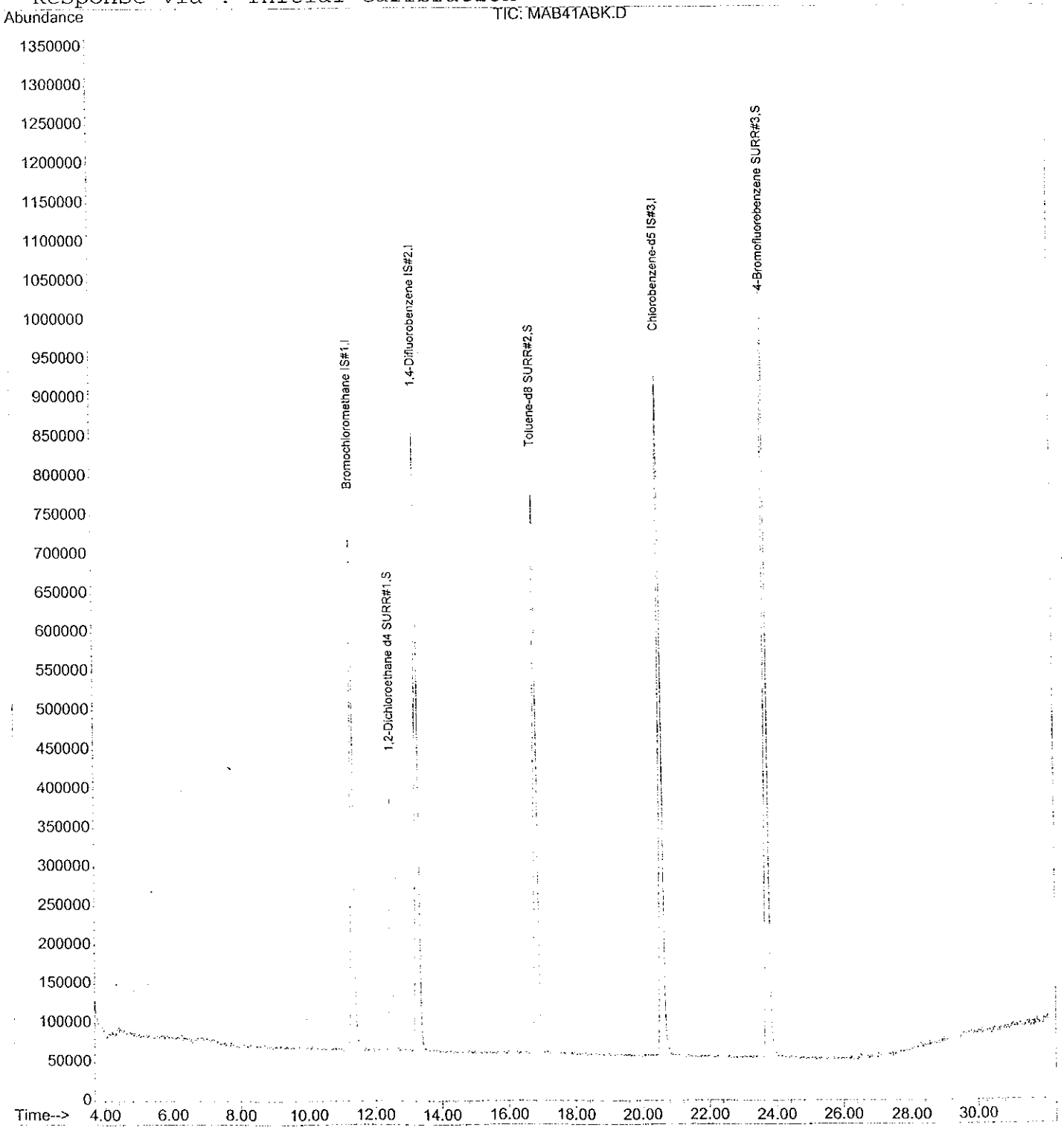
Target Compounds						Qvalue
4) Chloromethane	4.44	50	1985	1.20	ng	# 74
6) Bromomethane	5.21	94	954	0.38	ng	# 9
56) Napthalene NR/NSF	31.05	128	5822	17.59	ng	# 64

(#) = 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

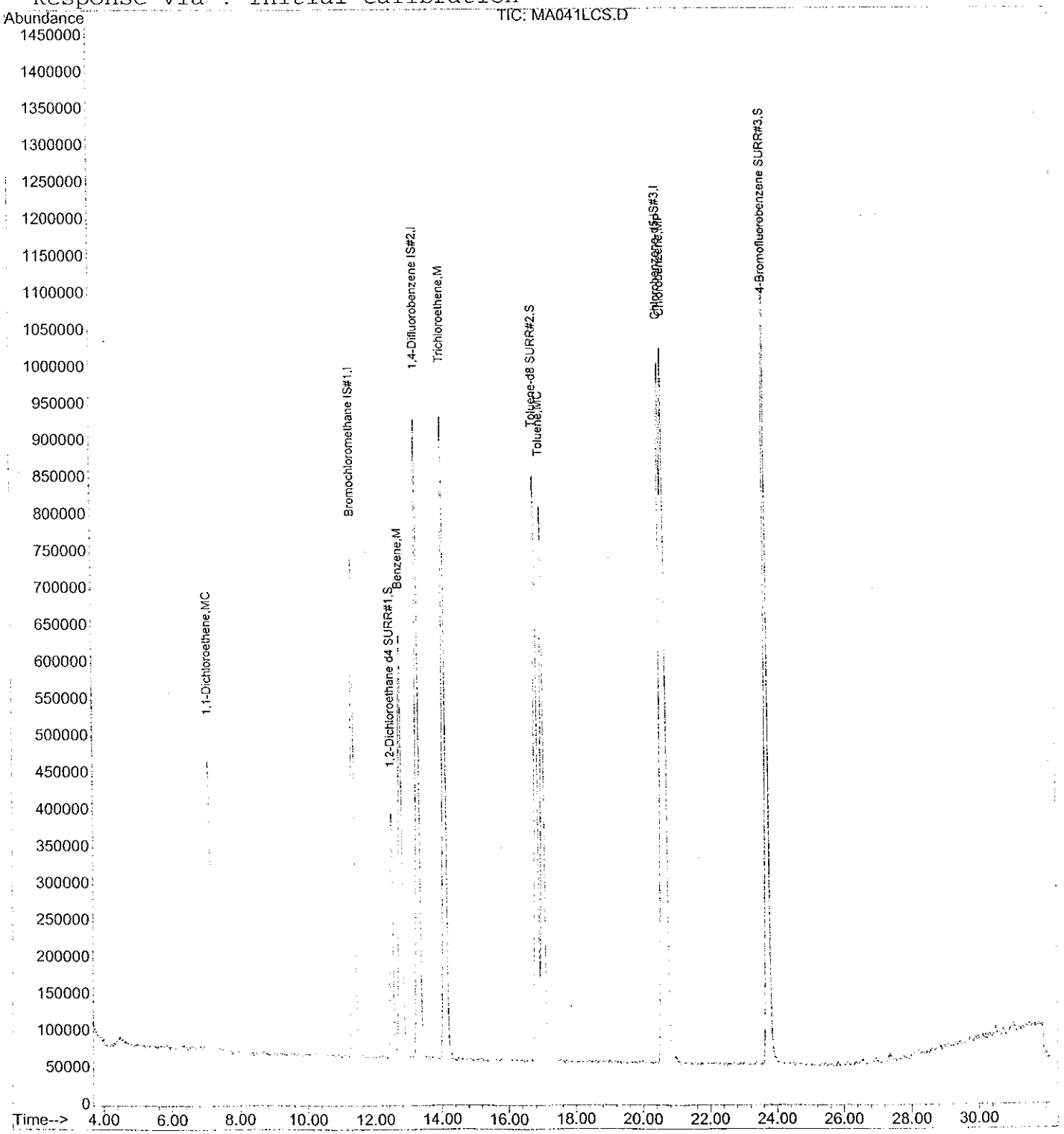
						Qvalue
4) Chloromethane	4.42	50	4177	2.41	ng	# 77
6) Bromomethane	5.23	94	1048	0.40	ng	# 9
10) 1,1-Dichloroethene	7.08	96	582367	248.84	ng	95
13) Carbon disulfide	8.15	76	1080	0.17	ng	# 1
16) n-Hexane	8.71	57	1995	0.83	ng	# 85
24) 1,2-Dichloroethane	12.78	62	15603	5.37	ng	# 49
27) Benzene	12.78	78	1730003	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

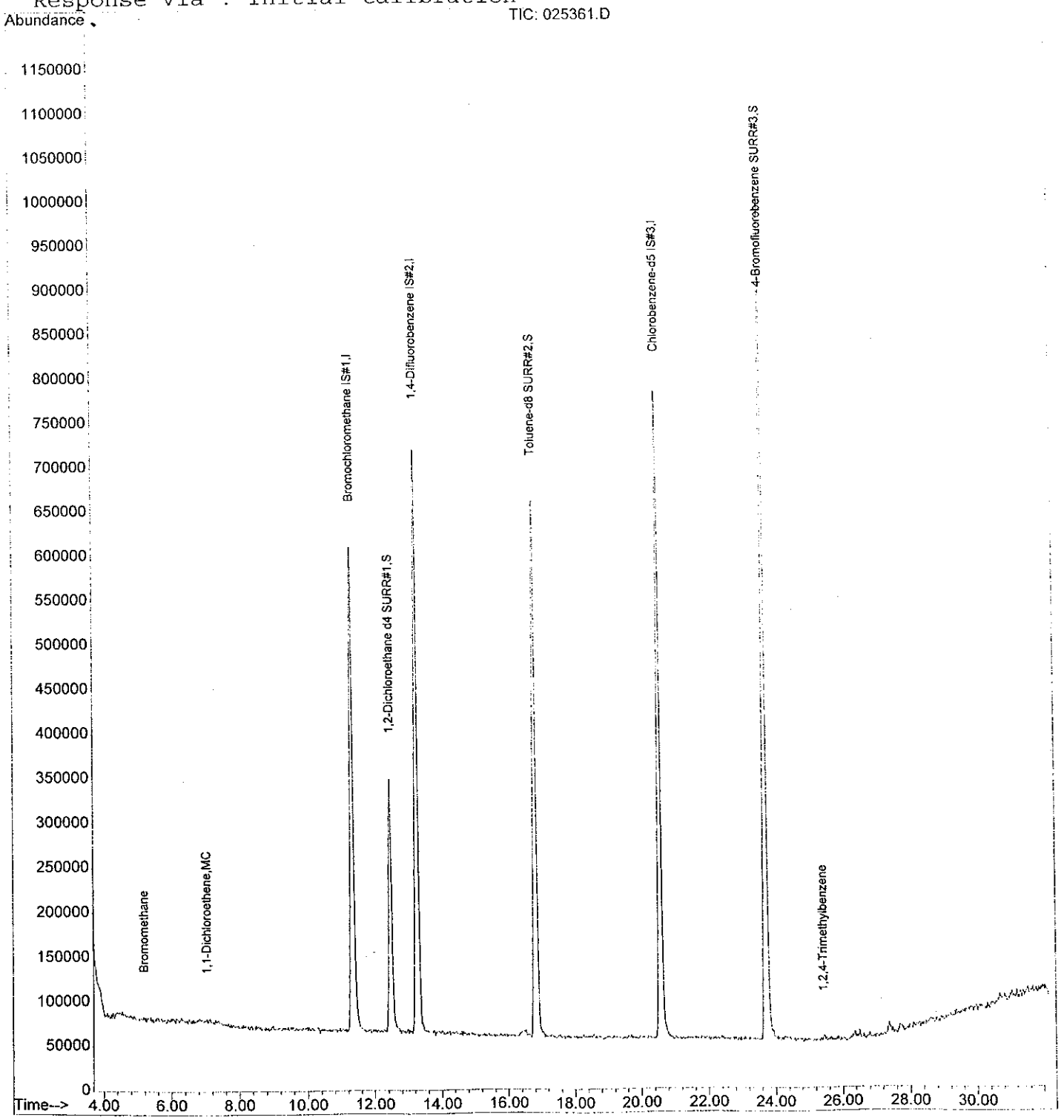
(#) = qualifier out of range (m) = manual integration
025361.D TO14S.M Sun Mar 03 13:41:31 2002

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 -	
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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	# 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
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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

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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: 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 ###

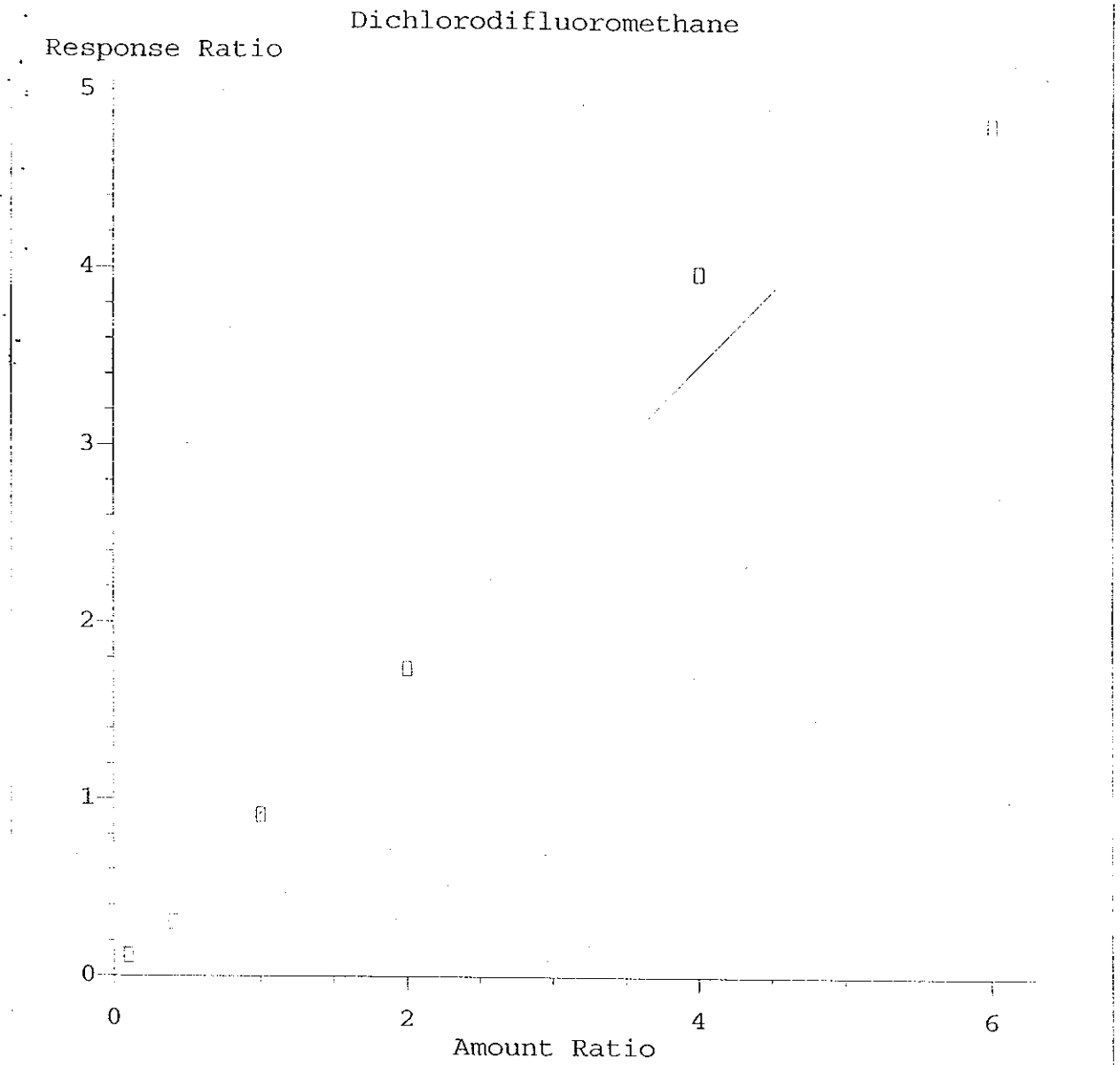
Response Factor Report MARILYN

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		

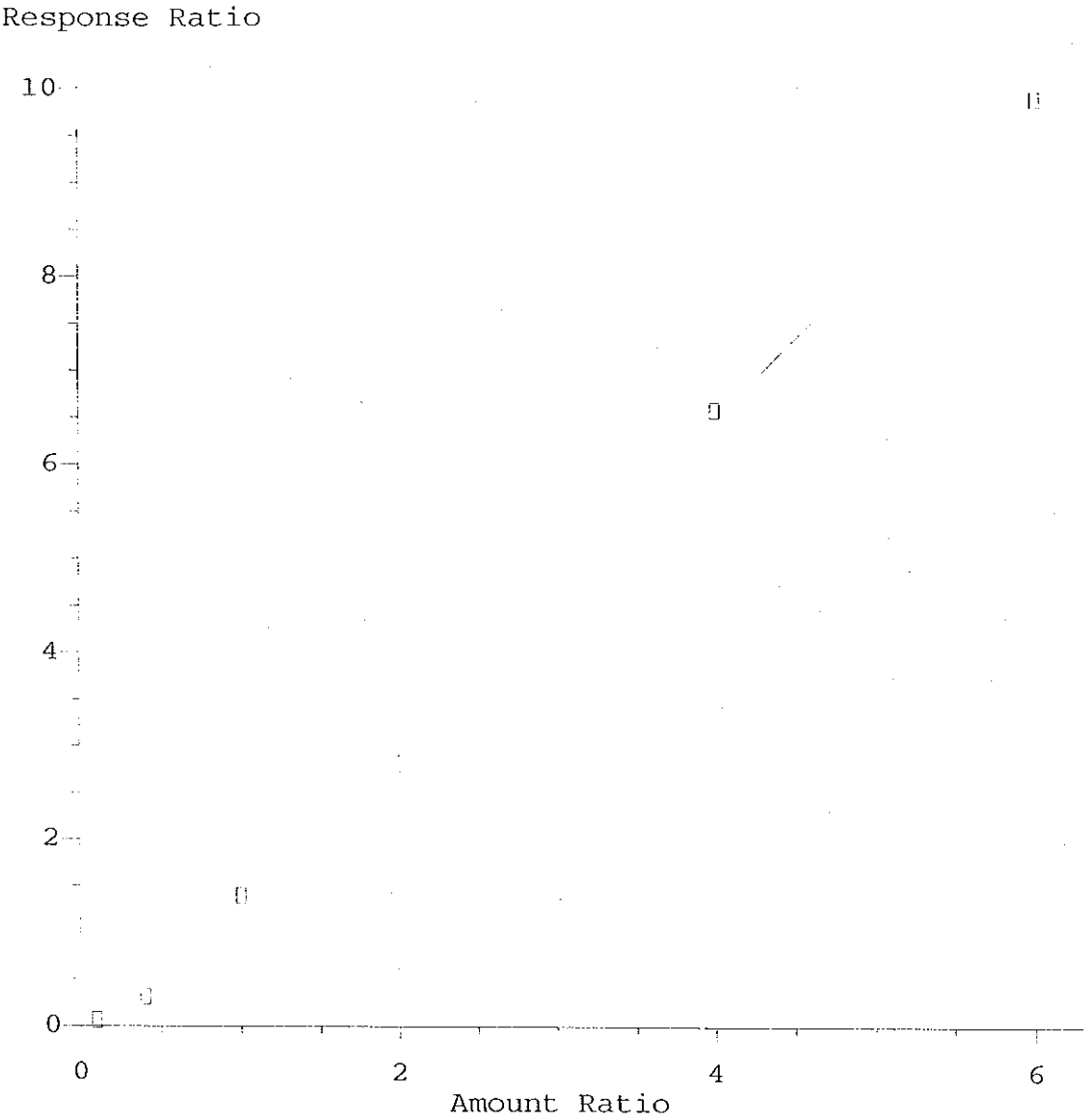
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Mon Mar 25 22:55:07 2002



Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

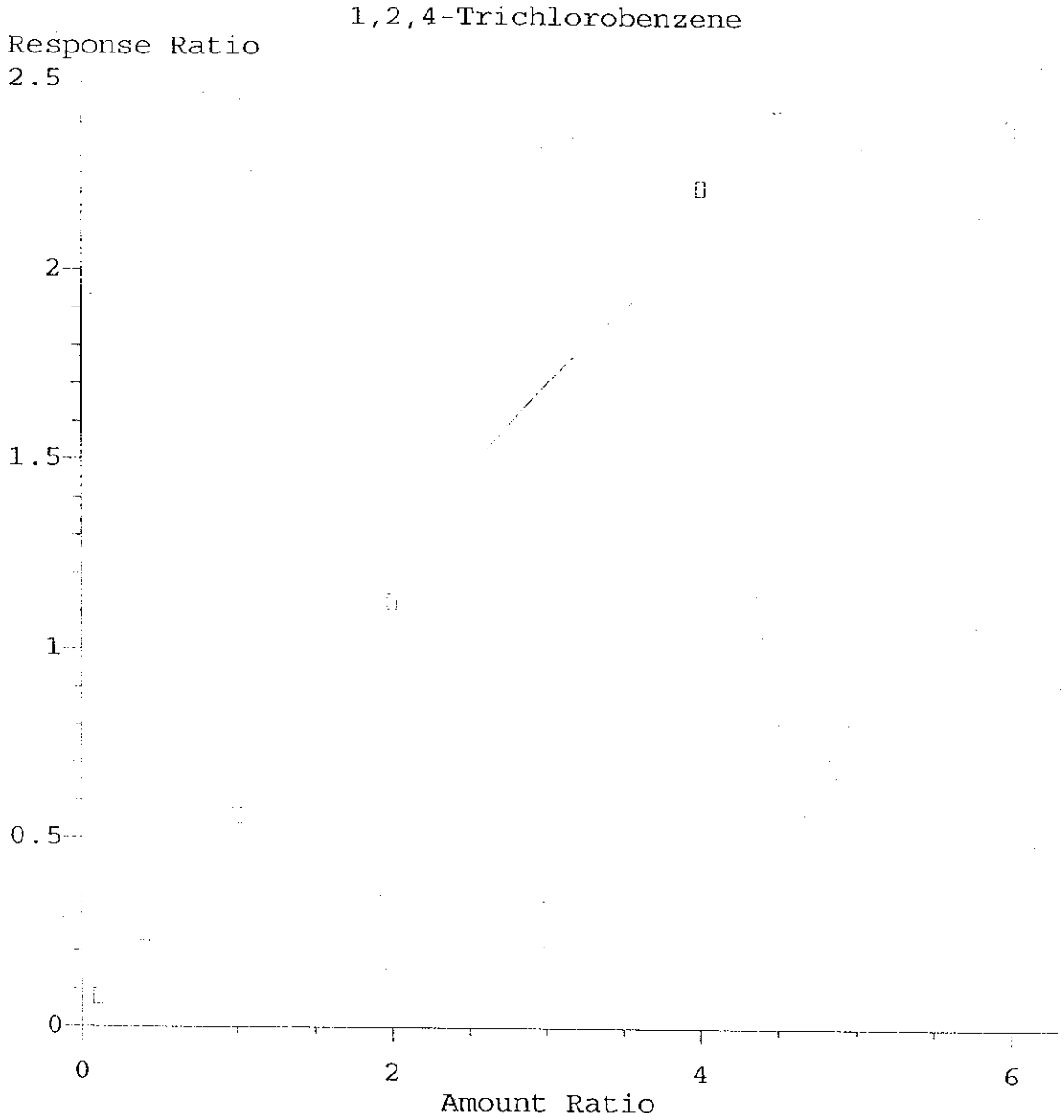
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002

Trichlorofluoromethane



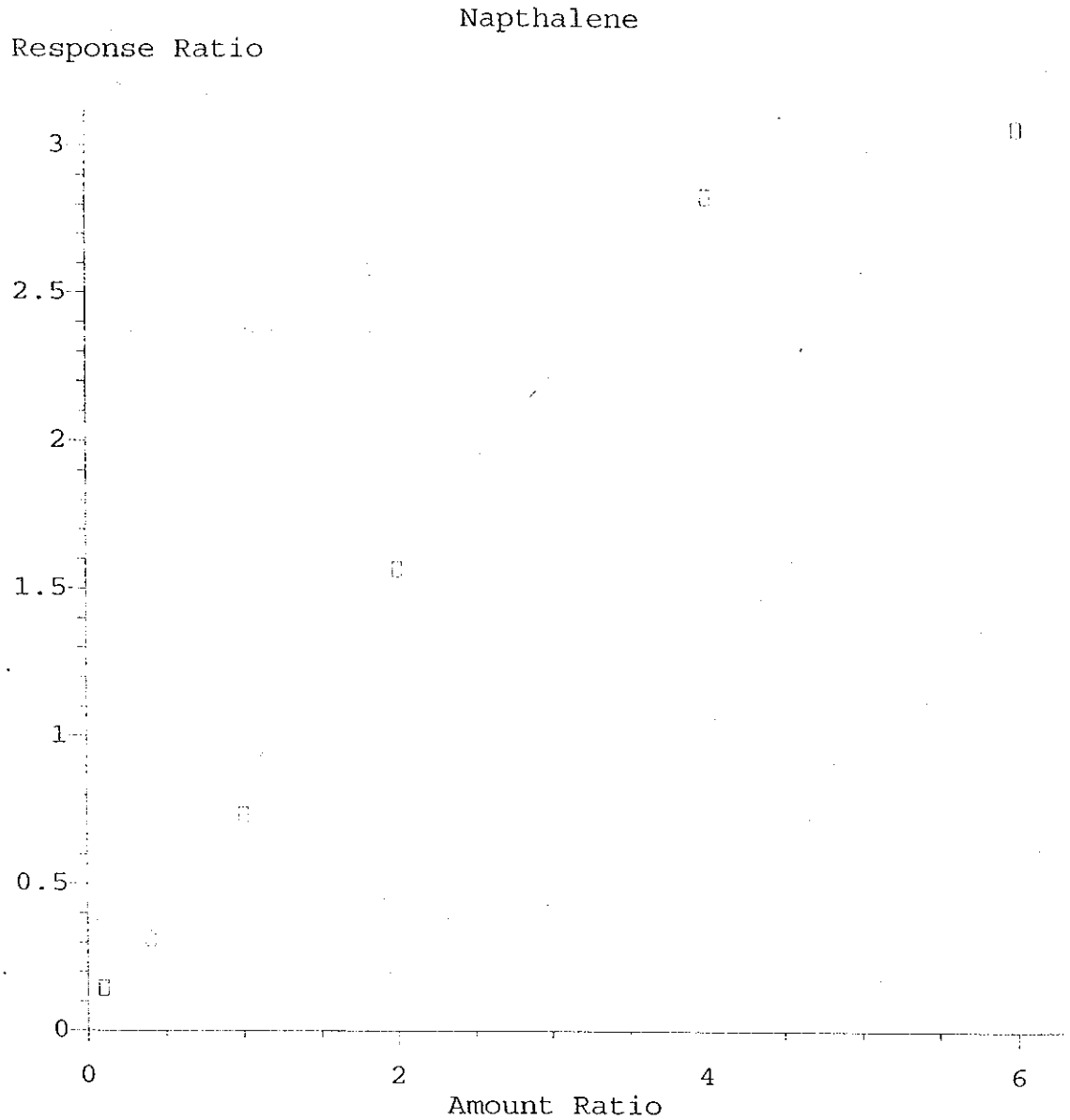
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



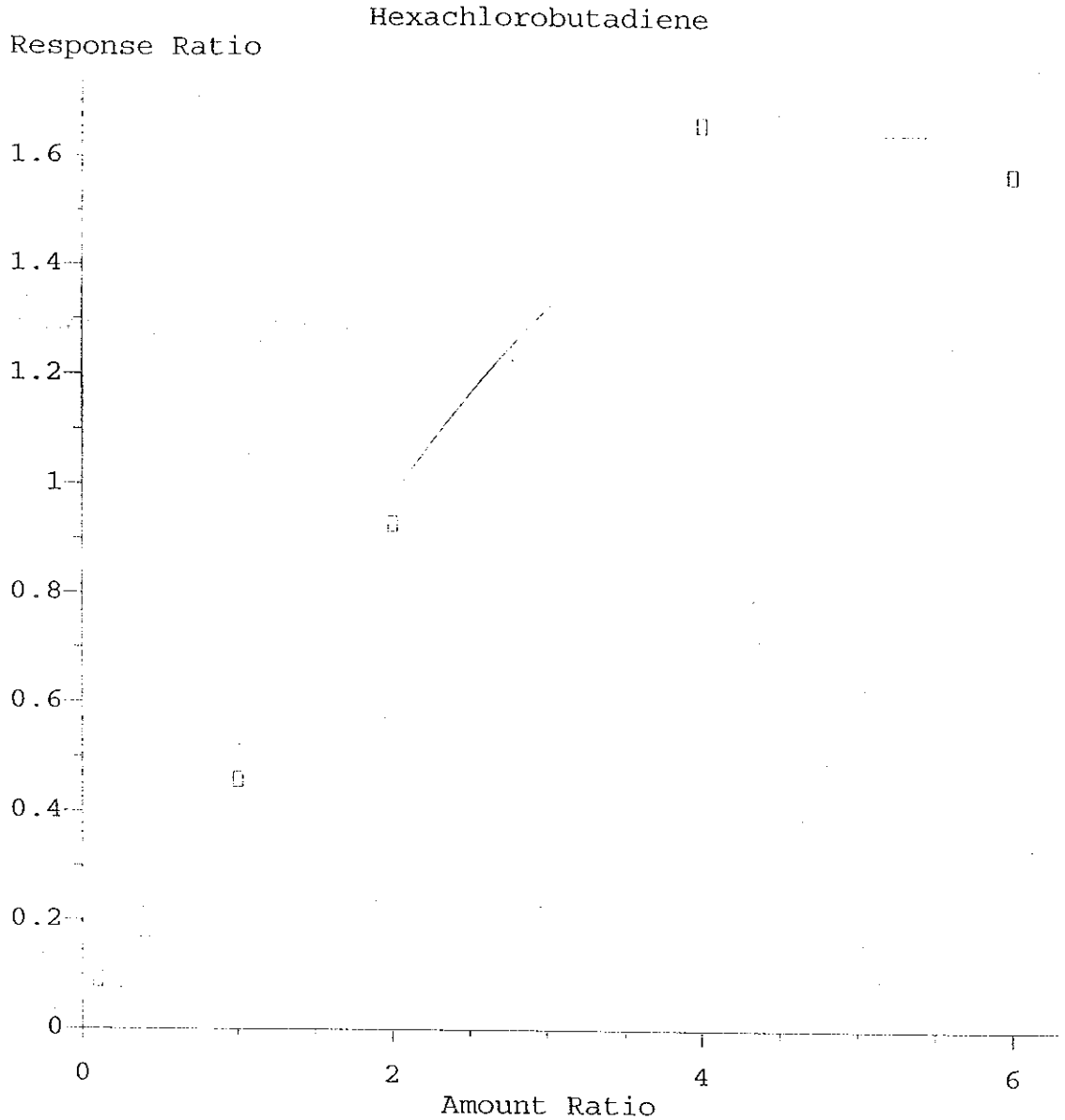
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

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.

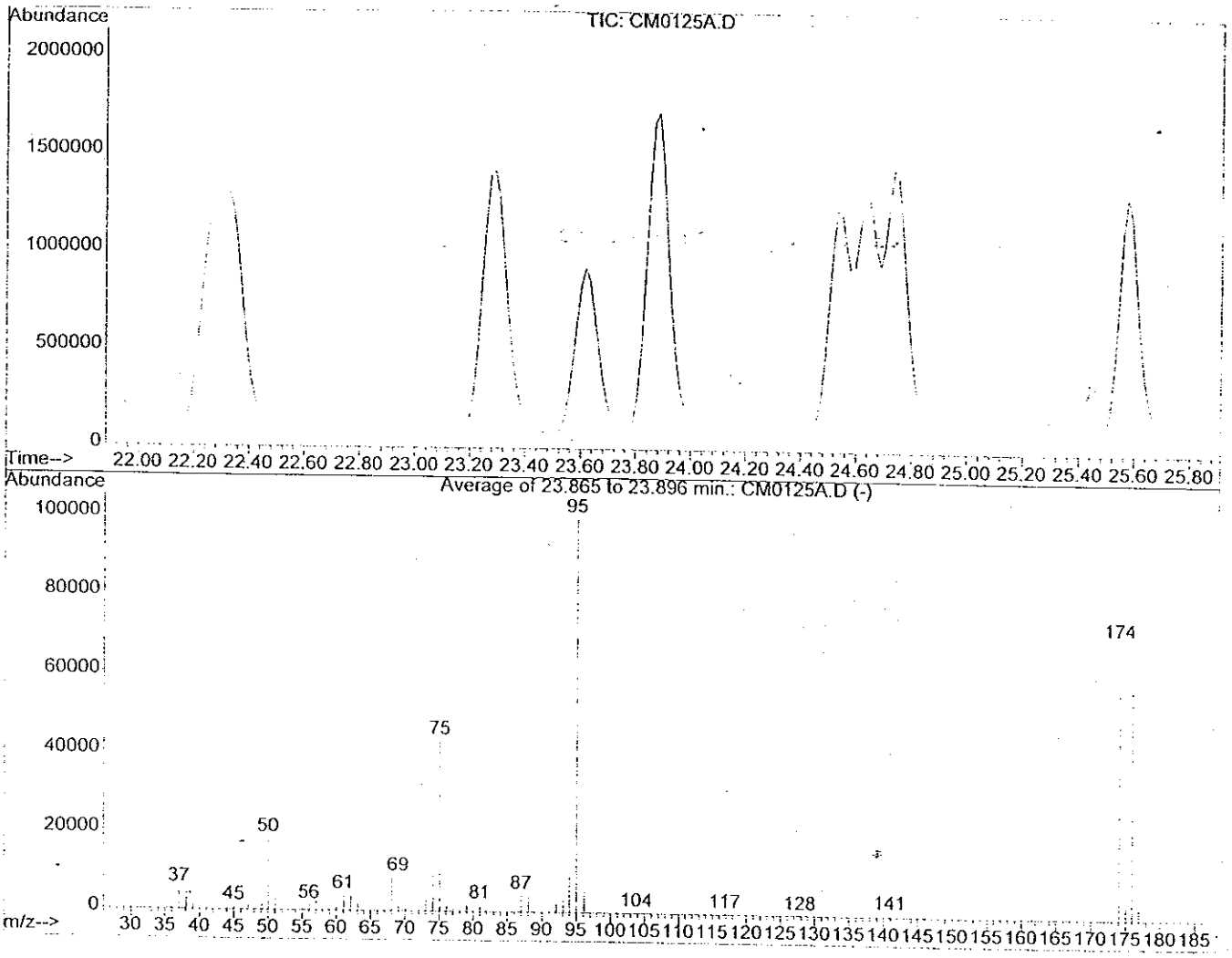
36
STL Pensacola
CECIL FIELD, CTO-0062
80

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

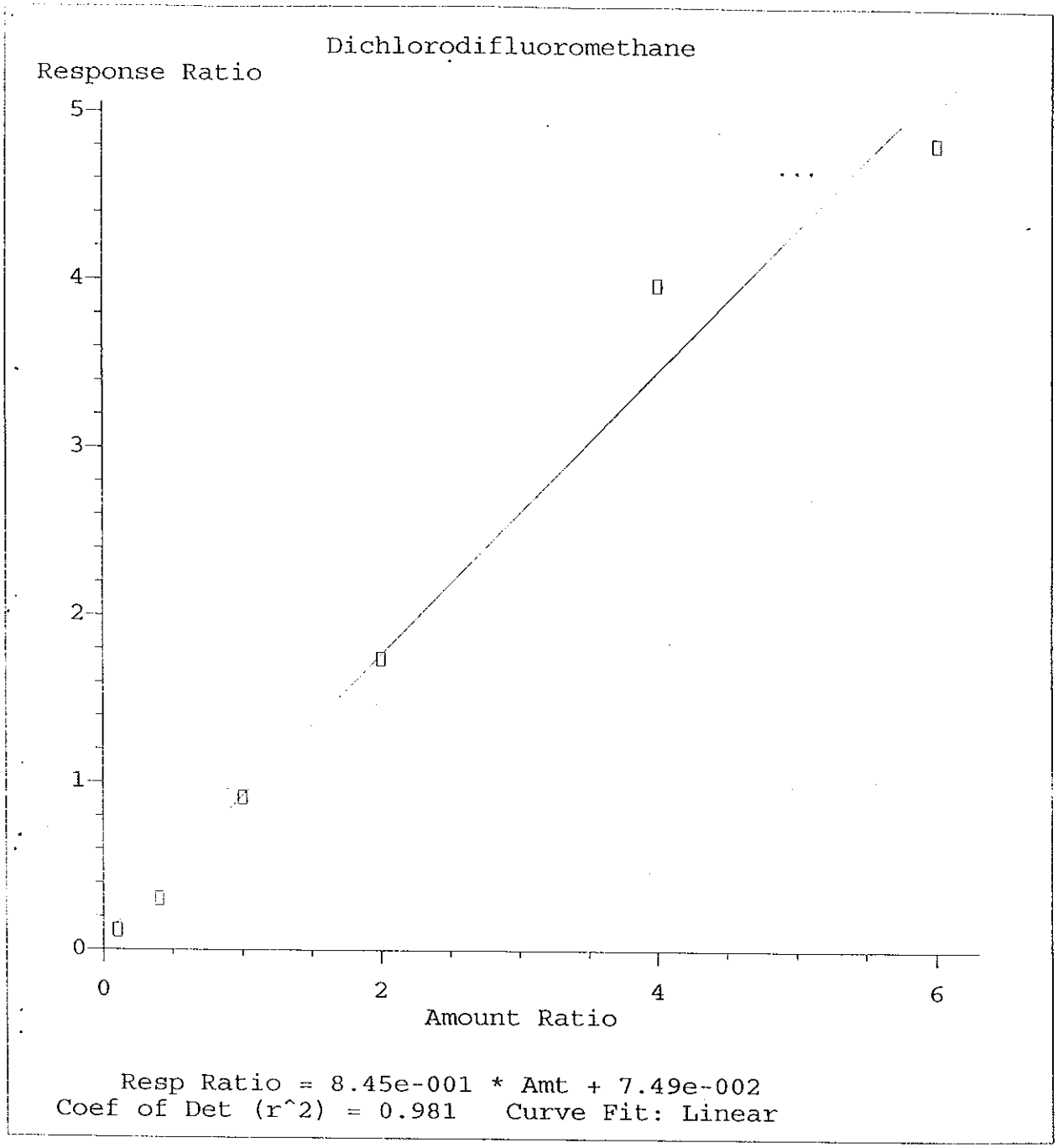
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 19:00:50 2002
Response via : Initial Calibration

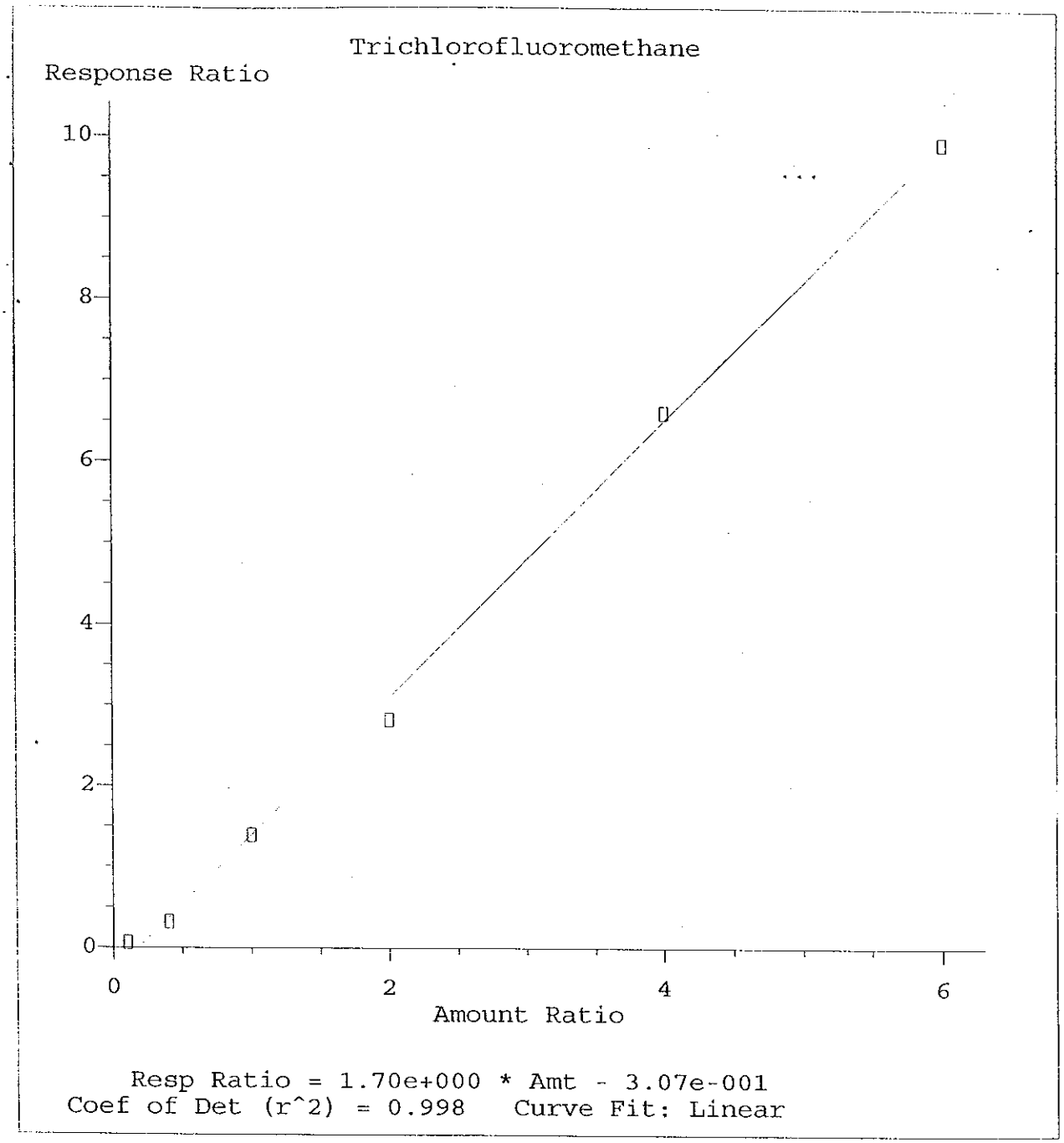
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		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		

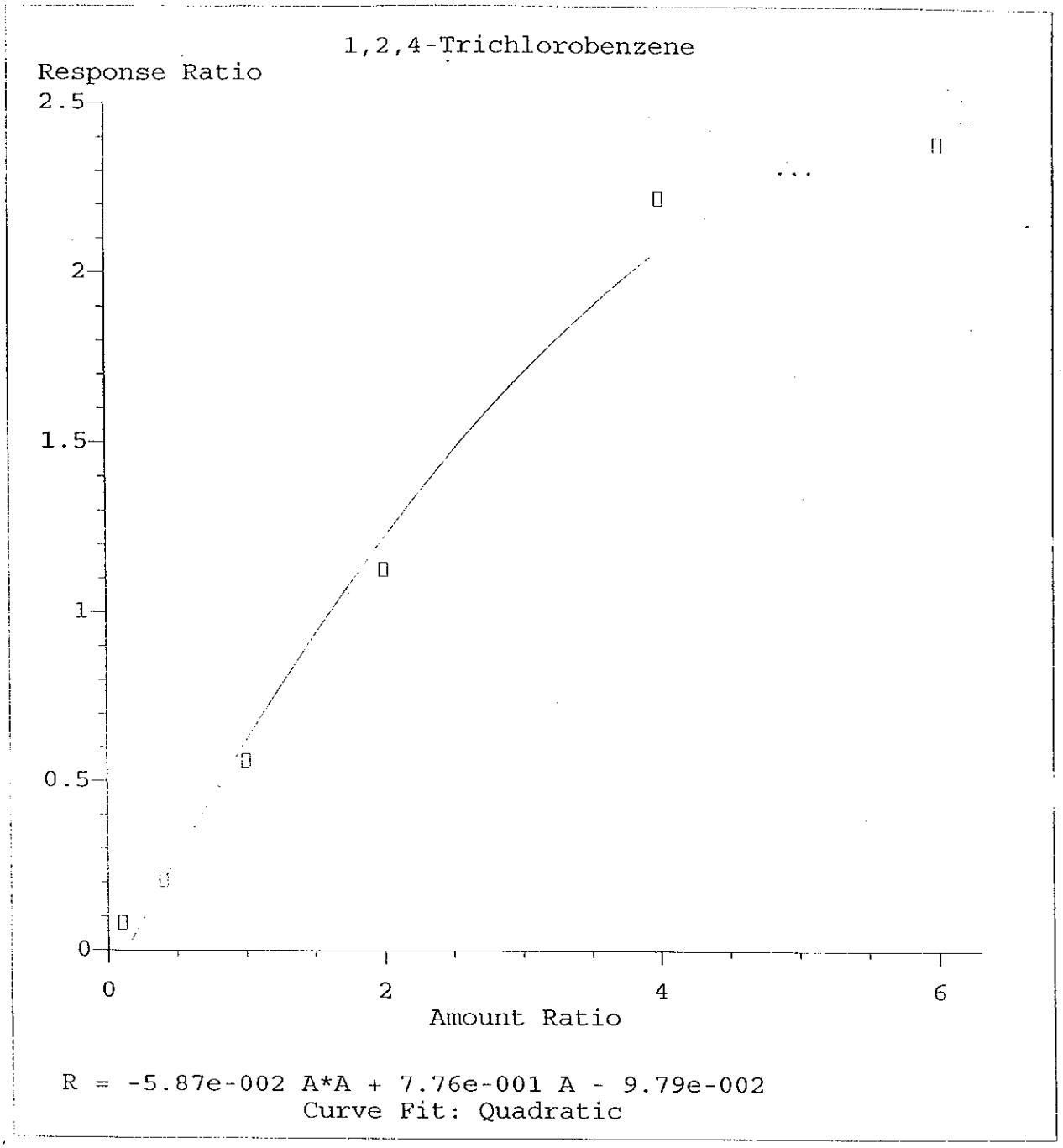
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Fri Jan 25 19:04:24 2002



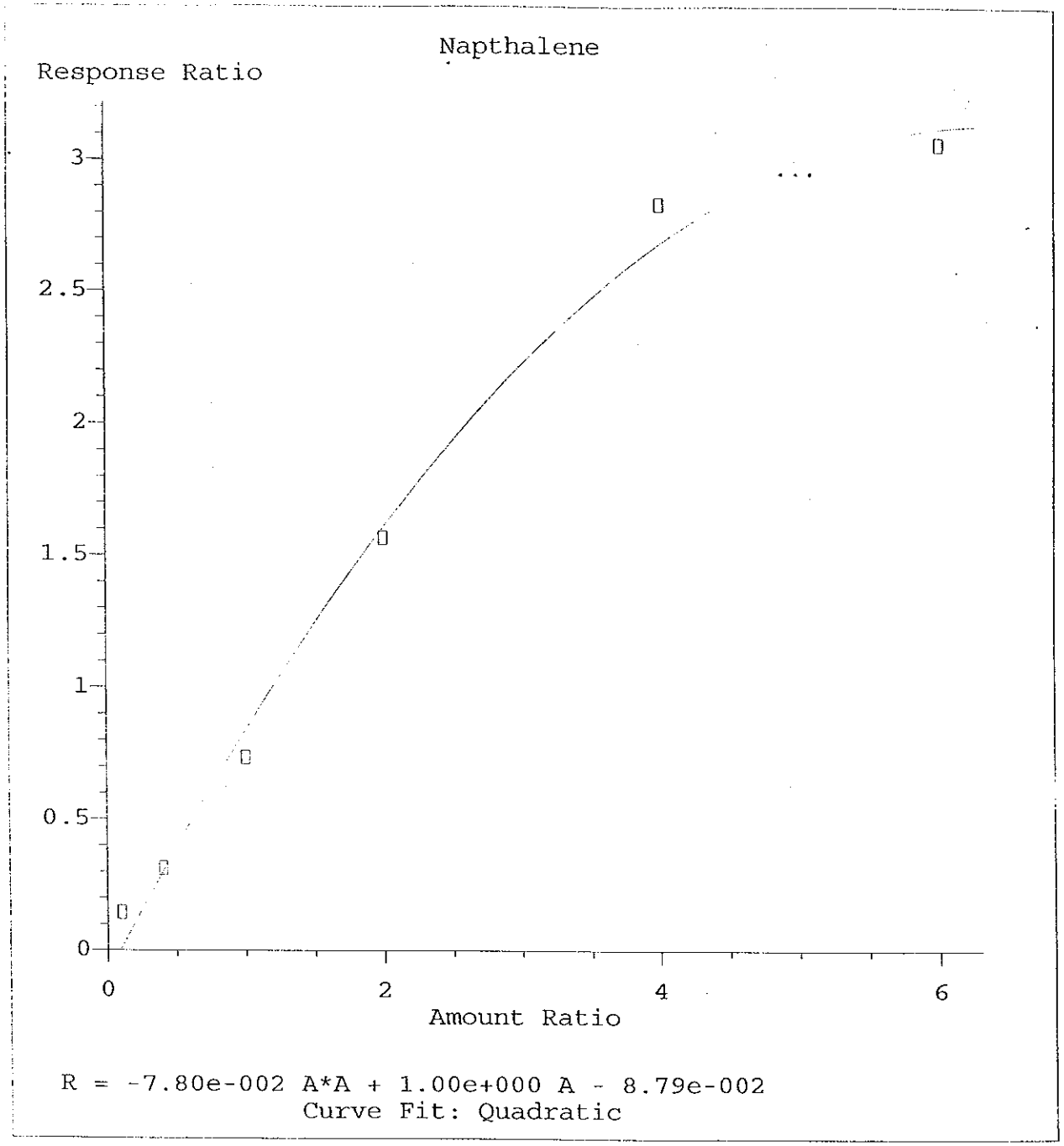
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



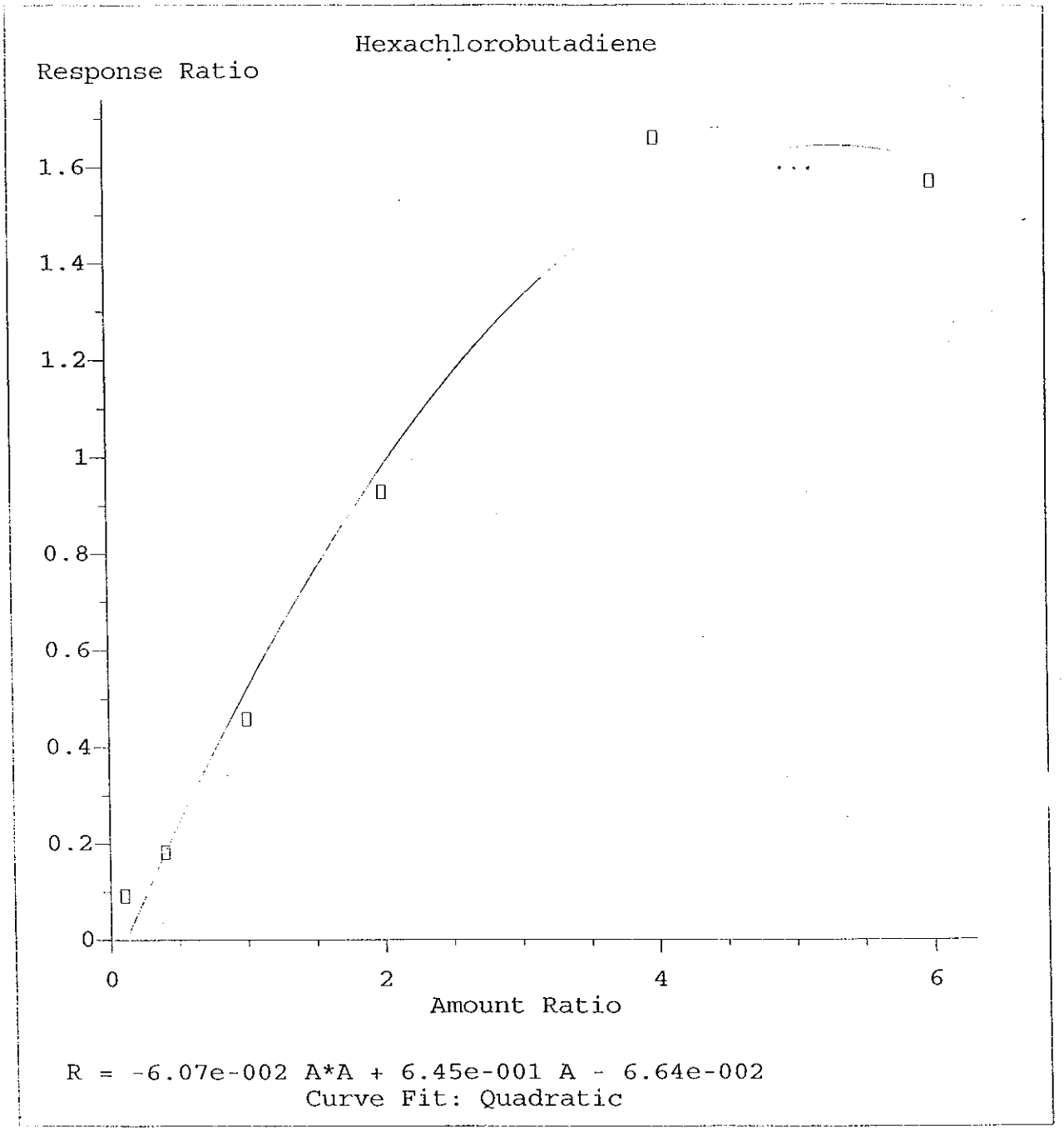
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



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

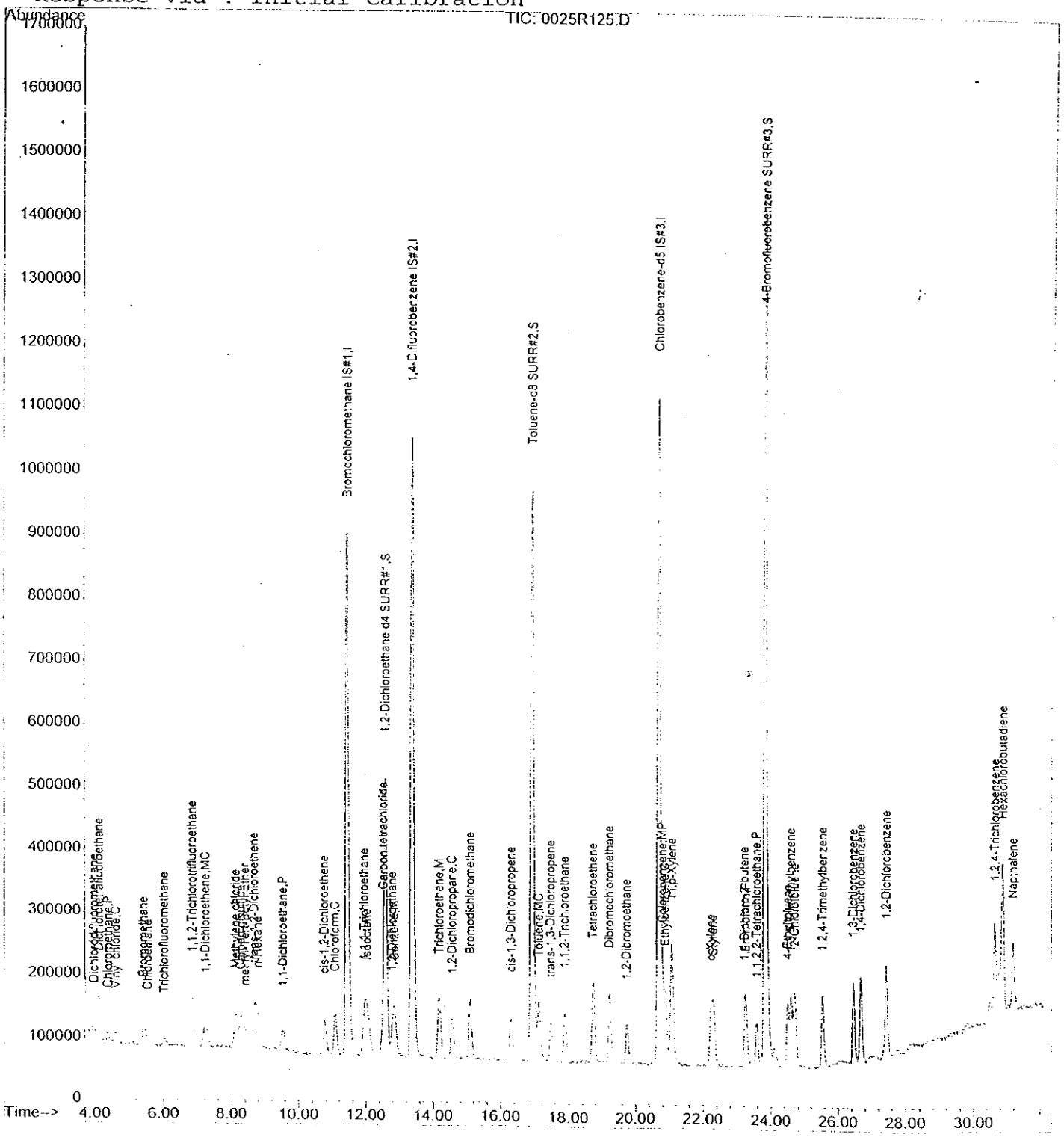
(#) = qualifier out of range (m) = manual integration

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



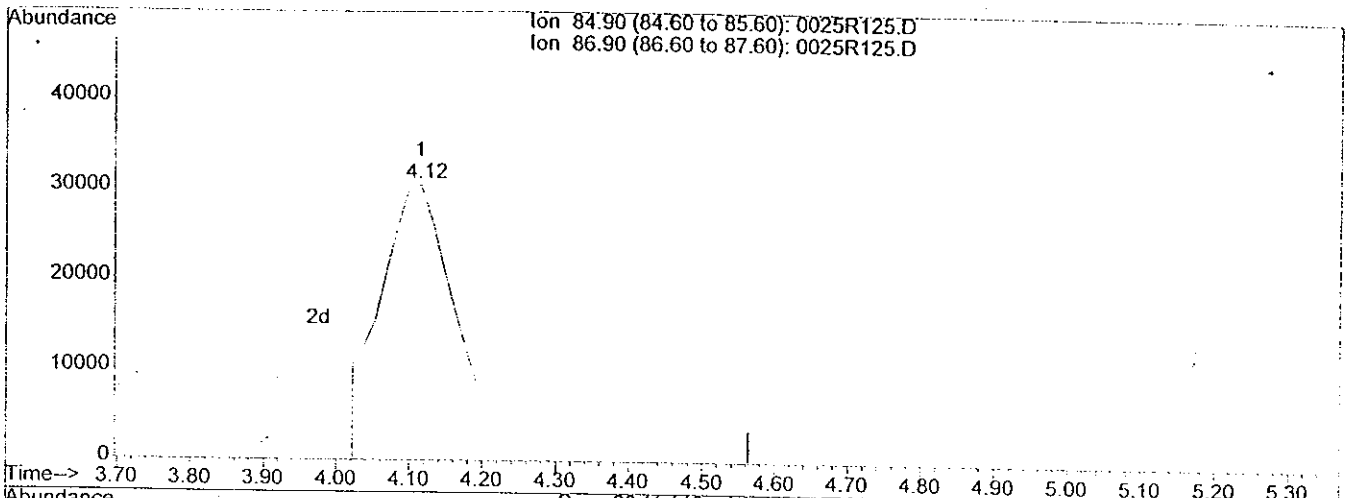
0025R125.D TO14S.M Fri Jan 25 18:22:19 2002

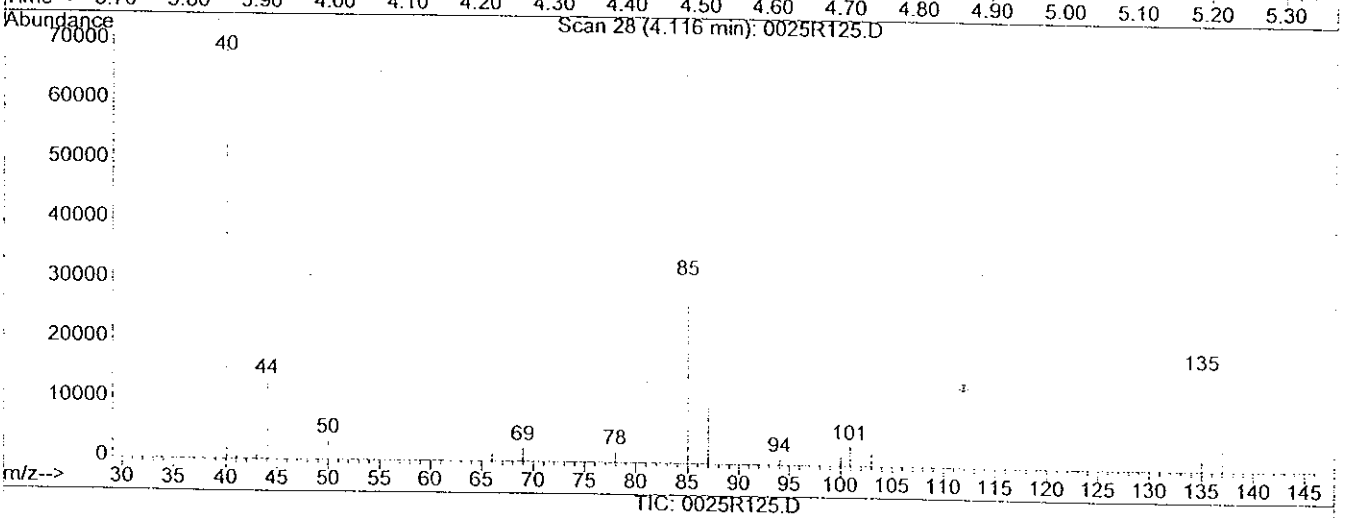
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

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

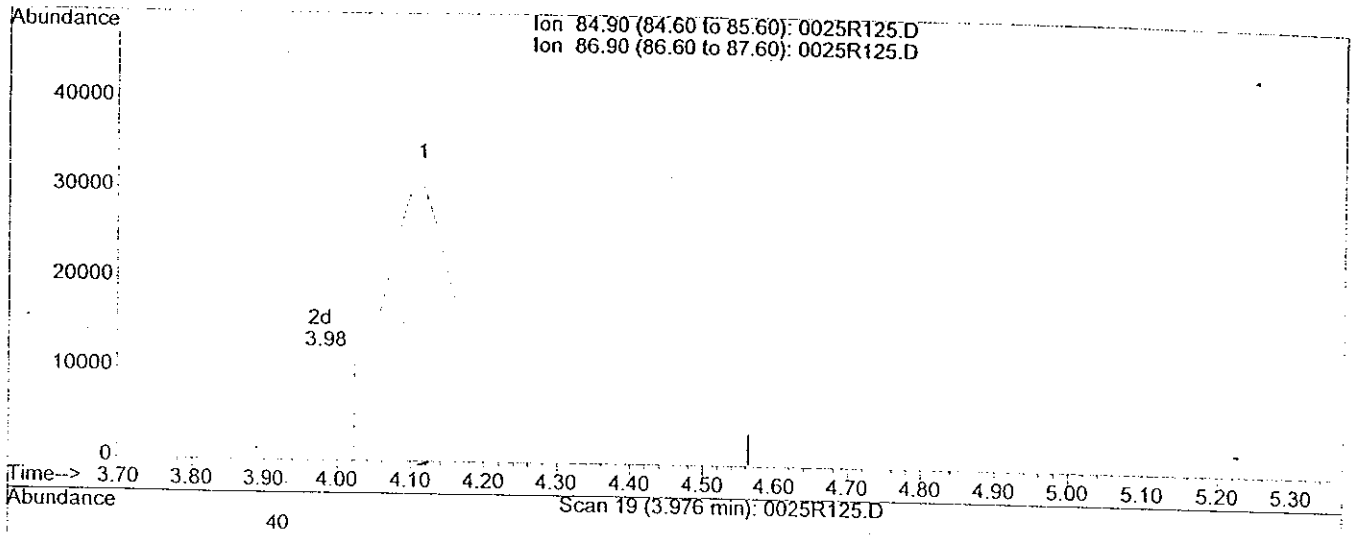
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

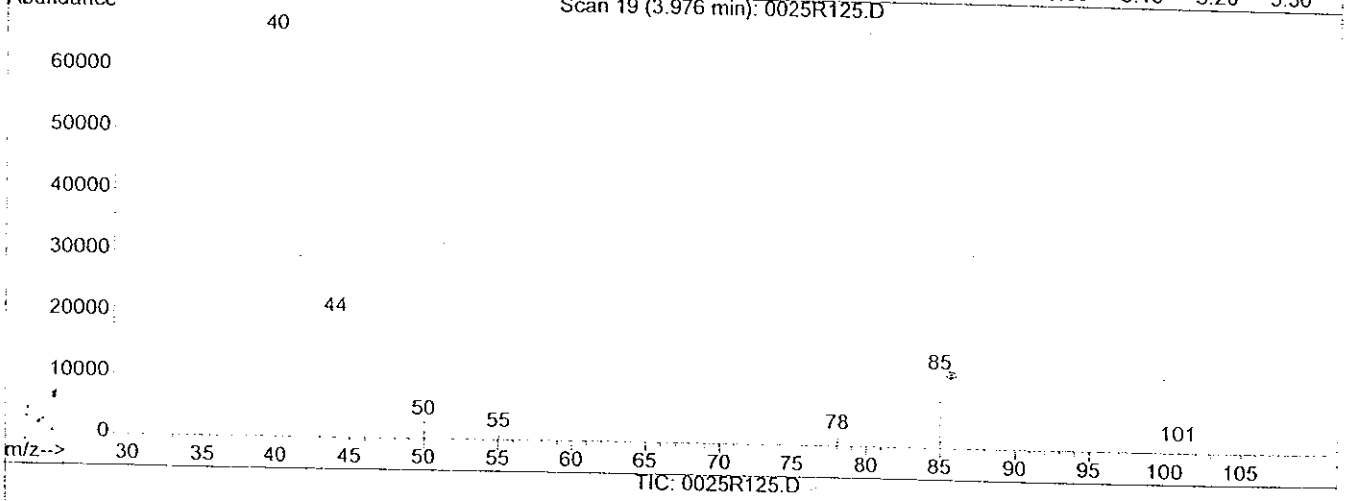
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

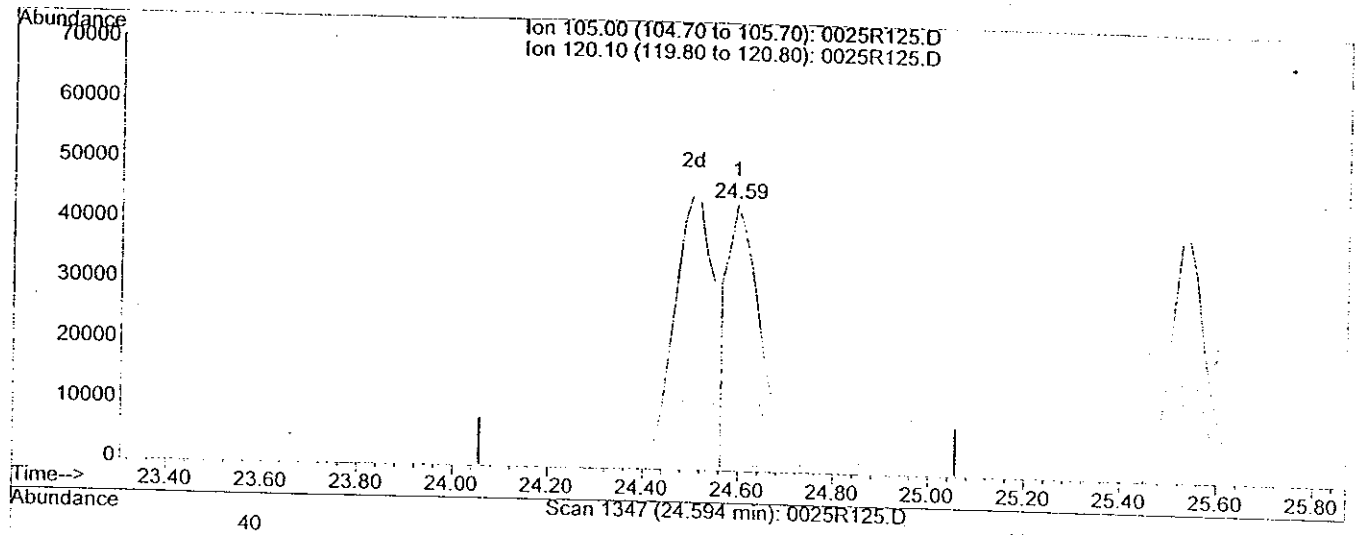
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

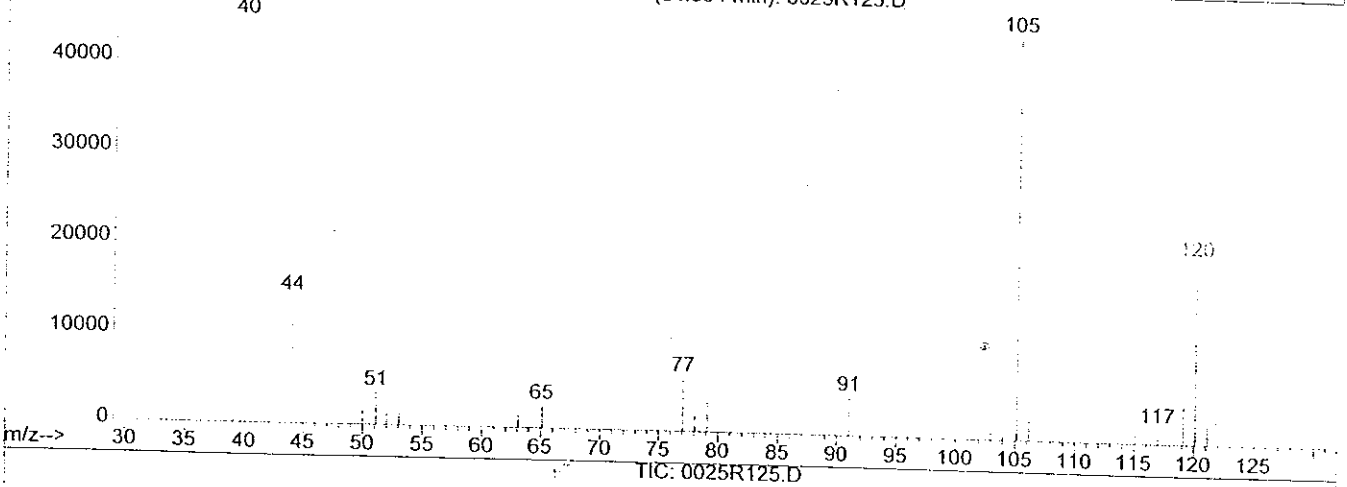
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

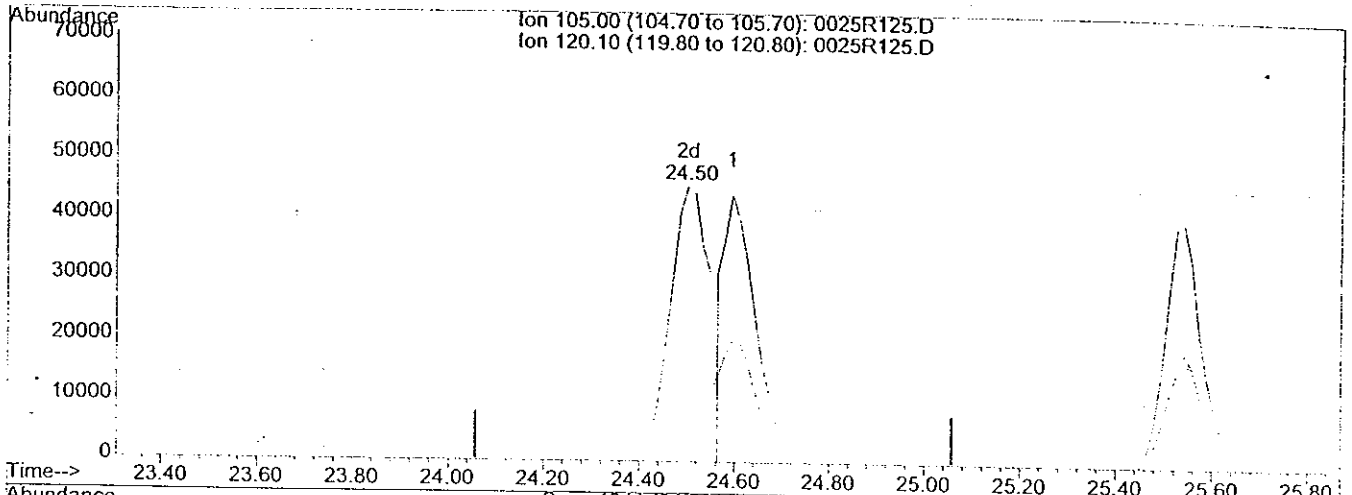
0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

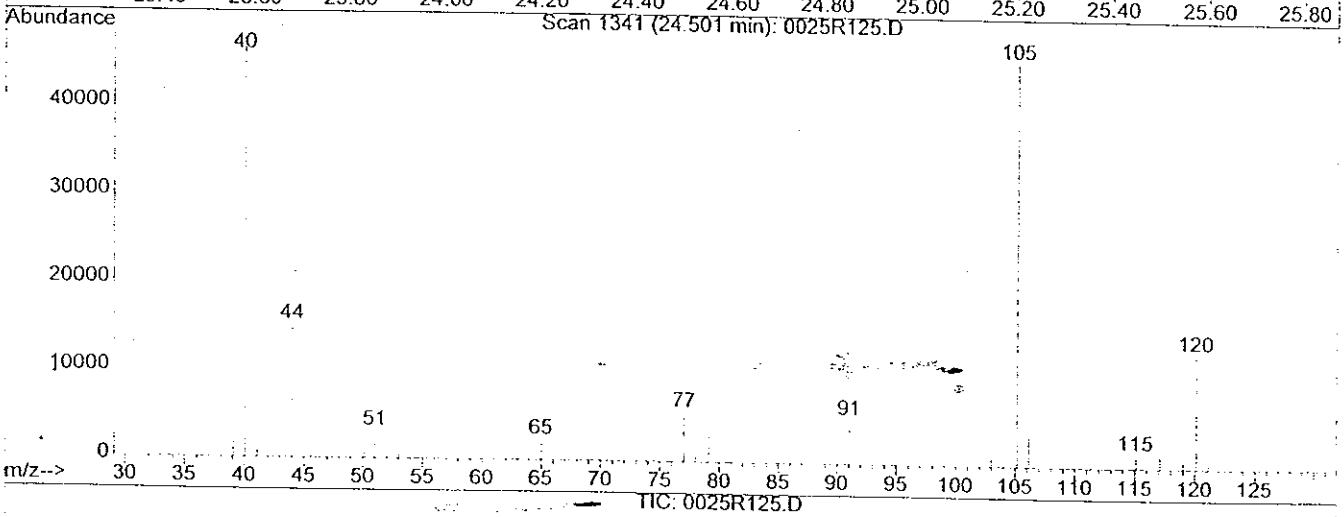
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

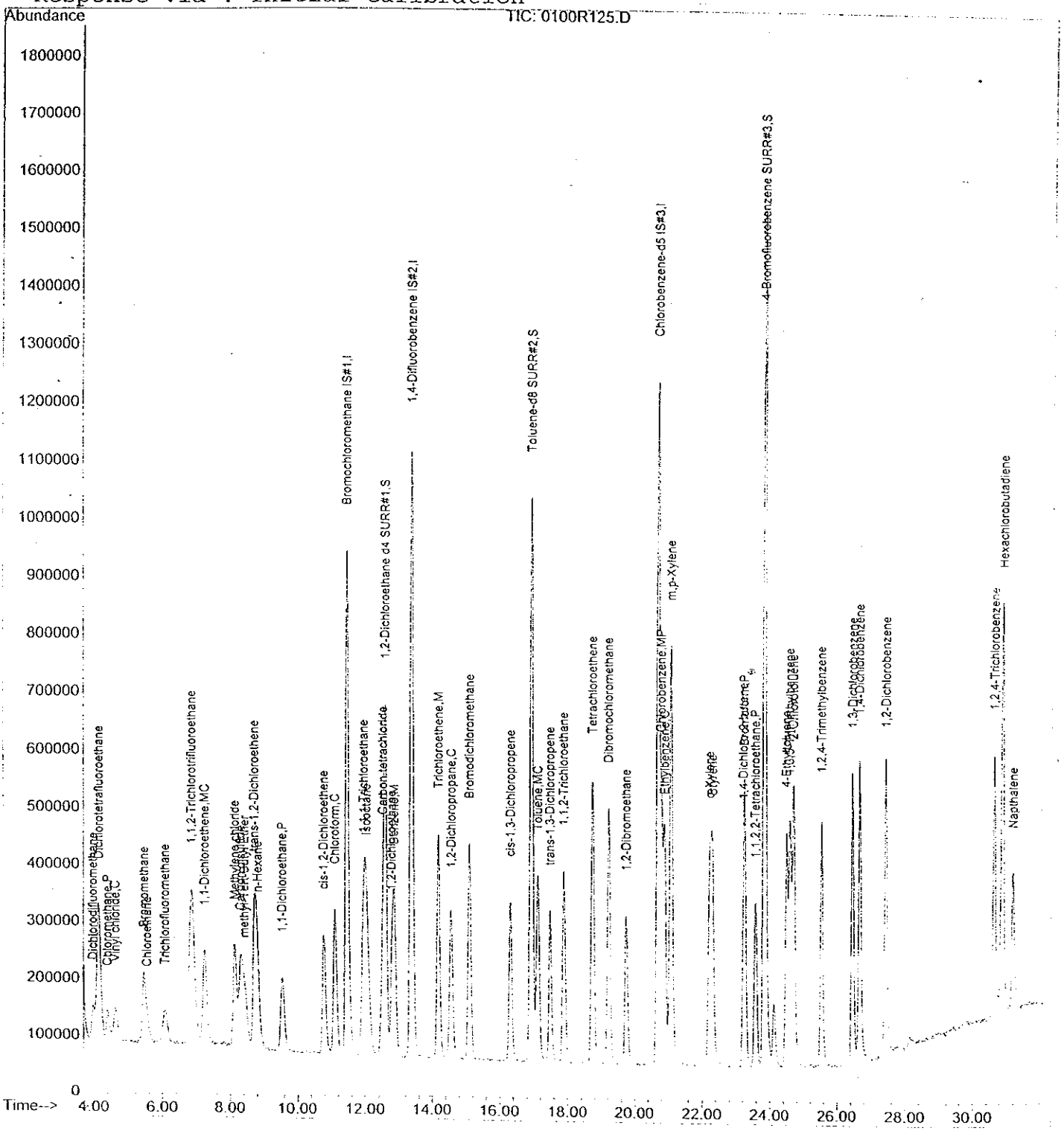
(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:12 2002

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



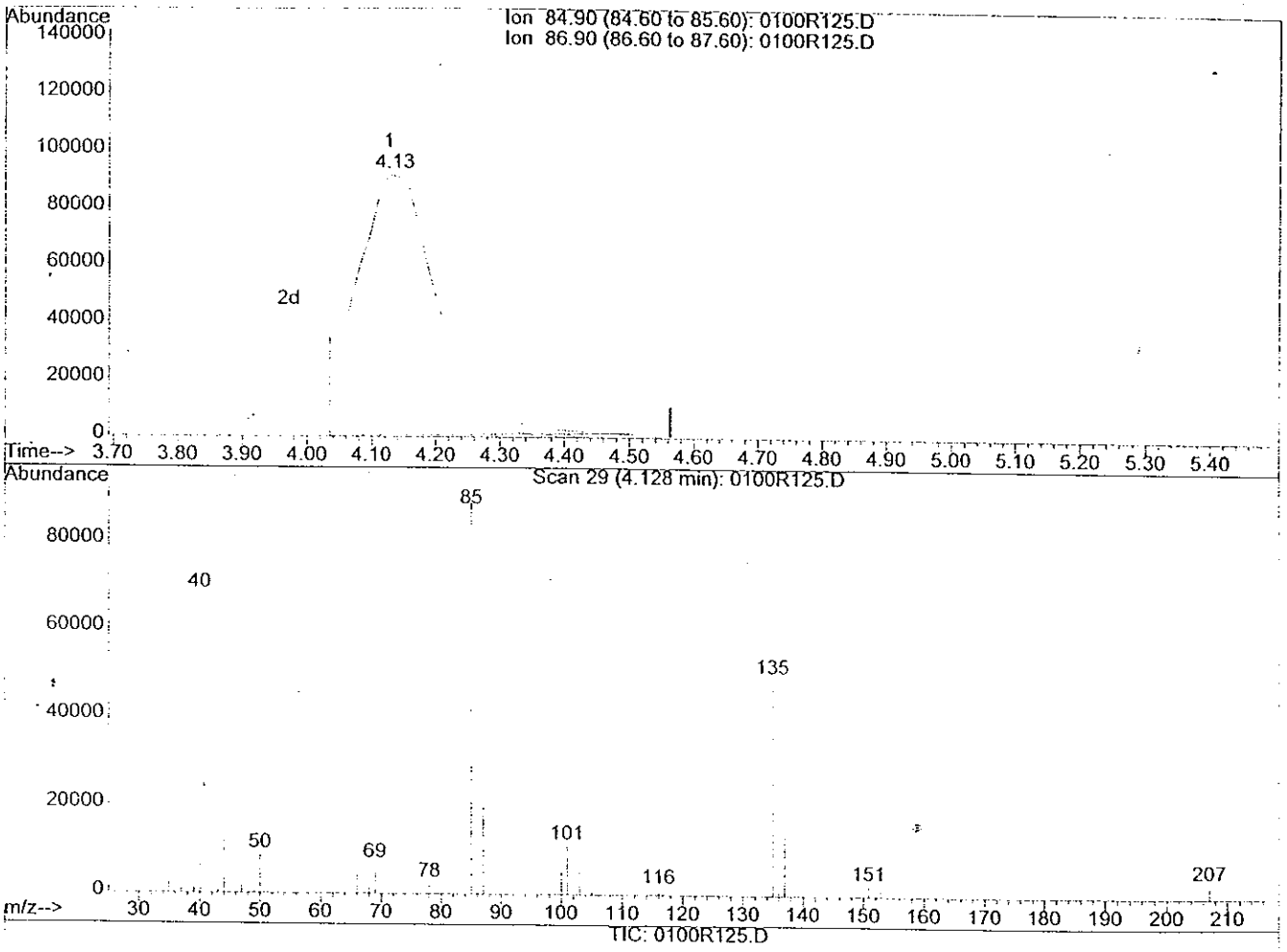
0100R125.D TO14S.M Fri Jan 25 18:55:14 2002

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

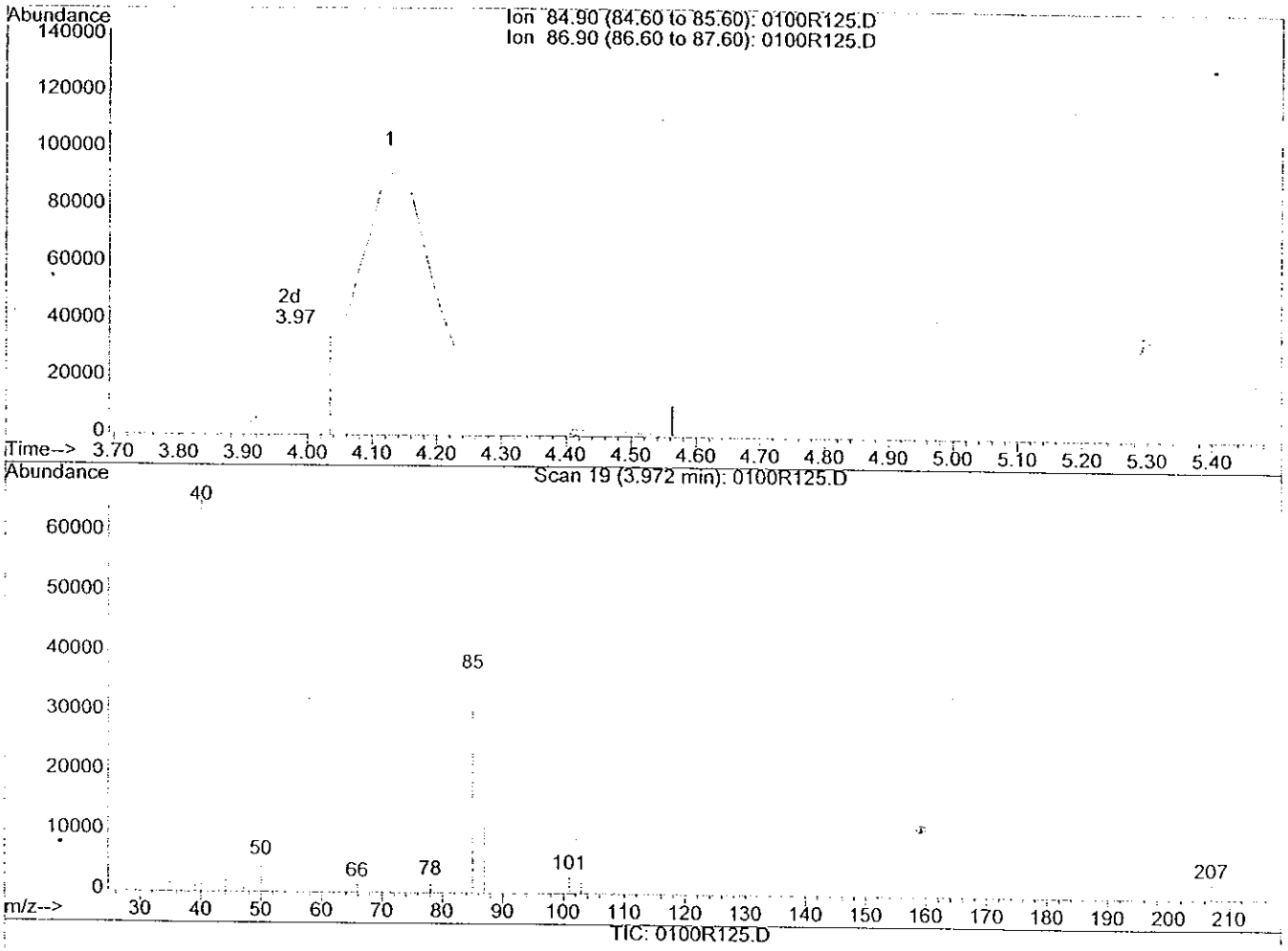
coelution
wrong peak

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

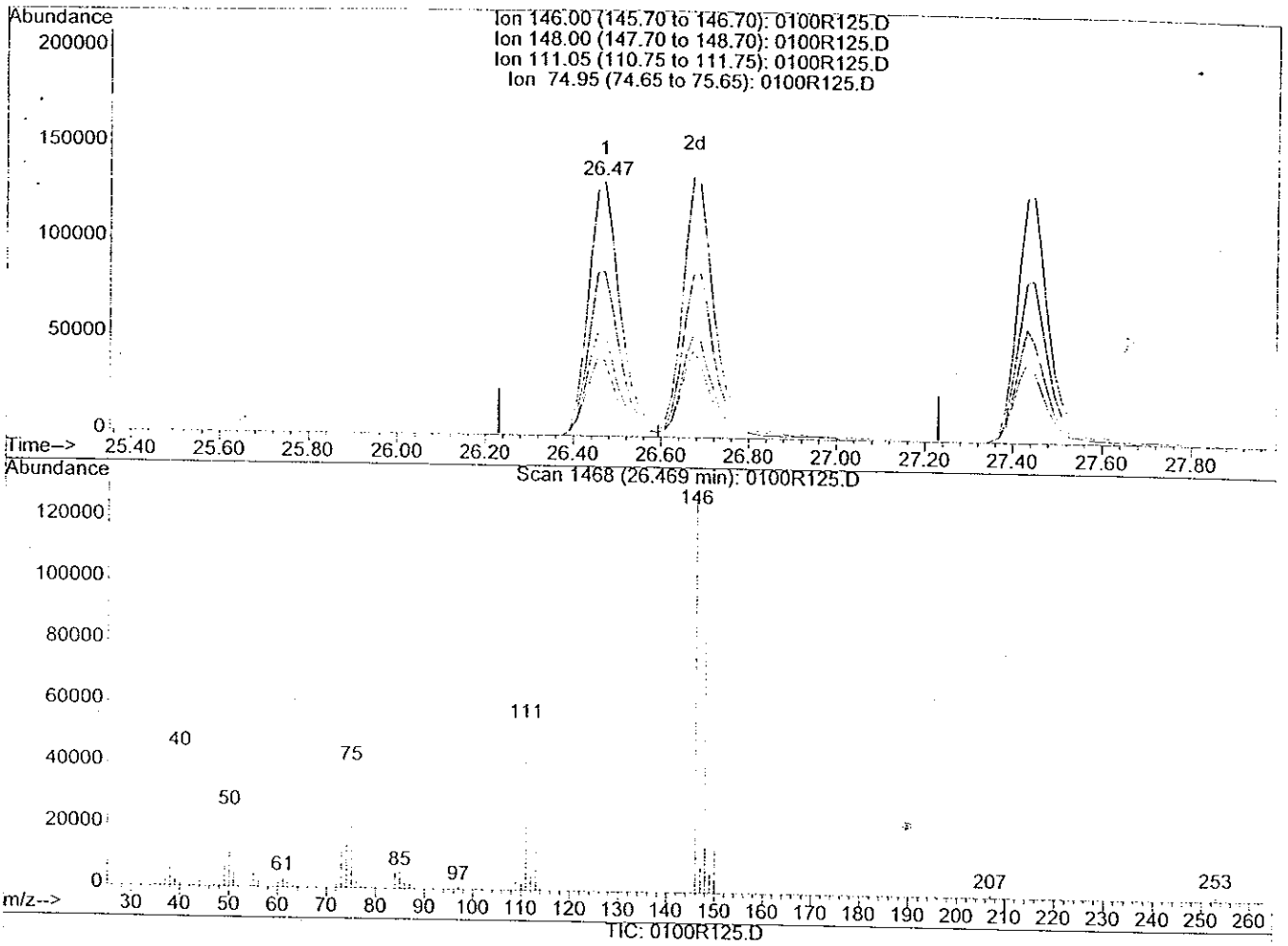
0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

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

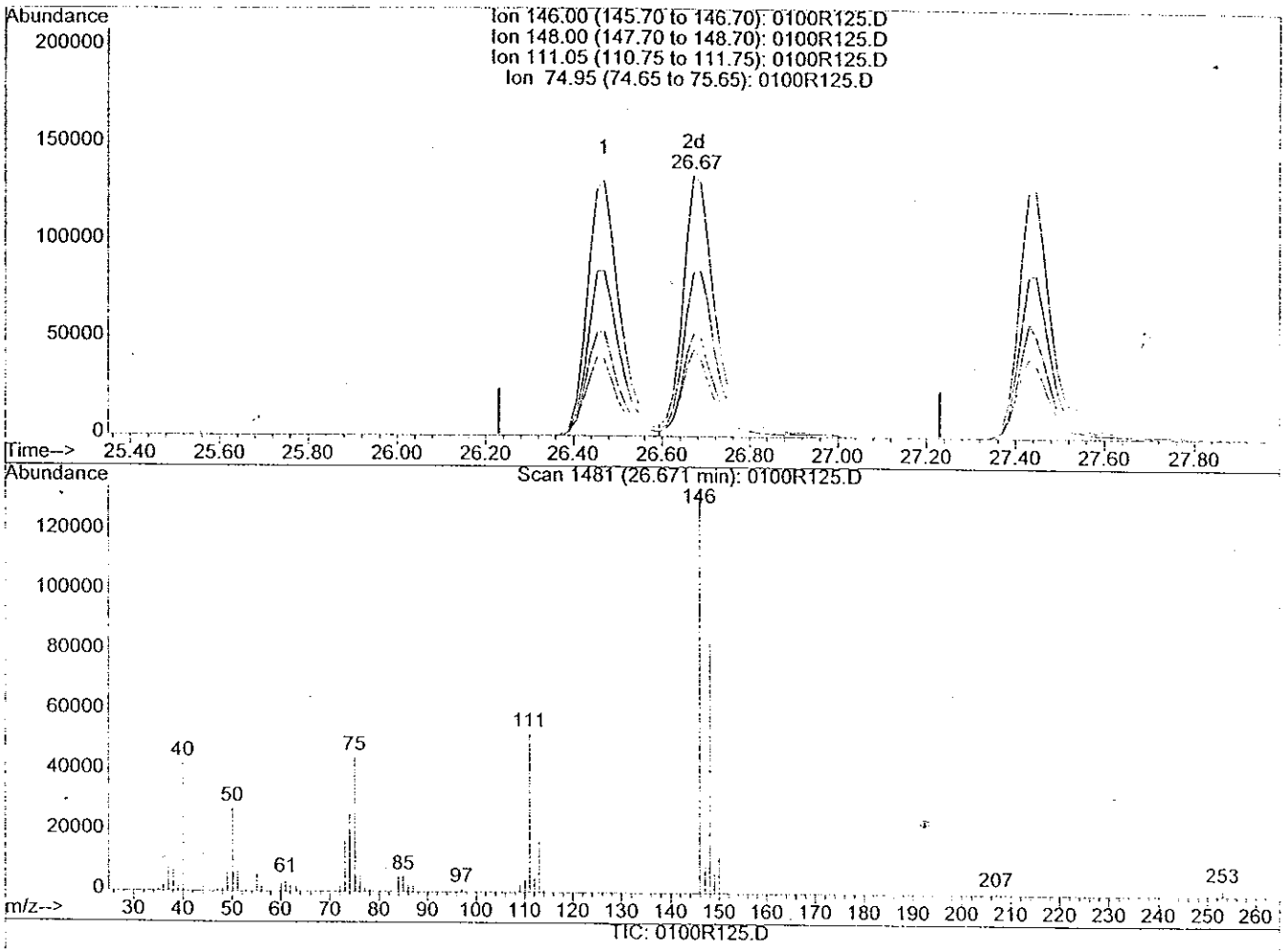
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

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

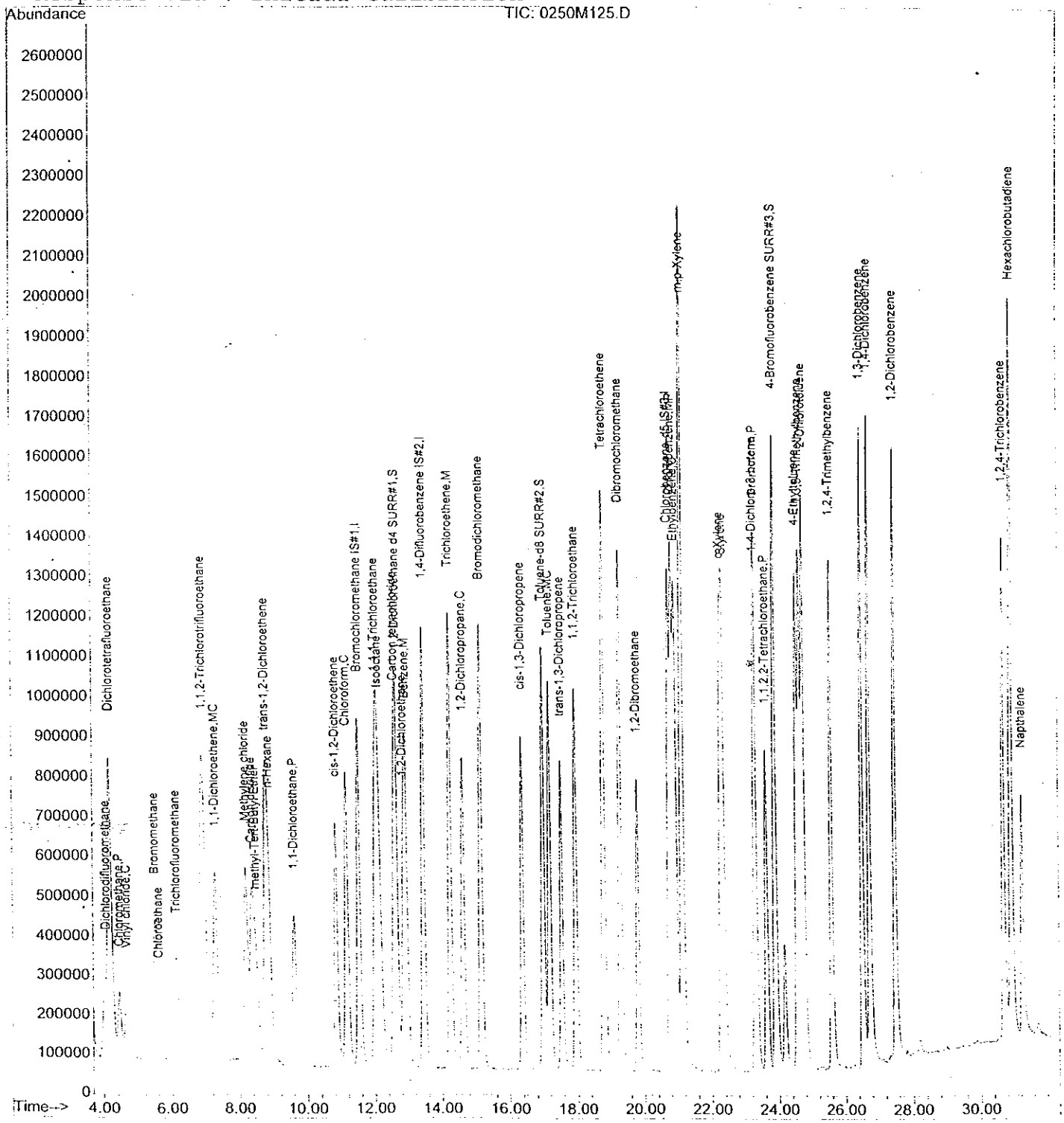
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

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

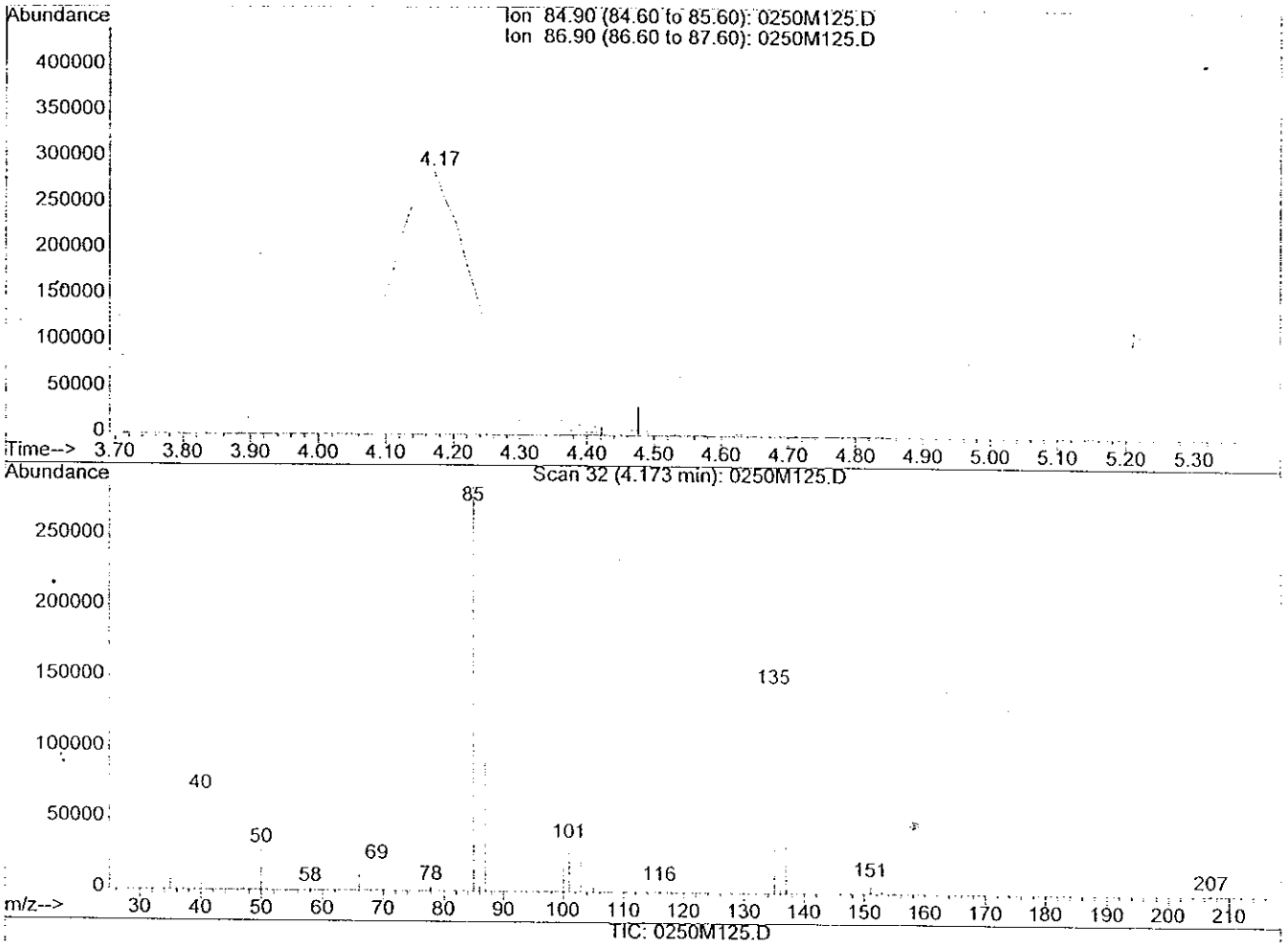
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



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

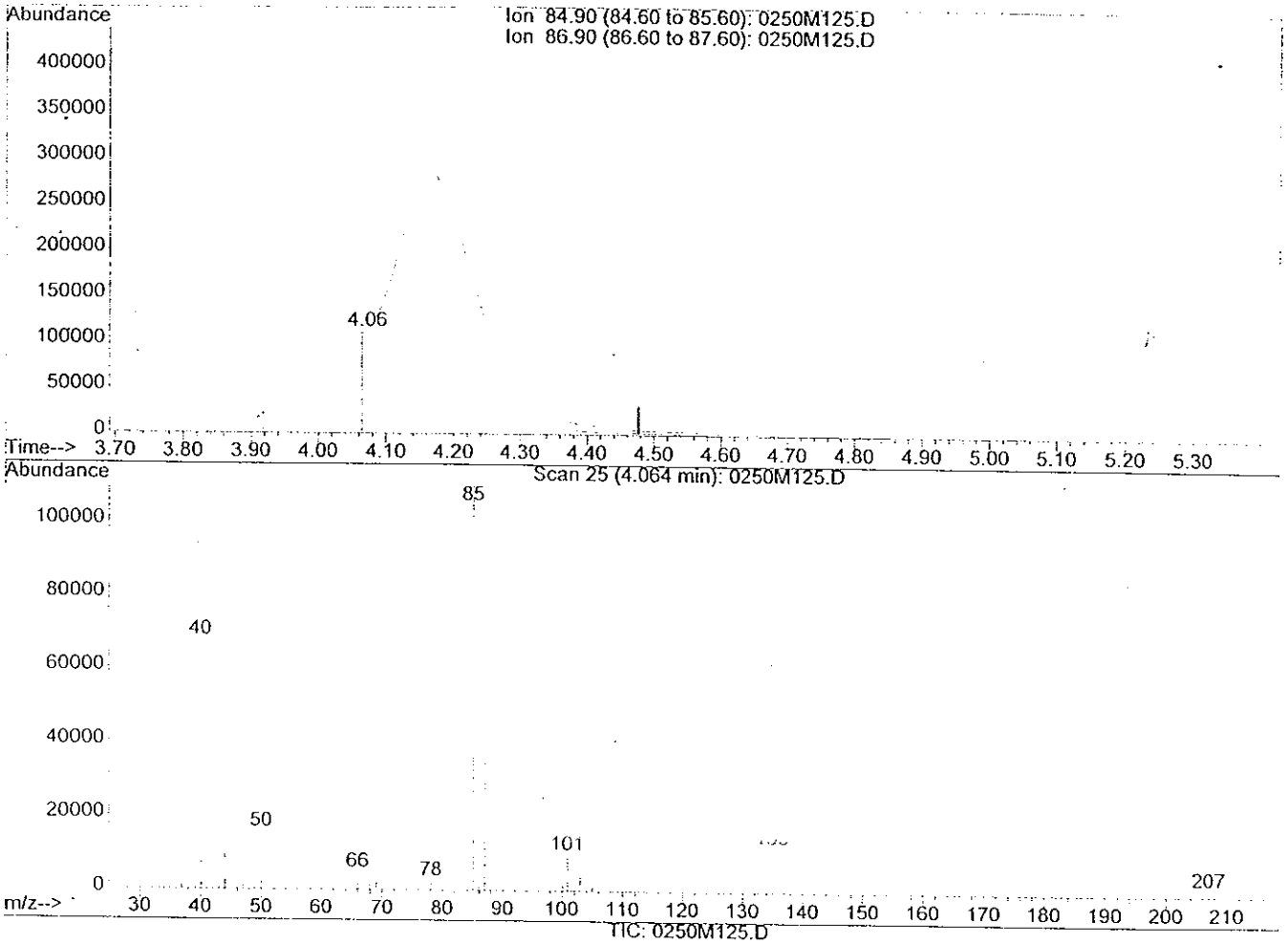
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

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

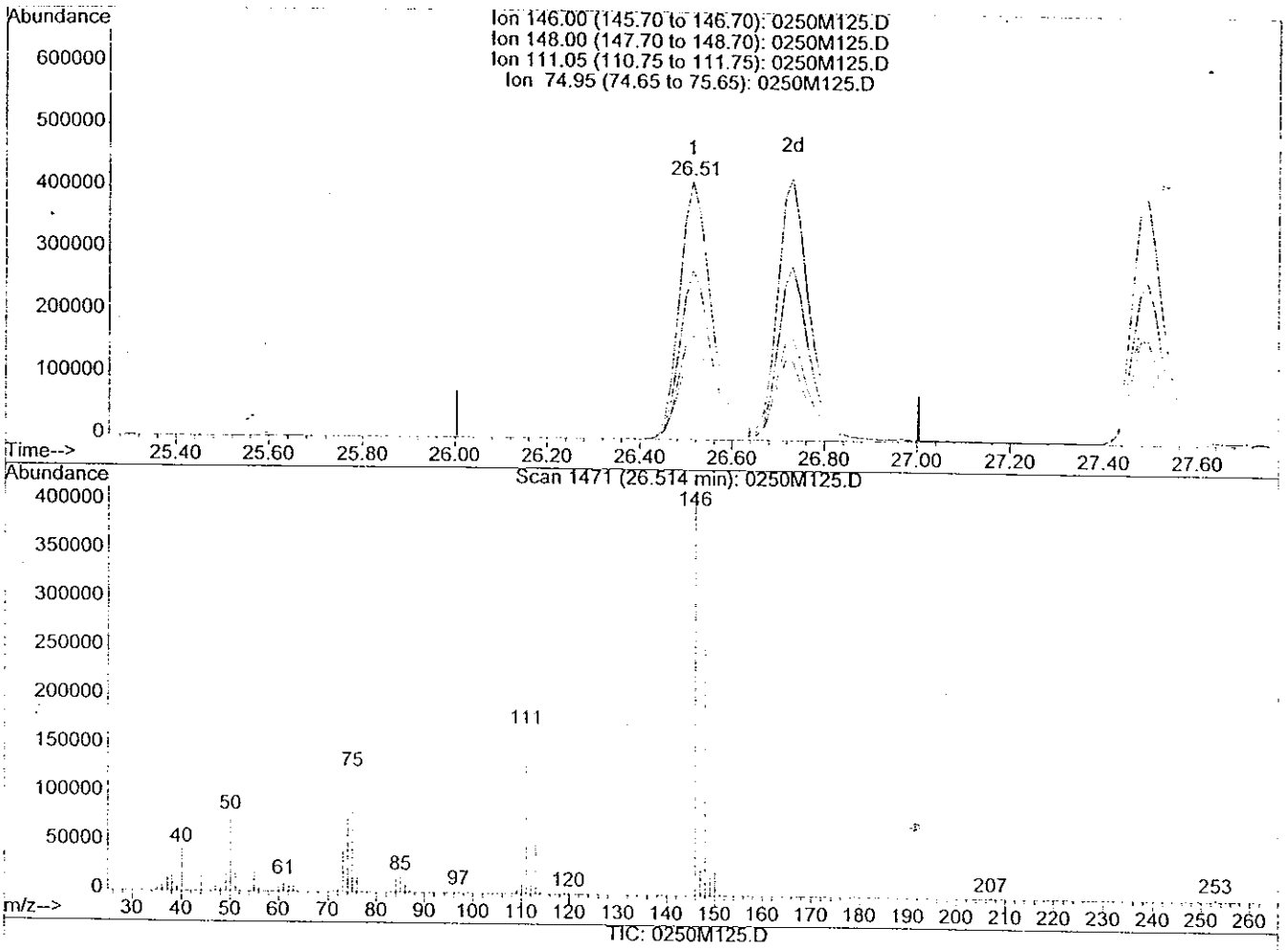
0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

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

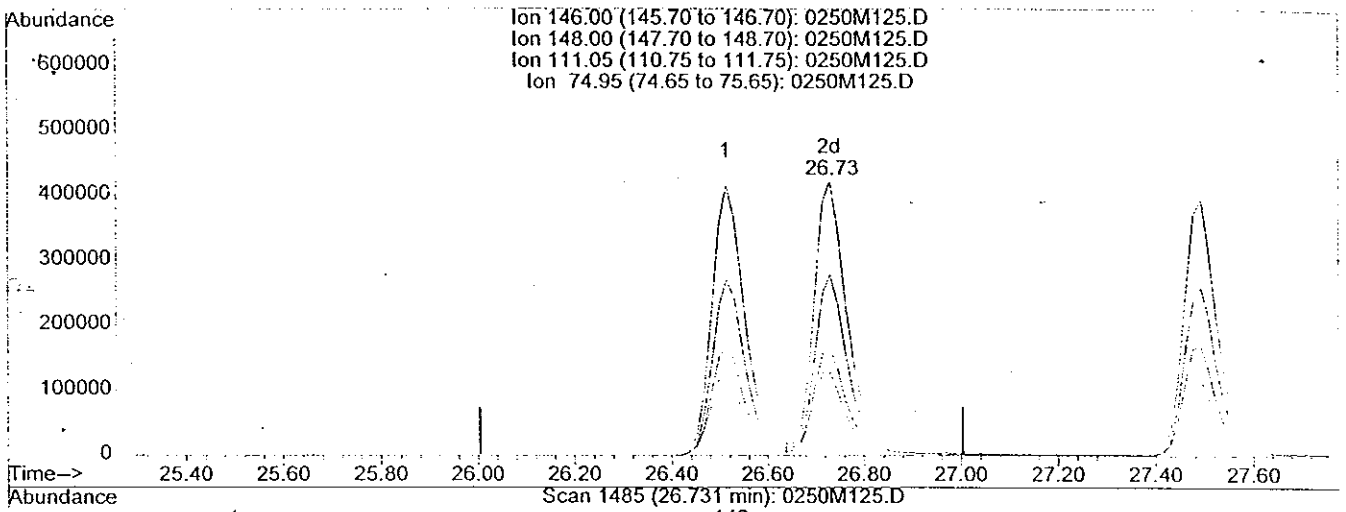
response 2001409

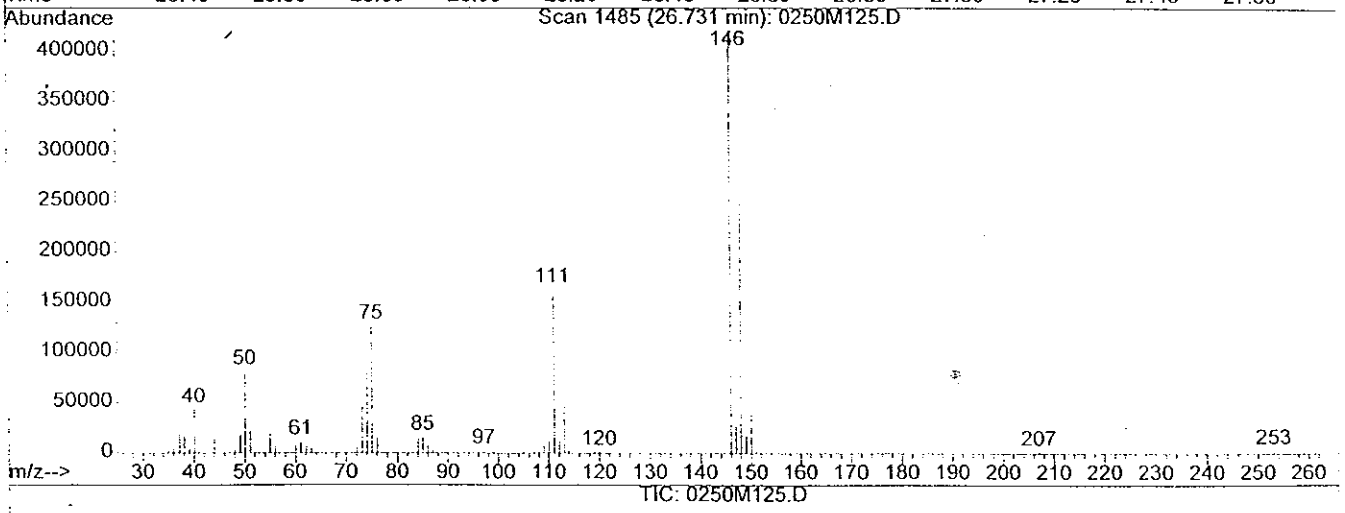
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

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

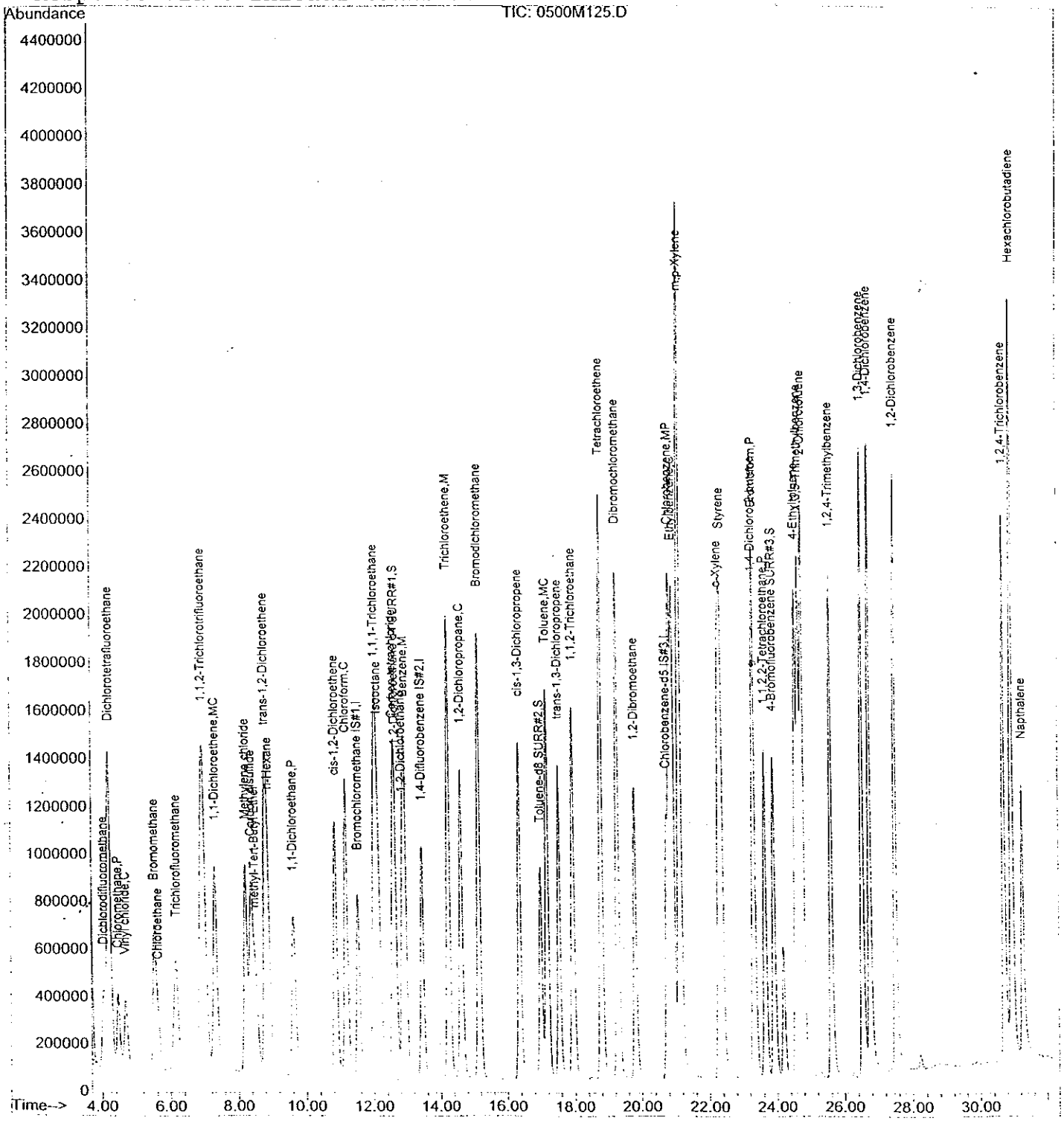
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

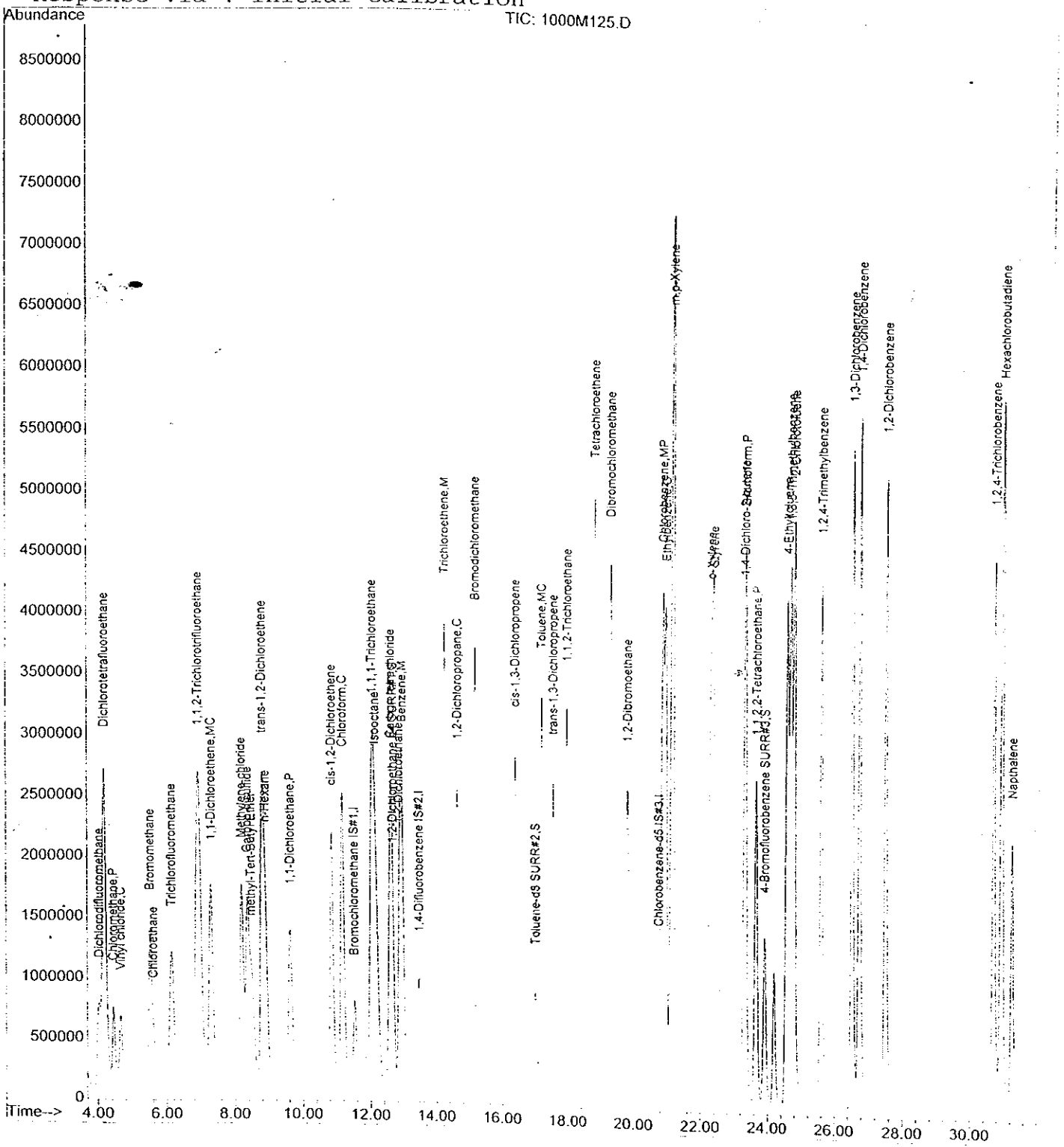
(#) = qualifier out of range (m) = manual integration

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



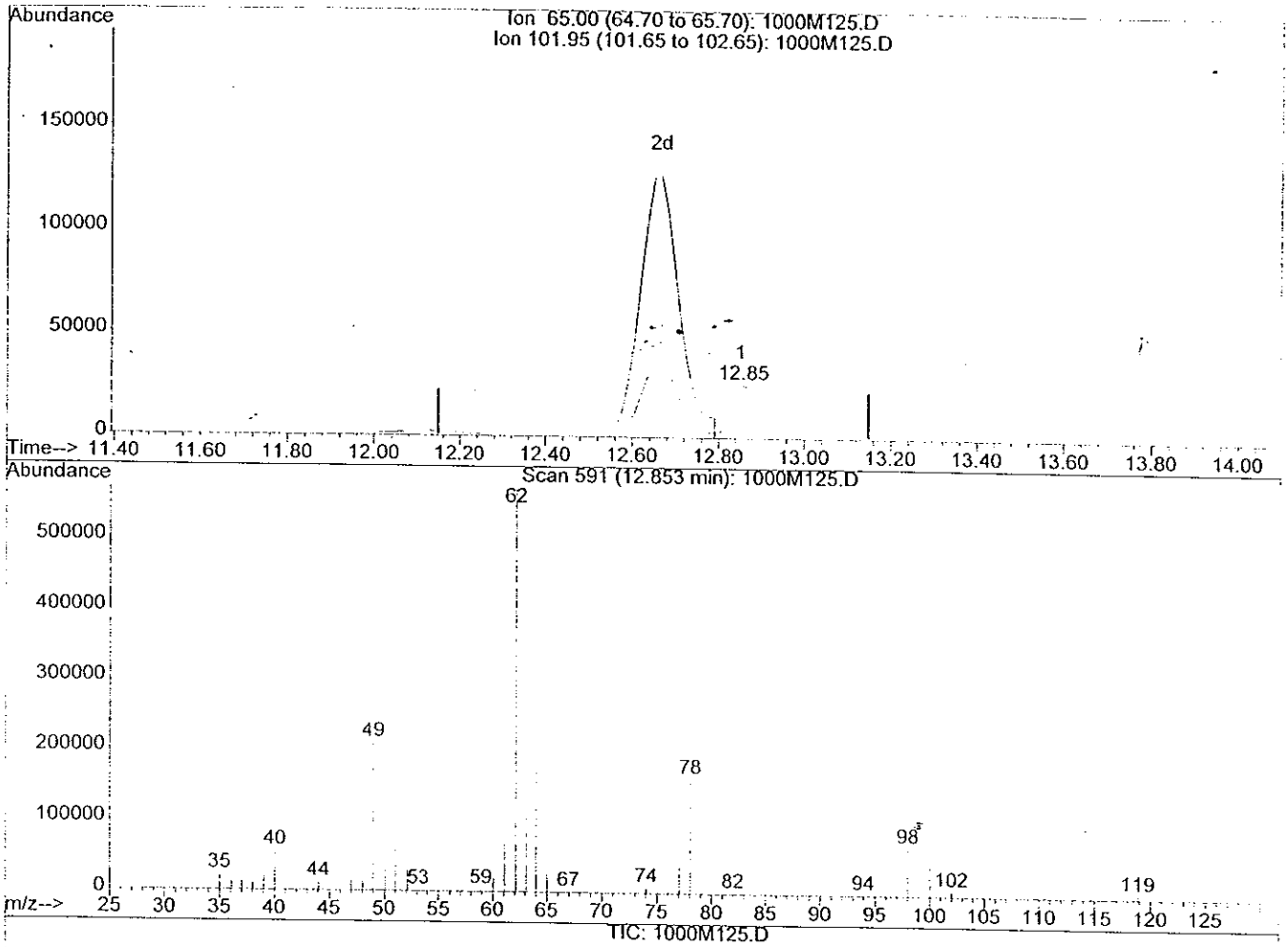
1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

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

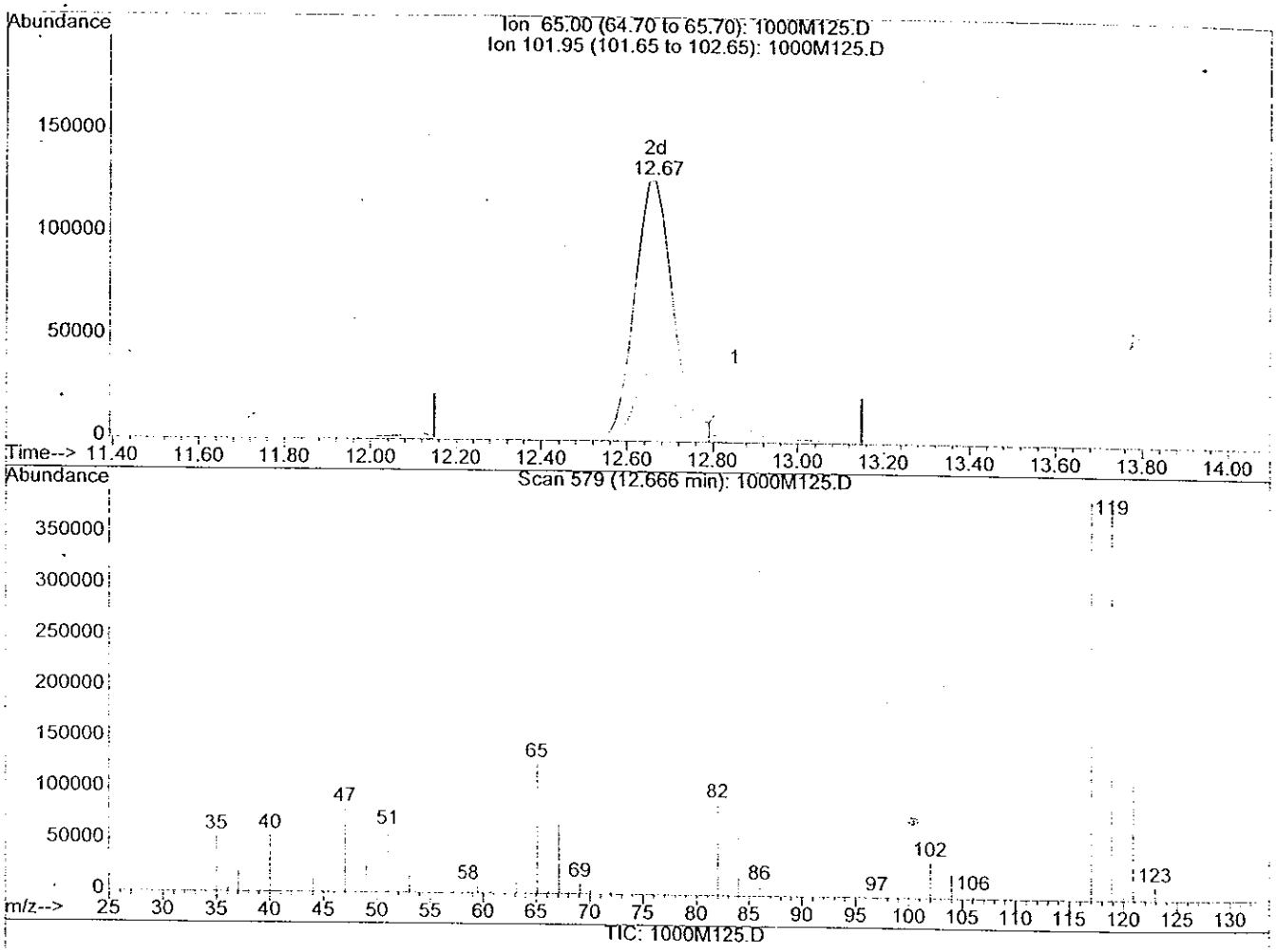
1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

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

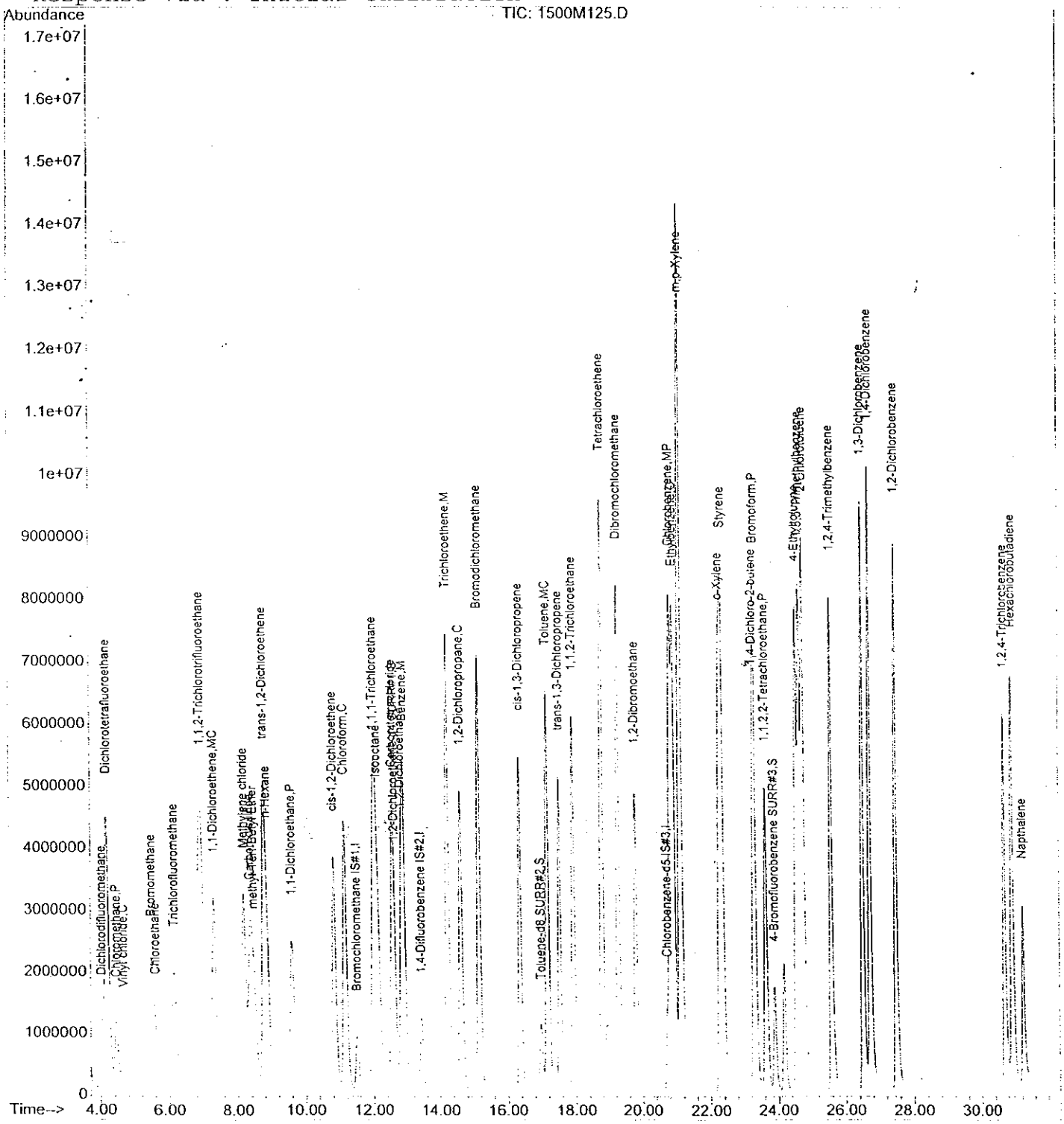
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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)

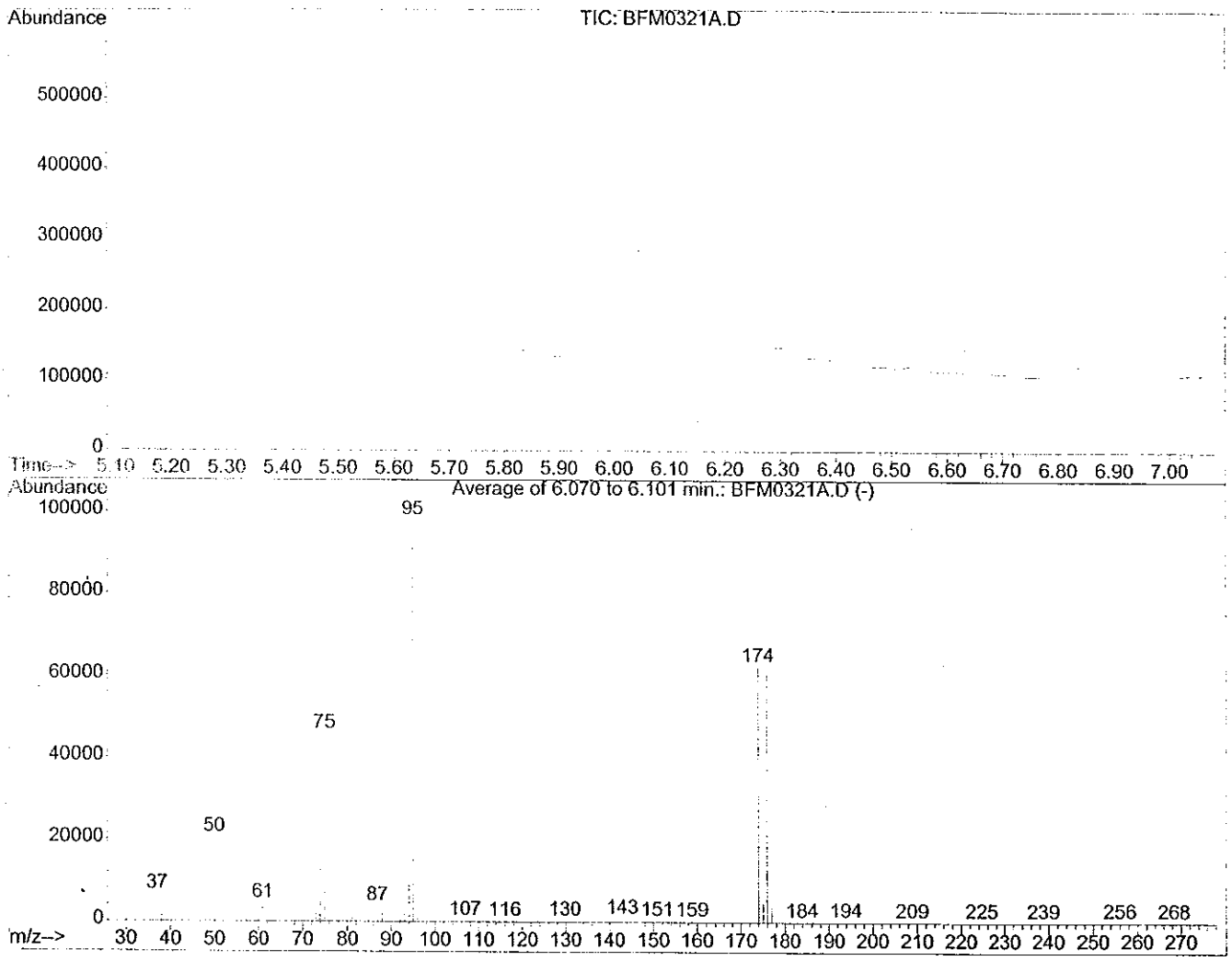
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

**. 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

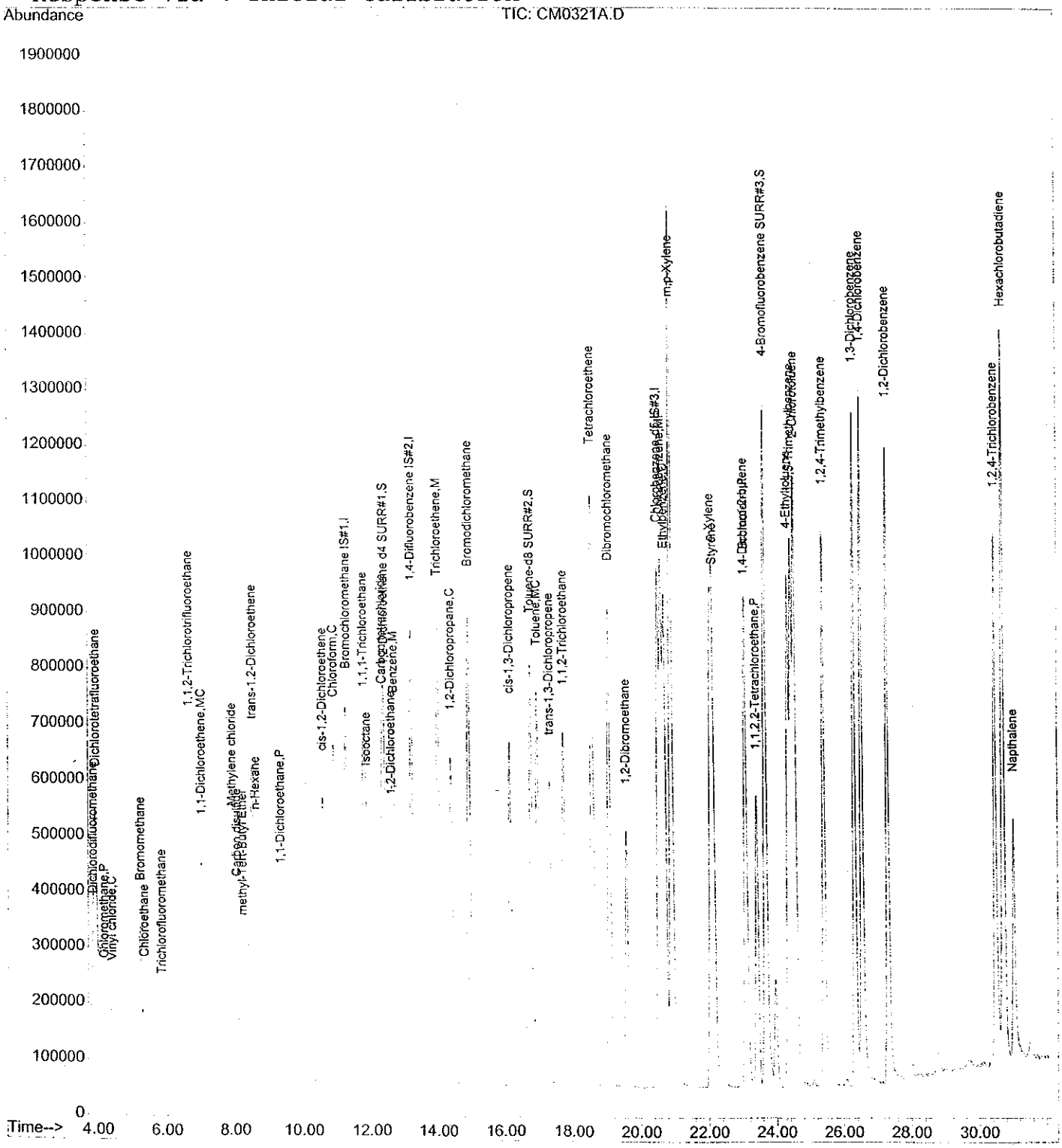
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.00	130	905967	251.70 ng		97
29)	1,2-Dichloropropane	14.39	63	701813	256.01 ng	#	92
30)	Bromodichloromethane	14.93	83	1835431	275.21 ng		99
31)	cis-1,3-Dichloropropene	16.14	75	1057962	255.06 ng	#	89
33)	Toluene	16.95	92	1041219	254.42 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%			

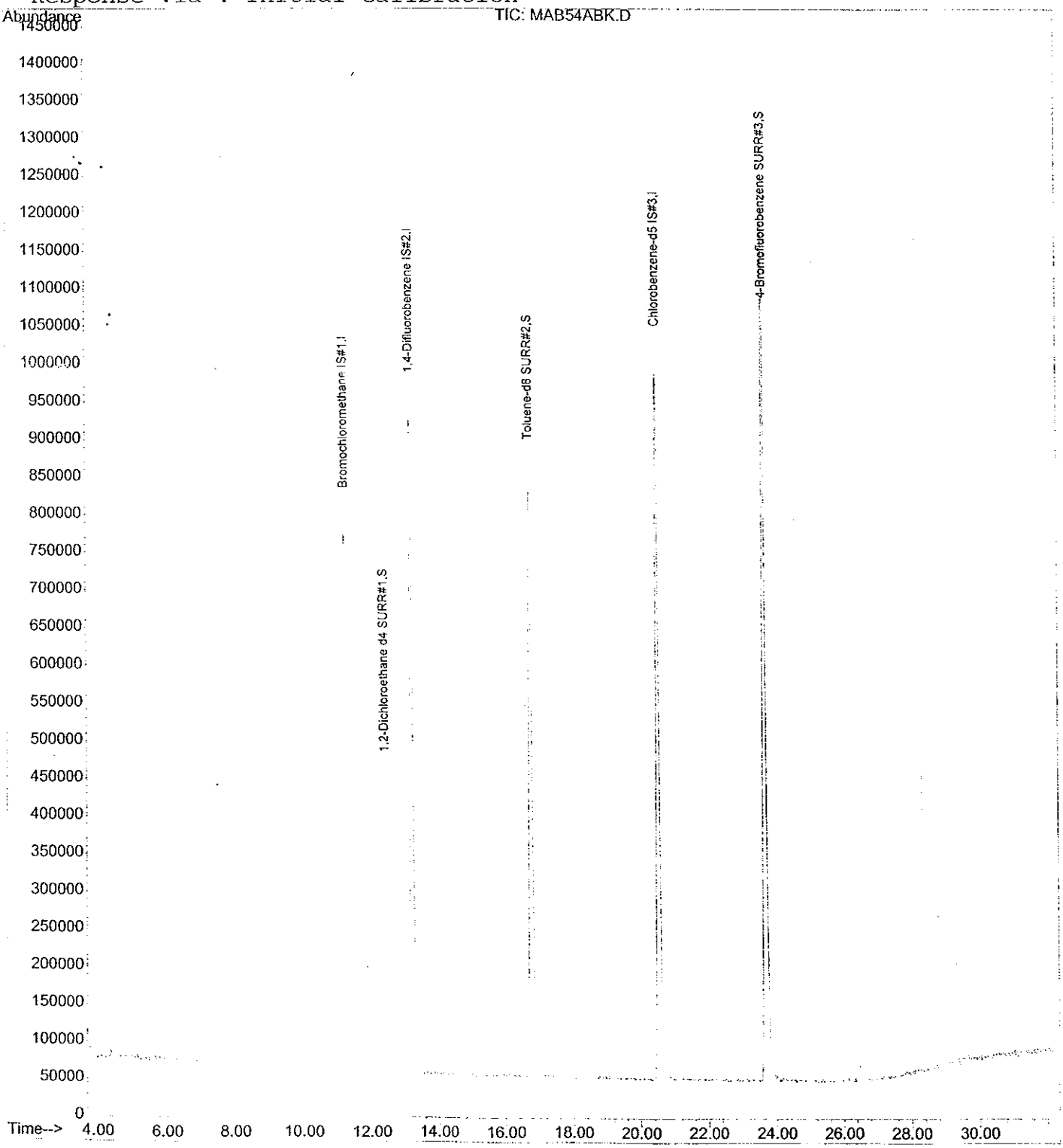
Target Compounds Qvalue

(#) = 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%					

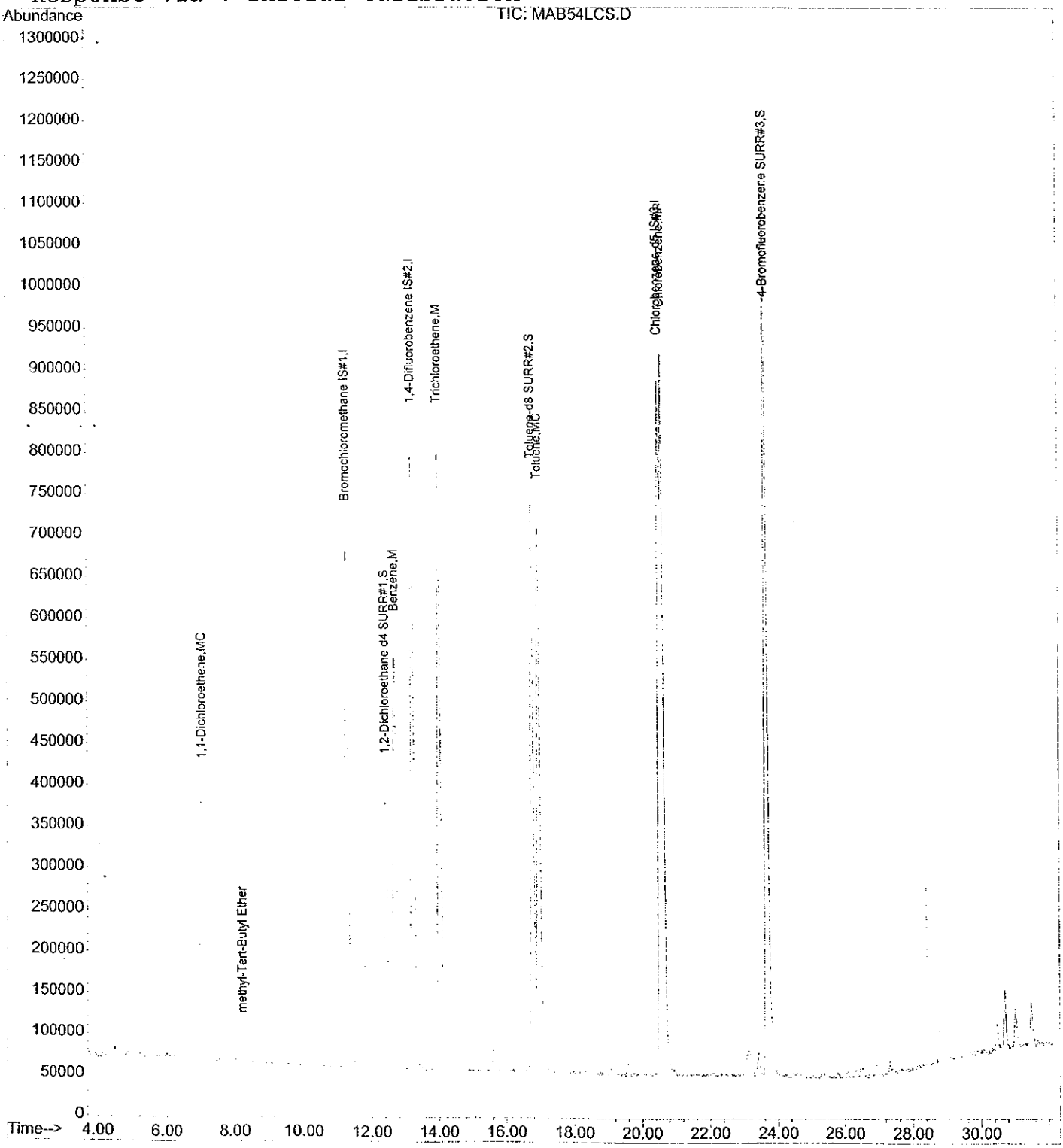
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	482573	221.03 ng		97
14) methyl-Tert-Butyl Ether	8.21	73	18761	5.89 ng	#	44
27) Benzene	12.70	78	1486478	253.17 ng		99
28) Trichloroethene	14.02	130	809788	248.30 ng		97
33) Toluene	16.97	92	964688	260.14 ng		97
39) Chlorobenzene	20.63	112	1454390	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

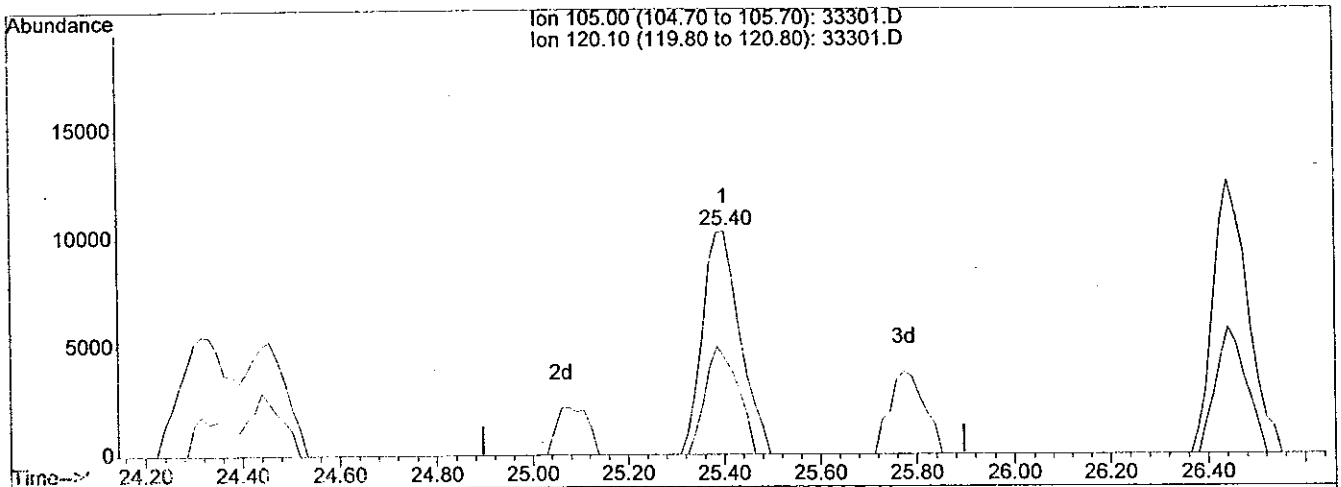
(#) = qualifier out of range (m) = manual integration

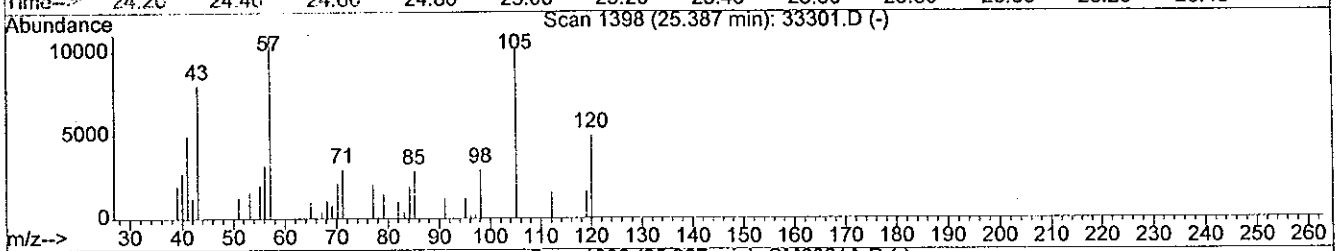
Quantitation Report (Qedit)

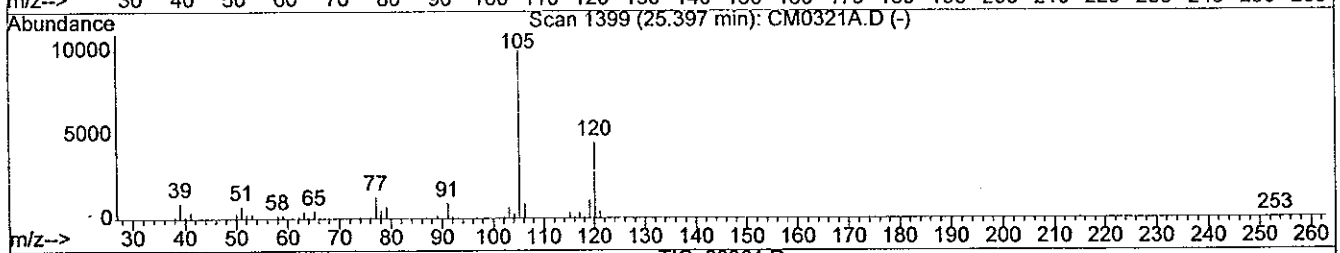
Data File : D:\HPCHEM\1\DATA02\M0321A\33301.D
Acq On : 21 Mar 2002 14:17
Sample : 062SVEEA03110222\3330-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 14:55 2002

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%		

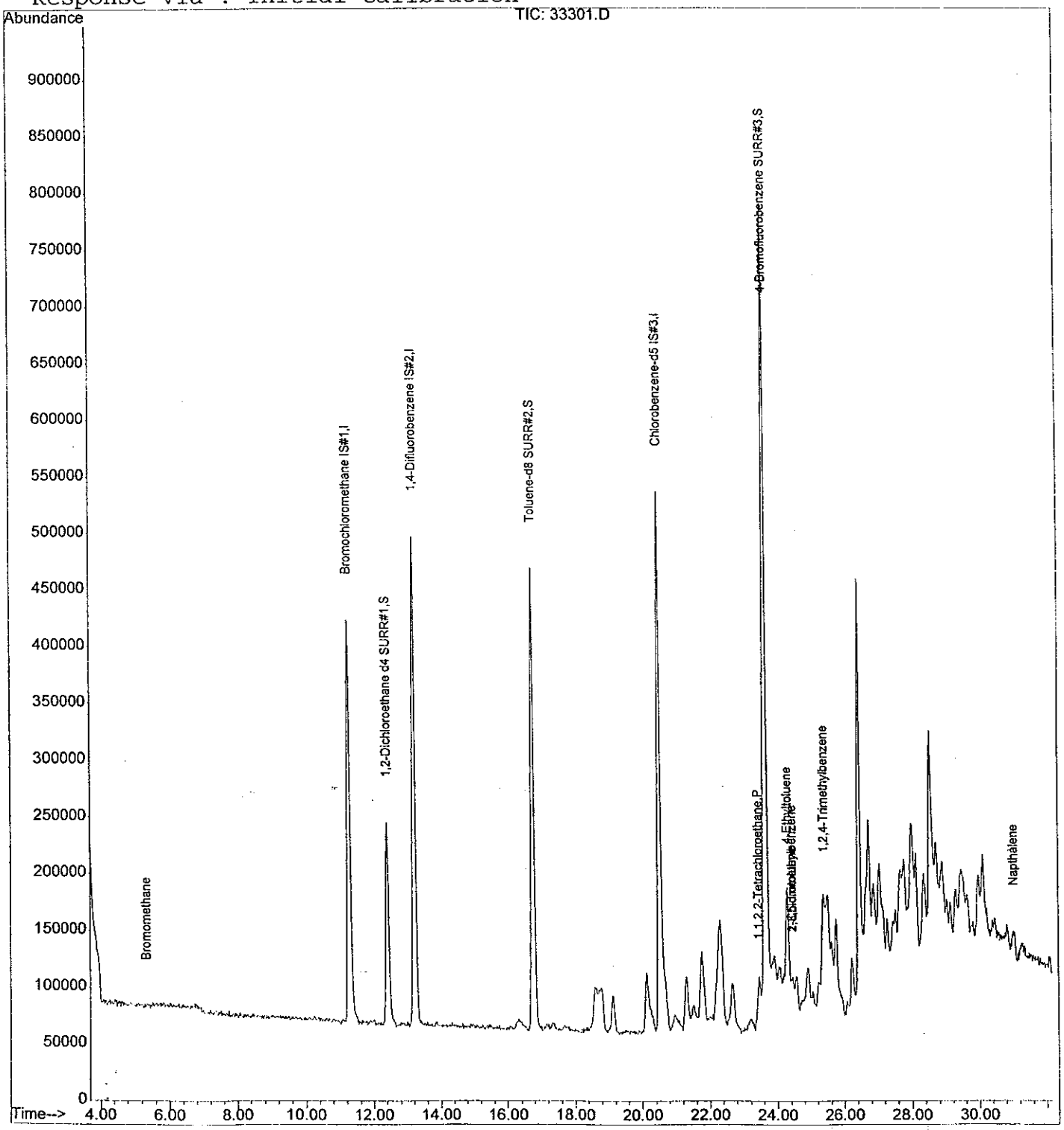
Target Compounds					Qvalue
6) Bromomethane	5.33	94	945	~~0.64 ng~~ #	9
45) 1,1,2,2-Tetrachloroethane	23.46	83	15470	~~6.66 ng~~ #	30
48) 4-Ethyltoluene	24.32	105	39601	9.43 ng <MDL	91
49) 1,3,5-Trimethylbenzene	24.46	105	28182	8.51 ng ↓	98
50) 2-Chlorotoluene	24.46	91	945	~~0.22 ng~~ #	47
51) 1,2,4-Trimethylbenzene	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.

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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	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 -	
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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

Appendix B

Laboratory Analytical Reports for Groundwater Samples

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

140302 1511

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

140302 1511

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

140302 1511

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

140302 1512

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

140302 1512

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

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***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

140302 1512

Form I

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*
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

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***
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

140302 1512

Form I

1

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

1

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

1

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

140302 1512

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

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*
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

140302 1512

Form I

1

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

1

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

1

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

140302 1512

Form I

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*
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

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*
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	

140302 1512

Form I

1

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

1

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

1

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	

140302 1512

Form I

1

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

1

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

1

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

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

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

140302 1512

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*
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

140302 1512

Form I

4

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:

Page 1 of 1

140302 1512

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

140302 1512

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			

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
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		
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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		

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: 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		

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: 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

1

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

140302 1512

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:

Page 1 of 1

140302 1512

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

140302 1512

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

8

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

140302 1512

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

140302 1512

Sample Data

140302 1512

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

140302 1512

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

140302 1512

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	

140302 1512

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

140302 1512

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

140302 1512

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

140302 1512

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

140302 1512

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	

140302 1512

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

140302 1512

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

140302 1512

Form I

QC Summary

140302 1512

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

140302 1512

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

140302 1512

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

140302 1512

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

140302 1512

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

140302 1512

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

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.: 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

140302 1512

Sample Data

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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

U.S. EPA - CLP

1

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

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

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:

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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:

140302 1512

U.S. EPA - CLP

1

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

140302 1512

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.: 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

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.: 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

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.: 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

140302 1512

U.S. EPA - CLP

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): 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

140302 1512

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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) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead	5	U	5	U	5	U	5	U			P

140302 1512

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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

140302 1512

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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.: 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			

140302 1512

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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.: 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			

140302 1512

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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

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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

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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:

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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

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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				-	

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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:

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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.: 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

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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.: 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:

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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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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

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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

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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.: 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								

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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.: 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

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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.: 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.
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:	2/26/02	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 #:

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 Consr. ..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)
ıdy 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 #: