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FOURTH QUARTER 2001 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

3/1/2002

CH2MHILL CONSTRUCTORS INC

Fourth Quarter 2001
Operations and Maintenance
Status Report

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

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

October 1, 2001 – December 31, 2001

Naval Air Station Cecil Field
Jacksonville, Florida

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Prepared by:

CH2MHILL
Constructors, Inc.

115 Perimeter Center Place, N.E.

Suite 700

Atlanta, GA 30346

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Acronyms

AST	aboveground storage tank
bls	below land surface
^{o}C	degrees Celsius
CCI	CH2M HILL Constructors, Inc.
cfm	cubic feet per minute
CTO	Contract Task Order
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FL PRO	Florida Petroleum Residual Organic
GAC	granular activated carbon
GCTLs	groundwater cleanup target levels
J.A. Jones	J.A. Jones Environmental Services
LNAPL	light non-aqueous phase liquids
$\mu g/m^3$	micrograms per cubic meter
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
mS/cm	milliSeimens per centimeter
MW	Monitoring Well
NADSC	Natural Attenuation Default Source Concentration
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
O&M	operation and maintenance
ppm	parts per million
psi	pounds per square inch
RAP	Remedial Action Plan
scfm	standard cubic feet per minute
SVE	soil vapor extraction
SVOC	semivolatile organic compound
TRPH	total recoverable petroleum hydrocarbon
TtNUS	TetraTech NUS, Inc.
VEW	vapor extraction well
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 (NAVFAC), to provide operation and maintenance (O&M) services at 103rd Street and "A" Avenue Jet Fuel Transfer Pipeline (103rd Street and "A" Avenue), Naval Air Station (NAS) Cecil Field, Jacksonville, Florida, under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0062. The purpose of this O&M Report is to provide a summary of activities performed at the site during the period of October 1 to December 31, 2001.

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 Chapter 62-777 Florida Administrative Code (FAC). 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).

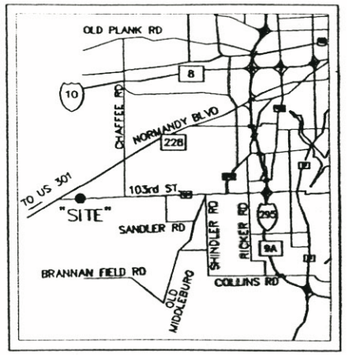
Site assessment activities were performed by TtNUS from 1998 to 1999 to delineate the extent of the light non-aqueous phase liquid (LNAPL), and soil and groundwater contamination at the site; and a Remedial Action Plan (RAP) was subsequently submitted in August 1999. The RAP specified air sparging and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

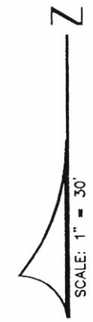
Air sparging is a method of expediting the transfer of saturated zone volatile organic compounds (VOCs) from the groundwater table to the vadose zone, where a soil vapor extraction (SVE) system can complete the VOC removal process. Hydrocarbon-free air is injected into air sparge wells, which are screened within the groundwater contaminant

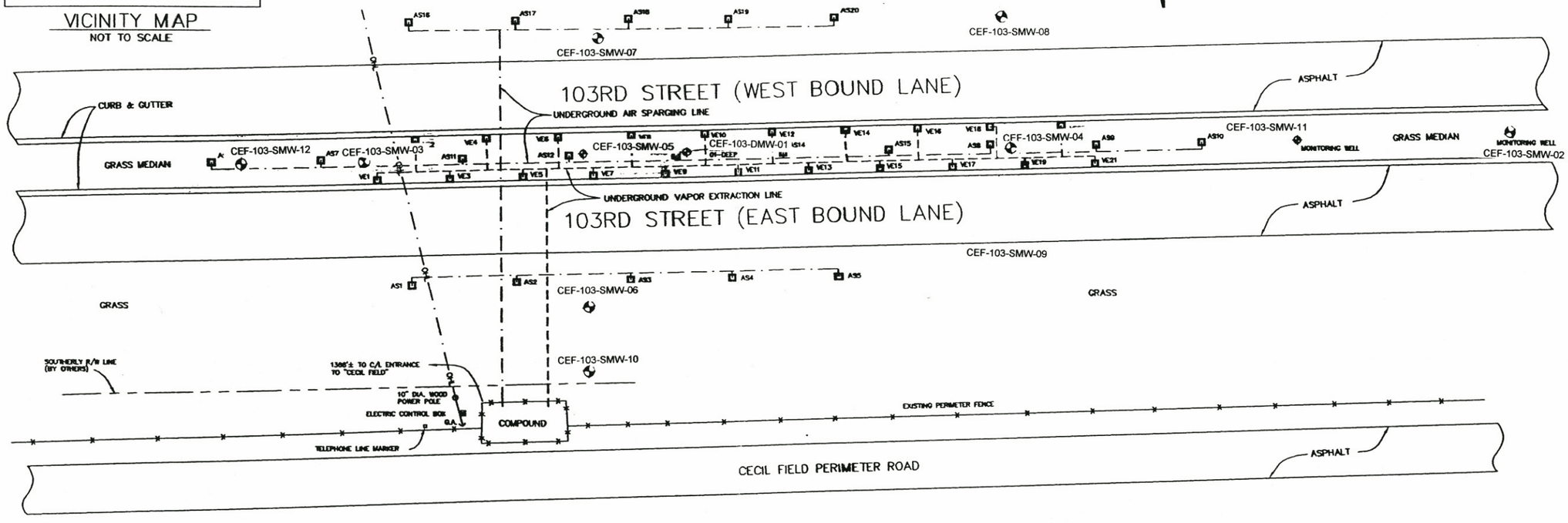
plume. As the injected air passes upward through the VOC laden groundwater and soil, VOCs are partitioned to the passing air and migrate to the vadose zone. The SVE wells, which are located in the vadose zone above the sparge area, apply a vacuum such that the sparge air is captured and removed from 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 extracted vapors are treated by two 1,000 pound granular activated carbon (GAC) units placed in series prior to being discharged to the atmosphere. The SVE system is designed for each vapor extraction well to operate at an airflow rate of 16 to 17 cubic feet per minute (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





"CECIL FIELD"

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 ■ AS# 36" X 36" CONCRETE WITH A 24" X 24" METAL COVER
UNDERGROUND AIR SPARGING LINE — · — — · — —
VAPOR EXTRACTION WELL ■ VE# 36" X 36" CONCRETE WITH A 24" X 24" METAL COVER
UNDERGROUND VAPOR EXTRACTION LINE — — — — — — —
FENCE —x—x—
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

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	2208	14088
Hours of Actual Operation	1756	9316
Percent hours of Operation	79.5	66.1

2.1.2 Soil Vapor Extraction System

	Period	To Date
Hours of Possible Operation	2208	14088
Hours of Actual Operation	1709	11312
Percent hours of Operation	77.4	80.3

2.2 Summary of Maintenance and System Downtime

2.2.1 Air Sparge System

During the period of October 1 to December 31, 2001, the air sparge system ran a total of 73.2 days out of a possible 92 days, resulting in 452 hours of downtime. The AS system down time is detailed as follows:

- Down for 283 hours for SVE moisture separator storage tank high level alarm
- Down for 161 hours for power interruptions
- Manually shut down for 6 hours for the quarterly groundwater sampling event
- Manually shut down for 2 hours for routine maintenance

2.2.2 SVE System

During the period of October 1 to December 31, 2001 the SVE system ran a total of 71.2 days out of a possible 92 days, resulting in 499 hours of down time. The SVE system downtime is detailed as follows:

- Down for 330 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 161 hours for power interruptions
- Manually shut down for 6 hours for the quarterly groundwater sampling event
- Manually shut down for 2 hours for routine maintenance

A larger storage tank for the moisture separator will be installed to replace the small existing tank during the first quarter 2002. This modification will allow continuous operation of the SVE system and significantly reduce downtime.

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 October 1 to December 31, 2001. 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 are provided in Table 2-1.

2.3.2 SVE System

During the monitoring period, vacuum pressure and flow rate was measured at each vapor extraction wellhead on a monthly basis for the period of October 1, 2001 to December 31, 2001. 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 29.5 inches of water column, compared to the design vacuum pressure of 54 inches of water column. The actual wellhead vacuum is maintained at a level that is less than the design wellhead vacuum in order to minimize the groundwater/rainwater drawn into the SVE wells due to the shallow water table and low lying topography. The average total flow rate for the SVE system was 709.3 standard cubic feet per minute (scfm) during the monitoring period, compared to the design flow rate of 350 scfm. The airflow rates averaged 33.8 scfm for each extraction well, compared to the design extraction flow rate of 16 to 17 scfm per well. The SVE flow rates were increased in an attempt to keep water from collecting in the piping between the wells and the system.

2.4 Water Level Measurements

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

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
AS-3 continued	10/30/2000	NR	11
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	8
	02/26/2001	NR	11
	03/26/2001	NR	12
	04/30/2001	NR	11
	05/21/2001	NR	10
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	12
	10/29/2001	NR	10
	11/27/2001	NR	10
	12/20/2001	NR	10
AS-4	05/26/2000	NR	11
	06/02/2000	NR	10
	06/09/2000	0	9
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	11
	10/30/2000	NR	9
	11/27/2000	NR	12
	12/18/2000	NR	10
	01/30/2001	NR	6
	02/26/2001	NR	10
	03/26/2001	NR	12
	04/30/2001	NR	11
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	11
	10/29/2001	NR	11
	11/27/2001	NR	10
	12/20/2001	NR	10
AS-5	05/26/2000	NR	14
	06/02/2000	NR	9
	06/09/2000	0	9
	06/22/2000	0	11
	07/24/2000	NR	12
	08/29/2000	NR	11
	10/30/2000	NR	8
	11/27/2000	NR	12
	12/18/2000	NR	9
	01/30/2001	NR	7
	02/26/2001	NR	10
	03/26/2001	NR	14

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

AS Well	Date	Wellhead Flow (acfm)	Wellhead Pressure (psi)
AS-15	05/26/2000	NR	11
	06/02/2000	NR	9
	06/09/2000	0	11
	06/22/2000	0	8.5
	07/24/2000	NR	11
	08/29/2000	NR	15
	10/30/2000	NR	8
	11/27/2000	NR	10
	12/18/2000	NR	8
	01/30/2001	NR	6
	02/26/2001	NR	12
	03/26/2001	NR	14
	04/30/2001	NR	10
	05/21/2001	NR	9
	07/24/2001	NR	10
	08/29/2001	NR	9
	09/19/2001	NR	6
	10/29/2001	NR	10
	11/27/2001	NR	9
	12/20/2001	NR	10
AS-16	05/26/2000	NR	11
	06/02/2000	NR	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	10
	10/30/2000	NR	10
	11/27/2000	NR	10
	12/18/2000	NR	10
	01/30/2001	NR	6
	02/26/2001	NR	10
	03/26/2001	NR	10
	04/30/2001	NR	10
	05/21/2001	NR	8
	07/24/2001	NR	10
	08/29/2001	NR	10
	09/19/2001	NR	10
	10/29/2001	NR	9
	11/27/2001	NR	10
	12/20/2001	NR	10
AS-17	05/26/2000	NR	9
	06/02/2000	NR	10
	06/09/2000	0	10
	06/22/2000	0	10
	07/24/2000	NR	NR
	08/29/2000	NR	10

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

TABLE 2-1
Air Sparge System - Sparge Well Measurements

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

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

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-1	05/26/2000	NM	62.9
	06/02/2000	NM	0.0
	06/09/2000	NM	28.1
	06/22/2000	23	28.1
	07/24/2000	25	34.5
	08/29/2000	0	28.1
	10/30/2000	6	19.9
	11/27/2000	16	21.8
	12/18/2000	5	12.6
	01/30/2001	0	0.0
	02/26/2001	40	34.5
	03/26/2001	12	19.9
	04/30/2001	16	44.5
	05/21/2001	18	39.8
	07/24/2001	NM	56.2
	08/29/2001	2	52.6
	09/19/2001	0	0.0
	11/27/2001	30	118.9
	12/20/2001	31	48.7
VEW-2	05/26/2000	NM	62.9
	06/02/2000	NM	62.9
	06/09/2000	NM	28.1
	06/22/2000	24	19.9
	07/24/2000	8	19.9
	08/29/2000	8	19.9
	10/30/2000	8	44.5
	11/27/2000	2	19.9
	12/18/2000	7	15.4
	01/30/2001	0	0.0
	02/26/2001	41	19.9
	03/26/2001	15	28.1
	04/30/2001	15	34.5
	05/21/2001	23	19.9
	07/24/2001	3	19.9
	08/29/2001	0	0.0
	09/19/2001	2	0.0
	11/27/2001	25	56.2
	12/20/2001	30	28.1
VEW-3	05/26/2000	NM	62.9
	06/02/2000	NM	12.6
	06/09/2000	NM	62.9
	06/22/2000	22	62.9
	07/24/2000	26	48.7
	08/29/2000	12	19.9
	10/30/2000	2	19.9
	11/27/2000	2	8.9
	12/18/2000	2	19.9

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-3 continued	01/30/2001	0	25.2
	02/26/2001	40	39.8
	03/26/2001	10	28.1
	04/30/2001	14	28.1
	05/21/2001	18	34.5
	07/24/2001	4	39.8
	08/29/2001	2	19.9
	09/19/2001	0	0.0
	11/27/2001	30	125.3
	12/20/2001	26	44.5
VEW-4	05/26/2000	NM	28.1
	06/02/2000	NM	28.1
	06/09/2000	NM	28.1
	06/22/2000	25	8.9
	07/24/2000	29	56.2
	08/29/2000	12	28.1
	10/30/2000	12	34.5
	11/27/2000	8	23.5
	12/18/2000	6	15.4
	01/30/2001	0	0.0
	02/26/2001	43	19.9
	03/26/2001	20	39.8
	04/30/2001	15	34.5
	05/21/2001	21	19.9
	07/24/2001	5	19.9
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	31	28.1
VEW-5	05/26/2000	NM	52.6
	06/02/2000	NM	12.6
	06/09/2000	NM	62.9
	06/22/2000	23	34.5
	07/24/2000	25	39.8
	08/29/2000	12	19.9
	10/30/2000	0	52.6
	11/27/2000	2	8.9
	12/18/2000	4	12.6
	01/30/2001	0	0.0
	02/26/2001	30	28.1
	03/26/2001	15	28.1
	04/30/2001	14	28.1
	05/21/2001	18	28.1
	07/24/2001	4	28.1
	08/29/2001	1	19.9
	09/19/2001	4	0.0
	11/27/2001	30	88.8
	12/20/2001	28	62.9

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-6	05/26/2000	NM	39.8
	06/02/2000	NM	62.9
	06/09/2000	NM	62.9
	06/22/2000	22	84.3
	07/24/2000	25	34.5
	08/29/2000	14	34.5
	10/30/2000	12	34.5
	11/27/2000	2	19.9
	12/18/2000	5	15.4
	01/30/2001	0	0.0
	02/26/2001	38	19.9
	03/26/2001	18	19.9
	04/30/2001	15	34.5
	05/21/2001	22	28.1
	07/24/2001	0	28.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	28	28.1
VEW-7	05/26/2000	NM	28.1
	06/02/2000	NM	12.6
	06/09/2000	NM	28.1
	06/22/2000	23	19.9
	07/24/2000	26	28.1
	08/29/2000	14	19.9
	10/30/2000	0	44.5
	11/27/2000	1	8.9
	12/18/2000	5	21.8
	01/30/2001	0	0.0
	02/26/2001	20	19.9
	03/26/2001	20	34.5
	04/30/2001	14	28.1
	05/21/2001	22	28.1
	07/24/2001	2	19.9
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	68.8
	12/20/2001	30	39.8
VEW-8	05/26/2000	NM	62.9
	06/02/2000	NM	28.1
	06/09/2000	24	39.8
	06/22/2000	22	28.1
	07/24/2000	24	19.9
	08/29/2000	13	125.3
	10/30/2000	12	34.5
	11/27/2000	3	28.1
	12/18/2000	5	17.8
	01/30/2001	0	0.0

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-8 continued	02/26/2001	35	19.9
	03/26/2001	17	19.9
	04/30/2001	14	28.1
	05/21/2001	20	28.1
	07/24/2001	3	19.9
	08/29/2001	0	0.0
	09/19/2001	2	34.5
	11/27/2001	30	79.5
	12/20/2001	28	39.8
VEW-9	05/26/2000	NM	19.9
	06/02/2000	NM	12.6
	06/09/2000	24	39.8
	06/22/2000	21	19.9
	07/24/2000	25	19.9
	08/29/2000	5	28.1
	10/30/2000	4	28.1
	11/27/2000	3	12.6
	12/18/2000	4	26.7
	01/30/2001	0	17.8
	02/26/2001	12	19.9
	03/26/2001	20	19.9
	04/30/2001	17	34.5
	05/21/2001	21	28.1
	07/24/2001	6	39.8
	08/29/2001	1	0.0
	09/19/2001	4	62.9
	11/27/2001	30	62.9
	12/20/2001	31	39.8
VEW-10	05/26/2000	NM	28.1
	06/02/2000	NM	62.9
	06/09/2000	24	32.1
	06/22/2000	23	28.1
	07/24/2000	28	19.9
	08/29/2000	11	39.8
	10/30/2000	13	28.1
	11/27/2000	5	28.1
	12/18/2000	5	12.6
	01/30/2001	0	0.0
	02/26/2001	32	19.9
	03/26/2001	20	28.1
	04/30/2001	17	34.5
	05/21/2001	21	19.9
	07/24/2001	4	19.9
	08/29/2001	0	0.0
	09/19/2001	6	0.0
	11/27/2001	30	56.2
	12/20/2001	27	19.9

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-11	05/26/2000	NM	28.1
	06/02/2000	NM	28.1
	06/09/2000	24	19.9
	06/22/2000	21	19.9
	07/24/2000	24	28.1
	08/29/2000	14	28.1
	10/30/2000	0	44.5
	11/27/2000	2	15.4
	12/18/2000	4	12.6
	01/30/2001	0	12.6
	02/26/2001	11	19.9
	03/26/2001	20	28.1
	04/30/2001	14	34.5
	05/21/2001	21	28.1
	07/24/2001	4	19.9
	08/29/2001	1	0.0
	09/19/2001	0	28.1
	11/27/2001	29	62.9
	12/20/2001	31	34.5
VEW-12	05/26/2000	NM	44.5
	06/02/2000	NM	19.9
	06/09/2000	24	25.2
	06/22/2000	22	19.9
	07/24/2000	25	19.9
	08/29/2000	14	19.9
	10/30/2000	10	19.9
	11/27/2000	2	12.6
	12/18/2000	4	8.9
	01/30/2001	0	12.6
	02/26/2001	32	19.9
	03/26/2001	20	28.1
	04/30/2001	16	19.9
	05/21/2001	20	28.1
	07/24/2001	6	19.9
	08/29/2001	0	0.0
	09/19/2001	0	74.3
	11/27/2001	30	56.2
	12/20/2001	30	19.9
VEW-13	05/26/2000	NM	34.5
	06/02/2000	NM	34.5
	06/09/2000	24	12.6
	06/22/2000	22	19.9
	07/24/2000	26	34.5
	08/29/2000	13	19.9
	10/30/2000	0	19.9
	11/27/2000	1	8.9
	12/18/2000	5	17.8

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-13	01/30/2001	0	0.0
continued	02/26/2001	12	19.9
	03/26/2001	25	34.5
	04/30/2001	12	28.1
	05/21/2001	22	28.1
	07/24/2001	6	19.9
	08/29/2001	1	28.1
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	30	39.8
VEW-14	05/26/2000	NM	19.9
	06/02/2000	NM	62.9
	06/09/2000	24	15.4
	06/22/2000	20	19.9
	07/24/2000	25	28.1
	08/29/2000	14	19.9
	10/30/2000	0	19.9
	11/27/2000	2	15.4
	12/18/2000	4	17.8
	01/30/2001	0	0.0
	02/26/2001	25	19.9
	03/26/2001	20	34.5
	04/30/2001	14	28.1
	05/21/2001	21	19.9
	07/24/2001	10	19.9
	08/29/2001	0	0.0
	09/19/2001	0	19.9
	11/27/2001	28	56.2
	12/20/2001	29	28.1
VEW-15	05/26/2000	NM	12.6
	06/02/2000	NM	19.9
	06/09/2000	24	28.1
	06/22/2000	24	28.1
	07/24/2000	27	19.9
	08/29/2000	14	34.5
	10/30/2000	0	19.9
	11/27/2000	5	15.4
	12/18/2000	5	12.6
	01/30/2001	0	0.0
	02/26/2001	13	19.9
	03/26/2001	20	44.5
	04/30/2001	16	28.1
	05/21/2001	20	28.1
	07/24/2001	5	19.9
	08/29/2001	0	0.0
	09/19/2001	0	88.8
	11/27/2001	30	56.2
	12/20/2001	29	44.5

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-16	05/26/2000	NM	28.1
	06/02/2000	NM	19.9
	06/09/2000	20	19.9
	06/22/2000	20	34.5
	07/24/2000	23	39.8
	08/29/2000	13	19.9
	10/30/2000	0	39.8
	11/27/2000	4	25.2
	12/18/2000	2	12.6
	01/30/2001	0	0.0
	02/26/2001	22	28.1
	03/26/2001	18	28.1
	04/30/2001	14	28.1
	05/21/2001	21	19.9
	07/24/2001	3	28.1
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	29	28.1
VEW-17	05/26/2000	NM	62.9
	06/02/2000	NM	28.1
	06/09/2000	24	37.7
	06/22/2000	22	21.8
	07/24/2000	26	28.1
	08/29/2000	14	28.1
	10/30/2000	0	19.9
	11/27/2000	0	8.9
	12/18/2000	2	8.9
	01/30/2001	2	0.0
	02/26/2001	0	19.9
	03/26/2001	20	34.5
	04/30/2001	16	28.1
	05/21/2001	21	28.1
	07/24/2001	5	19.9
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	33	56.2
	12/20/2001	29	28.1
VEW-18	05/26/2000	NM	34.5
	06/02/2000	NM	28.1
	06/09/2000	23	39.8
	06/22/2000	23	12.6
	07/24/2000	24	28.1
	08/29/2000	13	28.1
	10/30/2000	0	19.9
	11/27/2000	3	12.6
	12/18/2000	2	21.8
	01/30/2001	0	12.6

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-18	02/26/2001	20	19.9
continued	03/26/2001	20	28.1
	04/30/2001	14	34.5
	05/21/2001	20	19.9
	07/24/2001	4	19.9
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	28	28.1
VEW-19	05/26/2000	NM	19.9
	06/02/2000	NM	19.9
	06/09/2000	22	25.2
	06/22/2000	21	12.6
	07/24/2000	25	28.1
	08/29/2000	15	19.9
	10/30/2000	0	28.1
	11/27/2000	2	15.4
	12/18/2000	4	12.6
	01/30/2001	0	0.0
	02/26/2001	15	19.9
	03/26/2001	20	28.1
	04/30/2001	14	28.1
	05/21/2001	21	19.9
	07/24/2001	4	19.9
	08/29/2001	0	0.0
	09/19/2001	0	0.0
	11/27/2001	30	56.2
	12/20/2001	30	34.5
VEW-20	05/26/2000	NM	12.6
	06/02/2000	NM	62.9
	06/09/2000	23	62.9
	06/22/2000	20	19.9
	07/24/2000	23	28.1
	08/29/2000	12	28.1
	10/30/2000	0	34.5
	11/27/2000	3	19.9
	12/18/2000	5	17.8
	01/30/2001	0	17.8
	02/26/2001	18	19.9
	03/26/2001	20	44.5
	04/30/2001	16	34.5
	05/21/2001	21	19.9
	07/24/2001	2	19.9
	08/29/2001	0	0.0
	09/19/2001	0	34.5
	11/27/2001	30	56.2
	12/20/2001	29	39.8

TABLE 2-2
SVE System - Extraction Well Measurements

SVE Well	Date	Wellhead Vacuum (in H_2O)	Wellhead Flow (scfm)
VEW-21	05/26/2000	NM	12.6
	06/02/2000	NM	12.6
	06/09/2000	20	19.9
	06/22/2000	20	12.6
	07/24/2000	25	19.9
	08/29/2000	10	19.9
	10/30/2000	0	19.9
	11/27/2000	3	15.4
	12/18/2000	4	25.2
	01/30/2001	0	12.6
	02/26/2001	16	19.9
	03/26/2001	20	28.1
	04/30/2001	15	28.1
	05/21/2001	20	19.9
	07/24/2001	2	19.9
	08/29/2001	0	0.0
	09/19/2001	0	28.1
	11/27/2001	30	56.2
	12/20/2001	30	28.1

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

TABLE 2-3
Groundwater Monitoring Well - Water Level and Free Product Data

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
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
		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
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

TABLE 2-3
Groundwater Monitoring Well - Water Level and Free Product Data

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-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
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
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

TABLE 2-3
Groundwater Monitoring Well - Water Level and Free Product Data

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-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
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
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
		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

TABLE 2-3
Groundwater Monitoring Well - Water Level and Free Product Data

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-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
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
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

TABLE 2-3
Groundwater Monitoring Well - Water Level and Free Product Data

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-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
		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
CEF-103-DMW-01		04/30/2001		no product	8.18	74.22
continued		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

NM = not measured
bls = below land 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 GAC units were removed on February 8, 2001 because the effluent VOC concentration was less than the Florida Department of Environment Protection (FDEP) treatment requirement of 13.7 pounds per day. Prior to GAC removal, the GAC influent, mid-fluent and effluent were sampled monthly for analyses by U. S. Environmental Protection Agency (EPA) Method 18, TO-14. After GAC removal the SVE effluent was sampled monthly for analysis by EPA Method 18, TO-14. Copies of the analytical laboratory reports from the air sampling events are provided in Appendix A, and analytical results are summarized in Tables 3-1, 3-2 and 3-3. The pounds per day loading (air emission) rate summary is provided in Table 3-4.

Based upon an average pounds per day VOC removal rate and an on-stream time of 71.2 days, a total of 0.22 pounds of VOCs were removed from the subsurface during the monitoring period via volatilization. It should be noted that this calculation does not consider 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 hydrocarbons (TRPH) on November 27, 2001. Eight of the nine monitoring wells sampled are located within the treatment zone and exhibited significant decreases in contaminant concentrations from the baseline groundwater sampling event that was performed on 3/20/00 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 eastern most 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 trimethylbenzenes, 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 monitoring 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 in Table 3-5.

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

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

Compound (µg/m^3)	05/16/00	05/26/00	06/02/00	06/09/00	06/27/00	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

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

Compound (µg/m^3)	05/16/00	05/26/00	06/02/00	06/09/00	06/27/00	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01
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

µg/m^3 - micrograms per cubic meter
mg/m^3 - milligrams per cubic meter

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

Compound ($\mu g/m^3$)	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

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

Compound (µg/m^3)	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01
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

µg/m^3 - micrograms per cubic meter
mg/m^3 - milligrams per cubic meter

TABLE 3-3
SVE System – Post Treatment Analytical Results

Compound (µg/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
OVA-FID (ppm)	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
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
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
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
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
1,1-Dichloroethene	<1.982	<1.982	<1.982	NA	NA	NA	NA	NA	NA	NA	NA	<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
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
1,2-Dibromoethane	<3.842	<3.842	<3.842	NA	NA	NA	NA	NA	NA	NA	NA	<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
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
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
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
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
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
2-Chlorotoluene	<2.588	<2.588	<2.588	NA	NA	NA	NA	NA	NA	NA	NA	<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
Alpha-Chlorotoluene	<2.834	<2.834	<2.834	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
Bromoform	<5.168	<5.168	<5.168	NA	NA	NA	NA	NA	NA	NA	NA	<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
Bromodichloromethane	<3.349	<3.349	<3.349	NA	NA	NA	NA	NA	NA	NA	NA	<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
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
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
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
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

TABLE 3-3
SVE System – Post Treatment Analytical Results

Compound (µg/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
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
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
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
Dibromochloromethane	<1.762	<1.762	<1.762	NA	NA	NA	NA	NA	NA	NA	NA	<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
Dichlorotetrafluoroethane	<3.495	<3.495	<3.495	NA	NA	NA	NA	NA	NA	NA	NA	<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
Freon 113	<3.831	<3.831	<3.831	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
Hexachlorobutadiene	<5.332	<5.332	<5.332	NA	NA	NA	NA	NA	NA	NA	NA	<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
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
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
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
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
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
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
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
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
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
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
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
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
Trichlorotrifluoroethane	<3.831	<3.831	<3.831	NA	NA	NA	NA	NA	NA	NA	NA	<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
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
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

µg/m^3 - micrograms per cubic meter
mg/m^3 - milligrams per cubic meter

TABLE 3-4
Mass Loading / Emission Rate

Location	Sample Date	Flow Rate (scfm)	Total VOC Concentration (mg/m^3)	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	534.8	0.043	0.0021
	07/17/2001	518.8	0.280	0.0131
	08/14/2001	120.6	0.650	0.0071
	09/27/2001	371.1	0.000	0.0000
	11/20/2001	1394.4	0.050	0.0063
	12/20/2001	733.4	0.000	0.0000

scfm – standard cubic feet per minute
mg/m^3 – milligrams per cubic meter

TABLE 3-5
Groundwater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-SMW01	**03/20/00**	<2	1.1	<3	<5	2.9	2.4	<6.5	1.4	<2.5	1.1	1.3	<2.5	2	<2	<6	<6.5	<1	<1	3.5	<1.0	420	0.068
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	0.89	<1.04	440	ND
	12/20/00	<2	<5.5	<3	<5	0.91	0.57	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	2	<1	470	0.11
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	0.53	<2	<6	<6.5	<1	<1	<2	<1	0.97	0.049
	05/23/01	0	5.5	<3	<5	1.5	2	<6.5	13	<2.5	0.63	5.5	<2.5	0.87	<2	<6	<6.5	<1	<1	2	<1	1	0.1
	08/30/01	<0.5	<1	0.55	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	0.015
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	<0.54	<0.002
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
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

TABLE 3-5
Groundwater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-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
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
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

TABLE 3-5
Groundwater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-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
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
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

TABLE 3-5
Groundwater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-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
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
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

TABLE 3-5
Groundwater Analytical Results

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthtalene (by EPA Method 8021)	Naphthalene (by EPA Method 8310)	Petroleum Range Org (PRO)	Lead
CEF-103-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
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 µg/L except Florida Petroleum Residual Organic (FL PRO) and lead are in milligrams per liter (mg/L)
2. NA = not analyzed
3. NS = not sampled
4. Shade = concentration is above groundwater cleanup target levels (GCTLs)

TABLE 3-6
Monitoring Well Field Measurements

Well Identification	Date/Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	Temperature (^{o}C)
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
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
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
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
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

TABLE 3-6
Monitoring Well Field Measurements

Well Identification	Date/Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	Temperature (^{o}C)
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
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
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
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
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

TABLE 3-6
Monitoring Well Field Measurements

Well Identification	Date/Time	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/L)	Temperature (^oC)
CEF-103-SMW-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
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

NR = no reading taken
mS/cm - milliSeimens cubic meter
mg/L - milligrams per Liter
ºC – degrees Celsius

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 GCTL. Monitoring well CEF-103-SMW11 is located outside the treatment zone of the air sparge system. The concentrations in this monitoring well were decreased from the baseline sampling event and were below the Natural Attenuation Default Source Concentrations (NASDC) specified by Chapter 62-777 FAC except for isopropylbenzene and 1,2,4-trimethylbenzene.

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 Department of Transportation (FDOT) 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 (provided on CD)

CH2MHILL DATA DELIVERABLE EVALUATION

Project Name: NAS Cecil Field Monthly Air

CTO: 62 **Project Number:** 163151 **SDG#:** C110417

Project Manager Sam Ross *Laboratory* STL-Pensacola

Preliminary Data

Date Due _____ **Date Received** _____

Final Data

Date Due 10/31/01 **Date Received** 10/31/01

Evaluation

- CCI Level: A B (C)
- Electronic Data Deliverables Received? **yes no**
- Review Level Needed: Evaluation: _____ Validation: _____

- **Validated Data**
  Date Due _____ **Date Received** _____

Archiving

- Total pages of final report: _____
- Out-sourced? **Yes or No**

Comments

_____

_____

_____

_____

_____

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

C110417

CHAIN-OF-CUSTODY RECORD

COC NUMBER: **163151-016**

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

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)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by TO-14	SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-17	SVE Effluent	AIR	10/15/01	10:55	III/C	14 Day	1	Grab	Summa Canister	298
2											
3											
4											
5											
6											
7											
8											
9											
10											

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791678865018.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	10/15/01	12:00	Printed Name and Signature: Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature: Davelle Havard	10-17-01	0905
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

Oct 18 01 04:29p STL/Pensacola 850 478-2671 P.5

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C/10417 Date Received: 10-17-01

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)				
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*	12.	If sent, were matrix spike bottles returned?	Yes	No* (N/A)
7.	Were all sample containers received intact?	(Yes)	No*	13.	Was Project Manager notified of problems? (initials:_____)	Yes	No* (N/A)

Airbill Number(s): 7916 7886 5018

Shipped By: Fed Ex

Cooler Number(s): 285, 298

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 10-17-01 **Logged By:** [illegible] **Date:** 10/17/01

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

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

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

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

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

COMNAVY PAC PMO
OCT 31 2001

001

~~002~~

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	106 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	102 %

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10417-1	062-SVE-E-A-1015-01-17	10-15-01/10:55

PARAMETER	10417-1
Dilution Factor	1
Prep Date	10.25.01
Prep Time	13:57
Analysis Date	10.25.01
Analysis Time	14:11
Batch ID	MAB218
Prep Method	MOD-TO14
Analyst	BDH

3355 McLemore Drive • Pensacola, FL 32514 • Tel: 850 474 1001 • Fax: 850 478 2671 • www.stl-inc.com

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	250.27	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	255.95	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
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Client PO. No.: 2916
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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	223.16	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	256.43	103 %	86-113

005

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	251.07	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	250.01	100 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	254.53	102 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.5000	239.04	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	10.25.01	---	10.25.01	---	---
Prep Time	09:16	---	09:50	---	---
Analysis Date	10.25.01	---	10.25.01	---	---
Analysis Time	09:29	---	10:03	---	---
Batch ID	MAB218	MAB218	MAB218	MAB218	MAB218
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

006

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10417-2	Method Blank	
10417-3	Lab Control Standard True Value	
10417-4	Lab Control Standard Result	
10417-5	Lab Control Standard % Recovery	
10417-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10417-2	10417-3	10417-4	10417-5	10417-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

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STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C110417 Date Received: 10-17-01

1.	Was there a Chain of Custody?	(Yes)	No*	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): 7916 7886 5018

Cooler Number(s): 285; 298

Cooler Weight(s): 16#

Shipped By: Fed Ex

Shipping Charges: N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 10-17-01 **Logged By:** PM **Date:** 10/17/01

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

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

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

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

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

C110417

CHAIN-OF-CUSTODY RECORD

COC NUMBER: **163151-016**

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

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)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-17	SVE Effluent	AIR	10/15/01	10:55	III/C	14 Day	1									1	Grab	Summa Canister	298
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791678865018.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	10/15/01	12:00	Printed Name and Signature: Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature: Davelle Havard / Davelle Havard	10-17-01	0905
Printed Name and Signature:			Printed Name and Signature:		

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

Form CCI001, Rev 02/00

C 110417

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

FROM: Randy Dumaop (904)777-4812
J.A. Jones Environmental Servic
6219 Authority Ave.
Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

SHIP DATE: 15OCT01
MAN-WGT: 16 LBS

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

Pensacola, FL 32514-7045

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 ** 2DAY **

WED
AA

TRK # 7916 7886 5018 FORM 0201

BFM

Deliver By:
17OCT01

32514-FL-US
DROP OFF

F3 PNSA

010

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: Pam
Labeled by: DMH
Delivered by: DMH

CH2M-CONST-GA C110417
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	8	1	DMH	10-17-01	1645
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

SEVERN TRENT SERVICES

STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside --50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

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Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

FL DEP Data Qualifiers

SEVERN TRENT SERVICES
STL Pensacola

The following codes shall be used when reporting data values that either meet the specified description outlined below or do not meet the quality control criteria of the laboratory:

SYMBOL	MEANING
A	Value reported is the mean (average) of two or more determinations. This code shall be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed (e.g. laboratory replicate samples, field duplicates, etc.) independently. Do not use this code if the data are the result of replicate analysis on the same sample aliquot, extract or digestate. Under most conditions, replicate values shall be reported as individual analyses.
B	Results based upon colony counts outside the acceptable range. This code applies to microbiological tests and specifically to membrane filter colony counts. The code is to be used if the colony count is generated from a plate in which the total number of coliform colonies exceeds the method indicated ideal ranges which are: Total Coliforms: 20 - 80 colonies Fecal Coliforms: 20 - 60 colonies
F	When reporting species: F indicates the female sex
H	Value based on field kit determination; results may not be accurate. This code shall be used if a field screening test (i.e. field gas chromatograph data, immunoassay, vendor-supplied field kit, etc.) was used to generate the value and the field kit or method has not been recognized by the Department as equivalent to laboratory methods.
J	Estimated value; value not accurate. This code shall be used in the following instances: 1. surrogate recovery limits have been exceeded; 2. no known quality control criteria exists for the component; 3. the reported value failed to meet the established quality control criteria for either precision or accuracy; 4. the sample matrix interfered with the ability to make any accurate determination; or 5. if the data is questionable because of improper laboratory or field protocols (e.g. composite sample was collected instead of a grab sample). Note: a "J" value shall be accompanied by justification for its use. A "J" value shall not be used if another code applies (e.g., K, L, M, T, V, Y, I)
K	Off-scale low. Actual value is known to be less than the value given. This code shall be used if: 1. The value is less than the lowest calibration standard and the calibration curve is known to be non-linear; or 2. The value is known to be less than the reported value based on sample size, dilution or some other variable. This code shall not be used to report values that are less than the laboratory practical quantitation limit or laboratory method detection limit.
L	Off-scale high. Actual value is known to be greater than value given. To be used when the concentration of the analyte is above the acceptable level for quantitation (exceeds the linear range or highest calibration standard) and the calibration curve is known to exhibit a negative deflection.
M	When reporting chemical analyses: presence of material is verified but not quantified; the actual value is less than the value given. The reported value shall be the laboratory practical quantitation limit. This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is greater than the method detection limit. If the value is less than the method detection limit use "T" below. When reporting Oxygen Reduction Potential or Temperature: indicates a negative value When reporting Species: indicates male sex.
N	Presumptive evidence of presence of material. This qualifier shall be used if: 1. the component has been tentatively identified based on mass spectral library search; 2. there is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e. presence of analyte was not confirmed by alternate procedures).

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FL DEP Data Qualifiers

SEVERN TRENT SERVICES
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SYMBOL	MEANING
O	Sampled, but analysis lost or not performed. Note: if reporting data to the U.S. Environmental Protection Agency Water Quality Storage and Retrieval (STORET) data base, a numerical value must be entered. Such values are not meaningful and shall not be used.
Q	Sample held beyond the accepted holding time. This code shall be used if the value is derived from a sample that was prepared or analyzed after the approved holding time restrictions for sample preparation or analysis.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes, only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected. This shall be used to indicate that the specified component was not detected. The value associated with the qualifier shall be the laboratory method detection limit. Unless requested by the client, less than the method detection limit values shall not be reported (see "T" above).
V	Indicates that the analyte was detected in both the sample and the associated method blank. Note: the value in the blank shall not be subtracted from associated samples.
Y	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC), the numeric value represents the filtration volume.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
?	Data is rejected and should not be used. Some of all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not analyzed due to interference. Note: if reporting data to the U.S. Environmental Protection Agency Water Quality Storage and Retrieval (STORET) data base, a numerical value must be entered. Such values are not meaningful and shall not be used.

If more than one code applies, and the data is to be entered into STORET, only one code shall be reported. The code shall be selected based on the following hierarchy:

?
*, O
Y
V
H
B, K, L, M, I, U, T, Z
A, N, F, Q
J

The following codes deal with certain aspects of field activities. The codes shall be used if the laboratory has knowledge of the specific sampling event. The codes shall be added by the organization collecting samples if they apply:

D	Measurement was made in the field (i.e. in situ). This applies to any value (ex. pH, specific conductance, etc.) that was obtained under field conditions using approved analytical methods. Note: when data is to be entered into STORET, and the parameter code specifies a field measurement (e.g. "Field pH"), this code is not required.
E	Indicates that extra samples were taken at composite stations.
R	Significant rain in the past 48 hours. This code shall be used when the rainfall might contribute to a lower than normal value.
!	Data deviates from historically established concentration ranges.

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015

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

Foreign Soil Permit, Permit No. S-37599

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

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

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

Louisiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

*State of **Maryland**, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02*

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

*State of **Michigan**, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02*

*New **Hampshire** DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02*

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

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

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

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

*State of **Oklahoma**, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02*

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

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 110417
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Oct. 17, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1015-01-17	110417-1	SVEEA17

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

Larry Dilmore
GC/MS SUPERVISOR
Oct. 26, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1025A.D Date Analyzed : 25 Oct 2001
Instrument ID : GC/MS Ins Time Analyzed : 8:52
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
104171	062SVEA10150117	106	100	102	0	0	0	0
MA218ABK	VBLKMA/ DAILY M	102	99	95	0	0	0	0
MA218LCS	LCS/BATCH #218	100	102	96	0	0	0	0

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

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

018

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\MA218LCS.D Vial: 16
Acq On : 25 Oct 2001 10:03 Operator: BDH
Sample : LCS/BATCH #218 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

	Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC 1,1-Dichloroethene	223.16	250.00	89.26	58 to 138%	[ ]
27)	M Benzene	250.27	250.00	100.11	87 to 116%	[ ]
28)	M Trichloroethene	251.07	250.00	100.43	85 to 116%	[ ]
33)	MC Toluene	256.43	250.00	102.57	86 to 113%	[ ]
39)	MP Chlorobenzene	255.95	250.00	102.38	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	110417					
Batch	MAB218	Actual ng result	mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene		250.27	0.5000	0.5005	100%	87-116%
Chlorobenzene		255.95	0.5000	0.5119	102%	88-111%
1,1-Dichloroethene		223.16	0.5000	0.4463	89%	58-138%
Toluene		256.43	0.5000	0.5129	103%	86-113%
Trichloroethene		251.07	0.5000	0.5021	100%	85-116%
1,2-Dichloroethane-d4		250.01	0.5000	0.5000	100%	61-140%
Toluene-d8		254.53	0.5000	0.5091	102%	90-109%
4-Bromofluorobenzene		239.04	0.5000	0.4781	96%	87-112%

4A

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.: C110417

Lab File ID: MA218ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 10/25/01 Time Analyzed: 9:29

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	LCS/BATCH #218 LCS 5	MA218LCS.D	10:03
02	SVEEA17	062SVEA10150117\1041	104171.D	14:11

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID: BFMA1024.D BFB Injection Date: 10/24/01

Instrument ID: MARILYN BFB Injection Time: 8:31

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	29.6
75	30.0 - 66.0% of mass 95	55.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	62.1
175	4.0 - 9.0% of mass 174	4.2 (6.8)1
176	93.0 - 101.0% of mass 174	60.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.2 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	10/24/01	10:49
02	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025R.D	10/24/01	11:26
03	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	10/24/01	12:04
04	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	10/24/01	13:00
05	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	10/24/01	13:51
06	VSTD0100	100NG/4UL/20PPB INITI	CMA0100R.D	10/24/01	14:47

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID: BFM1025A.D BFB Injection Date: 10/25/01

Instrument ID: MARILYN BFB Injection Time: 8:30

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	29.0
75	30.0 - 66.0% of mass 95	56.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	59.9
175	4.0 - 9.0% of mass 174	4.5 (7.6)1
176	93.0 - 101.0% of mass 174	59.1 (98.7)1
177	5.0 - 9.0% of mass 176	4.3 (7.3)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	DAILY CALIB. CHECK 50	CM1025A.D	10/25/01	8:52
02	VBLKMA	VBLKMA/ DAILY METHO	MA218ABK.D	10/25/01	9:29
03	LCS AND 2ND	LCS/BATCH #218 LCS 5	MA218LCS.D	10/25/01	10:03
04	SVEEA17	062SVEA10150117\1041	104171.D	10/25/01	14:11

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integratc
Title : TO14
Last Update : Fri Oct 26 13:22:07 2001
Response via : Initial Calibration

Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.450	1.609	2.668	1.794	2.247	1.786	-----	
								Q	A= 0.335 R^2=0.992	
									B= 0.513	
									C= 0.585	
3)		Dichlorotetrafluoro	1.923	1.948	2.523	1.817	2.241	1.936	2.065	12.87
4)	P	Chloromethane	1.350	1.225	1.609	1.200	1.259	1.280	1.320	11.40
5)	C	Vinyl chloride	1.122	1.150	1.316	1.084	1.157	1.158	1.165	6.84#
6)		Bromomethane	1.565	1.559	1.756	1.493	1.469	1.572	1.569	6.41
7)		Chloroethane	0.673	0.721	0.784	0.698	0.646	0.708	0.705	6.69
8)		Trichlorofluorometh	1.889	2.374	2.694	2.477	2.161	2.446	2.340	11.96
9)		1,1,2-Trichlorotrif	2.182	2.131	1.988	2.013	1.741	2.079	2.022	7.69
10)	MC	1,1-Dichloroethene	1.187	1.241	1.174	1.218	1.073	1.242	1.189	5.32#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.772	2.538	2.411	2.235	2.140	2.328	2.404	9.44
13)		Carbon disulfide	3.583	3.762	4.056	3.565	3.566	3.791	3.721	5.19
14)		methyl-Tert-Butyl E	2.558	1.720	1.870	1.892	1.771	1.861	-----	
								L	M= 1.885 R^2=1.000	
									B= -0.060	
15)		trans-1,2-Dichloroe	1.373	1.435	1.412	1.283	1.199	1.389	1.349	6.65
16)		n-Hexane	1.822	1.646	1.586	1.486	1.559	1.563	1.610	7.18
17)	P	1,1-Dichloroethane	2.732	2.891	2.845	2.685	2.479	2.749	2.730	5.29
18)		cis-1,2-Dichloroeth	2.132	2.371	2.358	2.231	2.064	2.260	2.236	5.44
19)	C	Chloroform	3.366	3.581	3.479	3.318	3.008	3.389	3.357	5.80#
20)		Isooctane	6.977	5.444	5.322	5.016	6.648	5.142	5.758	14.52
21)		1,1,1-Trichloroetha	3.042	3.141	2.980	2.771	2.720	2.922	2.929	5.48
22)		Carbon tetrachlorid	3.077	3.171	3.147	2.931	2.743	3.026	3.016	5.28
23)	S	1,2-Dichloroethane	1.785	1.756	1.760	1.816	1.834	1.778	1.788	1.73
24)		1,2-Dichloroethane	2.467	2.081	2.145	2.104	1.861	2.036	2.116	9.38
25)		1,2-Dibromoethane	2.773	2.014	2.322	2.248	1.884	2.137	2.230	13.88
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.867	0.835	0.859	0.829	0.753	0.820	0.827	4.93
28)	M	Trichloroethene	0.408	0.409	0.423	0.412	0.360	0.403	0.403	5.40
29)	C	1,2-Dichloropropane	0.383	0.378	0.392	0.381	0.337	0.375	0.374	5.15#
30)		Bromodichloromethan	0.958	0.929	0.977	0.949	0.829	0.929	0.929	5.62
31)		cis-1,3-Dichloropro	0.555	0.532	0.590	0.570	0.491	0.549	0.548	6.24
32)	S	Toluene-d8 SURR#2	0.838	0.828	0.826	0.819	0.827	0.826	0.828	0.73
33)	MC	Toluene	0.510	0.510	0.528	0.511	0.448	0.503	0.502	5.53#
34)		trans-1,3-Dichlorop	0.506	0.425	0.508	0.486	0.400	0.461	0.464	9.56
35)		1,1,2-Trichloroetha	0.412	0.296	0.342	0.333	0.276	0.312	0.329	14.36
36)	I	Chlorobenzene-d5 IS#3	ISTD							

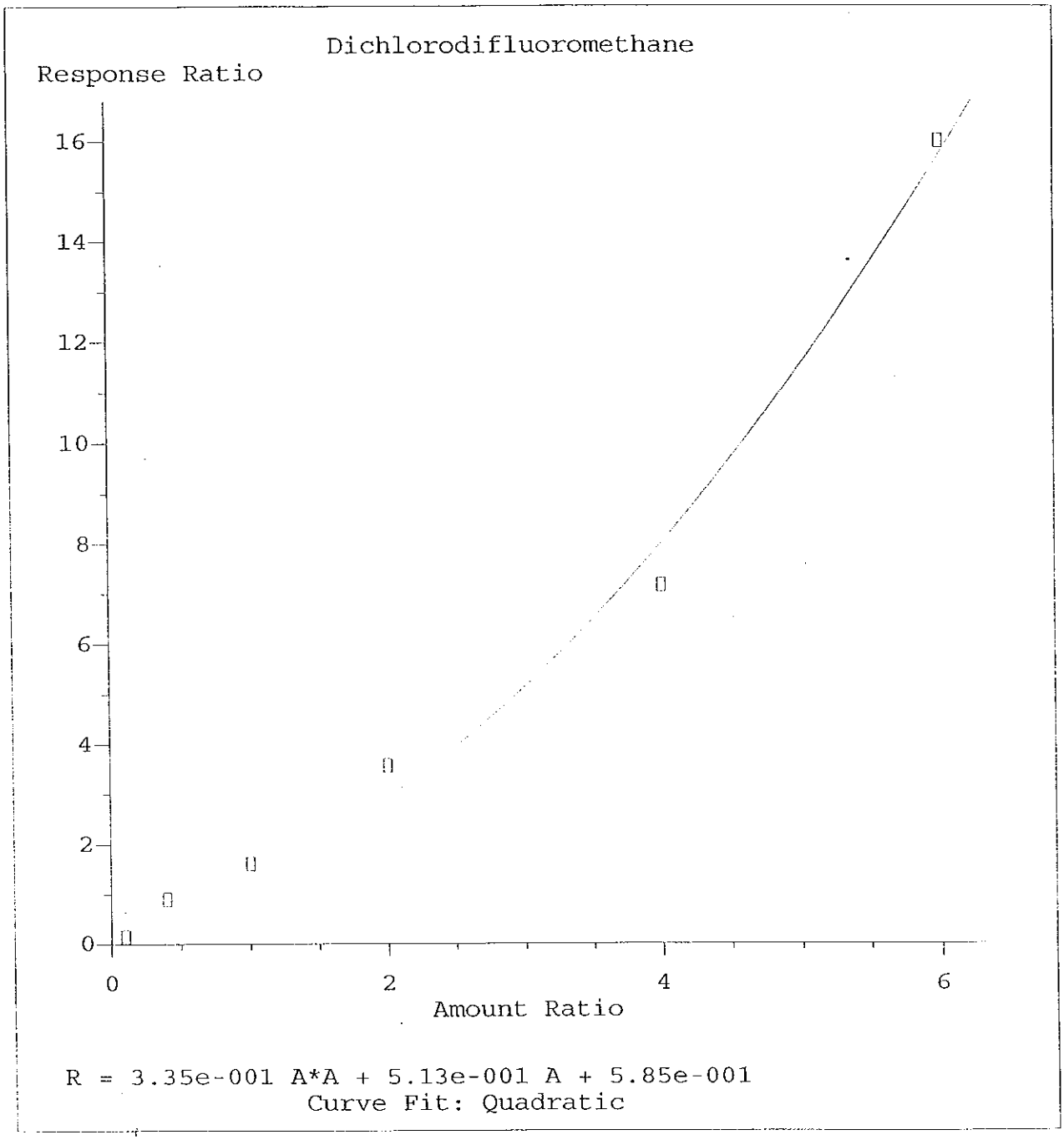
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrat
Title : TO14
Last Update : Fri Oct 26 13:22:07 2001
Response via : Initial Calibration

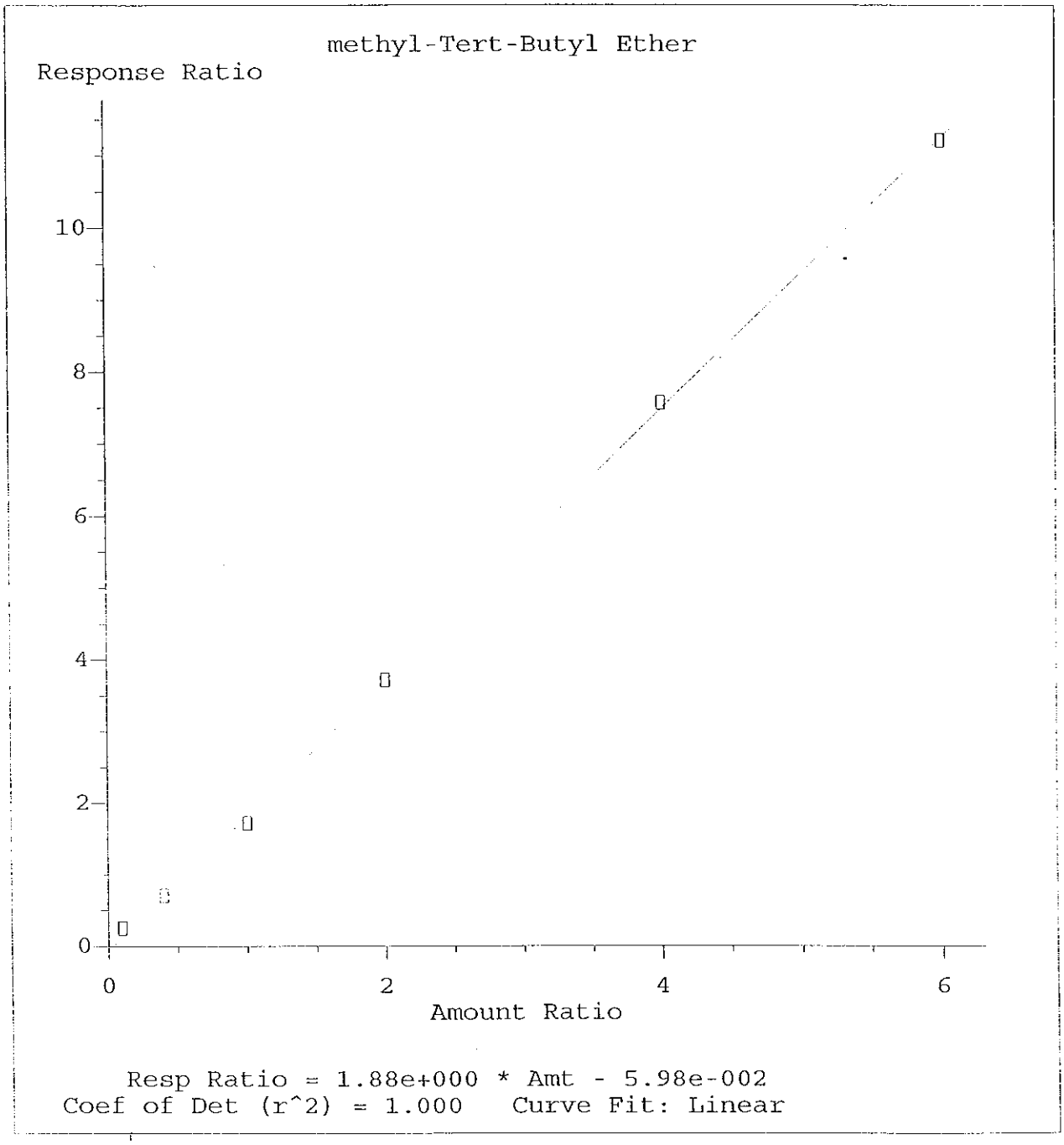
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
37)		Tetrachloroethene	0.507	0.498	0.501	0.489	0.424	0.483	0.483	6.28
38)		Dibromochloromethan	0.870	0.696	0.770	0.757	0.636	0.714	0.741	10.73
39)	MP	Chlorobenzene	0.945	0.952	0.991	0.950	0.836	0.940	0.936	5.57
40)	C	Ethylbenzene	0.368	0.391	0.399	0.390	0.329	0.380	0.376	6.81#
41)		m,p-Xylene	0.481	0.484	0.522	0.499	0.434	0.498	0.486	6.06
42)		o-Xylene	0.451	0.482	0.514	0.486	0.406	0.477	0.469	7.88
43)		Styrene	0.715	0.748	0.826	0.781	0.649	0.766	0.747	8.13
44)	P	Bromoform	0.840	0.551	0.684	0.651	0.526	0.599	-----	
							L	M= 0.688	R^2=0.998	
								B= -0.096		
45)	P	1,1,2,2-Tetrachloro	1.034	0.589	0.726	0.699	0.593	0.653	-----	
							L	M= 0.730	R^2=0.998	
								B= -0.088		
46)	S	4-Bromofluorobenzen	0.925	0.938	1.029	0.961	0.955	0.982	0.965	3.82
47)		1,4-Dichloro-2-bute	0.170	0.106	0.161	0.147	0.115	0.130	-----	
							L	M= 0.162	R^2=0.994	
								B= -0.038		
48)		4-Ethyltoluene	1.217	1.390	1.411	1.247	1.125	1.363	1.292	8.78
49)		1,3,5-Trimethylbenz	1.029	1.023	1.200	1.022	0.873	1.077	1.038	10.16
50)		2-Chlorotoluene	1.420	1.403	1.528	1.416	1.282	1.430	1.413	5.56
51)		1,2,4-Trimethylbenz	1.079	1.095	1.181	1.087	0.993	1.112	1.091	5.54
52)		1,3-Dichlorobenzene	0.825	0.783	0.898	0.793	0.724	0.803	0.804	7.12
53)		1,4-Dichlorobenzene	0.868	0.819	0.948	0.836	0.776	0.843	0.848	6.79
54)		1,2-Dichlorobenzene	0.826	0.707	0.838	0.712	0.687	0.737	0.751	8.65
55)		1,2,4-Trichlorobenz	0.648	0.447	0.604	0.484	0.565	0.519	0.545	13.87
56)		Napthalene	1.246	0.521	0.795	0.666	0.890	0.671	-----	
							Q	A= 0.057	R^2=0.997	
								B= 0.432		
								C= 0.102		
57)		Hexachlorobutadiene	0.507	0.418	0.456	0.384	0.538	0.432	0.456	12.60

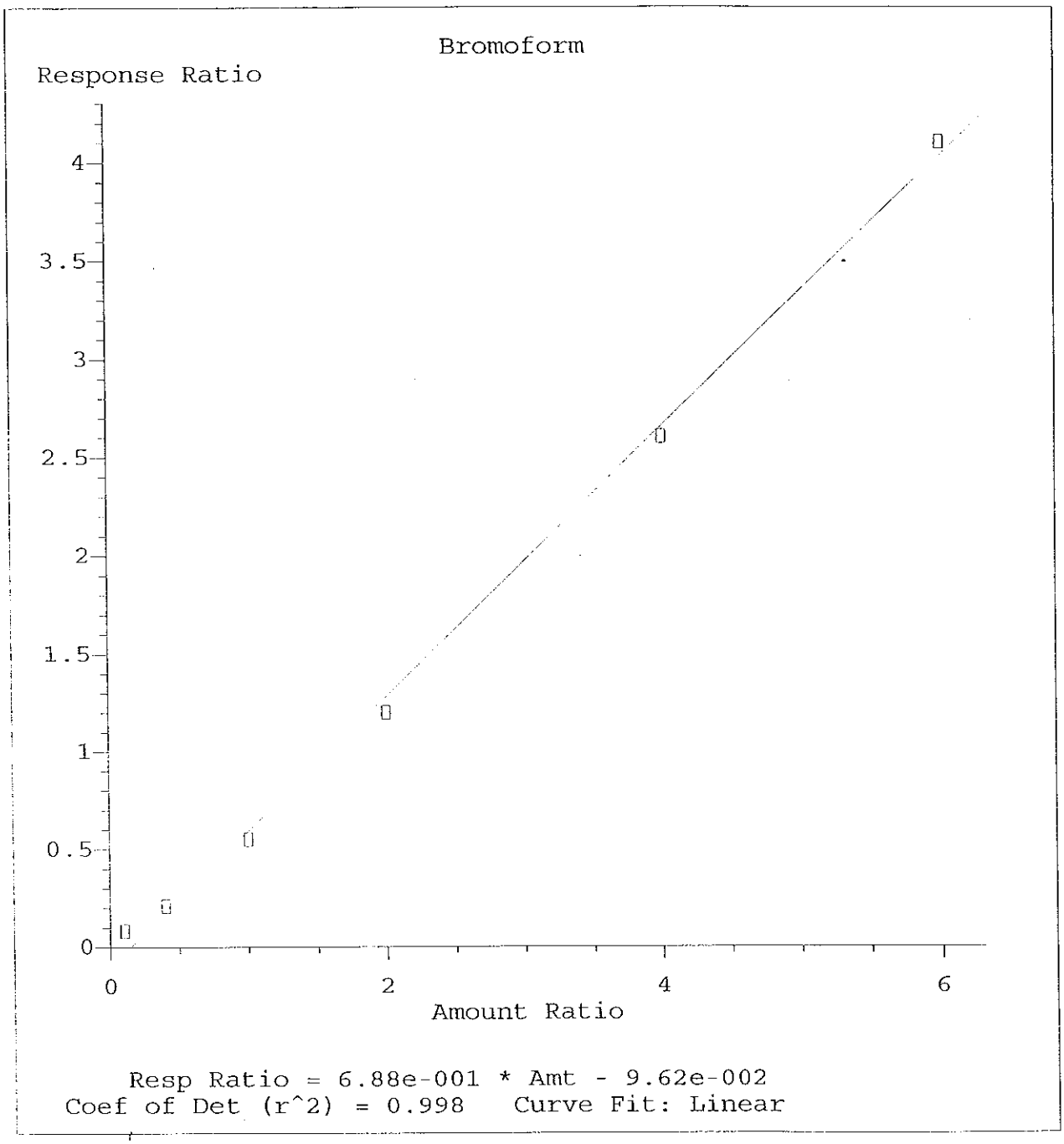
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



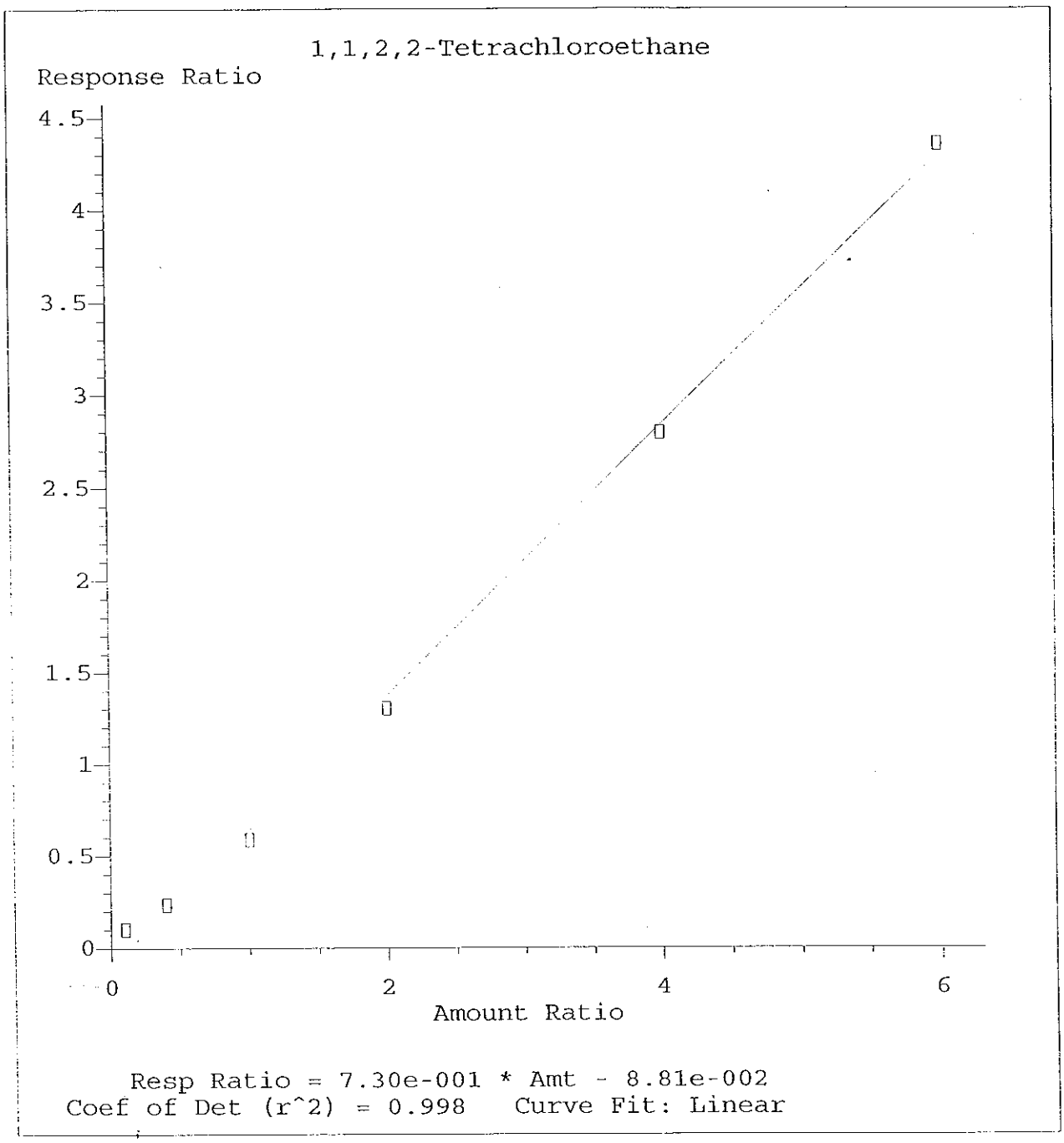
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



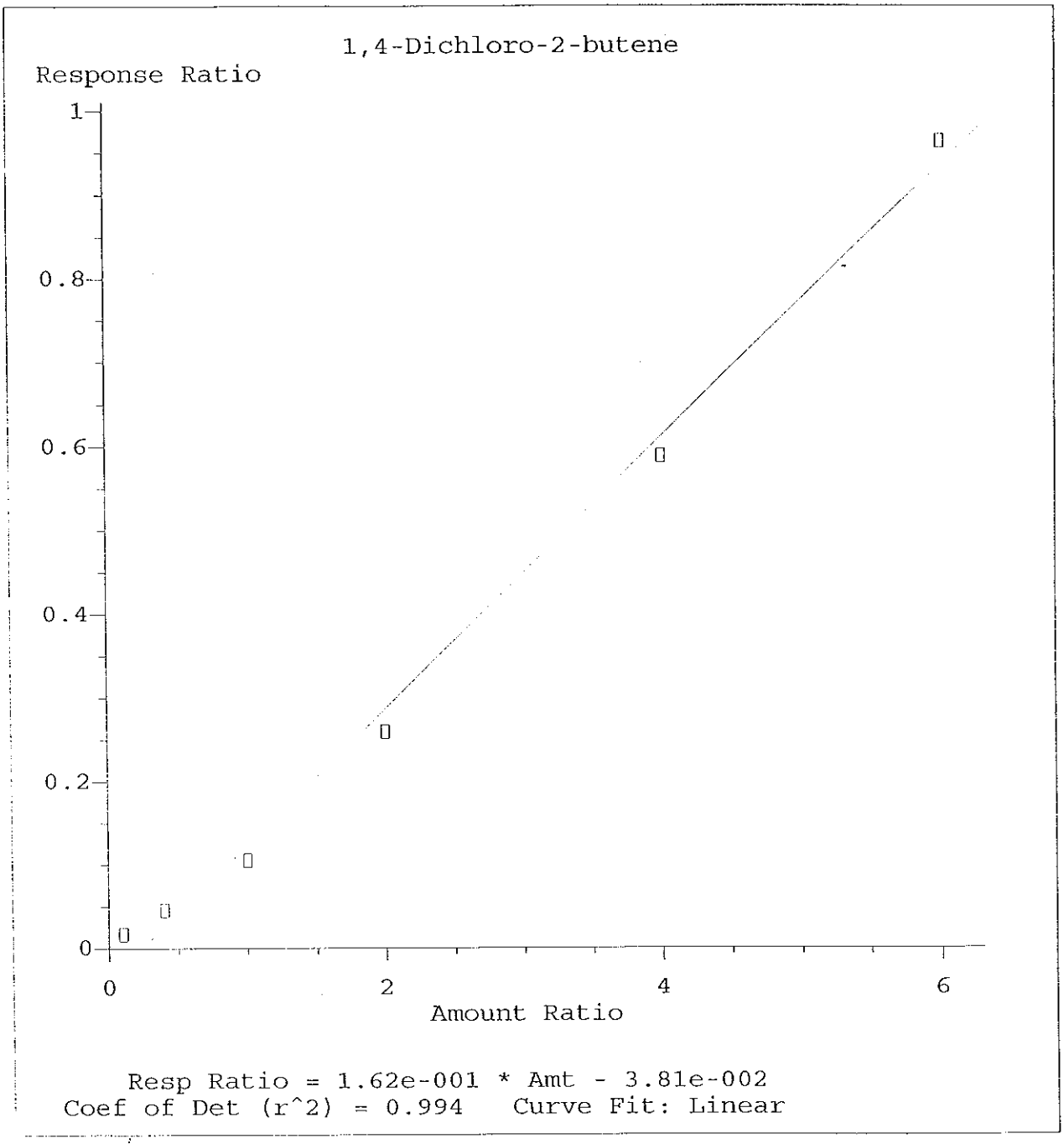
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



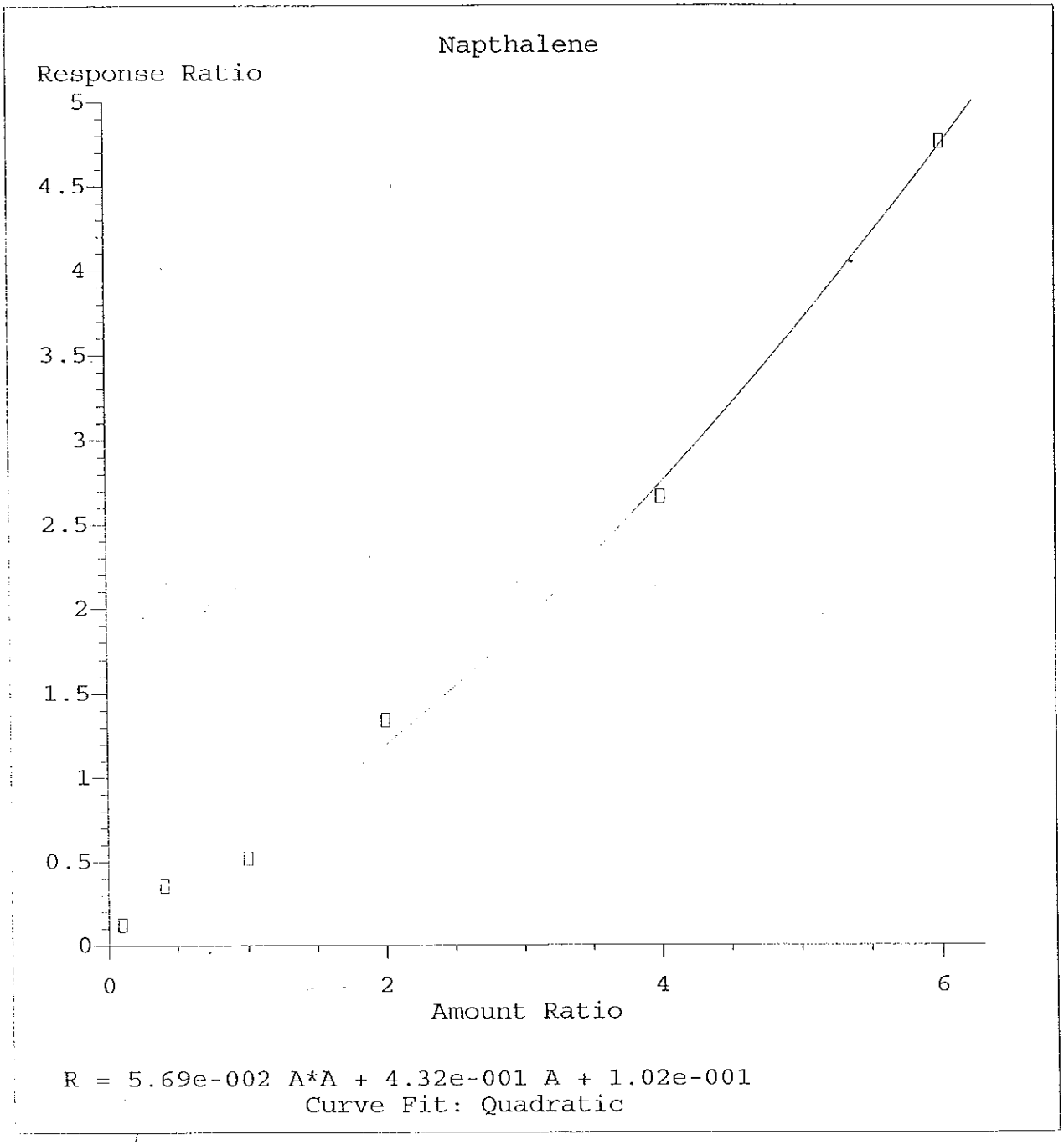
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	84	0.00
2		Dichlorodifluoromethane	1.926	1.831	4.9#	96	0.00
3		Dichlorotetrafluoroethane	2.065	1.907	7.7#	82	0.00
4	P	Chloromethane	1.320	1.227	7.0#	84	0.00
5	C	Vinyl chloride	1.165	1.205	-3.4#	88	0.00
6		Bromomethane	1.569	1.687	-7.5#	91	0.00
7		Chloroethane	0.705	0.732	-3.8#	86	0.00
8		Trichlorofluoromethane	2.340	2.165	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	2.022	2.098	-3.8#	83	0.00
10	MC	1,1-Dichloroethene	1.189	1.262	-6.1#	86	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.94#
12		Methylene chloride	2.404	2.452	-2.0	81	0.00
13		Carbon disulfide	3.721	3.992	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	1.945	1.949	-0.2	95	0.00
15		trans-1,2-Dichloroethene	1.349	1.350	-0.1	79	0.00
16		n-Hexane	1.610	1.453	9.8#	74	0.00
17	P	1,1-Dichloroethane	2.730	2.940	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	2.236	2.410	-7.8#	86	0.00
19	C	Chloroform	3.357	3.578	-6.6#	84	0.00
20		Isooctane	5.758	5.031	12.6#	78	0.00
21		1,1,1-Trichloroethane	2.929	3.173	-8.3#	85	0.00
22		Carbon tetrachloride	3.016	3.192	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.788	1.792	-0.2	86	0.00
24		1,2-Dichloroethane	2.116	2.191	-3.5#	89	0.00
25		1,2-Dibromoethane	2.230	2.274	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	80	0.00
27	M	Benzene	0.827	0.873	-5.6#	84	0.00
28	M	Trichloroethene	0.403	0.424	-5.2#	83	0.00
29	C	1,2-Dichloropropane	0.374	0.398	-6.4#	84	0.00
30		Bromodichloromethane	0.929	0.996	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	0.548	0.578	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	0.828	0.839	-1.3	81	0.00
33	MC	Toluene	0.502	0.532	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	0.464	0.490	-5.6#	92	0.00
35		1,1,2-Trichloroethane	0.329	0.327	0.6	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	81	0.00
37		Tetrachloroethene	0.483	0.504	-4.3#	82	0.00
38		Dibromochloromethane	0.741	0.756	-2.0#	88	0.00
39	MP	Chlorobenzene	0.936	0.990	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.376	0.402	-6.9#	84	0.00
41		m,p-Xylene	0.486	0.511	-5.1#	86	0.00
42		o-Xylene	0.469	0.487	-3.8#	82	0.00
43		Styrene	0.747	0.784	-5.0#	85	0.00
44	P	Bromoform	0.642	0.633	1.4	93	0.00
45	P	1,1,2,2-Tetrachloroethane	0.716	0.663	7.4#	91	0.00
46	S	4-Bromofluorobenzene SURR#3	0.965	0.994	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	0.138	0.129	6.5#	99	0.00
48		4-Ethyltoluene	1.292	1.276	1.2	74	0.00
49		1,3,5-Trimethylbenzene	1.038	1.118	-7.7#	89	0.00
50		2-Chlorotoluene	1.413	1.533	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	1.091	1.152	-5.6#	85	0.00
52		1,3-Dichlorobenzene	0.804	0.857	-6.6#	89	0.00
53		1,4-Dichlorobenzene	0.848	0.921	-8.6#	91	0.00
54		1,2-Dichlorobenzene	0.751	0.798	-6.3#	92	0.00
55		1,2,4-Trichlorobenzene	0.545	0.557	-2.2#	101	0.00
56		Napthalene	0.798	0.707	11.4#	110	0.00
57		Hexachlorobutadiene	0.456	0.489	-7.2#	95	0.00

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	84	0.00
2		Dichlorodifluoromethane	250.000	335.190	-34.1#	96	0.00
3		Dichlorotetrafluoroethane	250.000	230.914	7.6#	82	0.00
4	P	Chloromethane	250.000	232.363	7.1#	84	0.00
5	C	Vinyl chloride	250.000	258.683	-3.5#	88	0.00
6		Bromomethane	250.000	268.807	-7.5#	91	0.00
7		Chloroethane	250.000	259.648	-3.9#	86	0.00
8		Trichlorofluoromethane	250.000	231.250	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	259.368	-3.7#	83	0.00
10	MC	1,1-Dichloroethene	250.000	265.335	-6.1#	86	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.94#
12		Methylene chloride	250.000	254.974	-2.0	81	0.00
13		Carbon disulfide	250.000	268.224	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	250.000	263.411	-5.4#	95	0.00
15		trans-1,2-Dichloroethene	250.000	250.208	-0.1	79	0.00
16		n-Hexane	250.000	225.546	9.8#	74	0.00
17	P	1,1-Dichloroethane	250.000	269.183	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	250.000	269.473	-7.8#	86	0.00
19	C	Chloroform	250.000	266.437	-6.6#	84	0.00
20		Isooctane	250.000	218.424	12.6#	78	0.00
21		1,1,1-Trichloroethane	250.000	270.834	-8.3#	85	0.00
22		Carbon tetrachloride	250.000	264.616	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	250.595	-0.2	86	0.00
24		1,2-Dichloroethane	250.000	258.881	-3.6#	89	0.00
25		1,2-Dibromoethane	250.000	254.934	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	80	0.00
27	M	Benzene	250.000	263.968	-5.6#	84	0.00
28	M	Trichloroethene	250.000	263.149	-5.3#	83	0.00
29	C	1,2-Dichloropropane	250.000	265.956	-6.4#	84	0.00
30		Bromodichloromethane	250.000	268.115	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	250.000	263.685	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.392	-1.4	81	0.00
33	MC	Toluene	250.000	264.939	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	250.000	263.733	-5.5#	92	0.00
35		1,1,2-Trichloroethane	250.000	249.105	0.4	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	81	0.00
37		Tetrachloroethene	250.000	260.697	-4.3#	82	0.00
38		Dibromochloromethane	250.000	254.971	-2.0	88	0.00
39	MP	Chlorobenzene	250.000	264.397	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:23:30 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	266.978	-6.8#	84	0.00
41		m,p-Xylene	500.000	525.818	-5.2#	86	0.00
42		o-Xylene	250.000	259.544	-3.8#	82	0.00
43		Styrene	250.000	262.378	-5.0#	85	0.00
44	P	Bromoform	250.000	261.730	-4.7#	93	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	252.934	-1.2	91	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	257.457	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	251.402	-0.6	99	0.00
48		4-Ethyltoluene	250.000	246.772	1.3	74	0.00
49		1,3,5-Trimethylbenzene	250.000	269.351	-7.7#	89	0.00
50		2-Chlorotoluene	250.000	271.180	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	250.000	263.989	-5.6#	85	0.00
52		1,3-Dichlorobenzene	250.000	266.343	-6.5#	89	0.00
53		1,4-Dichlorobenzene	250.000	271.376	-8.6#	91	0.00
54		1,2-Dichlorobenzene	250.000	265.517	-6.2#	92	0.00
55		1,2,4-Trichlorobenzene	250.000	255.719	-2.3#	101	0.00
56		Napthalene	250.000	293.887	-17.6#	110	0.00
57		Hexachlorobutadiene	250.000	268.278	-7.3#	95	0.00

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110417

Lab File ID (Standard): CM1025A.D Date Analyzed: 10/25/01

Instrument ID: MARILYN Time Analyzed: 8:52

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	310060	11.45	1279657	13.39	979219	20.71
	UPPER LIMIT	620120	11.95	2559314	13.89	1958438	21.21
	LOWER LIMIT	155030	10.95	639829	12.89	489610	20.21
	EPA SAMPLE NO.						
01	VBLKMA	280257	11.48	1169848	13.41	869092	20.74
02	LCS AND 2ND	387358	11.48	1555172	13.42	1185306	20.74
03	SVEEA17	399377	11.50	1618494	13.42	1205864	20.74

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1024A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	BFMA1024	BFBSTL	DAILY BFB 12HR. TUNE
2	Sample	15	MA217ABK	TO14S	DAILY METHOD BLANK
3	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB. not used
4	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB not used
5	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
6	Sample	14	CMA0025R	TO14S	25ng/1uL/5ppb INITIAL CALIB.
7	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
8	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
9	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
10	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
11	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
12	Sample	14	CMA0100R	TO14S	100ng/4uL/20ppb INITIAL CALIB
13	Sample	16	MA217LCS	TO14S	BATCH #217 LCS 50ppb/250ng
14	Sample	1	104151	TO14S	10415-1 X100 5mls
15	Sample	2	104152	TO14S	10415-2 X100 5mls
16	Sample	3	104153	TO14S	10415-3 X100 5mls
17	Sample	4	103811	TO14S	10381-1 X500 1.0ml
18	Sample	5	103812	TO14S	10381-2 X500 1.0ml
19	Sample	6	103813	TO14S	10381-3 X500 1.0ml
20	Sample	7	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
21	Sample	8	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
22	Sample	9	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
23	Sample	10	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
24	Sample	11	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
25	Sample	12	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
26	Sample	13	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
27	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
28	Sample	15	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
29	Sample	16	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
30	Sample	1	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
31	"	2	"	"	"
32	"	3	"	"	"

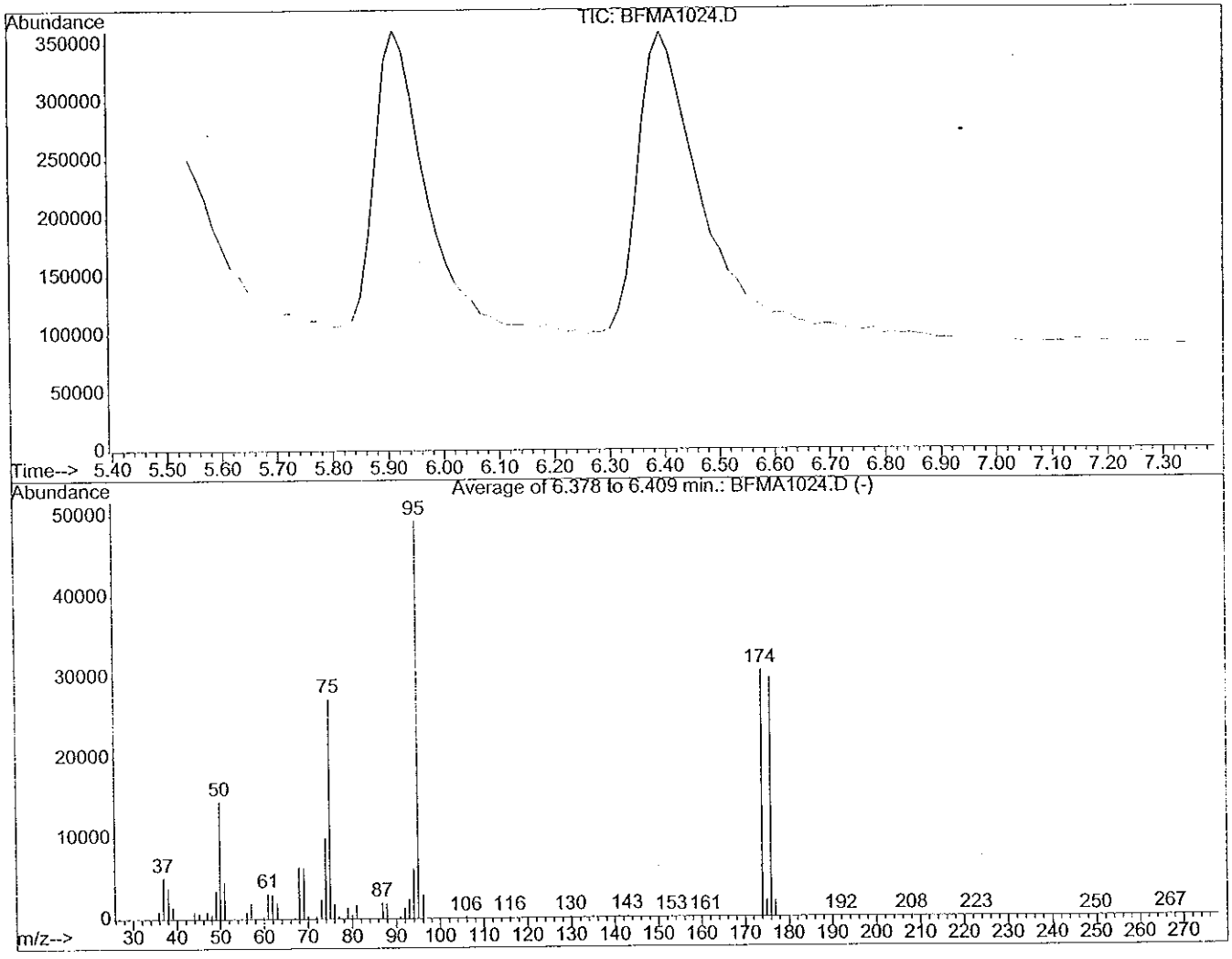
Toss curve

Last Modified: Wed Oct 24 15:36:50 2001

037

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1024A\BFMA1024.D Vial: 15
Acq On : 24 Oct 2001 8:31 Operator: BDH
Sample : DAILY BFB 12HR. TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14



Peak Apex is scan: 56 (6.39 min)
Average of 3 scans: 55,56,57 minus background scan 36 (6.08 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	29.6	14632	PASS
75	95	30	60	55.5	27382	PASS
95	95	100	100	100.0	49359	PASS
96	95	5	9	6.2	3065	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	62.1	30635	PASS
175	174	5	9	6.8	2089	PASS
176	174	95	101	97.1	29741	PASS
177	176	5	9	6.9	2053	PASS

DAILY BFB 12HR. TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	1033	56.00	1003	74.00	9965	93.00	2440
37.00	5151	57.00	1964	75.05	27382	94.00	6246
38.05	3941	59.90	340	75.95	1913	95.00	49359
39.05	1558	60.95	3217	76.95	421	96.05	3065
43.95	991	61.95	3060	78.95	1457	105.90	247
45.00	758	63.00	2119	79.95	577	140.90	254
46.90	996	67.95	6433	80.95	1768	142.90	257
48.00	648	69.00	6326	86.90	2051	173.95	30635
48.95	3535	70.00	419	87.95	1947	174.95	2089
50.00	14632	71.90	341	90.95	254	175.95	29741
51.00	4593	73.05	2396	91.95	1351	176.90	2053

Data File : D:\HPCHEM\1\DATA01\M1024A\BFMA1024.D Vial: 15
Acq On : 24 Oct 2001 8:31 Operator: BDH
Sample : DAILY BFB 12HR. TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\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

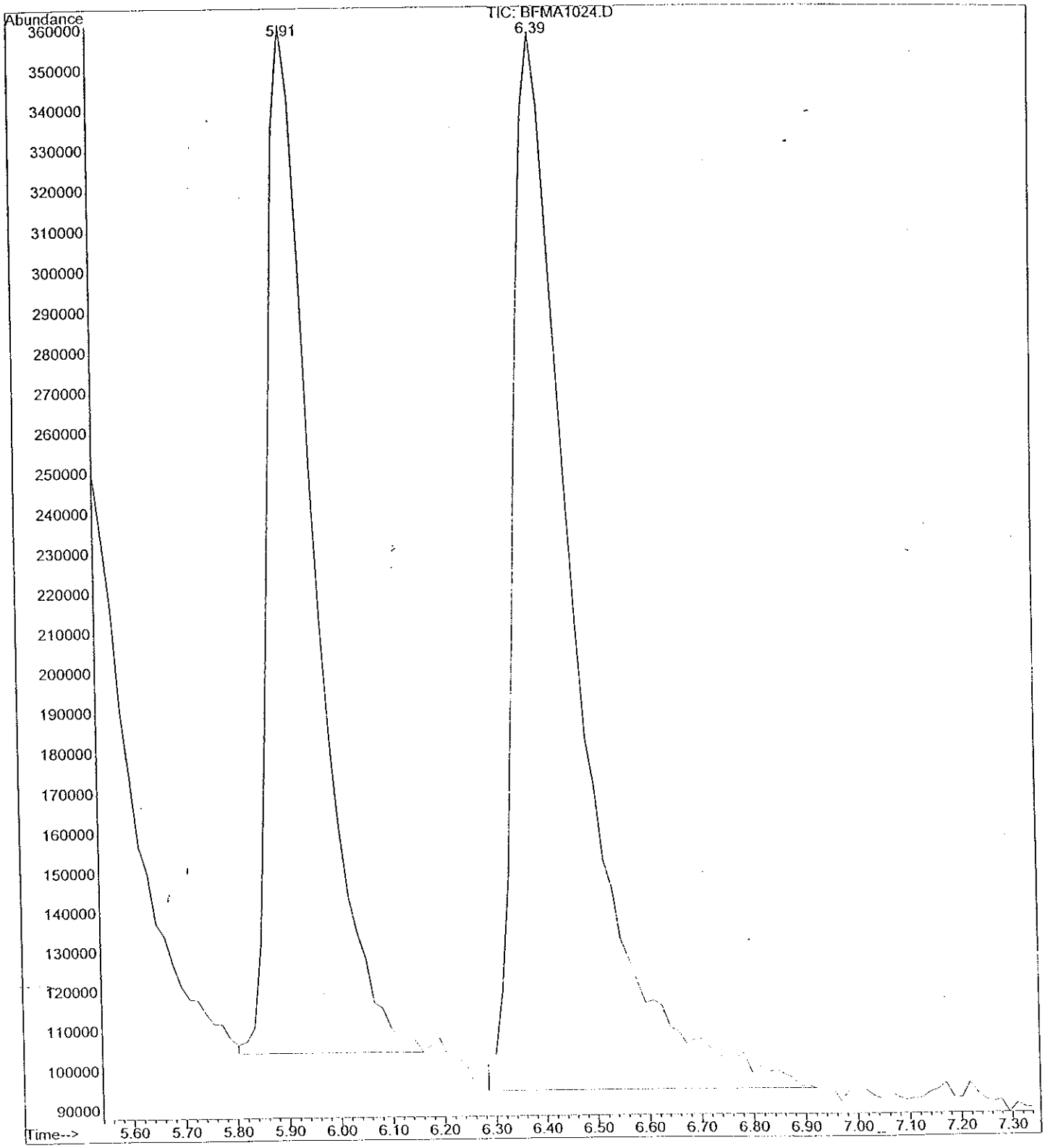
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.912	18	25	41	rVB	256747	1599777	72.16%	41.913%
2	6.394	49	56	90	rVB	263899	2217127	100.00%	58.087%

Sum of corrected areas: 3816904

BFMA1024.D BFBSTL.M Wed Oct 24 08:39:19 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\BFMA1024.D
Acq On : 24 Oct 2001 8:31
Sample : DAILY BFB 12HR. TUNE
Misc : Pi/Pf=1 MA217ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFMA1024.D BFBSTL.M Wed Oct 24 08:39:19 2001

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration

Passes BR 10/24/01

Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.450	1.609	2.668	1.794	2.247	1.786	-----	
								Q	A= 0.335	R^2=0.992
									B= 0.513	
									C= 0.585	
3)		Dichlorotetrafluoro	1.923	1.948	2.523	1.817	2.241	1.936	2.065	12.87
4)	P	Chloromethane	1.350	1.225	1.609	1.200	1.259	1.280	1.320	11.40
5)	C	Vinyl chloride	1.122	1.150	1.316	1.084	1.157	1.158	1.165	6.84#
6)		Bromomethane	1.565	1.559	1.756	1.493	1.469	1.572	1.569	6.41
7)		Chloroethane	0.673	0.721	0.784	0.698	0.646	0.708	0.705	6.69
8)		Trichlorofluorometh	1.889	2.374	2.694	2.477	2.161	2.446	2.340	11.96
9)		1,1,2-Trichlorotrif	2.182	2.131	1.988	2.013	1.741	2.079	2.022	7.69
10)	MC	1,1-Dichloroethene	1.187	1.241	1.174	1.218	1.073	1.242	1.189	5.32#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	2.772	2.538	2.411	2.235	2.140	2.328	2.404	9.44
13)		Carbon disulfide	3.583	3.762	4.056	3.565	3.566	3.791	3.721	5.19
14)		methyl-Tert-Butyl E	2.558	1.720	1.870	1.892	1.771	1.861	-----	
								L	M= 1.885	R^2=1.000
									B= -0.060	
15)		trans-1,2-Dichloroe	1.373	1.435	1.412	1.283	1.199	1.389	1.349	6.65
16)		n-Hexane	1.822	1.646	1.586	1.486	1.559	1.563	1.610	7.18
17)	P	1,1-Dichloroethane	2.732	2.891	2.845	2.685	2.479	2.749	2.730	5.29
18)		cis-1,2-Dichloroeth	2.132	2.371	2.358	2.231	2.064	2.260	2.236	5.44
19)	C	Chloroform	3.366	3.581	3.479	3.318	3.008	3.389	3.357	5.80#
20)		Isooctane	6.977	5.444	5.322	5.016	6.648	5.142	5.758	14.52
21)		1,1,1-Trichloroetha	3.042	3.141	2.980	2.771	2.720	2.922	2.929	5.48
22)		Carbon tetrachlorid	3.077	3.171	3.147	2.931	2.743	3.026	3.016	5.28
23)	S	1,2-Dichloroethane	1.785	1.756	1.760	1.816	1.834	1.778	1.788	1.73
24)		1,2-Dichloroethane	2.467	2.081	2.145	2.104	1.861	2.036	2.116	9.38
25)		1,2-Dibromoethane	2.773	2.014	2.322	2.248	1.884	2.137	2.230	13.88
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.867	0.835	0.859	0.829	0.753	0.820	0.827	4.93
28)	M	Trichloroethene	0.408	0.409	0.423	0.412	0.360	0.403	0.403	5.40
29)	C	1,2-Dichloropropane	0.383	0.378	0.392	0.381	0.337	0.375	0.374	5.15#
30)		Bromodichloromethan	0.958	0.929	0.977	0.949	0.829	0.929	0.929	5.62
31)		cis-1,3-Dichloropro	0.555	0.532	0.590	0.570	0.491	0.549	0.548	6.24
32)	S	Toluene-d8 SURR#2	0.838	0.828	0.826	0.819	0.827	0.826	0.[illegible]	0.73
33)	MC	Toluene	0.510	0.510	0.528	0.511	0.448	0.503	0.502	5.53#
34)		trans-1,3-Dichlorop	0.506	0.425	0.508	0.486	0.400	0.461	0.464	9.56
35)		1,1,2-Trichloroetha	0.412	0.296	0.342	0.333	0.276	0.312	0.329	14.36
36)	I	Chlorobenzene-d5 IS#3	ISTD							

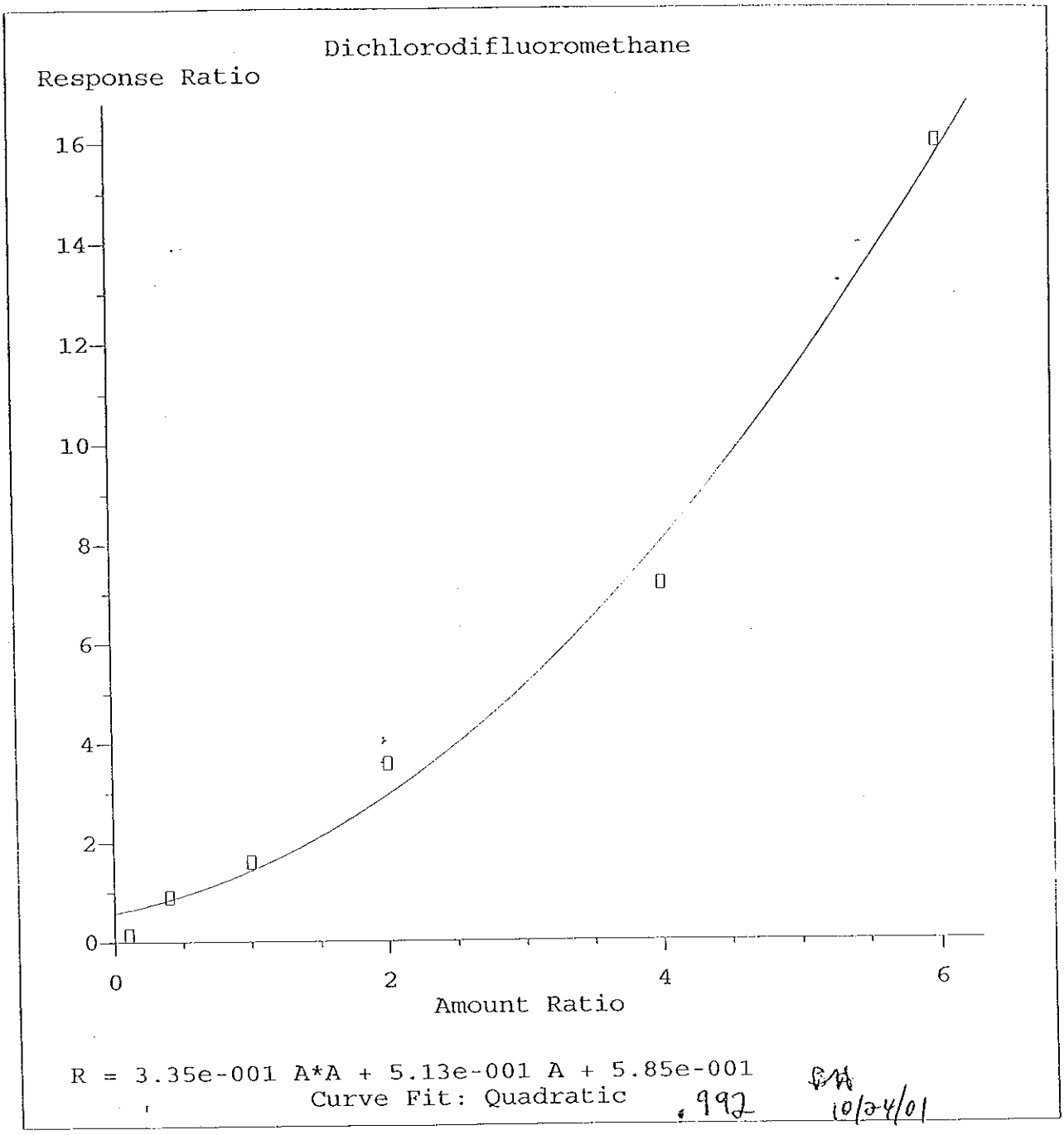
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration

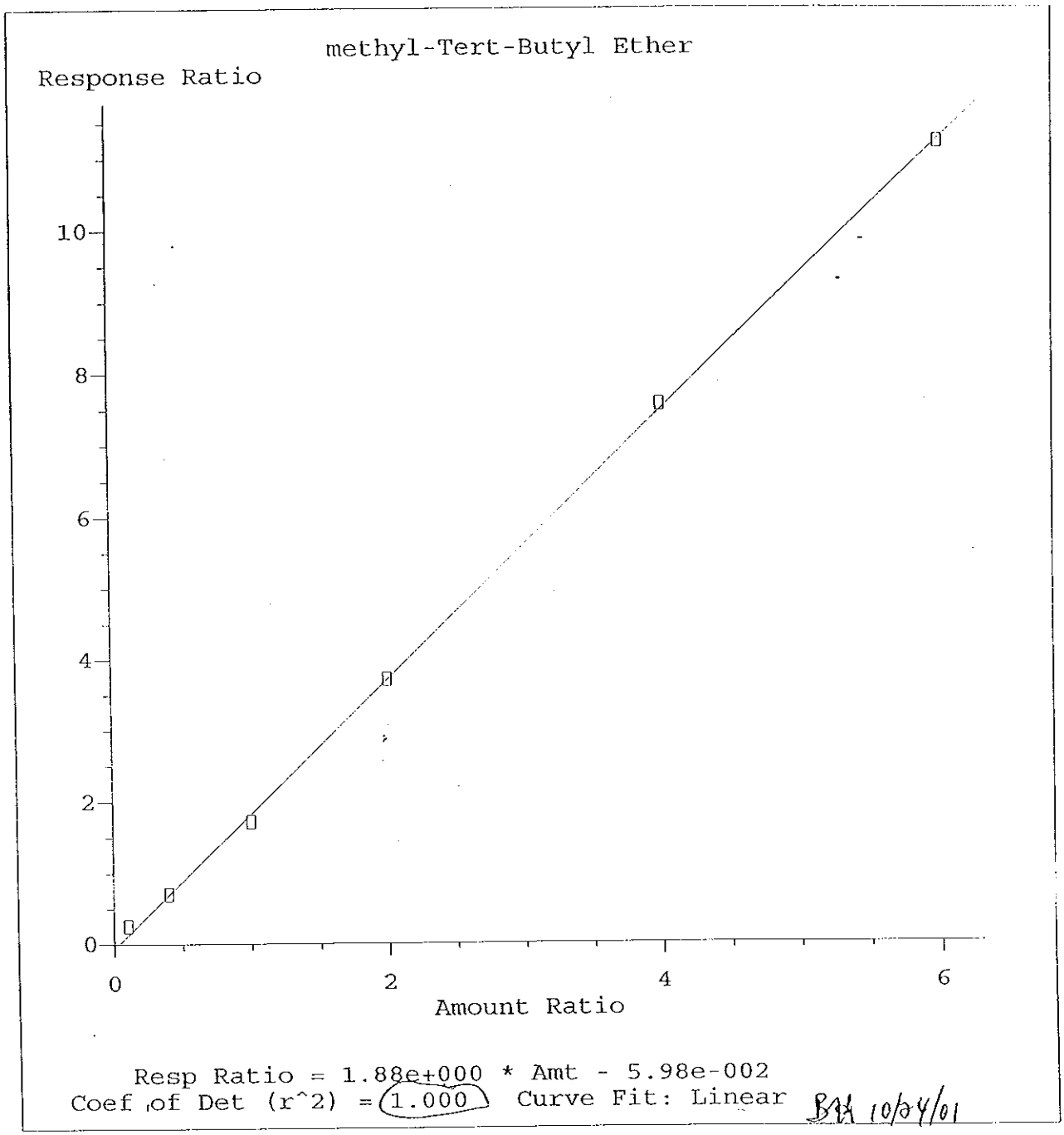
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
37)		Tetrachloroethene	0.507	0.498	0.501	0.489	0.424	0.483	0.483	6.28
38)		Dibromochloromethan	0.870	0.696	0.770	0.757	0.636	0.714	0.741	10.73
39)	MP	Chlorobenzene	0.945	0.952	0.991	0.950	0.836	0.940	0.936	5.57
40)	C	Ethylbenzene	0.368	0.391	0.399	0.390	0.329	0.380	0.376	6.81#
41)		m,p-Xylene	0.481	0.484	0.522	0.499	0.434	0.498	0.486	6.06
42)		o-Xylene	0.451	0.482	0.514	0.486	0.406	0.477	0.469	7.88
43)		Styrene	0.715	0.748	0.826	0.781	0.649	0.766	0.747	8.13
44)	P	Bromoform	0.840	0.551	0.684	0.651	0.526	0.599	-----	
							L	M= 0.688	R^2=0.998	
								B= -0.096		
45)	P	1,1,2,2-Tetrachloro	1.034	0.589	0.726	0.699	0.593	0.653	-----	
							L	M= 0.730	R^2=0.998	
								B= -0.088		
46)	S	4-Bromofluorobenzen	0.925	0.938	1.029	0.961	0.955	0.982	0.965	3.82
47)		1,4-Dichloro-2-bute	0.170	0.106	0.161	0.147	0.115	0.130	-----	
							L	M= 0.162	R^2=0.994	
								B= -0.038		
48)		4-Ethyltoluene	1.217	1.390	1.411	1.247	1.125	1.363	1.292	8.78
49)		1,3,5-Trimethylbenz	1.029	1.023	1.200	1.022	0.873	1.077	1.038	10.16
50)		2-Chlorotoluene	1.420	1.403	1.528	1.416	1.282	1.430	1.413	5.56
51)		1,2,4-Trimethylbenz	1.079	1.095	1.181	1.087	0.993	1.112	1.091	5.54
52)		1,3-Dichlorobenzene	0.825	0.783	0.898	0.793	0.724	0.803	0.804	7.12
53)		1,4-Dichlorobenzene	0.868	0.819	0.948	0.836	0.776	0.843	0.848	6.79
54)		1,2-Dichlorobenzene	0.826	0.707	0.838	0.712	0.687	0.737	0.751	8.65
55)		1,2,4-Trichlorobenz	0.648	0.447	0.604	0.484	0.565	0.519	0.545	13.87
56)		Napthalene	1.246	0.521	0.795	0.666	0.890	0.671	-----	
							Q	A= 0.057	R^2=0.997	
								B= 0.432		
								C= 0.102		
57)		Hexachlorobutadiene	0.507	0.418	0.456	0.384	0.538	0.432	0.456	12.60

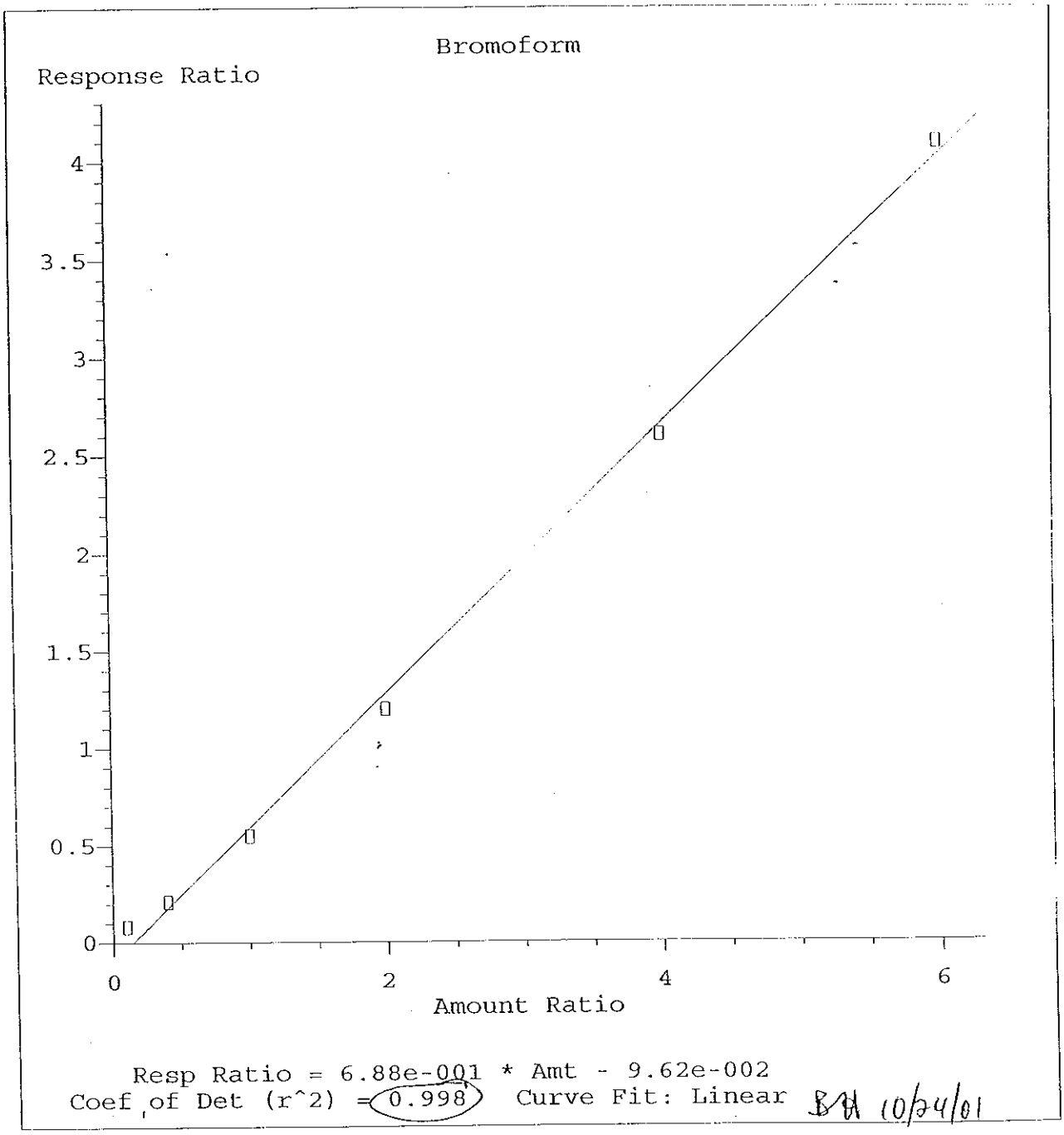
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



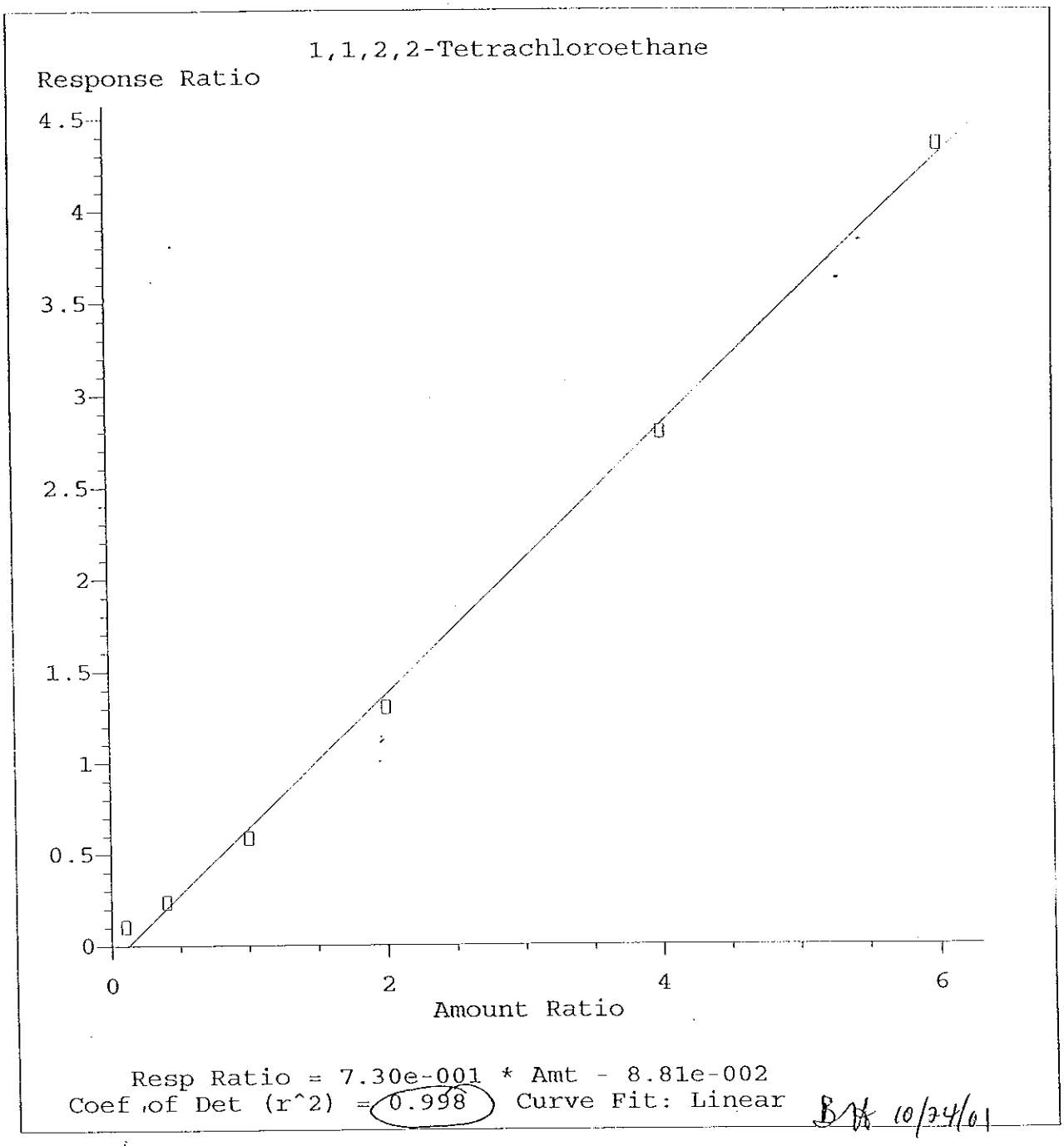
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:22:03 2001



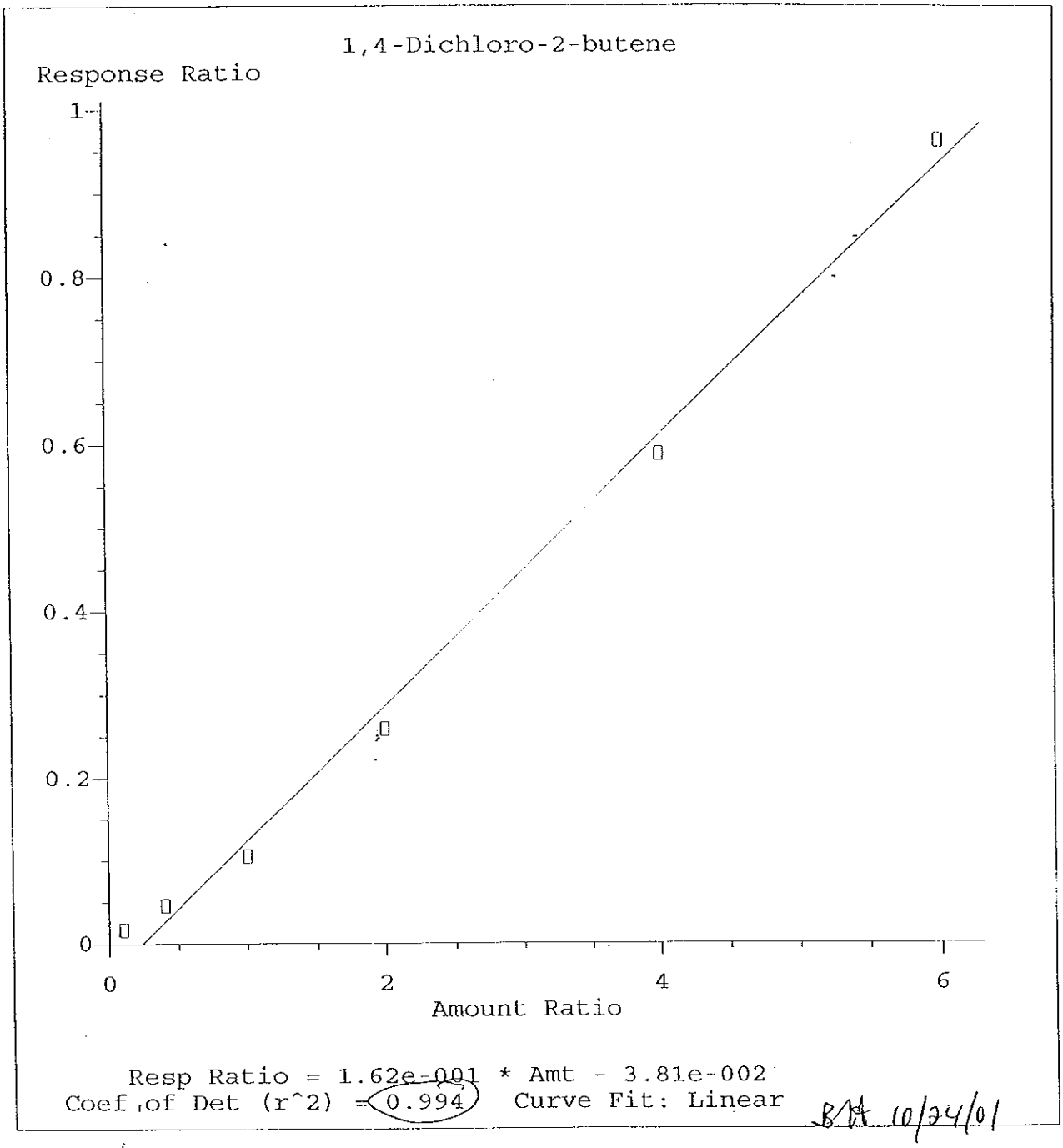
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:25:19 2001



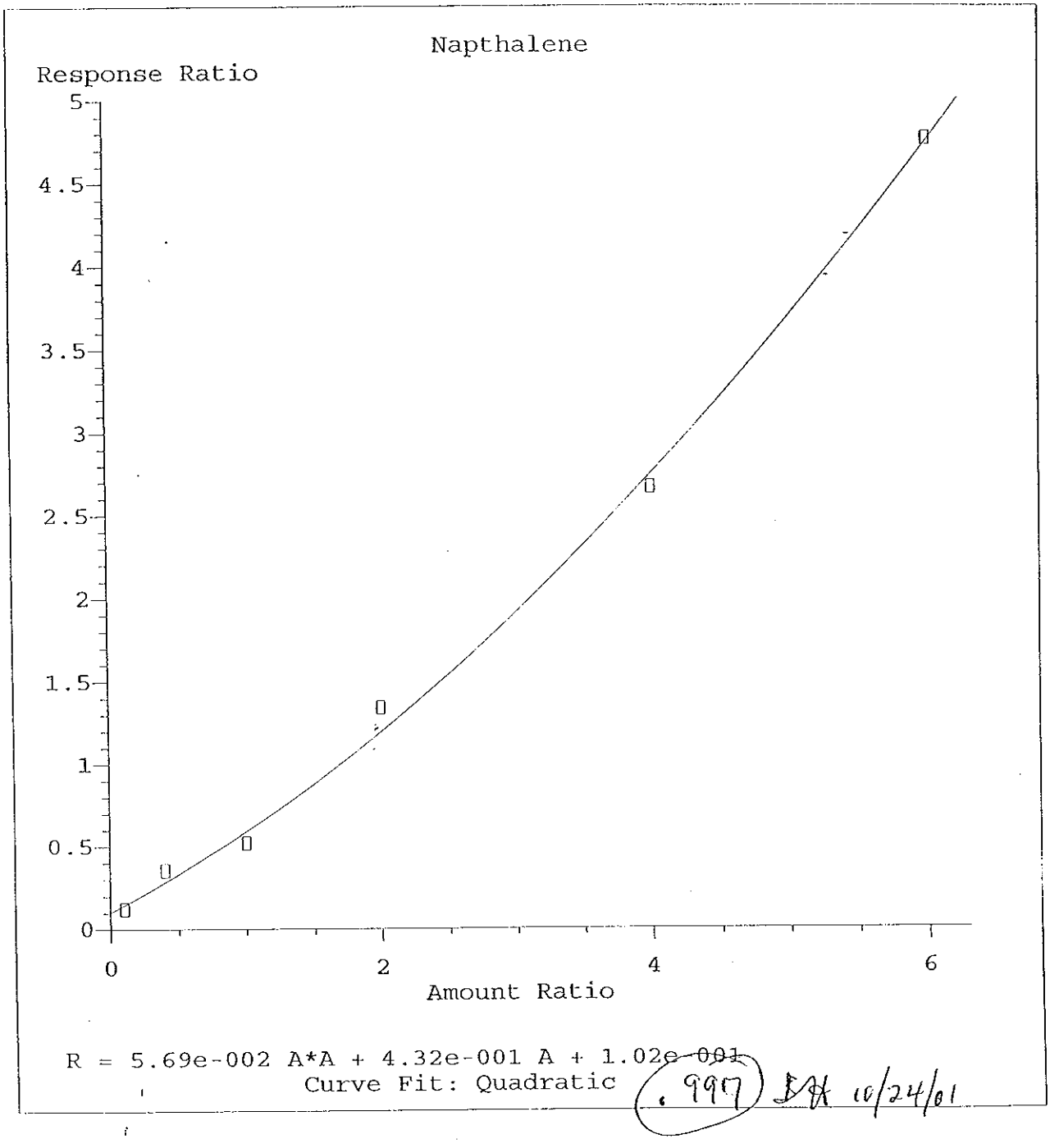
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:25:19 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:26:06 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:26:56 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:27:13 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

BH 10/24/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00	ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00	ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00	ng	0.00 104.36%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 113.95%			
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.71%			
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.07%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.03	85	58539m	6.94	ng	# 82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53	ng	# 32
4) Chloromethane	4.42	50	54501	31.95	ng	# 84
5) Vinyl chloride	4.65	62	45304	28.33	ng	# 89
6) Bromomethane	5.47	94	63214	27.33	ng	91
7) Chloroethane	5.60	64	27159	26.47	ng	# 87
8) Trichlorofluoromethane	6.13	101	76300	29.69	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83	ng	98
10) 1,1-Dichloroethene	7.29	96	47924	26.69	ng	80
12) Methylene chloride	8.21	49	111935	34.72	ng	# 80
13) Carbon disulfide	8.36	76	144676	27.32	ng	# 77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15	ng	# 68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80	ng	89
16) n-Hexane	8.87	57	73561	33.16	ng	# 1
17) 1,1-Dichloroethane	9.62	63	110346	28.23	ng	# 97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43	ng	# 89
19) Chloroform	11.19	83	135948	28.09	ng	# 92
20) Isooctane	12.13	57	281769	37.08	ng	89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03	ng	# 88
22) Carbon tetrachloride	12.62	117	124248	28.67	ng	98
24) 1,2-Dichloroethane	12.88	62	99619	35.56	ng	# 93
25) 1,2-Dibromoethane	19.85	107	111982	34.52	ng	99
27) Benzene	12.96	78	144795	27.71	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D Vial: 14
Acq On : 24 Oct 2001 11:26 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.29	130	68130	26.00	ng		96
29) 1,2-Dichloropropane	14.67	63	64049	26.95	ng	#	74
30) Bromodichloromethane	15.21	83	160043	28.29	ng	#	99
31) cis-1,3-Dichloropropene	16.40	75	92662	27.16	ng	#	60
33) Toluene	17.23	92	85129	26.82	ng		94
34) trans-1,3-Dichloropropene	17.57	75	84572	30.80	ng	#	63
35) 1,1,2-Trichloroethane	17.99	97	68750	34.65	ng		96
37) Tetrachloroethene	18.84	164	63764	25.60	ng		99
38) Dibromochloromethane	19.34	127	109505	31.25	ng	#	89
39) Chlorobenzene	20.91	112	118956	26.33	ng	#	78
40) Ethylbenzene	20.98	106	46322	24.98	ng		71
41) m,p-Xylene	21.19	106	121090	51.49	ng		86
42) o-Xylene	22.34	106	56792	24.85	ng		81
43) Styrene	22.43	104	90021	23.96	ng	#	90
44) Bromoform	23.38	173	105640	33.64	ng	#	98
45) 1,1,2,2-Tetrachloroethane	23.70	83	130148	42.42	ng	#	96
47) 1,4-Dichloro-2-butene	23.34	75	21361	52.93	ng	#	73
48) 4-Ethyltoluene	24.60	105	153113	24.10	ng		91
49) 1,3,5-Trimethylbenzene	24.69	105	129427	25.89	ng		95
50) 2-Chlorotoluene	24.80	91	178701	26.70	ng		94
51) 1,2,4-Trimethylbenzene	25.64	105	135720	25.86	ng		94
52) 1,3-Dichlorobenzene	26.56	146	103775	26.15	ng		96
53) 1,4-Dichlorobenzene	26.78	146	109191	26.26	ng		96
54) 1,2-Dichlorobenzene	27.54	146	103990	28.73	ng		96
55) 1,2,4-Trichlorobenzene	30.73	180	81566	29.72	ng		97
56) Napthalene	31.29	128	156822	49.86	ng	#	88
57) Hexachlorobutadiene	30.98	225	63838	26.36	ng		98

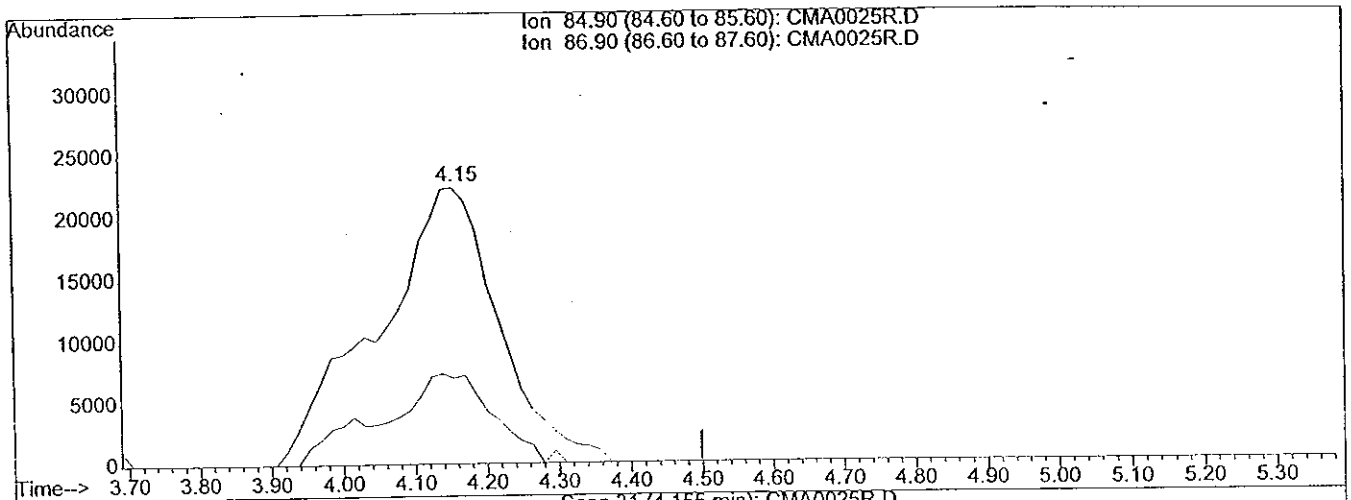
(#) = qualifier out of range (m) = manual integration

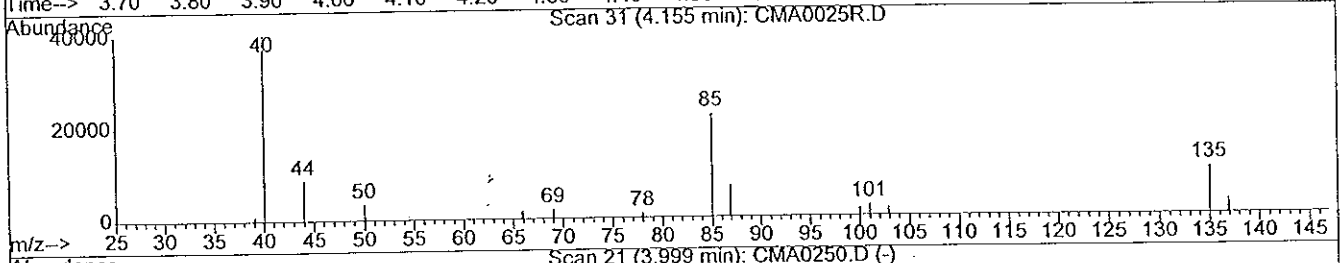
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

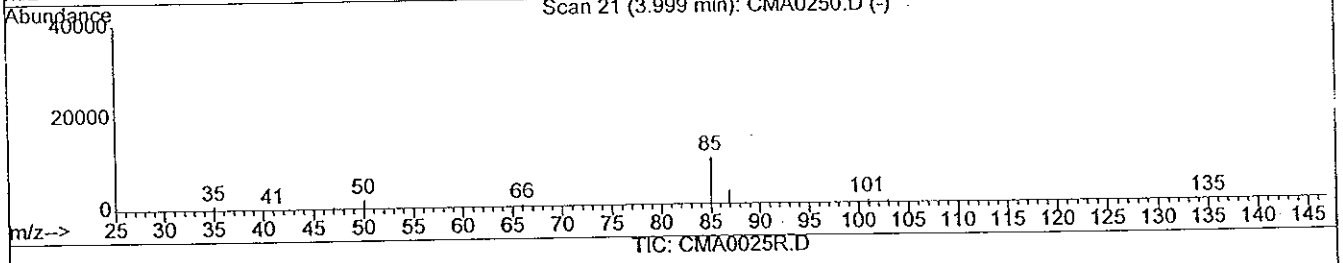
Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:03:29 2001
Response via : Multiple Level Calibration







TIC: CMA0025R.D

(2) Dichlorodifluoromethane

4.15min 31.09ng

response 262224

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	23.52#
0.00	0.00	0.00
0.00	0.00	0.00

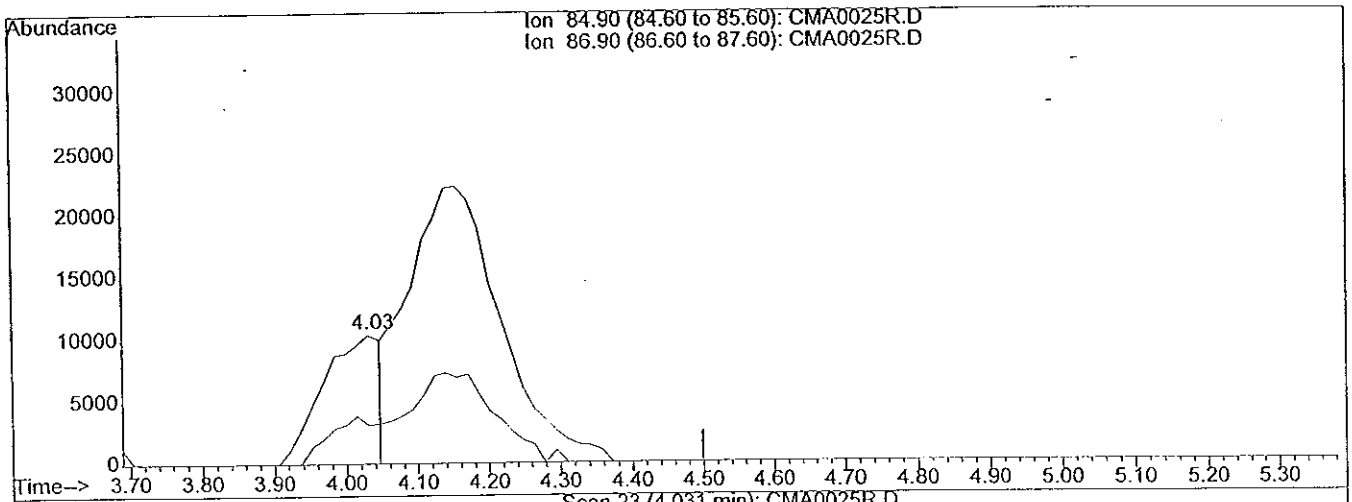
before
(mis-integrated
co-elution)

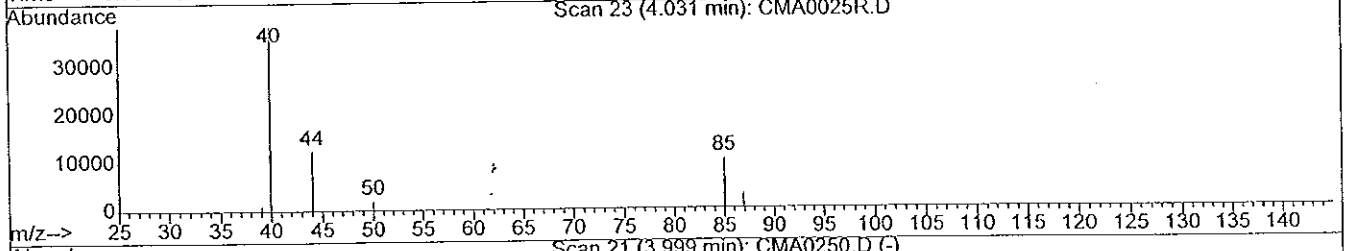
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

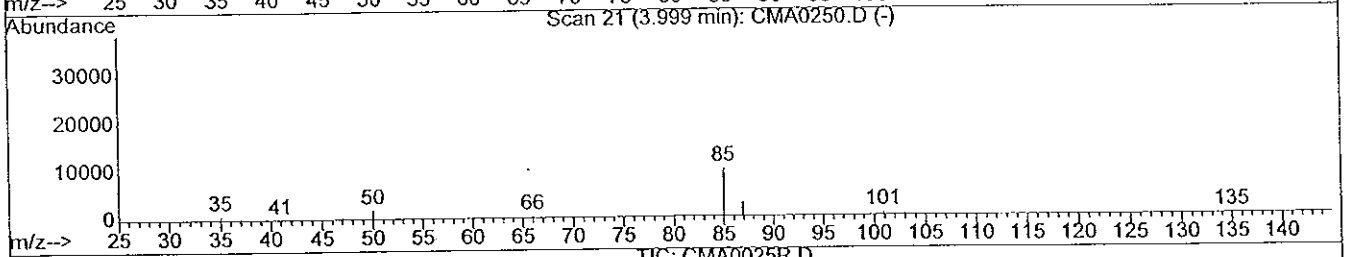
Vial: 14
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:03:29 2001
Response via : Multiple Level Calibration







TIC: CMA0025R.D

(2) Dichlorodifluoromethane

4.03min 6.94ng m

response 58539

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	105.35#
0.00	0.00	0.00
0.00	0.00	0.00

after BAK 10-24-01

10-26-01

CMA0025R.D TO14S.M Wed Oct 24 15:06:12 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00	ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00	ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00	ng	0.00 104.36%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 113.95%			
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.71%			
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.07%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.15	85	262224	31.09	ng	# 82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53	ng	# 32
4) Chloromethane	4.42	50	54501	31.95	ng	# 84
5) Vinyl chloride	4.65	62	45304	28.33	ng	# 89
6) Bromomethane	5.47	94	63214	27.33	ng	91
7) Chloroethane	5.60	64	27159	26.47	ng	# 87
8) Trichlorofluoromethane	6.13	101	76300	29.69	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83	ng	98
10) 1,1-Dichloroethene	7.29	96	47924	26.69	ng	80
12) Methylene chloride	8.21	49	111935	34.72	ng	# 80
13) Carbon disulfide	8.36	76	144676	27.32	ng	# 77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15	ng	# 68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80	ng	89
16) n-Hexane	8.87	57	73561	33.16	ng	# 1
17) 1,1-Dichloroethane	9.62	63	110346	28.23	ng	# 97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43	ng	# 89
19) Chloroform	11.19	83	135948	28.09	ng	# 92
20) Isooctane	12.13	57	281769	37.08	ng	89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03	ng	# 88
22) Carbon tetrachloride	12.62	117	124248	28.67	ng	98
24) 1,2-Dichloroethane	12.88	62	99619	35.56	ng	# 93
25) 1,2-Dibromoethane	19.85	107	111982	34.52	ng	99
27) Benzene	12.96	78	144795	27.71	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D Vial: 14
Acq On : 24 Oct 2001 11:26 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001 Quant Results File: TO14S.RES

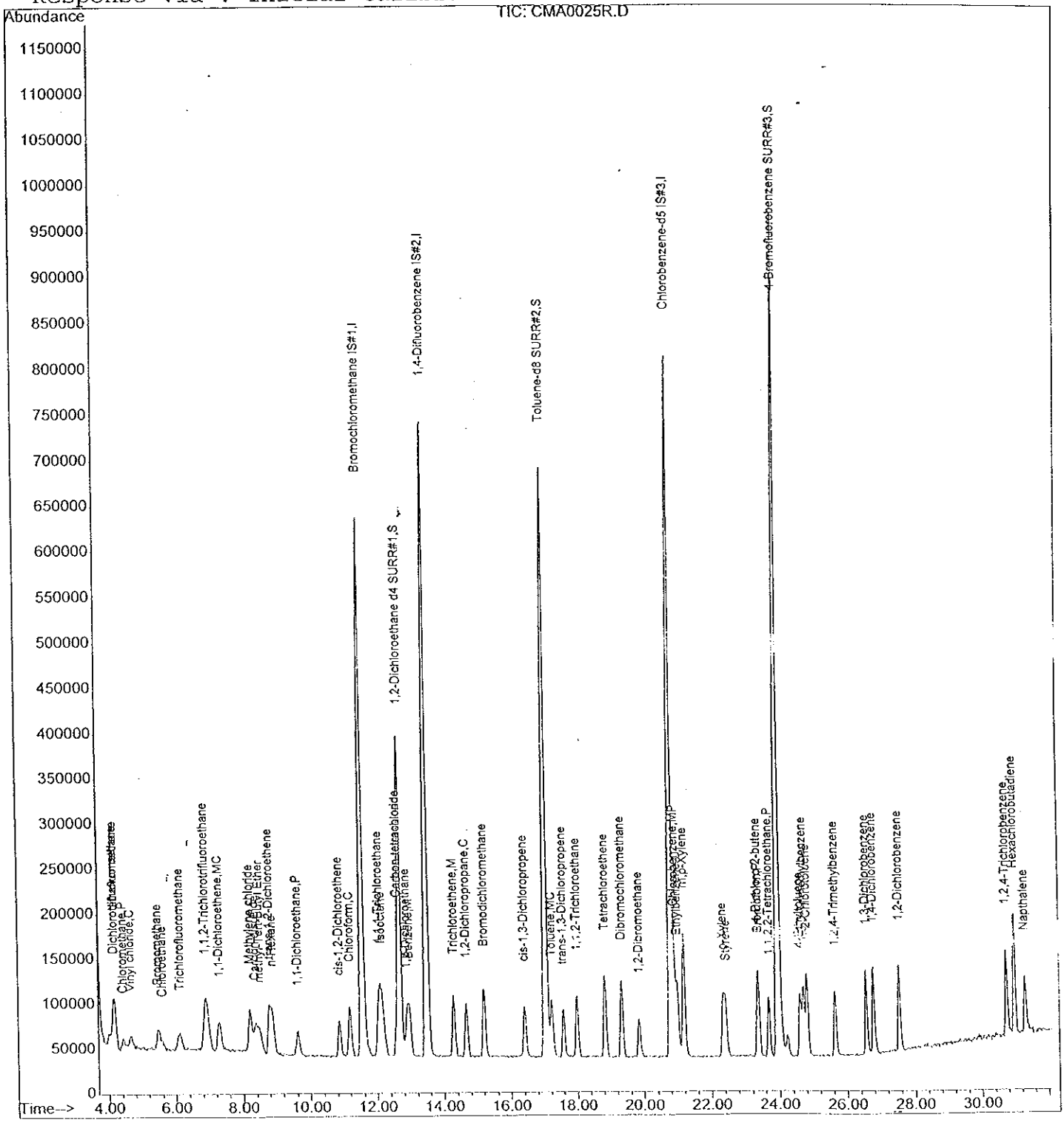
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.29	130	68130	26.00	ng		96
29) 1,2-Dichloropropane	14.67	63	64049	26.95	ng	#	74
30) Bromodichloromethane	15.21	83	160043	28.29	ng	#	99
31) cis-1,3-Dichloropropene	16.40	75	92662	27.16	ng	#	60
33) Toluene	17.23	92	85129	26.82	ng		94
34) trans-1,3-Dichloropropene	17.57	75	84572	30.80	ng	#	63
35) 1,1,2-Trichloroethane	17.99	97	68750	34.65	ng		96
37) Tetrachloroethene	18.84	164	63764	25.60	ng		99
38) Dibromochloromethane	19.34	127	109505	31.25	ng	#	89
39) Chlorobenzene	20.91	112	118956	26.33	ng	#	78
40) Ethylbenzene	20.98	106	46322	24.98	ng		71
41) m,p-Xylene	21.19	106	121090	51.49	ng		86
42) o-Xylene	22.34	106	56792	24.85	ng		81
43) Styrene	22.43	104	90021	23.96	ng	#	90
44) Bromoform	23.38	173	105640	33.64	ng	#	98
45) 1,1,2,2-Tetrachloroethane	23.70	83	130148	42.42	ng	#	96
47) 1,4-Dichloro-2-butene	23.34	75	21361	52.93	ng	#	73
48) 4-Ethyltoluene	24.60	105	153113	24.10	ng		91
49) 1,3,5-Trimethylbenzene	24.69	105	129427	25.89	ng		95
50) 2-Chlorotoluene	24.80	91	178701	26.70	ng		94
51) 1,2,4-Trimethylbenzene	25.64	105	135720	25.86	ng		94
52) 1,3-Dichlorobenzene	26.56	146	103775	26.15	ng		96
53) 1,4-Dichlorobenzene	26.78	146	109191	26.26	ng		96
54) 1,2-Dichlorobenzene	27.54	146	103990	28.73	ng		96
55) 1,2,4-Trichlorobenzene	30.73	180	81566	29.72	ng		97
56) Napthalene	31.29	128	156822	49.86	ng	#	88
57) Hexachlorobutadiene	30.98	225	63838	26.36	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D Vial: 14
Acq On : 24 Oct 2001 11:26 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



056

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D
Acq On : 24 Oct 2001 14:47
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	302643	250.00	ng	0.00 82.19%
26) 1,4-Difluorobenzene IS#2	13.49	114	1245925	250.00	ng	0.02 77.80%
36) Chlorobenzene-d5 IS#3	20.83	117	955337	250.00	ng	0.03 79.23%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.70	65	554901	292.55	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 117.02%			
32) Toluene-d8 SURR#2	17.06	98	1030874	255.97	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.39%			
46) 4-Bromofluorobenzene SURR#	24.00	95	912366	240.20	ng	0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 96.08%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	272073	43.05	ng	91
3) Dichlorotetrafluoroethane	4.14	135	271306	128.35	ng	# 36
4) Chloromethane	4.40	50	152375	119.19	ng	100
5) Vinyl chloride	4.64	62	140074	116.90	ng	96
6) Bromomethane	5.48	94	177821	102.60	ng	95
7) Chloroethane	5.60	64	78228	101.73	ng	95
8) Trichlorofluoromethane	6.10	101	261604	177.07	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	210701	88.80	ng	99
10) 1,1-Dichloroethene	7.29	96	129909	96.53	ng	# 80
12) Methylene chloride	8.19	49	259052	107.22	ng	# 81
13) Carbon disulfide	8.35	76	431745	108.79	ng	99
14) methyl-Tert-Butyl Ether	8.47	73	214349	125.03	ng	# 88
15) trans-1,2-Dichloroethene	8.78	96	145204	100.69	ng	86
16) n-Hexane	8.88	57	188686	113.51	ng	# 1
17) 1,1-Dichloroethane	9.62	63	300128	102.45	ng	99
18) cis-1,2-Dichloroethene	10.85	61	249880	102.36	ng	88
19) Chloroform	11.19	83	364120	100.38	ng	# 91
20) Isooctane	12.15	57	804780	141.31	ng	91
21) 1,1,1-Trichloroethane	12.04	97	329324	107.39	ng	90
22) Carbon tetrachloride	12.62	117	332071	102.26	ng	99
24) 1,2-Dichloroethane	12.90	62	225233	107.27	ng	# 96
25) 1,2-Dibromoethane	19.88	107	228039	93.80	ng	97
27) Benzene	12.97	78	375037	96.22	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D Vial: 14
Acq On : 24 Oct 2001 14:47 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001 Quant Results File: TO14S.RES

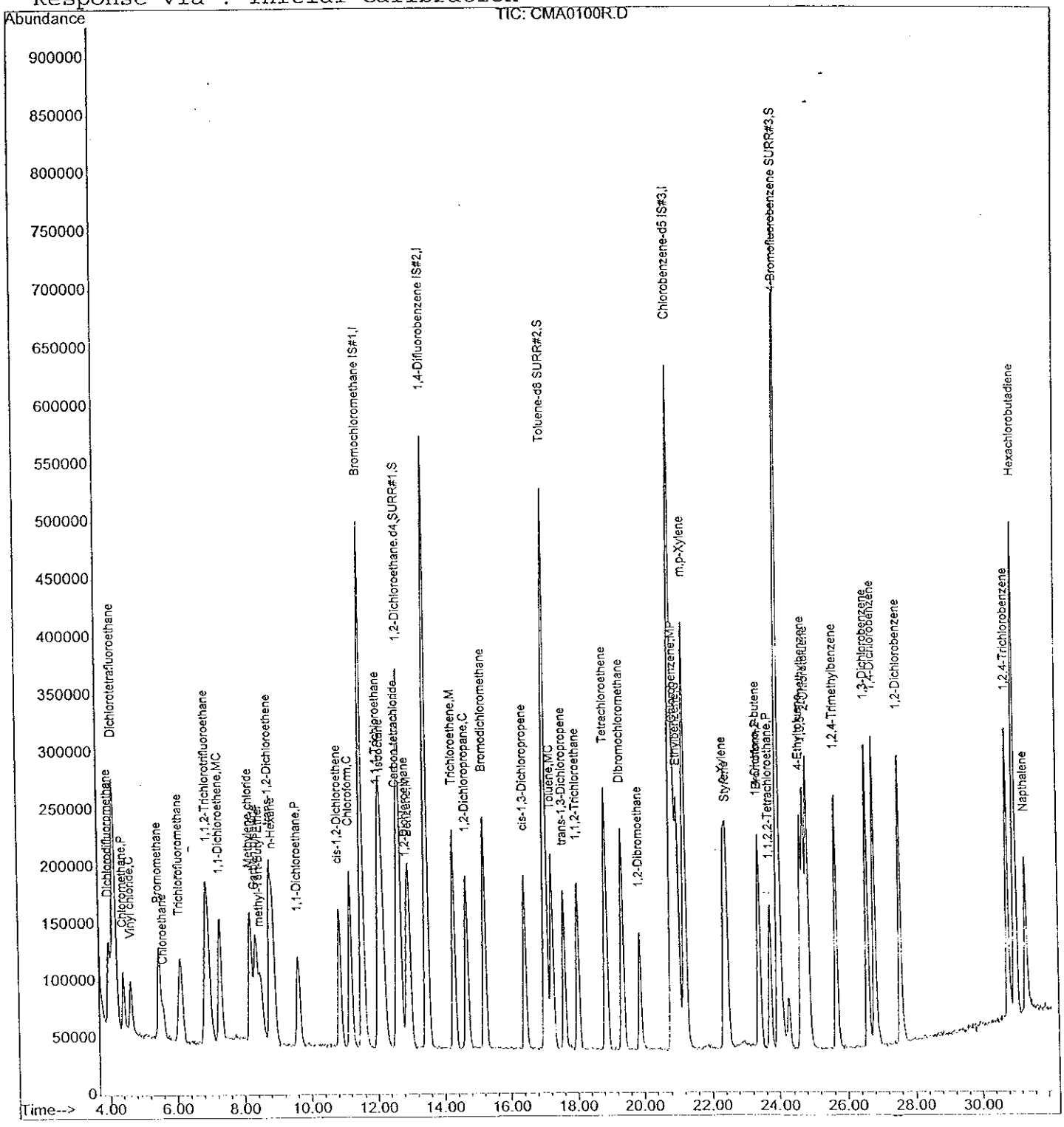
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.29	130	179494	91.81	ng		97
29) 1,2-Dichloropropane	14.68	63	167819	94.68	ng	#	78
30) Bromodichloromethane	15.21	83	413062	97.90	ng		98
31) cis-1,3-Dichloropropene	16.44	75	244455	96.06	ng	#	69
33) Toluene	17.24	92	223095	94.23	ng	#	96
34) trans-1,3-Dichloropropene	17.60	75	199236	97.28	ng	#	65
35) 1,1,2-Trichloroethane	18.01	97	137652	93.00	ng		97
37) Tetrachloroethene	18.86	164	162019	85.68	ng		99
38) Dibromochloromethane	19.36	127	242979	91.33	ng	#	95
39) Chlorobenzene	20.94	112	319423	93.14	ng		89
40) Ethylbenzene	21.03	106	125543	89.19	ng		81
41) m,p-Xylene	21.22	106	331428	185.62	ng		88
42) o-Xylene	22.38	106	155148	89.41	ng		83
43) Styrene	22.46	104	247815	86.86	ng		93
44) Bromoform	23.41	173	201116	84.36	ng		98
45) 1,1,2,2-Tetrachloroethane	23.73	83	226623	97.29	ng	#	97
47) 1,4-Dichloro-2-butene	23.39	75	43805	103.50	ng	#	78
48) 4-Ethyltoluene	24.65	105	430079	89.18	ng		90
49) 1,3,5-Trimethylbenzene	24.74	105	333794	87.96	ng	#	84
50) 2-Chlorotoluene	24.85	91	489814	96.41	ng		95
51) 1,2,4-Trimethylbenzene	25.67	105	379614	95.27	ng		95
52) 1,3-Dichlorobenzene	26.59	146	276507	91.79	ng	#	96
53) 1,4-Dichlorobenzene	26.81	146	296626	93.96	ng		96
54) 1,2-Dichlorobenzene	27.57	146	262422	95.50	ng		97
55) 1,2,4-Trichlorobenzene	30.80	180	216052	103.69	ng		98
56) Napthalene	31.34	128	340165	142.45	ng	#	89
57) Hexachlorobutadiene	31.03	225	205656	111.84	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0100R.D Vial: 14
Acq On : 24 Oct 2001 14:47 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 15:20 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1018A\CM1018A.D (18 Oct 2001 9:14)

SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	368219	250.00	ng	0.25 83.27%
26) 1,4-Difluorobenzene IS#2	13.47	114	1601426	250.00	ng	0.23 89.02%
36) Chlorobenzene-d5 IS#3	20.80	117	1205806	250.00	ng	0.25 86.27%

ng wpod

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.68	65	646459	280.12	ng	0.25
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.05%			
32) Toluene-d8 SURR#2	17.03	98	1325806	256.12	ng	0.23
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.45%			
46) 4-Bromofluorobenzene SURR#	23.95	95	1131201	235.95	ng	0.25
Spiked Amount 250.000	Range 87 - 112		Recovery = 94.38%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	592383	77.03	ng	# 41
3) Dichlorotetrafluoroethane	4.15	135	717125	278.84	ng	# 15
4) Chloromethane	4.42	50	450888	289.88	ng	98
5) Vinyl chloride	4.65	62	423452	290.46	ng	98
6) Bromomethane	5.47	94	574041	272.22	ng	96
7) Chloroethane	5.58	64	265512	283.79	ng	# 93
8) Trichlorofluoromethane	6.11	101	874332	432.87	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	784554	271.75	ng	97
10) 1,1-Dichloroethene	7.29	96	456836	279.00	ng	83
12) Methylene chloride	8.19	49	934526	317.90	ng	# 83
13) Carbon disulfide	8.35	76	1385420	286.91	ng	99
14) methyl-Tert-Butyl Ether	8.49	73	633372	303.64	ng	# 87
15) trans-1,2-Dichloroethene	8.78	96	528529	301.24	ng	89
16) n-Hexane	8.87	57	606151m	299.71	ng	# 3
17) 1,1-Dichloroethane	9.62	63	1064586	298.69	ng	98
18) cis-1,2-Dichloroethene	10.85	61	872941	293.91	ng	90
19) Chloroform	11.17	83	1318659	298.78	ng	# 92
20) Isooctane	12.13	57	2004730	289.32	ng	93
21) 1,1,1-Trichloroethane	12.04	97	1156403	309.95	ng	94
22) Carbon tetrachloride	12.62	117	1167801	295.57	ng	98
24) 1,2-Dichloroethane	12.88	62	766158	299.90	ng	# 97
25) 1,2-Dibromoethane	19.85	107	741614	250.72	ng	98
27) Benzene	12.96	78	1337354	266.93	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

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

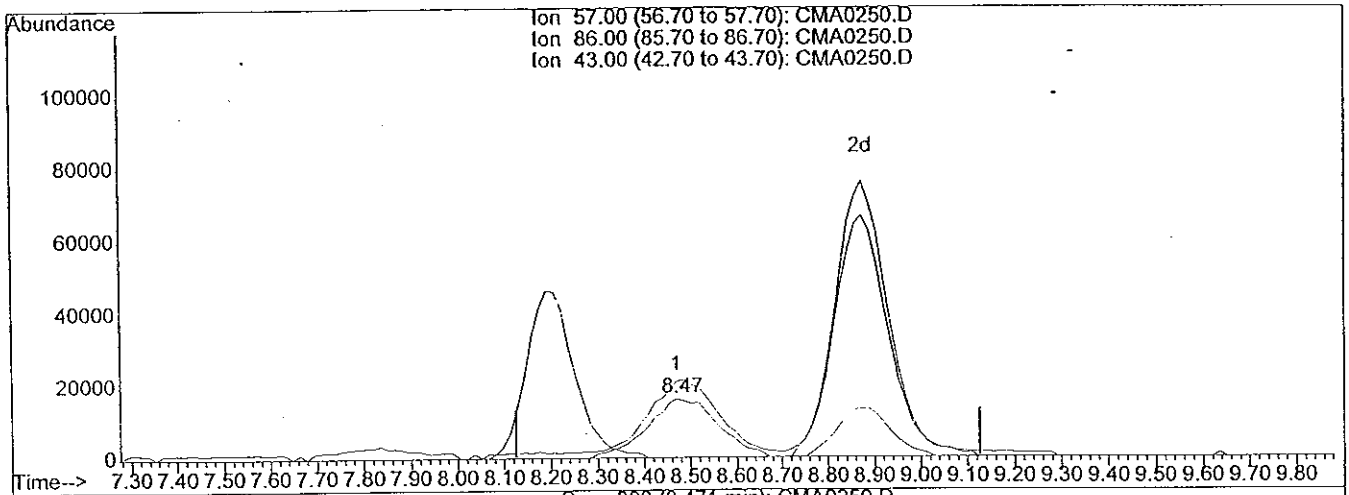
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

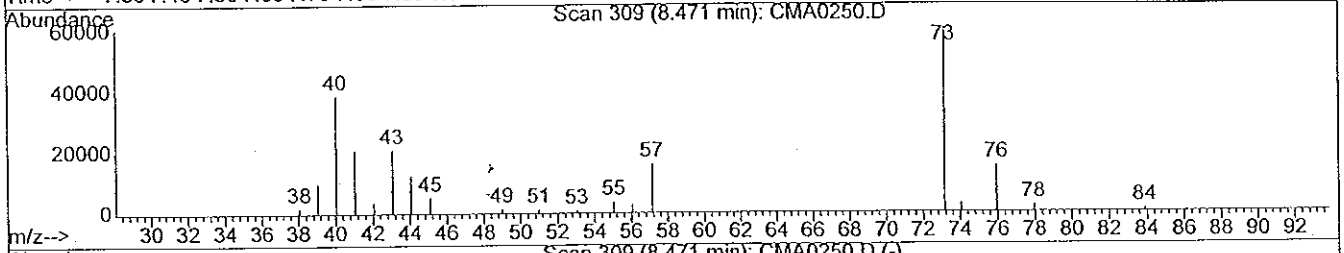
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.28	130	655661	260.92	ng		97
29) 1,2-Dichloropropane	14.67	63	604992	265.54	ng	#	80
30) Bromodichloromethane	15.19	83	1487706	274.32	ng		98
31) cis-1,3-Dichloropropene	16.40	75	852570	260.64	ng	#	71
33) Toluene	17.23	92	817016	268.48	ng	#	95
34) trans-1,3-Dichloropropene	17.58	75	680959	258.67	ng	#	71
35) 1,1,2-Trichloroethane	17.99	97	474556	249.44	ng		98
37) Tetrachloroethene	18.84	164	599949	251.36	ng		99
38) Dibromochloromethane	19.32	127	839755	250.08	ng		98
39) Chlorobenzene	20.89	112	1148198	265.26	ng		92
40) Ethylbenzene	20.98	106	470972m	265.09	ng	#	0
41) m,p-Xylene	21.19	106	1168371	518.45	ng		87
42) o-Xylene	22.33	106	580940	265.24	ng		88
43) Styrene	22.41	104	901693	250.41	ng		94
44) Bromoform	23.38	173	664074	220.70	ng		99
45) 1,1,2,2-Tetrachloroethane	23.69	83	710006	241.49	ng		97
47) 1,4-Dichloro-2-butene	23.34	75	127341	208.15	ng	#	80
48) 4-Ethyltoluene	24.60	105	1676646	275.45	ng		93
49) 1,3,5-Trimethylbenzene	24.71	105	1233434	257.52	ng		94
50) 2-Chlorotoluene	24.80	91	1691875	263.84	ng		98
51) 1,2,4-Trimethylbenzene	25.63	105	1320562	262.58	ng		98
52) 1,3-Dichlorobenzene	26.56	146	943975	248.28	ng		96
53) 1,4-Dichlorobenzene	26.78	146	986973m	247.69	ng		97
54) 1,2-Dichlorobenzene	27.52	146	852078	245.68	ng		97
55) 1,2,4-Trichlorobenzene	30.73	180	539441	205.12	ng		99
56) Napthalene	31.29	128	627940	208.33	ng	#	93
57) Hexachlorobutadiene	30.98	225	504469	217.36	ng		100

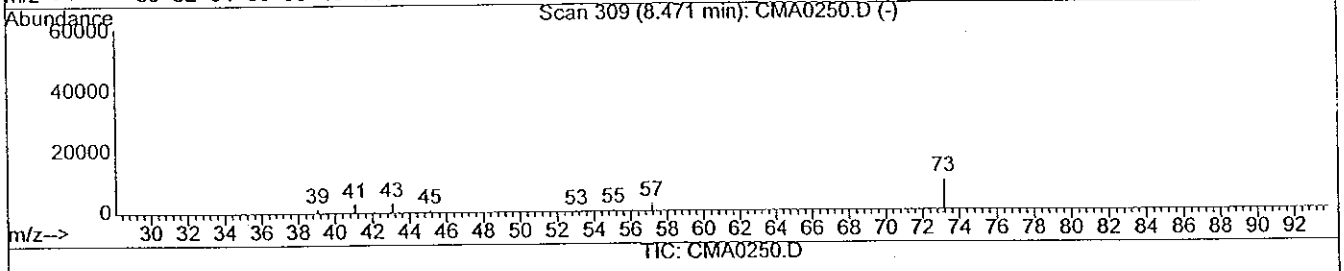
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D Vial: 14
Acq On : 24 Oct 2001 10:49 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 11:33 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 11:33:32 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(16) n-Hexane

8.47min 85.35ng

response 172617

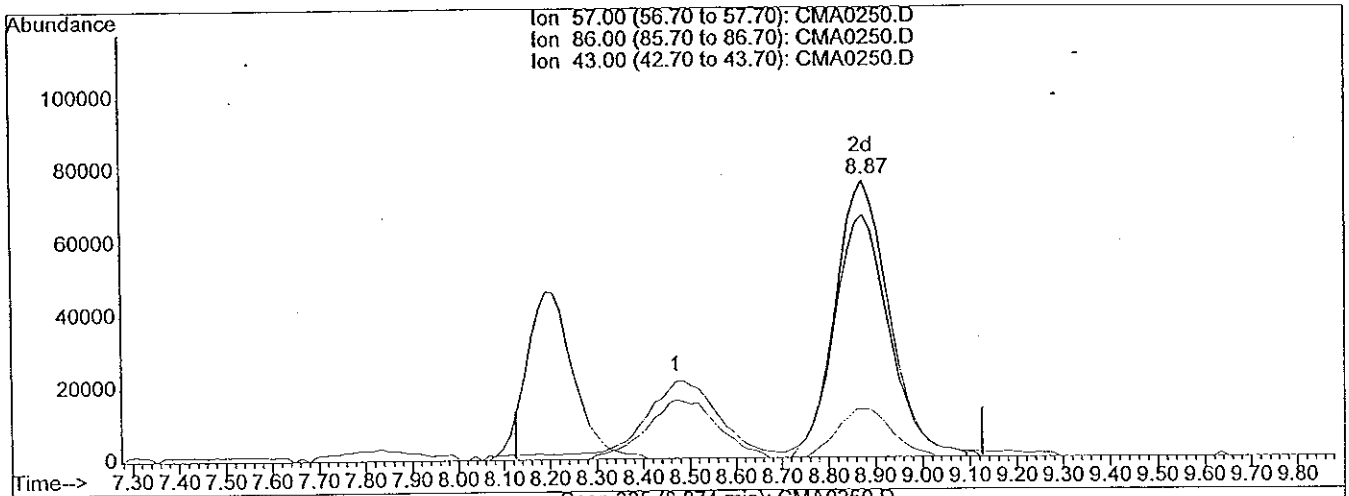
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	118.04#
0.00	0.00	0.00

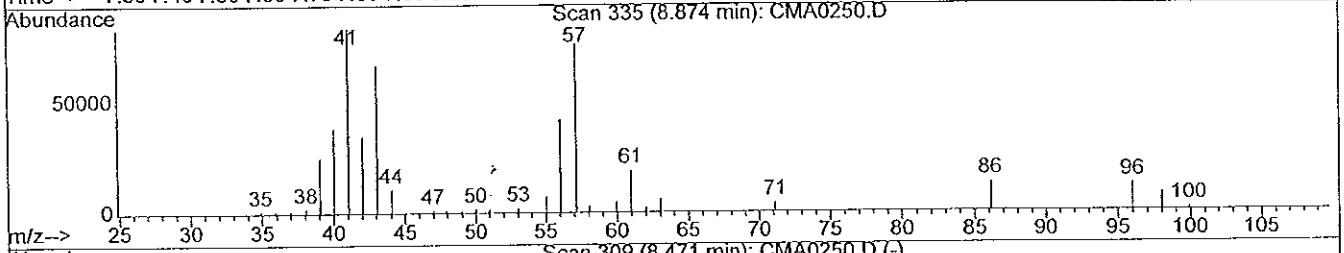
Defined (wrong peak)

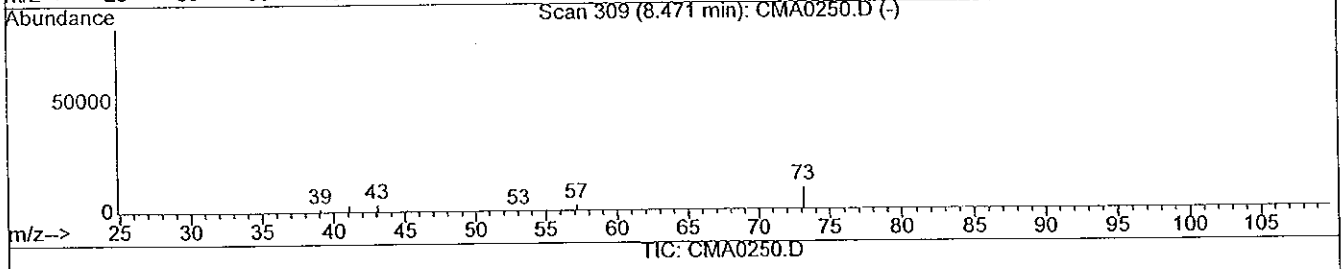
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 11:33:32 2001
Response via : Multiple Level Calibration







TIC: CMA0250.D

(16) n-Hexane

8.87min, 299.71ng m

response 606151

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	33.61#
0.00	0.00	0.00

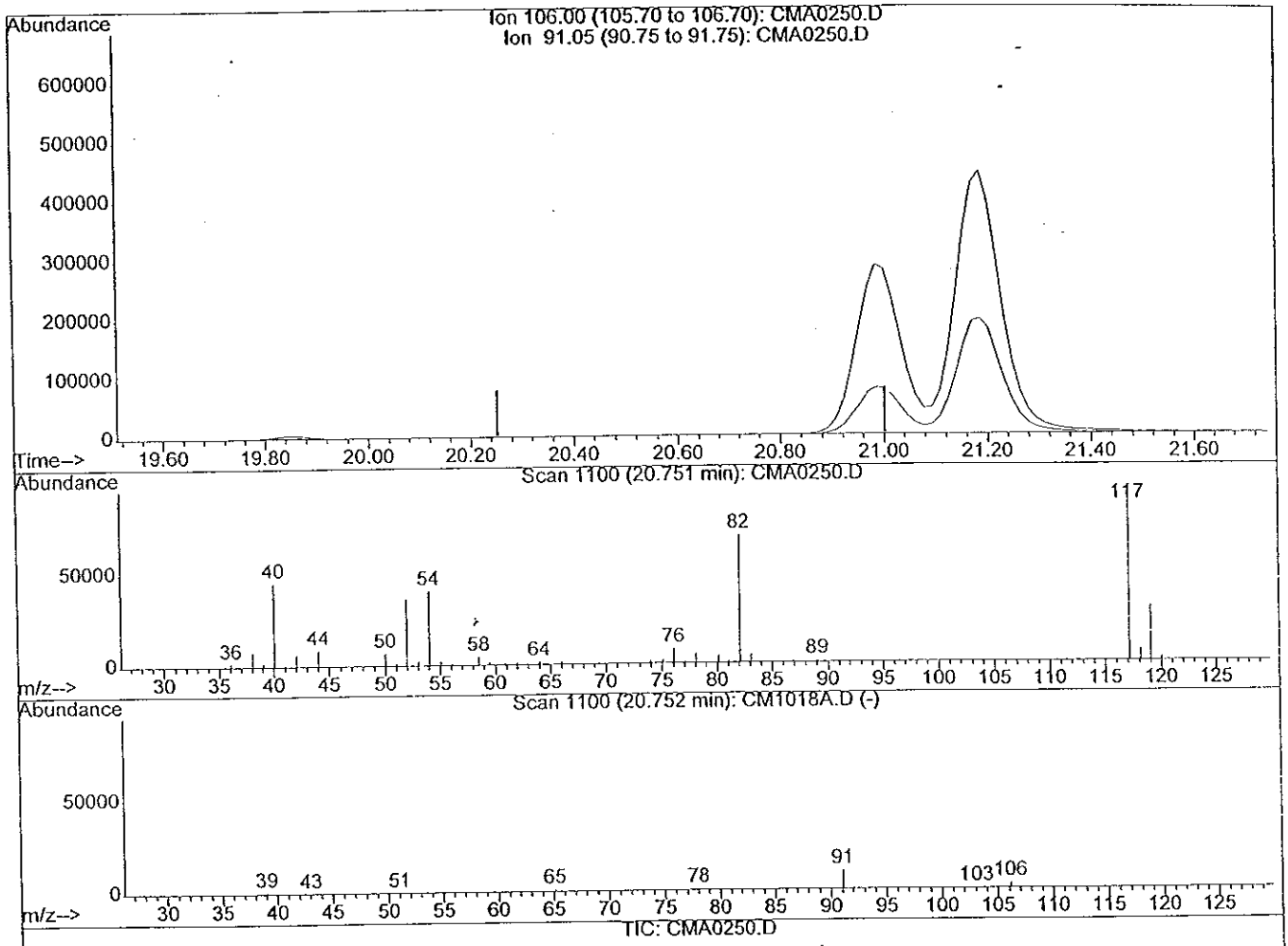
after
BDH 10/24/01

10-26-01

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration



TIC: CMA0250.D

(40) Ethylbenzene (C)

20.75min 0.00ng

response 0

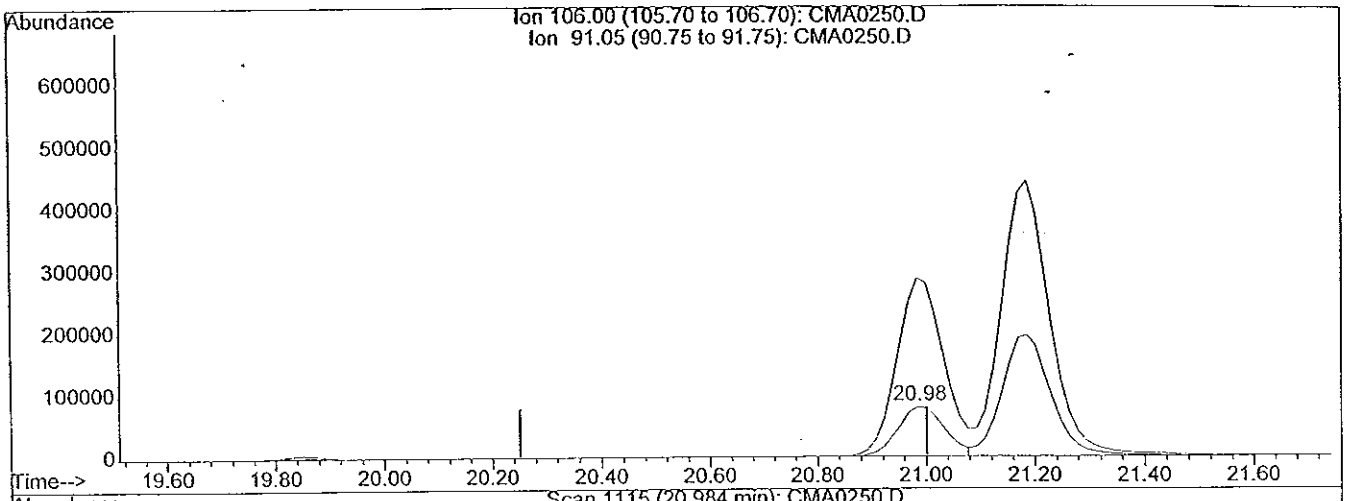
Ion	Exp%	Act%
106.00	100	0.00
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

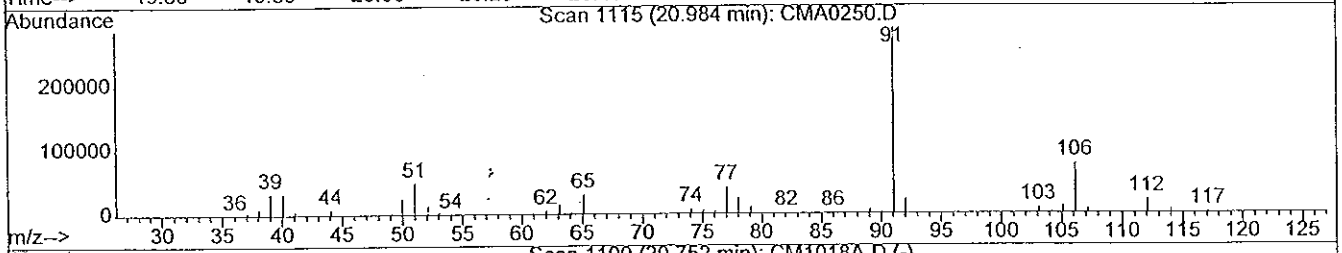
before (missed peak, just outside RT window)

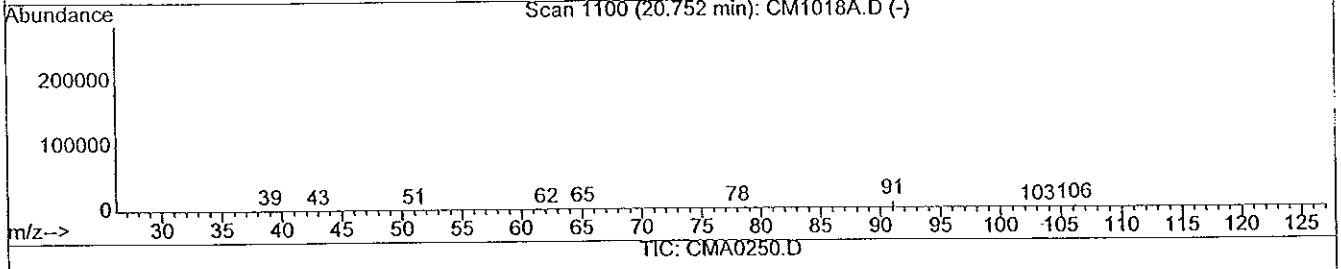
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:32 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration







(40) Ethylbenzene (C)

20.98min 265.09ng m

response 470972

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

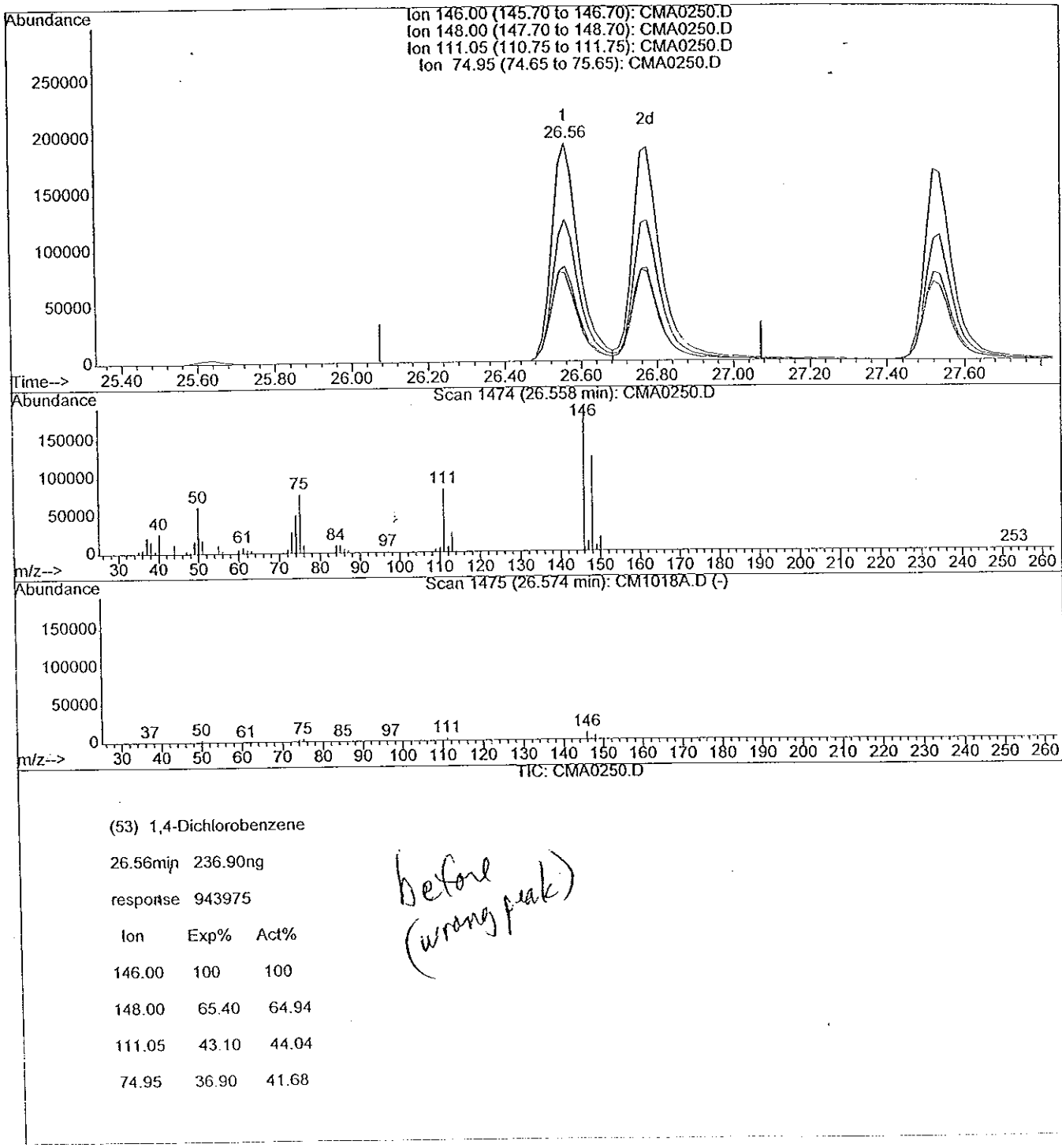
after

DK 10/24/01

10-26-01

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D Vial: 14
Acq On : 24 Oct 2001 10:49 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 11:32 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.56min 236.90ng

response 943975

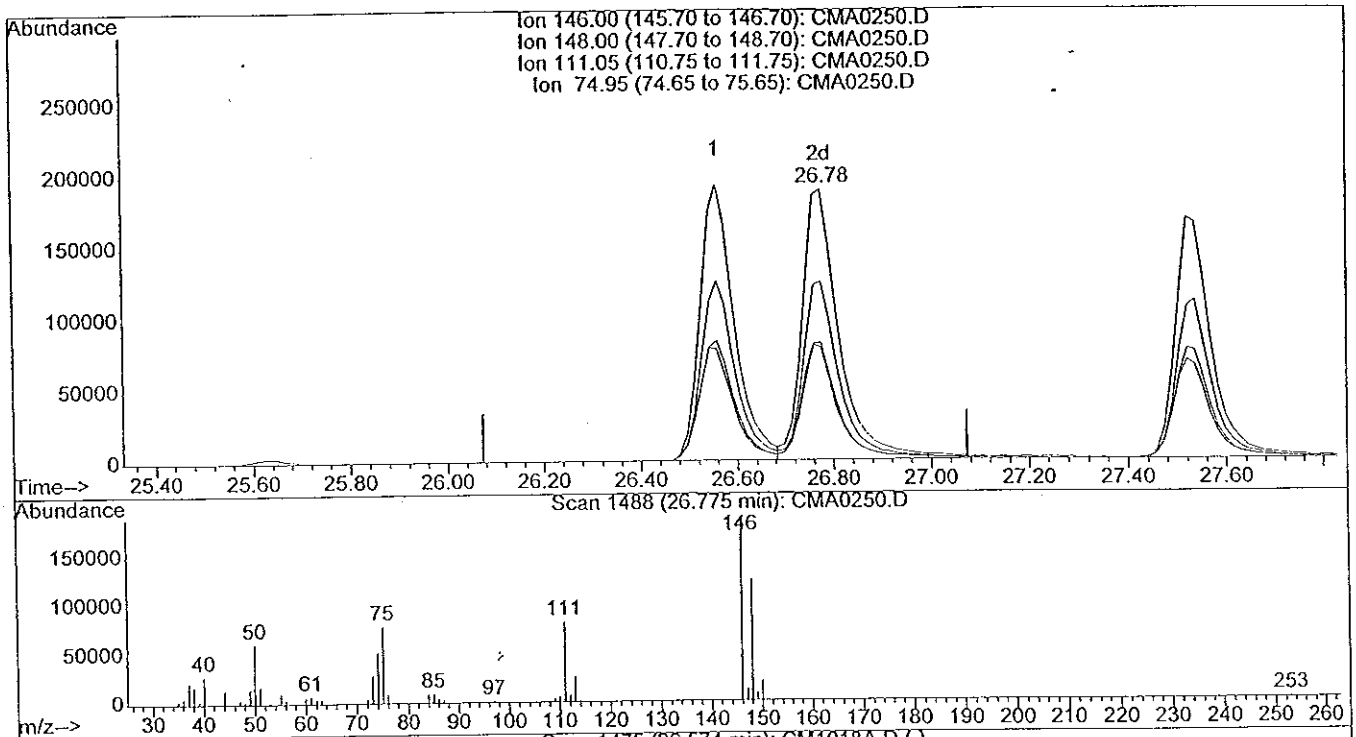
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.94
111.05	43.10	44.04
74.95	36.90	41.68

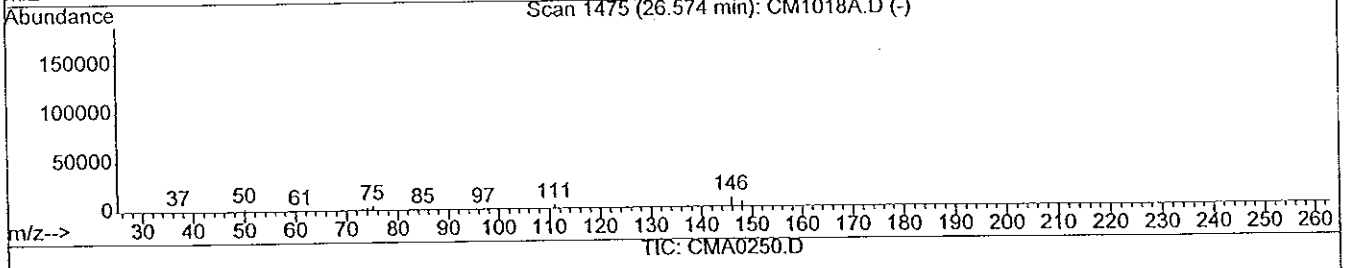
before (wrong peak)

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:33 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Multiple Level Calibration





TIC: CMA0250.D

(53) 1,4-Dichlorobenzene

26.78mjn 247.69ng m

response 986973

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	62.12
111.05	43.10	42.12
74.95	36.90	39.87

after
BH
10/24/01

10-26-01

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1018A\CM1018A.D (18 Oct 2001 9:14)

orig

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	368219	250.00	ng	0.25 83.27%
26) 1,4-Difluorobenzene IS#2	13.47	114	1601426	250.00	ng	0.23 89.02%
36) Chlorobenzene-d5 IS#3	20.80	117	1205806	250.00	ng	0.25 86.27%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.68	65	646459	280.12	ng	0.25
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.05%			
32) Toluene-d8 SURR#2	17.03	98	1325806	256.12	ng	0.23
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.45%			
46) 4-Bromofluorobenzene SURR#	23.95	95	1131201	235.95	ng	0.25
Spiked Amount 250.000	Range 87 - 112		Recovery = 94.38%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	592383	77.03	ng	# 41
3) Dichlorotetrafluoroethane	4.15	135	717125	278.84	ng	# 15
4) Chloromethane	4.42	50	450888	289.88	ng	98
5) Vinyl chloride	4.65	62	423452	290.46	ng	98
6) Bromomethane	5.47	94	574041	272.22	ng	96
7) Chloroethane	5.58	64	265512	283.79	ng	# 93
8) Trichlorofluoromethane	6.11	101	874332	432.87	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	784554	271.75	ng	97
10) 1,1-Dichloroethene	7.29	96	456836	279.00	ng	83
12) Methylene chloride	8.19	49	934526	317.90	ng	# 83
13) Carbon disulfide	8.35	76	1385420	286.91	ng	99
14) methyl-Tert-Butyl Ether	8.49	73	633372	303.64	ng	# 87
15) trans-1,2-Dichloroethene	8.78	96	528529	301.24	ng	89
16) n-Hexane	8.47	57	172617	85.35	ng	# 3
17) 1,1-Dichloroethane	9.62	63	1064586	298.69	ng	98
18) cis-1,2-Dichloroethene	10.85	61	872941	293.91	ng	90
19) Chloroform	11.17	83	1318659	298.78	ng	# 92
20) Isooctane	12.13	57	2004730	289.32	ng	93
21) 1,1,1-Trichloroethane	12.04	97	1156403	309.95	ng	94
22) Carbon tetrachloride	12.62	117	1167801	295.57	ng	98
24) 1,2-Dichloroethane	12.88	62	766158	299.90	ng	# 97
25) 1,2-Dibromoethane	19.85	107	741614	250.72	ng	98
27) Benzene	12.96	78	1337354	266.93	ng	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.28	130	655661	260.92	ng		97
29) 1,2-Dichloropropane	14.67	63	604992	265.54	ng	#	80
30) Bromodichloromethane	15.19	83	1487706	274.32	ng		98
31) cis-1,3-Dichloropropene	16.40	75	852570	260.64	ng	#	71
33) Toluene	17.23	92	817016	268.48	ng	#	95
34) trans-1,3-Dichloropropene	17.58	75	680959	258.67	ng	#	71
35) 1,1,2-Trichloroethane	17.99	97	474556	249.44	ng		98
37) Tetrachloroethene	18.84	164	599949	251.36	ng		99
38) Dibromochloromethane	19.32	127	839755	250.08	ng		98
39) Chlorobenzene	20.89	112	1148198	265.26	ng		92
41) m,p-Xylene	21.19	106	1168371	518.45	ng		87
42) o-Xylene	22.33	106	580940	265.24	ng		88
43) Styrene	22.41	104	901693	250.41	ng		94
44) Bromoform	23.38	173	664074	220.70	ng		99
45) 1,1,2,2-Tetrachloroethane	23.69	83	710006	241.49	ng		97
47) 1,4-Dichloro-2-butene	23.34	75	127341	208.15	ng	#	80
48) 4-Ethyltoluene	24.60	105	1676646	275.45	ng		93
49) 1,3,5-Trimethylbenzene	24.71	105	1233434	257.52	ng		94
50) 2-Chlorotoluene	24.80	91	1691875	263.84	ng		98
51) 1,2,4-Trimethylbenzene	25.63	105	1320562	262.58	ng		98
52) 1,3-Dichlorobenzene	26.56	146	943975	248.28	ng		96
53) 1,4-Dichlorobenzene	26.56	146	943975	236.90	ng		97
54) 1,2-Dichlorobenzene	27.52	146	852078	245.68	ng		97
55) 1,2,4-Trichlorobenzene	30.73	180	539441	205.12	ng		99
56) Napthalene	31.29	128	627940	208.33	ng	#	93
57) Hexachlorobutadiene	30.98	225	504469	217.36	ng		100

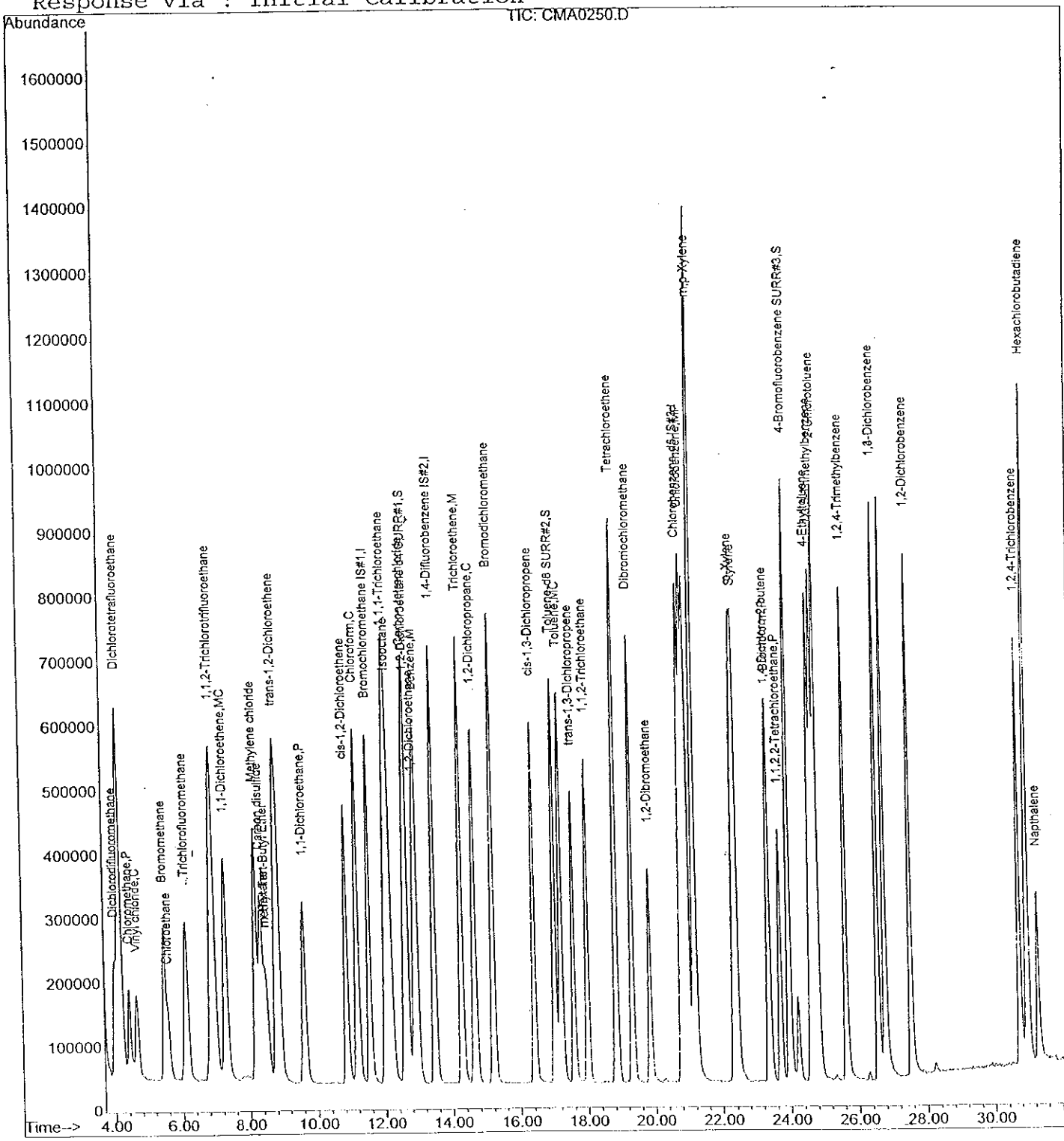
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 11:21 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 18 10:40:13 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig - SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	335627	250.00	ng	0.00 91.15%
26) 1,4-Difluorobenzene IS#2	13.49	114	1393904	250.00	ng	0.02 87.04%
36) Chlorobenzene-d5 IS#3	20.82	117	1059272	250.00	ng	0.02 87.85%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.68	65	596594	283.62	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 113.45%			
32) Toluene-d8 SURR#2	17.05	98	1151441	255.55	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.22%			
46) 4-Bromofluorobenzene SURR#	23.97	95	1040529	247.06	ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.82%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1198890	171.05	ng	98
3) Dichlorotetrafluoroethane	4.16	135	1299726	554.44	ng	# 34
4) Chloromethane	4.42	50	858972	605.87	ng	97
5) Vinyl chloride	4.64	62	777500	585.10	ng	98
6) Bromomethane	5.50	94	1055105	548.95	ng	96
7) Chloroethane	5.60	64	475305	557.35	ng	# 93
8) Trichlorofluoromethane	6.13	101	1642064	755.75	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	1395839	530.44	ng	97
10) 1,1-Dichloroethene	7.30	96	833822	558.69	ng	83
12) Methylene chloride	8.21	49	1562946	583.30	ng	# 82
13) Carbon disulfide	8.37	76	2544755	578.18	ng	98
14) methyl-Tert-Butyl Ether	8.49	73	1248899	656.87	ng	# 88
15) trans-1,2-Dichloroethene	8.79	96	932503	583.10	ng	89
16) n-Hexane	8.90	57	1048920	568.99	ng	# 1
17) 1,1-Dichloroethane	9.62	63	1845041	567.93	ng	99
18) cis-1,2-Dichloroethene	10.87	61	1516716	560.25	ng	90
19) Chloroform	11.19	83	2274961	565.52	ng	# 92
20) Isooctane	12.16	57	3451582	546.50	ng	93
21) 1,1,1-Trichloroethane	12.06	97	1961314	576.73	ng	92
22) Carbon tetrachloride	12.62	117	2031258	564.04	ng	98
24) 1,2-Dichloroethane	12.89	62	1366704	586.92	ng	# 98
25) 1,2-Dibromoethane	19.87	107	1434749	532.15	ng	100
27) Benzene	12.96	78	2286563	524.34	ng	96

(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Wed Oct 24 13:44:36 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.30	130	1124713	514.22	ng		97
29) 1,2-Dichloropropane	14.67	63	1046814	527.87	ng	#	81
30) Bromodichloromethane	15.21	83	2589250	548.51	ng		98
31) cis-1,3-Dichloropropene	16.42	75	1529163	537.08	ng	#	71
33) Toluene	17.23	92	1401707	529.18	ng	#	94
34) trans-1,3-Dichloropropene	17.59	75	1284286	560.48	ng	#	74
35) 1,1,2-Trichloroethane	17.99	97	871120	526.05	ng		97
37) Tetrachloroethene	18.85	164	1022802	487.81	ng		99
38) Dibromochloromethane	19.34	127	1513544	513.08	ng		99
39) Chlorobenzene	20.91	112	1991948	523.85	ng		94
40) Ethylbenzene	21.00	106	806049	516.45	ng		87
41) m,p-Xylene	21.21	106	2109001	1065.29	ng		89
42) o-Xylene	22.36	106	1010344	525.11	ng		86
43) Styrene	22.43	104	1622506	512.91	ng		95
44) Bromoform	23.40	173	1269638	480.33	ng		99
45) 1,1,2,2-Tetrachloroethane	23.71	83	1382645	535.33	ng		97
47) 1,4-Dichloro-2-butene	23.36	75	275039	477.93	ng	#	82
48) 4-Ethyltoluene	24.62	105	2886559	539.81	ng		92
49) 1,3,5-Trimethylbenzene	24.73	105	2282513	542.48	ng		94
50) 2-Chlorotoluene	24.82	91	3029218	537.75	ng		97
51) 1,2,4-Trimethylbenzene	25.65	105	2356377	533.35	ng		98
52) 1,3-Dichlorobenzene	26.58	146	1701056	509.29	ng		97
53) 1,4-Dichlorobenzene	26.80	146	1785143	509.98	ng		97
54) 1,2-Dichlorobenzene	27.56	146	1561744	512.60	ng		96
55) 1,2,4-Trichlorobenzene	30.77	180	1098617	475.53	ng		100
56) Napthalene	31.33	128	1422310	537.16	ng	#	92
57) Hexachlorobutadiene	31.00	225	916172	449.36	ng		99

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

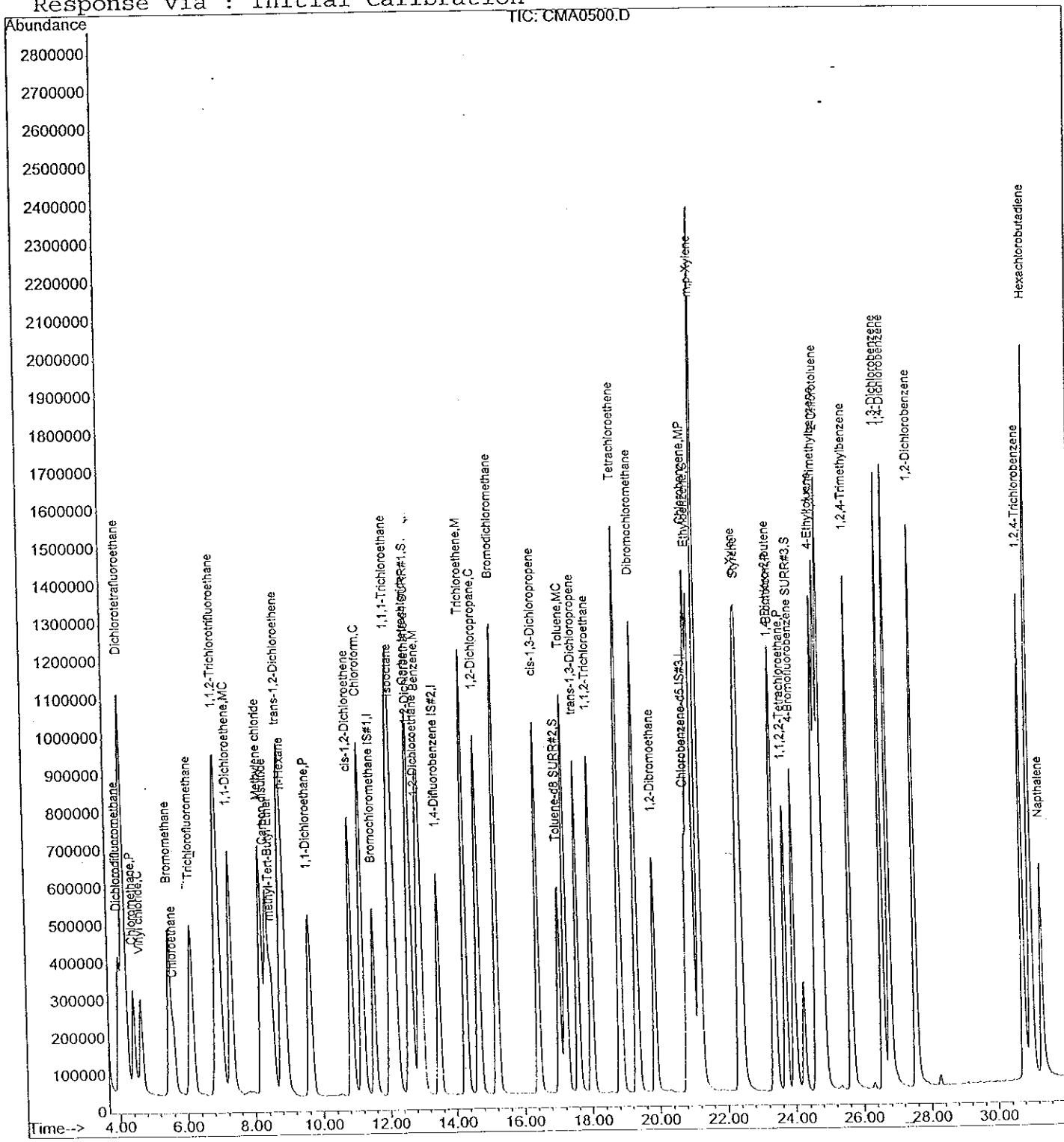
072

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0500.D
Acq On : 24 Oct 2001 12:04
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig $ 11/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	381143	250.00	ng		0.00 103.51%
26) 1,4-Difluorobenzene IS#2	13.50	114	1562902	250.00	ng		0.03 97.59%
36) Chlorobenzene-d5 IS#3	20.86	117	1183115	250.00	ng		0.06 98.12%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.69	65	691978	289.68	ng		0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 115.87%				
32) Toluene-d8 SURR#2	17.07	98	1280433	253.45	ng		0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.38%				
46) 4-Bromofluorobenzene SURR#	24.01	95	1136531	241.61	ng		0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 96.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.97	85	2735069	343.61	ng		98
3) Dichlorotetrafluoroethane	4.14	135	2769932	1040.50	ng	#	34
4) Chloromethane	4.40	50	1829586	1136.39	ng		95
5) Vinyl chloride	4.61	62	1651969	1094.71	ng		97
6) Bromomethane	5.47	94	2276884	1043.14	ng		97
7) Chloroethane	5.57	64	1064134	1098.81	ng	#	93
8) Trichlorofluoromethane	6.11	101	3775685	1236.43	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	3068817	1026.93	ng		98
10) 1,1-Dichloroethene	7.29	96	1856306	1095.25	ng		82
12) Methylene chloride	8.19	49	3407078	1119.70	ng	#	83
13) Carbon disulfide	8.36	76	5434383	1087.27	ng		99
14) methyl-Tert-Butyl Ether	8.47	73	2884045	1335.74	ng	#	89
15) trans-1,2-Dichloroethene	8.78	96	1956401	1077.26	ng		88
16) n-Hexane	8.87	57	2265746	1082.29	ng	#	1
17) 1,1-Dichloroethane	9.62	63	4092898	1109.40	ng		99
18) cis-1,2-Dichloroethene	10.86	61	3400663	1106.14	ng		90
19) Chloroform	11.19	83	5058553	1107.31	ng	#	92
20) Isooctane	12.15	57	7647454	1066.26	ng		93
21) 1,1,1-Trichloroethane	12.06	97	4224028	1093.76	ng		92
22) Carbon tetrachloride	12.63	117	4469033	1092.77	ng		98
24) 1,2-Dichloroethane	12.90	62	3208228	1213.23	ng	#	98
25) 1,2-Dibromoethane	19.90	107	3427551	1119.46	ng		99
27) Benzene	12.97	78	5184887	1060.40	ng		96

ng report

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Wed Oct 24 13:44:49 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.31	130	2574537	1049.80	ng		97
29) 1,2-Dichloropropane	14.68	63	2381129	1070.89	ng	#	81
30) Bromodichloromethane	15.22	83	5935390	1121.41	ng		98
31) cis-1,3-Dichloropropene	16.44	75	3562044	1115.80	ng	#	72
33) Toluene	17.26	92	3196310	1076.22	ng	#	96
34) trans-1,3-Dichloropropene	17.62	75	3038375	1182.60	ng	#	74
35) 1,1,2-Trichloroethane	18.03	97	2082258	1121.47	ng		98
37) Tetrachloroethene	18.89	164	2312926	987.64	ng		99
38) Dibromochloromethane	19.39	127	3584791	1088.02	ng		99
39) Chlorobenzene	20.95	112	4497216	1058.90	ng		94
40) Ethylbenzene	21.05	106	1844660	1058.19	ng		88
41) m,p-Xylene	21.25	106	4723023	2135.96	ng		89
42) o-Xylene	22.40	106	2300502	1070.49	ng		89
43) Styrene	22.47	104	3694630	1045.70	ng		95
44) Bromoform	23.44	173	3080932	1043.57	ng		99
45) 1,1,2,2-Tetrachloroethane	23.75	83	3305758	1145.94	ng		98
47) 1,4-Dichloro-2-butene	23.39	75	696318	1053.93	ng	#	83
48) 4-Ethyltoluene	24.66	105	5901317	988.08	ng		99
49) 1,3,5-Trimethylbenzene	24.76	105	4837745	1029.42	ng		93
50) 2-Chlorotoluene	24.87	91	6699275	1064.78	ng		98
51) 1,2,4-Trimethylbenzene	25.69	105	5145516	1042.75	ng		98
52) 1,3-Dichlorobenzene	26.60	146	3752879	1005.98	ng		97
53) 1,4-Dichlorobenzene	26.82	146	3957298	1012.19	ng		97
54) 1,2-Dichlorobenzene	27.58	146	3369446	990.16	ng		97
55) 1,2,4-Trichlorobenzene	30.80	180	2290557	887.68	ng		100
56) Napthalene	31.36	128	3152732	1066.04	ng	#	93
57) Hexachlorobutadiene	31.03	225	1818158	798.42	ng		99

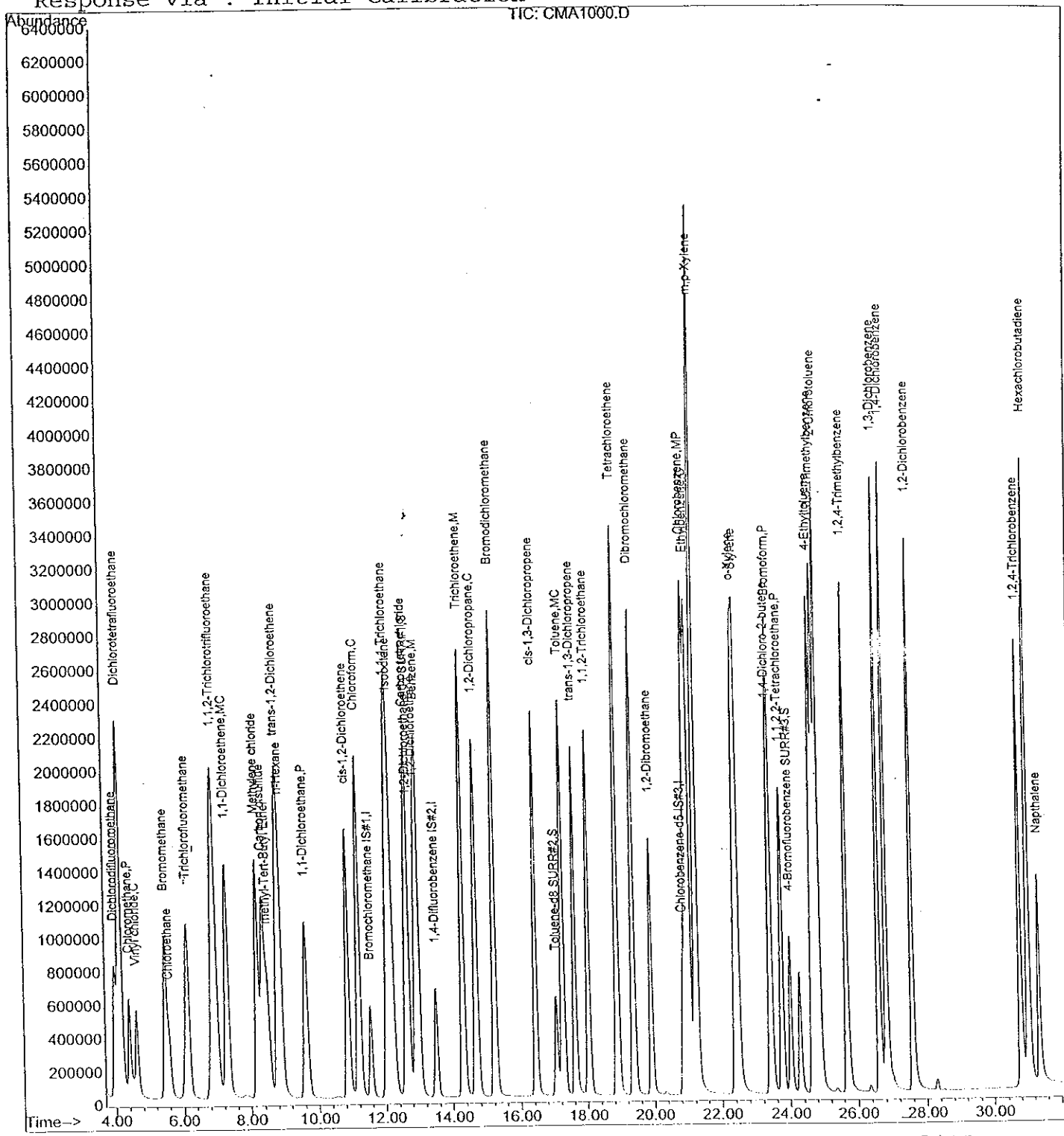
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1000.D
Acq On : 24 Oct 2001 13:00
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



CMA1000.D TO14S.M Wed Oct 24 13:44:51 2001

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D Vial: 14
Acq On : 24 Oct 2001 13:51 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig SH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	299711	250.00	ng		0.00 81.39%
26) 1,4-Difluorobenzene IS#2	13.49	114	1220318	250.00	ng		0.02 76.20%
36) Chlorobenzene-d5 IS#3	20.83	117	936333	250.00	ng		0.03 77.65%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.69	65	527563	280.86	ng		0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.34%				
32) Toluene-d8 SURR#2	17.06	98	1008524	255.67	ng		0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.27%				
46) 4-Bromofluorobenzene SURR#	23.98	95	963269	258.75	ng		0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 103.50%				

ng report

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.97	85	4797534	766.49	ng		92
3) Dichlorotetrafluoroethane	4.14	135	4537207	2167.44	ng	#	37
4) Chloromethane	4.40	50	2893540	2285.53	ng		96
5) Vinyl chloride	4.61	62	2367084	1994.78	ng		98
6) Bromomethane	5.48	94	3156872	1839.27	ng		97
7) Chloroethane	5.58	64	1410452	1852.12	ng	#	93
8) Trichlorofluoromethane	6.11	101	4845163	1699.40	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	3574884	1521.31	ng		100
10) 1,1-Dichloroethene	7.29	96	2110739	1583.74	ng	#	79
12) Methylene chloride	8.19	49	4335480	1811.94	ng	#	83
13) Carbon disulfide	8.36	76	7294302	1855.90	ng		99
14) methyl-Tert-Butyl Ether	8.49	73	3362521	1980.48	ng	#	88
15) trans-1,2-Dichloroethene	8.78	96	2538724	1777.72	ng		88
16) n-Hexane	8.88	57	2851603	1732.23	ng	#	1
17) 1,1-Dichloroethane	9.62	63	5115557	1763.34	ng		99
18) cis-1,2-Dichloroethene	10.86	61	4239743	1753.76	ng		90
19) Chloroform	11.19	83	6255523	1741.38	ng	#	93
20) Isooctane	12.15	57	9569612	1696.77	ng		93
21) 1,1,1-Trichloroethane	12.06	97	5359062	1764.70	ng		93
22) Carbon tetrachloride	12.63	117	5658667	1759.60	ng		98
24) 1,2-Dichloroethane	12.90	62	3858010	1855.35	ng	#	98
25) 1,2-Dibromoethane	19.87	107	4175204	1734.15	ng		98
27) Benzene	12.97	78	6292055	1648.09	ng	#	96

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D Vial: 14
Acq On : 24 Oct 2001 13:51 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA217ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.29	130	3094281	1615.94	ng		97
29) 1,2-Dichloropropane	14.68	63	2868173	1652.06	ng	#	80
30) Bromodichloromethane	15.21	83	7154624	1731.25	ng		98
31) cis-1,3-Dichloropropene	16.42	75	4319987	1733.11	ng	#	72
33) Toluene	17.24	92	3866913	1667.53	ng	#	95
34) trans-1,3-Dichloropropene	17.60	75	3719908	1854.33	ng	#	74
35) 1,1,2-Trichloroethane	18.02	97	2504902	1727.83	ng		98
37) Tetrachloroethene	18.87	164	2814538	1518.59	ng		100
38) Dibromochloromethane	19.35	127	4327935	1659.77	ng		99
39) Chlorobenzene	20.94	112	5564921	1655.64	ng		94
40) Ethylbenzene	21.03	106	2243058	1625.86	ng		84
41) m,p-Xylene	21.22	106	5860338	3348.82	ng		91
42) o-Xylene	22.37	106	2889161	1698.75	ng		90
43) Styrene	22.44	104	4641960	1660.10	ng		95
44) Bromoform	23.41	173	3840273	1643.60	ng		99
45) 1,1,2,2-Tetrachloroethane	23.73	83	4079898	1787.05	ng		98
47) 1,4-Dichloro-2-butene	23.38	75	901773	1709.88	ng	#	85
48) 4-Ethyltoluene	24.65	105	7928116	1677.30	ng		92
49) 1,3,5-Trimethylbenzene	24.74	105	6743899	1813.24	ng		95
50) 2-Chlorotoluene	24.85	91	8583321	1723.78	ng		98
51) 1,2,4-Trimethylbenzene	25.67	105	6635306	1699.06	ng		99
52) 1,3-Dichlorobenzene	26.59	146	5047201	1709.52	ng		97
53) 1,4-Dichlorobenzene	26.81	146	5326160	1721.36	ng		97
54) 1,2-Dichlorobenzene	27.57	146	4708775	1748.45	ng		97
55) 1,2,4-Trichlorobenzene	30.80	180	3395953	1662.92	ng		100
56) Napthalene	31.36	128	4463519	1907.05	ng	#	93
57) Hexachlorobutadiene	31.03	225	2562018	1421.60	ng		99

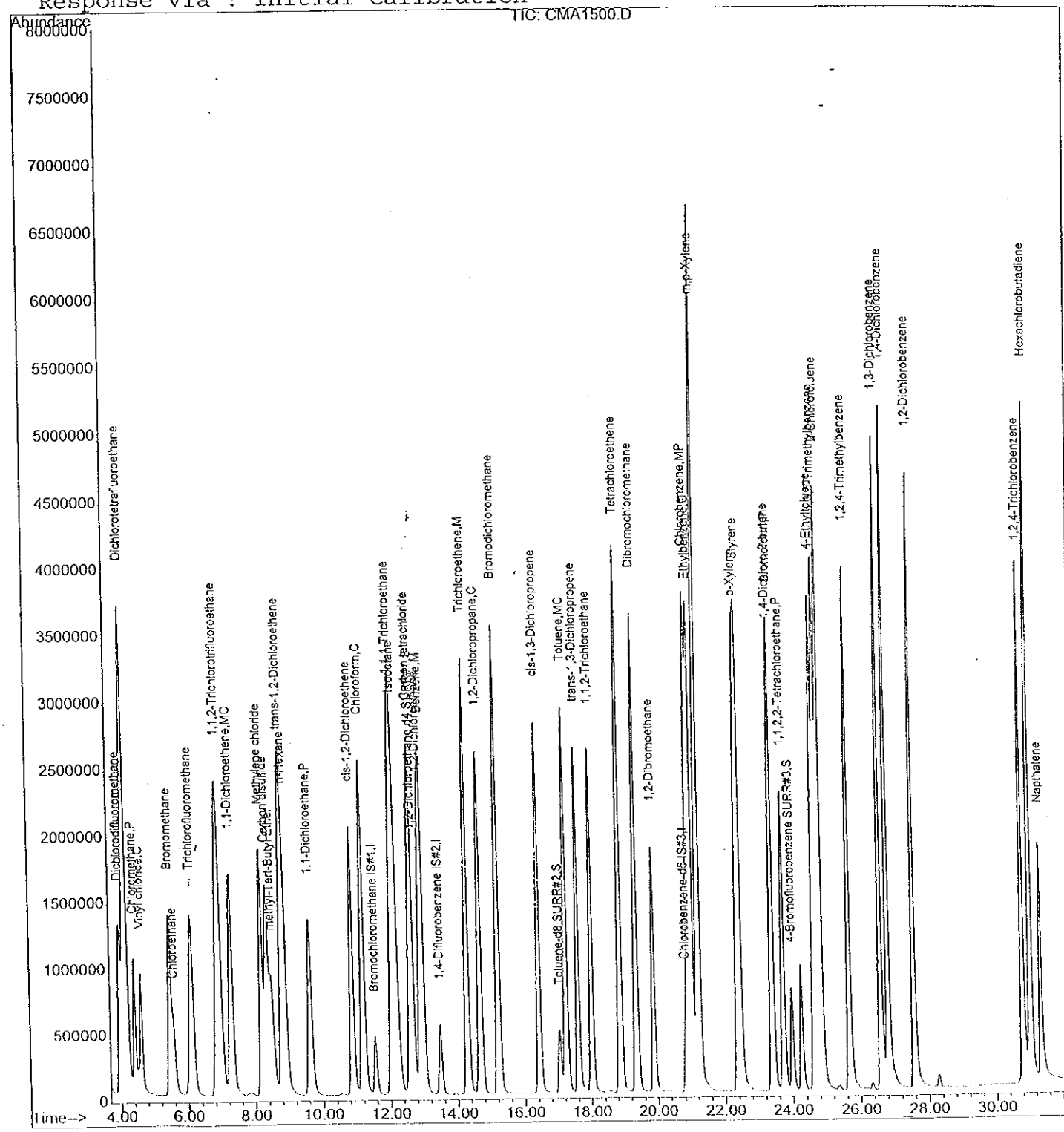
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D
Acq On : 24 Oct 2001 13:51
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 14:23 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration



Comment: 1011

Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1025A\
Pre-Seq Cmd:
Post-Seq Cmd:

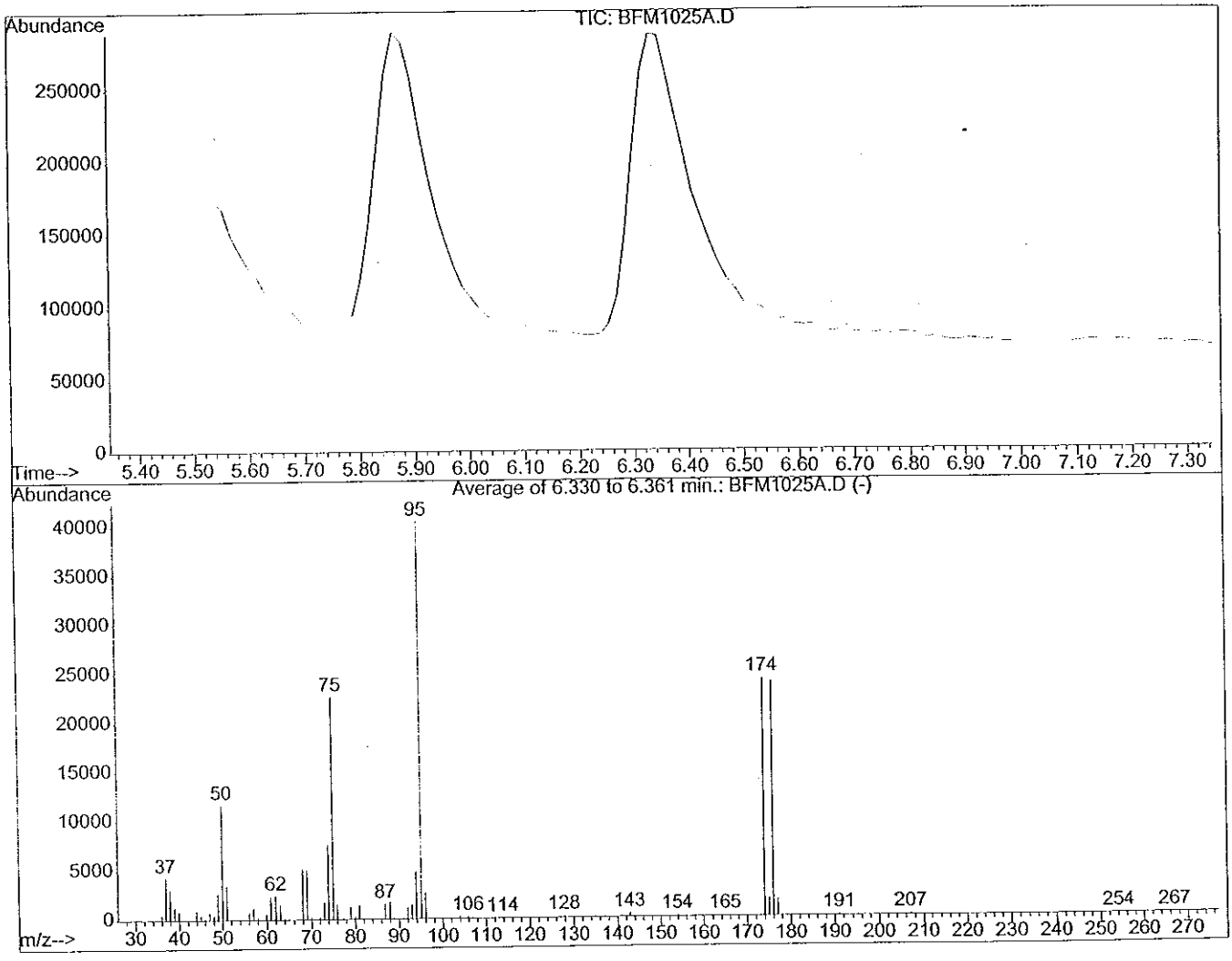
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1025A	BFBSTL	DAILY BFB 12 HOUR TUNE
2	Sample	14	CM1025A	TO14S	DAILY CALIB. CHECK 50ppb/250n
3	Sample	15	MA218ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
4	Sample	16	MA218LCS	TO14S	LCS/BATCH #218 LCS 50ppb/250
5	Sample	1	104151R	TO14S	10415-1 ST. 500mls
6	Sample	1	104152R	TO14S	10415-2 ST. 500mls
7	Sample	1	104153R	TO14S	10415-3 ST. 500mls
8	Sample	2	103812R	TO14S	10381-2 X50 10mls
9	Sample	3	103813R	TO14S	10381-3 X100 5mls
10	Sample	1	104161	TO14S	062SVEA10150121\10416-1 ST. 5
11	Sample	1	104171	TO14S	062SVEA10150117\10417-1 ST. 5
12	Sample	1	105101	TO14S	067SVEA101647\10510-1 ST. 500
13	Sample	1	104161R	TO14S	062SVEA10150121\10416-1 ST. 5
14	Sample	2	BLKTUBE	BFBSTL	MPM CLEANUP
15	Sample	3	BLKTUBE	BFBSTL	MPM CLEANUP

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\BFM1025A.D Vial: 13
Acq On : 25 Oct 2001 8:30 Operator: BDH
Sample : DAILY BFB 12 HOUR TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 53 (6.35 min)
Average of 3 scans: 52,53,54 minus background scan 33 (6.04 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	29.0	11724	PASS
75	95	30	60	56.0	22675	PASS
95	95	100	100	100.0	40459	PASS
96	95	5	9	6.5	2647	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	59.9	24253	PASS
175	174	5	9	7.6	1840	PASS
176	174	95	101	98.7	23928	PASS
177	176	5	9	7.3	1738	PASS

DAILY BFB 12 HOUR TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	542	51.00	3517	72.00	235	92.95	1487
37.00	4329	56.00	745	73.00	1800	93.95	4852
37.95	3054	57.00	1209	74.00	7681	95.05	40459
39.05	1347	58.00	272	75.05	22675	96.00	2647
39.95	901	59.90	598	75.95	1557	103.85	234
43.95	983	60.90	2370	78.95	1301	105.85	237
45.00	524	62.05	2461	79.90	249	127.85	210
47.00	792	63.00	1647	80.90	1436	140.85	231
47.95	458	68.00	5140	86.90	1570	142.85	390
48.95	2686	69.00	5018	87.95	1757	173.95	24253
50.00	11724	70.00	239	92.00	1155	174.95	1840

Average of 6.330 to 6.361 min.: BFM1025A.D

DAILY BFB 12 HOUR TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	23928						
176.95	1738						

Data File : D:\HPCHEM\1\DATA01\M1025A\BFM1025A.D Vial: 13
Acq On : 25 Oct 2001 8:30 Operator: BDH
Sample : DAILY BFB 12 HOUR TUNE Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.864	14	22	44	rVB2	209604	1533389	93.04%	48.198%
2	6.330	45	52	73	rBV	207086	1648060	100.00%	51.802%

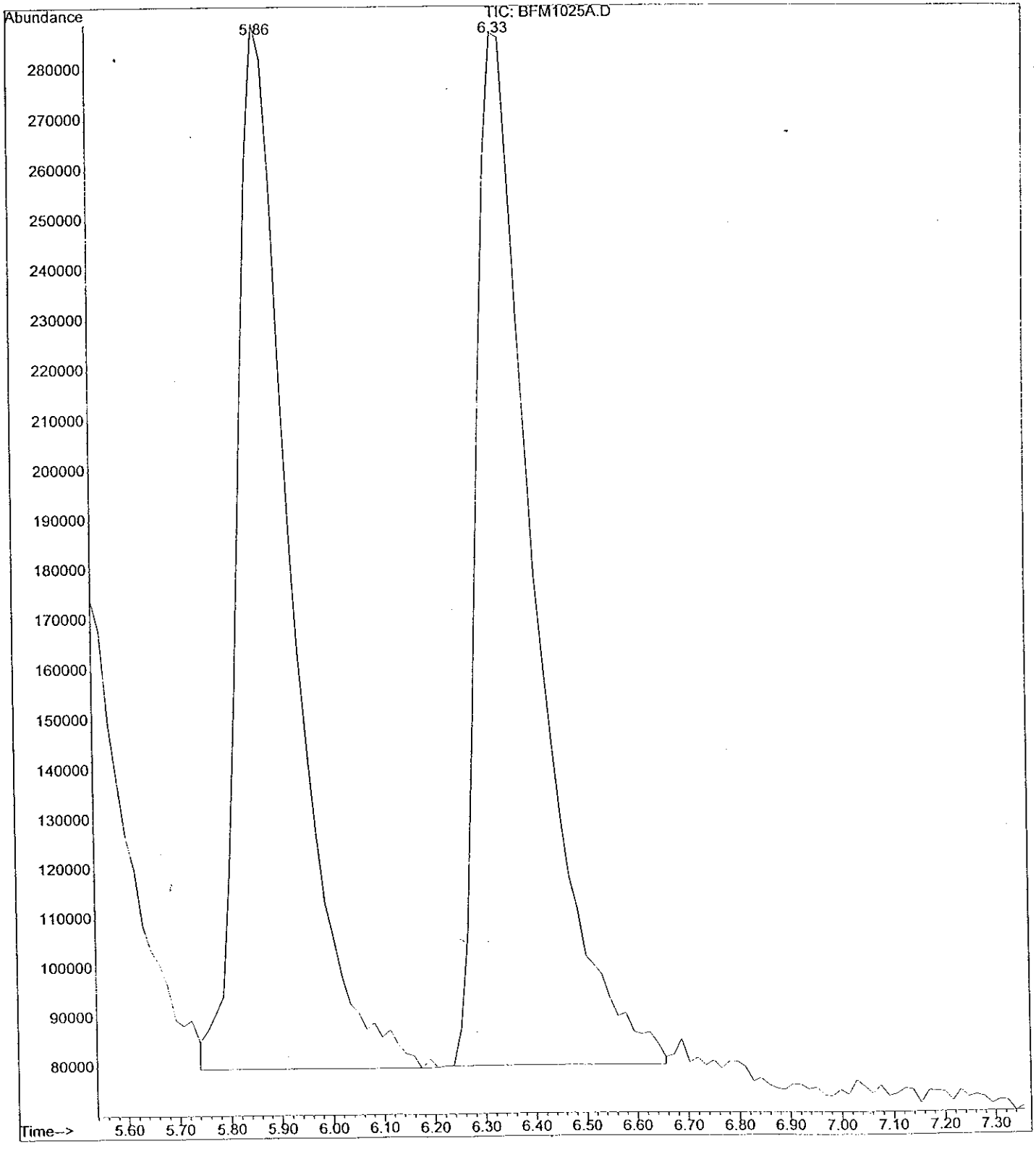
Sum of corrected areas: 3181449

BFM1025A.D BFBSTL.M Thu Oct 25 08:37:52 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1025A\BFM1025A.D
Acq On : 25 Oct 2001 8:30
Sample : DAILY BFB 12 HOUR TUNE
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1025A.D BFBSTL.M Thu Oct 25 08:37:53 2001

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:40 2001
Response via : Multiple Level Calibration

passes BH 10/25/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	84	0.00
2		Dichlorodifluoromethane	1.926	1.831	4.9#	96	0.00
3		Dichlorotetrafluoroethane	2.065	1.907	7.7#	82	0.00
4	P	Chloromethane	1.320	1.227	7.0#	84	0.00
5	C	Vinyl chloride	1.165	1.205	3.4#	88	0.00
6		Bromomethane	1.569	1.687	-7.5#	91	0.00
7		Chloroethane	0.705	0.732	-3.8#	86	0.00
8		Trichlorofluoromethane	2.340	2.165	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	2.022	2.098	-3.8#	83	0.00
10	MC	1,1-Dichloroethene	1.189	1.262	-6.1#	86	0.00
11		Iodomethane	N/A 0.000	0.000	0.0	0#	7.94#
12		Methylene chloride	2.404	2.452	-2.0	81	0.00
13		Carbon disulfide	3.721	3.992	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	1.945	1.949	-0.2	95	0.00
15		trans-1,2-Dichloroethene	1.349	1.350	-0.1	79	0.00
16		n-Hexane	1.610	1.453	9.8#	74	0.00
17	P	1,1-Dichloroethane	2.730	2.940	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	2.236	2.410	-7.8#	86	0.00
19	C	Chloroform	3.357	3.578	-6.6#	84	0.00
20		Isooctane	5.758	5.031	12.6#	78	0.00
21		1,1,1-Trichloroethane	2.929	3.173	-8.3#	85	0.00
22		Carbon tetrachloride	3.016	3.192	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.788	1.792	-0.2	86	0.00
24		1,2-Dichloroethane	2.116	2.191	-3.5#	89	0.00
25		1,2-Dibromoethane	2.230	2.274	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	80	0.00
27	M	Benzene	0.827	0.873	-5.6#	84	0.00
28	M	Trichloroethene	0.403	0.424	-5.2#	83	0.00
29	C	1,2-Dichloropropane	0.374	0.398	-6.4#	84	0.00
30		Bromodichloromethane	0.929	0.996	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	0.548	0.578	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	0.828	0.839	-1.3	81	0.00
33	MC	Toluene	0.502	0.532	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	0.464	0.490	-5.6#	92	0.00
35		1,1,2-Trichloroethane	0.329	0.327	0.6	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	81	0.00
37		Tetrachloroethene	0.483	0.504	-4.3#	82	0.00
38		Dibromochloromethane	0.741	0.756	-2.0#	88	0.00
39	MP	Chlorobenzene	0.936	0.990	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:40 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.376	0.402	-6.9#	84	0.00
41		m,p-Xylene	0.486	0.511	-5.1#	86	0.00
42		o-Xylene	0.469	0.487	-3.8#	82	0.00
43		Styrene	0.747	0.784	-5.0#	85	0.00
44	P	Bromoform	0.642	0.633	1.4	93	0.00
45	P	1,1,2,2-Tetrachloroethane	0.716	0.663	7.4#	91	0.00
46	S	4-Bromofluorobenzene SURR#3	0.965	0.994	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	0.138	0.129	6.5#	99	0.00
48		4-Ethyltoluene	1.292	1.276	1.2	74	0.00
49		1,3,5-Trimethylbenzene	1.038	1.118	-7.7#	89	0.00
50		2-Chlorotoluene	1.413	1.533	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	1.091	1.152	-5.6#	85	0.00
52		1,3-Dichlorobenzene	0.804	0.857	-6.6#	89	0.00
53		1,4-Dichlorobenzene	0.848	0.921	-8.6#	91	0.00
54		1,2-Dichlorobenzene	0.751	0.798	-6.3#	92	0.00
55		1,2,4-Trichlorobenzene	0.545	0.557	-2.2#	101	0.00
56		Napthalene	0.798	0.707	11.4#	110	0.00
57		Hexachlorobutadiene	0.456	0.489	-7.2#	95	0.00

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:07:35 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	84	0.00
2		Dichlorodifluoromethane	250.000	335.190	-34.1#	96	0.00
3		Dichlorotetrafluoroethane	250.000	230.914	7.6#	82	0.00
4	P	Chloromethane	250.000	232.363	7.1#	84	0.00
5	C	Vinyl chloride	250.000	258.683	-3.5#	88	0.00
6		Bromomethane	250.000	268.807	-7.5#	91	0.00
7		Chloroethane	250.000	259.648	-3.9#	86	0.00
8		Trichlorofluoromethane	250.000	231.250	7.5#	77	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	259.368	-3.7#	83	0.00
10	MC	1,1-Dichloroethene	250.000	265.335	-6.1#	86	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.94#
12		Methylene chloride	250.000	254.974	-2.0	81	0.00
13		Carbon disulfide	250.000	268.224	-7.3#	89	0.00
14		methyl-Tert-Butyl Ether	250.000	263.411	-5.4#	95	0.00
15		trans-1,2-Dichloroethene	250.000	250.208	-0.1	79	0.00
16		n-Hexane	250.000	225.546	9.8#	74	0.00
17	P	1,1-Dichloroethane	250.000	269.183	-7.7#	86	0.00
18		cis-1,2-Dichloroethene	250.000	269.473	-7.8#	86	0.00
19	C	Chloroform	250.000	266.437	-6.6#	84	0.00
20		Isooctane	250.000	218.424	12.6#	78	0.00
21		1,1,1-Trichloroethane	250.000	270.834	-8.3#	85	0.00
22		Carbon tetrachloride	250.000	264.616	-5.8#	85	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	250.595	-0.2	86	0.00
24		1,2-Dichloroethane	250.000	258.881	-3.6#	89	0.00
25		1,2-Dibromoethane	250.000	254.934	-2.0	95	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	80	0.00
27	M	Benzene	250.000	263.968	-5.6#	84	0.00
28	M	Trichloroethene	250.000	263.149	-5.3#	83	0.00
29	C	1,2-Dichloropropane	250.000	265.956	-6.4#	84	0.00
30		Bromodichloromethane	250.000	268.115	-7.2#	86	0.00
31		cis-1,3-Dichloropropene	250.000	263.685	-5.5#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.392	-1.4	81	0.00
33	MC	Toluene	250.000	264.939	-6.0#	83	0.00
34		trans-1,3-Dichloropropene	250.000	263.733	-5.5#	92	0.00
35		1,1,2-Trichloroethane	250.000	249.105	0.4	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	81	0.00
37		Tetrachloroethene	250.000	260.697	-4.3#	82	0.00
38		Dibromochloromethane	250.000	254.971	-2.0	88	0.00
39	MP	Chlorobenzene	250.000	264.397	-5.8#	84	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1025A\CM1025A.D Vial: 14
Acq On : 25 Oct 2001 8:52 Operator: BDH
Sample : DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Oct 26 13:07:35 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	266.978	-6.8#	84	0.00
41		m,p-Xylene	500.000	525.818	-5.2#	86	0.00
42		o-Xylene	250.000	259.544	-3.8#	82	0.00
43		Styrene	250.000	262.378	-5.0#	85	0.00
44	P	Bromoform	250.000	261.730	-4.7#	93	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	252.934	-1.2	91	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	257.457	-3.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	251.402	-0.6	99	0.00
48		4-Ethyltoluene	250.000	246.772	1.3	74	0.00
49		1,3,5-Trimethylbenzene	250.000	269.351	-7.7#	89	0.00
50		2-Chlorotoluene	250.000	271.180	-8.5#	89	0.00
51		1,2,4-Trimethylbenzene	250.000	263.989	-5.6#	85	0.00
52		1,3-Dichlorobenzene	250.000	266.343	-6.5#	89	0.00
53		1,4-Dichlorobenzene	250.000	271.376	-8.6#	91	0.00
54		1,2-Dichlorobenzene	250.000	265.517	-6.2#	92	0.00
55		1,2,4-Trichlorobenzene	250.000	255.719	-2.3#	101	0.00
56		Napthalene	250.000	293.887	-17.6#	110	0.00
57		Hexachlorobutadiene	250.000	268.278	-7.3#	95	0.00

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. - passes BH 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	310060	250.00	ng		-0.09 84.21%
26) 1,4-Difluorobenzene IS#2	13.39	114	1279657	250.00	ng		-0.08 79.91%
36) Chlorobenzene-d5 IS#3	20.71	117	979219	250.00	ng		-0.09 81.21%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.60	65	555698	250.59	ng		-0.08
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.24%				
32) Toluene-d8 SURR#2	16.95	98	1073312	253.39	ng		-0.08
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.36%				
46) 4-Bromofluorobenzene SURR#	23.86	95	973122	257.46	ng		-0.09
Spiked Amount 250.000	Range 87 - 112		Recovery = 102.98%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.94	85	567838	335.19	ng		98
3) Dichlorotetrafluoroethane	4.09	135	591303	230.91	ng	#	34
4) Chloromethane	4.36	50	380482	232.36	ng		97
5) Vinyl chloride	4.57	62	373610	258.68	ng		97
6) Bromomethane	5.41	94	523083	268.81	ng		92
7) Chloroethane	5.52	64	227040	259.65	ng	#	94
8) Trichlorofluoromethane	6.05	101	671222	231.25	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.84	151	650493	259.37	ng		99
10) 1,1-Dichloroethene	7.21	96	391277	265.33	ng	#	79
12) Methylene chloride	8.11	49	760201	254.97	ng	#	81
13) Carbon disulfide	8.27	76	1237691	268.22	ng		99
14) methyl-Tert-Butyl Ether	8.41	73	604446	263.41	ng	#	86
15) trans-1,2-Dichloroethene	8.70	96	418492	250.21	ng		85
16) n-Hexane	8.80	57	450410	225.55	ng	#	1
17) 1,1-Dichloroethane	9.54	63	911463	269.18	ng		98
18) cis-1,2-Dichloroethene	10.77	61	747230	269.47	ng		88
19) Chloroform	11.09	83	1109262	266.44	ng	#	92
20) Isooctane	12.06	57	1559891	218.42	ng		91
21) 1,1,1-Trichloroethane	11.96	97	983955	270.83	ng		94
22) Carbon tetrachloride	12.52	117	989781	264.62	ng		98
24) 1,2-Dichloroethane	12.80	62	679280	258.88	ng	#	98
25) 1,2-Dibromoethane	19.76	107	704983	254.93	ng		100
27) Benzene	12.86	78	1117733	263.97	ng	#	96

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

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.18	130	542233	263.15	ng		96
29) 1,2-Dichloropropane	14.57	63	509614	265.96	ng	#	79
30) Bromodichloromethane	15.12	83	1274341	268.12	ng		98
31) cis-1,3-Dichloropropene	16.33	75	739185	263.69	ng	#	68
33) Toluene	17.13	92	680258	264.94	ng	#	95
34) trans-1,3-Dichloropropene	17.49	75	626847	263.73	ng	#	70
35) 1,1,2-Trichloroethane	17.89	97	419036	249.10	ng		98
37) Tetrachloroethene	18.75	164	493672	260.70	ng		99
38) Dibromochloromethane	19.25	127	739829	254.97	ng		98
39) Chlorobenzene	20.80	112	969083	264.40	ng		92
40) Ethylbenzene	20.91	106	393325	266.98	ng		85
41) m,p-Xylene	21.09	106	1001500	525.82	ng		85
42) o-Xylene	22.24	106	477193	259.54	ng		82
43) Styrene	22.34	104	768125	262.38	ng		93
44) Bromoform	23.28	173	619836	261.73	ng		99
45) 1,1,2,2-Tetrachloroethane	23.61	83	649162	252.93	ng		97
47) 1,4-Dichloro-2-butene	23.25	75	126490	251.40	ng	#	75
48) 4-Ethyltoluene	24.52	105	1249047	246.77	ng		98
49) 1,3,5-Trimethylbenzene	24.62	105	1094581	269.35	ng		96
50) 2-Chlorotoluene	24.73	91	1500918	271.18	ng		96
51) 1,2,4-Trimethylbenzene	25.56	105	1128411	263.99	ng		96
52) 1,3-Dichlorobenzene	26.48	146	839018	266.34	ng		96
53) 1,4-Dichlorobenzene	26.70	146	901624	271.38	ng		95
54) 1,2-Dichlorobenzene	27.46	146	781232	265.52	ng		97
55) 1,2,4-Trichlorobenzene	30.67	180	545552	255.72	ng		99
56) Napthalene	31.22	128	692044	293.89	ng	#	91
57) Hexachlorobutadiene	30.91	225	479266	268.28	ng		99

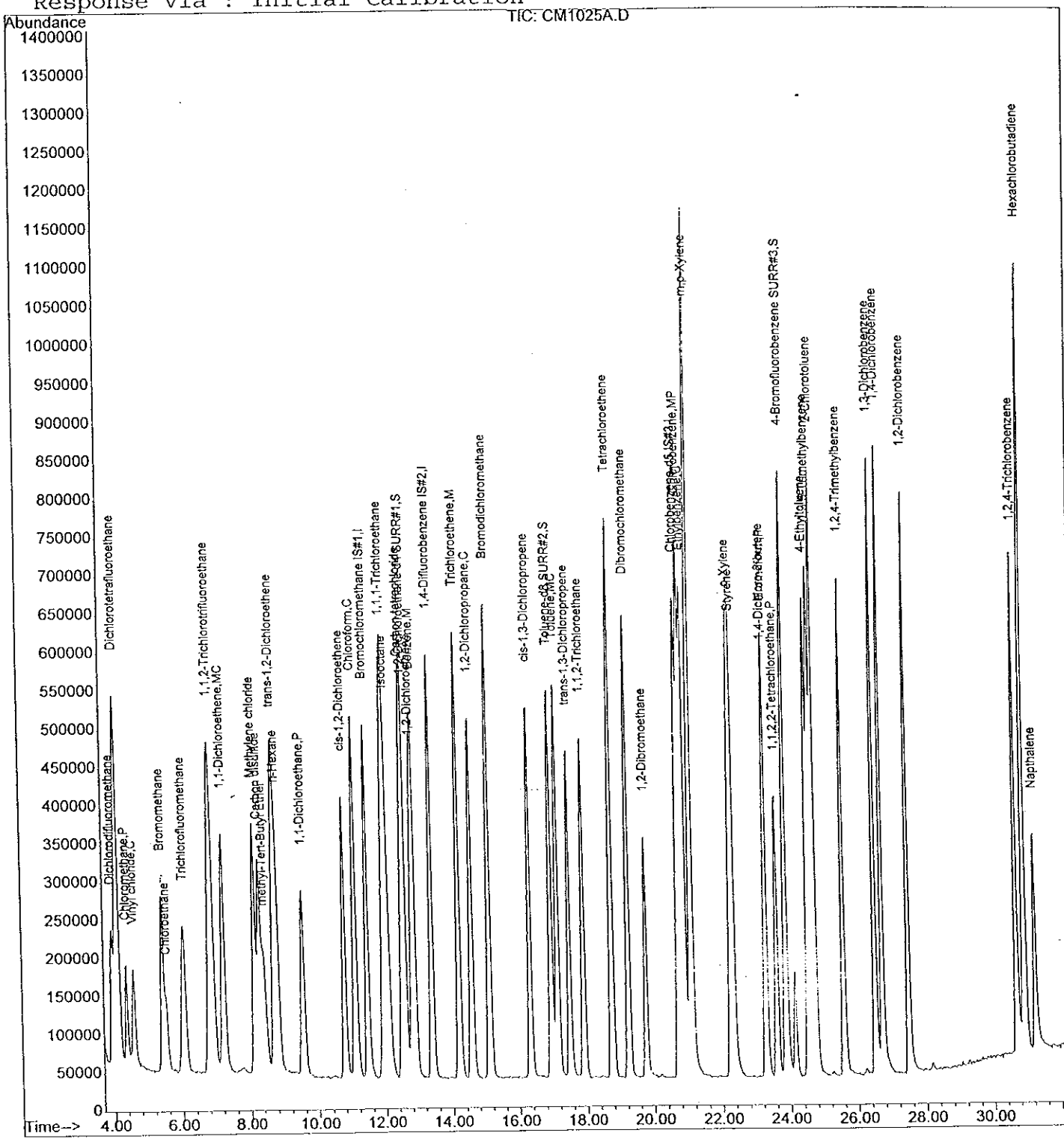
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D
Acq On : 25 Oct 2001 8:52
Sample : DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 9:24 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D
Acq On : 25 Oct 2001 9:29
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 10:06 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

BK 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00	ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00	ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00	ng	0.03 88.75%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 102.49%			
32) Toluene-d8 SURR#2	16.96	98	961330	248.26	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.30%			
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.34%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
MA218ABK.D TO14S.M Thu Oct 25 10:06:09 2001

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D Vial: 15
Acq On : 25 Oct 2001 9:29 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 10:01 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00	ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00	ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00	ng	0.03 88.75%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 102.49%			
32) Toluene-d8 SURR#2	16.96	98	961330	248.26	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.30%			
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.34%			
Target Compounds						Qvalue
52) 1,3-Dichlorobenzene	26.70	146	2049	0.73	ng	# 27
53) 1,4-Dichlorobenzene	26.70	146	2049	0.69	ng	# 27
54) 1,2-Dichlorobenzene	27.49	146	1017	0.39	ng	# 26
55) 1,2,4-Trichlorobenzene	30.67	180	5903	3.12	ng	# 85
56) Napthalene	31.23	128	15216	Below Cal		# 64
57) Hexachlorobutadiene	30.91	225	1018	0.64	ng	# 19

CPL/NR/NSF m.c.

(#) = qualifier out of range (m) = manual integration
MA218ABK.D TO14S.M Thu Oct 25 10:01:54 2001 Page 1

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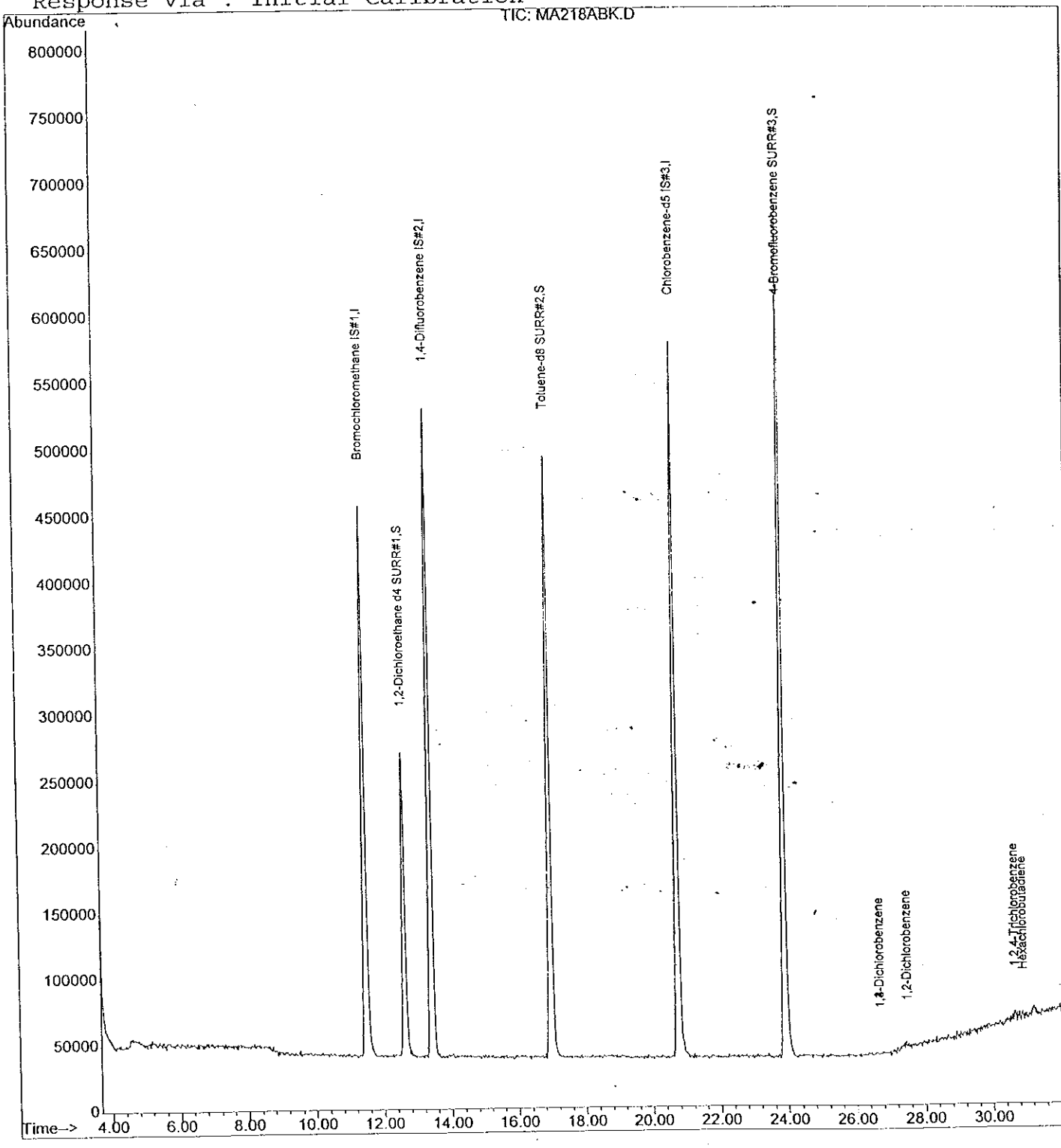
Data File : D:\HPCHEM\1\DATA01\M1025A\MA218ABK.D
Acq On : 25 Oct 2001 9:29
Sample : VBLKMA/ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 10:01 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D Vial: 16
Acq On : 25 Oct 2001 10:03 Operator: BDH
Sample : LCS/BATCH #218 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 10:45 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

B.H 10/25/01

ng report

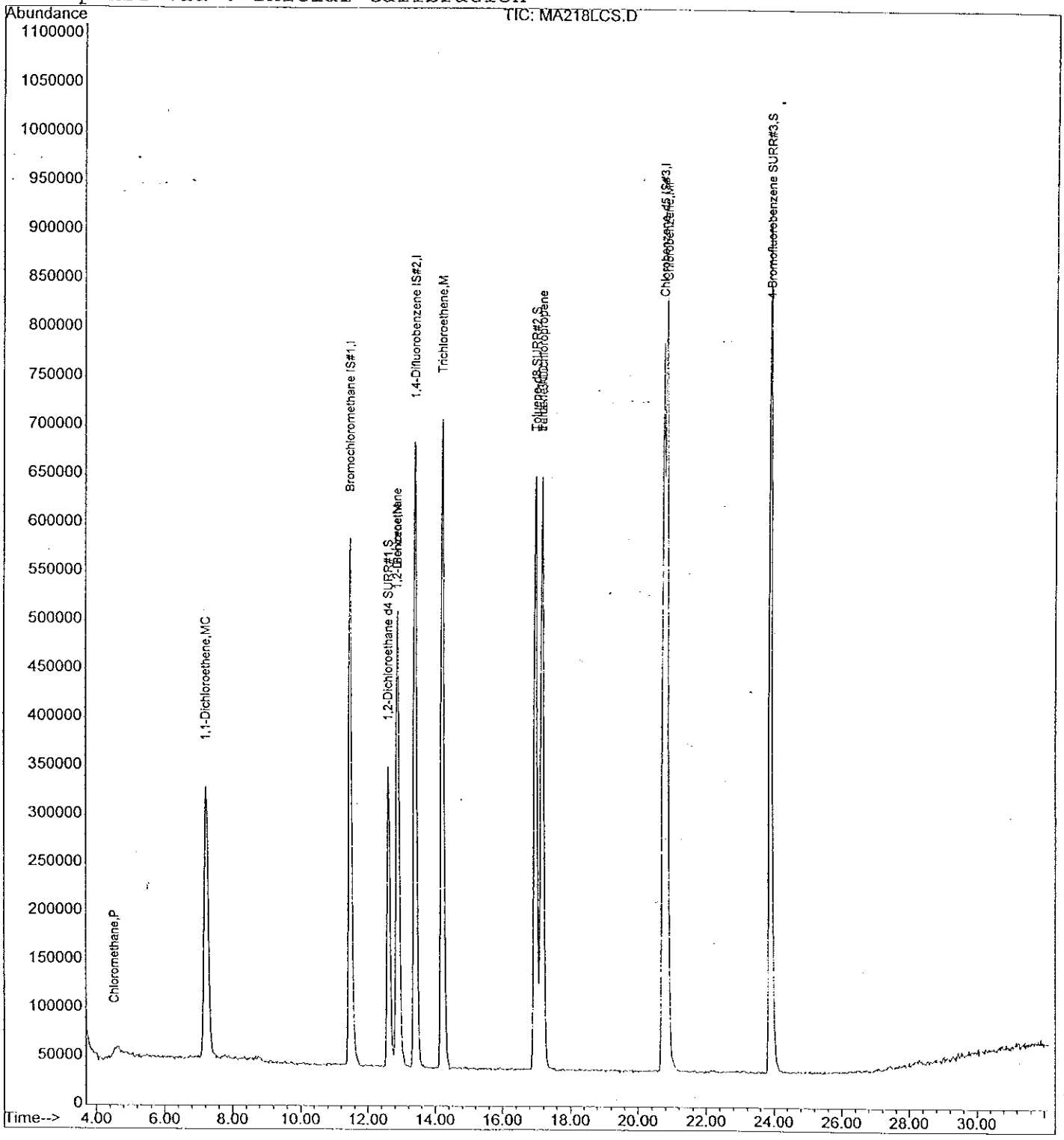
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	387358	250.00	ng	0.03 124.93%
26) 1,4-Difluorobenzene IS#2	13.42	114	1555172	250.00	ng	0.03 121.53%
36) Chlorobenzene-d5 IS#3	20.74	117	1185306	250.00	ng	0.03 121.05%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.62	65	692615	250.01	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.00%			
32) Toluene-d8 SURR#2	16.98	98	1310283	254.53	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.81%			
46) 4-Bromofluorobenzene SURR#	23.89	95	1093662	239.04	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.62%			
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.23	96	411127	223.16	ng	83
27) Benzene	12.90	78	1287872	250.27	ng	96
28) Trichloroethene	14.22	130	628735	251.07	ng	96
33) Toluene	17.17	92	800178	256.43	ng #	94
39) Chlorobenzene	20.85	112	1135555	255.95	ng	96
56) Napthalene	31.23	128	3345	Below Cal	#	64

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

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D
Acq On : 25 Oct 2001 10:03
Sample : LCS/BATCH #218 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Oct 25 10:35 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



096

Data File : D:\HPCHEM\1\DATA01\M1025A\MA218LCS.D
Acq On : 25 Oct 2001 10:03
Sample : LCS/BATCH #218 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA218ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Oct 25 10:35 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	387358	250.00	ng	0.03 124.93%
26) 1,4-Difluorobenzene IS#2	13.42	114	1555172	250.00	ng	0.03 121.53%
36) Chlorobenzene-d5 IS#3	20.74	117	1185306	250.00	ng	0.03 121.05%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.62	65	692615	250.01	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.00%			
32) Toluene-d8 SURR#2	16.98	98	1310283	254.53	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.81%			
46) 4-Bromofluorobenzene SURR#	23.89	95	1093662	239.04	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.62%			
Target Compounds						Qvalue
4) Chloromethane	4.53	50	939	0.46	ng	# 46
10) 1,1-Dichloroethene	7.23	96	411127	223.16	ng	83
24) 1,2-Dichloroethane	12.88	62	13975	4.26	ng	# 49
27) Benzene	12.90	78	1287872	250.27	ng	96
28) Trichloroethene	14.22	130	628735	251.07	ng	96
33) Toluene	17.17	92	800178	256.43	ng	# 94
34) trans-1,3-Dichloropropene	17.17	75	7648	2.65	ng	# 1
39) Chlorobenzene	20.85	112	1135555	255.95	ng	96
56) Napthalene	31.23	128	3345	Below Cal		# 64

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D Vial: 1
Acq On : 25 Oct 2001 14:11 Operator: BDH
Sample : 062SVEA10150117\10417-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Oct 25 15:21 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

BH 10/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	399377	250.00	ng	0.05 128.81%
26) 1,4-Difluorobenzene IS#2	13.42	114	1618494	250.00	ng	0.03 126.48%
36) Chlorobenzene-d5 IS#3	20.74	117	1205864	250.00	ng	0.03 123.15%

mg/m³ report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.63	65	754719	264.23	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.69%			
32) Toluene-d8 SURR#2	16.96	98	1343279	250.74	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.30%			
46) 4-Bromofluorobenzene SURR#	23.87	95	1185115	254.61	ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.84%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
104171.D TO14S.M Thu Oct 25 15:21:34 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D
Acq On : 25 Oct 2001 14:11
Sample : 062SVEA10150117\10417-1 ST. 500mls
Misc : Pi/Pf=2 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 25 14:43 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	399377	250.00	ng	0.05 128.81%
26) 1,4-Difluorobenzene IS#2	13.42	114	1618494	250.00	ng	0.03 126.48%
36) Chlorobenzene-d5 IS#3	20.74	117	1205864	250.00	ng	0.03 123.15%

ng report

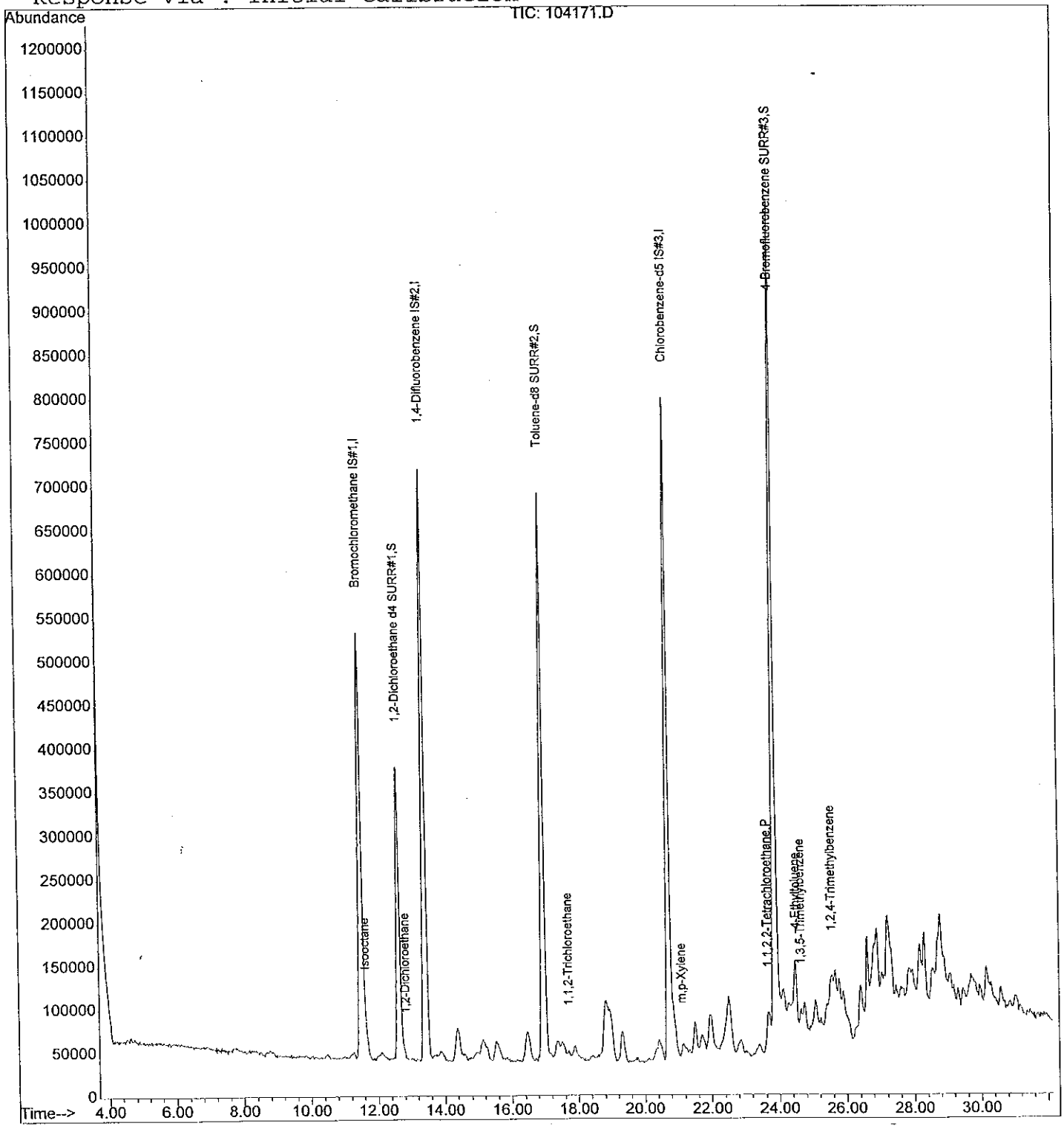
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.63	65	754719	264.23	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.69%			
32) Toluene-d8 SURR#2	16.96	98	1343279	250.74	ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.30%			
46) 4-Bromofluorobenzene SURR#	23.87	95	1185115	254.61	ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.84%			

Target Compounds						Qvalue
20) Isooctane	11.64	57	9332	1.01	ng	# 1
24) 1,2-Dichloroethane	12.83	62	1012	0.30	ng	# 49
35) 1,1,2-Trichloroethane	17.71	97	8609	4.05	ng	# 14
41) m,p-Xylene	21.11	106	945	0.40	ng	# 1
45) 1,1,2,2-Tetrachloroethane	23.67	83	15974	29.82	ng	# 30
48) 4-Ethyltoluene	24.51	105	17550	2.82	ng	# 46
49) 1,3,5-Trimethylbenzene	24.65	105	25131	5.02	ng	98
51) 1,2,4-Trimethylbenzene	25.57	105	19347	3.68	ng	# 73

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104171.D Vial: 1
Acq On : 25 Oct 2001 14:11 Operator: BDH
Sample : 062SVEA10150117\10417-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 14:43 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Oct 25 09:45:42 2001
Response via : Initial Calibration



100

Batch MAB217 1 2 3 — 8 -MSW- 1926 3 — 8 -MSW- 1926 3

Batch 1 2 3 — TO14 8260 — 8 -MSW- 23 - 3 — -MSW- -

Batch — AIR-SPK 8 -MSW- 21 10/24 — W-SPK -MSW- -

Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
		BK 10/24								~~Daily Cal Check~~/bfb tune/95 ion area = 459,000
3:31	15	BFBSTL	BK 10/24 BFMA1024	50ppb		Y N	W	Yes	BK	Daily Method Blank
3:52	15	TO14	MA217A BK	ST		Y N				Batch# 217 LCS a 2nd Source
1:26	16		MA217 LCS	50ppb		Y N				25ng Init. Calib. can't see gases, re-run w/new STD (not used)
:34	14		CMA0025	5ppb		Y N				100ng (not used)
:11	14		CMA0100	20ppb		Y N				250ng
1:49	14		CMA0250	50ppb		Y N				25ng re-run w/new STD vial for gases
1:26	14		CMA0025R	5ppb	✓	Y N				500ng
2:04	14		CMA0500	100ppb		Y N			BK 10/24	1000ng
3:00	14	↓	CMA1000	200ppb		Y N	↓	↓		MPN port #14 carry-over clean-up
3:33	14	BFBSTL	BLKTUBE	—		Y N	—	—		2000ng Init. Calib.
3:51	14	TO14	CMA2000	300ppb		Y N	W	Yes		MPN port #14 carry-over clean-up
4:24	14	BFBSTL	BLKTUBE	—		Y N	—	—		100ng Init Calib. re-run w/new STD vial for gases
4:47	14	TO14	CMA0100R	20ppb		Y N	W	Yes		5mls CAN re-run ST/see occE
6:00	1		10415-1	X100		Y N	A(TO14)			
:	2		-2			Y N				
:	3		-3			Y N				1.0ml
:	4		10381-1	X500		Y N				
:	5		-2			Y N				
:	6	↓	-3	↓		Y N	↓	↓		MPN cleanup
:	7-3	BFBSTL	BLKTUBE	—		Y N	—	—		
:						Y N				
:						Y N				
:						Y N				BK 10/24/01

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

* Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

STL Pensacola / GCMS Volatiles Run Log

Instrument ID: MARILYN
Batch 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- - -

Method TO14/8260AIR /8260WATER /624MOD
Batch 1 2 3
AIR-SPK 8 -MSW- 23 - 1
W-SPK -MSW- - -

Maint. ___
~~Sequence cont. on page~~

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
~~08:30~~	~~13~~	~~BFBSTL~~	~~BFM1025A~~	~~50 nb~~			W	Yes	BH	Daily BFB 12 Hour Tune
08:52	14	TO14SM	CM1025A	50ppb		Y N	W	Yes		Daily Cal Check/bfb tune/95 ion area = 379,000
09:29	15		MA218A BK	ST		Y N	W			Daily Method Blank
10:03	16		MA218 LCS	50ppb		Y N	W			Batch# 218 LCS
10:37	1		10415-1R	ST.	✓	Y N	A(TO14)			500mls
11:11	1		-2R		✓	Y N				
11:49	1		-3R		✓	Y N				
12:23	2		10381-2R	X50	✓	Y N				10mls
12:59	3		-3R	X100	✓	Y N				5mls
13:37	1		10416-1	ST		Y N				500mls re-run ST-possible n-hexane carry-over from
14:11	1		10417-1			Y N				
14:44	1		10510-1			Y N				
15:18	1		10416-1R		✓	Y N				C.O. verif.
—	2-4	BFBSTL	BLKTUBE	—		Y N	—	—		MFM clean-up/prep
						Y N				
						Y N				
						Y N				
						Y N				
						Y N				BH 10/25/01
						Y N				
						Y N				
						Y N				
						Y N				
						Y N				
						Y N				

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AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

Analyst/Date Rep

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~	LOG I.D.	#
502C	A8040136	Acc STD	2000 µg/ml	7/1999	DWJ 5/15/98	7-VN 2-1	3
502A-R	A7040270	Acc STD	2000 µg/ml	7/1999	DWJ 5/28/98	7-VN 2-2	9
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	DWJ 5/29/98	7-VN 2-3	1
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWJ 5/29/98	7-VN 2-4	1
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5	1
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWJ 6/16/98	7-VN 2-6	
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	7-VN 2-7	1
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	1
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	LAD ~~LAD~~ 7/28/98	7-VN 2-9	
8260 Surr	A11719	Restek	2500 µg/ml	8/2001	DWJ 10/6/98	7-VN 2-10	1
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWJ 10/6/98	7-VN 2-11	1
Matrix Spike	LA76020	Supelco	25 µg/ml	8/2000	DWJ 10/7/98	7-VN 2-12	1
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DWJ 10/9/98	7-VN 2-13	
8260 Kit	1570	Restek	Various	6/2000	DWJ 11/10	7-VN 2-14	1
Benzene d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	1
2-Chloro ethyl vinyl ether	A8090042-3B	Accustandard	200.1 µg/ml	9/99	WB 1/29/99	7-VN 2-17	
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-18	
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-19	
Custom Keytone Mix	LA011115	Resteck	2000 µg/ml	3/2000	DWJ 3/10/99	7-VN 2-20	
8260 Volatile Kit	Various	Resteck	Various	6/2001	DWJ 3/10/9	7-VN 2-21	
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWJ 5/10/99	7-VN 2-22	
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-23	
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-24	
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWJ 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	DWJ 6/29/99	7-VN 2-27	
Idomet Ranges	LA81867	Supelco	2000	4/2000	DWJ 6/29/99	7-VN 2-28	

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

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NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

Away 1st Date Used

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE~~ OPENED	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWJ 6/6/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWJ 6/6/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	SDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 date	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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* 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	2/20003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Idomethane	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	LA~~77217~~ 81859	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/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Napthalene	LA90422	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 Napthalene	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	BH 6/13/00 ~~3~~ 4	8-VN 1-26
VOA Short list Matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix C	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/20/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 ← 11/1/2001	11/1/00	4 trench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add-on	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01 ~~4/6/2003~~	4/2003	5	8-VN 2-17
Vinyl Acrylate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95296	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: MD

Standard I.D.: 8-MSW26-1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8-MSW26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

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

Comments:

Sol. Name: TO14 IS/SURT
Date: 10-12-01
Analyst: BAM

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)	A012365	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012364	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW3-4 IS	A016278	8/03	2500	500	10	125ug/ml
8-VN2-13 SURR	A017473	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23-3
Location: MS018-Std Freezer
Solvent: MEOH-lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Cylinder)	LA90734	7-1-01	2500ug/ml	250ul	25 mls	25ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000ug/ml	312.5ul	25 mls	25ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES
STL Pensacola

CASE NARRATIVE

STL Order Number:	C111556
Project:	CTO-0062, NAS Cecil Field
Revised:	12/11/01

The samples listed above were received at STL Pensacola on November 26, 2001. See the PSIF (Project Sample Inspection Form) for additional information regarding sample receipt and inspection.

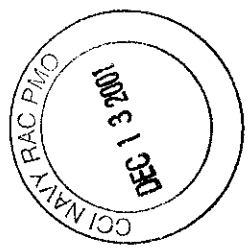
Reporting of Results

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

The data has been flagged with CLP data qualifiers (and STL Pensacola data qualifiers where CLP do not exist). The QC data was evaluated against STL Pensacola's in-house generated control limits.

Rick Hayes
Senior Project Manager
STL Pensacola

December 11, 2001



SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.05J
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	100 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	98 %

SEVERN TRENT SERVICES

STL Pensacola

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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Dilution Factor	1
Prep Date	11.28.01
Prep Time	15:10
Analysis Date	11.28.01
Analysis Time	15:23
Batch ID	MAB241
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES
STL Pensacola

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Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5206	104 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5395	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4620	92 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5285	106 %	86-113

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: Cl-11556
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Ms. Tatiana Romanova
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115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5323	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	98 %	0.5000	0.5025	101 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.4963	99 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4922	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	11.28.01	---	11.28.01	---	---
Prep Time	10:46	---	10:46	---	---
Analysis Date	11.28.01	---	11.28.01	---	---
Analysis Time	10:59	---	10:59	---	---
Batch ID	MAB241	MAB241	MAB241	MAB241	MAB241
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.

Rick Hayes, Project Manager

Final Page Of Report

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

Foreign Soil Permit, Permit No. S-37599

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

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

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

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

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

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

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

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

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

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

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

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

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

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

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

C111556

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 21NOV01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 2350 3419 FORM 0201

BFM

MON
AA
Deliver by:
26NOV01

32514-FL-US

F3 PNSA

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2. Fold the printed page along the horizontal line.
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STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C111556 Date Received: 26-Nov-01

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

Airbill Number(s): 7902 2350 3419

Shipped By: FEDEX

Cooler Number(s): air Can

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: [illegible] Date: 11/26/01 Logged By: PTE Date: 11/26/01

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

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

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

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

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-018

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

C 111556

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		

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)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1120-01-18	SVE Effluent	AIR	11/20/01	10:35	III/C	14 Day	1							2	0	0	Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #7902 2350 3419.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	11/21/01	11:00	Printed Name and Signature: Federal Express	11/21/01	11:00
Printed Name and Signature:			Printed Name and Signature: R. ELSPERMAN, STL	11/26/01	1000
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: [illegible]
Labeled by: [illegible]
Delivered by: [illegible]

CH2M-CONST-GA C111556
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			
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 111556
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Nov. 26, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1120-01-18	111556-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Nov. 29, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Project : NA
Site : NA
Lab File ID (Standard): CM1128A.D
Instrument ID : GC/MS Ins
GC Column : CAP
ID : MARI
Level :

Contract : NA
Location : NA
Group : NA
Date Analyzed : 28 Nov 2001
Time Analyzed : 9:31
Heated Purge (Y:N) : N

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
115561	062SVEEA1120011	100	100	98	0	0	0	0
MA241ABK	VBLKMA\ DAILY M	98	100	99	0	0	0	0
MA241LCS	VLCSMA\BATCH #2	100	99	98	0	0	0	0

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

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

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

ng report

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits
Thu Nov 29 09:22:09 2001

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	111556					
Batch	MAB241	Actual ng result	mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene		260.31	0.5000	0.5206	104%	87-116%
Chlorobenzene		269.75	0.5000	0.5395	108%	88-111%
1,1-Dichloroethene		231.01	0.5000	0.4620	92%	58-138%
Toluene		264.23	0.5000	0.5285	106%	86-113%
Trichloroethene		266.13	0.5000	0.5323	106%	85-116%
1,2-Dichloroethane-d4		251.25	0.5000	0.5025	101%	61-140%
Toluene-d8		248.14	0.5000	0.4963	99%	90-109%
4-Bromofluorobenzene		246.08	0.5000	0.4922	98%	87-112%

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: MA241ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 11/28/01 Time Analyzed: 10:59

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\BATCH #241 L	MA241LCS.D	11:36
02	SVEEA	062SVEEA11200118\115	115561.D	15:23

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: BFM1122P.D BFB Injection Date: 11/22/01

Instrument ID: MARILYN BFB Injection Time: 12:47

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.3
75	30.0 - 66.0% of mass 95	44.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.6 (6.8)1
176	93.0 - 101.0% of mass 174	67.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.5 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	11/22/01	14:11
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	11/22/01	14:48
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	11/22/01	15:25
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	11/22/01	16:03
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	11/22/01	16:58
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	11/22/01	17:53

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 111556

Lab File ID: CM1128A.D BFB Injection Date: 11/28/01

Instrument ID: MARILYN BFB Injection Time: 09:31

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

M/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.5
75	30.0 - 66.0% of mass 95	41.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 95	0.0 (0.00)1
174	50.0 - 120.0% of mass 95	72.9
175	4.0 - 9.0% of mass 174	5.2 (7.1)1
176	93.0 - 101.0% of mass 174	71.4 (98.0)1
177	5.0 - 9.0% of mass 176	4.5 (6.3)2

1 - Value is % mass 174

2 - Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	VSTD0250MA	VSTD050/DAILY CALIB.	CM1128A.D	11/28/01	09:31
2.	VBLKMA	VBLKMA/DAILY METHOD	MA241ABK.D	11/28/01	10:59
3.	LCS AND 2ND	VLCSMA/BATCH #241 L	MA241LCS.D	11/28/01	11:36
4.	SVEEA	062SVEEA11200118/11	115561.D	11/28/01	15:23

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933 R^2=0.998	
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

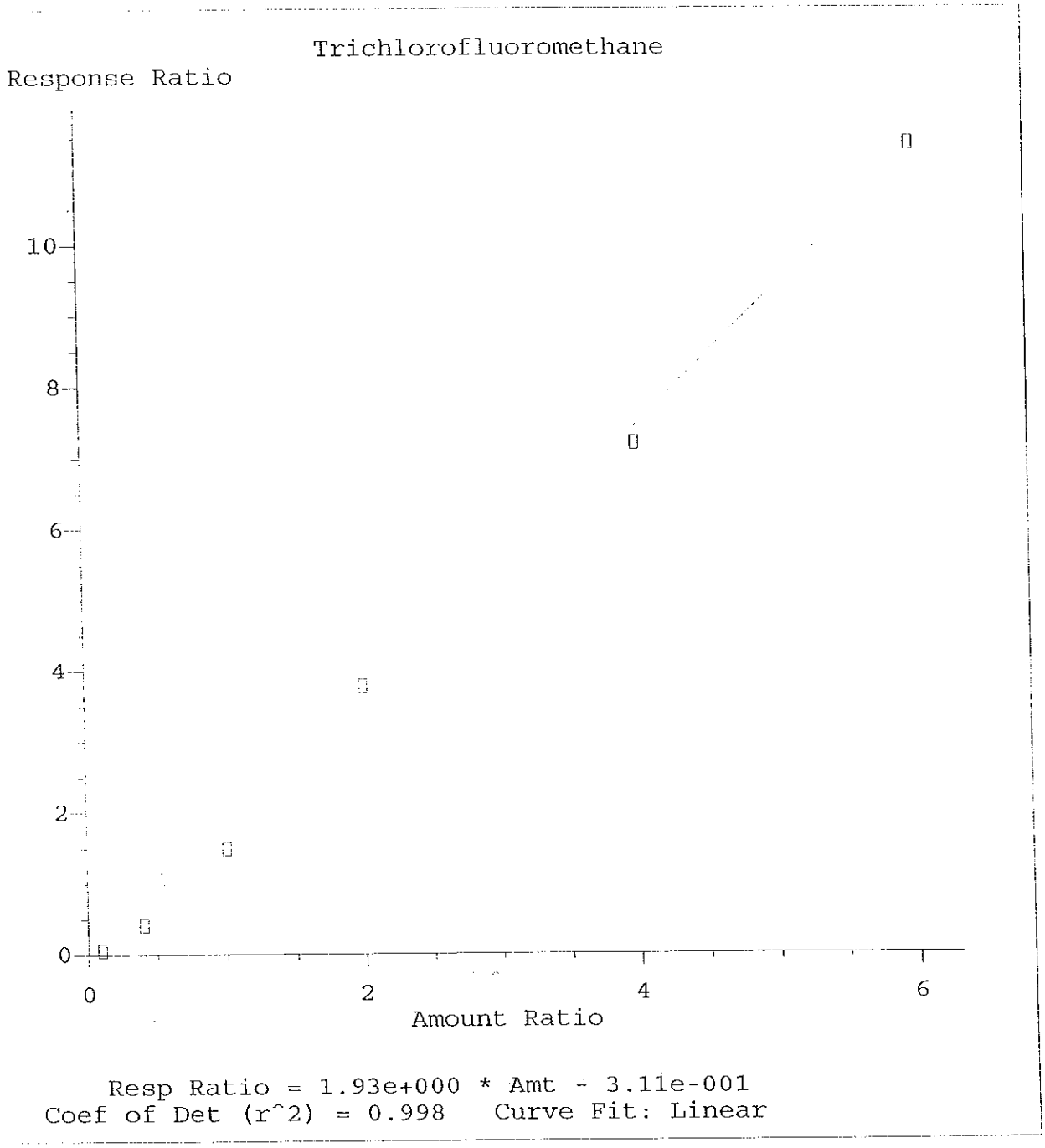
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

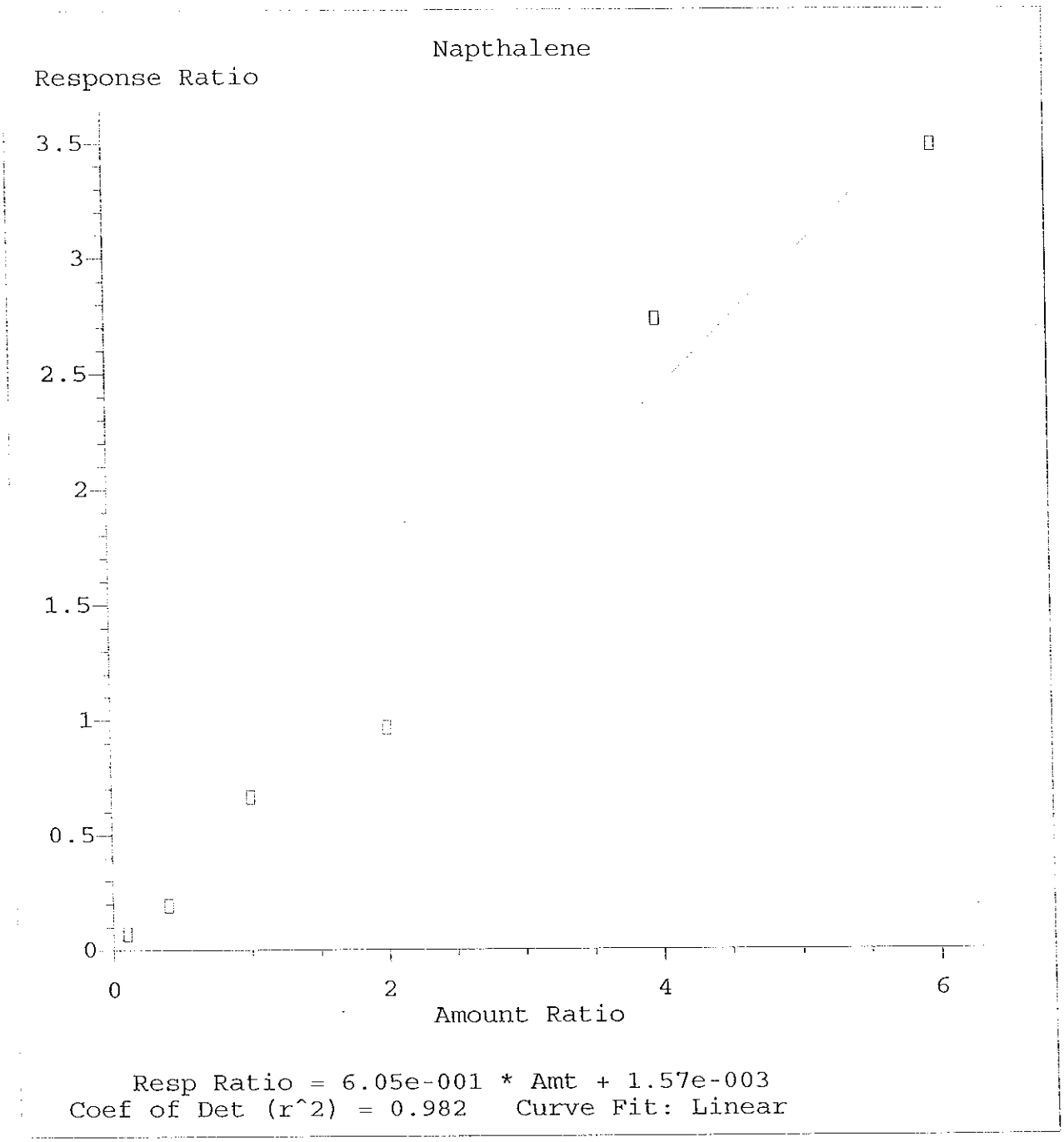
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	-1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	103	0.00
2		Dichlorodifluoromethane	250.000	230.877	7.6#	104	0.00
3		Dichlorotetrafluoroethane	250.000	238.192	4.7#	97	0.00
4	P	Chloromethane	250.000	253.249	-1.3	102	0.00
5	C	Vinyl chloride	250.000	265.317	-6.1#	102	0.00
6		Bromomethane	250.000	235.625	5.8#	97	0.00
7		Chloroethane	250.000	248.533	0.6	97	0.00
8		Trichlorofluoromethane	250.000	155.059	38.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	247.581	1.0	99	0.00
10	MC	1,1-Dichloroethene	250.000	251.949	-0.8#	99	0.00
11		Iodomethane	-1.000	0.000	0.0	363	0.00
12		Methylene chloride	250.000	249.737	0.1	96	0.00
13		Carbon disulfide	250.000	257.522	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	250.000	252.648	-1.1	96	0.00
15		trans-1,2-Dichloroethene	250.000	255.142	-2.1#	98	0.00
16		n-Hexane	250.000	240.980	3.6#	95	0.00
17	P	1,1-Dichloroethane	250.000	245.752	1.7	96	0.00
18		cis-1,2-Dichloroethene	250.000	246.091	1.6	96	0.00
19	C	Chloroform	250.000	246.722	1.3#	96	0.00
20		Isooctane	250.000	225.823	9.7#	92	0.00
21		1,1,1-Trichloroethane	250.000	245.389	1.8	95	0.00
22		Carbon tetrachloride	250.000	245.681	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	237.191	5.1#	95	0.00
24		1,2-Dichloroethane	250.000	241.956	3.2#	89	0.00
25		1,2-Dibromoethane	250.000	249.092	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	105	0.00
27	M	Benzene	250.000	252.473	-1.0	98	0.00
28	M	Trichloroethene	250.000	251.502	-0.6	97	0.00
29	C	1,2-Dichloropropane	250.000	244.436	2.2#	94	0.00
30		Bromodichloromethane	250.000	245.957	1.6	92	0.00
31		cis-1,3-Dichloropropene	250.000	247.872	0.9	93	0.00
32	S	Toluene-d8 SURR#2	250.000	247.565	1.0	103	0.00
33	MC	Toluene	250.000	249.156	0.3#	96	0.00
34		trans-1,3-Dichloropropene	250.000	249.759	0.1	91	0.00
35		1,1,2-Trichloroethane	250.000	244.917	2.0#	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	103	0.00
37		Tetrachloroethene	250.000	256.922	-2.8#	99	0.00
38		Dibromochloromethane	250.000	246.431	1.4	90	0.00
39	MP	Chlorobenzene	250.000	253.105	-1.2	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	246.862	1.3#	94	0.00
41		m,p-Xylene	500.000	508.263	-1.7	97	0.00
42		o-Xylene	250.000	248.466	0.6	94	0.00
43		Styrene	250.000	255.191	-2.1#	96	0.00
44	P	Bromoform	250.000	252.381	-1.0	89	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	251.067	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	243.532	2.6#	98	0.00
47		1,4-Dichloro-2-butene	250.000	252.056	-0.8	87	0.00
48		4-Ethyltoluene	250.000	232.333	7.1#	92	0.00
49		1,3,5-Trimethylbenzene	250.000	245.400	1.8	99	0.00
50		2-Chlorotoluene	250.000	249.414	0.2	94	0.00
51		1,2,4-Trimethylbenzene	250.000	249.501	0.2	94	0.00
52		1,3-Dichlorobenzene	250.000	257.413	-3.0#	97	0.00
53		1,4-Dichlorobenzene	250.000	257.727	-3.1#	97	0.00
54		1,2-Dichlorobenzene	250.000	258.268	-3.3#	96	0.00
55		1,2,4-Trichlorobenzene	250.000	285.688	-14.3#	109	0.00
56		Napthalene	250.000	283.122	-13.2#	104	0.00
57		Hexachlorobutadiene	250.000	278.025	-11.2#	107	0.00

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID (Standard): CM1128A.D Date Analyzed: 11/28/01

Instrument ID: MARILYN Time Analyzed: 9:31

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	772353	11.39	3112331	13.32	2373923	20.63
	UPPER LIMIT	1544706	11.89	6224662	13.82	4747846	21.13
	LOWER LIMIT	386177	10.89	1556166	12.82	1186962	20.13
	EPA SAMPLE NO.						
01	VBLKMA	720219	11.42	2817140	13.36	2162601	20.66
02	LCS AND 2ND	786922	11.41	3161841	13.35	2399134	20.67
03	SVEEA	859704	11.41	3324919	13.32	2555967	20.63

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Sequence Name: D:\HPCHEM\1\SEQUENCE\[illegible].S
Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1122P\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

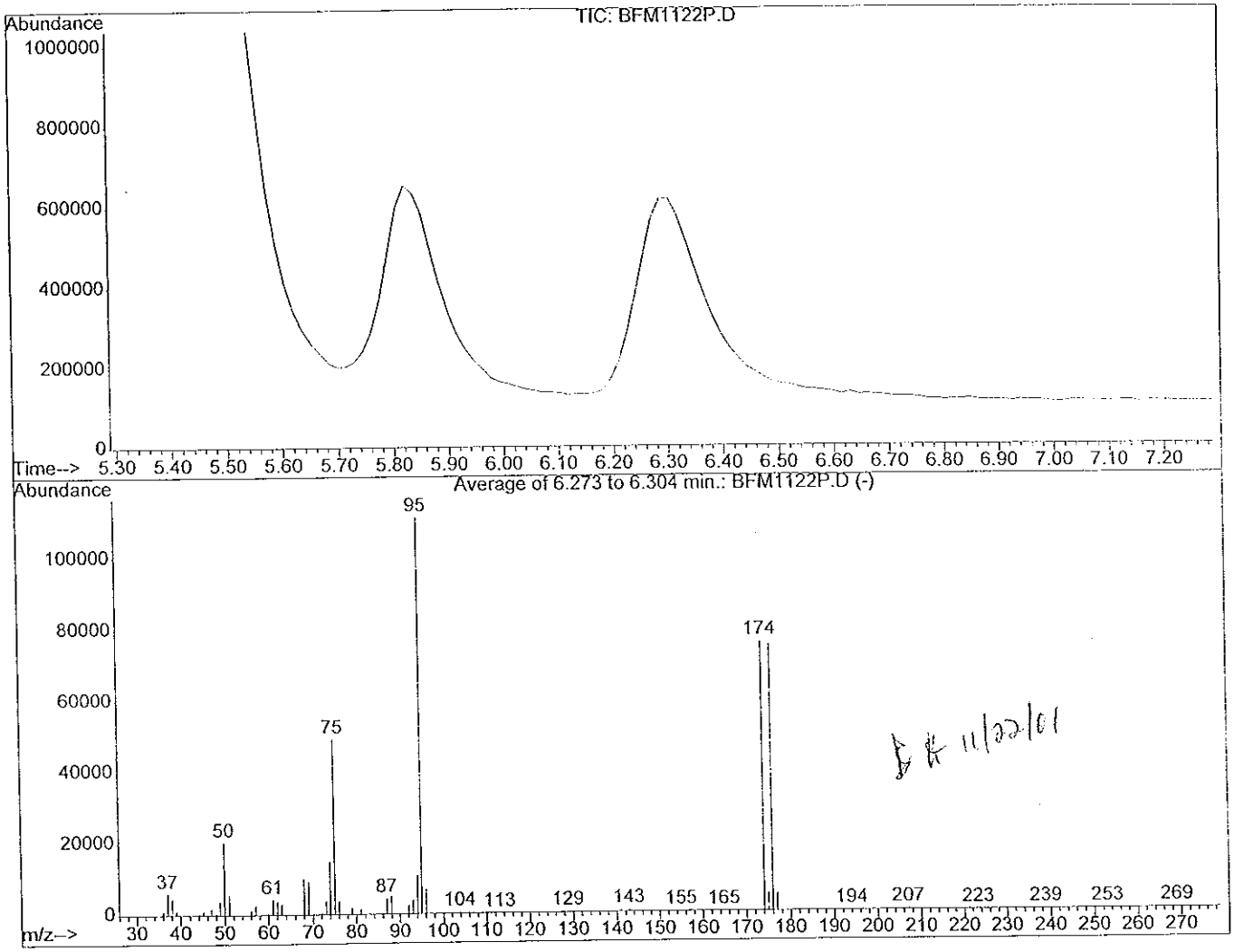
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1122P	BFBSTL	DAILY BFB 12HR. TUNE 50ppb
2	Sample	14	CCVTEST	TO14S	POSSIBLE CCV?...OR CURVE TIME
3	Sample	15	MA235ABK	TO14S	DAILY METHOD BLANK
4	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
5	Sample	15	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
6	Sample	16	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
7	Sample	1	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
8	Sample	2	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	3	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
10	Sample	4	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
11	Sample	5	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
12	Sample	6	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
13	Sample	7	MA235LCS	TO14S	BATCH #235 LCS 50ppb/250ng
14	Sample	8	114711	TO14S	11471-1 X10 50mls
15	Sample	9	114712	TO14S	11471-2 X10 50mls
16	Sample	10	114713	TO14S	11471-3 X10 50mls
17	Sample	11	114714	TO14S	11471-4 X10 50mls
18	Sample	12	114715	TO14S	11471-5 X10 50mls
19	Sample	13	115111	TO14S	11511-1 X10 50mls
20	Sample	14	115112	TO14S	11511-2 X10 50mls

Last Modified: Thu Nov 22 13:30:24 2001

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



Peak Apex is scan: 49 (6.29 min)
Average of 3 scans: 48,49,50 minus background scan 29 (5.98 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	20396	PASS
75	95	30	60	44.3	49232	PASS
95	95	100	100	100.0	111169	PASS
96	95	5	9	6.3	7014	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.3	75908	PASS
175	174	5	9	6.8	5127	PASS
176	174	95	101	98.8	75024	PASS
177	176	5	9	6.6	4948	PASS

BFM1122P.D TO14S.M Thu Nov 22 12:55:43 2001

Average of 0.275 to 0.301 max.: [illegible]

DAILY BFB 12HR. TUNE 50ppb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1075	61.00	4393	86.95	4439	176.95	4948
37.05	6063	62.05	3859	88.00	4999		
38.05	4536	63.00	3038	92.00	2494		
39.05	1246	68.00	10184	93.00	3964		
45.00	1133	69.00	9431	94.05	10828		
46.95	1809	73.05	3941	95.00	111169		
48.95	3843	74.00	14781	96.05	7014		
49.95	20396	75.05	49232	142.90	715		
51.00	5842	76.00	3752	173.95	75908		
56.05	1288	79.00	1925	174.95	5127		
57.05	2719	81.00	1490	175.95	75024		

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON
Sampling : 1
Start Thrs: 0.2
Stop Thrs : 0

Filtering: 5
Min Area: 3 % of largest Peak
Max Peaks: 100
Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

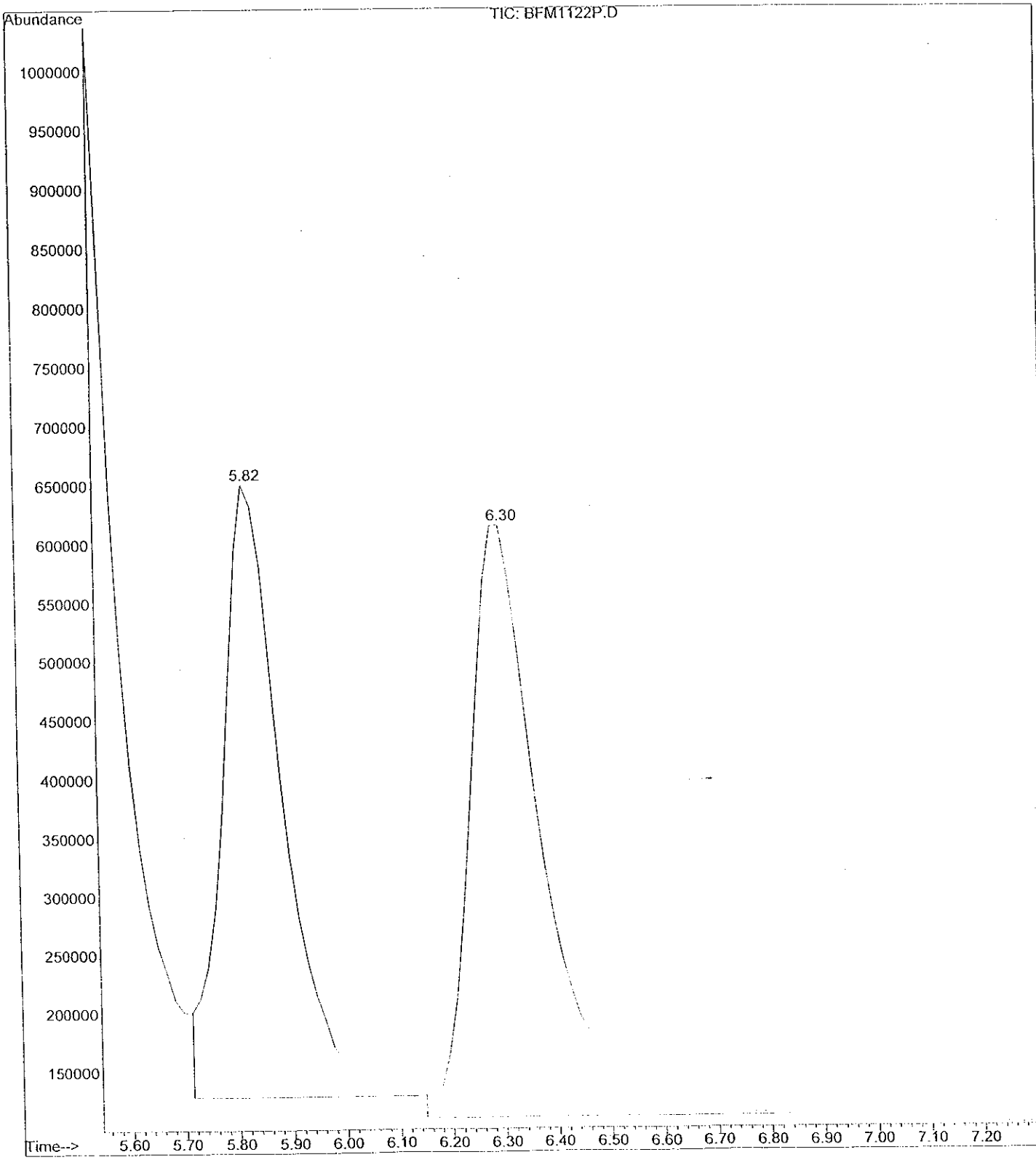
Sum of corrected areas: 8872066

BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

BA 11/22/01

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

11/29/01

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933	R^2=0.998
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

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

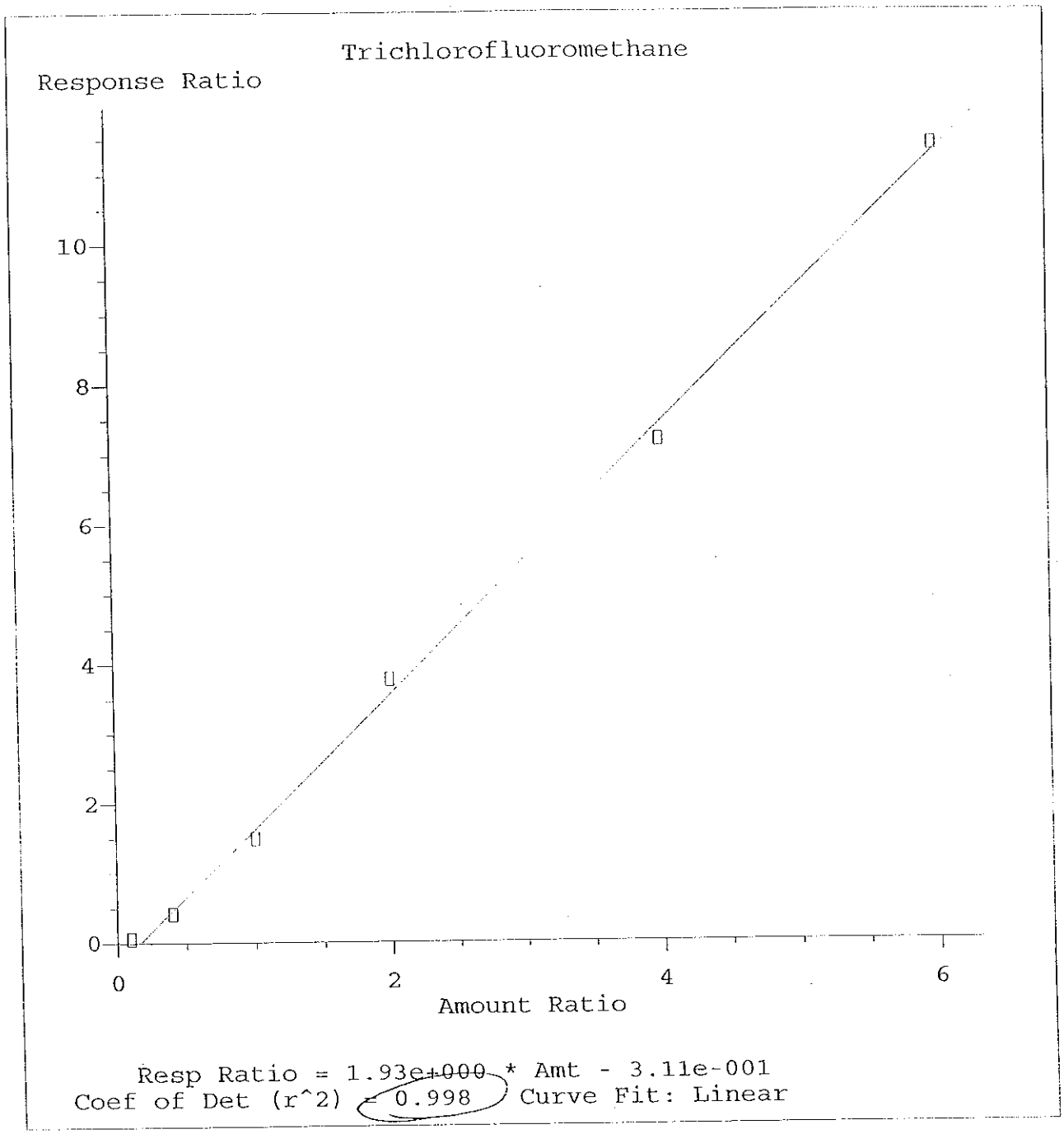
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

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

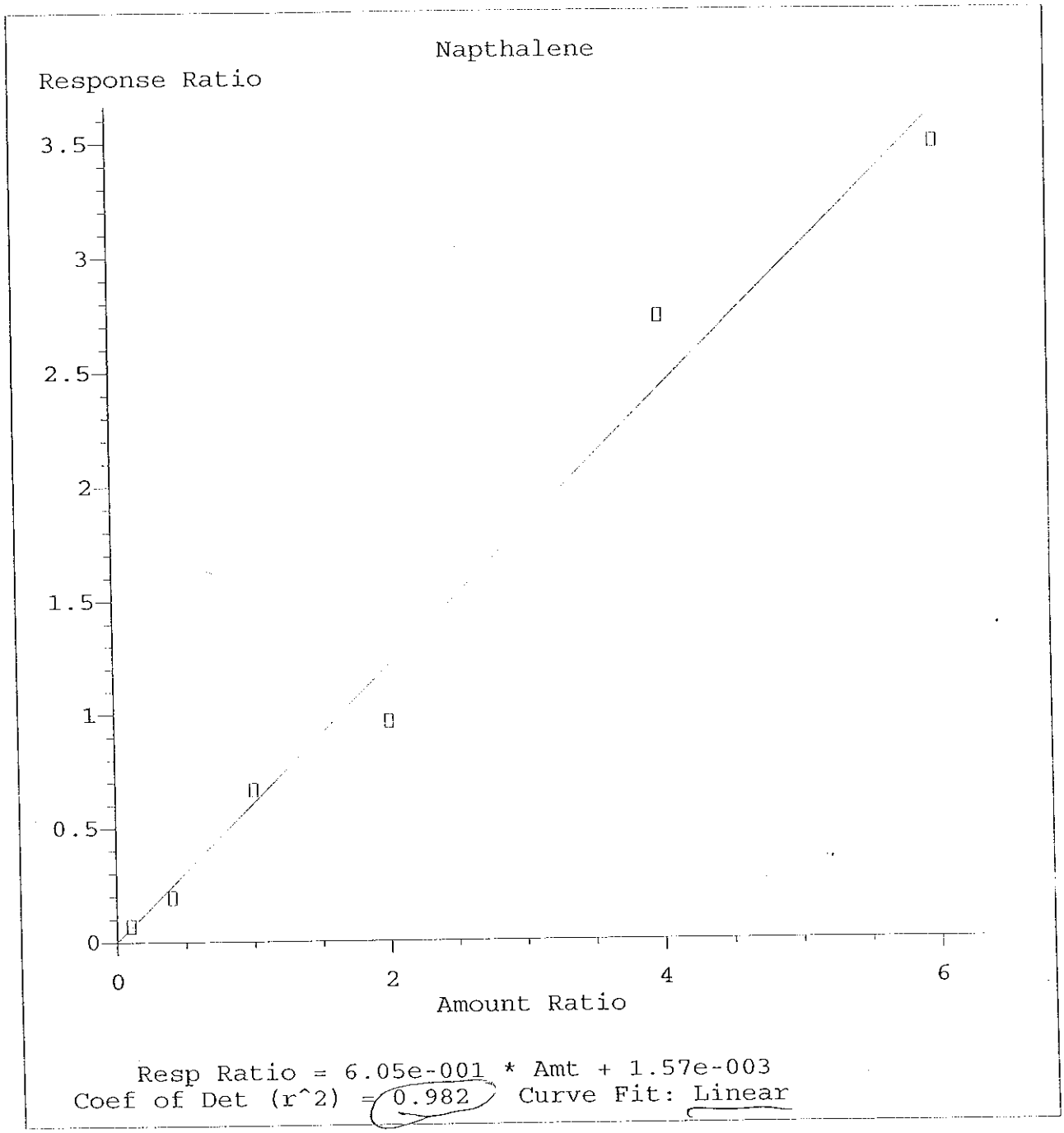
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 20:58:58 2001

BY 11-22-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:01:25 2001

BH 11/30/01

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001 original BDH 11/22/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00	ng	-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00	ng	-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00	ng	-0.03 282.19%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.36%#			
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68	ng	-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.27%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67	ng	98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58	ng	# 45
4) Chloromethane	4.36	50	54217	16.33	ng	# 92
5) Vinyl chloride	4.59	62	51362	17.20	ng	# 87
6) Bromomethane	5.42	94	98746	24.20	ng	# 82
7) Chloroethane	5.54	64	32840	18.79	ng	# 89
8) Trichlorofluoromethane	6.04	101	39870	6.56	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29	ng	83
10) 1,1-Dichloroethene	7.20	96	66093	21.79	ng	85
12) Methylene chloride	8.12	49	91249	15.70	ng	# 94
13) Carbon disulfide	8.27	76	181220	18.71	ng	# 93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60	ng	# 85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71	ng	89
16) n-Hexane	8.78	57	80570	20.60	ng	# 1
17) 1,1-Dichloroethane	9.51	63	119239	16.98	ng	# 98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26	ng	92
19) Chloroform	11.08	83	153161	17.29	ng	98
20) Isooctane	12.03	57	303517	20.95	ng	97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80	ng	89
22) Carbon tetrachloride	12.51	117	137597	17.08	ng	99
24) 1,2-Dichloroethane	12.77	62	78090	14.06	ng	98
25) 1,2-Dibromoethane	19.75	107	111469	20.00	ng	97
27) Benzene	12.85	78	179158	21.12	ng	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	95845	23.30	ng		96
29) 1,2-Dichloropropane	14.56	63	72859	19.13	ng		95
30) Bromodichloromethane	15.07	83	169881	17.23	ng		99
31) cis-1,3-Dichloropropene	16.30	75	105593	18.65	ng		94
33) Toluene	17.11	92	110233	21.32	ng	#	95
34) trans-1,3-Dichloropropene	17.46	75	79087	16.48	ng	#	82
35) 1,1,2-Trichloroethane	17.87	97	67774	20.88	ng		98
37) Tetrachloroethene	18.72	164	87289	23.66	ng		95
38) Dibromochloromethane	19.22	127	120192	20.80	ng	#	94
39) Chlorobenzene	20.79	112	160392	21.82	ng		92
40) Ethylbenzene	20.88	106	65807	22.17	ng		99
41) m,p-Xylene	21.07	106	165326	42.60	ng		99
42) o-Xylene	22.21	106	78495	21.26	ng		99
43) Styrene	22.31	104	119668	20.45	ng		95
44) Bromoform	23.25	173	108489	22.72	ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	107840	20.51	ng	#	99
47) 1,4-Dichloro-2-butene	23.22	75	17978	18.55	ng	#	90
48) 4-Ethyltoluene	24.50	105	227968	22.22	ng		95
49) 1,3,5-Trimethylbenzene	24.59	105	165409	19.65	ng		90
50) 2-Chlorotoluene	24.70	91	215651	19.02	ng		99
51) 1,2,4-Trimethylbenzene	25.54	105	173761	19.86	ng		98
52) 1,3-Dichlorobenzene	26.47	146	145028	22.89	ng		94
53) 1,4-Dichlorobenzene	26.69	146	152149	22.95	ng	#	93
54) 1,2-Dichlorobenzene	27.45	146	133248	22.68	ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	99718	24.12	ng		97
56) Napthalene	31.19	128	143146	23.66	ng	#	89
57) Hexachlorobutadiene	30.88	225	107311	30.39	ng		99

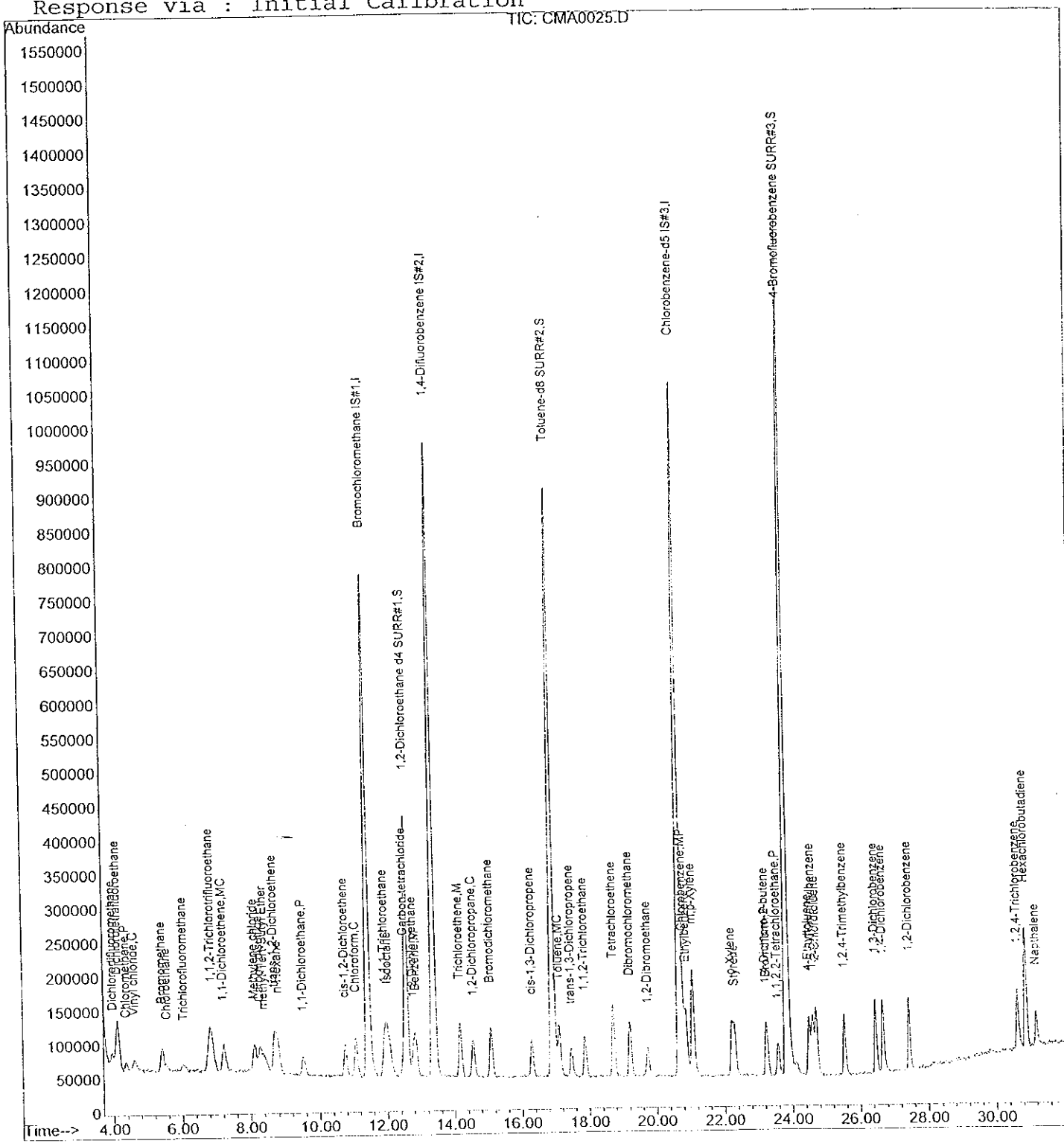
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D
Acq On : 22 Nov 2001 14:11
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BA 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%			
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28	ng	# 97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01	ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30) Bromodichloromethane	15.07	83	723015	65.75	ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33) Toluene	17.11	92	471365	81.74	ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37) Tetrachloroethene	18.72	164	379057	91.16	ng		94
38) Dibromochloromethane	19.20	127	507313	77.89	ng		98
39) Chlorobenzene	20.77	112	690880	83.38	ng		97
40) Ethylbenzene	20.88	106	269786	80.64	ng		100
41) m,p-Xylene	21.07	106	715119	163.47	ng		99
42) o-Xylene	22.21	106	335595	80.64	ng		98
43) Styrene	22.29	104	516712	78.36	ng		99
44) Bromoform	23.24	173	450088	83.61	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56) Napthalene	31.19	128	442169	64.85	ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

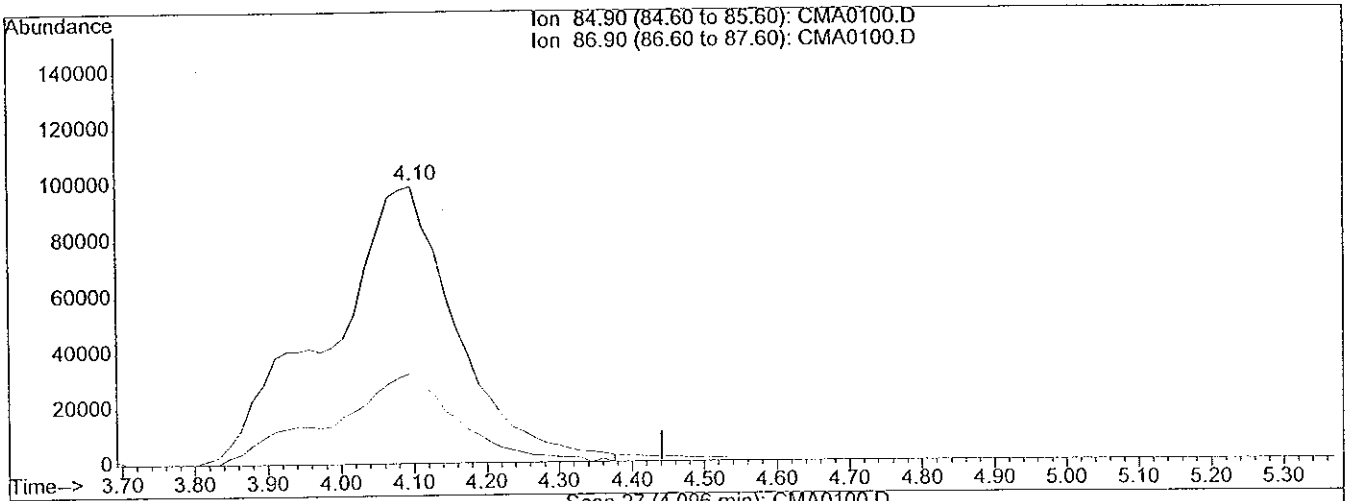
(#) = qualifier out of range (m) = manual integration

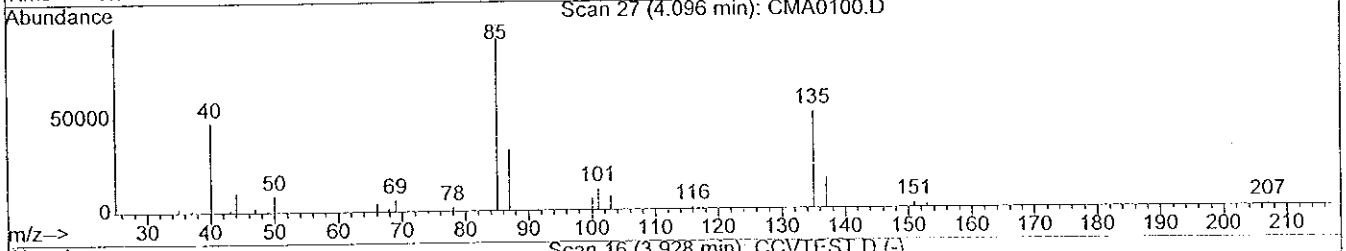
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

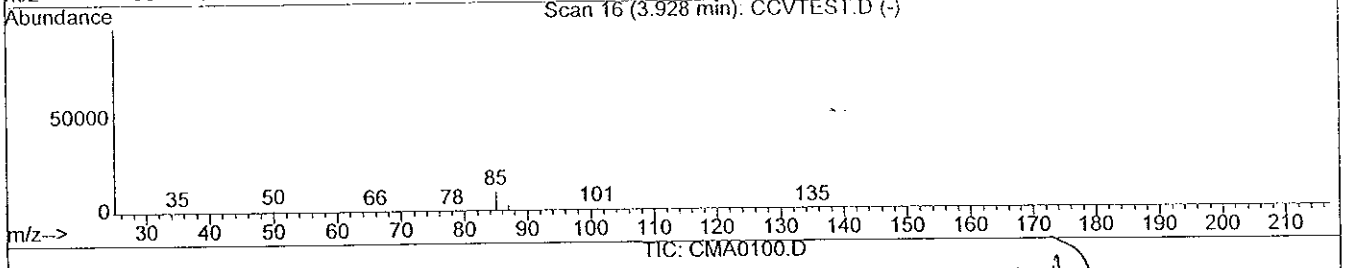
Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

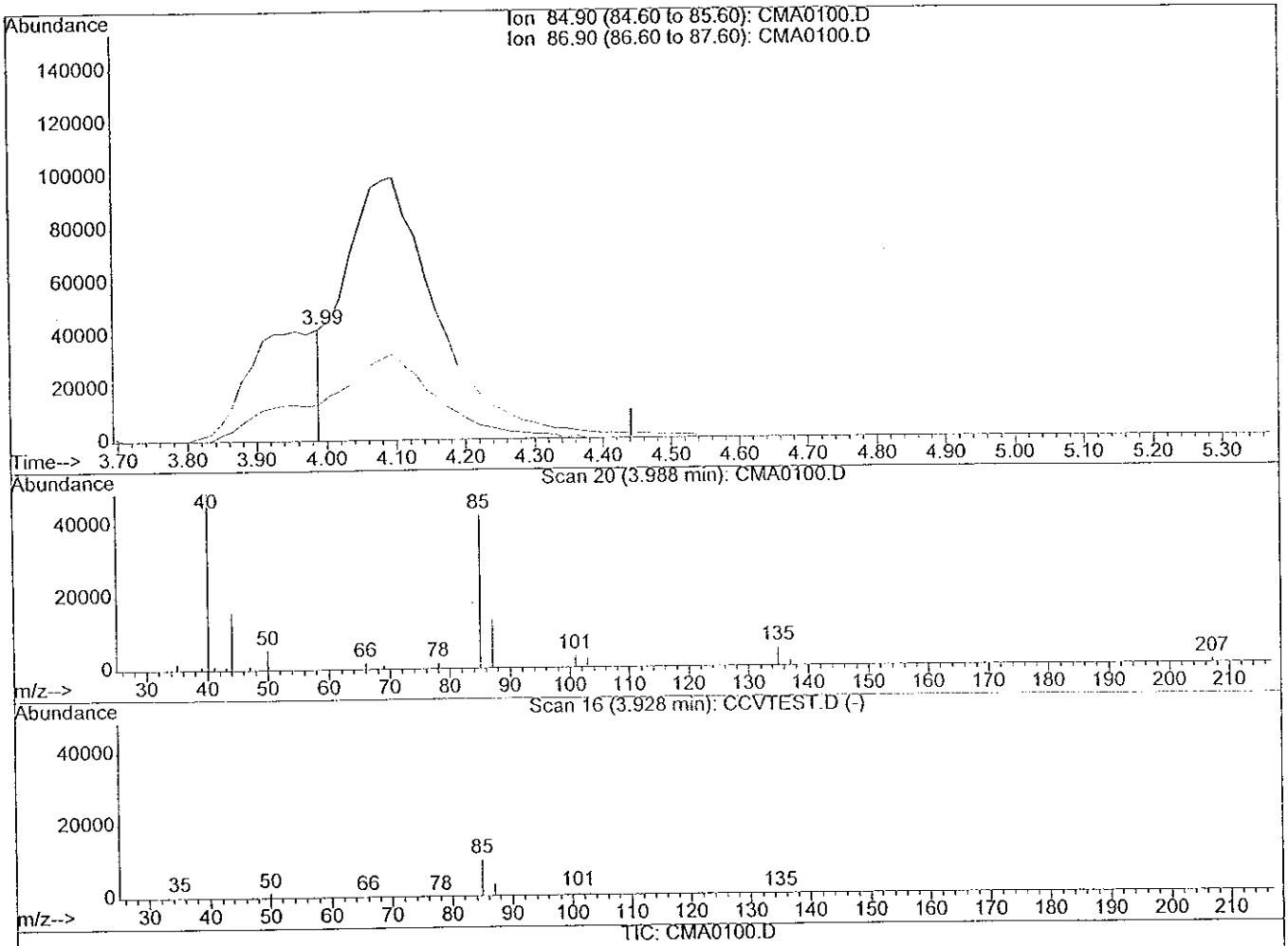
before (mis-integ - | coeluted)

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.99min 47.28ng m

response 296446

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	131.84#
0.00	0.00	0.00
0.00	0.00	0.00

after BH 11-29-01

11-27-01

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng		-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng		-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng		-0.03 318.06%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%				
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%				
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng		97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	#	26
4) Chloromethane	4.34	50	234313	61.77	ng	#	95
5) Vinyl chloride	4.58	62	216303	63.39	ng		96
6) Bromomethane	5.40	94	354015	75.93	ng	#	93
7) Chloroethane	5.51	64	139656	69.94	ng		99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng		82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng		87
12) Methylene chloride	8.09	49	356949	53.74	ng		97
13) Carbon disulfide	8.27	76	759303	68.61	ng		97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng		97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng		92
16) n-Hexane	8.75	57	281184	62.93	ng	#	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng		99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng		91
19) Chloroform	11.07	83	642388	63.47	ng		99
20) Isooctane	12.03	57	896151	54.14	ng		98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng		92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng		97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng		98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng		99
27) Benzene	12.84	78	744820	78.71	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01	ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30) Bromodichloromethane	15.07	83	723015	65.75	ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33) Toluene	17.11	92	471365	81.74	ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37) Tetrachloroethene	18.72	164	379057	91.16	ng		94
38) Dibromochloromethane	19.20	127	507313	77.89	ng		98
39) Chlorobenzene	20.77	112	690880	83.38	ng		97
40) Ethylbenzene	20.88	106	269786	80.64	ng		100
41) m,p-Xylene	21.07	106	715119	163.47	ng		99
42) o-Xylene	22.21	106	335595	80.64	ng		98
43) Styrene	22.29	104	516712	78.36	ng		99
44) Bromoform	23.24	173	450088	83.61	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56) Napthalene	31.19	128	442169	64.85	ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

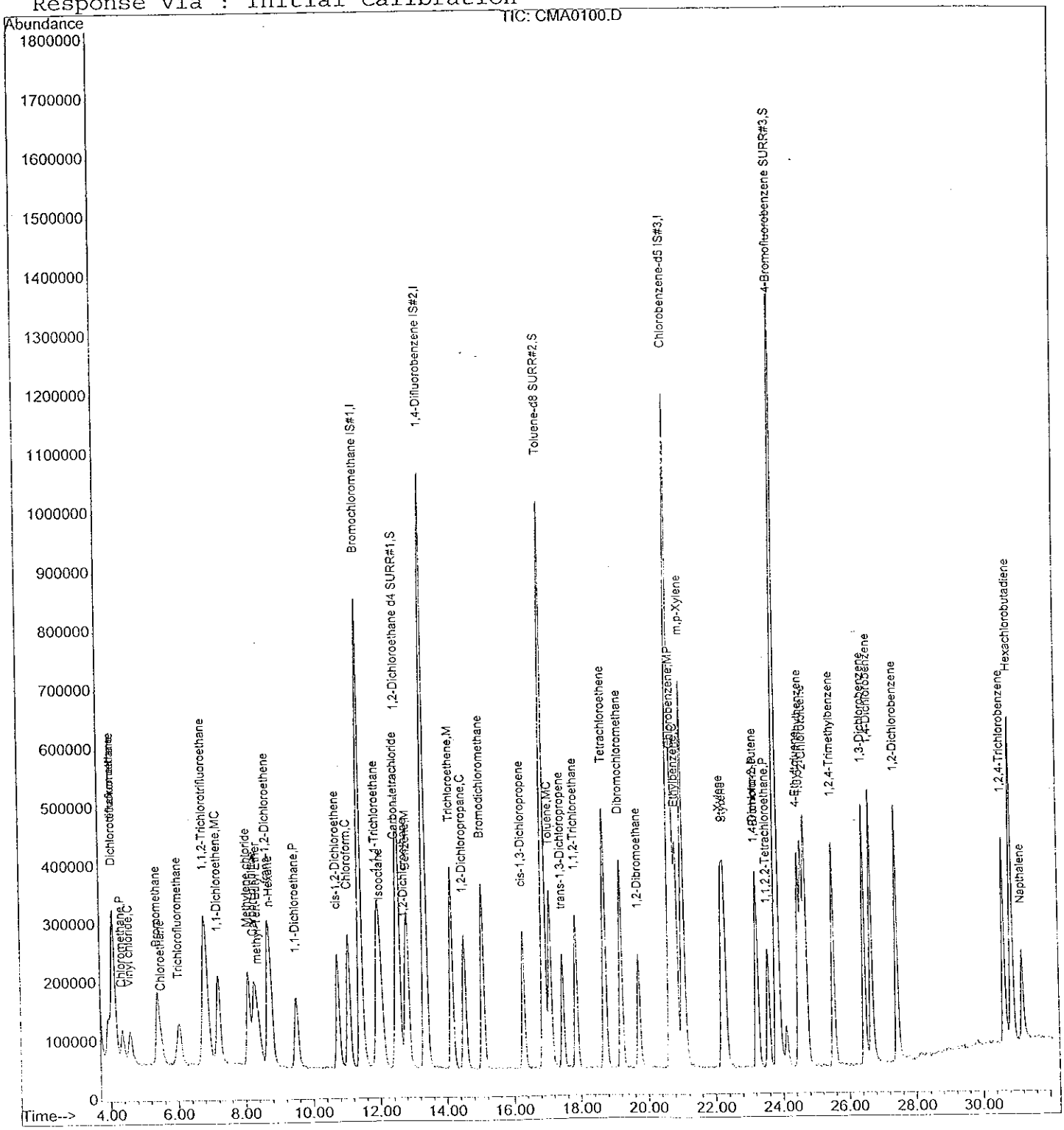
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Original SH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	747317	250.00	ng	-0.03 342.15%
26) 1,4-Difluorobenzene IS#2	13.36	114	2968219	250.00	ng	-0.03 313.17%
36) Chlorobenzene-d5 IS#3	20.68	117	2302990	250.00	ng	-0.03 320.90%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	820411	147.75	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.10%#			
32) Toluene-d8 SURR#2	16.90	98	2311670	235.45	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.18%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2090630	232.72	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.09%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	827926	133.15	ng	90
3) Dichlorotetrafluoroethane	4.10	135	1388168	229.31	ng	# 38
4) Chloromethane	4.36	50	667704	177.47	ng	97
5) Vinyl chloride	4.58	62	667727	197.30	ng	97
6) Bromomethane	5.40	94	1057285	228.66	ng	# 96
7) Chloroethane	5.49	64	444066	224.24	ng	97
8) Trichlorofluoromethane	6.02	101	1119090	162.40	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.81	151	1602469	276.08	ng	84
10) 1,1-Dichloroethene	7.19	96	879523	255.94	ng	88
12) Methylene chloride	8.09	49	1170582	177.71	ng	99
13) Carbon disulfide	8.27	76	2364904	215.47	ng	95
14) methyl-Tert-Butyl Ether	8.37	73	1088522	197.18	ng	99
15) trans-1,2-Dichloroethene	8.68	96	964847	250.40	ng	92
16) n-Hexane	8.75	57	900365	203.19	ng	# 1
17) 1,1-Dichloroethane	9.51	63	1569813	197.24	ng	99
18) cis-1,2-Dichloroethene	10.74	61	1256735	190.36	ng	90
19) Chloroform	11.07	83	1998117	199.07	ng	99
20) Isooctane	12.03	57	2929672	178.46	ng	97
21) 1,1,1-Trichloroethane	11.92	97	1675247	188.72	ng	90
22) Carbon tetrachloride	12.49	117	1799050	197.14	ng	97
24) 1,2-Dichloroethane	12.76	62	994608	158.08	ng	# 98
25) 1,2-Dibromoethane	19.73	107	1598340	253.04	ng	98
27) Benzene	12.84	78	2294603	241.48	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	1288590	279.77	ng		95
29) 1,2-Dichloropropane	14.54	63	972142	227.89	ng		98
30) Bromodichloromethane	15.07	83	2284620	206.89	ng		99
31) cis-1,3-Dichloropropene	16.28	75	1439679	227.09	ng		99
33) Toluene	17.09	92	1486003	256.60	ng		99
34) trans-1,3-Dichloropropene	17.46	75	1137293	211.64	ng		96
35) 1,1,2-Trichloroethane	17.87	97	966109	265.81	ng		97
37) Tetrachloroethene	18.72	164	1207383	287.81	ng		95
38) Dibromochloromethane	19.20	127	1667056	253.68	ng		98
39) Chlorobenzene	20.77	112	2194379	262.49	ng		95
40) Ethylbenzene	20.86	106	878711	260.33	ng		97
41) m,p-Xylene	21.07	106	2263755	512.90	ng		98
42) o-Xylene	22.21	106	1107267	263.72	ng		97
43) Styrene	22.29	104	1732542	260.42	ng		97
44) Bromoform	23.24	173	1563705	287.91	ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	1438178	240.48	ng		99
47) 1,4-Dichloro-2-butene	23.21	75	272354	247.14	ng		92
48) 4-Ethyltoluene	24.50	105	2824082	242.01	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	2149970	224.58	ng	#	77
50) 2-Chlorotoluene	24.70	91	2938488	227.88	ng		96
51) 1,2,4-Trimethylbenzene	25.54	105	2386166	239.77	ng		96
52) 1,3-Dichlorobenzene	26.45	146	1974072	274.03	ng		95
53) 1,4-Dichlorobenzene	26.67	146	2075315	275.28	ng	#	94
54) 1,2-Dichlorobenzene	27.43	146	1821255	272.65	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	1250003	265.87	ng		100
56) Napthalene	31.17	128	1532679	222.80	ng	#	92
57) Hexachlorobutadiene	30.88	225	1068702	266.11	ng		98

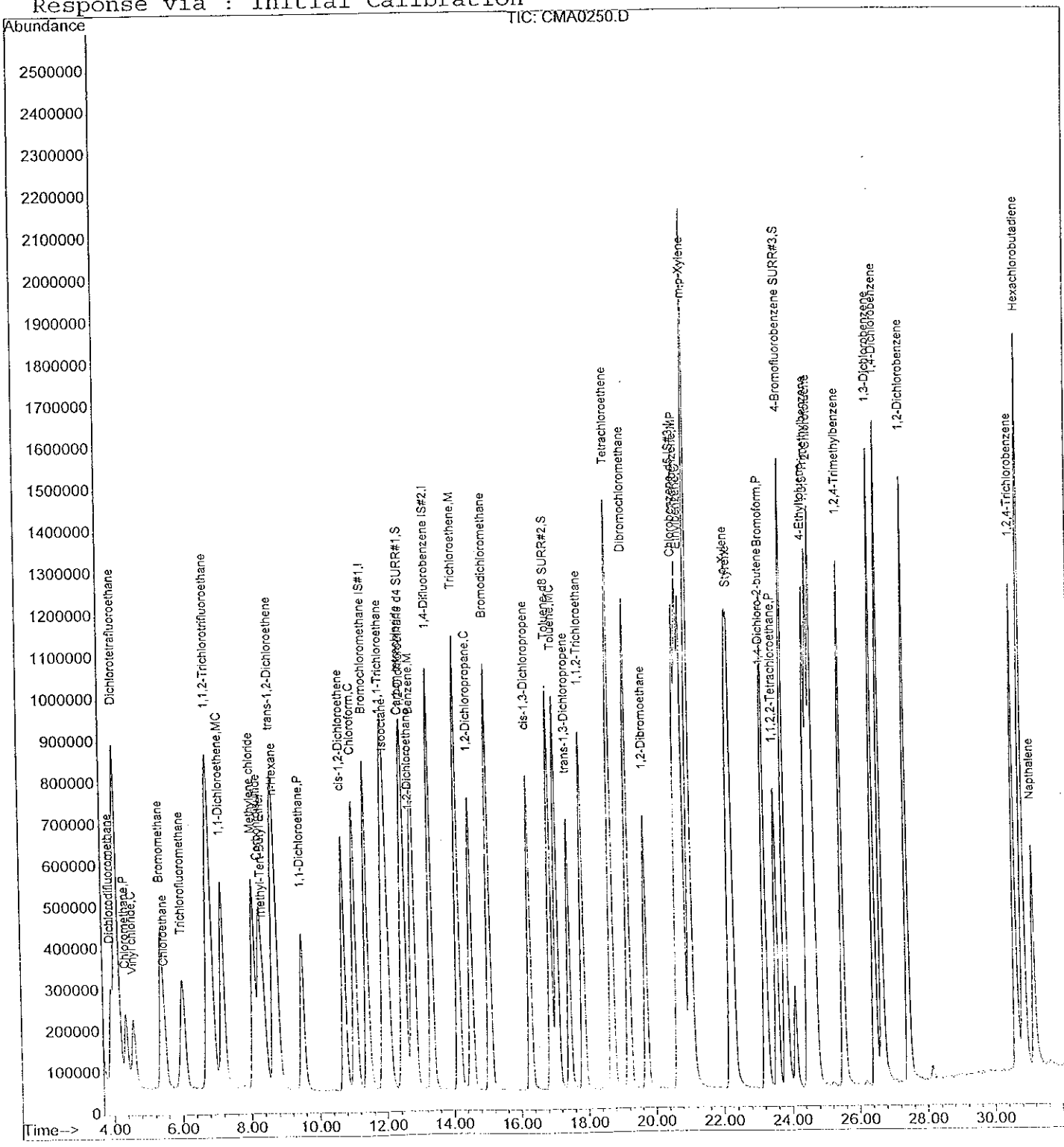
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#			
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1844056m	320.89	ng	# 98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	# 26
4) Chloromethane	4.36	50	1284225	369.32	ng	95
5) Vinyl chloride	4.58	62	1256220	401.61	ng	97
6) Bromomethane	5.42	94	2007486	469.75	ng	# 97
7) Chloroethane	5.51	64	856510	467.97	ng	97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng	82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng	88
12) Methylene chloride	8.10	49	2159716	354.74	ng	99
13) Carbon disulfide	8.27	76	4502881	443.88	ng	98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng	98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng	92
16) n-Hexane	8.77	57	1747631	426.72	ng	# 1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng	98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng	91
19) Chloroform	11.07	83	3825367	412.36	ng	98
20) Isooctane	12.03	57	5483567	361.41	ng	96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng	91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng	97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	# 97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng	97
27) Benzene	12.84	78	4427183	462.51	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

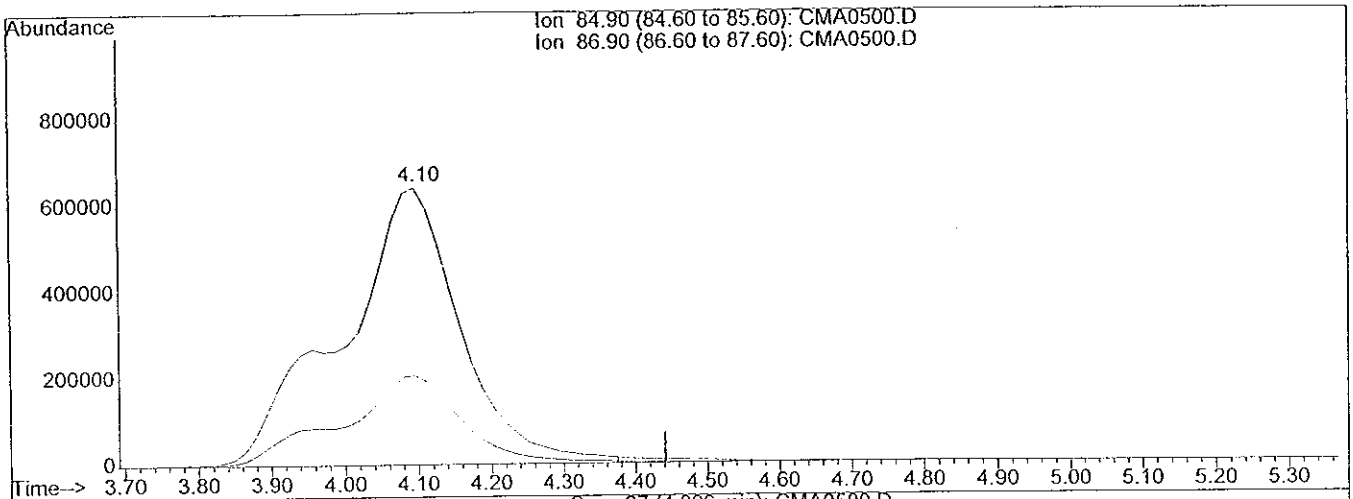
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70	ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33) Toluene	17.11	92	2870951	492.12	ng		98
34) trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35) 1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37) Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38) Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39) Chlorobenzene	20.77	112	4188342	511.74	ng		94
40) Ethylbenzene	20.88	106	1693683	512.53	ng		99
41) m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42) o-Xylene	22.21	106	2136548	519.78	ng		95
43) Styrene	22.29	104	3277411	503.19	ng		97
44) Bromoform	23.25	173	2400417	451.44	ng		100
45) 1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48) 4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49) 1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50) 2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52) 1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53) 1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56) Napthalene	31.19	128	2175497	323.03	ng	#	92
57) Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

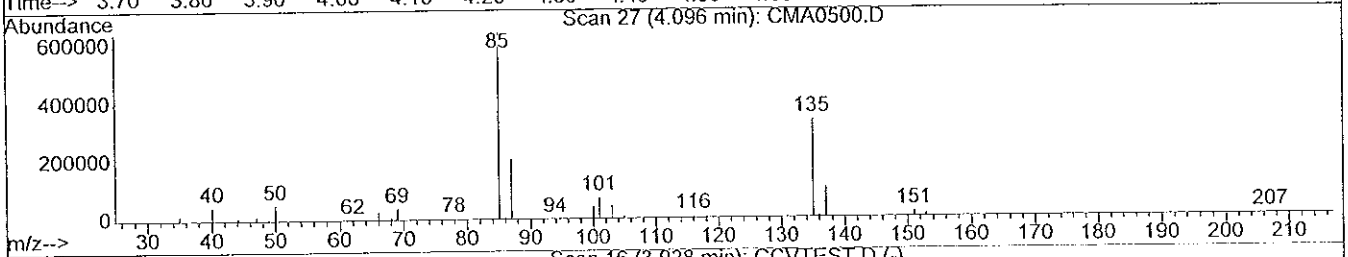
(#) = qualifier out of range (m) = manual integration

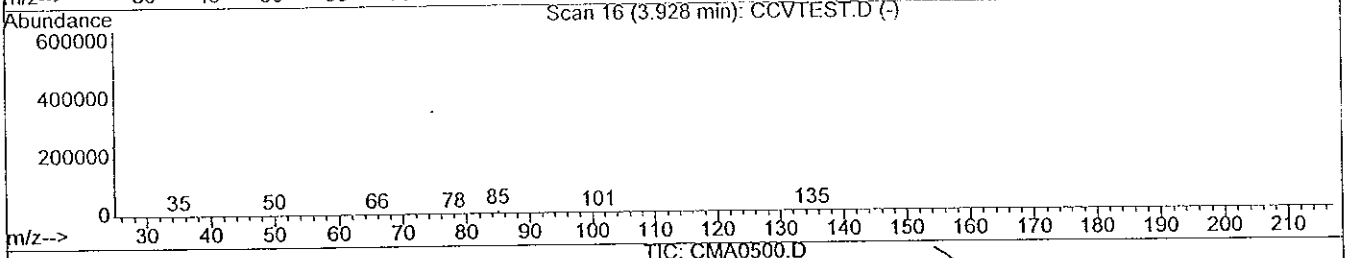
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

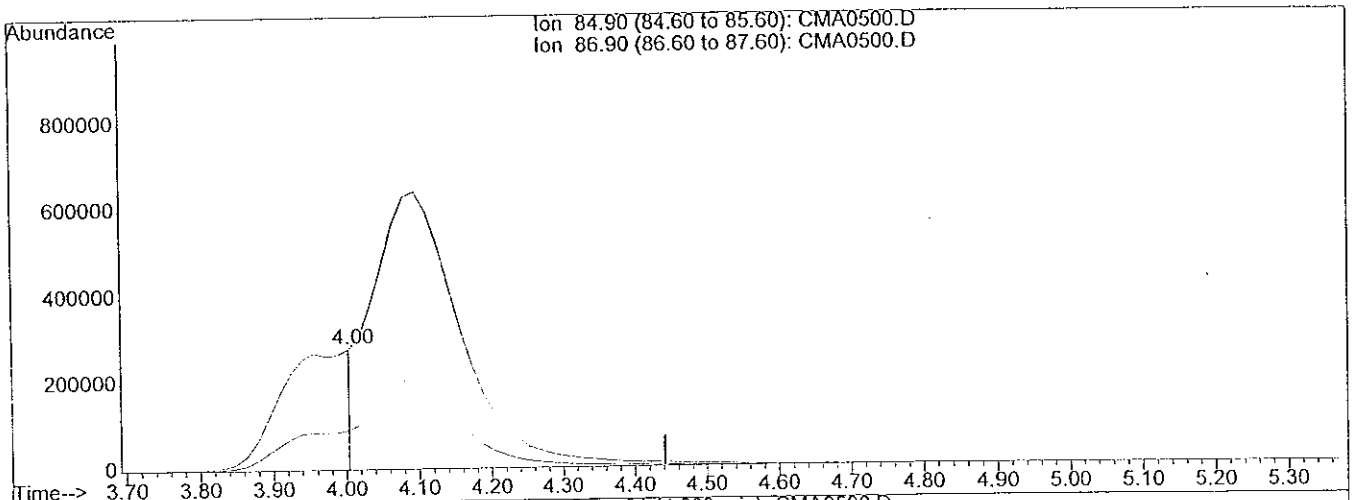
Be for (misinteg | co-eluted)

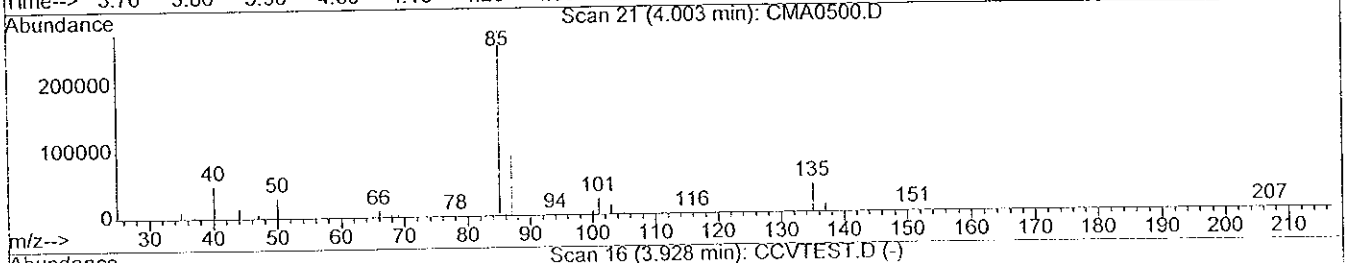
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

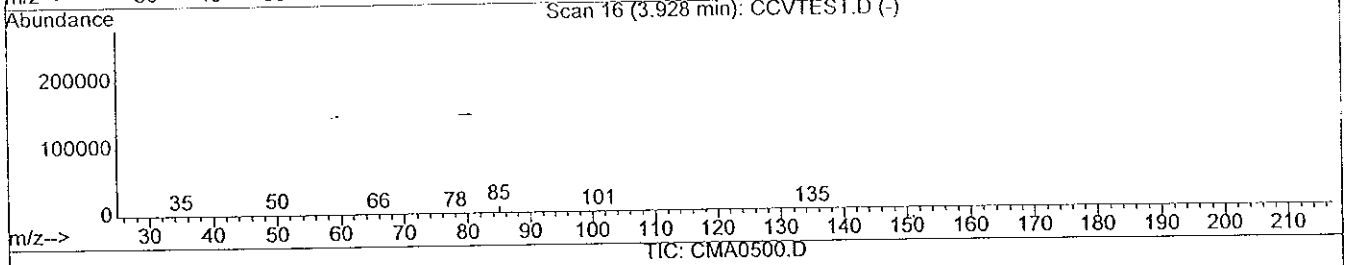
Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.27#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/23/01

11-24-01

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng		-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng		-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng		-0.03 314.16%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#				
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40	ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70	ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33) Toluene	17.11	92	2870951	492.12	ng		98
34) trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35) 1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37) Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38) Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39) Chlorobenzene	20.77	112	4188342	511.74	ng		94
40) Ethylbenzene	20.88	106	1693683	512.53	ng		99
41) m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42) o-Xylene	22.21	106	2136548	519.78	ng		95
43) Styrene	22.29	104	3277411	503.19	ng		97
44) Bromoform	23.25	173	2400417	451.44	ng		100
45) 1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48) 4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49) 1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50) 2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52) 1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53) 1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56) Napthalene	31.19	128	2175497	323.03	ng	#	92
57) Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

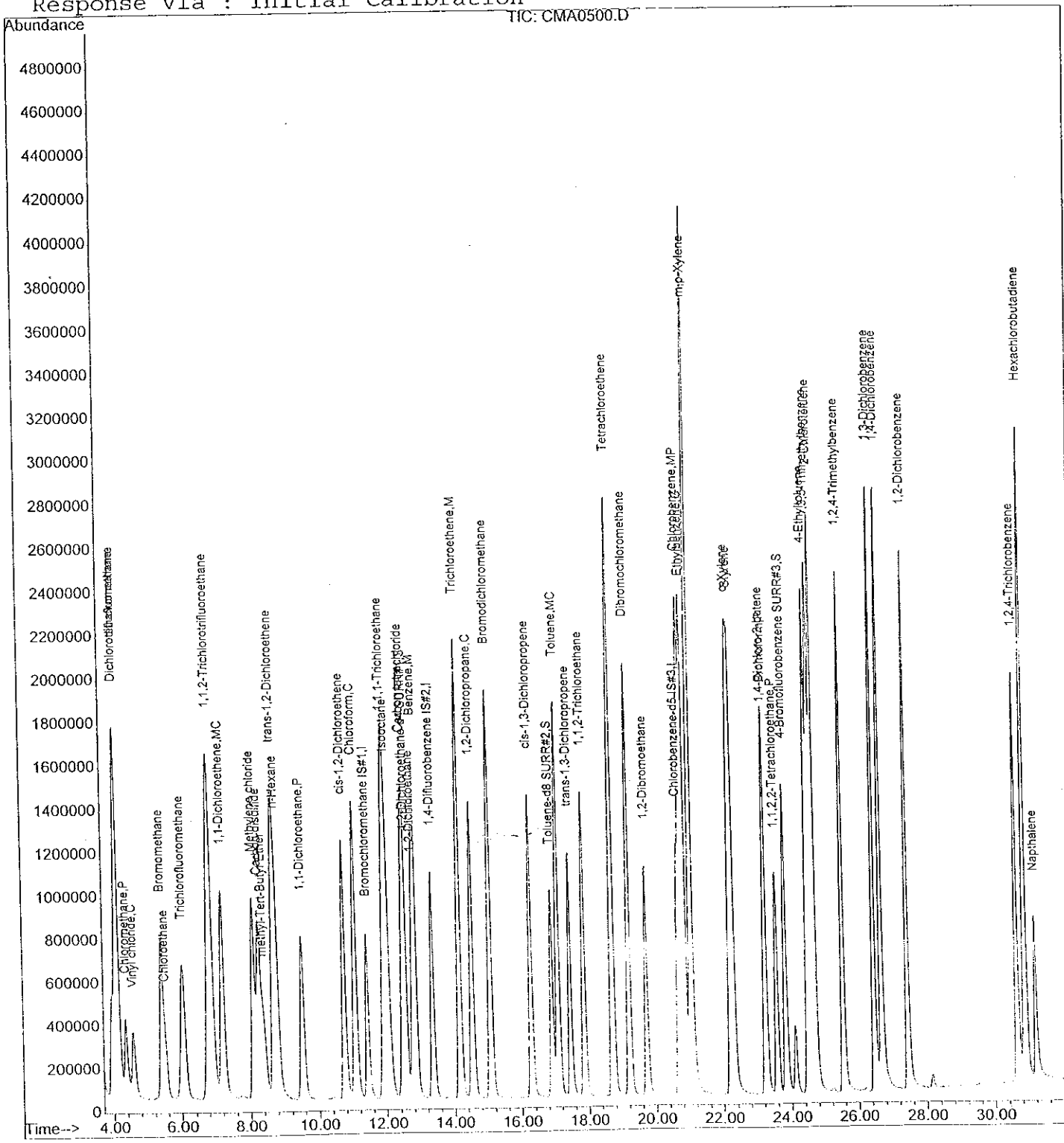
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BW 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#				
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5286344m	915.23	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

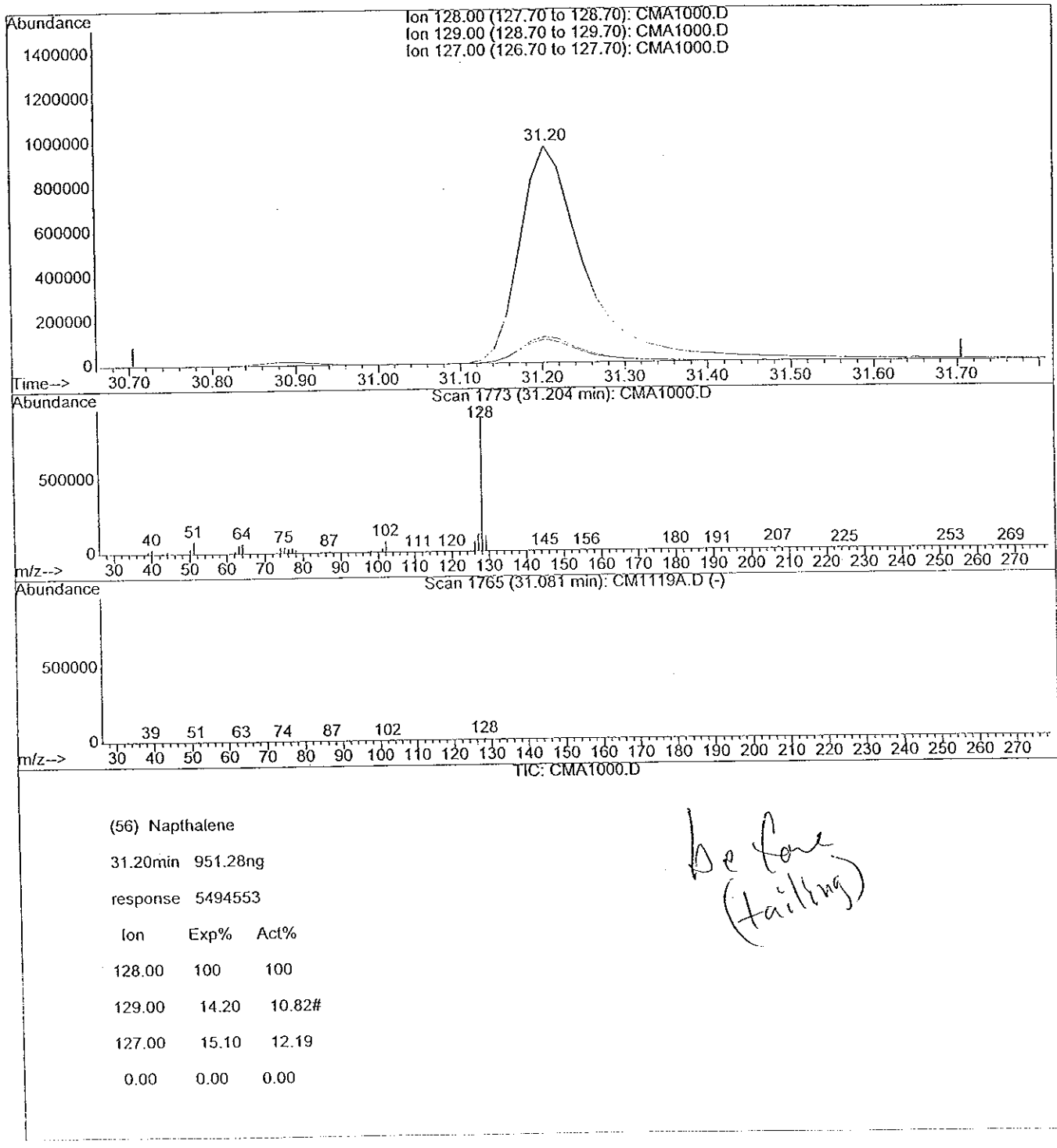
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 951.28ng

response 5494553

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

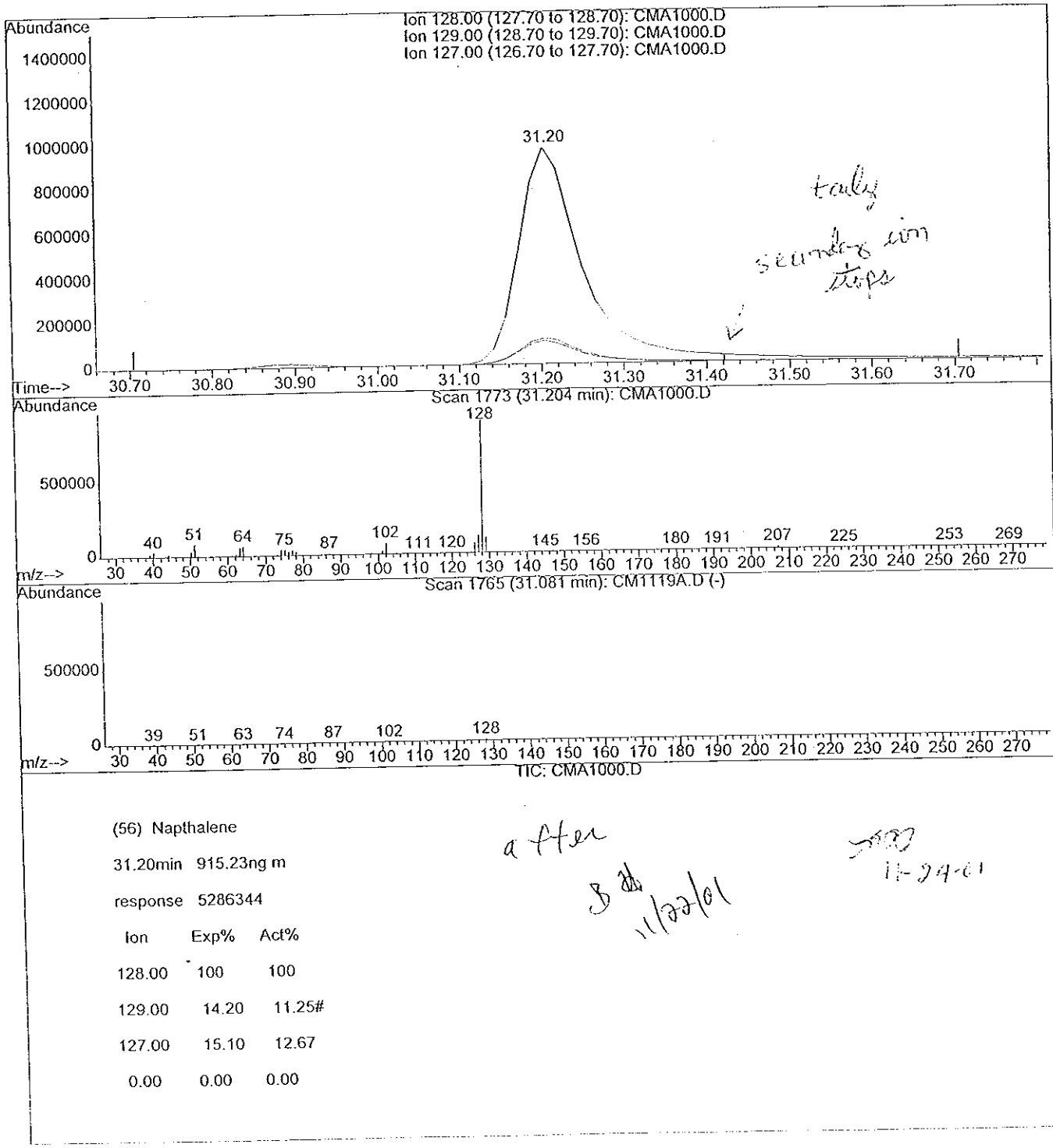
Before (tailing)

CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#				
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5494553	951.28	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

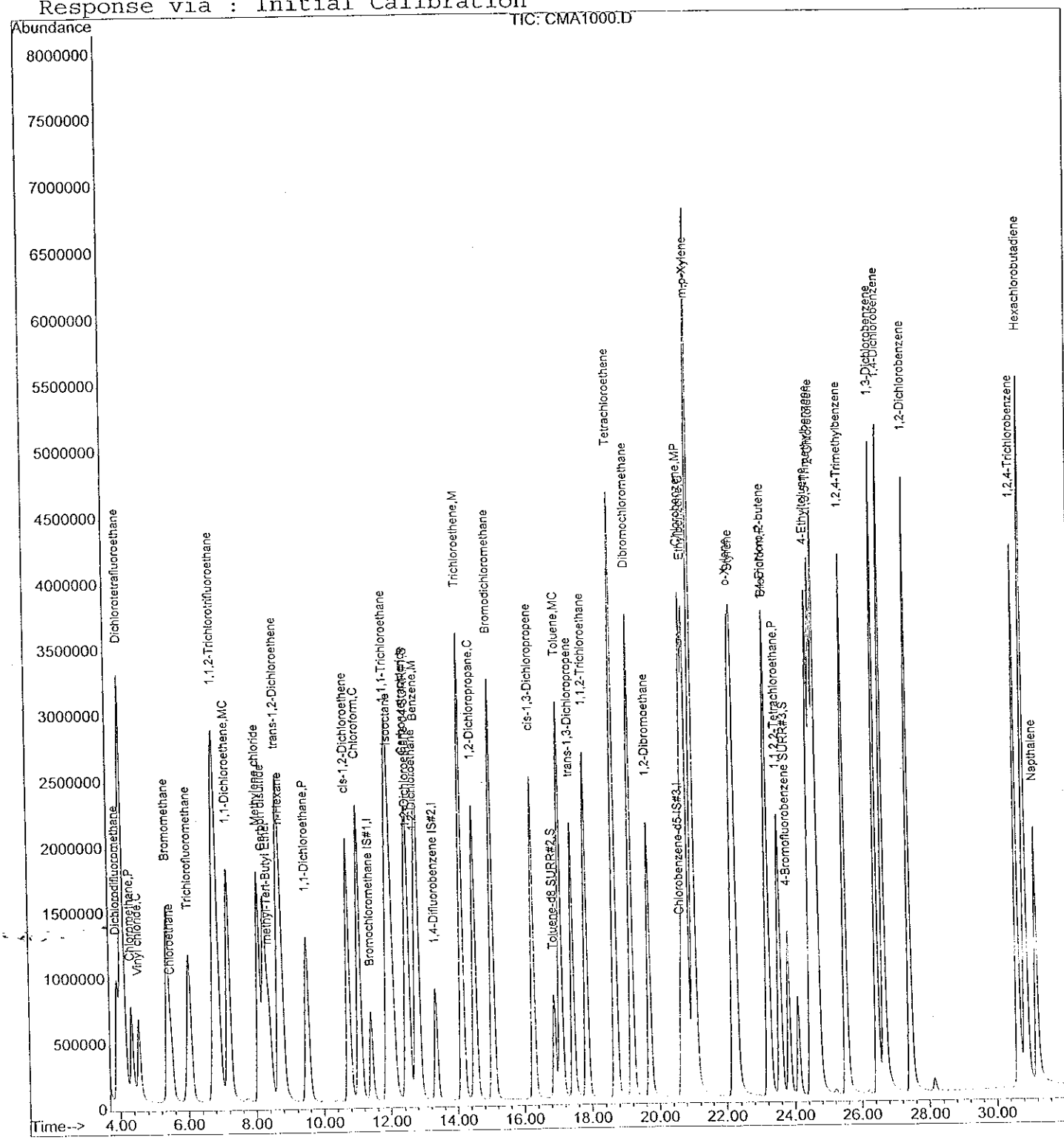
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	634249	250.00	ng		-0.02 290.39%
26) 1,4-Difluorobenzene IS#2	13.36	114	2600798	250.00	ng		-0.03 274.40%
36) Chlorobenzene-d5 IS#3	20.69	117	1981283	250.00	ng		-0.02 276.07%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	632851	134.29	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.72%#				
32) Toluene-d8 SURR#2	16.92	98	1970807	229.09	ng		-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 91.64%				
46) 4-Bromofluorobenzene SURR#	23.84	95	1740302	225.18	ng		-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.07%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.94	85	4935791	935.33	ng		100
3) Dichlorotetrafluoroethane	4.09	135	7446198	1449.32	ng	#	44
4) Chloromethane	4.36	50	3382343	1059.28	ng	#	96
5) Vinyl chloride	4.56	62	3168424	1103.09	ng		97
6) Bromomethane	5.41	94	5426495	1382.82	ng	#	98
7) Chloroethane	5.51	64	2270536	1350.98	ng		96
8) Trichlorofluoromethane	6.05	101	7232899	1236.76	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	8477979	1721.01	ng		81
10) 1,1-Dichloroethene	7.20	96	4596546	1576.05	ng		86
12) Methylene chloride	8.10	49	5698090	1019.24	ng		96
13) Carbon disulfide	8.27	76	12272113	1317.43	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	5104092	1089.43	ng		98
15) trans-1,2-Dichloroethene	8.69	96	4769897	1458.61	ng		90
16) n-Hexane	8.78	57	4342794	1154.77	ng	#	1
17) 1,1-Dichloroethane	9.53	63	7860477	1163.70	ng		98
18) cis-1,2-Dichloroethene	10.76	61	6258103	1116.90	ng		88
19) Chloroform	11.08	83	9812958	1151.95	ng		98
20) Isooctane	12.04	57	14645922	1051.21	ng		95
21) 1,1,1-Trichloroethane	11.95	97	7963993	1057.12	ng		89
22) Carbon tetrachloride	12.51	117	8783308	1134.03	ng		97
24) 1,2-Dichloroethane	12.77	62	4388761	821.89	ng	#	97
25) 1,2-Dibromoethane	19.74	107	7240589	1350.63	ng		98
27) Benzene	12.85	78	11283448	1355.23	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88	ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29	ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55	ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10	ng		96
33) Toluene	17.10	92	7379692	1454.35	ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58	ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29	ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63	ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36	ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47	ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02	ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70	ng		95
42) o-Xylene	22.23	106	5544185	1534.89	ng		94
43) Styrene	22.32	104	8782292	1534.41	ng		96
44) Bromoform	23.27	173	7134144	1526.83	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88	ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33	ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18	ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11777874	1430.04	ng		89
50) 2-Chlorotoluene	24.71	91	14289331	1288.09	ng		94
51) 1,2,4-Trimethylbenzene	25.55	105	11726608	1369.68	ng		96
52) 1,3-Dichlorobenzene	26.48	146	9865243	1591.80	ng	#	94
53) 1,4-Dichlorobenzene	26.70	146	10428453	1607.89	ng	#	93
54) 1,2-Dichlorobenzene	27.46	146	8892199	1547.37	ng	#	94
55) 1,2,4-Trichlorobenzene	30.66	180	6219579	1537.66	ng		99
56) Napthalene	31.22	128	6912312	1167.99	ng	#	92
57) Hexachlorobutadiene	30.89	225	4486552	1298.56	ng		99

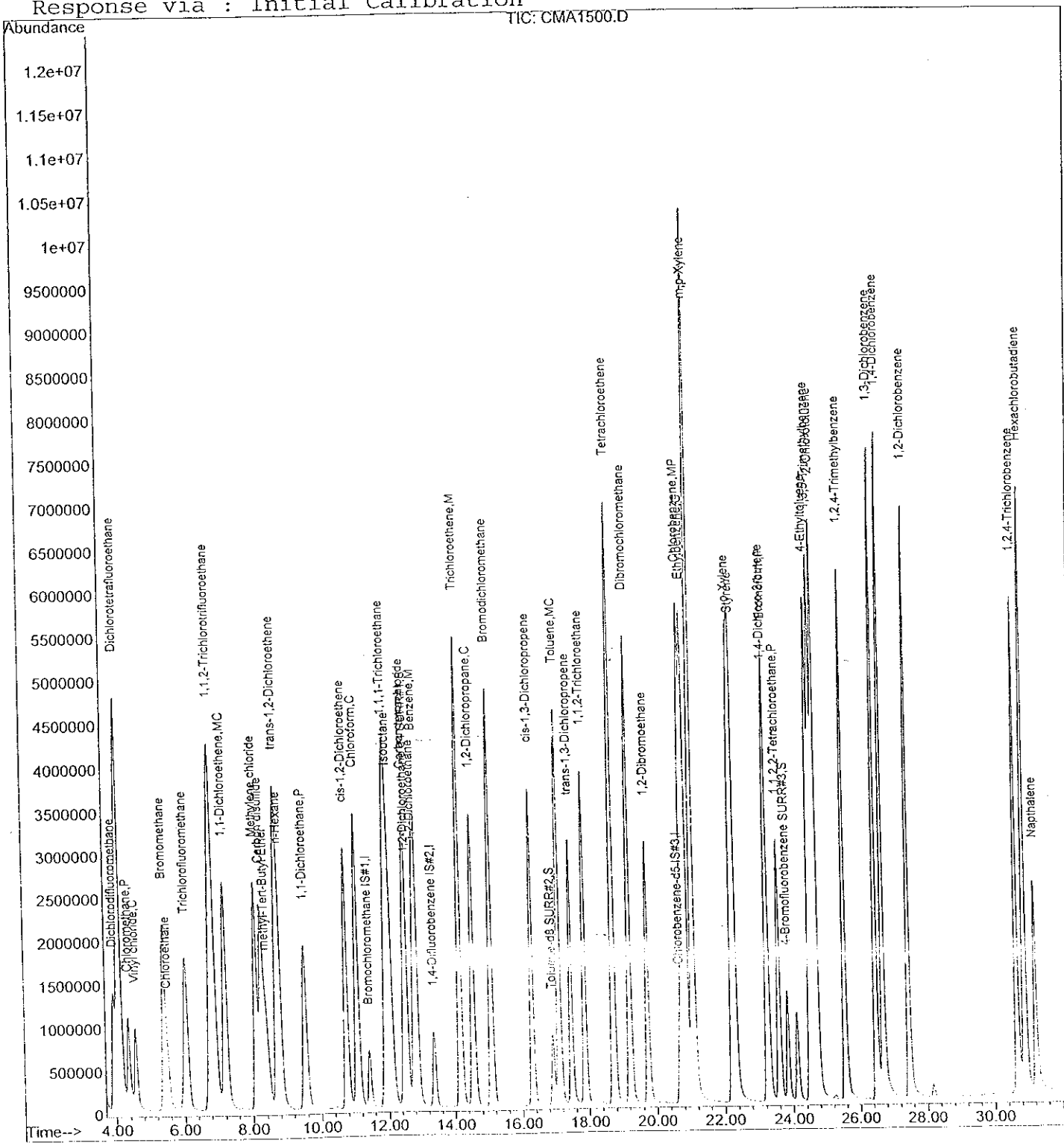
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1128A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

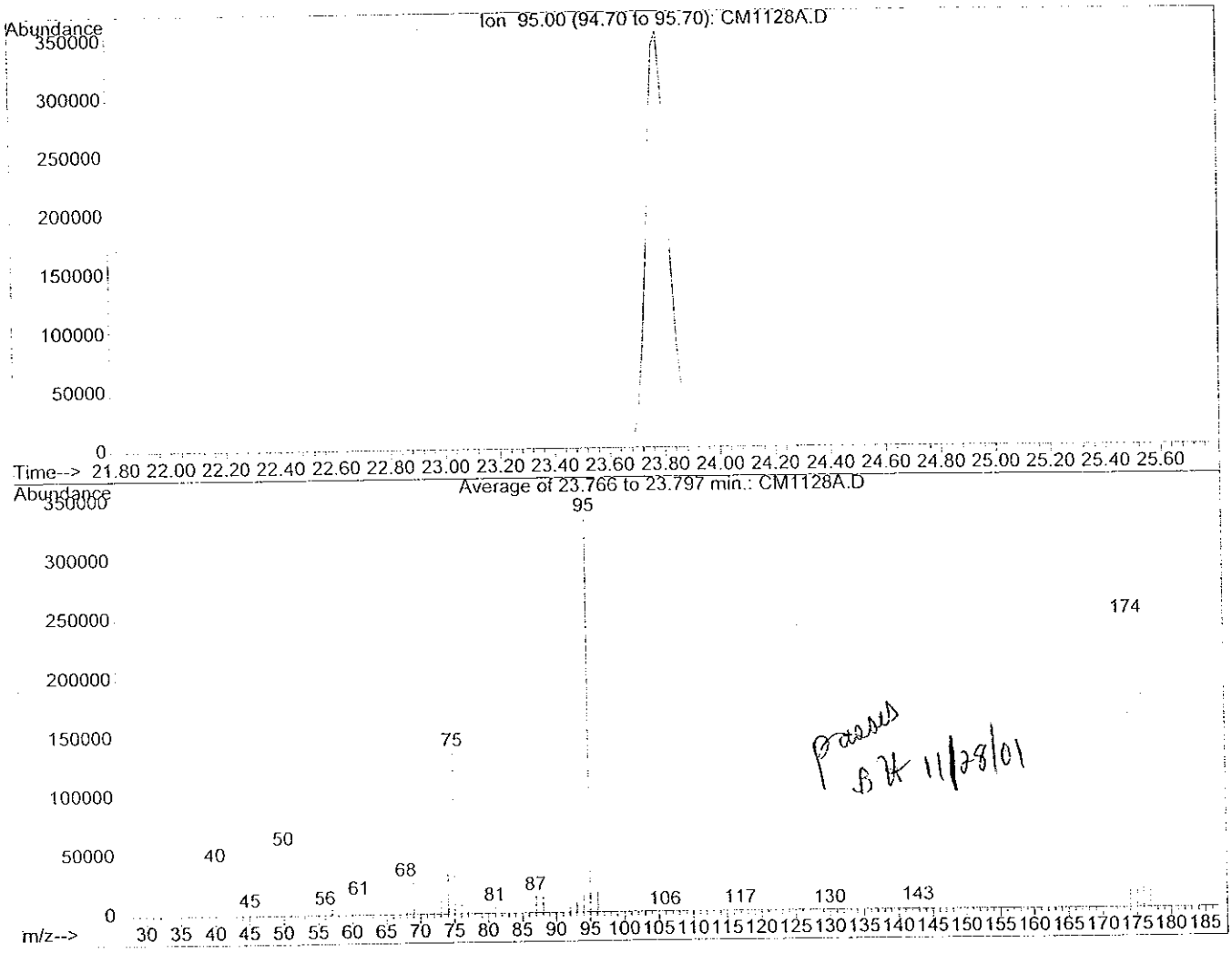
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM1128A	TO14S	VSTD050\DAILY CALIB. CHECK 50
2	Sample	15	MA241ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
3	Sample	16	MA241LCS	TO14S	VLCSMA\BATCH #241 LCS 50ppb/
4	Sample	1	BLKTUBE	BFBSTL	POS.#1 SKIP
5	Sample	2	115861	TO14S	11586-1 X500 1.0ml
6	Sample	3	115521	TO14S	11552-1 X500 1.0ml
7	Sample	4	115522	TO14S	11552-2 X500 1.0ml
8	Sample	5	115523	TO14S	11552-3 X500 1.0ml
9	Sample	1	115561	TO14S	062SVEEA11200118\11556-1 ST.
10	Sample	1	115571	TO14S	062SVEEA11200122\11557-1 ST.
11	Sample	1	QC228	TO14S	QC CAN CHECK #228 ST. 500mls

Last Modified: Wed Nov 28 10:47:30 2001

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

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



Spectrum Information: Average of 23.766 to 23.797 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	55064	PASS
75	95	30	60	41.0	137088	PASS
95	95	100	100	100.0	334208	PASS
96	95	5	9	6.6	22080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.9	243499	PASS
175	174	5	9	7.1	17264	PASS
176	174	95	101	98.0	238571	PASS
177	176	5	9	6.3	15082	PASS

Passed BH 11/28/01

CM1128A.D TO14S.M Wed Nov 28 10:29:38 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

Passes BH 11/28/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

BH 11/28/01 used for Tune

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00	ng	-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00	ng	-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00	ng	-0.05 103.08%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.53	65	781052m	237.19	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.88%			
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.03%			
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.41%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88	ng	91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19	ng	# 42
4) Chloromethane	4.33	50	680166	253.25	ng	# 96
5) Vinyl chloride	4.56	62	683071	265.32	ng	97
6) Bromomethane	5.38	94	1022044	235.63	ng	# 99
7) Chloroethane	5.49	64	431451	248.53	ng	98
8) Trichlorofluoromethane	6.01	101	709186	155.06	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58	ng	81
10) 1,1-Dichloroethene	7.17	96	874172	251.95	ng	85
12) Methylene chloride	8.07	49	1119090	249.74	ng	98
13) Carbon disulfide	8.23	76	2406192	257.52	ng	98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65	ng	98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14	ng	90
16) n-Hexane	8.72	57	857489	240.98	ng	# 1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75	ng	99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09	ng	88
19) Chloroform	11.04	83	1909764	246.72	ng	98
20) Isooctane	11.98	57	2704757	225.82	ng	97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39	ng	91
22) Carbon tetrachloride	12.46	117	1709308	245.68	ng	97
24) 1,2-Dichloroethane	12.73	62	886849	241.96	ng	# 97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09	ng	98
27) Benzene	12.79	78	2240715	252.47	ng	98

(#) = qualifier out of range (m) = manual integration
CM1128A.D TO14S.M Wed Nov 28 10:32:29 2001 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.12	130	1253283	251.50	ng		93
29)	1,2-Dichloropropane	14.50	63	909704	244.44	ng		97
30)	Bromodichloromethane	15.04	83	2107004	245.96	ng		99
31)	cis-1,3-Dichloropropene	16.25	75	1340162	247.87	ng		98
33)	Toluene	17.06	92	1419152	249.16	ng		99
34)	trans-1,3-Dichloropropene	17.42	75	1040475	249.76	ng		99
35)	1,1,2-Trichloroethane	17.82	97	847991	244.92	ng		96
37)	Tetrachloroethene	18.67	164	1192234	256.92	ng		93
38)	Dibromochloromethane	19.16	127	1494788	246.43	ng		97
39)	Chlorobenzene	20.72	112	2114458	253.11	ng		93
40)	Ethylbenzene	20.82	106	828084	246.86	ng		99
41)	m,p-Xylene	21.02	106	2192808	508.26	ng		92
42)	o-Xylene	22.17	106	1041833	248.47	ng		98
43)	Styrene	22.24	104	1662897	255.19	ng		97
44)	Bromoform	23.19	173	1392067	252.38	ng		99
45)	1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07	ng		99
47)	1,4-Dichloro-2-butene	23.18	75	236426	252.06	ng		91
48)	4-Ethyltoluene	24.45	105	2605946	232.33	ng		94
49)	1,3,5-Trimethylbenzene	24.54	105	2118334	245.40	ng		88
50)	2-Chlorotoluene	24.65	91	2752179	249.41	ng		95
51)	1,2,4-Trimethylbenzene	25.49	105	2247221	249.50	ng		95
52)	1,3-Dichlorobenzene	26.42	146	1912389m	257.41	ng		94
53)	1,4-Dichlorobenzene	26.62	146	2017612	257.73	ng	#	94
54)	1,2-Dichlorobenzene	27.40	146	1754592	258.27	ng	#	93
55)	1,2,4-Trichlorobenzene	30.58	180	1361919	285.69	ng		100
56)	Napthalene	31.13	128	1599490	283.12	ng	#	92
57)	Hexachlorobutadiene	30.81	225	1143710	278.03	ng		99

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

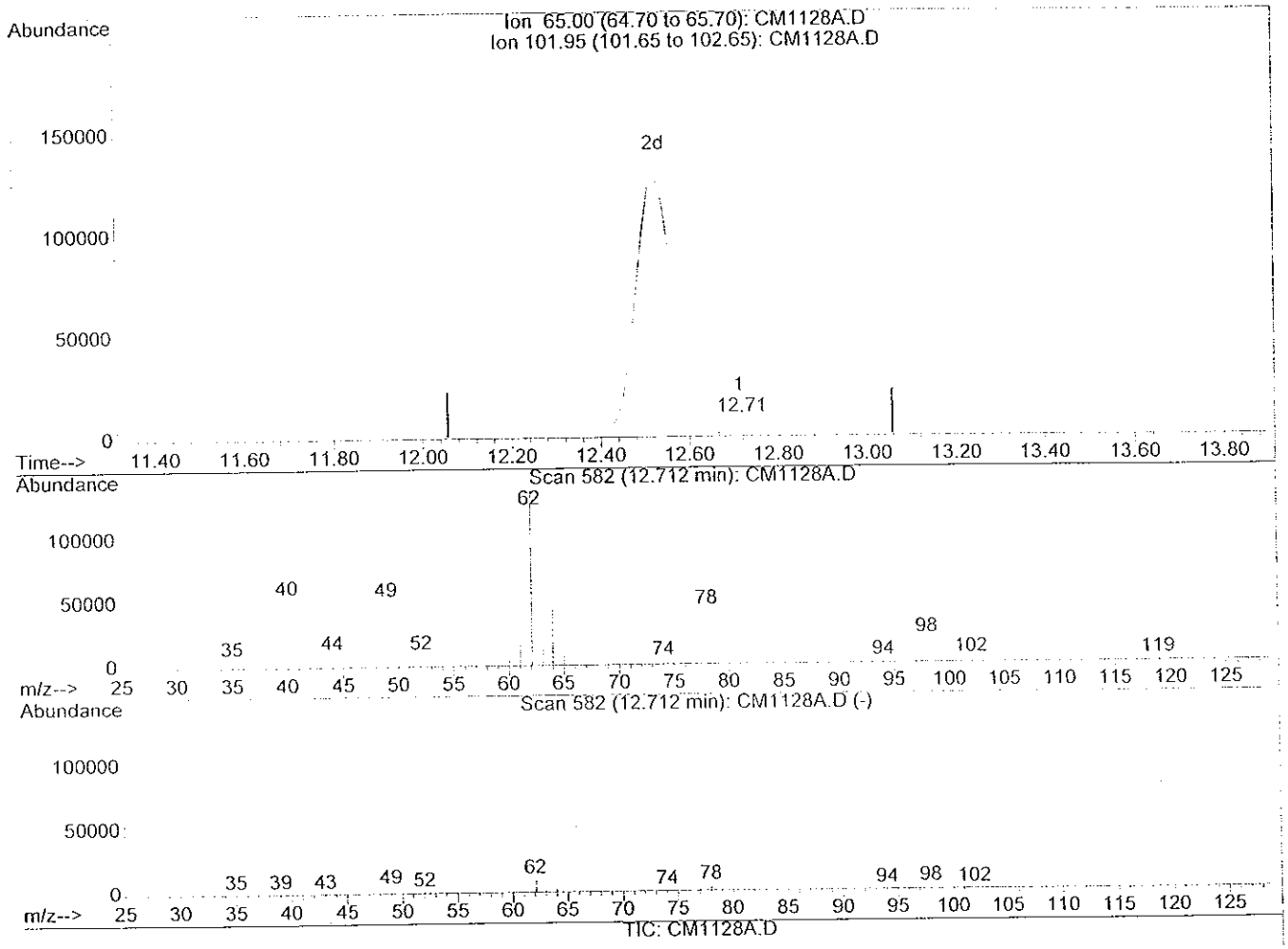
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.71min 15.95ng

response 52538

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.12
0.00	0.00	0.00
0.00	0.00	0.00

before (missed peak)

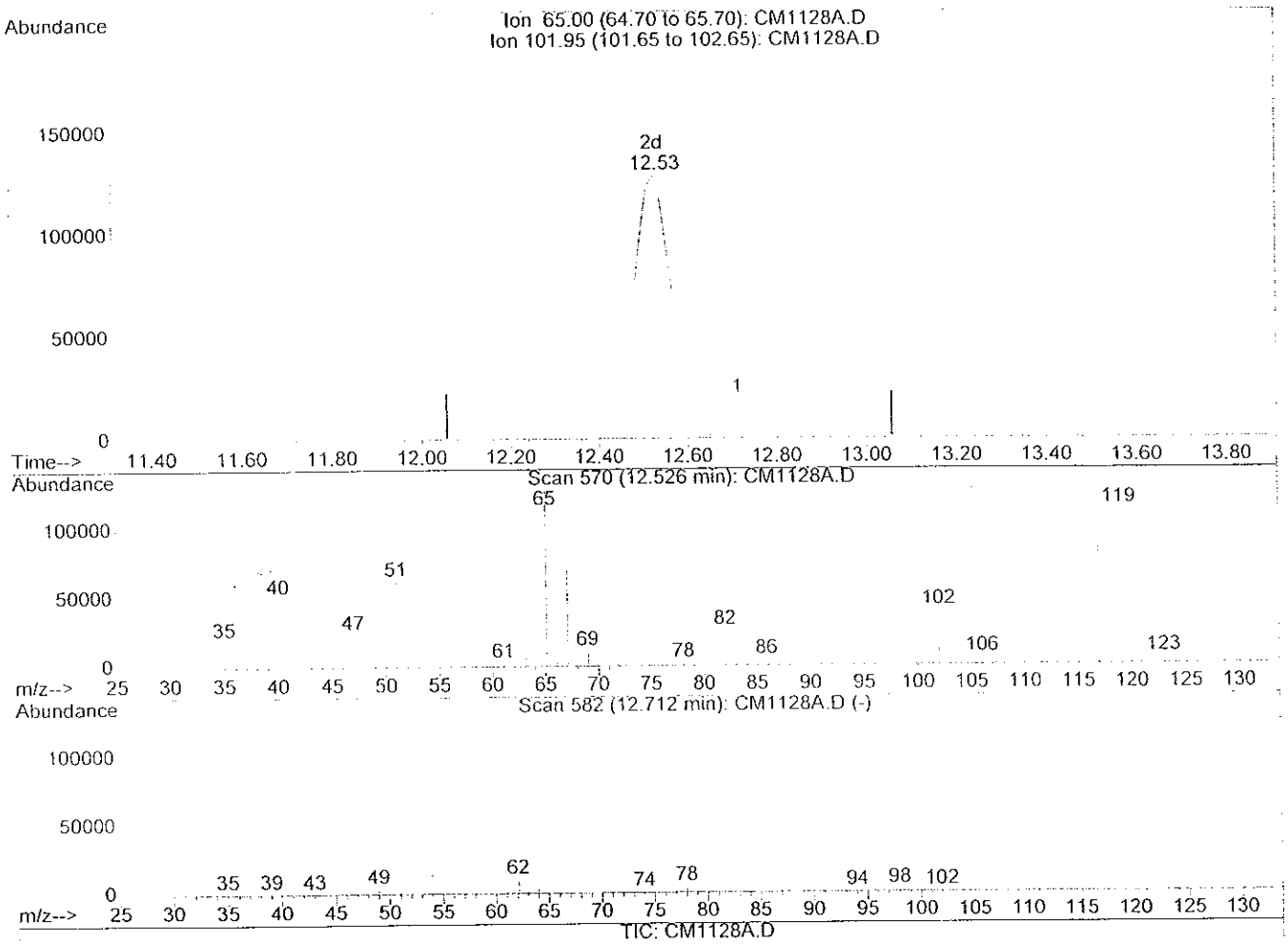
CM1128A.D TO14S.M Wed Nov 28 10:32:05 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.53min 237.19ng m

response 781052

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	1.76#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/28/01

11-29-01

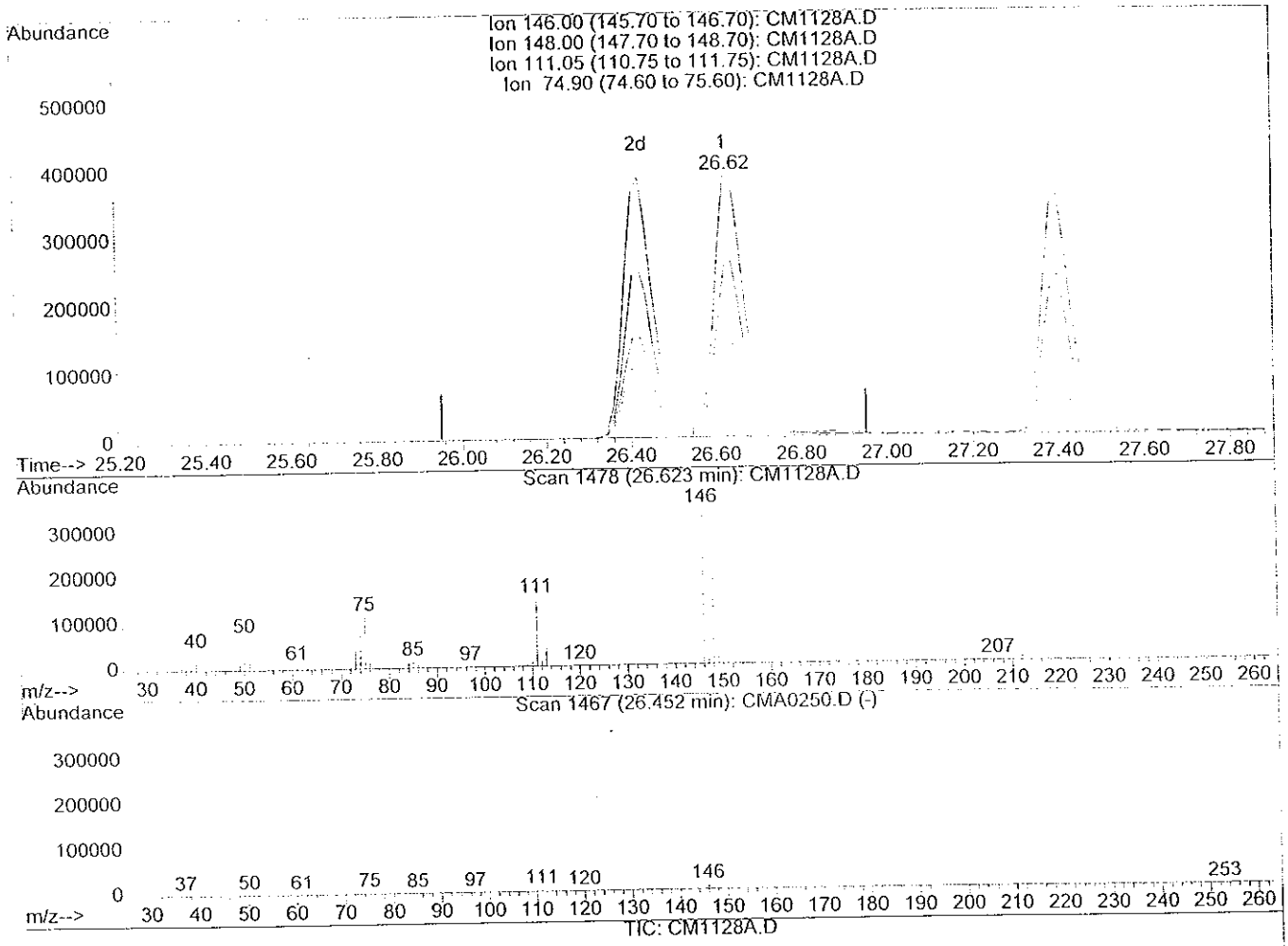
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.62min 261.46ng

response 1942471

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.45
111.05	44.40	37.81
74.90	35.60	28.58

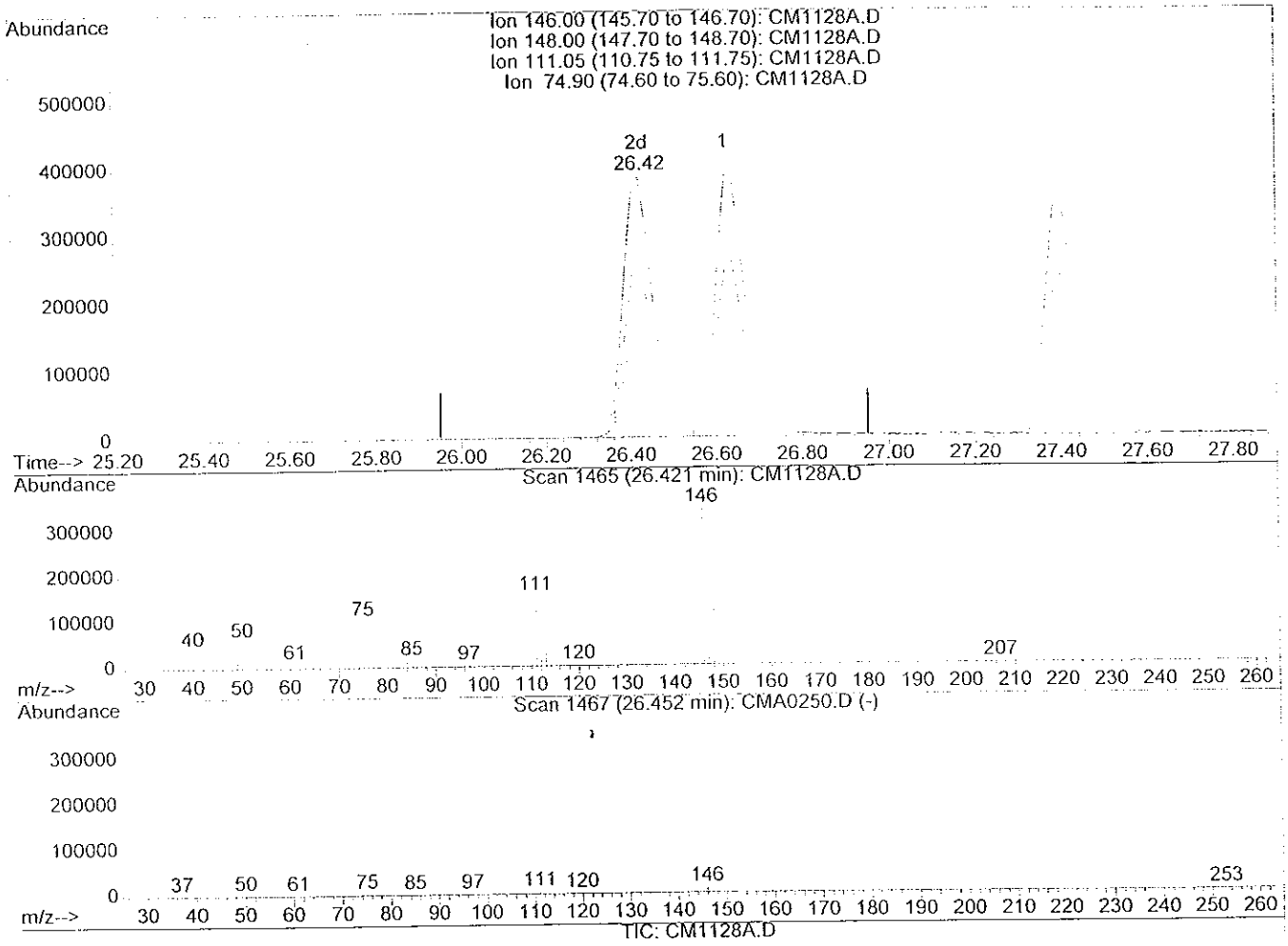
before
(wrong peak)

CM1128A.D TO14S.M Wed Nov 28 10:30:14 2001

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.42min 257.41ng m

response 1912389

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	67.49
111.05	44.40	38.40
74.90	35.60	29.03

after
BD 11/28/01

11-29-01

CM1128A.D TO14S.M Wed Nov 28 10:30:19 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

Original

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00	ng		-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00	ng		-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00	ng		-0.05 103.08%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.71	65	52538	15.95	ng		0.16
Spiked Amount 250.000	Range 61 - 140		Recovery = 6.38%#				
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.03%				
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88	ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19	ng	#	42
4) Chloromethane	4.33	50	680166	253.25	ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32	ng		97
6) Bromomethane	5.38	94	1022044	235.63	ng	#	99
7) Chloroethane	5.49	64	431451	248.53	ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58	ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95	ng		85
12) Methylene chloride	8.07	49	1119090	249.74	ng		98
13) Carbon disulfide	8.23	76	2406192	257.52	ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65	ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14	ng		90
16) n-Hexane	8.72	57	857489	240.98	ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75	ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09	ng		88
19) Chloroform	11.04	83	1909764	246.72	ng		98
20) Isooctane	11.98	57	2704757	225.82	ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39	ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68	ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96	ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09	ng		98
27) Benzene	12.79	78	2240715	252.47	ng		98

ng report

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

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.12	130	1253283	251.50	ng		93
29) 1,2-Dichloropropane	14.50	63	909704	244.44	ng		97
30) Bromodichloromethane	15.04	83	2107004	245.96	ng		99
31) cis-1,3-Dichloropropene	16.25	75	1340162	247.87	ng		98
33) Toluene	17.06	92	1419152	249.16	ng		99
34) trans-1,3-Dichloropropene	17.42	75	1040475	249.76	ng		99
35) 1,1,2-Trichloroethane	17.82	97	847991	244.92	ng		96
37) Tetrachloroethene	18.67	164	1192234	256.92	ng		93
38) Dibromochloromethane	19.16	127	1494788	246.43	ng		97
39) Chlorobenzene	20.72	112	2114458	253.11	ng		93
40) Ethylbenzene	20.82	106	828084	246.86	ng		99
41) m,p-Xylene	21.02	106	2192808	508.26	ng		92
42) o-Xylene	22.17	106	1041833	248.47	ng		98
43) Styrene	22.24	104	1662897	255.19	ng		97
44) Bromoform	23.19	173	1392067	252.38	ng		99
45) 1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07	ng		99
47) 1,4-Dichloro-2-butene	23.18	75	236426	252.06	ng		91
48) 4-Ethyltoluene	24.45	105	2605946	232.33	ng		94
49) 1,3,5-Trimethylbenzene	24.54	105	2118334	245.40	ng		88
50) 2-Chlorotoluene	24.65	91	2752179	249.41	ng		95
51) 1,2,4-Trimethylbenzene	25.49	105	2247221	249.50	ng		95
52) 1,3-Dichlorobenzene	26.62	146	1942471	261.46	ng		94
53) 1,4-Dichlorobenzene	26.62	146	2017612	257.73	ng	#	94
54) 1,2-Dichlorobenzene	27.40	146	1754592	258.27	ng	#	93
55) 1,2,4-Trichlorobenzene	30.58	180	1361919	285.69	ng		100
56) Napthalene	31.13	128	1599490	283.12	ng	#	92
57) Hexachlorobutadiene	30.81	225	1143710	278.03	ng		99

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

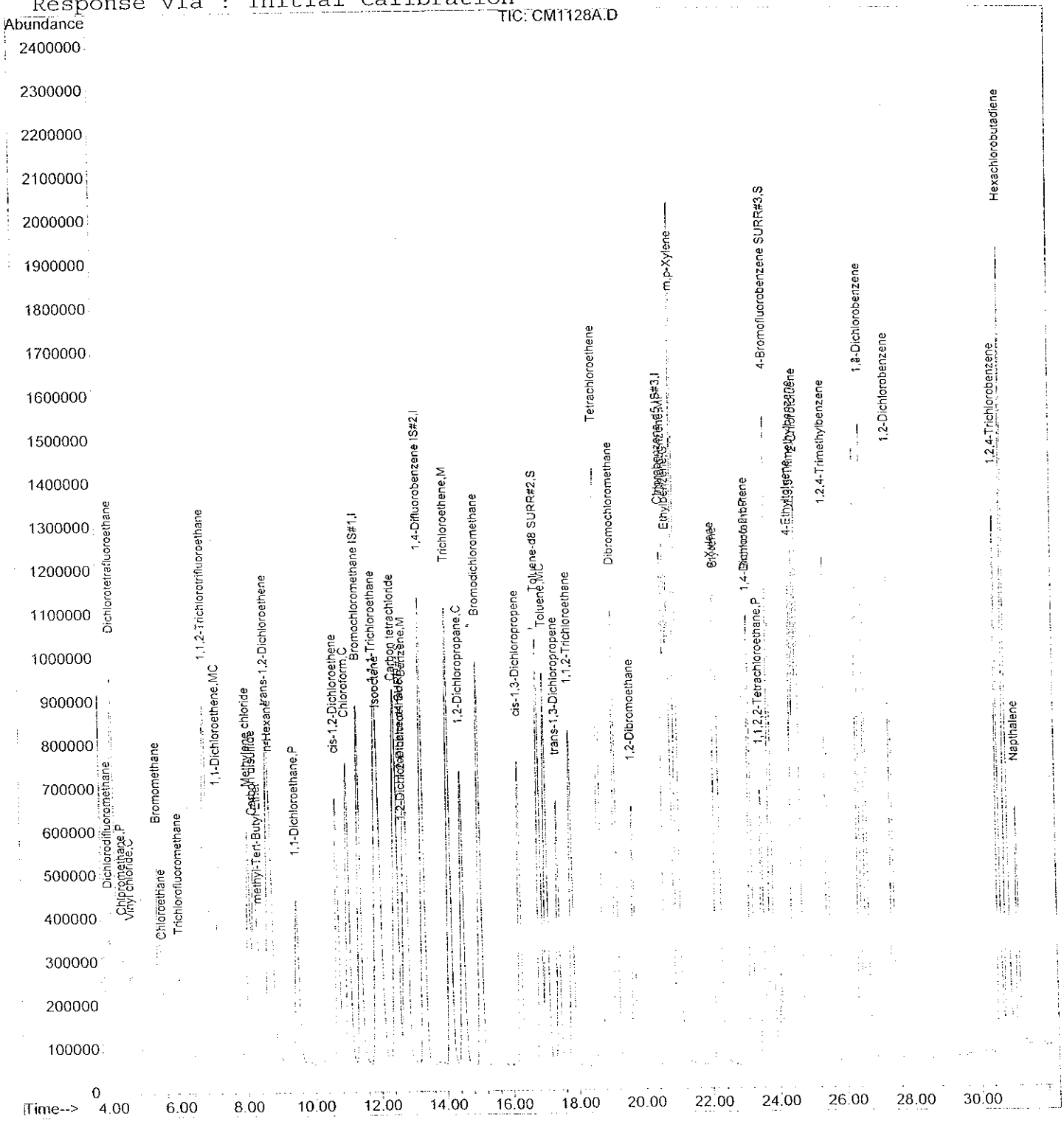
Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:38 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00	ng	0.03 93.25%
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00	ng	0.05 90.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00	ng	0.03 91.10%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%			
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79	ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%			
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%			

Target Compounds Qvalue

no hits

(#) = qualifier out of range (m) = manual integration
MA241ABK.D TO14S.M Wed Nov 28 11:38:13 2001 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00	ng	0.03
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00	ng	93.25% 0.05
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00	ng	90.52% 0.03
						91.10%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%			
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79	ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%			
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%			
Target Compounds						Qvalue
4) Chloromethane	4.56	50	1964	0.78	ng	# 7
6) Bromomethane	5.35	94	2142	0.53	ng	# 9
14) methyl-Tert-Butyl Ether	8.41	73	1082	0.28	ng	# 52
24) 1,2-Dichloroethane	12.79	62	1013	0.30	ng	# 49
27) Benzene	12.81	78	3036	0.38	ng	# 54
39) Chlorobenzene	20.75	112	3314	0.44	ng	# 20
55) 1,2,4-Trichlorobenzene	30.64	180	5001	1.15	ng	# 83
56) Napthalene	31.19	128	25740	10.84	ng(c.o.)	# NR 64

ng report

CRL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA241ABK.D TO14S.M Wed Nov 28 11:31:22 2001

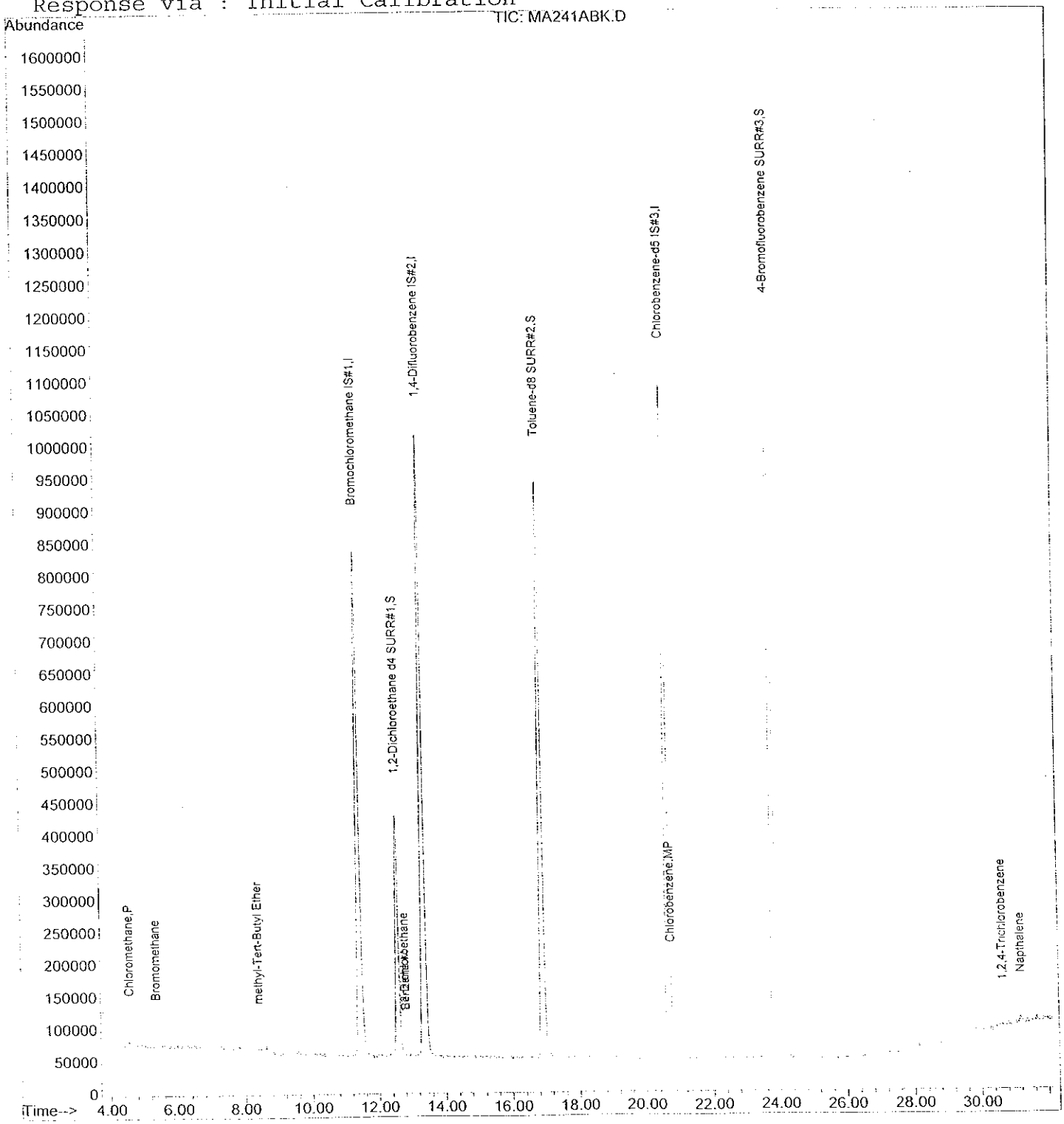
Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 13:27 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BA 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00	ng		0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00	ng		0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00	ng		0.04 101.06%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25	ng		0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.50%				
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14	ng		0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.26%				
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08	ng		0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.43%				
Target Compounds							Qvalue
10) 1,1-Dichloroethene	7.19	96	816654	231.01	ng		86
27) Benzene	12.83	78	2347061	260.31	ng		98
28) Trichloroethene	14.14	130	1347269	266.13	ng		93
33) Toluene	17.09	92	1528943	264.23	ng		98
39) Chlorobenzene	20.76	112	2277420	269.75	ng	#	85

ng report

(#) = qualifier out of range (m) = manual integration
MA241LCS.D TO14S.M Wed Nov 28 13:27:55 2001 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00	ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00	ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00	ng	0.04 101.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.50%			
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14	ng	0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.26%			
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08	ng	0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.43%			
Target Compounds						Qvalue
4) Chloromethane	4.57	50	940	0.34	ng	# 11
6) Bromomethane	5.45	94	5513	1.25	ng	# 9
10) 1,1-Dichloroethene	7.19	96	816654	231.01	ng	86
14) methyl-Tert-Butyl Ether	8.37	73	10536	2.50	ng	# 52
24) 1,2-Dichloroethane	12.81	62	19716	5.28	ng	# 49
25) 1,2-Dibromoethane	19.72	107	7064	1.21	ng	85
27) Benzene	12.83	78	2347061	260.31	ng	98
28) Trichloroethene	14.14	130	1347269	266.13	ng	93
33) Toluene	17.09	92	1528943	264.23	ng	98
34) trans-1,3-Dichloropropene	17.08	75	13103	3.10	ng	# 1
35) 1,1,2-Trichloroethane	17.86	97	1093	0.31	ng	# 14
39) Chlorobenzene	20.76	112	2277420	269.75	ng	# 85
44) Bromoform	23.23	173	13171	2.36	ng	# 64
45) 1,1,2,2-Tetrachloroethane	23.55	83	25476	5.10	ng	# 94
48) 4-Ethyltoluene	24.58	105	972	0.09	ng	# 46
49) 1,3,5-Trimethylbenzene	24.58	105	972	0.11	ng	# 30
50) 2-Chlorotoluene	24.70	91	1970	0.18	ng	# 47
51) 1,2,4-Trimethylbenzene	25.91	105	9172	1.01	ng	# 31
52) 1,3-Dichlorobenzene	26.46	146	940	0.13	ng	# 27
53) 1,4-Dichlorobenzene	26.67	146	1049	0.13	ng	# 27
54) 1,2-Dichlorobenzene	27.43	146	3680	0.54	ng	# 55
55) 1,2,4-Trichlorobenzene	30.63	180	24674	5.12	ng	# 90
56) Napthalene	31.18	128	87878	21.02	ng	# 87

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57) Hexachlorobutadiene	30.87	225	52072	12.53	ng	96

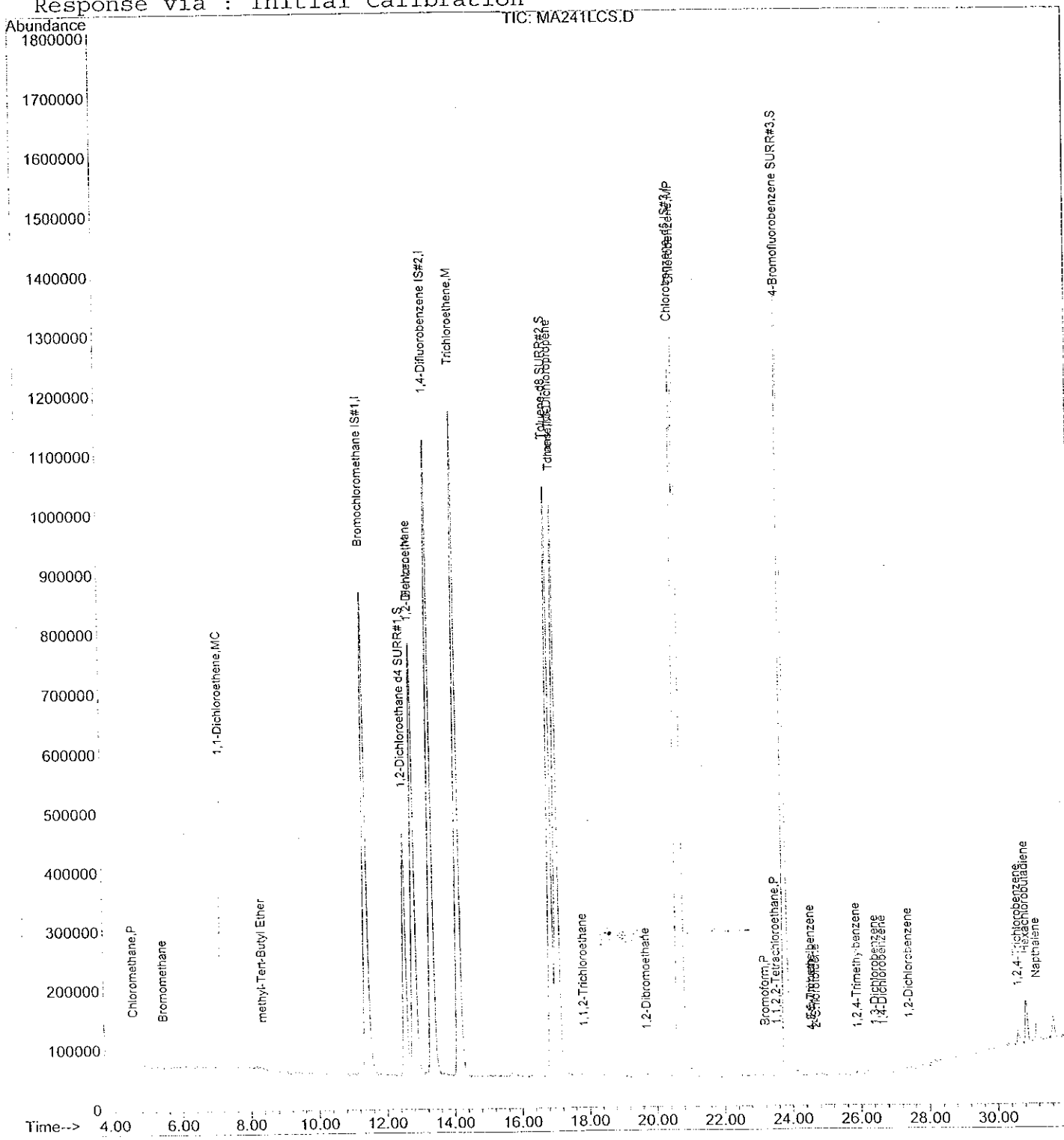
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : ~~GC/MS~~ Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BA 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00	ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00	ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00	ng	0.00 107.67%

mg/m3 report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.14%			
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.83%			
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.11%			

Target Compounds						Qvalue
20) Isooctane	11.94	57	133954	NR 0.04	ng	81
27) Benzene	12.80	78	32453	0.01	ng	72
33) Toluene	17.06	92	70159	0.05	ng	97 F
41) m,p-Xylene	21.03	106	57137	0.05	ng	99 F
42) o-Xylene	22.17	106	14664	0.01	ng	92
48) 4-Ethyltoluene	24.40	105	31777	0.01	ng	81
56) Napthalene	31.09	128	10078	NR 0.03	ng	64 F

(#) = qualifier out of range (m) = manual integration
115561.D TO14S.M Wed Nov 28 16:03:11 2001 Page 1

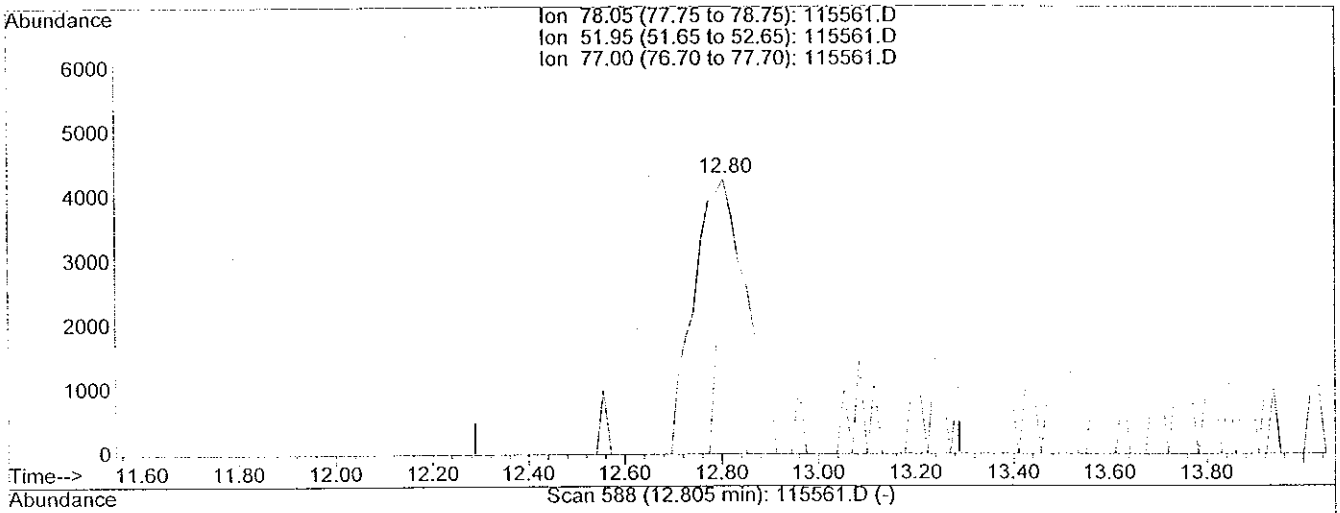
Quantitation Report (Qedit)

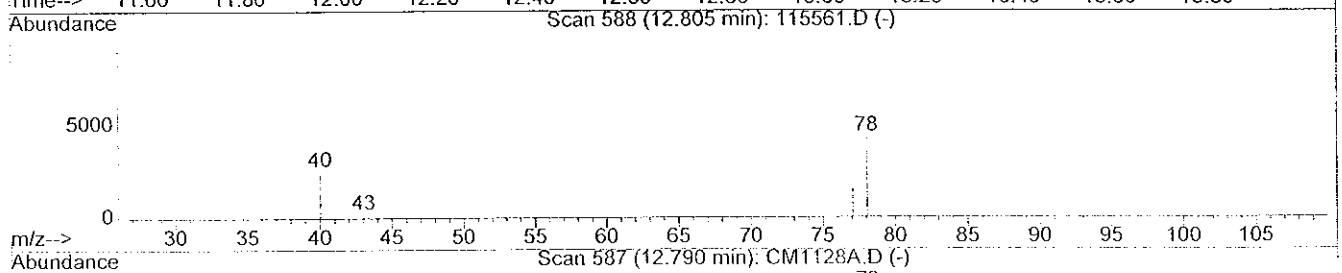
Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

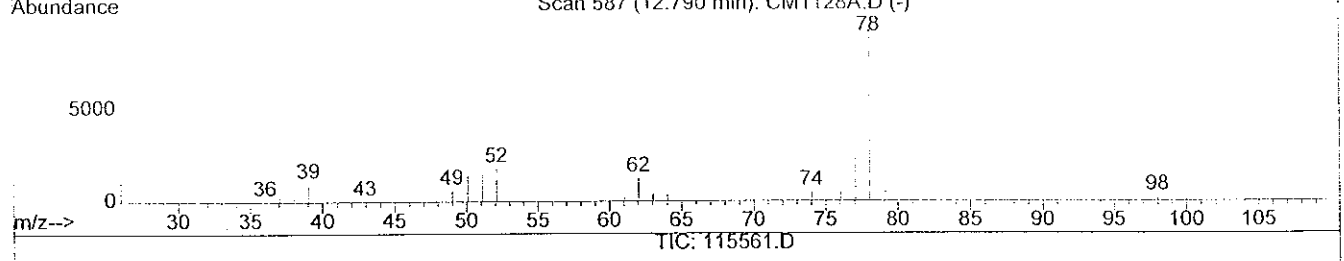
Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration







TIC: 115561.D

(27) Benzene (M)

12.80min 3.42ng

response 32453

Ion	Exp%	Act%
78.05	100	100
51.95	18.10	0.00#
77.00	24.80	15.51#
0.00	0.00	0.00

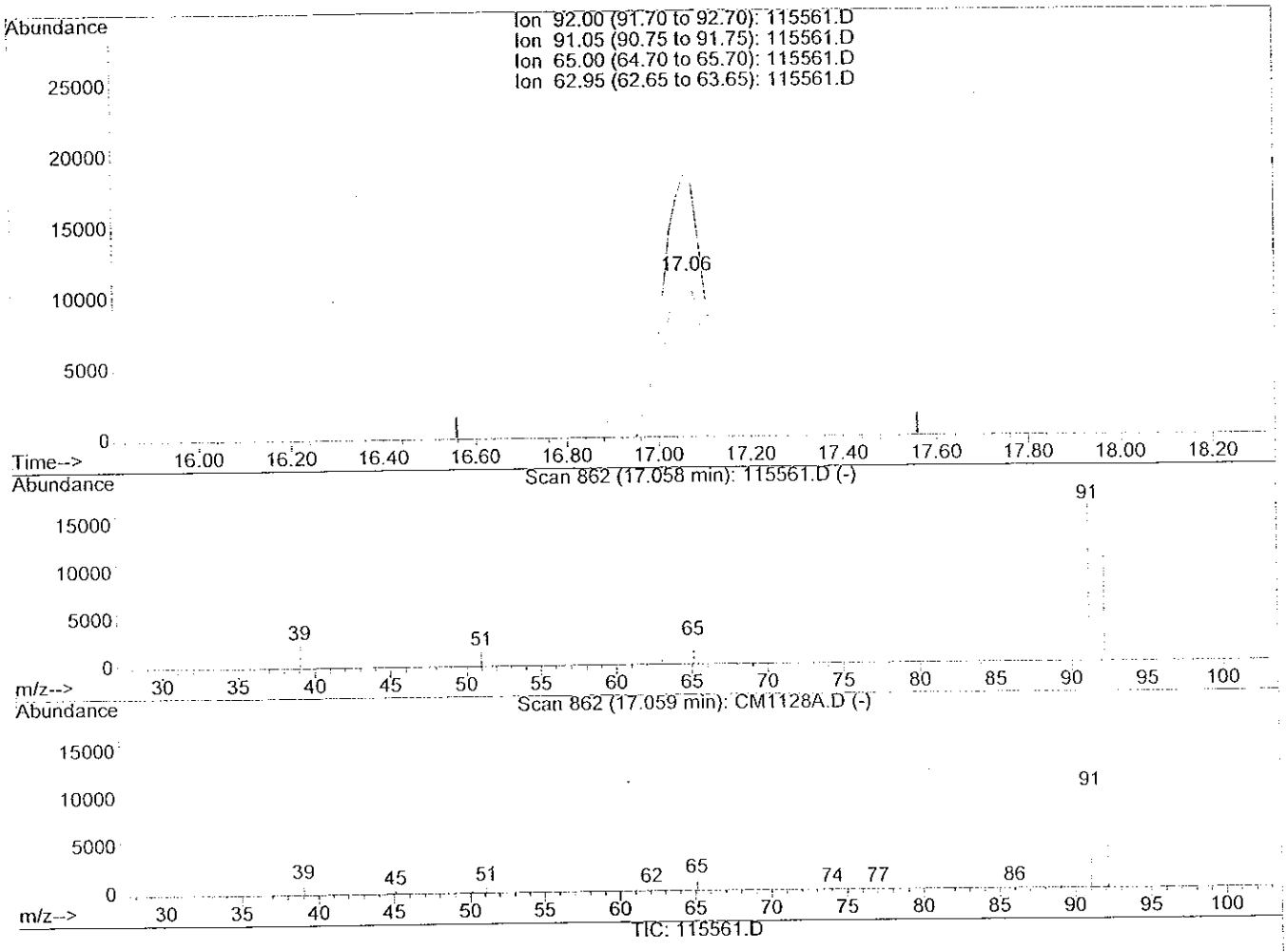
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(33) Toluene (MC)

17.06min 11.53ng

response 70159

Ion	Exp%	Act%
92.00	100	100
91.05	165.10	167.52
65.00	20.80	19.74
62.95	14.20	8.83#

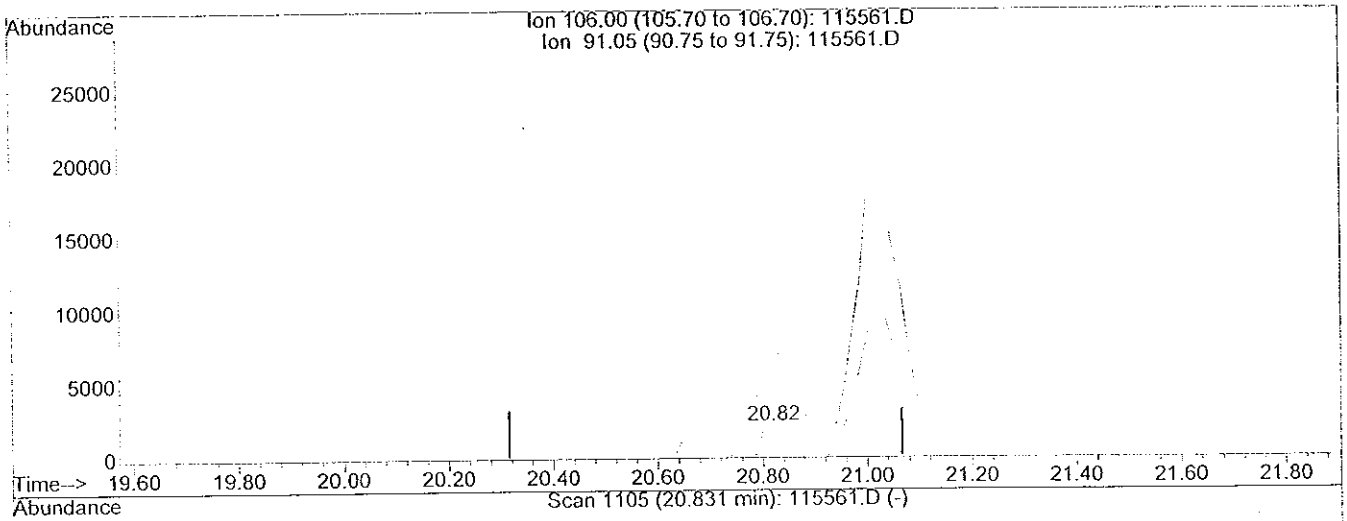
Quantitation Report (Qedit)

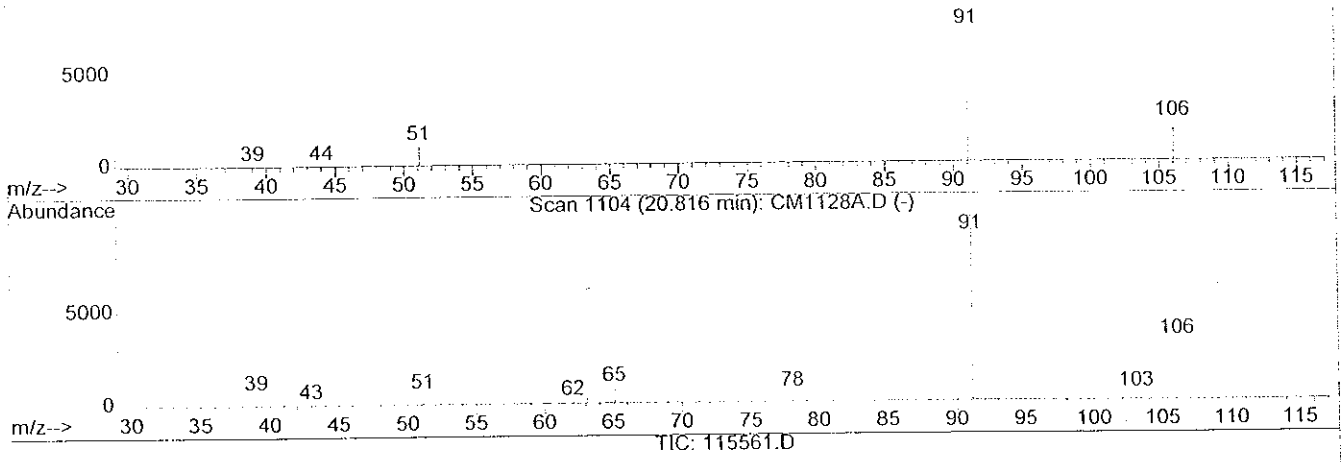
Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration





(40) Ethylbenzene (C)

20.82min 2.27ng

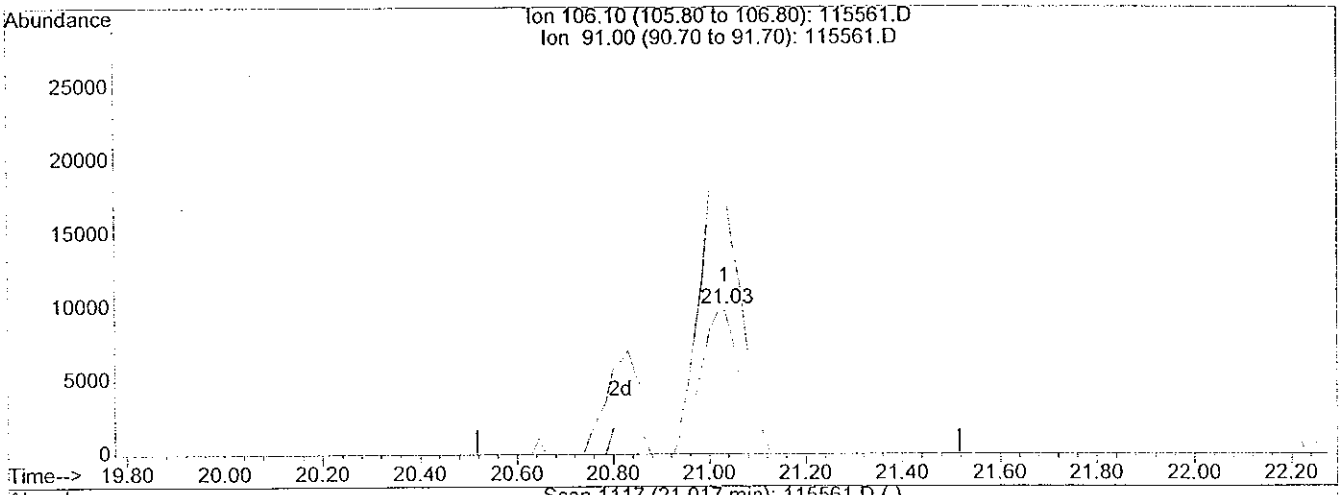
response 8193

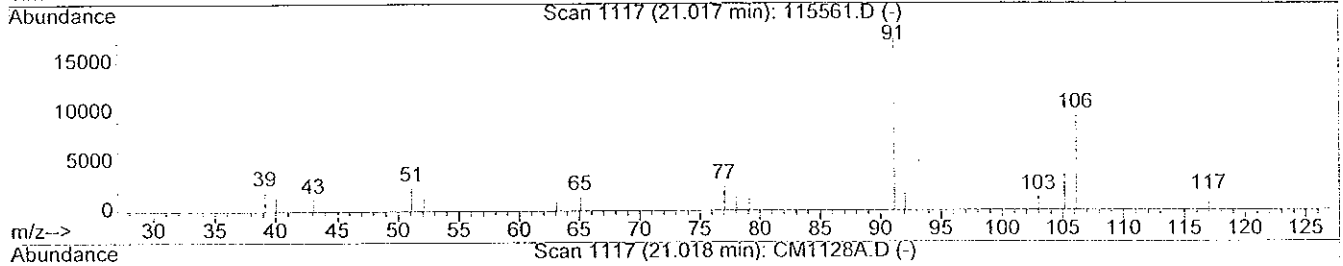
Ion	Exp%	Act%
106.00	100	100
91.05	332.50	486.26#
0.00	0.00	0.00
0.00	0.00	0.00

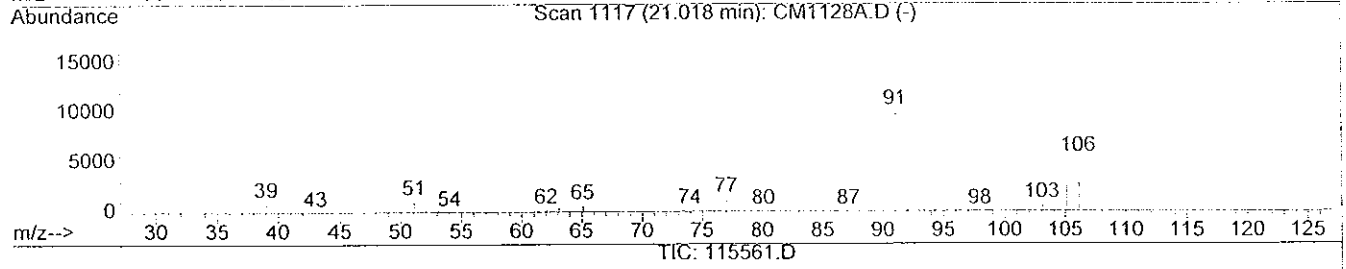
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration







(41) m,p-Xylene

21.03min 12.30ng

response 57137

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	206.95
0.00	0.00	0.00
0.00	0.00	0.00

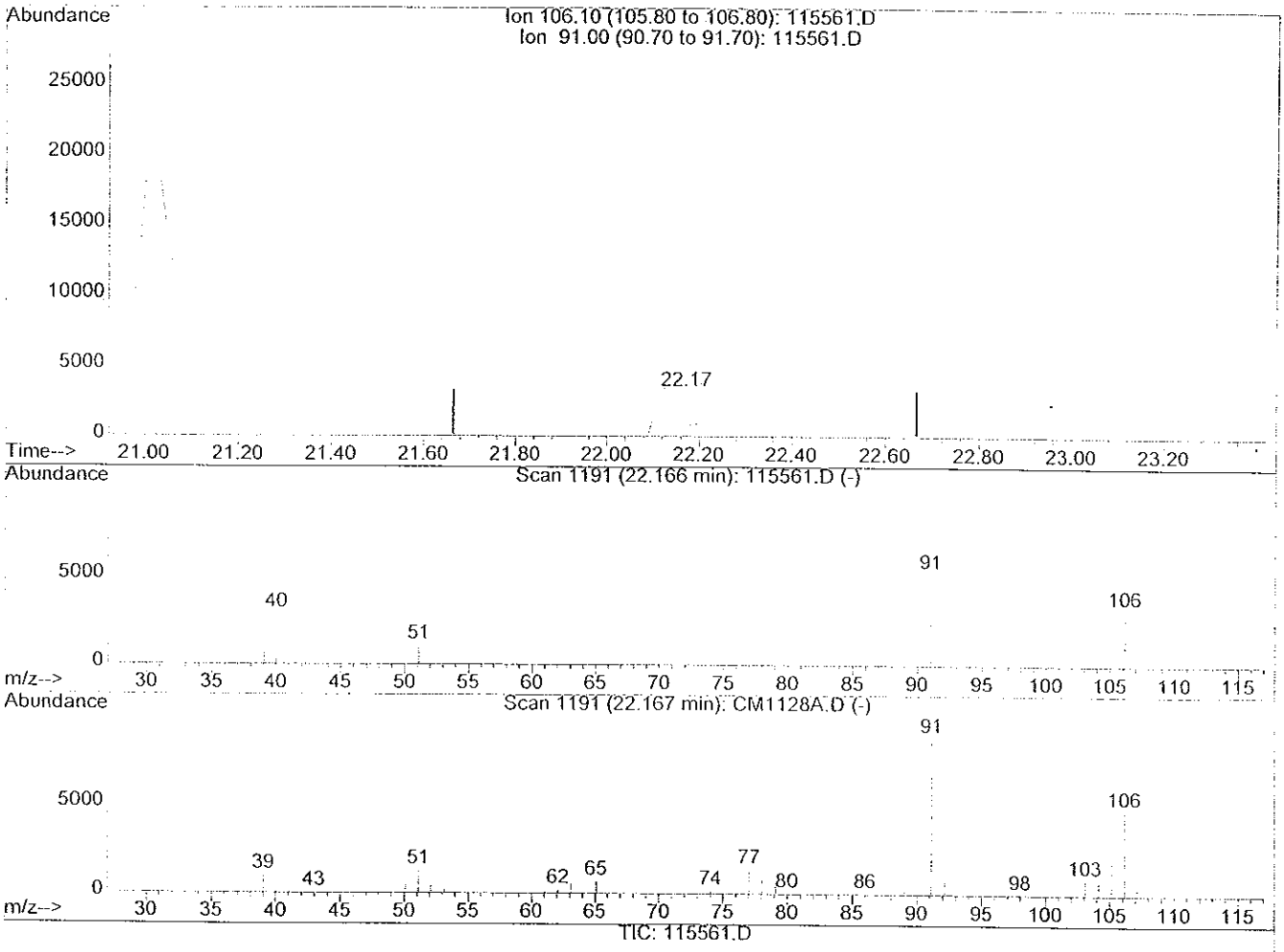
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.17min 3.25ng

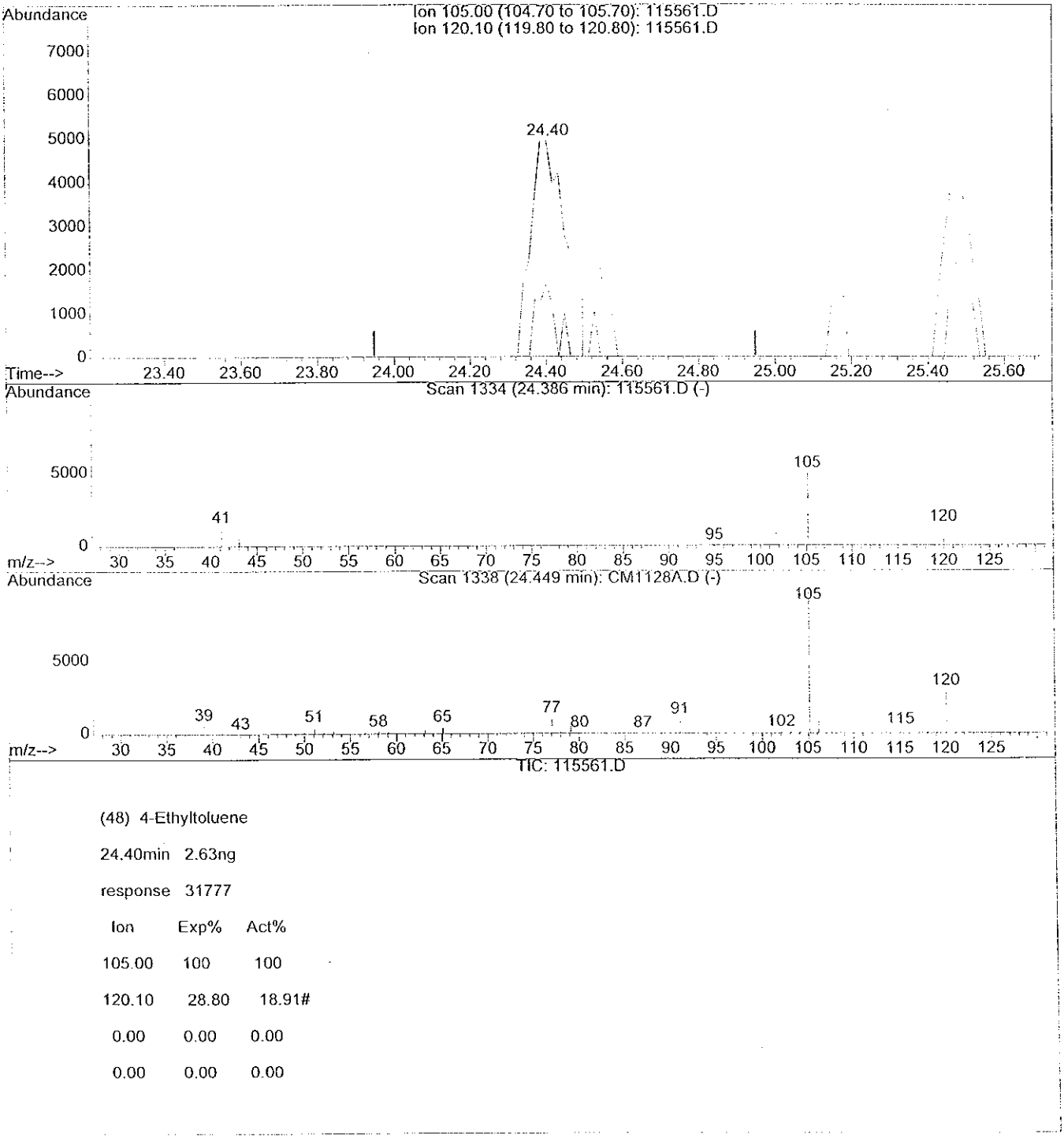
response 14664

Ion	Exp%	Act%
106.10	100	100
91.00	215.80	229.19
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.40min 2.63ng

response 31777

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

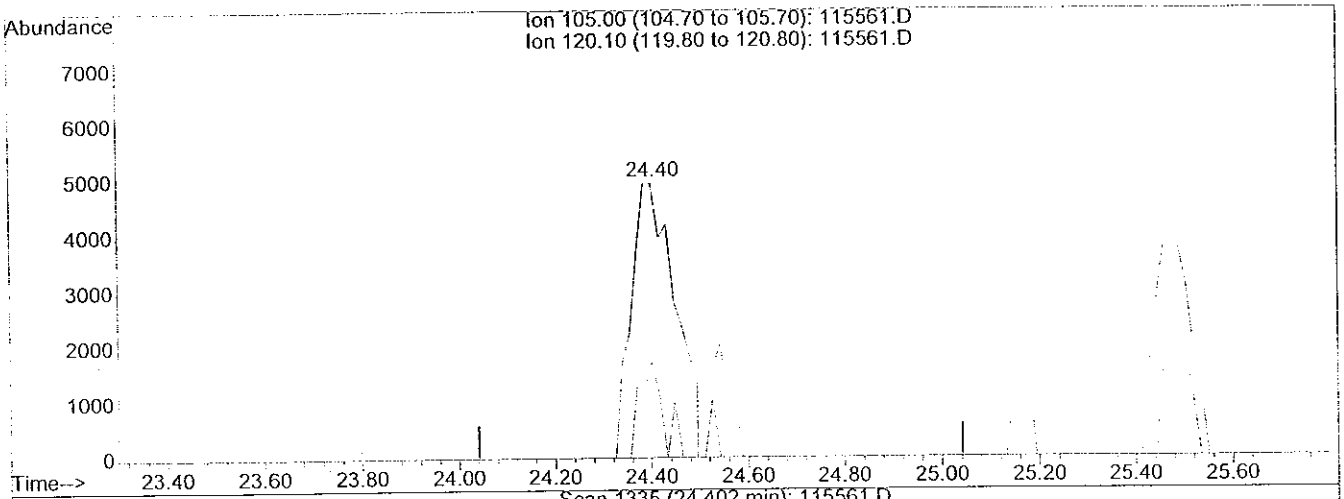
Quantitation Report (Qedit)

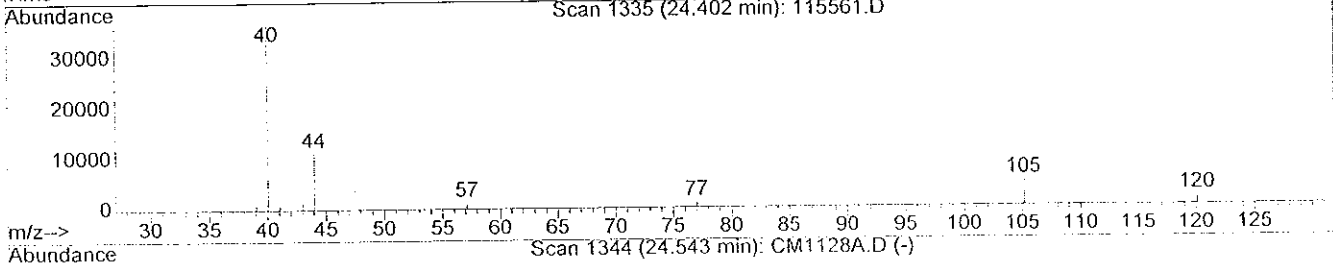
Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

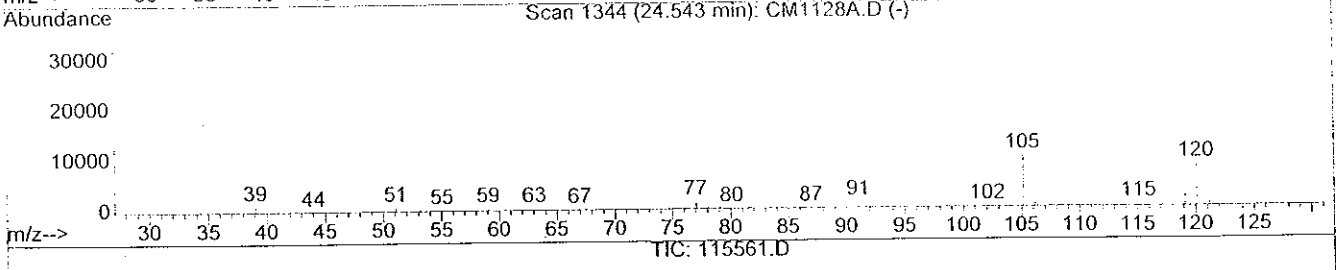
Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration







(49) 1,3,5-Trimethylbenzene

24.40min 3.42ng

response 31777

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

before (wrong peak)

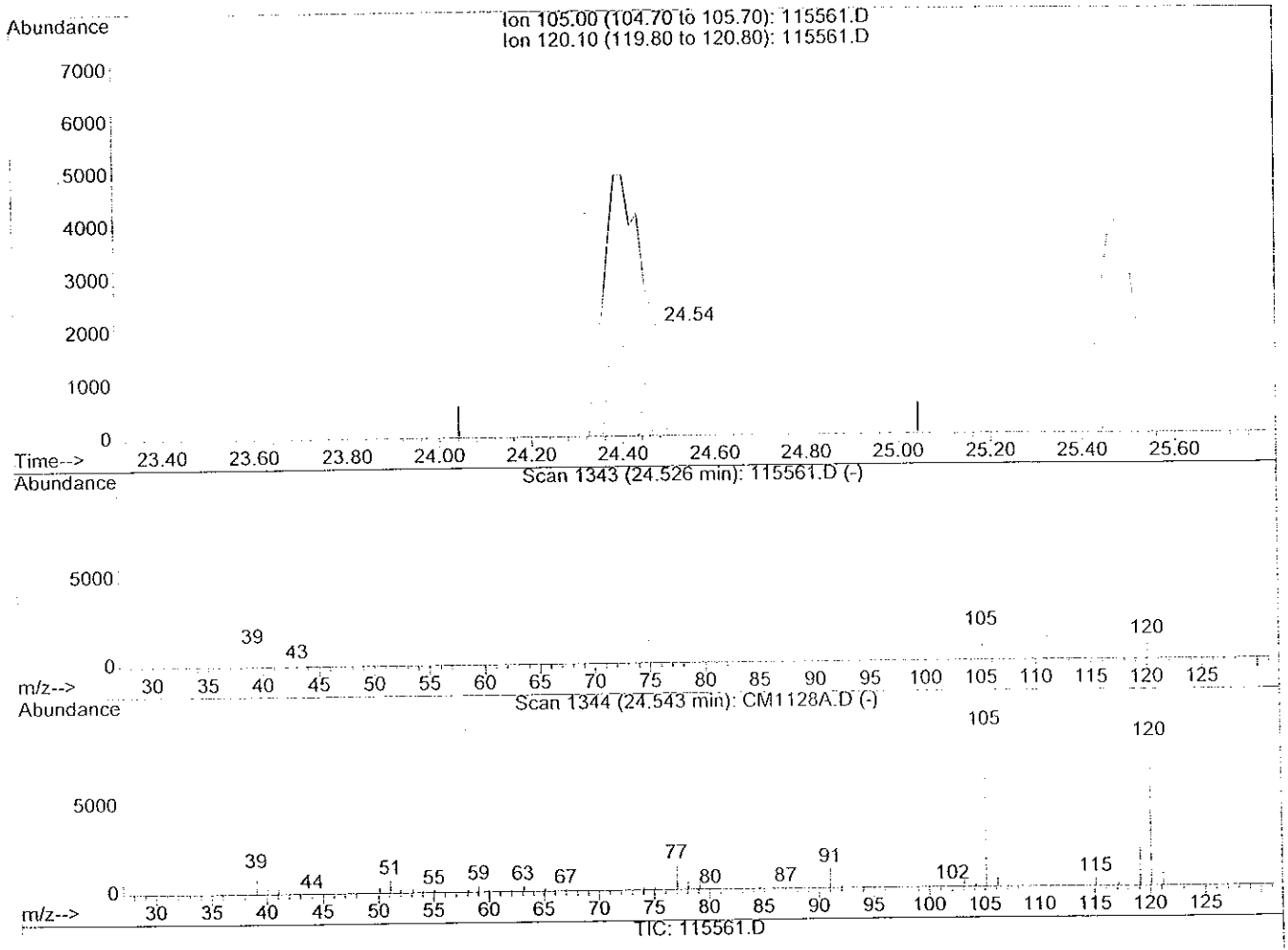
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.54min 0.74ng m

response 6857

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	87.62#
0.00	0.00	0.00
0.00	0.00	0.00

after BH 11/28/01

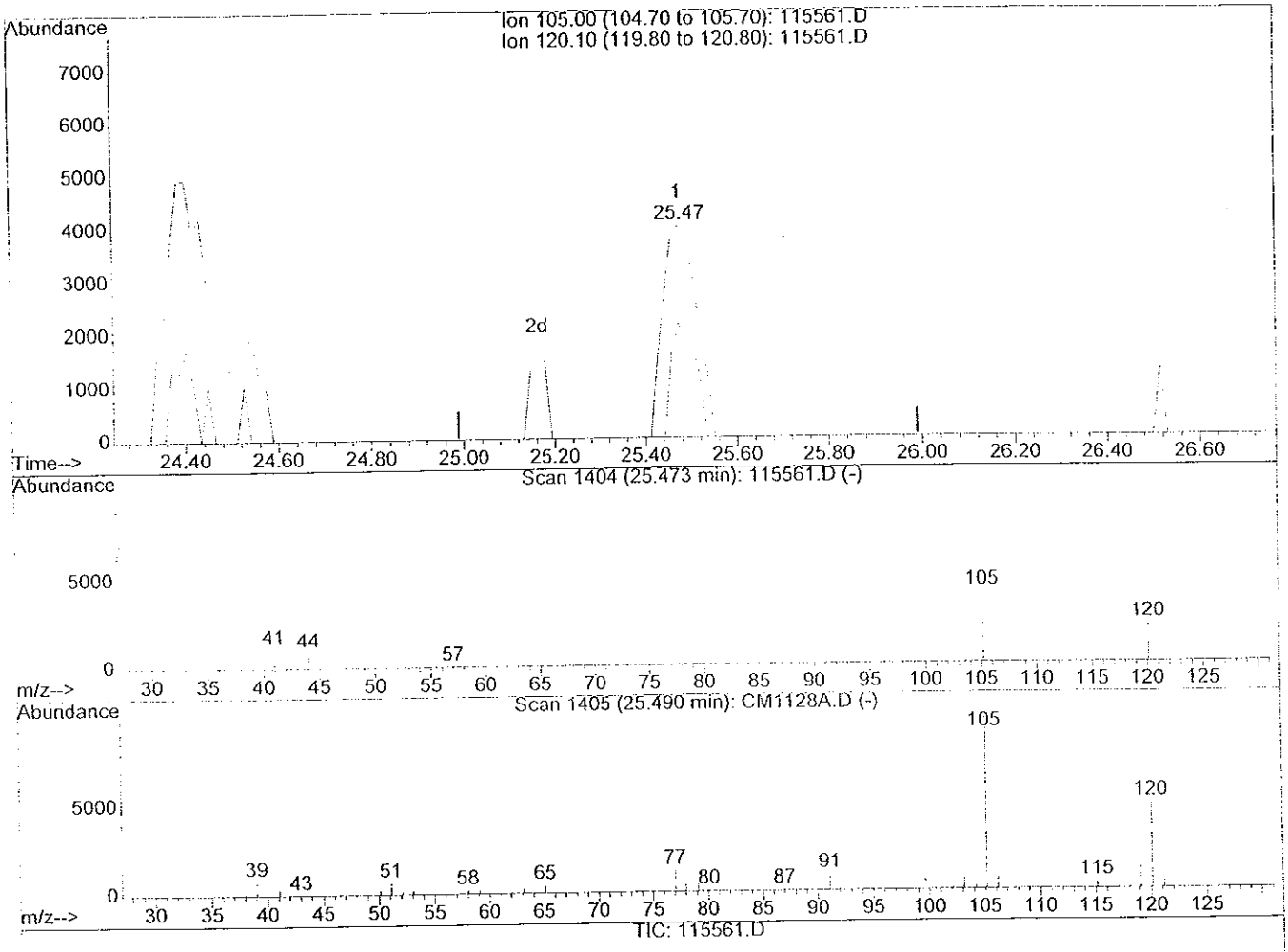
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(51) 1,2,4-Trimethylbenzene

25.47min 2.11ng

response 20485

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	37.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 15:56 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00	ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00	ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00	ng	0.00 107.67%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.14%			
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.83%			
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.11%			

Target Compounds						Qvalue
6) Bromomethane	5.40	94	1218	0.25	ng	# 9
10) 1,1-Dichloroethene	7.17	96	978	0.25	ng	# 1
15) trans-1,2-Dichloroethene	8.92	96	952	0.23	ng	# 1
16) n-Hexane	8.72	57	39205	9.90	ng	# 3
20) Isooctane	11.94	57	133954	10.05	ng	81
24) 1,2-Dichloroethane	12.74	62	1936	0.47	ng	# 49
27) Benzene	12.80	78	32453	3.42	ng	# 72
33) Toluene	17.06	92	70159	11.53	ng	# 97
40) Ethylbenzene	20.82	106	8193	2.27	ng	# 27
41) m,p-Xylene	21.03	106	57137	12.30	ng	99
42) o-Xylene	22.17	106	14664	3.25	ng	92
48) 4-Ethyltoluene	24.40	105	31777	2.63	ng	# 81
49) 1,3,5-Trimethylbenzene	24.40	105	31777	3.42	ng	# 58
51) 1,2,4-Trimethylbenzene	25.47	105	20485	2.11	ng	89
56) Napthalene	31.09	128	10078	7.57	ng	# 64

(#) = qualifier out of range (m) = manual integration
115561.D TO14S.M Wed Nov 28 15:56:10 2001

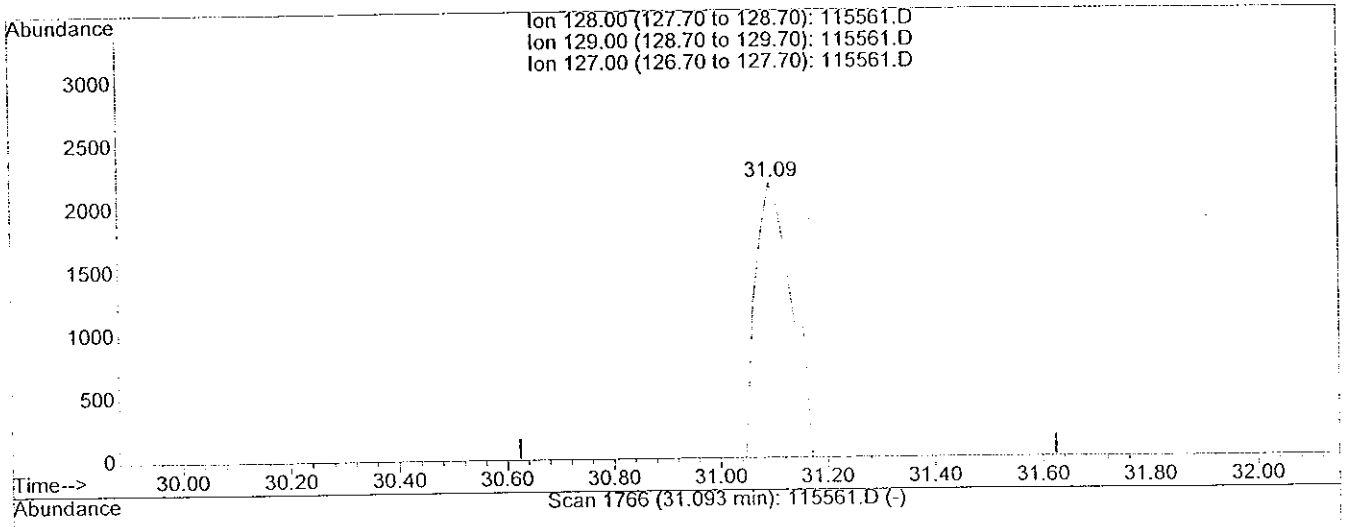
Quantitation Report (Qedit)

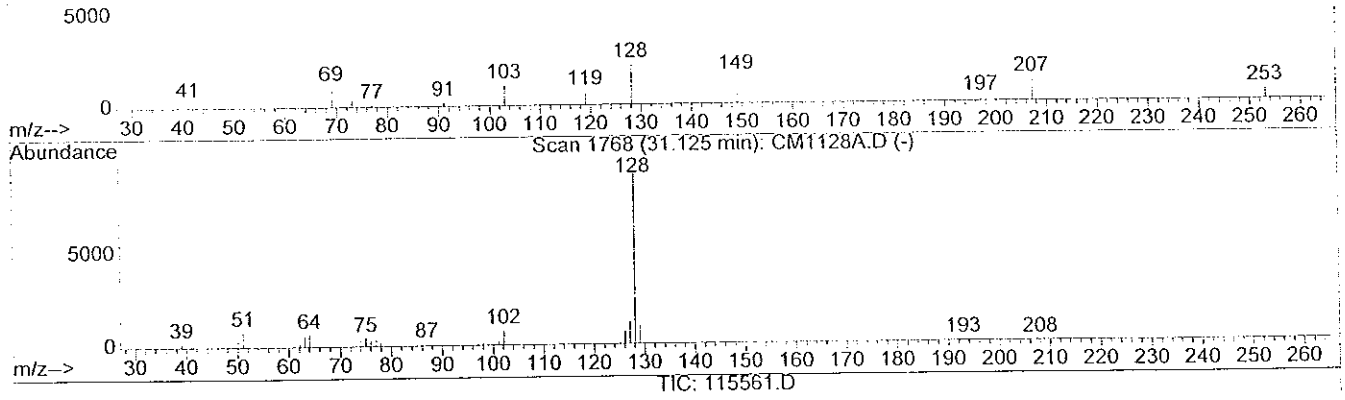
Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration





(56) Napthalene

31.09min 7.57ng

response 10078

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	0.00#
127.00	15.10	0.00#
0.00	0.00	0.00

STL Pensacola / GCMS Volatiles Run Log

Date 11-28-01
Batch MAB241 (1) 2 3
BS# 8 -MSW- 26 - 3
FB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch ____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- - -

Method : (TO14) /8260AIR /8260WATER /624MOD
Batch ____ 1 2 3
AIR-SPK 8 -MSW- 23 - 3
W-SPK -MSW- - -

Maint. ___
Sequence cont. on page ___

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:31	14	TO14S.m	CM 1128A	50ppb		Y N	W	YES	BDF	Daily Cal Check/bfb tune/95 ion area = 2,063,000
10:59	15		MA241A BK	ST		Y N				Daily Method Blank
11:36	16		MA241 LCS	50ppb		Y N				Batch# 241 LCS
:	1		QC228	ST.		Y N	A (TO14)			500mls QC CAN check # 228
12:31	2		11586-1	X500		Y N		YES		1.0ml
13:08	3		11552-1	X500		Y N				1.0ml
13:42	4		-2			Y N				re-run X50
14:16	5		-3			Y N				
15:23	1		11556-1	ST		Y N				500mls
:	1		11557-1	ST.		Y N				
:	1		QC228	ST.		Y N				
14:50	6		11552-2R	X50		Y N				10mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

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

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD | Maint. ___

Batch MA8235 1 2 3 | Batch ___ 1 2 3 | Batch 1 2 3 | Sequence cont. on page

ICS# 8 -MSW- 26 - 3 | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 23 - 3

BFB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- -

TIME	POS	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47	13	BFBSTL	BFM11221	50ppb		Y N	W	Yes	BAA	Daily BFB Tune 1,136,000
15:25		TO14.m	CM	50ppb		Y N				Daily Cal Check/bfb tune 95 ion area =
13:34	15		MA235A BK	ST		Y N				Daily Method Blank
18:48	7		MA235 LCS	50ppb		Y N				Batch# 235 LCS
19:11	14		CMA0025	5ppb		Y N				25 ng. ICAL
14:48	15		CMA0100	20ppb		Y N				100 ng
15:25	16		CMA0250	50ppb		Y N				250 ng
16:03	1	↓	CMA0500	100ppb		Y N	↓			500 ng
16:36	2	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000 ng ICAL
17:31	4	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300 ng ICAL
18:26	6	BFBSTL	BLKTUBE	—		Y N	—			MPM C.O. cleanup
18:46	7	TO14.m	MA235LCS	50ppb		Y N	W			Batch #235 LCS
19:25	8		11447-1	X10		Y N	A(TO14)			50mls - BAA
20:02	9		-2			Y N				
20:40	10		-3			Y N				
21:17	11		~~-4~~			Y N				
21:54	12		-5			Y N				
22:32	13		11511-1			Y N				
23:09	14	↓	-2	↓		Y N	↓	↓	↓	
:						Y N				
:						Y N				BAA 11/22/01
:						Y N				

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

** ICAL and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst/Date Rep ~~DATE OPENED~~	LOG I.D.	# of Impl
502C	A8040136	Acc STD	2000 µg/ml	7/1999	DWJ 5/15/98	7-VN 2-1	3
502A-R	A7040270	Acc STD	2000 µg/ml	7/1999	DWJ 5/28/98	7-VN 2-2	4
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	DWJ 5/28/98	7-VN 2-3	10
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWJ 5/29/98	7-VN 2-4	10
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	10
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWJ 6/16/98	7-VN 2-6	5
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	7-VN 2-7	10
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	~~DWJ~~ 7/28/98	7-VN 2-9	
8260 Surr	A11719	Restek	2500 µg/ml	8/2001	DWJ 10/6/98	7-VN 2-10	10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWJ 10/6/98	7-VN 2-11	10
Matrix Spike	LA76020	Supleco	25 µg/ml	8/2000	DWJ 10/7/98	7-VN 2-12	10
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DWJ 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Various	6/2000	DWJ 11/10	7-VN 2-14	1
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	10
2-Chloro ethyl vinyl ether	A8090342-2B	Accustandard	200.1 µg/ml	9/99	DWJ 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-19	7
Custom Keytone Mix	LA011115	Resteck	2000 µg/ml	3/2000	DWJ 3/10/99	7-VN 2-20	5
8260 Volatile Kit	Various	Resteck	Various	6/2001	DWJ 3/10/9	7-VN 2-21	
8260 Cali Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWJ 5/10/99	7-VN 2-22	
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-23	
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-24	
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWJ 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	DWJ 6/29/99	7-VN 2-27	
Idomethane	LA81867	Supelco	2000	4/2000	DWJ 6/29/99	7-VN 2-28	

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

disposed 6/14

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Away 1st Date Rec'd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWJ 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWJ 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl NAPTHalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	DWJ 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varian	Varian 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

1ml Ampules

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	DATE OPENED*	LOG I.D.
8260 IS STD	A0148111	Restek	2500 µg/ml	2/2003	10	P-VN 1-1
MTBE	A0149181	Restek	2000 µg/ml	6/2003	2	P-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	P-VN 1-3
Carbon Disulf.	LA85601	Supelco	5000 µg/ml	10/2002	2	P-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002 most not opened	5	P-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	P-VN 1-9
8260 Surr	A0142051	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	LA88750	Supelco	2000 µg/ml	5/2001	2	P-VN 1-14
Vinyl Acetate	A0162591	Restek	10,000 µg/ml	4/2001	5	P-VN 1-15
Custom keytone Mix	A0162521	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 µg/ml	10/2001 6 easiest	1	P-VN 1-18
MTBE	A0158501	Restek	2000	10/2003	1	P-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	P-VN 1-20
Carbon Disulfide	LA85805	Supelco	5000	10/2002	1	P-VN 1-21
1&2-Methyl-Naphthalene	LA90411	Supelco	2000	5/10/2001	3	P-VN 1-22
Isopropyl Ether	A0163951	Restek	2000	5/12/2001	3	P-VN 1-23
1&2-Methyl Naphthalene	A0164641	Restek	4000	5/15/2001	5	P-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	P-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/ml	7/1/2001	6/13/03 5 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Revised to 4-13-

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89847	Supleco	2000 µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000 µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000 µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500 µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A8100178	Acc STD	2000 µg/ml	10/12/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000 µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A8100178 A8100178	Acc STD	2000 µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Varies	Restek	2000 µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	2 each	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0 mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000 µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Sun 2	A017973	Restek	2500 µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000 µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000 µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add st	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Varies 4/6/01	4/6/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000 µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000 µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD Mix-T614	A018018	Restek	2500 µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500 µg/ml	4/12/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000 µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000 µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	2000 µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000 µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95926	Supleco	2000 µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000 µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: MC

Standard I.D.: 8-MSW26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8-MSW26-2
Location: MS018 Freezer
Solvent: MeOH VO4E74

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

Comments:

Sol. Name: TO14 IS/Surr
Date: 10-12-01
Analyst: SAM

Standard I.D.: 8-MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-29	LA89933	5/1/2003	1000	625	25mls	25ppm

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125ug/ml
8-VN2-13 SURR	A017473	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23-3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500ug/ml	250ul	25 mls	25ug/ml
8-VN2-11 (Iso-octane)	B011023A	12-1-01	2000ug/ml	312.5ul	25 mls	25ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C111556
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field

Client Sample ID	STL Sample ID
062-SVE-E-A-1120-01-18	C111556-1

The above sample was received at in good condition at STL Pensacola on November 26, 2001.

Please refer to STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes (RDH)

Rick Hayes
Senior Project Manager

11/30/01

CCI NAVY PAC PMO DEC - 3 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

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

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.05F
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	100 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	98 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
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Reported: 29 NOV 01

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

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11556-1	062-SVE-E-A-1120-01-18	11-20-01/10:35

PARAMETER	11556-1
Dilution Factor	1
Prep Date	11.28.01
Prep Time	15:10
Analysis Date	11.28.01
Analysis Time	15:23
Batch ID	MAB241
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11556
Received: 26 NOV 01
Reported: 29 NOV 01

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5206	104 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5395	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

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Contract No.: CTO-0062
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Sampled By: Client
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4620	92 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5285	106 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

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115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5323	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	98 %	0.5000	0.5025	101 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.4963	99 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4922	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	11.28.01	---	11.28.01	---	---
Prep Time	10:46	---	10:46	---	---
Analysis Date	11.28.01	---	11.28.01	---	---
Analysis Time	10:59	---	10:59	---	---
Batch ID	MAB241	MAB241	MAB241	MAB241	MAB241
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

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115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

Client PO. No.: 2916
Cl Project No: 163151

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 165211129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11556-2	Method Blank	
11556-3	Lab Control Standard True Value	
11556-4	Lab Control Standard Result	
11556-5	Lab Control Standard % Recovery	
11556-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11556-2	11556-3	11556-4	11556-5	11556-6

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

SEVERN TRENT SERVICES
STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

3355 McLemore Drive • Pensacola, FL 32514 • Tel: 850 474 1001 • Fax: 850 478 2671 • www.stl-inc.com
STL Pensacola is a part of Severn Trent Laboratories, Inc.

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

Foreign Soil Permit, Permit No. S-37599

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

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

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

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

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

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

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

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

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

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

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

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/0

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

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

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

C111556

From: Randy Dumaop (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 Authority Ave

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 21NOV01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 2350 3419 FORM 0201

BFM

MON
AA
Deliver by:
26NOV01

32514-FL-US

F3 PNSA

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STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C111556 Date Received: 26-Nov-01

1.	Was there a Chain of Custody?	(Yes)	No♣		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): 7902 2350 3419

Shipped By: FEDEX

Cooler Number(s): air Can

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: [illegible] Date: 11/26/01 Logged By: PJE Date: 11/26/01

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

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

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

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

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

C111556

CHAIN-OF-CUSTODY RECORD

COC NUMBER: **163151-018**

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

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)	ANALYSES REQUIRED (Include Method Numbers) Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1120-01-18	SVE Effluent	AIR	11/20/01	10:35	III/C	14 Day	1							2	0	0	Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Anthony Cain
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #7902 2350 3419.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	11/21/01	11:00	Federal Express	11/21/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			R. ELSPERMAN, STL	11/26/01	1000
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

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Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: TC
Labeled by: DR
Delivered by: DR

CH2M-CONST-GA C111556
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			
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 111556
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Nov. 26, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1120-01-18	111556-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Nov. 29, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1128A.D Date Analyzed : 28 Nov 2001
Instrument ID : GC/MS Ins Time Analyzed : 9:31
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
115561	062SVEEA1120011	100	100	98	0	0	0	0
MA241ABK	VBLKMA\ DAILY M	98	100	99	0	0	0	0
MA241LCS	VLCSMA\BATCH #2	100	99	98	0	0	0	0

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

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

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

ng report

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits
Thu Nov 29 09:22:09 2001 Page 1

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	111556					
Batch	MAB241	Actual ng result	mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene		260.31	0.5000	0.5206	104%	87-116%
Chlorobenzene		269.75	0.5000	0.5395	108%	88-111%
1,1-Dichloroethene		231.01	0.5000	0.4620	92%	58-138%
Toluene		264.23	0.5000	0.5285	106%	86-113%
Trichloroethene		266.13	0.5000	0.5323	106%	85-116%
1,2-Dichloroethane-d4		251.25	0.5000	0.5025	101%	61-140%
Toluene-d8		248.14	0.5000	0.4963	99%	90-109%
4-Bromofluorobenzene		246.08	0.5000	0.4922	98%	87-112%

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: MA241ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 11/28/01 Time Analyzed: 10:59

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\BATCH #241 L	MA241LCS.D	11:36
02	SVEEA	062SVEEA11200118\115	115561.D	15:23

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID: BFM1122P.D BFB Injection Date: 11/22/01

Instrument ID: MARILYN BFB Injection Time: 12:47

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.3
75	30.0 - 66.0% of mass 95	44.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.6 (6.8)1
176	93.0 - 101.0% of mass 174	67.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.5 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	11/22/01	14:11
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	11/22/01	14:48
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	11/22/01	15:25
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	11/22/01	16:03
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	11/22/01	16:58
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	11/22/01	17:53

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 111556

Lab File ID: CM1128A.D BFB Injection Date: 11/28/01

Instrument ID: MARILYN BFB Injection Time: 09:31

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

M/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.5
75	30.0 - 66.0% of mass 95	41.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 95	0.0 (0.00)1
174	50.0 - 120.0% of mass 95	72.9
175	4.0 - 9.0% of mass 174	5.2 (7.1)1
176	93.0 - 101.0% of mass 174	71.4 (98.0)1
177	5.0 - 9.0% of mass 176	4.5 (6.3)2

1 - Value is % mass 174

2 - Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	VSTD0250MA	VSTD050/DAILY CALIB.	CM1128A.D	11/28/01	09:31
2.	VBLKMA	VBLKMA/DAILY METHOD	MA241ABK.D	11/28/01	10:59
3.	LCS AND 2ND	VLCSMA/BATCH #241 L	MA241LCS.D	11/28/01	11:36
4.	SVEEA	062SVEEA11200118/11	115561.D	11/28/01	15:23

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933 R^2=0.998	
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

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

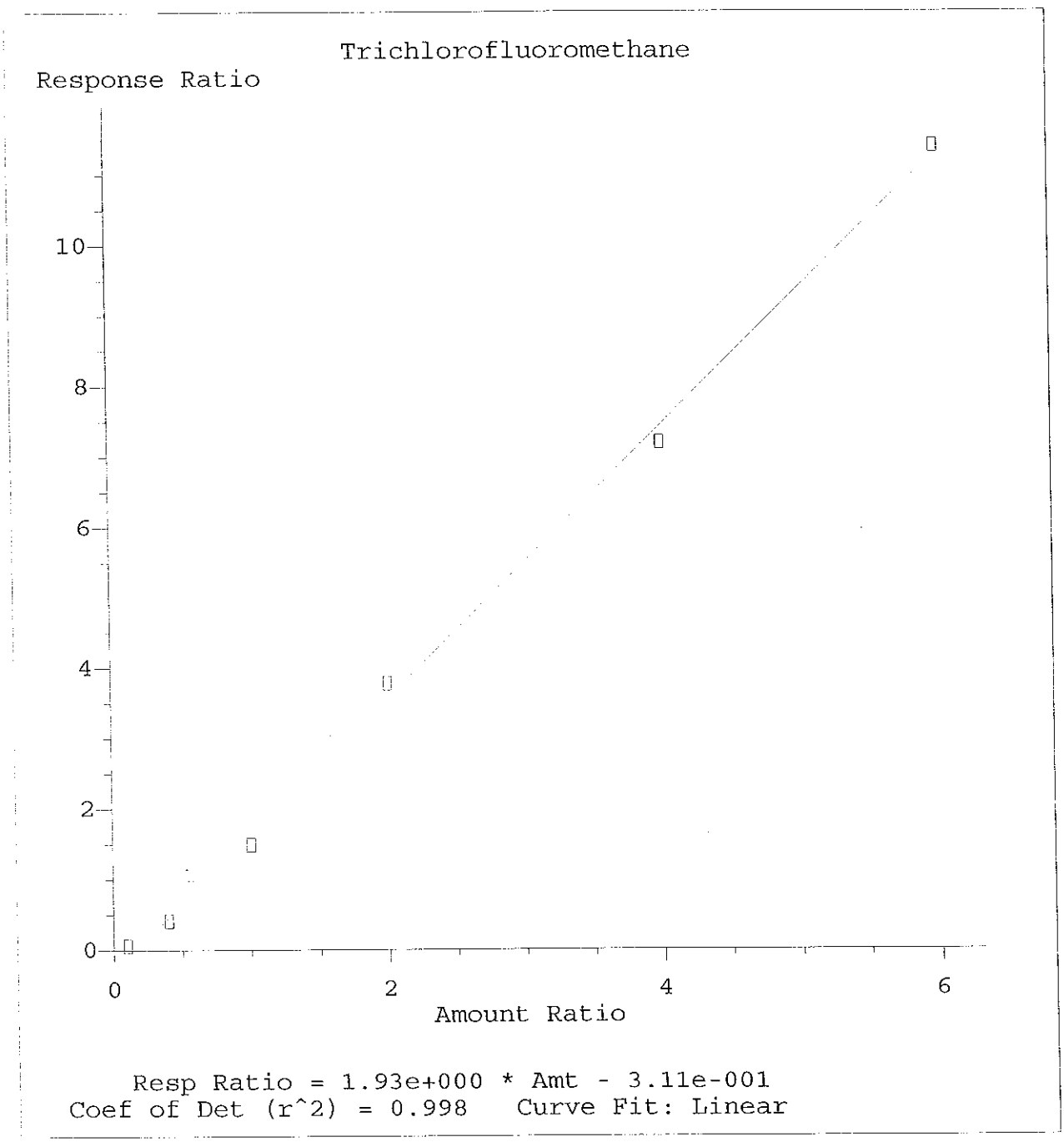
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Nov 29 09:10:53 2001
Response via : Initial Calibration

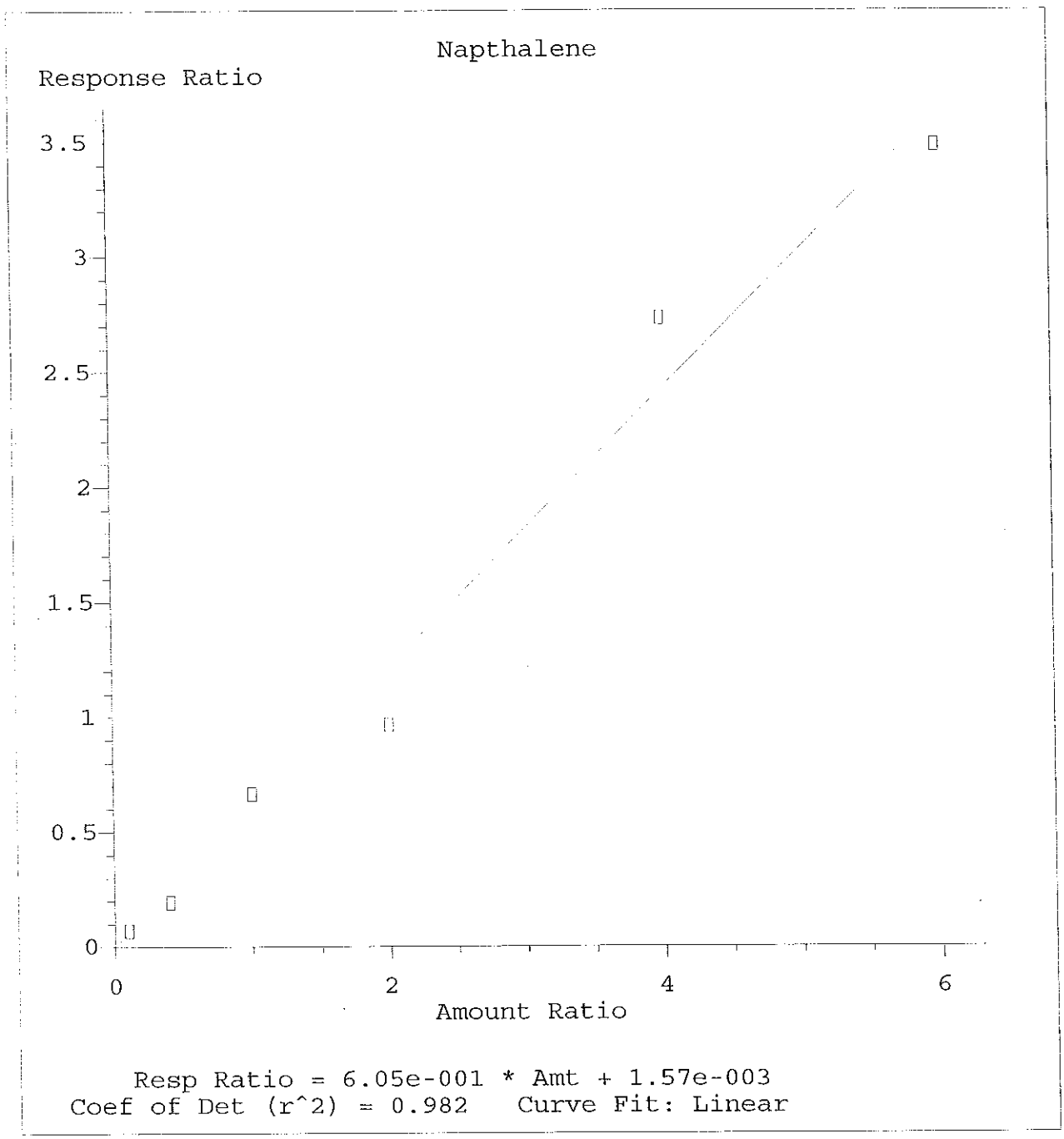
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Thu Nov 29 09:10:53 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	-1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	103	0.00
2		Dichlorodifluoromethane	250.000	230.877	7.6#	104	0.00
3		Dichlorotetrafluoroethane	250.000	238.192	4.7#	97	0.00
4	P	Chloromethane	250.000	253.249	-1.3	102	0.00
5	C	Vinyl chloride	250.000	265.317	-6.1#	102	0.00
6		Bromomethane	250.000	235.625	5.8#	97	0.00
7		Chloroethane	250.000	248.533	0.6	97	0.00
8		Trichlorofluoromethane	250.000	155.059	38.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	247.581	1.0	99	0.00
10	MC	1,1-Dichloroethene	250.000	251.949	-0.8#	99	0.00
11		Iodomethane	-1.000	0.000	0.0	363	0.00
12		Methylene chloride	250.000	249.737	0.1	96	0.00
13		Carbon disulfide	250.000	257.522	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	250.000	252.648	-1.1	96	0.00
15		trans-1,2-Dichloroethene	250.000	255.142	-2.1#	98	0.00
16		n-Hexane	250.000	240.980	3.6#	95	0.00
17	P	1,1-Dichloroethane	250.000	245.752	1.7	96	0.00
18		cis-1,2-Dichloroethene	250.000	246.091	1.6	96	0.00
19	C	Chloroform	250.000	246.722	1.3#	96	0.00
20		Isooctane	250.000	225.823	9.7#	92	0.00
21		1,1,1-Trichloroethane	250.000	245.389	1.8	95	0.00
22		Carbon tetrachloride	250.000	245.681	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	237.191	5.1#	95	0.00
24		1,2-Dichloroethane	250.000	241.956	3.2#	89	0.00
25		1,2-Dibromoethane	250.000	249.092	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	105	0.00
27	M	Benzene	250.000	252.473	-1.0	98	0.00
28	M	Trichloroethene	250.000	251.502	-0.6	97	0.00
29	C	1,2-Dichloropropane	250.000	244.436	2.2#	94	0.00
30		Bromodichloromethane	250.000	245.957	1.6	92	0.00
31		cis-1,3-Dichloropropene	250.000	247.872	0.9	93	0.00
32	S	Toluene-d8 SURR#2	250.000	247.565	1.0	103	0.00
33	MC	Toluene	250.000	249.156	0.3#	96	0.00
34		trans-1,3-Dichloropropene	250.000	249.759	0.1	91	0.00
35		1,1,2-Trichloroethane	250.000	244.917	2.0#	88	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	103	0.00
37		Tetrachloroethene	250.000	256.922	-2.8#	99	0.00
38		Dibromochloromethane	250.000	246.431	1.4	90	0.00
39	MP	Chlorobenzene	250.000	253.105	-1.2	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	246.862	1.3#	94	0.00
41		m,p-Xylene	500.000	508.263	-1.7	97	0.00
42		o-Xylene	250.000	248.466	0.6	94	0.00
43		Styrene	250.000	255.191	-2.1#	96	0.00
44	P	Bromoform	250.000	252.381	-1.0	89	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	251.067	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	243.532	2.6#	98	0.00
47		1,4-Dichloro-2-butene	250.000	252.056	-0.8	87	0.00
48		4-Ethyltoluene	250.000	232.333	7.1#	92	0.00
49		1,3,5-Trimethylbenzene	250.000	245.400	1.8	99	0.00
50		2-Chlorotoluene	250.000	249.414	0.2	94	0.00
51		1,2,4-Trimethylbenzene	250.000	249.501	0.2	94	0.00
52		1,3-Dichlorobenzene	250.000	257.413	-3.0#	97	0.00
53		1,4-Dichlorobenzene	250.000	257.727	-3.1#	97	0.00
54		1,2-Dichlorobenzene	250.000	258.268	-3.3#	96	0.00
55		1,2,4-Trichlorobenzene	250.000	285.688	-14.3#	109	0.00
56		Napthalene	250.000	283.122	-13.2#	104	0.00
57		Hexachlorobutadiene	250.000	278.025	-11.2#	107	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111556

Lab File ID (Standard): CM1128A.D Date Analyzed: 11/28/01

Instrument ID: MARILYN Time Analyzed: 9:31

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	772353	11.39	3112331	13.32	2373923	20.63
	UPPER LIMIT	1544706	11.89	6224662	13.82	4747846	21.13
	LOWER LIMIT	386177	10.89	1556166	12.82	1186962	20.13
	EPA SAMPLE NO.						
01	VBLKMA	720219	11.42	2817140	13.36	2162601	20.66
02	LCS AND 2ND	786922	11.41	3161841	13.35	2399134	20.67
03	SVEEA	859704	11.41	3324919	13.32	2555967	20.63

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Sequence Name: D:\HPCHEM\1\SEQUENCE\CTO14.S
Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1122P\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

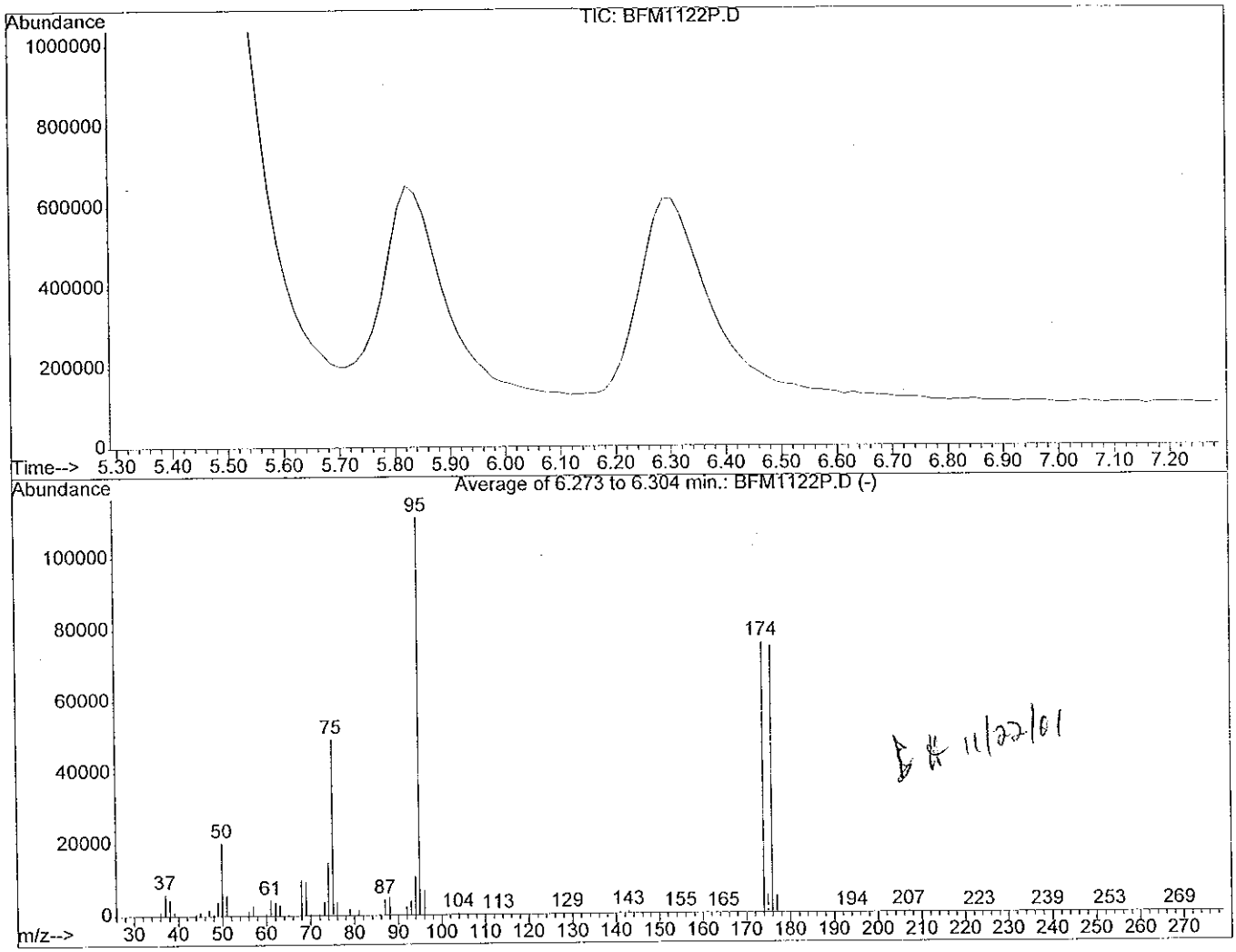
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1122P	BFBSTL	DAILY BFB 12HR. TUNE 50ppb
2	Sample	14	CCVTEST	TO14S	POSSIBLE CCV?...OR CURVE TIME
3	Sample	15	MA235ABK	TO14S	DAILY METHOD BLANK
4	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
5	Sample	15	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
6	Sample	16	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
7	Sample	1	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
8	Sample	2	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	3	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
10	Sample	4	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
11	Sample	5	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
12	Sample	6	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
13	Sample	7	MA235LCS	TO14S	BATCH #235 LCS 50ppb/250ng
14	Sample	8	114711	TO14S	11471-1 X10 50mls
15	Sample	9	114712	TO14S	11471-2 X10 50mls
16	Sample	10	114713	TO14S	11471-3 X10 50mls
17	Sample	11	114714	TO14S	11471-4 X10 50mls
18	Sample	12	114715	TO14S	11471-5 X10 50mls
19	Sample	13	115111	TO14S	11511-1 X10 50mls
20	Sample	14	115112	TO14S	11511-2 X10 50mls

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



Peak Apex is scan: 49 (6.29 min)
Average of 3 scans: 48,49,50 minus background scan 29 (5.98 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	20396	PASS
75	95	30	60	44.3	49232	PASS
95	95	100	100	100.0	111169	PASS
96	95	5	9	6.3	7014	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.3	75908	PASS
175	174	5	9	6.8	5127	PASS
176	174	95	101	98.8	75024	PASS
177	176	5	9	6.6	4948	PASS

BFM1122P.D TO14S.M Thu Nov 22 12:55:43 2001

Average of 0.275 to 0.304 min.: [illegible]

DAILY BFB 12HR. TUNE 50ppb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1075	61.00	4393	86.95	4439	176.95	4948
37.05	6063	62.05	3859	88.00	4999		
38.05	4536	63.00	3038	92.00	2494		
39.05	1246	68.00	10184	93.00	3964		
45.00	1133	69.00	9431	94.05	10828		
46.95	1809	73.05	3941	95.00	111169		
48.95	3843	74.00	14781	96.05	7014		
49.95	20396	75.05	49232	142.90	715		
51.00	5842	76.00	3752	173.95	75908		
56.05	1288	79.00	1925	174.95	5127		
57.05	2719	81.00	1490	175.95	75024		

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON
Sampling : 1
Start Thrs: 0.2
Stop Thrs : 0

Filtering: 5
Min Area: 3 % of largest Peak
Max Peaks: 100
Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

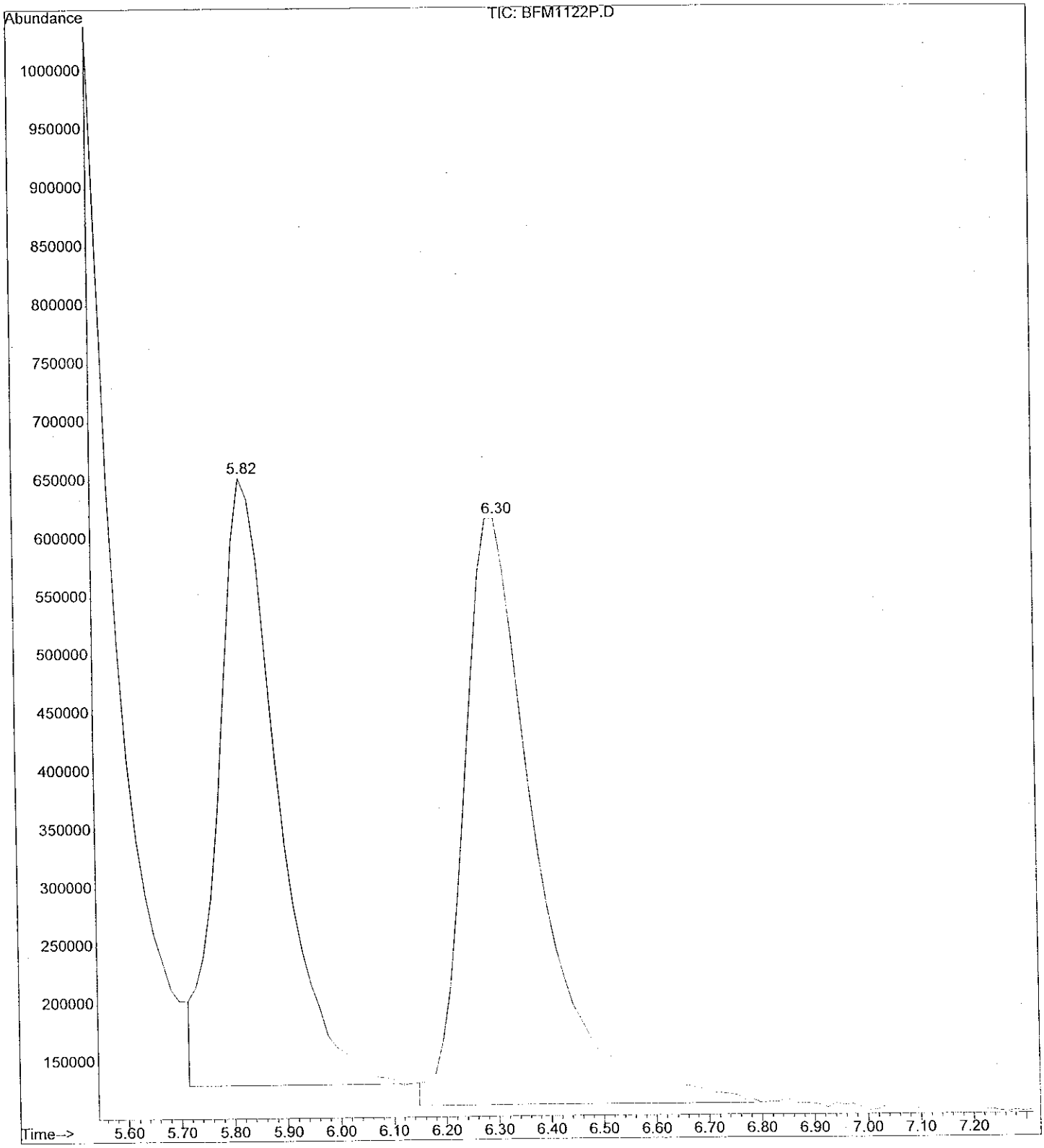
Sum of corrected areas: 8872066

BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D
Acq On : 22 Nov 2001 12:47
Sample : DAILY BFB 12HR. TUNE 50ppb
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

BW 11/27/01

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

BW 11/29/01

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933	R^2=0.998
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

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

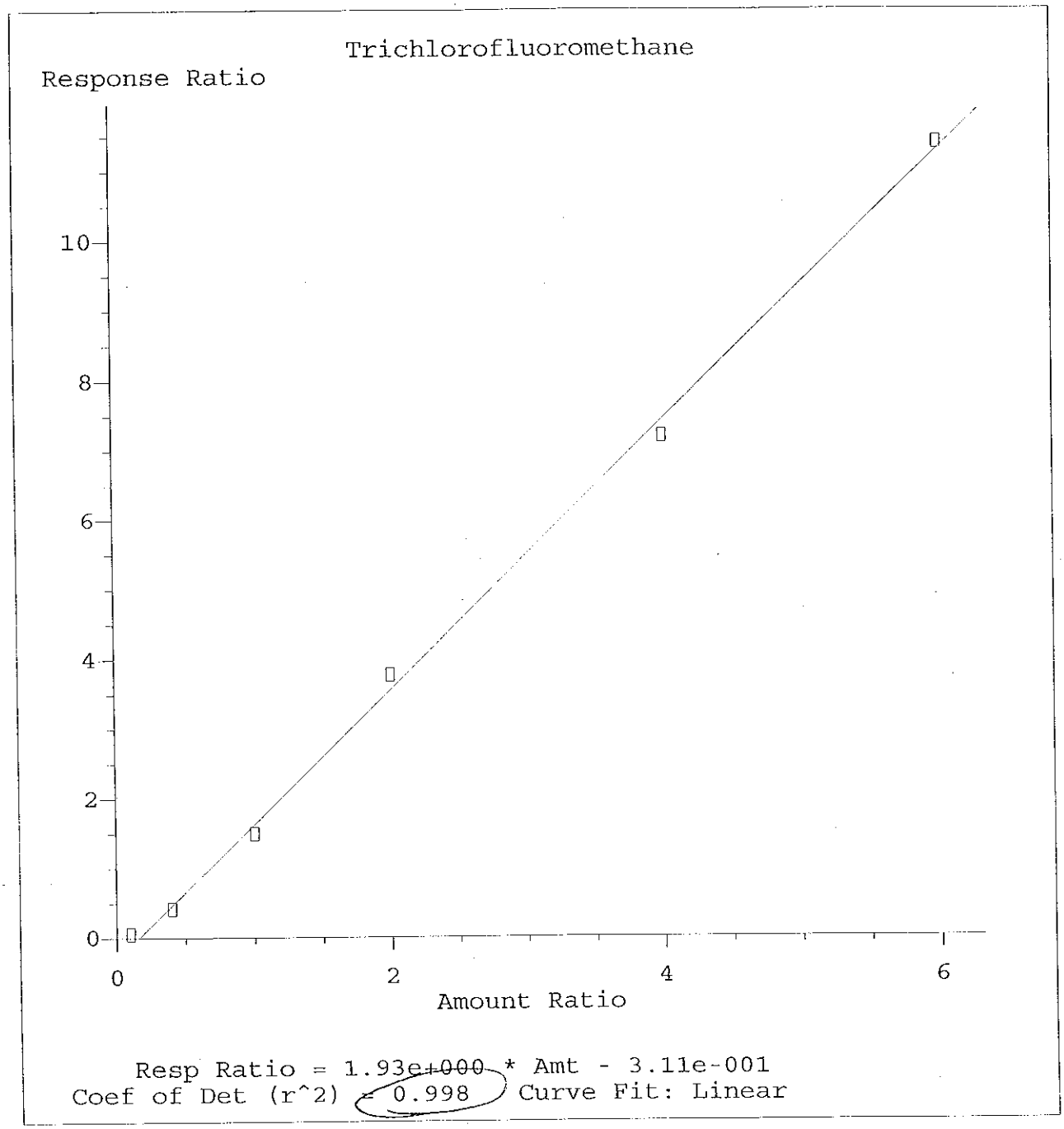
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

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

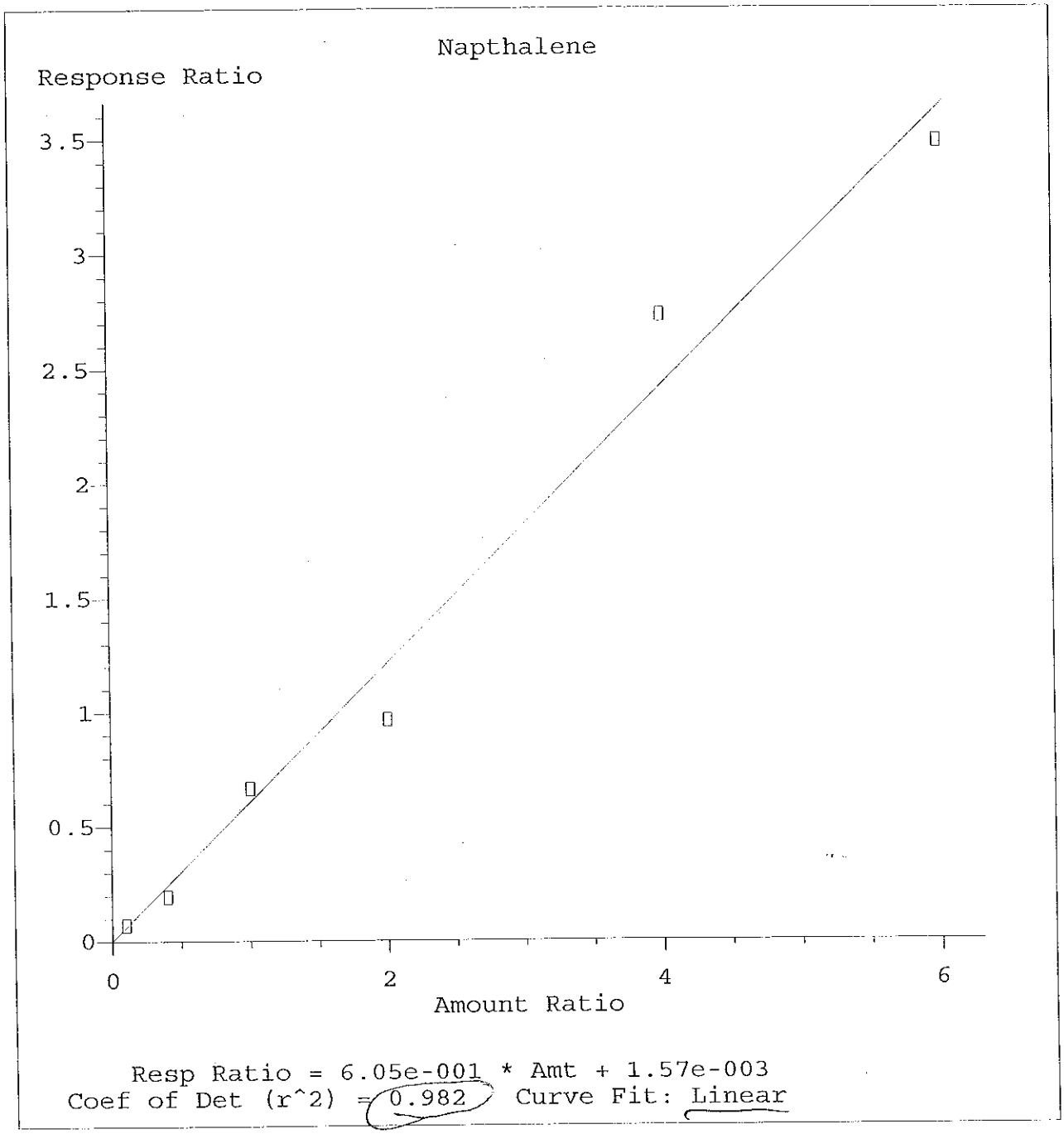
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 20:58:58 2001

BH 11-27-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

BH 11/27/01

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00	ng		-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00	ng		-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00	ng		-0.03 282.19%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.36%#				
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68	ng		-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.27%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67	ng		98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58	ng	#	45
4) Chloromethane	4.36	50	54217	16.33	ng	#	92
5) Vinyl chloride	4.59	62	51362	17.20	ng	#	87
6) Bromomethane	5.42	94	98746	24.20	ng	#	82
7) Chloroethane	5.54	64	32840	18.79	ng	#	89
8) Trichlorofluoromethane	6.04	101	39870	6.56	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29	ng		83
10) 1,1-Dichloroethene	7.20	96	66093	21.79	ng		85
12) Methylene chloride	8.12	49	91249	15.70	ng	#	94
13) Carbon disulfide	8.27	76	181220	18.71	ng	#	93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60	ng	#	85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71	ng		89
16) n-Hexane	8.78	57	80570	20.60	ng	#	1
17) 1,1-Dichloroethane	9.51	63	119239	16.98	ng	#	98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26	ng		92
19) Chloroform	11.08	83	153161	17.29	ng		98
20) Isooctane	12.03	57	303517	20.95	ng		97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80	ng		89
22) Carbon tetrachloride	12.51	117	137597	17.08	ng		99
24) 1,2-Dichloroethane	12.77	62	78090	14.06	ng		98
25) 1,2-Dibromoethane	19.75	107	111469	20.00	ng		97
27) Benzene	12.85	78	179158	21.12	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

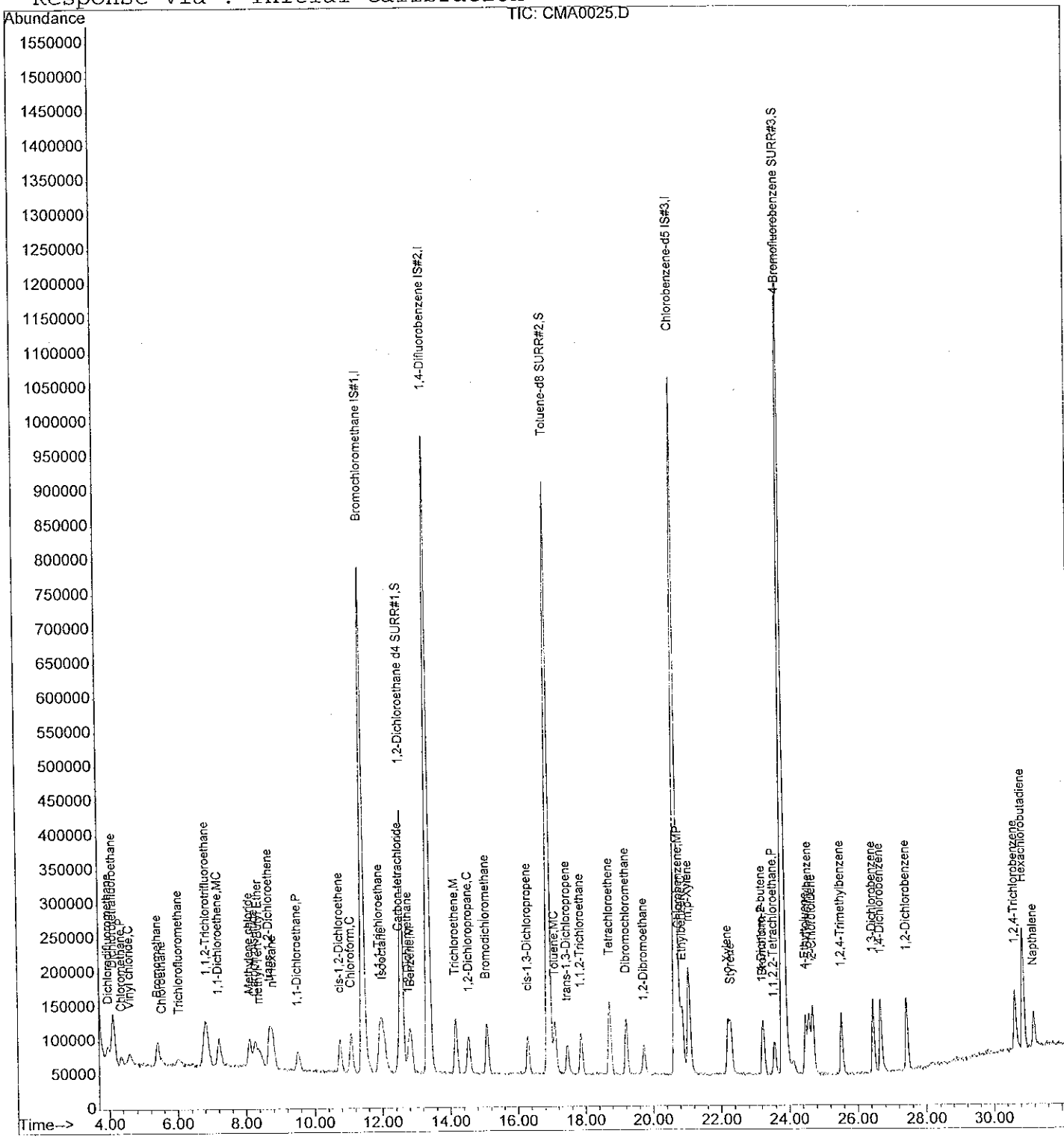
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	95845	23.30	ng		96
29)	1,2-Dichloropropane	14.56	63	72859	19.13	ng		95
30)	Bromodichloromethane	15.07	83	169881	17.23	ng		99
31)	cis-1,3-Dichloropropene	16.30	75	105593	18.65	ng		94
33)	Toluene	17.11	92	110233	21.32	ng	#	95
34)	trans-1,3-Dichloropropene	17.46	75	79087	16.48	ng	#	82
35)	1,1,2-Trichloroethane	17.87	97	67774	20.88	ng		98
37)	Tetrachloroethene	18.72	164	87289	23.66	ng		95
38)	Dibromochloromethane	19.22	127	120192	20.80	ng	#	94
39)	Chlorobenzene	20.79	112	160392	21.82	ng		92
40)	Ethylbenzene	20.88	106	65807	22.17	ng		99
41)	m,p-Xylene	21.07	106	165326	42.60	ng		99
42)	o-Xylene	22.21	106	78495	21.26	ng		99
43)	Styrene	22.31	104	119668	20.45	ng		95
44)	Bromoform	23.25	173	108489	22.72	ng		99
45)	1,1,2,2-Tetrachloroethane	23.56	83	107840	20.51	ng	#	99
47)	1,4-Dichloro-2-butene	23.22	75	17978	18.55	ng	#	90
48)	4-Ethyltoluene	24.50	105	227968	22.22	ng		95
49)	1,3,5-Trimethylbenzene	24.59	105	165409	19.65	ng		90
50)	2-Chlorotoluene	24.70	91	215651	19.02	ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	173761	19.86	ng		98
52)	1,3-Dichlorobenzene	26.47	146	145028	22.89	ng		94
53)	1,4-Dichlorobenzene	26.69	146	152149	22.95	ng	#	93
54)	1,2-Dichlorobenzene	27.45	146	133248	22.68	ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	99718	24.12	ng		97
56)	Napthalene	31.19	128	143146	23.66	ng	#	89
57)	Hexachlorobutadiene	30.88	225	107311	30.39	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BA 11/27/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%			
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28	ng	# 97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

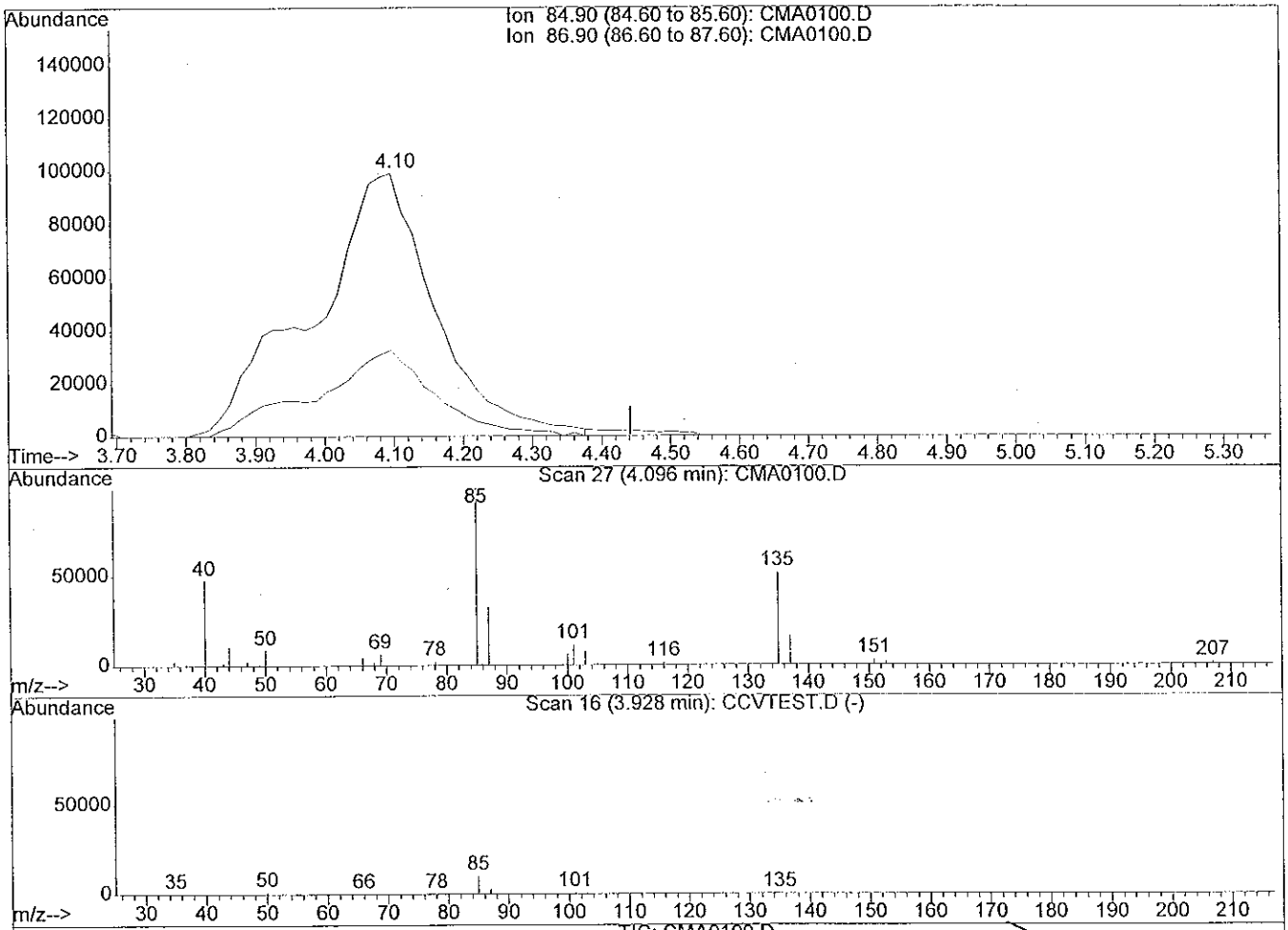
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01	ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33)	Toluene	17.11	92	471365	81.74	ng		99
34)	trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35)	1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37)	Tetrachloroethene	18.72	164	379057	91.16	ng		94
38)	Dibromochloromethane	19.20	127	507313	77.89	ng		98
39)	Chlorobenzene	20.77	112	690880	83.38	ng		97
40)	Ethylbenzene	20.88	106	269786	80.64	ng		100
41)	m,p-Xylene	21.07	106	715119	163.47	ng		99
42)	o-Xylene	22.21	106	335595	80.64	ng		98
43)	Styrene	22.29	104	516712	78.36	ng		99
44)	Bromoform	23.24	173	450088	83.61	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47)	1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48)	4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50)	2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52)	1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53)	1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54)	1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56)	Napthalene	31.19	128	442169	64.85	ng	#	90
57)	Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration



TIC: CMA0100.D

(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

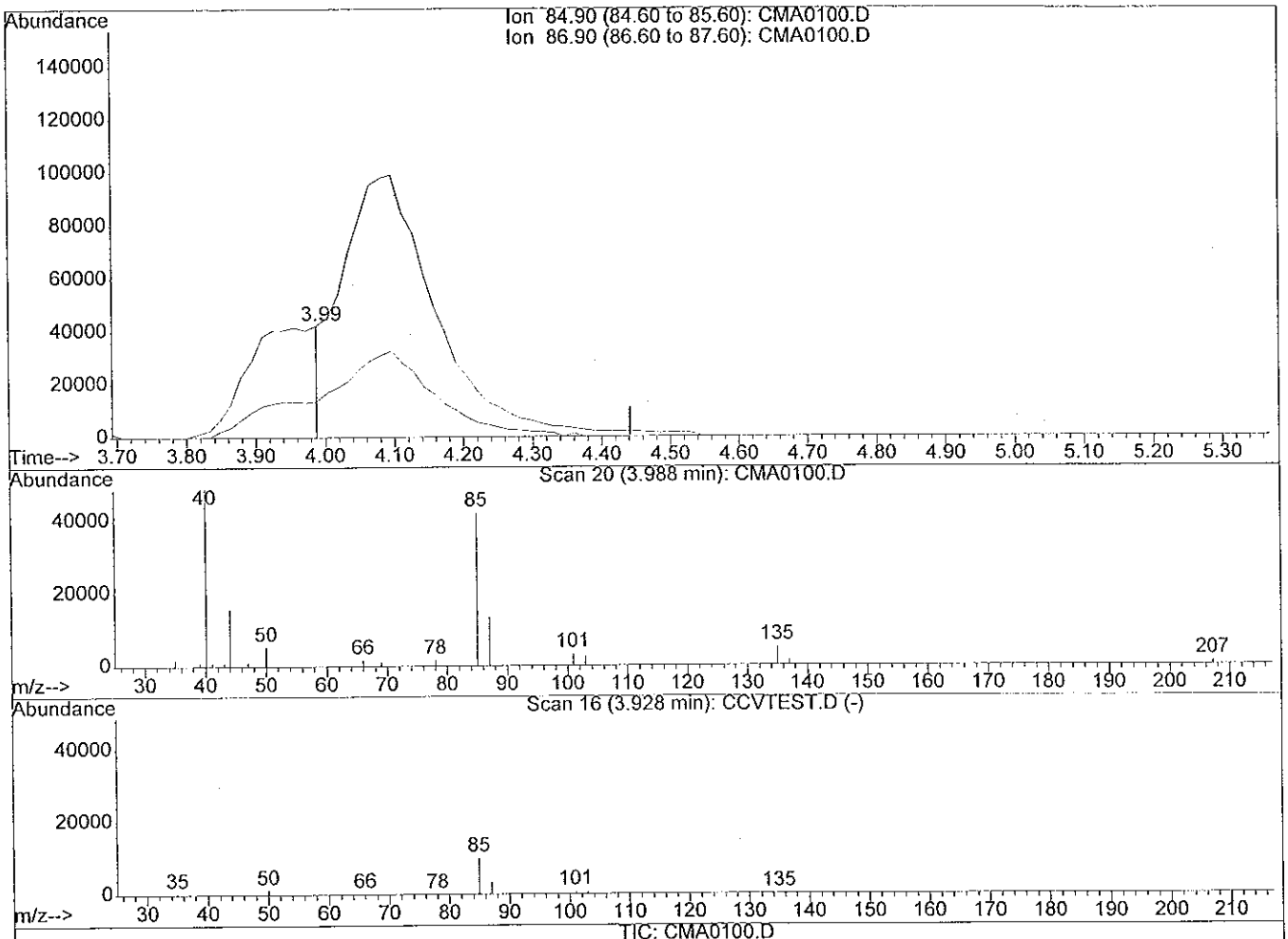
before (mis-integ. / coeluted)

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.99min 47.28ng m

response 296446

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	131.84#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11-22-01

TD
11-24-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng		-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng		-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng		-0.03 318.06%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%				
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%				
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng		97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	#	26
4) Chloromethane	4.34	50	234313	61.77	ng	#	95
5) Vinyl chloride	4.58	62	216303	63.39	ng		96
6) Bromomethane	5.40	94	354015	75.93	ng	#	93
7) Chloroethane	5.51	64	139656	69.94	ng		99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng		82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng		87
12) Methylene chloride	8.09	49	356949	53.74	ng		97
13) Carbon disulfide	8.27	76	759303	68.61	ng		97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng		97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng		92
16) n-Hexane	8.75	57	281184	62.93	ng	#	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng		99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng		91
19) Chloroform	11.07	83	642388	63.47	ng		99
20) Isooctane	12.03	57	896151	54.14	ng		98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng		92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng		97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng		98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng		99
27) Benzene	12.84	78	744820	78.71	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

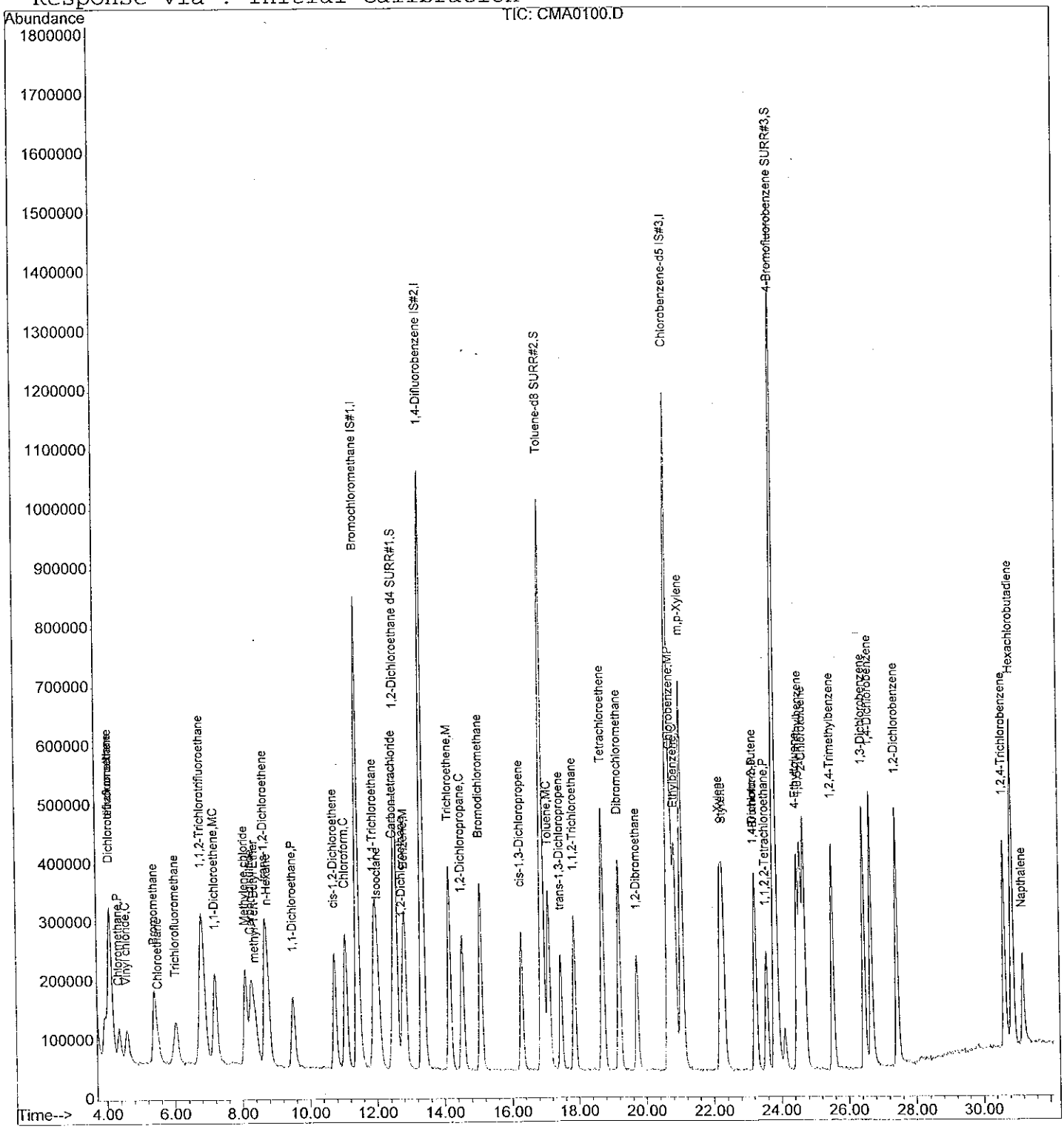
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01	ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33)	Toluene	17.11	92	471365	81.74	ng		99
34)	trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35)	1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37)	Tetrachloroethene	18.72	164	379057	91.16	ng		94
38)	Dibromochloromethane	19.20	127	507313	77.89	ng		98
39)	Chlorobenzene	20.77	112	690880	83.38	ng		97
40)	Ethylbenzene	20.88	106	269786	80.64	ng		100
41)	m,p-Xylene	21.07	106	715119	163.47	ng		99
42)	o-Xylene	22.21	106	335595	80.64	ng		98
43)	Styrene	22.29	104	516712	78.36	ng		99
44)	Bromoform	23.24	173	450088	83.61	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47)	1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48)	4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50)	2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52)	1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53)	1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54)	1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56)	Napthalene	31.19	128	442169	64.85	ng	#	90
57)	Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Original SH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	747317	250.00	ng		-0.03 342.15%
26) 1,4-Difluorobenzene IS#2	13.36	114	2968219	250.00	ng		-0.03 313.17%
36) Chlorobenzene-d5 IS#3	20.68	117	2302990	250.00	ng		-0.03 320.90%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	820411	147.75	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.10%#				
32) Toluene-d8 SURR#2	16.90	98	2311670	235.45	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.18%				
46) 4-Bromofluorobenzene SURR#	23.83	95	2090630	232.72	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.09%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	827926	133.15	ng		90
3) Dichlorotetrafluoroethane	4.10	135	1388168	229.31	ng	#	38
4) Chloromethane	4.36	50	667704	177.47	ng		97
5) Vinyl chloride	4.58	62	667727	197.30	ng		97
6) Bromomethane	5.40	94	1057285	228.66	ng	#	96
7) Chloroethane	5.49	64	444066	224.24	ng		97
8) Trichlorofluoromethane	6.02	101	1119090	162.40	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.81	151	1602469	276.08	ng		84
10) 1,1-Dichloroethene	7.19	96	879523	255.94	ng		88
12) Methylene chloride	8.09	49	1170582	177.71	ng		99
13) Carbon disulfide	8.27	76	2364904	215.47	ng		95
14) methyl-Tert-Butyl Ether	8.37	73	1088522	197.18	ng		99
15) trans-1,2-Dichloroethene	8.68	96	964847	250.40	ng		92
16) n-Hexane	8.75	57	900365	203.19	ng	#	1
17) 1,1-Dichloroethane	9.51	63	1569813	197.24	ng		99
18) cis-1,2-Dichloroethene	10.74	61	1256735	190.36	ng		90
19) Chloroform	11.07	83	1998117	199.07	ng		99
20) Isooctane	12.03	57	2929672	178.46	ng		97
21) 1,1,1-Trichloroethane	11.92	97	1675247	188.72	ng		90
22) Carbon tetrachloride	12.49	117	1799050	197.14	ng		97
24) 1,2-Dichloroethane	12.76	62	994608	158.08	ng	#	98
25) 1,2-Dibromoethane	19.73	107	1598340	253.04	ng		98
27) Benzene	12.84	78	2294603	241.48	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

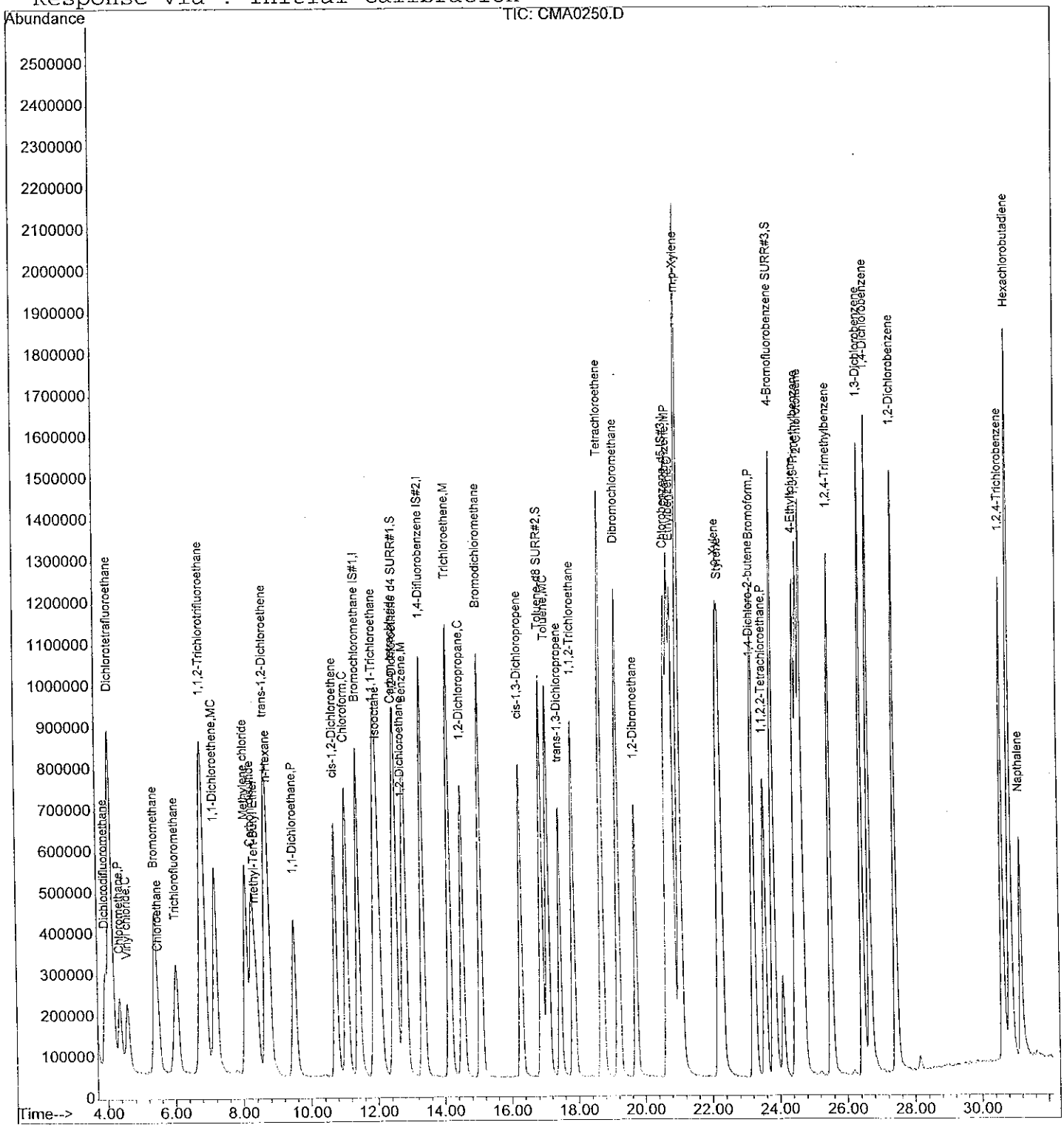
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	1288590	279.77	ng		95
29) 1,2-Dichloropropane	14.54	63	972142	227.89	ng		98
30) Bromodichloromethane	15.07	83	2284620	206.89	ng		99
31) cis-1,3-Dichloropropene	16.28	75	1439679	227.09	ng		99
33) Toluene	17.09	92	1486003	256.60	ng		99
34) trans-1,3-Dichloropropene	17.46	75	1137293	211.64	ng		96
35) 1,1,2-Trichloroethane	17.87	97	966109	265.81	ng		97
37) Tetrachloroethene	18.72	164	1207383	287.81	ng		95
38) Dibromochloromethane	19.20	127	1667056	253.68	ng		98
39) Chlorobenzene	20.77	112	2194379	262.49	ng		95
40) Ethylbenzene	20.86	106	878711	260.33	ng		97
41) m,p-Xylene	21.07	106	2263755	512.90	ng		98
42) o-Xylene	22.21	106	1107267	263.72	ng		97
43) Styrene	22.29	104	1732542	260.42	ng		97
44) Bromoform	23.24	173	1563705	287.91	ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	1438178	240.48	ng		99
47) 1,4-Dichloro-2-butene	23.21	75	272354	247.14	ng		92
48) 4-Ethyltoluene	24.50	105	2824082	242.01	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	2149970	224.58	ng	#	77
50) 2-Chlorotoluene	24.70	91	2938488	227.88	ng		96
51) 1,2,4-Trimethylbenzene	25.54	105	2386166	239.77	ng		96
52) 1,3-Dichlorobenzene	26.45	146	1974072	274.03	ng		95
53) 1,4-Dichlorobenzene	26.67	146	2075315	275.28	ng	#	94
54) 1,2-Dichlorobenzene	27.43	146	1821255	272.65	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	1250003	265.87	ng		100
56) Napthalene	31.17	128	1532679	222.80	ng	#	92
57) Hexachlorobutadiene	30.88	225	1068702	266.11	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 314.16%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#			
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1844056m	320.89	ng	# 98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	# 26
4) Chloromethane	4.36	50	1284225	369.32	ng	95
5) Vinyl chloride	4.58	62	1256220	401.61	ng	97
6) Bromomethane	5.42	94	2007486	469.75	ng	# 97
7) Chloroethane	5.51	64	856510	467.97	ng	97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng	82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng	88
12) Methylene chloride	8.10	49	2159716	354.74	ng	99
13) Carbon disulfide	8.27	76	4502881	443.88	ng	98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng	98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng	92
16) n-Hexane	8.77	57	1747631	426.72	ng	# 1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng	98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng	91
19) Chloroform	11.07	83	3825367	412.36	ng	98
20) Isooctane	12.03	57	5483567	361.41	ng	96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng	91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng	97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	# 97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng	97
27) Benzene	12.84	78	4427183	462.51	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: TO14S.RES

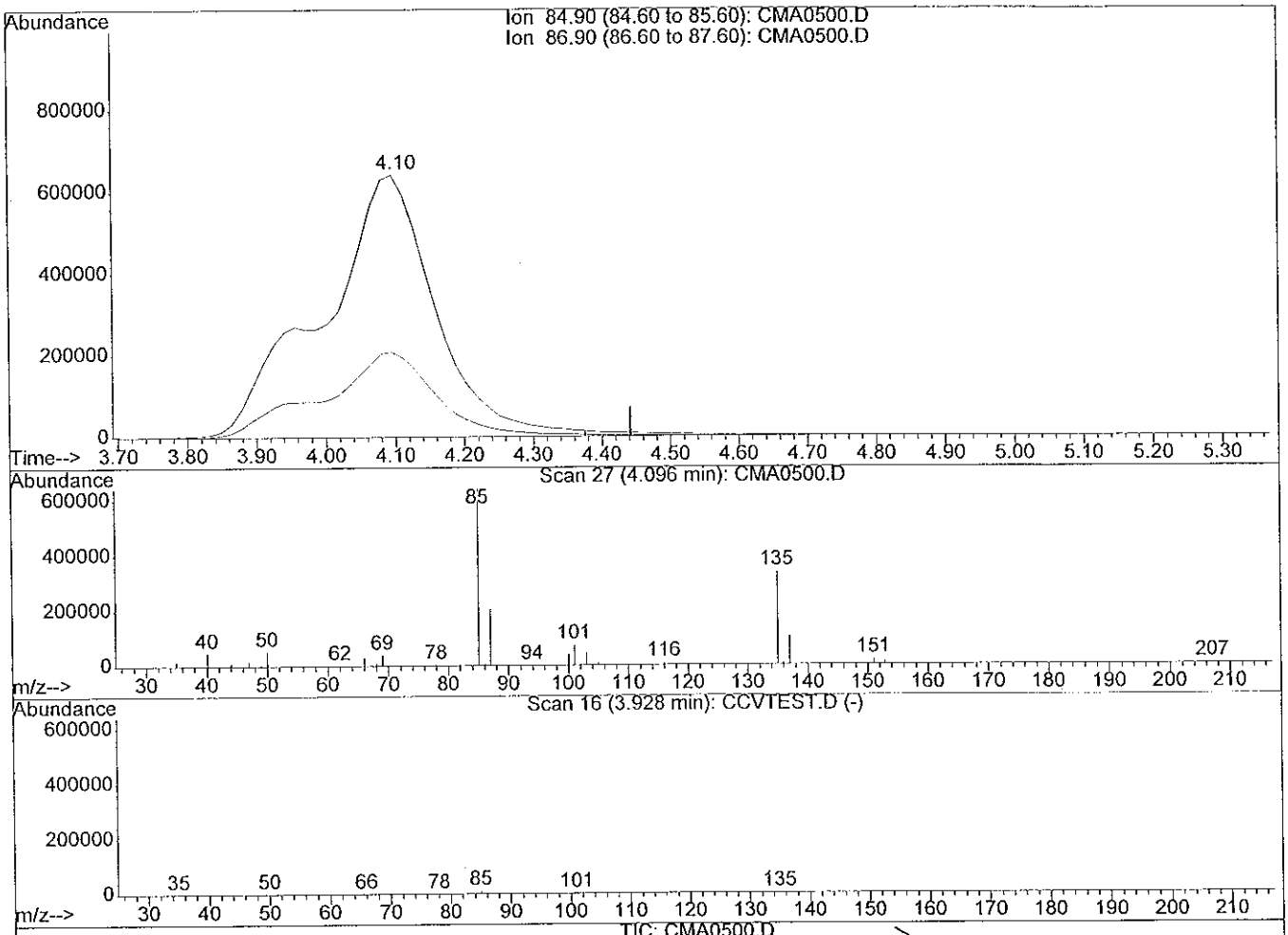
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70	ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33)	Toluene	17.11	92	2870951	492.12	ng		98
34)	trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35)	1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37)	Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38)	Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39)	Chlorobenzene	20.77	112	4188342	511.74	ng		94
40)	Ethylbenzene	20.88	106	1693683	512.53	ng		99
41)	m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42)	o-Xylene	22.21	106	2136548	519.78	ng		95
43)	Styrene	22.29	104	3277411	503.19	ng		97
44)	Bromoform	23.25	173	2400417	451.44	ng		100
45)	1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48)	4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49)	1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50)	2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52)	1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53)	1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56)	Napthalene	31.19	128	2175497	323.03	ng	#	92
57)	Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

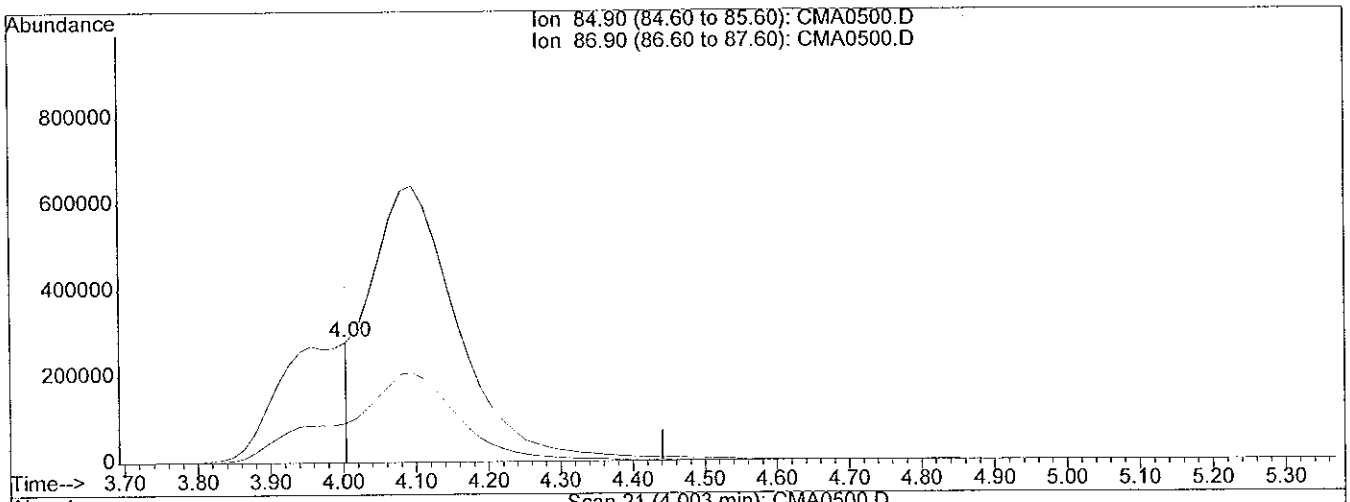
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

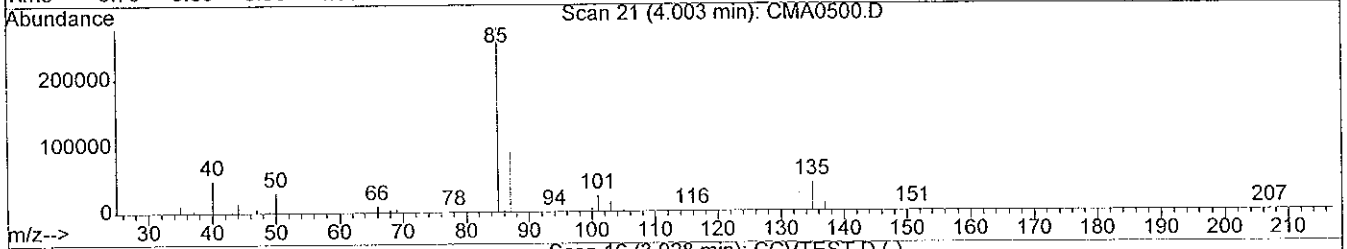
before (misintg | co-elated)

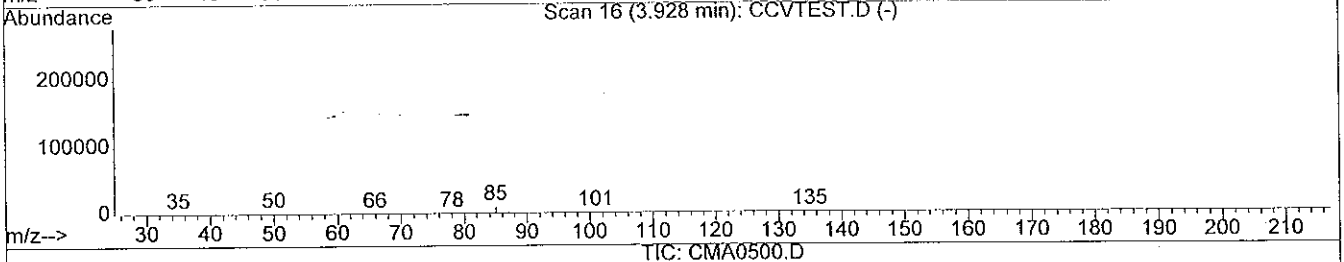
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.27#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/27/01

11-24-01

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng		-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng		-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng		-0.03 314.16%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#				
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40	ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

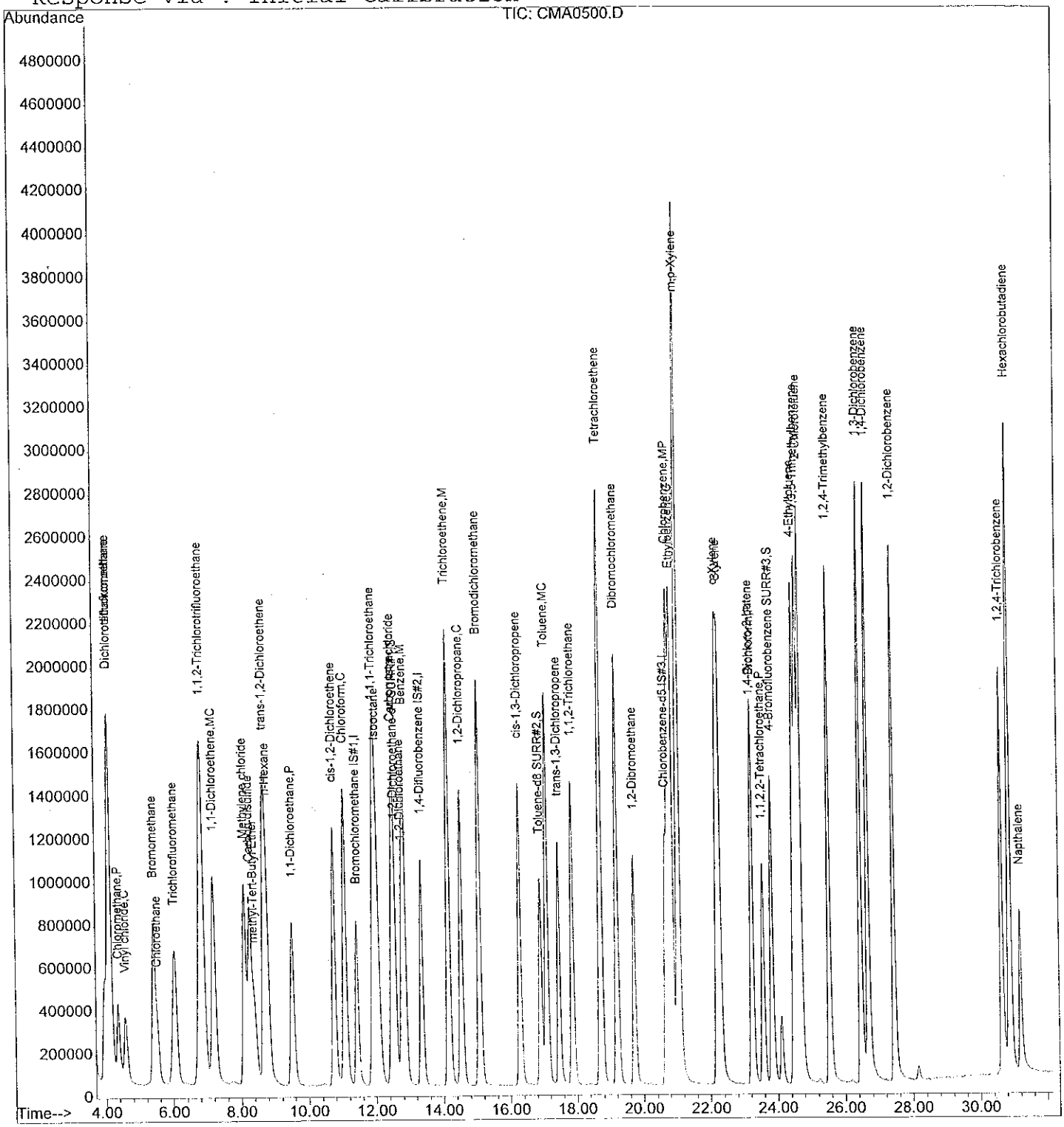
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70	ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33) Toluene	17.11	92	2870951	492.12	ng		98
34) trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35) 1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37) Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38) Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39) Chlorobenzene	20.77	112	4188342	511.74	ng		94
40) Ethylbenzene	20.88	106	1693683	512.53	ng		99
41) m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42) o-Xylene	22.21	106	2136548	519.78	ng		95
43) Styrene	22.29	104	3277411	503.19	ng		97
44) Bromoform	23.25	173	2400417	451.44	ng		100
45) 1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48) 4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49) 1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50) 2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52) 1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53) 1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56) Napthalene	31.19	128	2175497	323.03	ng	#	92
57) Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng	-0.03 269.44%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#			
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng	99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	# 43
4) Chloromethane	4.34	50	2269279	718.82	ng	# 96
5) Vinyl chloride	4.56	62	2177757	766.87	ng	96
6) Bromomethane	5.40	94	3658163	942.87	ng	# 97
7) Chloroethane	5.49	64	1503351	904.74	ng	96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng	82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng	86
12) Methylene chloride	8.10	49	3782190	684.28	ng	97
13) Carbon disulfide	8.26	76	8103282	879.86	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng	98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng	90
16) n-Hexane	8.77	57	2872334	772.51	ng	# 1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng	98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng	89
19) Chloroform	11.07	83	6416217	761.83	ng	98
20) Isooctane	12.03	57	9902255	718.87	ng	95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng	89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng	97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	# 97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng	98
27) Benzene	12.84	78	7380435	918.40	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

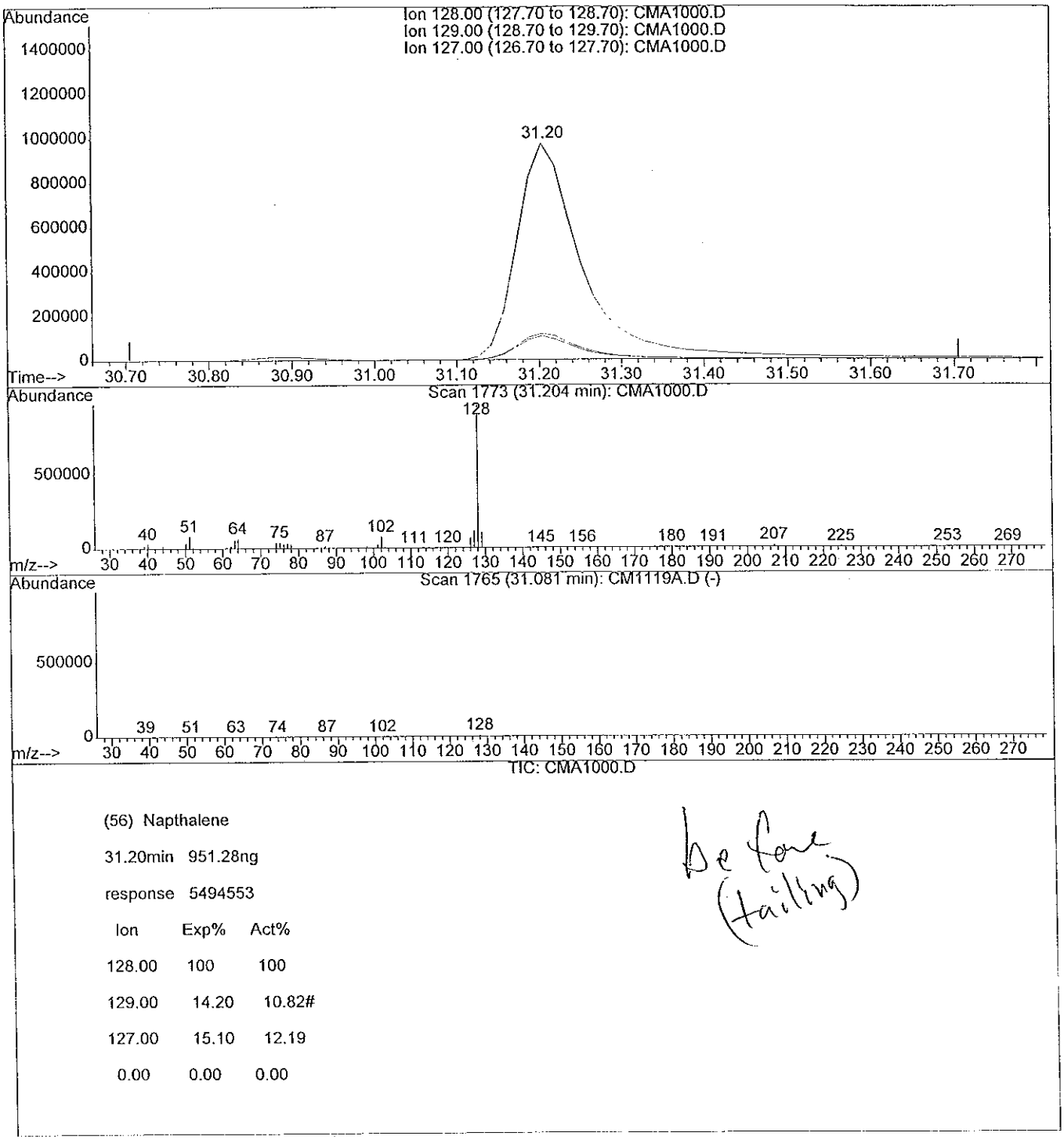
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5286344m	915.23	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 21:09:46 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 951.28ng

response 5494553

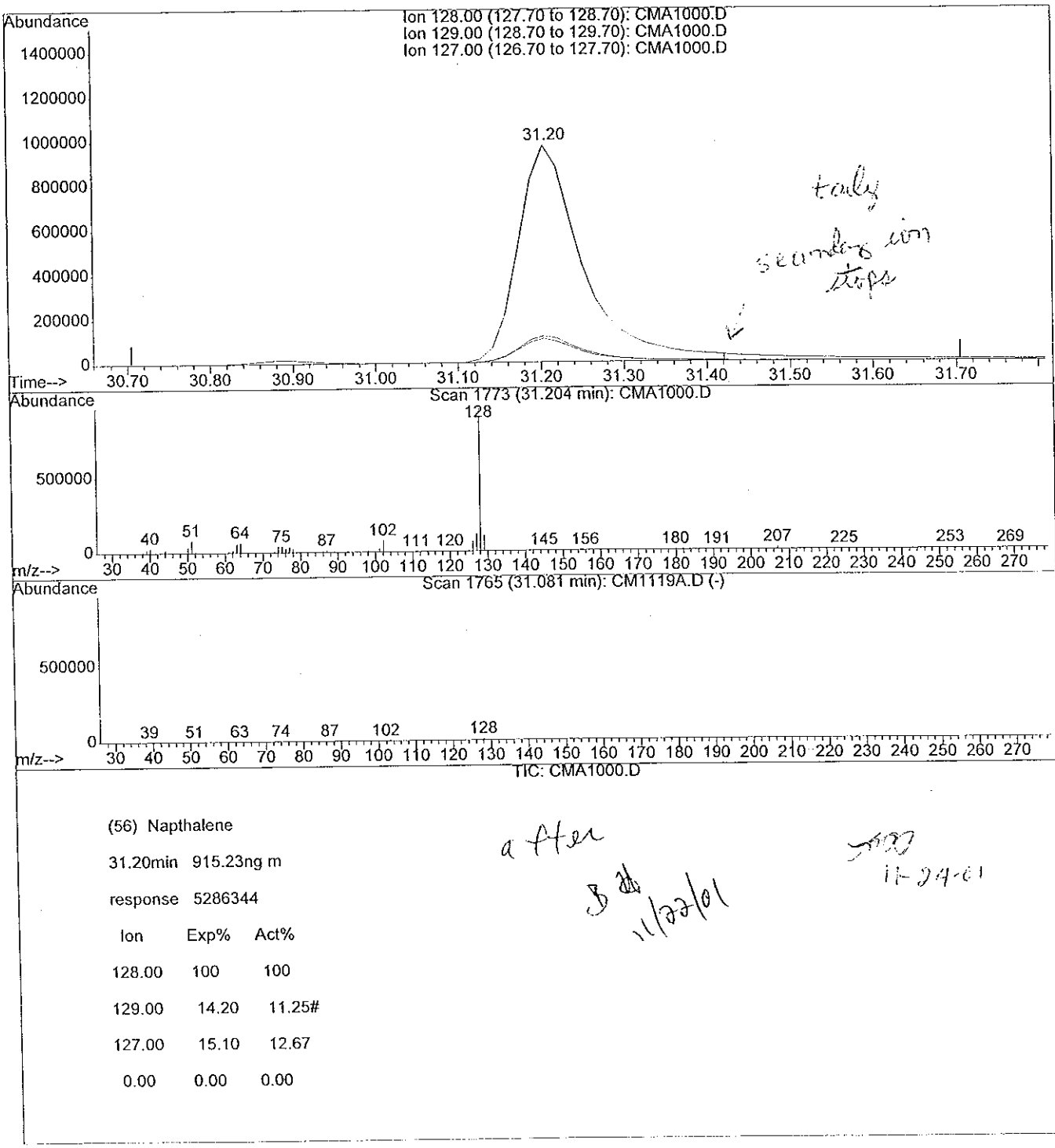
Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

Before (tailing)

CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#				
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

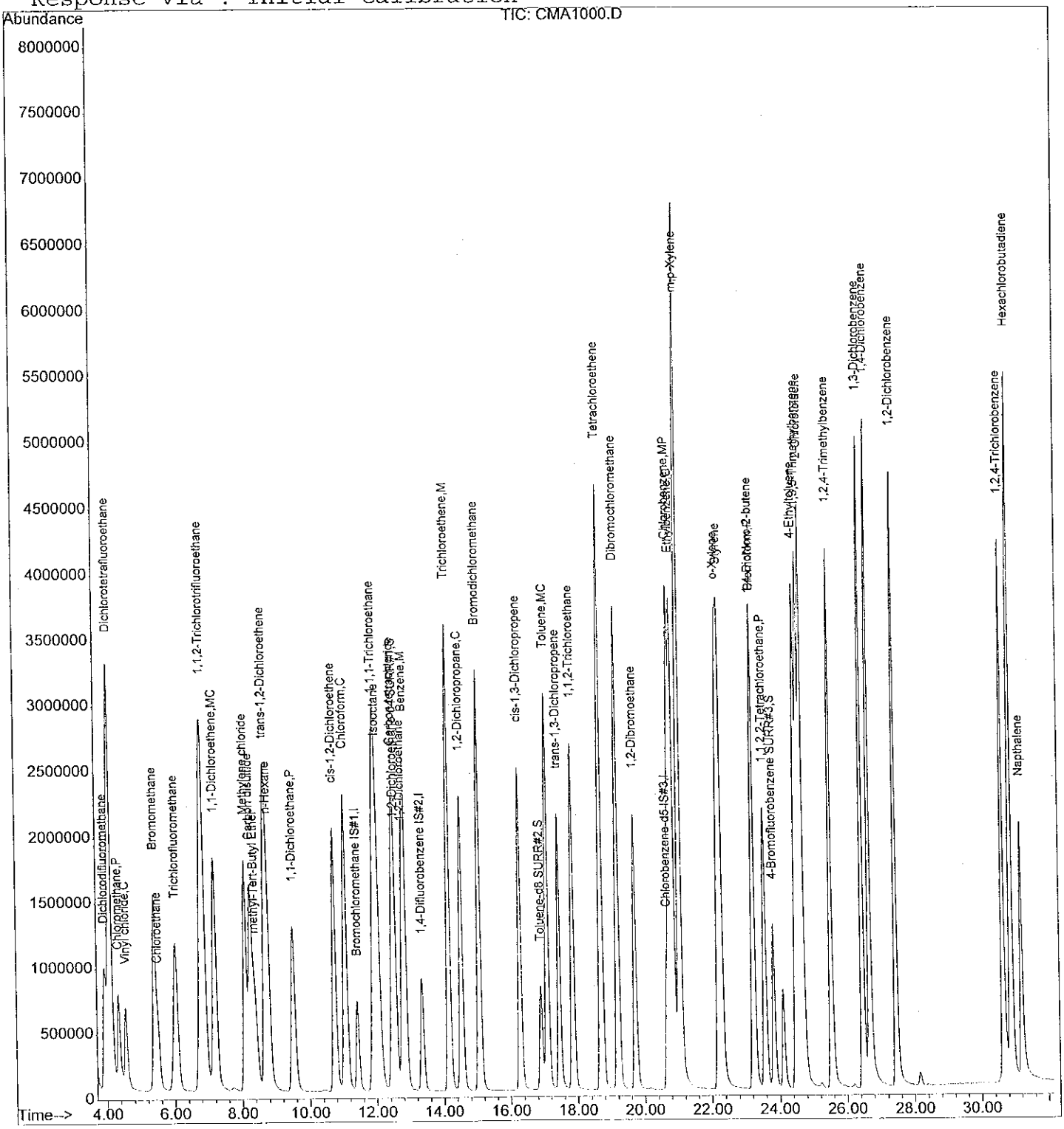
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	4254495	1092.20	ng		93
29)	1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30)	Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31)	cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33)	Toluene	17.09	92	4788893	977.79	ng		98
34)	trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35)	1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37)	Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38)	Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39)	Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40)	Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41)	m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42)	o-Xylene	22.21	106	3660995	1038.48	ng		94
43)	Styrene	22.29	104	5744605	1028.38	ng		96
44)	Bromoform	23.25	173	4989717	1094.16	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48)	4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49)	1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50)	2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51)	1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52)	1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53)	1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55)	1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56)	Napthalene	31.20	128	5494553	951.28	ng	#	92
57)	Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	634249	250.00	ng		-0.02 290.39%
26) 1,4-Difluorobenzene IS#2	13.36	114	2600798	250.00	ng		-0.03 274.40%
36) Chlorobenzene-d5 IS#3	20.69	117	1981283	250.00	ng		-0.02 276.07%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	632851	134.29	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.72%#				
32) Toluene-d8 SURR#2	16.92	98	1970807	229.09	ng		-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 91.64%				
46) 4-Bromofluorobenzene SURR#	23.84	95	1740302	225.18	ng		-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.07%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.94	85	4935791	935.33	ng		100
3) Dichlorotetrafluoroethane	4.09	135	7446198	1449.32	ng	#	44
4) Chloromethane	4.36	50	3382343	1059.28	ng	#	96
5) Vinyl chloride	4.56	62	3168424	1103.09	ng		97
6) Bromomethane	5.41	94	5426495	1382.82	ng	#	98
7) Chloroethane	5.51	64	2270536	1350.98	ng		96
8) Trichlorofluoromethane	6.05	101	7232899	1236.76	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	8477979	1721.01	ng		81
10) 1,1-Dichloroethene	7.20	96	4596546	1576.05	ng		86
12) Methylene chloride	8.10	49	5698090	1019.24	ng		96
13) Carbon disulfide	8.27	76	12272113	1317.43	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	5104092	1089.43	ng		98
15) trans-1,2-Dichloroethene	8.69	96	4769897	1458.61	ng		90
16) n-Hexane	8.78	57	4342794	1154.77	ng	#	1
17) 1,1-Dichloroethane	9.53	63	7860477	1163.70	ng		98
18) cis-1,2-Dichloroethene	10.76	61	6258103	1116.90	ng		88
19) Chloroform	11.08	83	9812958	1151.95	ng		98
20) Isooctane	12.04	57	14645922	1051.21	ng		95
21) 1,1,1-Trichloroethane	11.95	97	7963993	1057.12	ng		89
22) Carbon tetrachloride	12.51	117	8783308	1134.03	ng		97
24) 1,2-Dichloroethane	12.77	62	4388761	821.89	ng	#	97
25) 1,2-Dibromoethane	19.74	107	7240589	1350.63	ng		98
27) Benzene	12.85	78	11283448	1355.23	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

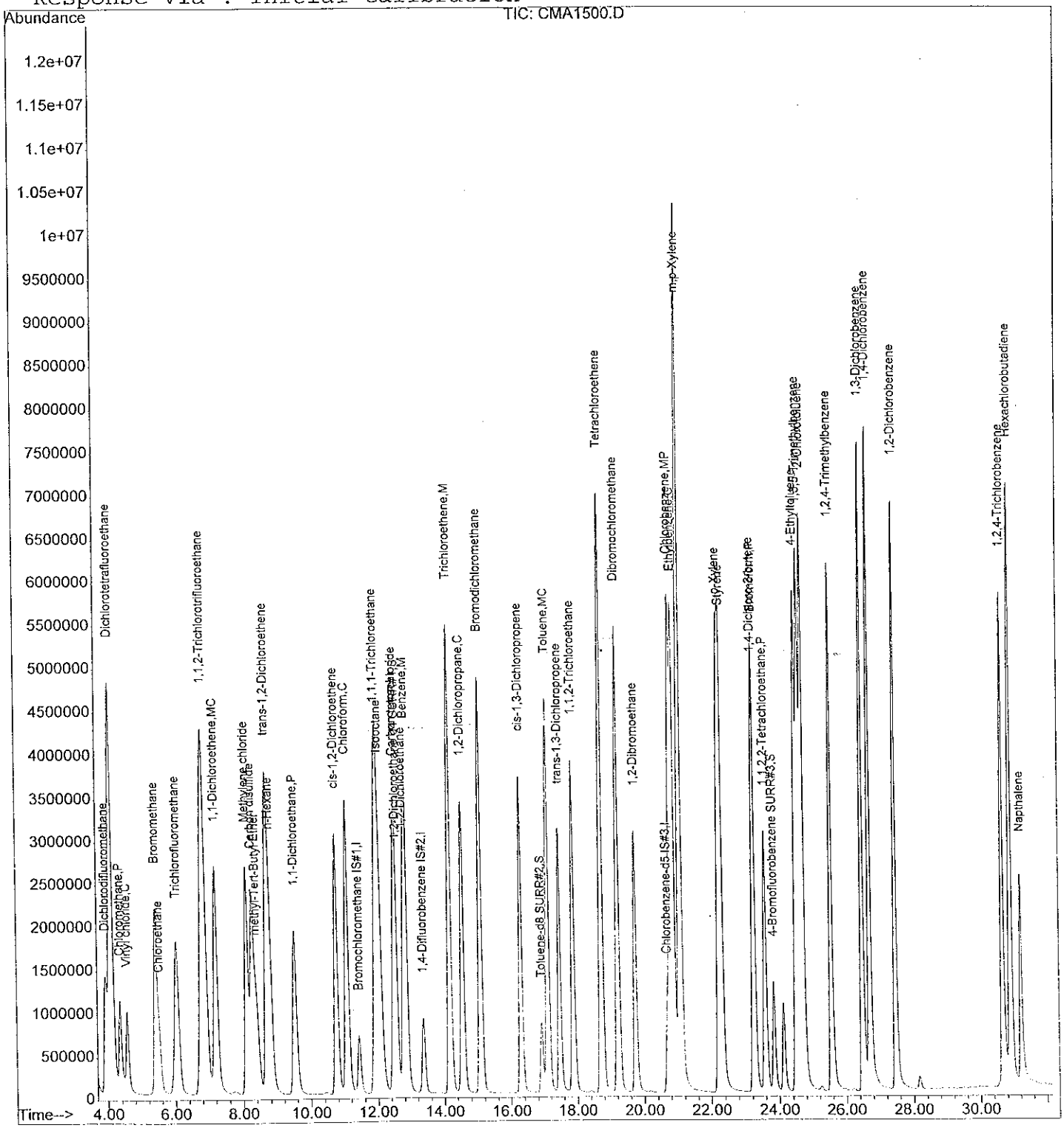
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88	ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29	ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55	ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10	ng		96
33) Toluene	17.10	92	7379692	1454.35	ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58	ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29	ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63	ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36	ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47	ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02	ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70	ng		95
42) o-Xylene	22.23	106	5544185	1534.89	ng		94
43) Styrene	22.32	104	8782292	1534.41	ng		96
44) Bromoform	23.27	173	7134144	1526.83	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88	ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33	ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18	ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11777874	1430.04	ng		89
50) 2-Chlorotoluene	24.71	91	14289331	1288.09	ng		94
51) 1,2,4-Trimethylbenzene	25.55	105	11726608	1369.68	ng		96
52) 1,3-Dichlorobenzene	26.48	146	9865243	1591.80	ng	#	94
53) 1,4-Dichlorobenzene	26.70	146	10428453	1607.89	ng	#	93
54) 1,2-Dichlorobenzene	27.46	146	8892199	1547.37	ng	#	94
55) 1,2,4-Trichlorobenzene	30.66	180	6219579	1537.66	ng		99
56) Napthalene	31.22	128	6912312	1167.99	ng	#	92
57) Hexachlorobutadiene	30.89	225	4486552	1298.56	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1128A\
Pre-Seq Cmd:
Post-Seq Cmd:

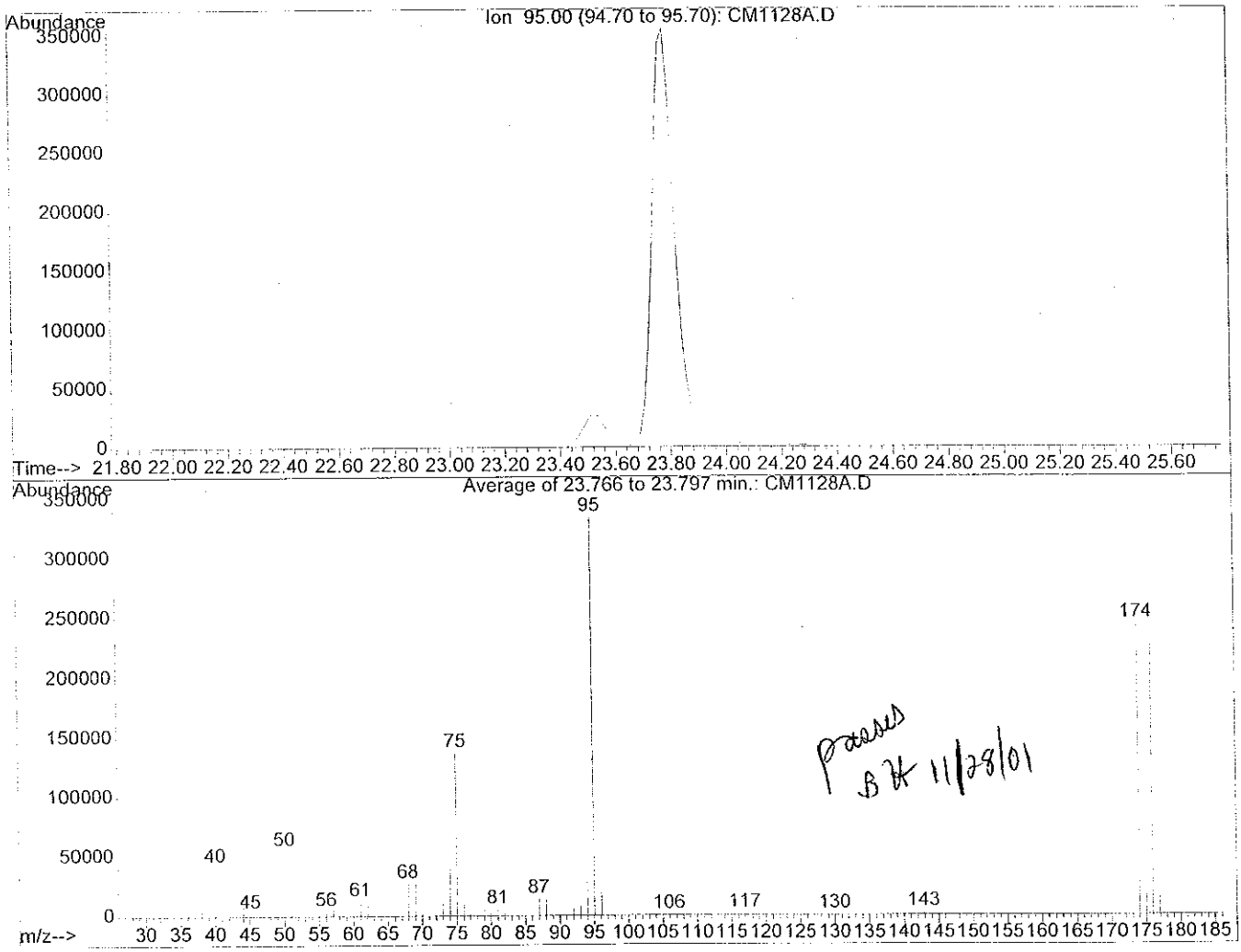
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM1128A	TO14S	VSTD050\DAILY CALIB. CHECK 50
2	Sample	15	MA241ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
3	Sample	16	MA241LCS	TO14S	VLCSMA\BATCH #241 LCS 50ppb/
4	Sample	1	BLKTUBE	BFBSTL	POS.#1 SKIP
5	Sample	2	115861	TO14S	11586-1 X500 1.0ml
6	Sample	3	115521	TO14S	11552-1 X500 1.0ml
7	Sample	4	115522	TO14S	11552-2 X500 1.0ml
8	Sample	5	115523	TO14S	11552-3 X500 1.0ml
9	Sample	1	115561	TO14S	062SVEEA11200118\11556-1 ST.
10	Sample	1	115571	TO14S	062SVEEA11200122\11557-1 ST.
11	Sample	1	QC228	TO14S	QC CAN CHECK #228 ST. 500mls

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

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



Spectrum Information: Average of 23.766 to 23.797 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	55064	PASS
75	95	30	60	41.0	137088	PASS
95	95	100	100	100.0	334208	PASS
96	95	5	9	6.6	22080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.9	243499	PASS
175	174	5	9	7.1	17264	PASS
176	174	95	101	98.0	238571	PASS
177	176	5	9	6.3	15082	PASS

Passes BH 11/28/01

CM1128A.D TO14S.M Wed Nov 28 10:29:38 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

9 areas BH 11/28/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	103	0.00
2		Dichlorodifluoromethane	1.212	1.119	7.7#	104	0.00
3		Dichlorotetrafluoroethane	1.827	1.741	4.7#	97	0.00
4	P	Chloromethane	0.869	0.881	-1.4	102	0.00
5	C	Vinyl chloride	0.833	0.884	-6.1#	102	0.00
6		Bromomethane	1.404	1.323	5.8#	97	0.00
7		Chloroethane	0.562	0.559	0.5	97	0.00
8		Trichlorofluoromethane	1.456	0.918	37.0#	63	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.053	1.0	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.132	-0.8#	99	0.00
11		Iodomethane	0.000	0.000	0.0	363#	0.00
12		Methylene chloride	1.450	1.449	0.1	96	0.00
13		Carbon disulfide	3.024	3.115	-3.0#	102	0.00
14		methyl-Tert-Butyl Ether	1.340	1.354	-1.0	96	0.00
15		trans-1,2-Dichloroethene	1.202	1.227	-2.1#	98	0.00
16		n-Hexane	1.152	1.110	3.6#	95	0.00
17	P	1,1-Dichloroethane	1.981	1.947	1.7	96	0.00
18		cis-1,2-Dichloroethene	1.581	1.556	1.6	96	0.00
19	C	Chloroform	2.506	2.473	1.3#	96	0.00
20		Isooctane	3.877	3.502	9.7#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.056	1.9	95	0.00
22		Carbon tetrachloride	2.252	2.213	1.7	95	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.011	5.2#	95	0.00
24		1,2-Dichloroethane	1.186	1.148	3.2#	89	0.00
25		1,2-Dibromoethane	1.854	1.847	0.4	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.713	0.720	-1.0	98	0.00
28	M	Trichloroethene	0.400	0.403	-0.8	97	0.00
29	C	1,2-Dichloropropane	0.299	0.292	2.3#	94	0.00
30		Bromodichloromethane	0.688	0.677	1.6	92	0.00
31		cis-1,3-Dichloropropene	0.434	0.431	0.7	93	0.00
32	S	Toluene-d8 SURR#2	0.774	0.766	1.0	103	0.00
33	MC	Toluene	0.458	0.456	0.4#	96	0.00
34		trans-1,3-Dichloropropene	0.335	0.334	0.3	91	0.00
35		1,1,2-Trichloroethane	0.278	0.272	2.2#	88	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	103	0.00
37		Tetrachloroethene	0.489	0.502	-2.7#	99	0.00
38		Dibromochloromethane	0.639	0.630	1.4	90	0.00
39	MP	Chlorobenzene	0.880	0.891	-1.3	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.349	1.1#	94	0.00
41		m,p-Xylene	0.454	0.462	-1.8	97	0.00
42		o-Xylene	0.442	0.439	0.7	94	0.00
43		Styrene	0.686	0.700	-2.0#	96	0.00
44	P	Bromoform	0.581	0.586	-0.9	89	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.522	-0.4	86	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.860	2.6#	98	0.00
47		1,4-Dichloro-2-butene	0.099	0.100	-1.0	87	0.00
48		4-Ethyltoluene	1.181	1.098	7.0#	92	0.00
49		1,3,5-Trimethylbenzene	0.909	0.892	1.9	99	0.00
50		2-Chlorotoluene	1.162	1.159	0.3	94	0.00
51		1,2,4-Trimethylbenzene	0.949	0.947	0.2	94	0.00
52		1,3-Dichlorobenzene	0.782	0.806	-3.1#	97	0.00
53		1,4-Dichlorobenzene	0.824	0.850	-3.2#	97	0.00
54		1,2-Dichlorobenzene	0.715	0.739	-3.4#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.574	-14.3#	109	0.00
56		Napthalene	0.601	0.674	-12.1#	104	0.00
57		Hexachlorobutadiene	0.433	0.482	-11.3#	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6
CM1128A.D TO14S.M Wed Nov 28 10:32:25 2001 Page 2

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

BH 11/28/01 used for Tune

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00	ng		-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00	ng		-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00	ng		-0.05 103.08%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.53	65	781052m	237.19	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.88%				
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.03%				
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88	ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19	ng	#	42
4) Chloromethane	4.33	50	680166	253.25	ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32	ng		97
6) Bromomethane	5.38	94	1022044	235.63	ng	#	99
7) Chloroethane	5.49	64	431451	248.53	ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58	ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95	ng		85
12) Methylene chloride	8.07	49	1119090	249.74	ng		98
13) Carbon disulfide	8.23	76	2406192	257.52	ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65	ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14	ng		90
16) n-Hexane	8.72	57	857489	240.98	ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75	ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09	ng		88
19) Chloroform	11.04	83	1909764	246.72	ng		98
20) Isooctane	11.98	57	2704757	225.82	ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39	ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68	ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96	ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09	ng		98
27) Benzene	12.79	78	2240715	252.47	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.12	130	1253283	251.50	ng		93
29)	1,2-Dichloropropane	14.50	63	909704	244.44	ng		97
30)	Bromodichloromethane	15.04	83	2107004	245.96	ng		99
31)	cis-1,3-Dichloropropene	16.25	75	1340162	247.87	ng		98
33)	Toluene	17.06	92	1419152	249.16	ng		99
34)	trans-1,3-Dichloropropene	17.42	75	1040475	249.76	ng		99
35)	1,1,2-Trichloroethane	17.82	97	847991	244.92	ng		96
37)	Tetrachloroethene	18.67	164	1192234	256.92	ng		93
38)	Dibromochloromethane	19.16	127	1494788	246.43	ng		97
39)	Chlorobenzene	20.72	112	2114458	253.11	ng		93
40)	Ethylbenzene	20.82	106	828084	246.86	ng		99
41)	m,p-Xylene	21.02	106	2192808	508.26	ng		92
42)	o-Xylene	22.17	106	1041833	248.47	ng		98
43)	Styrene	22.24	104	1662897	255.19	ng		97
44)	Bromoform	23.19	173	1392067	252.38	ng		99
45)	1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07	ng		99
47)	1,4-Dichloro-2-butene	23.18	75	236426	252.06	ng		91
48)	4-Ethyltoluene	24.45	105	2605946	232.33	ng		94
49)	1,3,5-Trimethylbenzene	24.54	105	2118334	245.40	ng		88
50)	2-Chlorotoluene	24.65	91	2752179	249.41	ng		95
51)	1,2,4-Trimethylbenzene	25.49	105	2247221	249.50	ng		95
52)	1,3-Dichlorobenzene	26.42	146	1912389m	257.41	ng		94
53)	1,4-Dichlorobenzene	26.62	146	2017612	257.73	ng	#	94
54)	1,2-Dichlorobenzene	27.40	146	1754592	258.27	ng	#	93
55)	1,2,4-Trichlorobenzene	30.58	180	1361919	285.69	ng		100
56)	Napthalene	31.13	128	1599490	283.12	ng	#	92
57)	Hexachlorobutadiene	30.81	225	1143710	278.03	ng		99

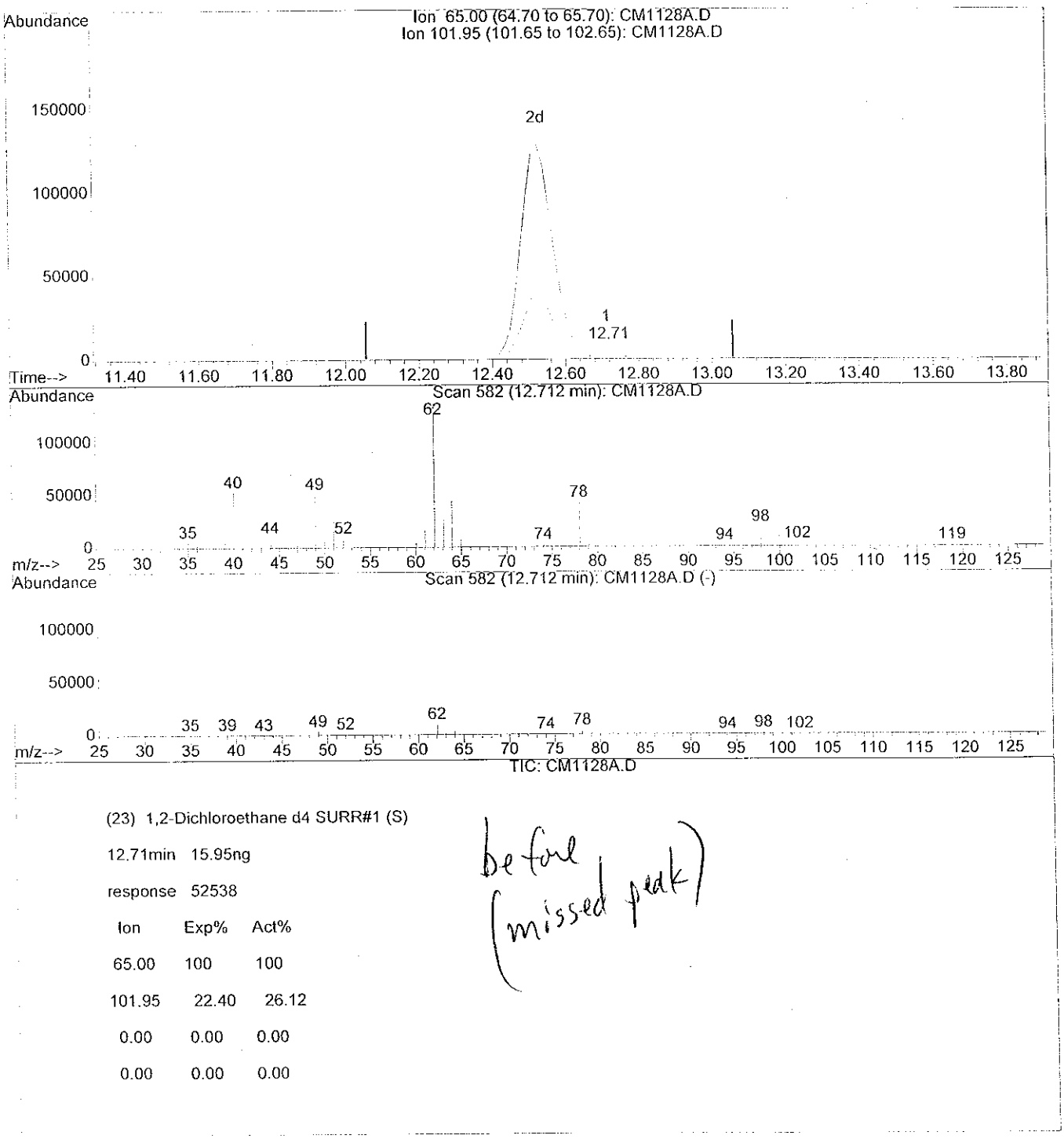
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.71min 15.95ng

response 52538

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.12
0.00	0.00	0.00
0.00	0.00	0.00

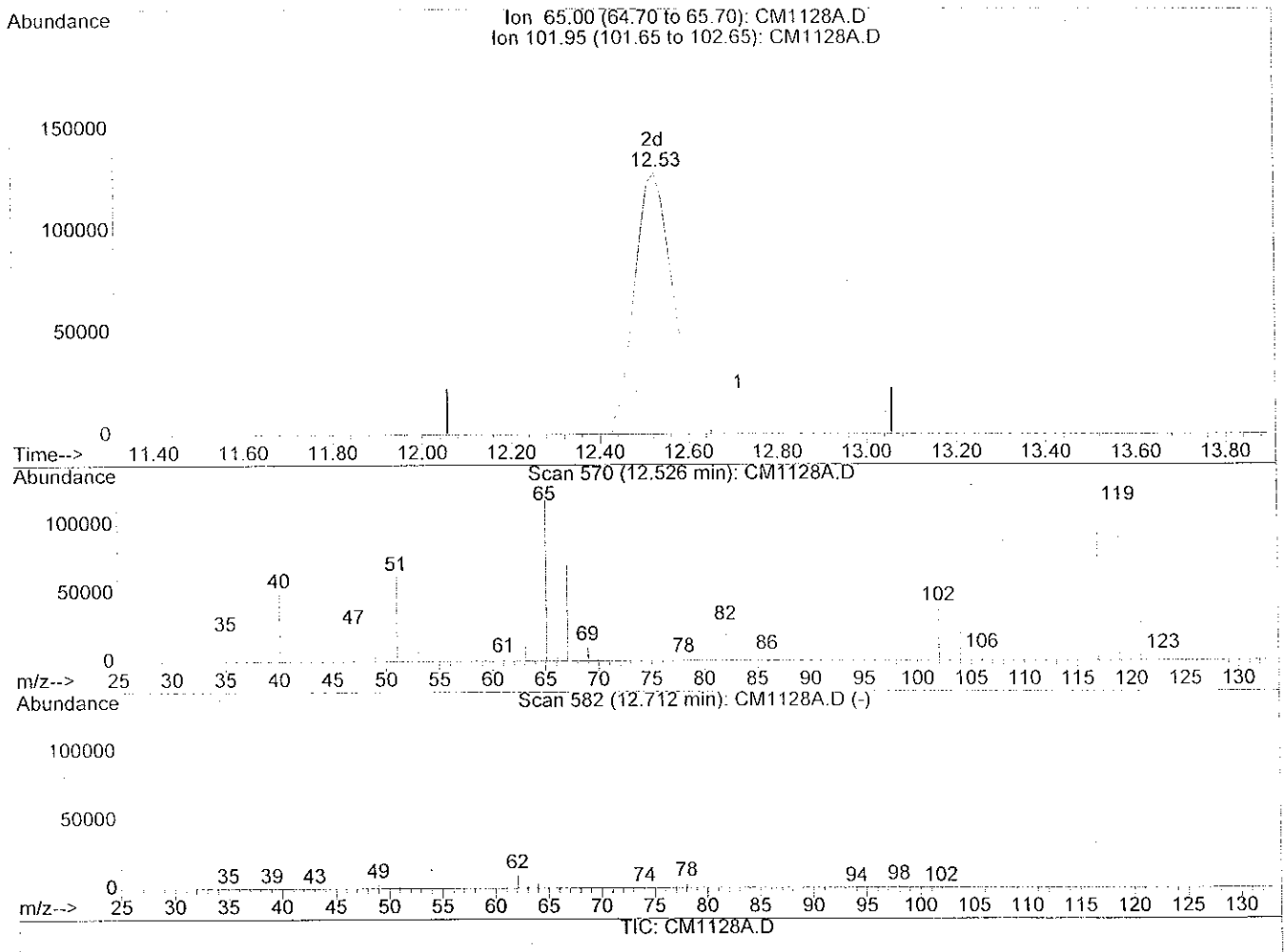
before (missed peak)

CM1128A.D TO14S.M Wed Nov 28 10:32:05 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:30:29 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.53min 237.19ng m

response 781052

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	1.76#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/28/01

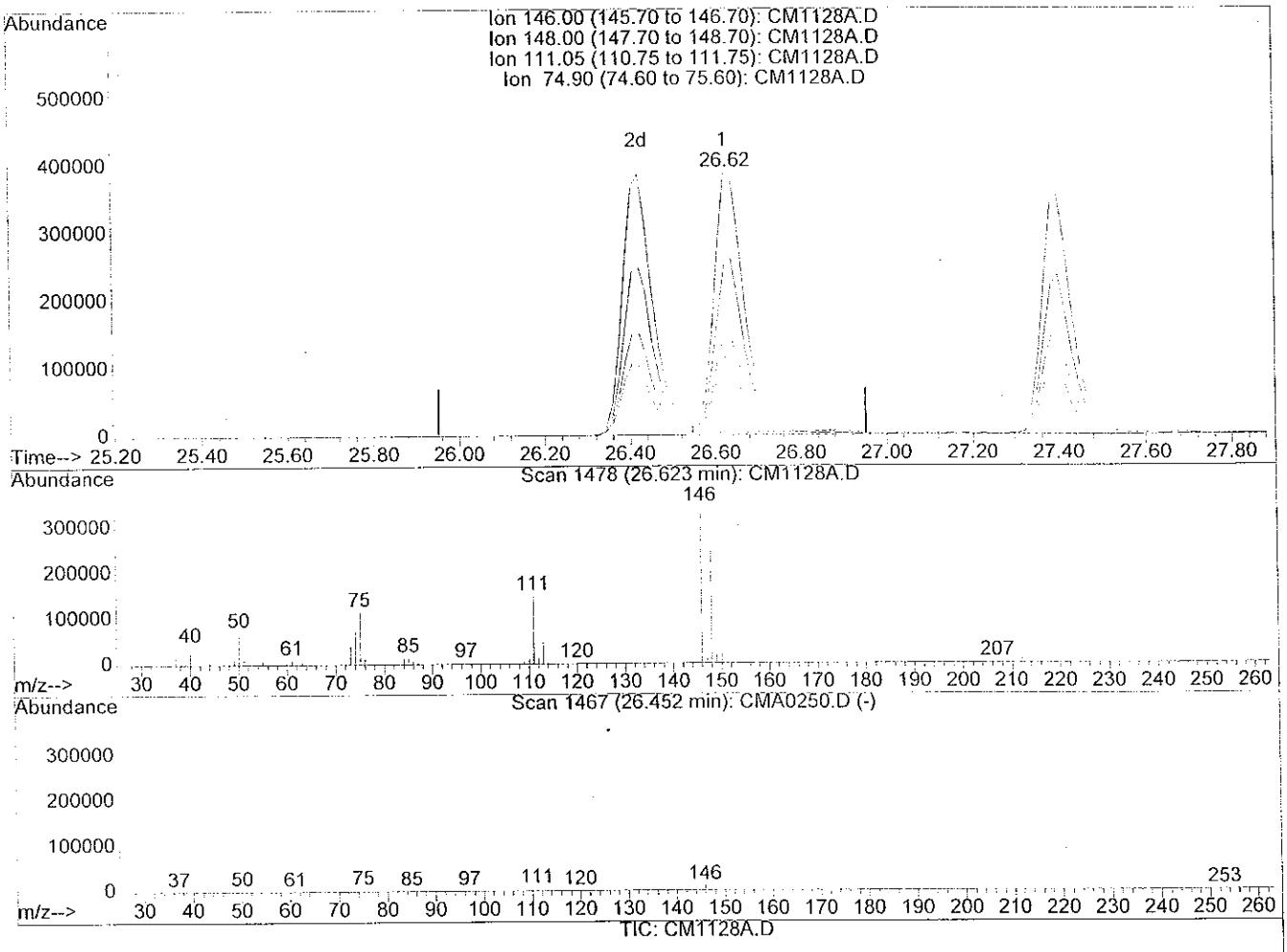
11-29-01

CM1128A.D TO14S.M Wed Nov 28 10:32:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.62min 261.46ng

response 1942471

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.45
111.05	44.40	37.81
74.90	35.60	28.58

before
(wrong peak)

CM1128A.D TO14S.M Wed Nov 28 10:30:14 2001

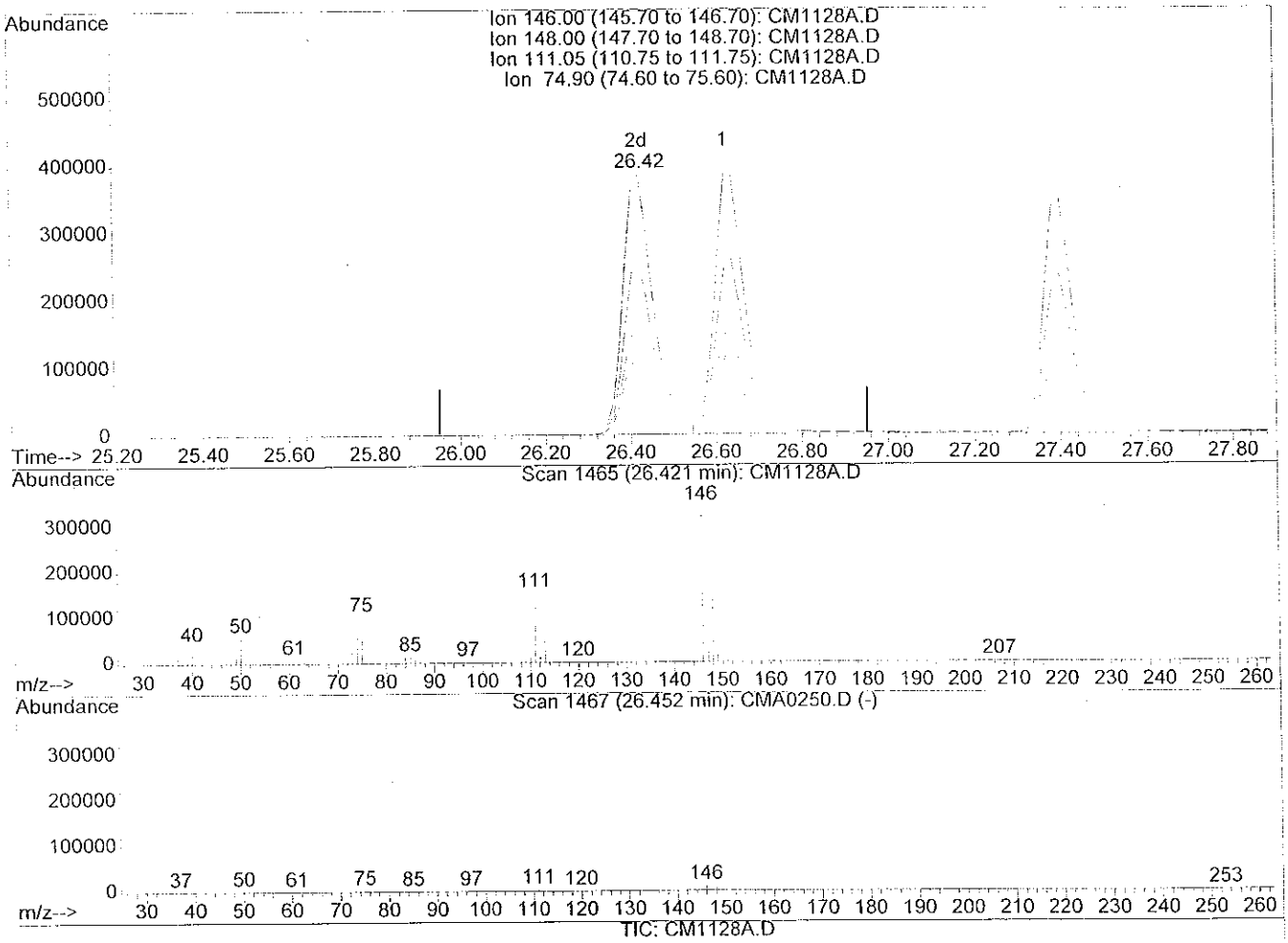
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Multiple Level Calibration



(52) 1,3-Dichlorobenzene

26.42min 257.41ng m

response 1912389

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	67.49
111.05	44.40	38.40
74.90	35.60	29.03

after
BDH 11/28/01

11-29-01

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00	ng		-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00	ng		-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00	ng		-0.05 103.08%
System Monitoring Compounds					ng repeat		
23) 1,2-Dichloroethane d4 SURR	12.71	65	52538	15.95	ng		0.16
Spiked Amount 250.000	Range 61 - 140		Recovery = 6.38%#				
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.03%				
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88	ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19	ng	#	42
4) Chloromethane	4.33	50	680166	253.25	ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32	ng		97
6) Bromomethane	5.38	94	1022044	235.63	ng	#	99
7) Chloroethane	5.49	64	431451	248.53	ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58	ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95	ng		85
12) Methylene chloride	8.07	49	1119090	249.74	ng		98
13) Carbon disulfide	8.23	76	2406192	257.52	ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65	ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14	ng		90
16) n-Hexane	8.72	57	857489	240.98	ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75	ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09	ng		88
19) Chloroform	11.04	83	1909764	246.72	ng		98
20) Isooctane	11.98	57	2704757	225.82	ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39	ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68	ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96	ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09	ng		98
27) Benzene	12.79	78	2240715	252.47	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D Vial: 14
Acq On : 28 Nov 2001 9:31 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.12	130	1253283	251.50	ng		93
29) 1,2-Dichloropropane	14.50	63	909704	244.44	ng		97
30) Bromodichloromethane	15.04	83	2107004	245.96	ng		99
31) cis-1,3-Dichloropropene	16.25	75	1340162	247.87	ng		98
33) Toluene	17.06	92	1419152	249.16	ng		99
34) trans-1,3-Dichloropropene	17.42	75	1040475	249.76	ng		99
35) 1,1,2-Trichloroethane	17.82	97	847991	244.92	ng		96
37) Tetrachloroethene	18.67	164	1192234	256.92	ng		93
38) Dibromochloromethane	19.16	127	1494788	246.43	ng		97
39) Chlorobenzene	20.72	112	2114458	253.11	ng		93
40) Ethylbenzene	20.82	106	828084	246.86	ng		99
41) m,p-Xylene	21.02	106	2192808	508.26	ng		92
42) o-Xylene	22.17	106	1041833	248.47	ng		98
43) Styrene	22.24	104	1662897	255.19	ng		97
44) Bromoform	23.19	173	1392067	252.38	ng		99
45) 1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07	ng		99
47) 1,4-Dichloro-2-butene	23.18	75	236426	252.06	ng		91
48) 4-Ethyltoluene	24.45	105	2605946	232.33	ng		94
49) 1,3,5-Trimethylbenzene	24.54	105	2118334	245.40	ng		88
50) 2-Chlorotoluene	24.65	91	2752179	249.41	ng		95
51) 1,2,4-Trimethylbenzene	25.49	105	2247221	249.50	ng		95
52) 1,3-Dichlorobenzene	26.62	146	1942471	261.46	ng		94
53) 1,4-Dichlorobenzene	26.62	146	2017612	257.73	ng	#	94
54) 1,2-Dichlorobenzene	27.40	146	1754592	258.27	ng	#	93
55) 1,2,4-Trichlorobenzene	30.58	180	1361919	285.69	ng		100
56) Napthalene	31.13	128	1599490	283.12	ng	#	92
57) Hexachlorobutadiene	30.81	225	1143710	278.03	ng		99

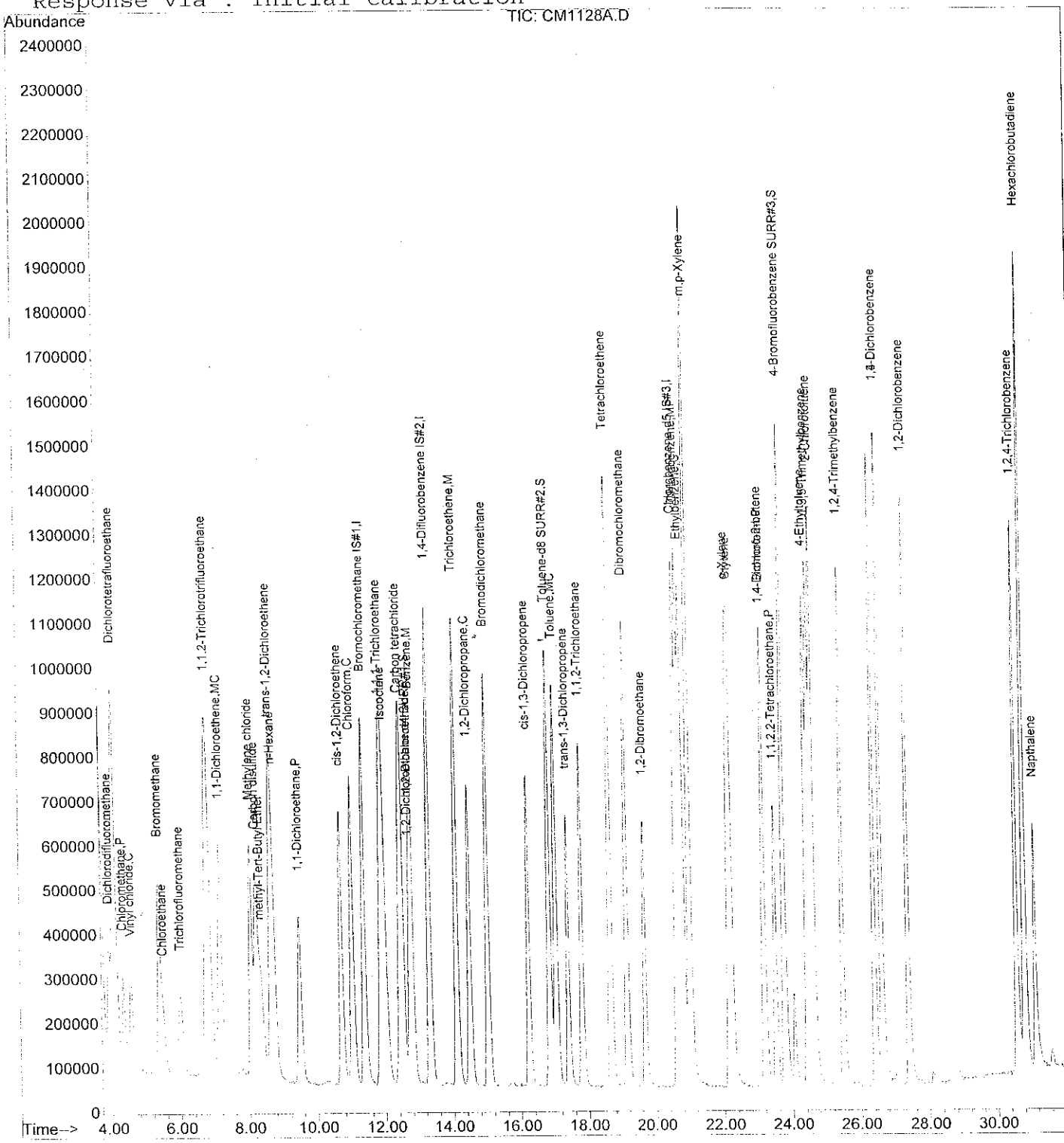
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D Vial: 15
Acq On : 28 Nov 2001 10:59 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 11:38 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00 ng	0.03 93.25%
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00 ng	0.05 90.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00 ng	0.03 91.10%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11 ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%		
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79 ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%		
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%		

Target Compounds Qvalue

no hits

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	720219	250.00	ng	0.03 93.25%
26) 1,4-Difluorobenzene IS#2	13.36	114	2817140	250.00	ng	0.05 90.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2162601	250.00	ng	0.03 91.10%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	752636	245.11	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.04%			
32) Toluene-d8 SURR#2	16.90	98	2169910	248.79	ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.52%			
46) 4-Bromofluorobenzene SURR#	23.81	95	1885173	246.75	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.70%			
Target Compounds						Qvalue
4) Chloromethane	4.56	50	1964	0.78	ng	# 7
6) Bromomethane	5.35	94	2142	0.53	ng	# 9
14) methyl-Tert-Butyl Ether	8.41	73	1082	0.28	ng	# 52
24) 1,2-Dichloroethane	12.79	62	1013	0.30	ng	# 49
27) Benzene	12.81	78	3036	0.38	ng	# 54
39) Chlorobenzene	20.75	112	3314	0.44	ng	# 20
55) 1,2,4-Trichlorobenzene	30.64	180	5001	1.15	ng	# 83
56) Napthalene	31.19	128	25740	10.84	ng(c.o.)	# NR 64

ng report

CRL/NR/NSF

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

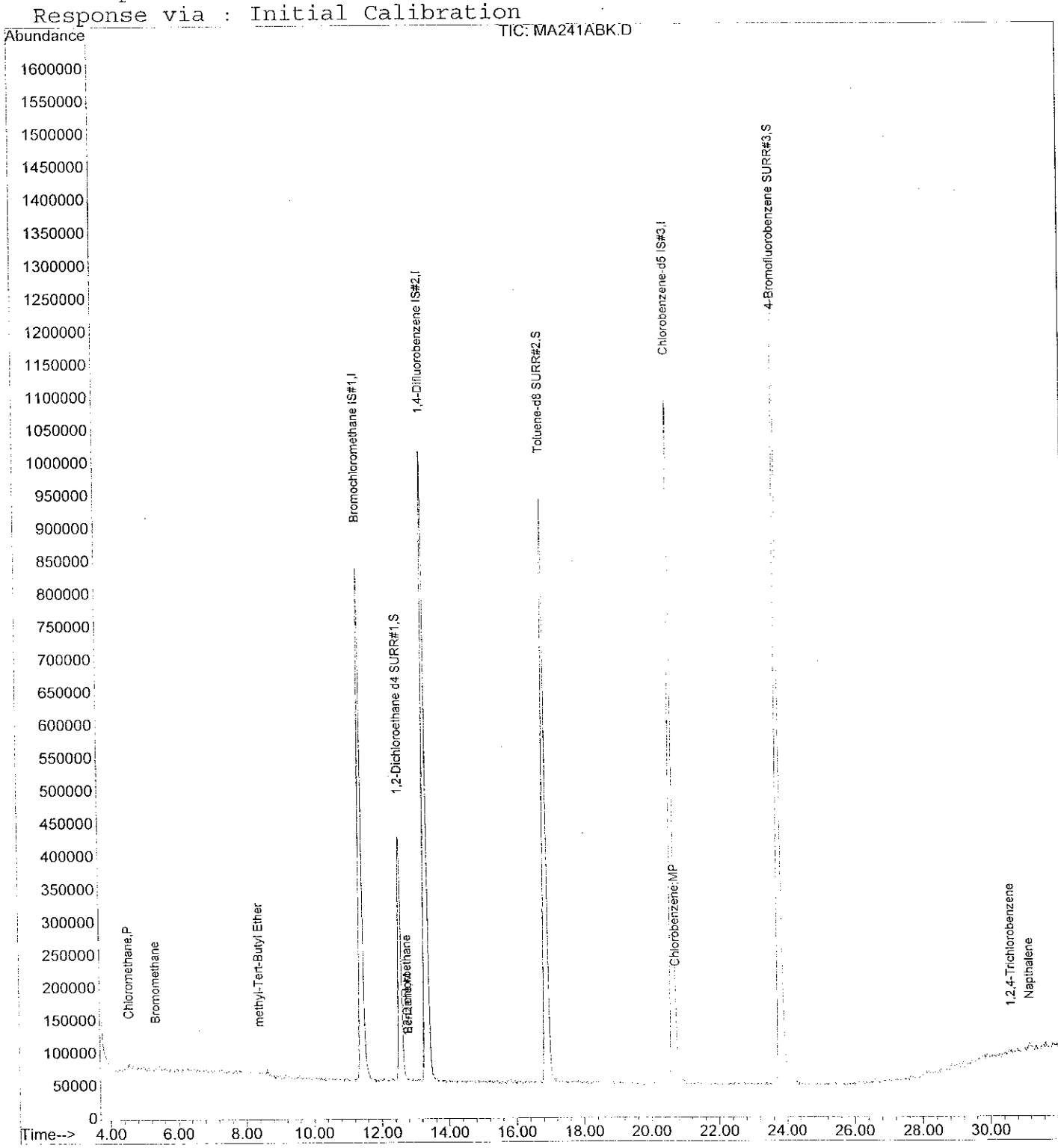
Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Thu Nov 29 09:13:08 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	231.01	250.00	92.41	58 to 138%	[ ]
27)	M	Benzene	260.31	250.00	104.13	87 to 116%	[ ]
28)	M	Trichloroethene	266.13	250.00	106.45	85 to 116%	[ ]
33)	MC	Toluene	264.23	250.00	105.69	86 to 113%	[ ]
39)	MP	Chlorobenzene	269.75	250.00	107.90	88 to 111%	[ ]

* = out of control limits
Thu Nov 29 09:22:01 2001 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 13:27 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00	ng		0.02
							101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00	ng		0.04
							101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00	ng		0.04
							101.06%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25	ng		0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.50%				
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14	ng		0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.26%				
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08	ng		0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.43%				
Target Compounds							Qvalue
10) 1,1-Dichloroethene	7.19	96	816654	231.01	ng		86
27) Benzene	12.83	78	2347061	260.31	ng		98
28) Trichloroethene	14.14	130	1347269	266.13	ng		93
33) Toluene	17.09	92	1528943	264.23	ng		98
39) Chlorobenzene	20.76	112	2277420	269.75	ng	#	85

ng report

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00	ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00	ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00	ng	0.04 101.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.50%			
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14	ng	0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.26%			
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08	ng	0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.43%			
Target Compounds						Qvalue
4) Chloromethane	4.57	50	940	0.34	ng	# 11
6) Bromomethane	5.45	94	5513	1.25	ng	# 9
10) 1,1-Dichloroethene	7.19	96	816654	231.01	ng	86
14) methyl-Tert-Butyl Ether	8.37	73	10536	2.50	ng	# 52
24) 1,2-Dichloroethane	12.81	62	19716	5.28	ng	# 49
25) 1,2-Dibromoethane	19.72	107	7064	1.21	ng	85
27) Benzene	12.83	78	2347061	260.31	ng	98
28) Trichloroethene	14.14	130	1347269	266.13	ng	93
33) Toluene	17.09	92	1528943	264.23	ng	98
34) trans-1,3-Dichloropropene	17.08	75	13103	3.10	ng	# 1
35) 1,1,2-Trichloroethane	17.86	97	1093	0.31	ng	# 14
39) Chlorobenzene	20.76	112	2277420	269.75	ng	# 85
44) Bromoform	23.23	173	13171	2.36	ng	# 64
45) 1,1,2,2-Tetrachloroethane	23.55	83	25476	5.10	ng	# 94
48) 4-Ethyltoluene	24.58	105	972	0.09	ng	# 46
49) 1,3,5-Trimethylbenzene	24.58	105	972	0.11	ng	# 30
50) 2-Chlorotoluene	24.70	91	1970	0.18	ng	# 47
51) 1,2,4-Trimethylbenzene	25.91	105	9172	1.01	ng	# 31
52) 1,3-Dichlorobenzene	26.46	146	940	0.13	ng	# 27
53) 1,4-Dichlorobenzene	26.67	146	1049	0.13	ng	# 27
54) 1,2-Dichlorobenzene	27.43	146	3680	0.54	ng	# 55
55) 1,2,4-Trichlorobenzene	30.63	180	24674	5.12	ng	# 90
56) Napthalene	31.18	128	87878	21.02	ng	# 87

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

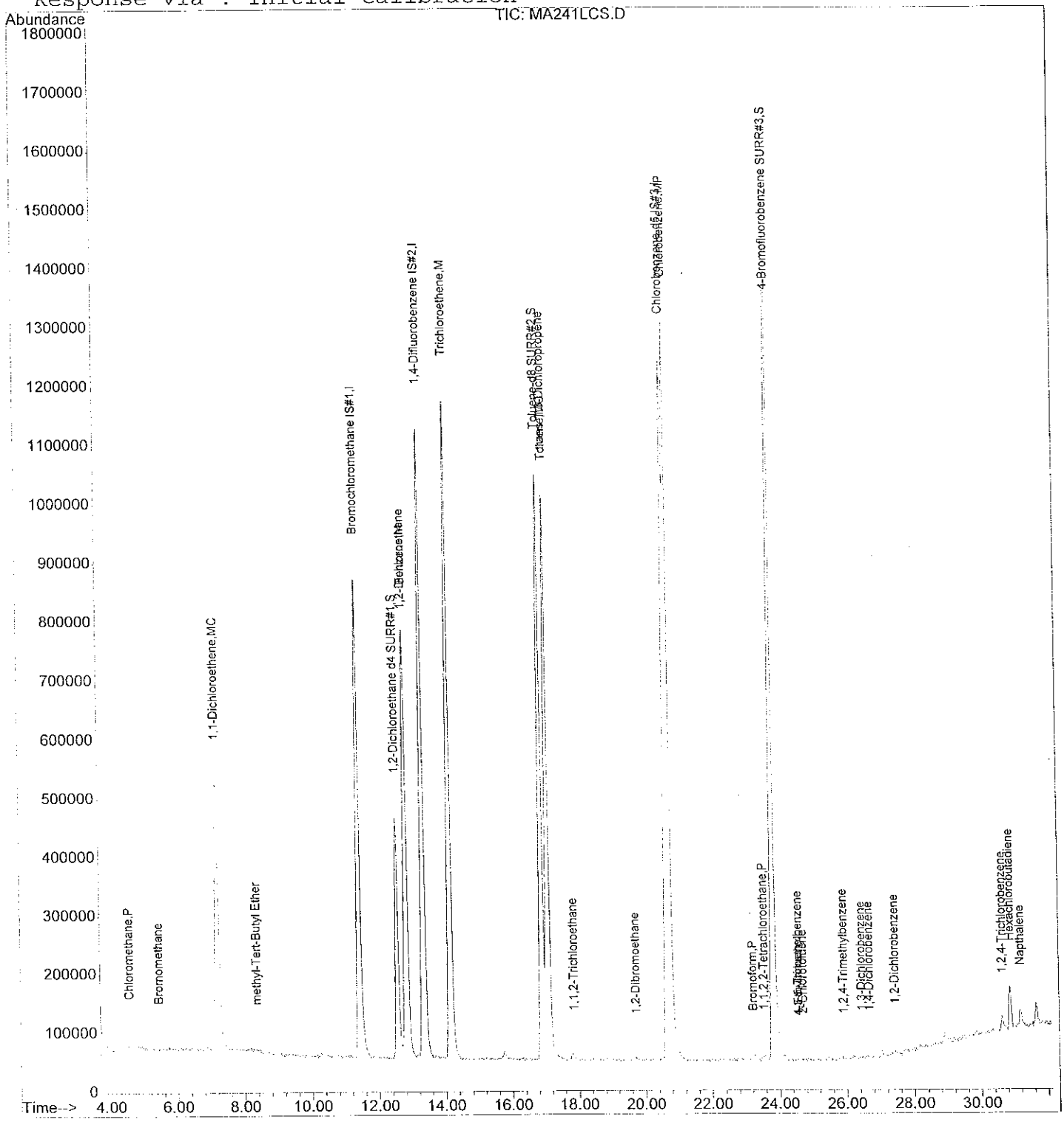
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57) Hexachlorobutadiene	30.87	225	52072	12.53	ng	96

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : ~~GC/MS~~ Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BA 11/28/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00	ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00	ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00	ng	0.00 107.67%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.14%			
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.83%			
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.11%			
Target Compounds						Qvalue
20) Isooctane	11.94	57	133954	NR 0.04	ng	81
27) Benzene	12.80	78	32453	0.01	ng	72
33) Toluene	17.06	92	70159	0.05	ng	97 F
41) m,p-Xylene	21.03	106	57137	0.05	ng	99 F
42) o-Xylene	22.17	106	14664	0.01	ng	92
48) 4-Ethyltoluene	24.40	105	31777	0.01	ng	81
56) Napthalene	31.09	128	10078	NR 0.03	ng	64 F

mg/m3 report

(#) = qualifier out of range (m) = manual integration
115561.D TO14S.M Wed Nov 28 16:03:11 2001 Page 1

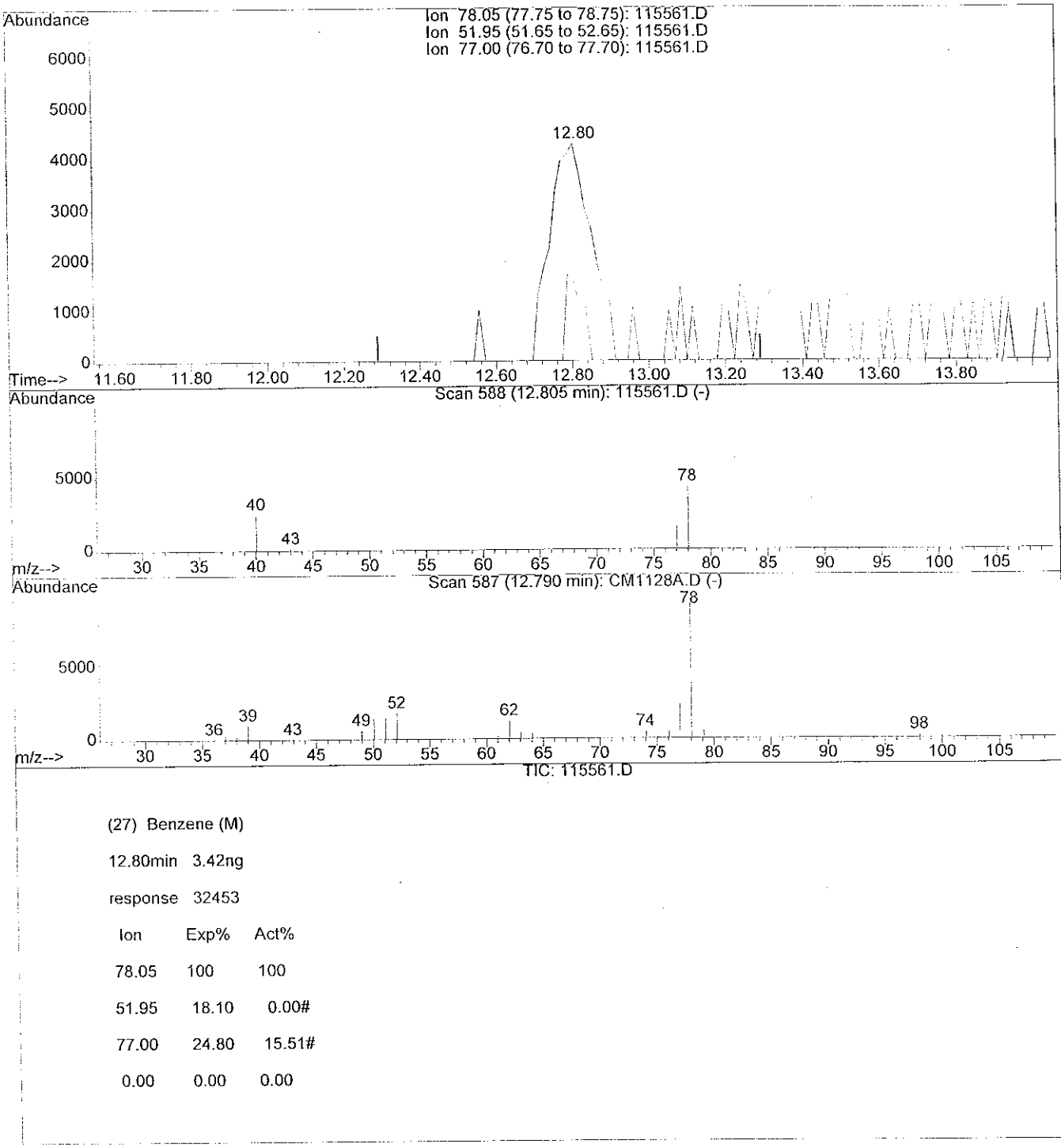
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(27) Benzene (M)

12.80min 3.42ng

response 32453

Ion	Exp%	Act%
78.05	100	100
51.95	18.10	0.00#
77.00	24.80	15.51#
0.00	0.00	0.00

115561.D TO14S.M Wed Nov 28 16:01:10 2001

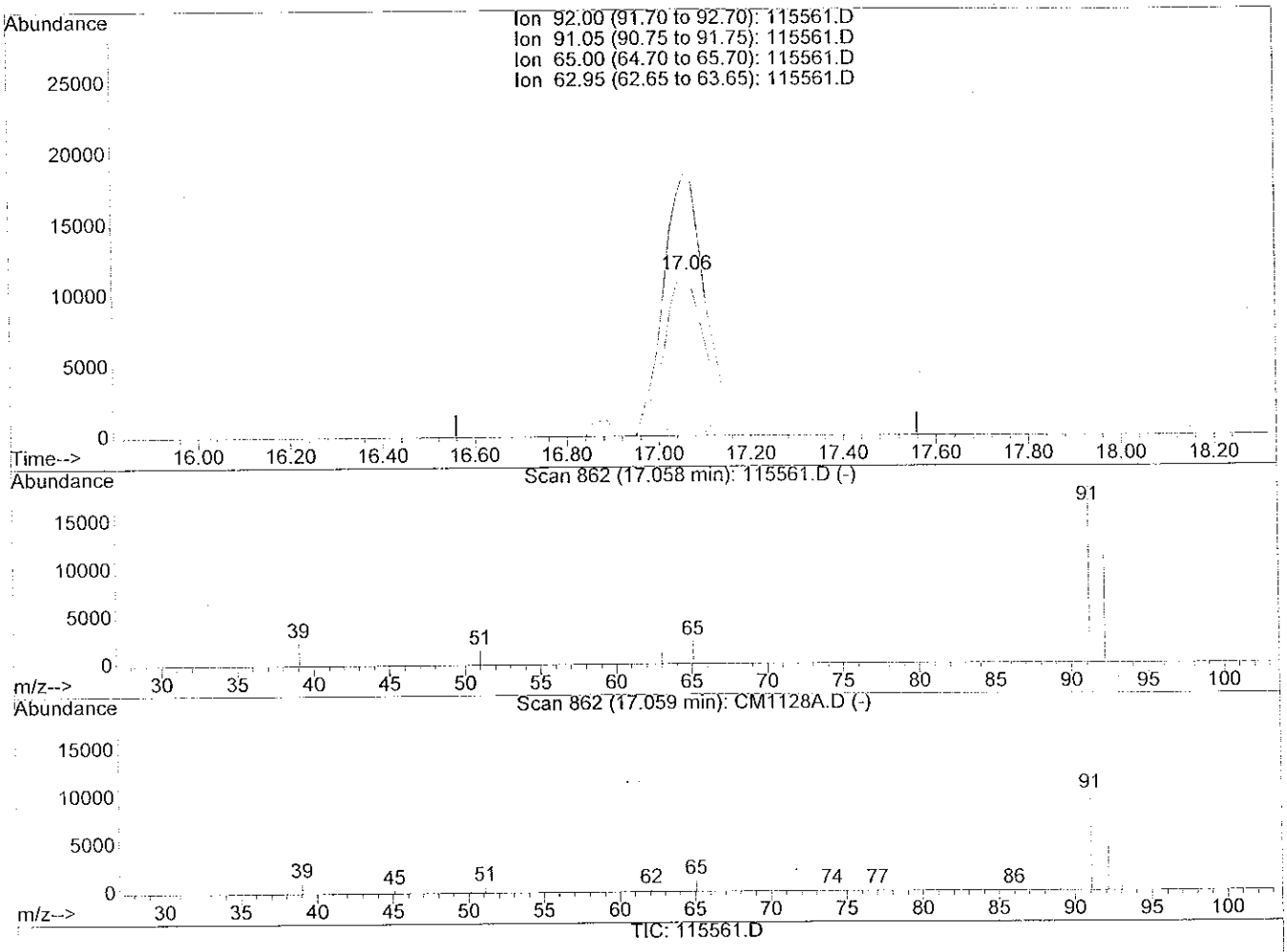
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(33) Toluene (MC)

17.06min 11.53ng

response 70159

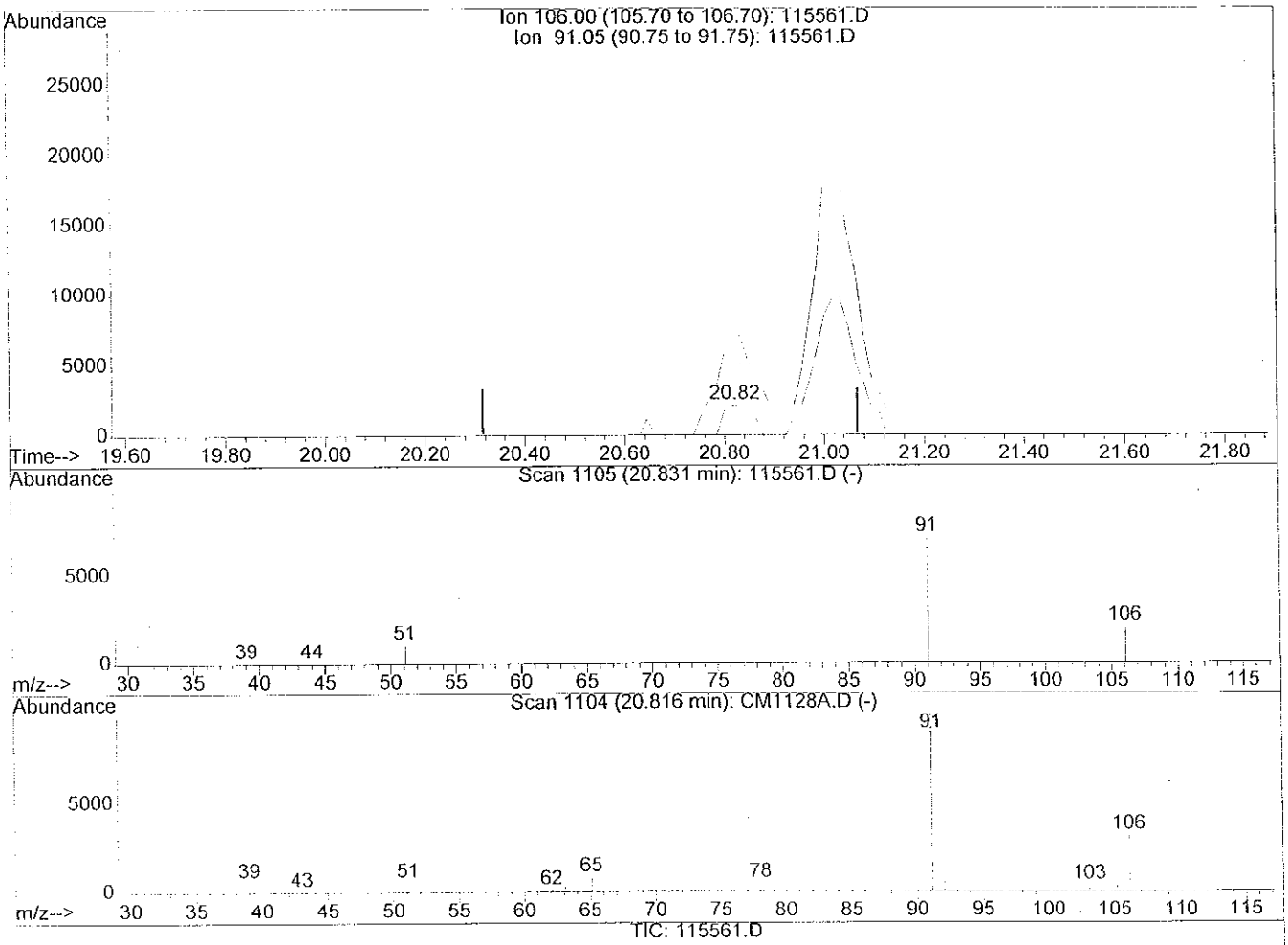
Ion	Exp%	Act%
92.00	100	100
91.05	165.10	167.52
65.00	20.80	19.74
62.95	14.20	8.83#

115561.D TO14S.M Wed Nov 28 16:01:22 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(40) Ethylbenzene (C)

20.82min 2.27ng

response 8193

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	486.26#
0.00	0.00	0.00
0.00	0.00	0.00

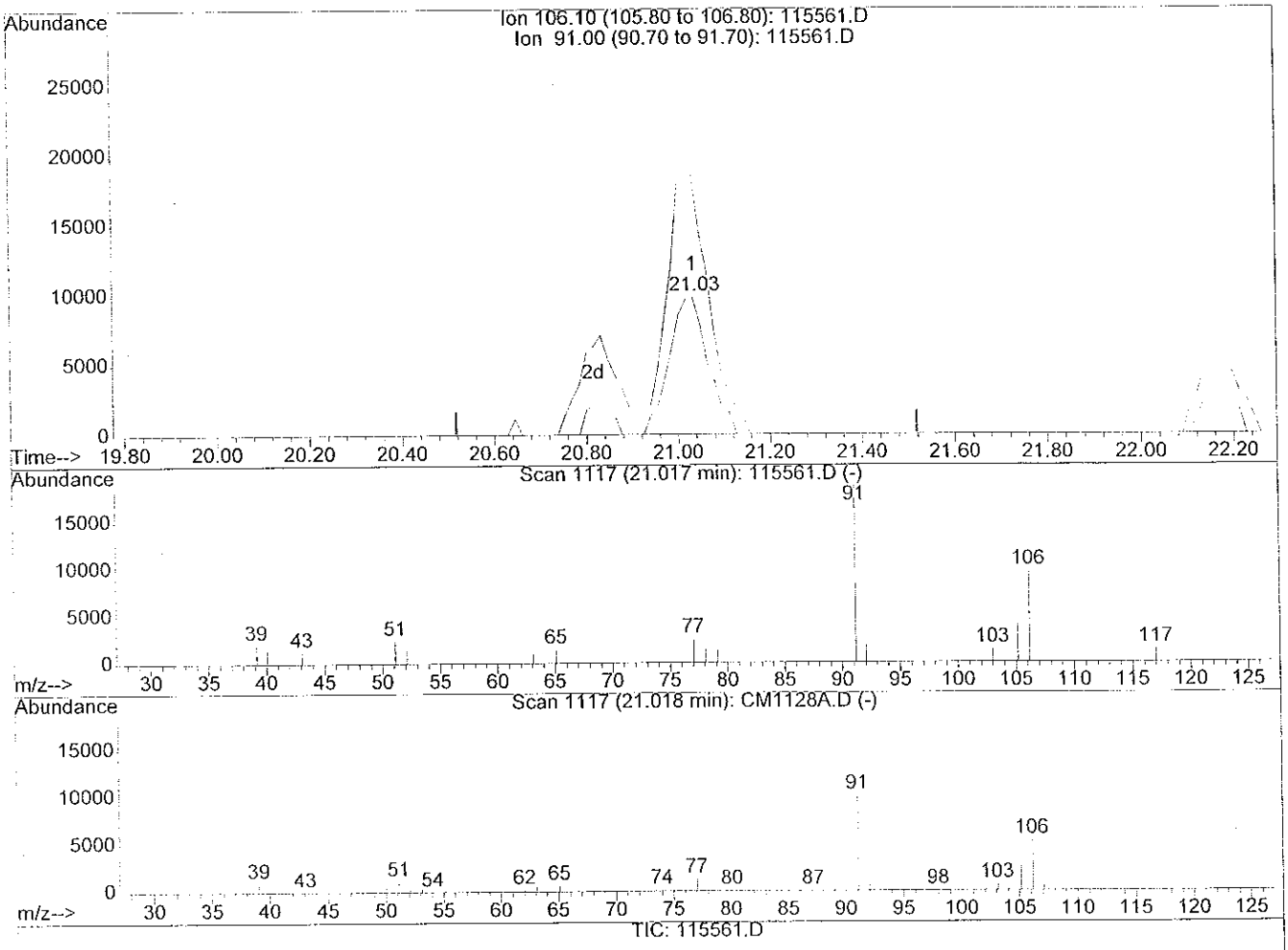
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(41) m,p-Xylene

21.03min 12.30ng

response 57137

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	206.95
0.00	0.00	0.00
0.00	0.00	0.00

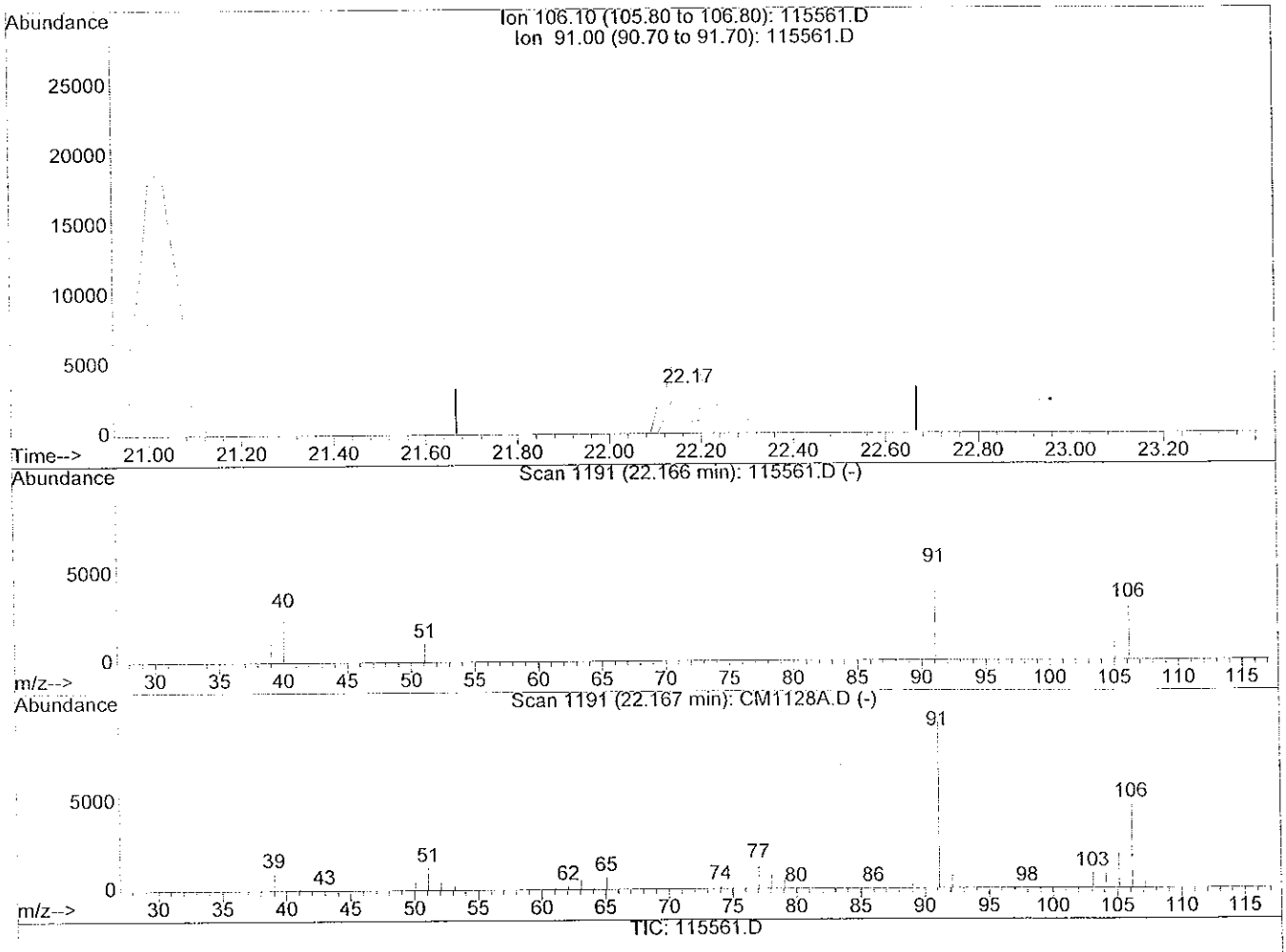
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.17min 3.25ng

response 14664

Ion	Exp%	Act%
106.10	100	100
91.00	215.80	229.19
0.00	0.00	0.00
0.00	0.00	0.00

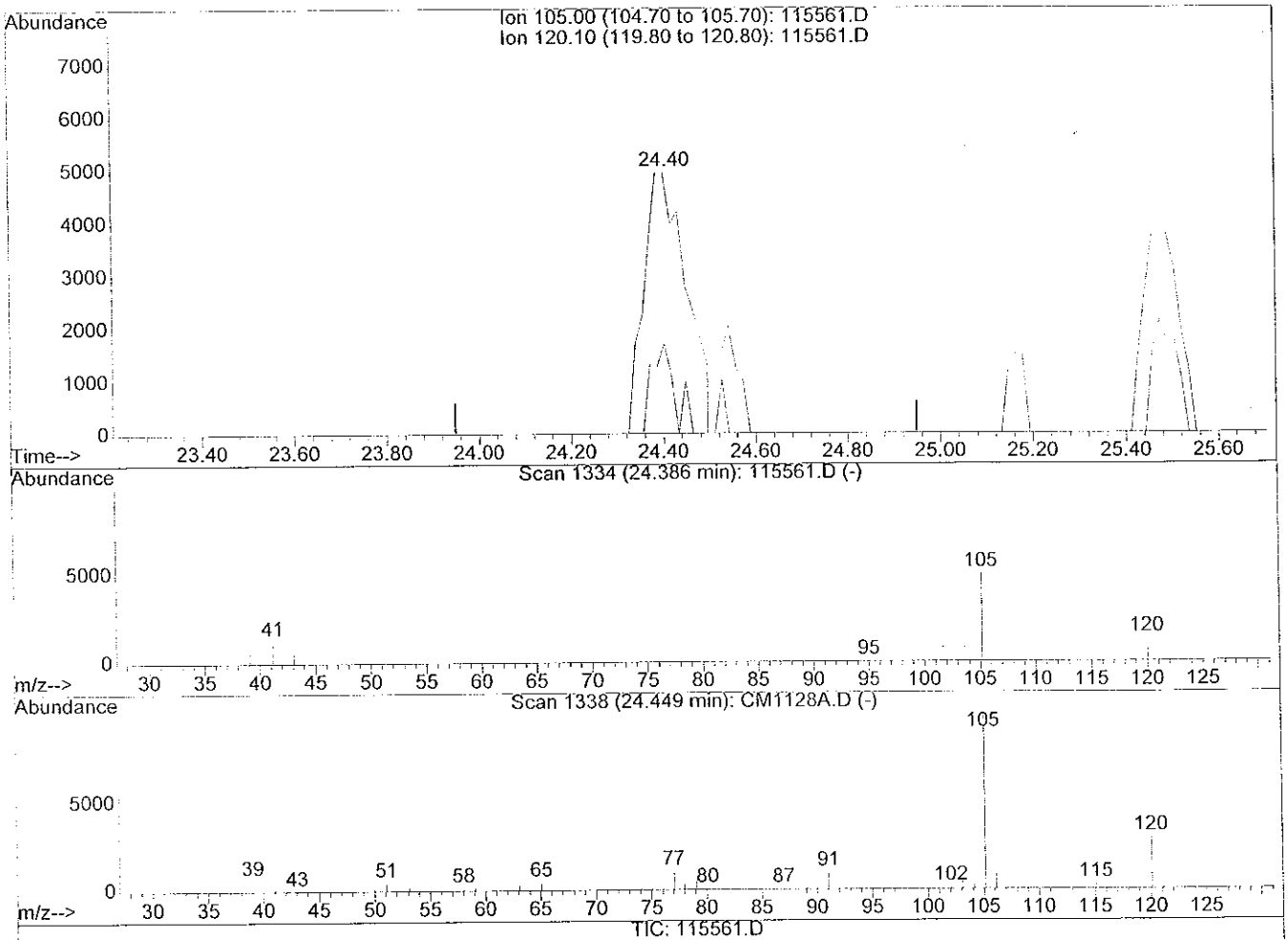
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.40min 2.63ng

response 31777

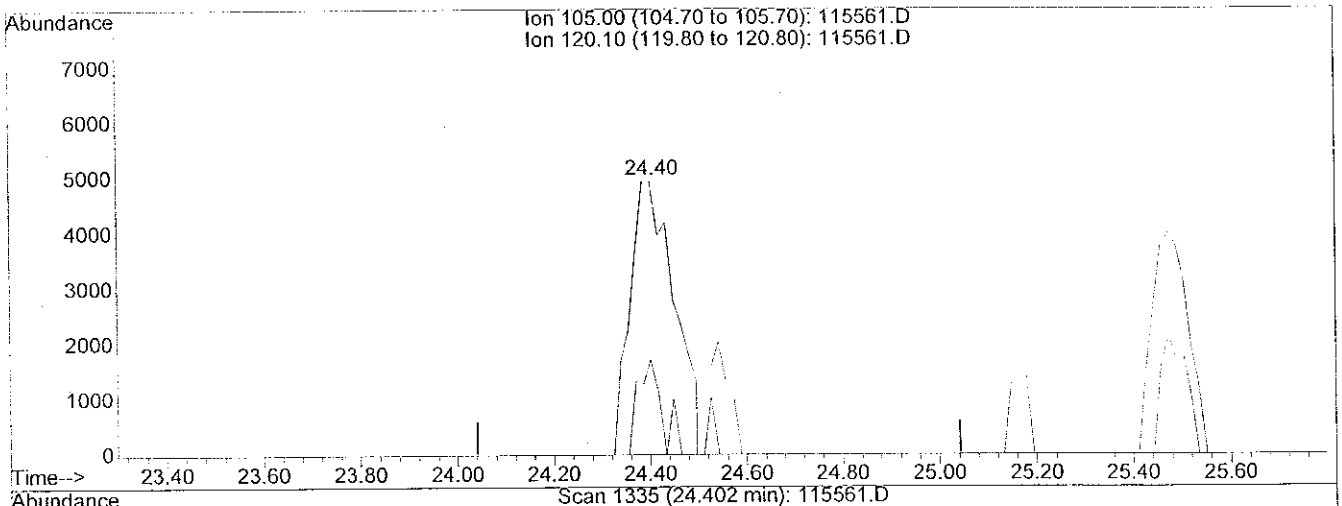
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

115561.D TO14S.M Wed Nov 28 16:02:05 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



TIC: 115561.D

(49) 1,3,5-Trimethylbenzene

24.40min 3.42ng

response 31777

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	18.91#
0.00	0.00	0.00
0.00	0.00	0.00

Before (wrong peak)

115561.D TO14S.M Wed Nov 28 16:02:10 2001

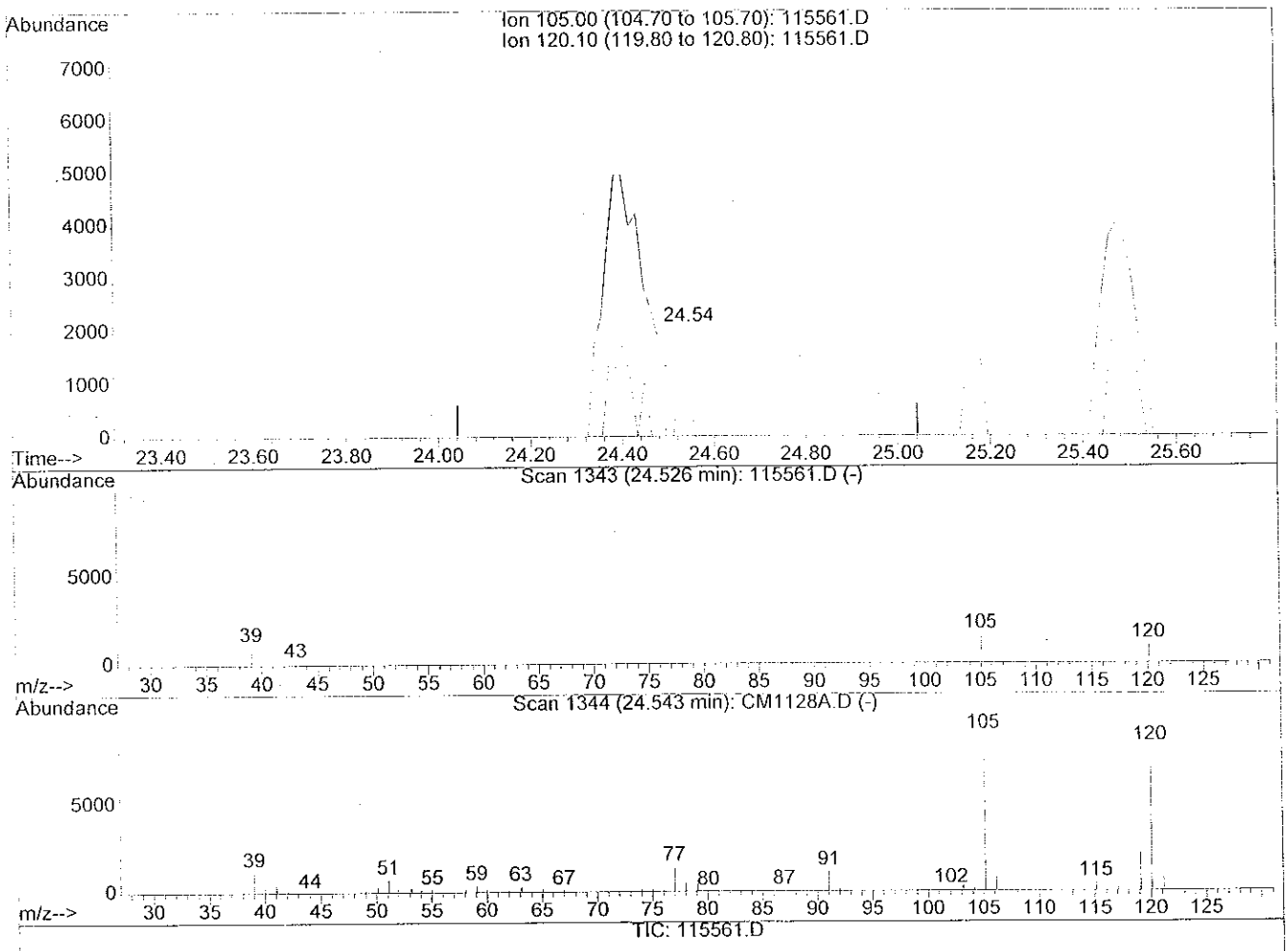
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.54min 0.74ng m

response 6857

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	87.62#
0.00	0.00	0.00
0.00	0.00	0.00

after BDH 11/28/01

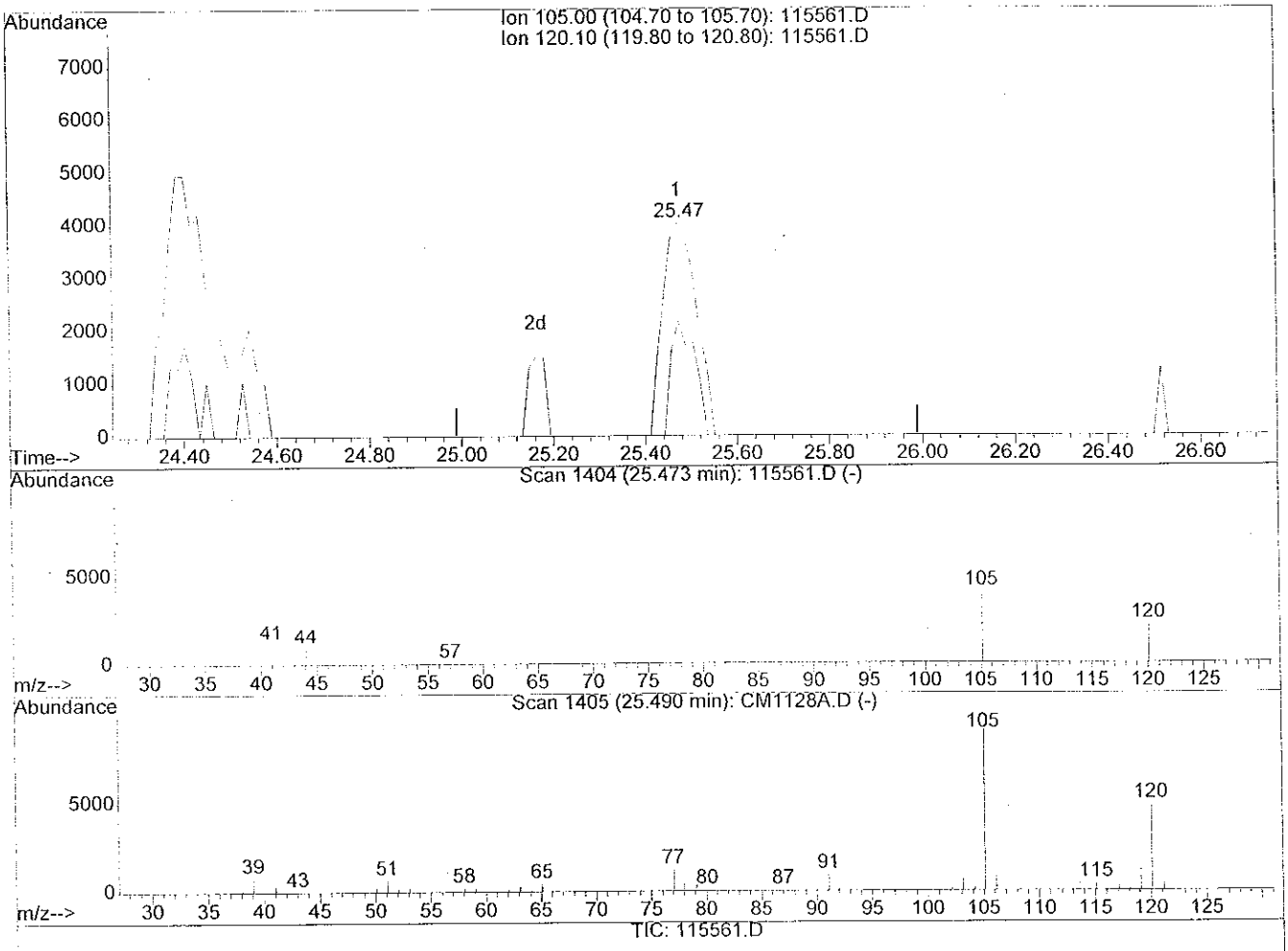
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(51) 1,2,4-Trimethylbenzene

25.47min 2.11ng

response 20485

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	37.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D Vial: 1
Acq On : 28 Nov 2001 15:23 Operator: BDH
Sample : 062SVEEA11200118\11556-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 15:56 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	859704	250.00	ng	0.01 111.31%
26) 1,4-Difluorobenzene IS#2	13.32	114	3324919	250.00	ng	0.00 106.83%
36) Chlorobenzene-d5 IS#3	20.63	117	2555967	250.00	ng	0.00 107.67%
System Monitoring Compounds						ng report
23) 1,2-Dichloroethane d4 SURR	12.53	65	917576	250.34	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 100.14%			
32) Toluene-d8 SURR#2	16.87	98	2569158	249.58	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.83%			
46) 4-Bromofluorobenzene SURR#	23.77	95	2214881	245.28	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.11%			
Target Compounds						Qvalue
6) Bromomethane	5.40	94	1218	0.25	ng	# 9
10) 1,1-Dichloroethene	7.17	96	978	0.25	ng	# 1
15) trans-1,2-Dichloroethene	8.92	96	952	0.23	ng	# 1
16) n-Hexane	8.72	57	39205	9.90	ng	# 3
20) Isooctane	11.94	57	133954	10.05	ng	81
24) 1,2-Dichloroethane	12.74	62	1936	0.47	ng	# 49
27) Benzene	12.80	78	32453	3.42	ng	# 72
33) Toluene	17.06	92	70159	11.53	ng	# 97
40) Ethylbenzene	20.82	106	8193	2.27	ng	# 27
41) m,p-Xylene	21.03	106	57137	12.30	ng	99
42) o-Xylene	22.17	106	14664	3.25	ng	92
48) 4-Ethyltoluene	24.40	105	31777	2.63	ng	# 81
49) 1,3,5-Trimethylbenzene	24.40	105	31777	3.42	ng	# 58
51) 1,2,4-Trimethylbenzene	25.47	105	20485	2.11	ng	89
56) Napthalene	31.09	128	10078	7.57	ng	# 64

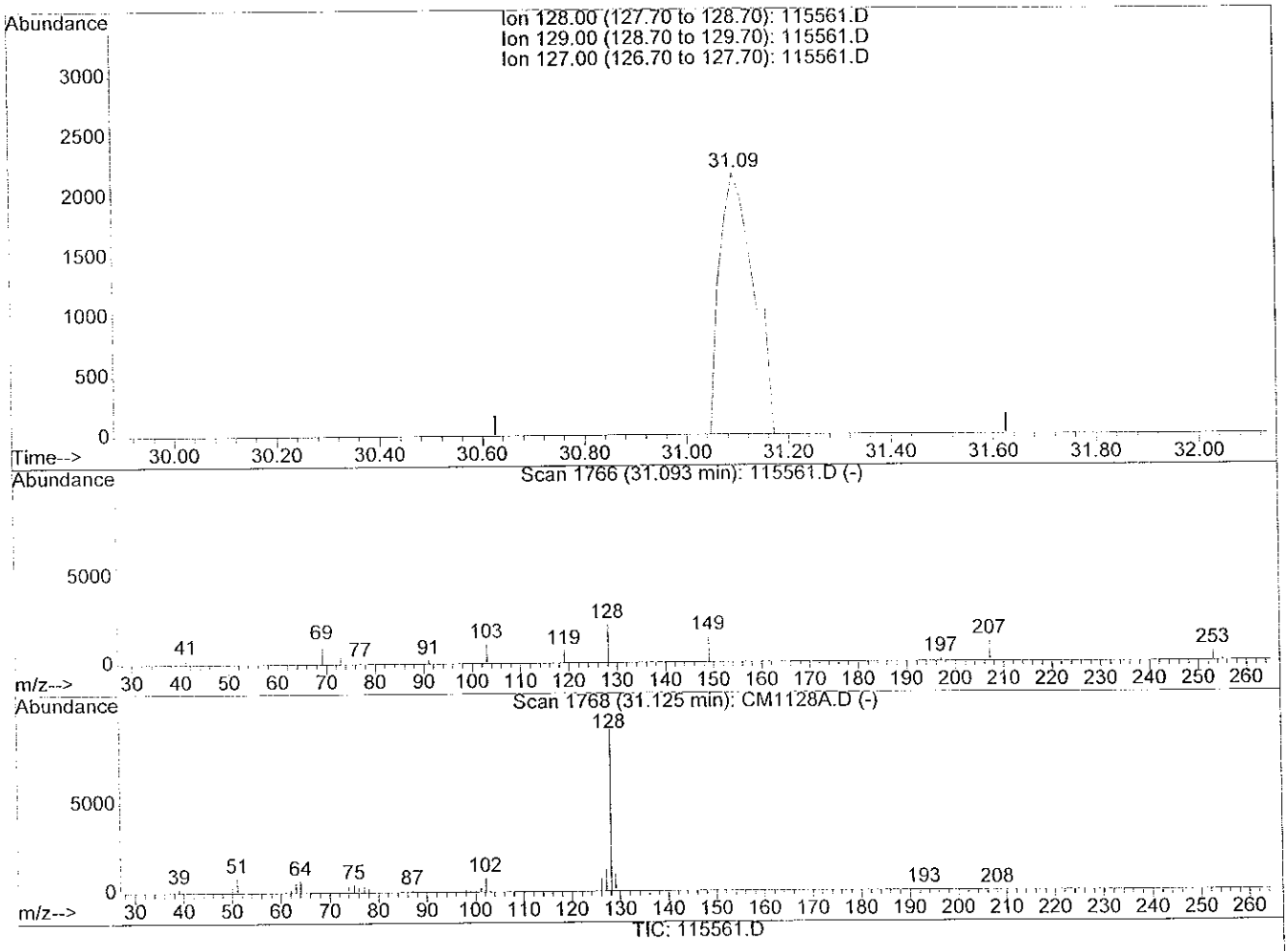
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115561.D
Acq On : 28 Nov 2001 15:23
Sample : 062SVEEA11200118\11556-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:02 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.09min 7.57ng

response 10078

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	0.00#
127.00	15.10	0.00#
0.00	0.00	0.00

STL Pensacola / GCMS Volatiles Run Log

Date 11-28-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD

Batch MAB241 1 2 3 | Batch 1 2 3 | Batch 1 2 3 | Maint. ___

IS# 8 -MSW- 26 - 3 | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 23 - 3 | Sequence cont. on page

BFB 8 -MSW- 26 - 3 | 8260 -MSW- - - | W-SPK -MSW- - -

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:31	14	TO14SIM	CM 1128A	50ppb		Y N	W	YES	BBH	Daily Cal Check/bfb tune/95 ion area = 2,063,000
10:59	15		MA241A BK	ST		Y N	↓	↓	↓	Daily Method Blank
11:36	16		MA241 LCS	50ppb		Y N	↓	↓	↓	Batch# 241 LCS
:	1		QC228	ST.		Y N	A (TO14)			500mls QC CAN check # 228
12:31	2		11586-1	X500		Y N		YES		1.0ml
13:08	3		11552-1	X500		Y N		↓		1.0ml
13:42	4		↓ -2	↓		Y N				re-run X50
14:16	5		↓ -3	↓		Y N				↓
15:23	1		11556-1	ST		Y N				500mls
:	1		11557-1	ST.		Y N				↓
:	1		QC228	ST.		Y N				↓
14:50	6		11552-2R	X50		Y N	↓	↓	↓	10mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

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

** Ics and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01
Batch MA8235 1 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch ____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 ____ -MSW- ____ -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch ____ 1 2 3
AIR-SPK 8 -MSW- 23 - 3
W-SPK ____ -MSW- ____ -

Maint. ____
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47	13	BFBSTL	BFMA11221	50ppb		Y N	W	YES	BAH	Daily BFB Tune 1,136,000
15:25		TO14.m	CM	50ppb		Y N				Daily Cal Check/bfb tune 95 ion area =
13:34	15		MA235A BK	ST		Y N				Daily Method Blank
18:48	7		MA235 LCS	50ppb		Y N				Batch# 235 LCS
14:11	14		CMA0025	5ppb		Y N				25 ng. ICAL
14:48	15		CMA0100	20ppb		Y N				100 ng
15:25	16		CMA0250	50ppb		Y N				250 ng
16:03	1	↓	CMA0500	100ppb		Y N	↓			500 ng
16:36	2	BFBSTL	BLKTUBE	—		Y N	—			MPN Carry over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000 ng ICAL
17:31	4	BFBSTL	BLKTUBE	—		Y N	—			MPN Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300 ng ICAL
18:26	6	BFBSTL	BLKTUBE	—		Y N	—			MPN C.O. cleanup
18:46	7	TO14.m	MA235LCS	50ppb		Y N	W			Batch #235 LCS
19:25	8		11447 -1	X10		Y N	A(TO14)			50mls - BAH
20:07	9		-2			Y N				
20:40	10		-3			Y N				
21:17	11		-4			Y N				
21:54	12		↓ -5			Y N				
22:32	13		11511-1			Y N				
23:09	14	↓	↓ -2	↓		Y N	↓	↓	↓	
:						Y N				
:						Y N				BAH 11/22/01
:						Y N				

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

** [illegible] and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst/Date Rep ~~* DATE OPENED~~	LOG I.D.	# of [illegible]
502C	A8040136	Acc STD	2000 µg/ml	7/1999	DWY 5/15/98	7-VN 2-1	3
502A-R	A7040270	Acc STD	2000 µg/ml	7/1999	DWY 5/28/98	7-VN 2-2	4
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	DWY 5/29/98	7-VN 2-3	10
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWY 5/29/98	7-VN 2-4	10
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5	10
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWY 6/16/98	7-VN 2-6	5
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	7-VN 2-7	10
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	LAD ~~LAD~~ 7/28/98	7-VN 2-9	
8260 Surr	A11719	Restek	2500 µg/ml	8/2001	DWY 10/6/98	7-VN 2-10	10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWY 10/6/98	7-VN 2-11	10
Matrix Spike	LA76020	Supleco	25 µg/ml	8/2000	DWY 10/7/98	7-VN 2-12	10
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DWY 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Various	6/2000	DWY 11/10	7-VN 2-14	1
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	10
2-Chloro ethyl vinyl ether	A8090042-3B	Accustandard	200.1 µg/ml	9/99	WB 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWY 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWY 3/9/99	7-VN 2-19	1
Custom Keytone Mix	A011115	Resteck	2000 µg/ml	3/2000	DWY 3/10/99	7-VN 2-20	5
8260 Volatile Kit	Various	Resteck	Various	6/2001	DWY 3/10/9	7-VN 2-21	1
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWY 5/10/99	7-VN 2-22	2
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DWY 5/10/99	7-VN 2-23	2
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWY 5/10/99	7-VN 2-24	[illegible]
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWY 5/18/99	7-VN 2-25	3
~~Custom To14 Voa Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~	4
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DWY 6/29/99	7-VN 2-27	2
Idomethane	LA81867	Supelco	2000	4/2000	DWY 6/29/99	7-VN 2-28	

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

disposed 6/14

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Anaylst Date Rec'd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 ug/ml	4/2001	DWJ 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 ug/ml	7/2000	DWJ 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 ug/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 ug/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl NAPthalene	A014076	Restek	2000 ug/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 ug/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 ug/ml	8/2000	WB 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 ug/ml	8/2000	WB 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 ug/ml	8/2000	WB 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varian	Varian 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-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	2/20003	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 LA~~77217~~	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/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Napthalene	LA90422	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 Napthalene	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	BH 6/13/00 ~~3~~ 4	8-VN 1-26
VOA Short list Matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Revised TO 4-13-

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89947	Supleco	2000 µg/ml	6/22/00	7/2001	1	P-VN 2-1
Iodomethane	LA89888	Supleco	20000 µg/ml	6/22/00	7/2001	1	P-VN 2-2
8260 Mix C	LA97426	Supleco	2000 µg/ml	6/22/00	5/2002	1	P-VN 2-3
8260 IS	A016078	Restek	2500 µg/ml	8/25/00	8/2003	10	P-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000 µg/ml	10/2/00	11/1/2001	2	P-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016543	Restek	2000 µg/ml	10/17	10/17/2001	1	P-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000 µg/ml	10/31	11/1/2001	2	P-VN 2-7
8260 Vol Kit	Various	Restek	2000 µg/ml	11/1/00	11	1	P-VN 2-8
MTBE/ Freon 113	A016494 A016543	Restek	2000	11/2004 11/1/2001	11/1/00	drench	P-VN 2-9
n-Hexane	B0110235	Accustandard	2.0 mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000 µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500 µg/ml	12/22/00	3/2004	10	P-VN 2-13
Nitrobenzene	LA91148	Supelco	5000 µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000 µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add-ons	B 1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various 10/64	4/6/01 2003	4/2003	5	P-VN 2-17
Vinyl Acetate	A019218	Restek	4000 µg/ml	4/6/01	4/2003	5	P-VN 2-18
Isopropyl Ether	A019194	Restek	2000 µg/ml	4/9/01	4/2004	3	P-VN 2-19
Int. STD. Mix-TO14	A018018	Restek	2500 µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500 µg/ml	4/13/01	6/2004	10	P-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000 µg/ml	4/16/01	4/16/02	4	P-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000 µg/ml	4/17	5/02	2	P-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000 µg/ml	4/17	11/01	4	P-VN 2-24
Freon 113	LA91143	Supleco	2000 µg/ml	4/17	6/03	2	P-VN 2-25
Equity Isobutylene	LA95926	Supleco	2000 µg/ml	4/17	5/02	2	P-VN 2-26
502/524 Mix	LA96091	Supleco	2000 µg/ml	4/17	4/03	2	P-VN 2-27

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: MD

Standard I.D.: 8-MSW26-1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017777	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: TO14 IS/SURR
Date: 10-12-01
Analyst: SAM

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)	A017265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A017264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125ug/ml
8-VN2-13 SURR	A017473	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8 -MSW23-3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500ug/ml	250ul	25 mls	25ug/ml
8-VN2-11 (Iso-octane)	B011023A	12-1-01	2000ug/ml	312.5ul	25 mls	25ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C112630
Project: CH2M Hill Constructors
CTO-0062, Cecil Field 103rd Street

Client Sample ID	STL Sample ID
062-SVE-E-A-1220-01-19	C112630-1

The above-referenced sample was received in good condition at STL Pensacola on December 22, 2001. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

See volatiles forms package for more detail information concerning data package.

Rick Hayes
Senior Project Manager

1/4/02

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
Reported: 04 JAN 02

Ms. Tatiana Romanova
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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	111 %
Surrogate - Toluene-d8	102 %
Surrogate - 4-Bromofluorobenzene	99 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
Received: 22 DEC 01
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12630-1	063-SVE-E-A-1220-01-19	12-20-01/16:20

PARAMETER	12630-1
Dilution Factor	1
Prep Date	12.26.01
Prep Time	16:04
Analysis Date	12.26.01
Analysis Time	16:17
Batch ID	MAB258
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5568	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5493	110 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4733	95 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5602	112 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

QC REPORT FOR AIR SAMPLES

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5459	109 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	111 %	0.5000	0.5613	112 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.5120	102 %	90-109
Surrogate - 4-Bromofluorobenzene	102 %	0.5000	0.4980	100 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	12.26.01	---	12.26.01	---	---
Prep Time	12:28	---	13:03	---	---
Analysis Date	12.26.01	---	12.26.01	---	---
Analysis Time	12:41	---	13:16	---	---
Batch ID	MAB258	MAB258	MAB258	MAB258	MAB258
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12630
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Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 15452017

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12630-2	Method Blank	
12630-3	Lab Control Standard True Value	
12630-4	Lab Control Standard Result	
12630-5	Lab Control Standard % Recovery	
12630-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12630-2	12630-3	12630-4	12630-5	12630-6

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 #: C112630 Date Received: 12-22-01

1. Was there a Chain of Custody? **Yes** No♣
2. Was Chain of Custody properly filled out and relinquished? **Yes** No♣
3. Were samples received cold? Yes No♣ **N/A**
   (Criteria: 2° - 6°C: STL-SOP
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): 7911 6608 8822

Shipped By: FedEX

Cooler Number(s): Box can# 066

Shipping Charges: N/A

Cooler Weight(s): 16 #

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 12-22-01 Logged By: JC Date: 12-22-01

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

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

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

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

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

C11263J

CHAIN-OF-CUSTODY RECORD

COC NUMBER: **163151-024**

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

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)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1220-01-19	SVE Effluent	AIR	12/20/01	16:20	III/C	14 Day	1										Grab	Summa Canister	066
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)
Randy Dumaop / Sean Smith
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791166088822.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	12/21/01	11:00	Federal Express	12/21/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon Sandra A Dixon	12-22-01	1025
Printed Name and Signature:			Printed Name and Signature:		

Cecil Field CTO-0062

STL Pensacola

6

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

Form CC1001, Rev 02/00

C110630

Print 1 copy of this Shipping Label (using the PRINT feature from your browser) and pla.. Page 1 of 1

From: RANDY N DUMAOP (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 AUTHORITY AVE

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

To: Rick Hayes (850)474-1001
STL Pensacola
3355 McLemore Dr

Pensacola, FL, 32514

SHIP DATE: 21DEC01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7911 6608 8822 FORM 0201

32514-FL-US

BFM

F3 PNSA

WED
AA
Deliver by:
26DEC01

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: A
Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C112630
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	⊘	1	SAD	12-22-01	1526
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

SEVERN TRENT SERVICES
STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results)Temperature limits exceeded (≤2°C or ≥ 6°C), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks; [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is <LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

Any time a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOCE/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL Pensacola Instrument Detection Limit
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit

Florida Projects Inorganic/Organic

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

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

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

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

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

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

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

Florida DEP/DOH CompQAP # 980156

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

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

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

Louisiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

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

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

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

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

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

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

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

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

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

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

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

\word\certlist\condcert.lst revised 12/12/01

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 112630
PROJECT NAME: N.A.S. Cecil Field, 103rd Street

RECEIVED Dec. 22, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1220-01-19	112630-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Jan. 3, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1226A.D Date Analyzed : 26 Dec 2001
Instrument ID : GC/MS Ins Time Analyzed : 12:06
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
126301	062SVEEA1220011	111	102	99	0	0	0	0
MA258ABK	VBLKMA\ DAILY M	111	100	102	0	0	0	0
MA258LCS	VLCSMA\BATCH #2	112	102	100	0	0	0	0

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

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

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Jan 03 13:53:40 2002
Response via : Multiple Level Calibration

	Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC 1,1-Dichloroethene	236.66	250.00	94.66	58 to 138%	[ ]
27)	M Benzene	278.40	250.00	111.36	87 to 116%	[ ]
28)	M Trichloroethene	272.93	250.00	109.17	85 to 116%	[ ]
33)	MC Toluene	280.09	250.00	112.04	86 to 113%	[ ]
39)	MP Chlorobenzene	274.66	250.00	109.86	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	112630					
Batch	MAB258	Actual ng result	mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene		278.4	0.5000	0.5568	111%	87-116%
Chlorobenzene		274.66	0.5000	0.5493	110%	88-111%
1,1-Dichloroethene		236.66	0.5000	0.4733	95%	58-138%
Toluene		280.09	0.5000	0.5602	112%	86-113%
Trichloroethene		272.93	0.5000	0.5459	109%	85-116%
1,2-Dichloroethane-d4		280.63	0.5000	0.5613	112%	61-140%
Toluene-d8		256.02	0.5000	0.5120	102%	90-109%
4-Bromofluorobenzene		249.02	0.5000	0.4980	100%	87-112%

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: MA258ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 12/26/01 Time Analyzed: 12:41

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\BATCH #258 L	MA258LCS.D	13:16
02	SVEEA	062SVEEA12200119\126	126301.D	16:17

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: BFM1122P.D BFB Injection Date: 11/22/01

Instrument ID: MARILYN BFB Injection Time: 12:47

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.3
75	30.0 - 66.0% of mass 95	44.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.6 (6.8)1
176	93.0 - 101.0% of mass 174	67.5 (98.8)1
177	5.0 - 9.0% of mass 176	4.5 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	11/22/01	14:11
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	11/22/01	14:48
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	11/22/01	15:25
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	11/22/01	16:03
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	11/22/01	16:58
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	11/22/01	17:53

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID: BFM1226A.D BFB Injection Date: 12/26/01

Instrument ID: MARILYN BFB Injection Time: 11:44

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.4
75	30.0 - 66.0% of mass 95	45.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.1
175	4.0 - 9.0% of mass 174	4.5 (7.2)1
176	93.0 - 101.0% of mass 174	62.2 (98.6)1
177	5.0 - 9.0% of mass 176	4.8 (7.8)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\DAILY CALIB.	CM1226A.D	12/26/01	12:06
02	VBLKMA	VBLKMA\ DAILY METHO	MA258ABK.D	12/26/01	12:41
03	LCS AND 2ND	VLCSMA\BATCH #258 L	MA258LCS.D	12/26/01	13:16
04	SVEEA	062SVEEA12200119\126	126301.D	12/26/01	16:17

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed Jan 02 13:16:02 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.35
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827	10.77
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869	6.62
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.82#
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.26
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.49
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933 R^2=0.998	
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.19
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.09
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.35
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.17
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.71
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152	10.17
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981	9.90
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.99
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.44#
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.44
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.59
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.53
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.36
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.78
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.30
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.21
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.26
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.10#
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.11
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.54
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.24
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.84#
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.59
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.62
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.46
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.44
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880	9.45

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

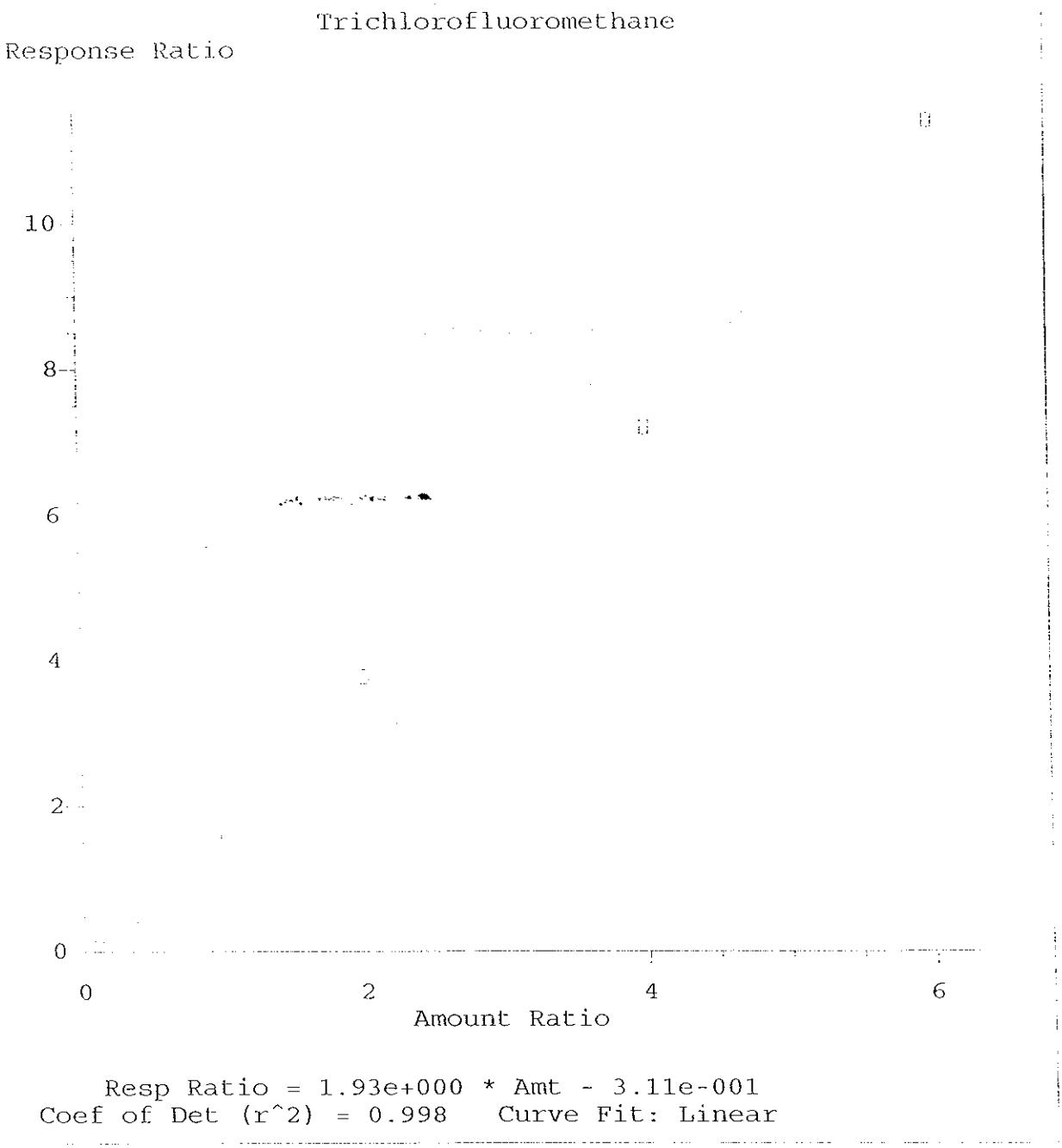
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed Jan 02 13:16:02 2002
Response via : Initial Calibration

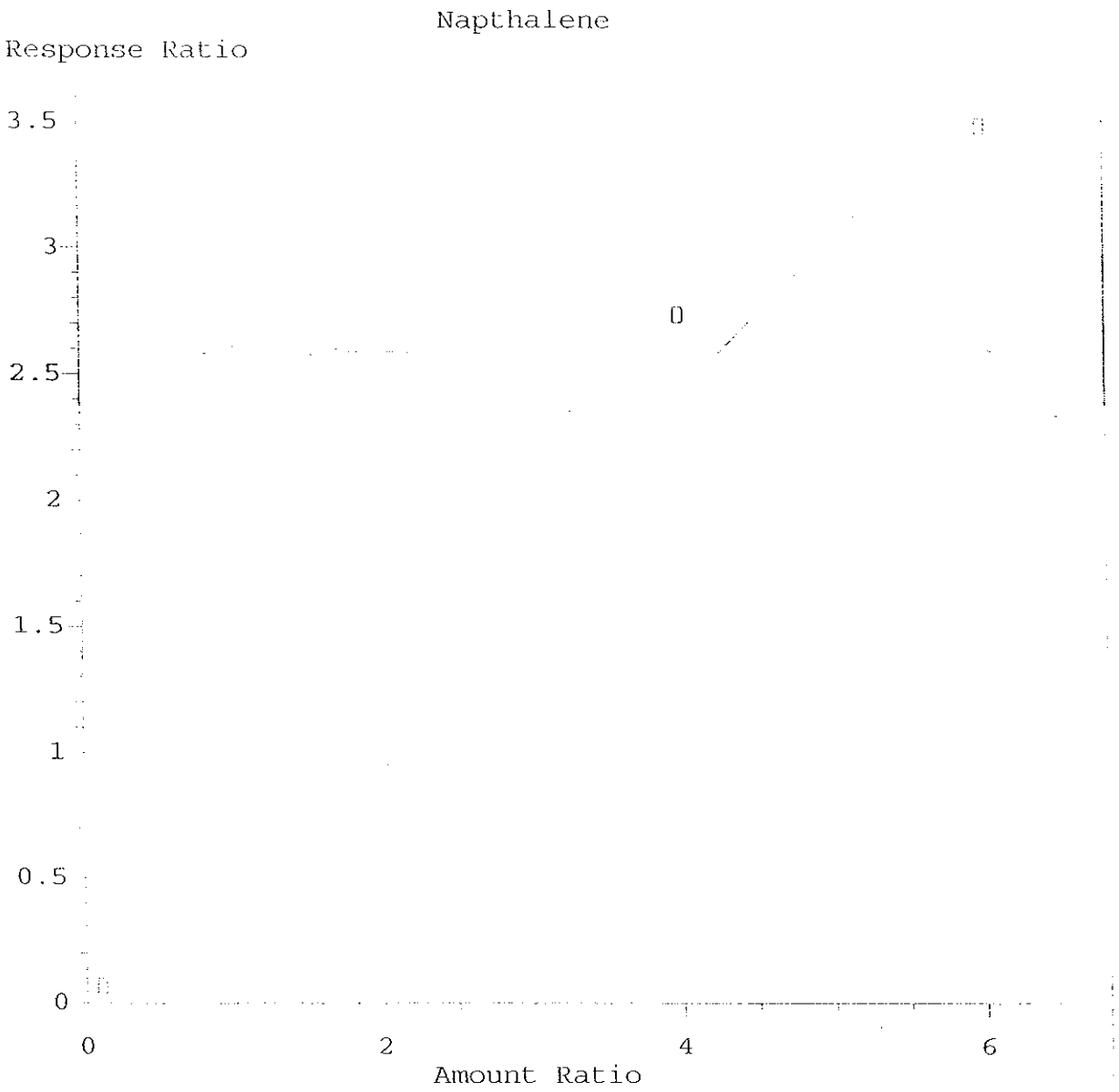
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.982	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Wed Jan 02 13:16:02 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Wed Jan 02 13:16:02 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	87	0.00
2		Dichlorodifluoromethane	1.212	1.103	9.0#	87	0.00
3		Dichlorotetrafluoroethane	1.827	1.533	16.1#	72	0.00
4	P	Chloromethane	0.869	0.851	2.1#	83	0.00
5	C	Vinyl chloride	0.833	0.871	-4.6#	85	0.00
6		Bromomethane	1.404	1.298	7.5#	80	0.00
7		Chloroethane	0.562	0.569	-1.2	84	0.00
8		Trichlorofluoromethane	1.456	1.502	-3.2#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	1.957	5.6#	80	0.00
10	MC	1,1-Dichloroethene	1.123	1.097	2.3#	81	0.00
11		Iodomethane	0.000	0.000	0.0	126	0.00
12		Methylene chloride	1.450	1.606	-10.8#	90	0.00
13		Carbon disulfide	3.024	3.077	-1.8	85	0.00
14		methyl-Tert-Butyl Ether	1.340	1.656	-23.6#	99	0.00
15		trans-1,2-Dichloroethene	1.202	1.194	0.7	81	0.00
16		n-Hexane	1.152	1.060	8.0#	77	0.00
17	P	1,1-Dichloroethane	1.981	2.044	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	1.581	1.707	-8.0#	89	0.00
19	C	Chloroform	2.506	2.706	-8.0#	88	0.00
20		Isooctane	3.877	3.649	5.9#	81	0.00
21		1,1,1-Trichloroethane	2.095	2.259	-7.8#	88	
22		Carbon tetrachloride	2.252	2.397	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.221	-14.5#	97	0.00
24		1,2-Dichloroethane	1.186	1.414	-19.2#	93	0.00
25		1,2-Dibromoethane	1.854	2.169	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	86	0.00
27	M	Benzene	0.713	0.766	-7.4#	85	0.00
28	M	Trichloroethene	0.400	0.414	-3.5#	82	0.00
29	C	1,2-Dichloropropane	0.299	0.325	-8.7#	85	0.00
30		Bromodichloromethane	0.688	0.801	-16.4#	90	0.00
31		cis-1,3-Dichloropropene	0.434	0.491	-13.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.774	0.785	-1.4	87	0.00
33	MC	Toluene	0.458	0.477	-4.1#	82	0.00
34		trans-1,3-Dichloropropene	0.335	0.408	-21.8#	92	0.00
35		1,1,2-Trichloroethane	0.278	0.328	-18.0#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.489	0.491	-0.4	80	0.00
38		Dibromochloromethane	0.639	0.740	-15.8#	88	0.00
39	MP	Chlorobenzene	0.880	0.926	-5.2#	83	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.366	-3.7#	82	0.00
41		m,p-Xylene	0.454	0.472	-4.0#	82	0.00
42		o-Xylene	0.442	0.461	-4.3#	82	0.00
43		Styrene	0.686	0.730	-6.4#	83	0.00
44	P	Bromoform	0.581	0.695	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.682	-31.2#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.906	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	0.099	0.136	-37.4#	98	0.00
48		4-Ethyltoluene	1.181	1.159	1.9	81	0.00
49		1,3,5-Trimethylbenzene	0.909	0.951	-4.6#	87	0.00
50		2-Chlorotoluene	1.162	1.253	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	0.949	1.004	-5.8#	83	0.00
52		1,3-Dichlorobenzene	0.782	0.825	-5.5#	82	0.00
53		1,4-Dichlorobenzene	0.824	0.867	-5.2#	82	0.00
54		1,2-Dichlorobenzene	0.715	0.781	-9.2#	85	0.00
55		1,2,4-Trichlorobenzene	0.502	0.562	-12.0#	89	0.00
56		Napthalene	0.601	0.764	-27.1#	98	0.00
57		Hexachlorobutadiene	0.433	0.465	-7.4#	86	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	87	0.00
2		Dichlorodifluoromethane	250.000	227.418	9.0#	87	0.00
3		Dichlorotetrafluoroethane	250.000	209.806	16.1#	72	0.00
4	P	Chloromethane	250.000	244.848	2.1#	83	0.00
5	C	Vinyl chloride	250.000	261.263	-4.5#	85	0.00
6		Bromomethane	250.000	231.084	7.6#	80	0.00
7		Chloroethane	250.000	253.060	-1.2	84	0.00
8		Trichlorofluoromethane	250.000	230.745	7.7#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	235.976	5.6#	80	0.00
10	MC	1,1-Dichloroethene	250.000	244.118	2.4#	81	0.00
11		Iodomethane	-1.000	0.000	0.0	126	0.00
12		Methylene chloride	250.000	276.893	-10.8#	90	0.00
13		Carbon disulfide	250.000	254.356	-1.7	85	0.00
14		methyl-Tert-Butyl Ether	250.000	308.871	-23.5#	99	0.00
15		trans-1,2-Dichloroethene	250.000	248.256	0.7	81	0.00
16		n-Hexane	250.000	230.038	8.0#	77	0.00
17	P	1,1-Dichloroethane	250.000	257.884	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	250.000	269.897	-8.0#	89	0.00
19	C	Chloroform	250.000	270.016	-8.0#	88	0.00
20		Isooctane	250.000	235.305	5.9#	81	0.00
21		1,1,1-Trichloroethane	250.000	269.634	-7.9#	88	0.00
22		Carbon tetrachloride	250.000	266.121	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	286.405	-14.6#	97	0.00
24		1,2-Dichloroethane	250.000	298.001	-19.2#	93	0.00
25		1,2-Dibromoethane	250.000	292.421	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	86	0.00
27	M	Benzene	250.000	268.645	-7.5#	85	0.00
28	M	Trichloroethene	250.000	258.595	-3.4#	82	0.00
29	C	1,2-Dichloropropane	250.000	271.914	-8.8#	85	0.00
30		Bromodichloromethane	250.000	290.840	-16.3#	90	0.00
31		cis-1,3-Dichloropropene	250.000	282.581	-13.0#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	253.461	-1.4	87	0.00
33	MC	Toluene	250.000	260.569	-4.2#	82	0.00
34		trans-1,3-Dichloropropene	250.000	304.788	-21.9#	92	0.00
35		1,1,2-Trichloroethane	250.000	294.723	-17.9#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	250.938	-0.4	80	0.00
38		Dibromochloromethane	250.000	289.495	-15.8#	88	0.00
39	MP	Chlorobenzene	250.000	263.269	-5.3#	83	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Intec
Title : TO14
Last Update : Thu Jan 03 13:31:42 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.212	-3.7#	82	0.00
41		m,p-Xylene	500.000	519.173	-3.8#	82	0.00
42		o-Xylene	250.000	261.066	-4.4#	82	0.00
43		Styrene	250.000	265.785	-6.3#	83	0.00
44	P	Bromoform	250.000	298.993	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	327.851	-31.1#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	256.527	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	250.000	343.424	-37.4#	98	0.00
48		4-Ethyltoluene	250.000	245.225	1.9	81	0.00
49		1,3,5-Trimethylbenzene	250.000	261.435	-4.6#	87	0.00
50		2-Chlorotoluene	250.000	269.620	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	250.000	264.727	-5.9#	83	0.00
52		1,3-Dichlorobenzene	250.000	263.632	-5.5#	82	0.00
53		1,4-Dichlorobenzene	250.000	262.914	-5.2#	82	0.00
54		1,2-Dichlorobenzene	250.000	272.841	-9.1#	85	0.00
55		1,2,4-Trichlorobenzene	250.000	279.641	-11.9#	89	0.00
56		Napthalene	250.000	320.069	-28.0#	98	0.00
57		Hexachlorobutadiene	250.000	268.495	-7.4#	86	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112630

Lab File ID (Standard): CM1226A.D Date Analyzed: 12/26/01

Instrument ID: MARILYN Time Analyzed: 12:06

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	653005	11.33	2555779	13.28	1973430	20.59
	UPPER LIMIT	1306010	11.83	5111558	13.78	3946860	21.09
	LOWER LIMIT	326503	10.83	1277890	12.78	986715	20.09
	EPA SAMPLE NO.						
01	VBLKMA	592443	11.35	2281050	13.29	1754873	20.59
02	LCS AND 2ND	775359	11.36	3018922	13.29	2352924	20.59
03	SVEEA	829999	11.38	3343793	13.29	2589434	20.58

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01
Batch MAB235 1 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch 1 2 3
AIR-SPK 8 -MSW- 23 - 3
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47	13	BFBSTL	BFM11220	50ppb			W	Yes	BDH	Daily BFB Tune 1,136,000
15:25		TO14.m	CM	50ppb		Y N		Yes		Daily Cal Check/bfb tune 95 ion area =
13:34	15		MA235A BK	ST		Y N				Daily Method Blank
18:48	7		MA235 LCS	50ppb		Y N				Batch# 235 LCS
14:11	14		CMA0025	5ppb		Y N				25 ng. ICAL
14:48	15		CMA0100	20ppb		Y N				100 ng
15:25	16		CMA0250	50ppb		Y N				250 ng
16:03	1		CMA0500	100ppb		Y N				500 ng
16:36	2	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000 ng ICAL
17:31	4	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300 ng ICAL
18:26	6	BFBSTL	BLKTUBE	—		Y N	—			MPM C.O. cleanup
18:46	7	TO14.m	MA235LCS	50ppb		Y N	W			Batch # 235 LCS
19:25	8		11447 -1	X10		Y N	A (TO14)			50mls - BAG
20:02	9		-2			Y N				
20:40	10		-3			Y N				
21:17	11		-4			Y N				
21:54	12		-5			Y N				
22:32	13		11511-1			Y N				
23:09	14		-2			Y N				
:						Y N				
:						Y N				BH 11/22/01
:						Y N				

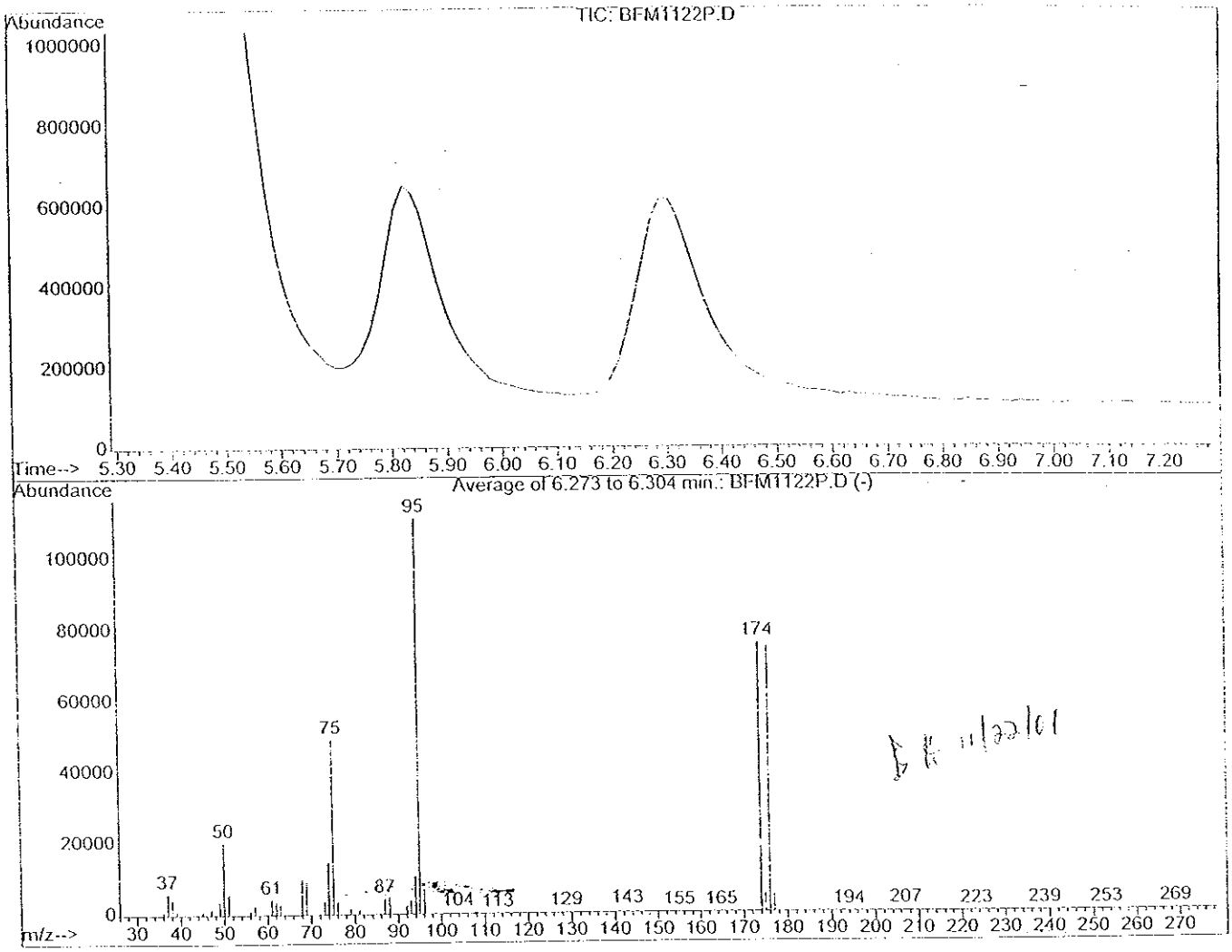
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis [illegible] back to the sample storage refrigerator.

33

STL Pensacola

Cecil Field CTO-0062

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : GC/MS In
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 49 (6.29 min)
Average of 3 scans: 48,49,50 minus background scan 29 (5.98 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	20396	PASS
75	95	30	60	44.3	49232	PASS
95	95	100	100	100.0	111169	PASS
96	95	5	9	6.3	7014	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.3	75908	PASS
175	174	5	9	6.8	5127	PASS
176	174	95	101	98.8	75024	PASS
177	176	5	9	6.6	4948	PASS

BFM1122P.D TO14S.M Thu Nov 22 12:55:43 2001

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1075	61.00	4393	86.95	4439	176.95	4948
37.05	6063	62.05	3859	88.00	4999		
38.05	4536	63.00	3038	92.00	2494		
39.05	1246	68.00	10184	93.00	3964		
45.00	1133	69.00	9431	94.05	10828		
46.95	1809	73.05	3941	95.00	111169		
48.95	3843	74.00	14781	96.05	7014		
49.95	20396	75.05	49232	142.90	715		
51.00	5842	76.00	3752	173.95	75908		
56.05	1288	79.00	1925	174.95	5127		
57.05	2719	81.00	1490	175.95	75024		

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

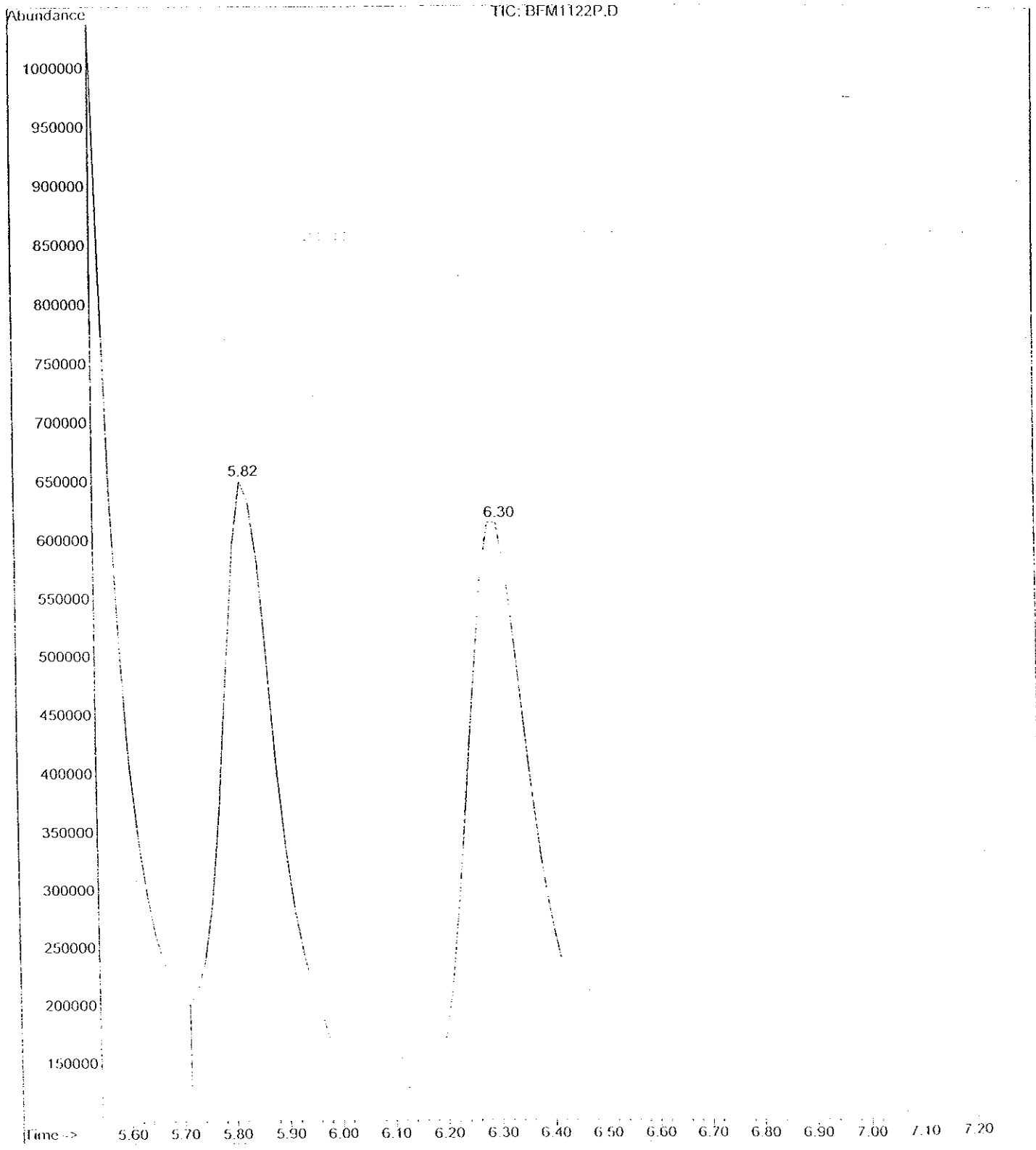
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

Sum of corrected areas: 8872066

BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\BFM1122P.D Vial: 13
Acq On : 22 Nov 2001 12:47 Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240



BFM1122P.D BFBSTL.M Thu Nov 22 12:54:39 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p

Vial: 16
Operator: BDH
Inst : GC/MS Ins
Multipl: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:03 2001
Response via : Multiple Level Calibration

Passed BDH 11/23/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	1.212	1.108	8.6#	100	0.00
3		Dichlorotetrafluoroethane	1.827	1.858	-1.7	100	0.00
4	P	Chloromethane	0.869	0.893	-2.8#	100	0.00
5	C	Vinyl chloride	0.833	0.893	-7.2#	100	0.00
6		Bromomethane	1.404	1.415	-0.8	100	0.00
7		Chloroethane	0.562	0.594	-5.7#	100	0.00
8		Trichlorofluoromethane	1.456	1.497	-2.8#	100	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.144	-3.4#	100	0.00
10	MC	1,1-Dichloroethene	1.123	1.177	-4.8#	100	0.00
11		Iodomethane	0.000	0.000	0.0	100	0.00
12		Methylene chloride	1.450	1.566	-8.0#	100	0.00
13		Carbon disulfide	3.024	3.165	-4.7#	100	0.00
14		methyl-Tert-Butyl Ether	1.340	1.457	-8.7#	100	0.00
15		trans-1,2-Dichloroethene	1.202	1.291	-7.4#	100	0.00
16		n-Hexane	1.152	1.205	-4.6#	100	0.00
17	P	1,1-Dichloroethane	1.981	2.101	-6.1#	100	0.00
18		cis-1,2-Dichloroethene	1.581	1.682	-6.4#	100	0.00
19	C	Chloroform	2.506	2.674	-6.7#	100	0.00
20		Isooctane	3.877	3.920	-1.1	100	0.00
21		1,1,1-Trichloroethane	2.095	2.242	-7.0#	100	0.00
22		Carbon tetrachloride	2.252	2.407	-6.9#	100	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.098	-3.0#	100	0.00
24		1,2-Dichloroethane	1.186	1.331	-12.2#	100	0.00
25		1,2-Dibromoethane	1.854	2.139	-15.4#	100	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	100	0.00
27	M	Benzene	0.713	0.773	-8.4#	100	0.00
28	M	Trichloroethene	0.400	0.434	-8.5#	100	0.00
29	C	1,2-Dichloropropane	0.299	0.328	-9.7#	100	0.00
30		Bromodichloromethane	0.688	0.770	-11.9#	100	0.00
31		cis-1,3-Dichloropropene	0.434	0.485	-11.8#	100	0.00
32	S	Toluene-d8 SURR#2	0.774	0.779	-0.6	100	0.00
33	MC	Toluene	0.458	0.501	-9.4#	100	0.00
34		trans-1,3-Dichloropropene	0.335	0.383	-14.3#	100	0.00
35		1,1,2-Trichloroethane	0.278	0.325	-16.9#	100	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	100	0.00
37		Tetrachloroethene	0.489	0.524	-7.2#	100	0.00
38		Dibromochloromethane	0.639	0.724	-13.3#	100	0.00
39	MP	Chlorobenzene	0.880	0.953	-8.3#	100	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:03 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.382	-8.2#	100	0.00
41		m,p-Xylene	0.454	0.491	-8.1#	100	0.00
42		o-Xylene	0.442	0.481	-8.8#	100	0.00
43		Styrene	0.686	0.752	-9.6#	100	0.00
44	P	Bromoform	0.581	0.679	-16.9#	100	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.624	-20.0#	100	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.908	-2.8#	100	0.00
47		1,4-Dichloro-2-butene	0.099	0.118	-19.2#	100	0.00
48		4-Ethyltoluene	1.181	1.226	-3.8#	100	0.00
49		1,3,5-Trimethylbenzene	0.909	0.934	-2.8#	100	0.00
50		2-Chlorotoluene	1.162	1.276	-9.8#	100	0.00
51		1,2,4-Trimethylbenzene	0.949	1.036	-9.2#	100	0.00
52		1,3-Dichlorobenzene	0.782	0.857	-9.6#	100	0.00
53		1,4-Dichlorobenzene	0.824	0.901	-9.3#	100	0.00
54		1,2-Dichlorobenzene	0.715	0.791	-10.6#	100	0.00
55		1,2,4-Trichlorobenzene	0.502	0.543	-8.2#	100	0.00
56		Napthalene	0.601	0.666	-10.8#	100	0.00
57		Hexachlorobutadiene	0.433	0.464	-7.2#	100	0.00

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14.
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

BA 11/28/01

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

11/29/01

		Compound	25	250	1500	1000	100	500	Avg	%R
1)	I	Bromochloromethane IS	ISTD							
2)		Dichlorodifluoromet	1.137	1.108	1.297	1.412	0.984	1.335	1.212	13.3
3)		Dichlorotetrafluoro	1.748	1.858	1.957	1.978	1.466	1.955	1.827 ✓	10.7
4)	P	Chloromethane	0.822	0.893	0.889	0.905	0.777	0.930	0.869 ✓	6.6
5)	C	Vinyl chloride	0.779	0.893	0.833	0.868	0.718	0.909	0.833	8.8
6)		Bromomethane	1.497	1.415	1.426	1.458	1.175	1.453	1.404	8.2
7)		Chloroethane	0.498	0.594	0.597	0.599	0.463	0.620	0.562	11.4
8)		Trichlorofluorometh	0.605	1.497	1.901	1.799	1.045	1.889	-----	
								L	M= 1.933	R^2=0.9
									B= -0.311	
9)		1,1,2-Trichlorotrif	1.887	2.144	2.228	2.226	1.691	2.262	2.073	11.1
10)	MC	1,1-Dichloroethene	1.002	1.177	1.208	1.213	0.924	1.215	1.123	11.3
11)		Iodomethane							0.000	-1.0
12)		Methylene chloride	1.383	1.566	1.497	1.508	1.184	1.563	1.450	10.0
13)		Carbon disulfide	2.748	3.165	3.225	3.231	2.519	3.260	3.024	10.3
14)		methyl-Tert-Butyl E	1.448	1.457	1.341	1.422	1.104	1.269	1.340	10.1
15)		trans-1,2-Dichloroe	1.068	1.291	1.253	1.232	1.022	1.346	1.202	10.7
16)		n-Hexane	1.222	1.205	1.141	1.145	0.933	1.265	1.152 ✓	10.1
17)	P	1,1-Dichloroethane	1.808	2.101	2.066	2.050	1.675	2.188	1.981 ✓	9.9
18)		cis-1,2-Dichloroeth	1.437	1.682	1.644	1.630	1.341	1.754	1.581	9.9
19)	C	Chloroform	2.322	2.674	2.579	2.558	2.131	2.769	2.506	9.4
20)		Isooctane	4.602	3.920	3.849	3.948	2.973	3.970	3.877	13.4
21)		1,1,1-Trichloroetha	1.995	2.242	2.093	2.102	1.815	2.323	2.095	8.5
22)		Carbon tetrachlorid	2.086	2.407	2.308	2.302	1.914	2.494	2.252	9.5
23)	S	1,2-Dichloroethane	1.103	1.098	0.998	1.000	1.137	1.060	1.066	5.3
24)		1,2-Dichloroethane	1.184	1.331	1.153	1.193	1.016	1.242	1.186	8.7
25)		1,2-Dibromoethane	1.690	2.139	1.903	2.000	1.559	1.835	1.854	11.3
26)	I	1,4-Difluorobenzene I	ISTD							
27)	M	Benzene	0.676	0.773	0.723	0.735	0.630	0.740	0.713	7.2
28)	M	Trichloroethene	0.362	0.434	0.420	0.424	0.345	0.417	0.400	9.2
29)	C	1,2-Dichloropropane	0.275	0.328	0.306	0.312	0.264	0.308	0.299	8.1
30)		Bromodichloromethan	0.641	0.770	0.692	0.713	0.612	0.702	0.688	8.1
31)		cis-1,3-Dichloropro	0.398	0.485	0.448	0.460	0.373	0.441	0.434	9.5
32)	S	Toluene-d8 SURR#2	0.780	0.779	0.758	0.768	0.784	0.776	0.774	1.2
33)	MC	Toluene	0.416	0.501	0.473	0.477	0.399	0.480	0.458	8.8
34)		trans-1,3-Dichlorop	0.298	0.383	0.344	0.363	0.294	0.325	0.335	10.5
35)		1,1,2-Trichloroetha	0.256	0.325	0.280	0.297	0.246	0.264	0.278	10.6
36)	I	Chlorobenzene-d5 IS#3	ISTD							
37)		Tetrachloroethene	0.431	0.524	0.518	0.519	0.415	0.524	0.489	10.4
38)		Dibromochloromethan	0.593	0.724	0.653	0.679	0.556	0.627	0.639	9.4
39)	MP	Chlorobenzene	0.792	0.953	0.919	0.929	0.757	0.929	0.880 ✓	9.4

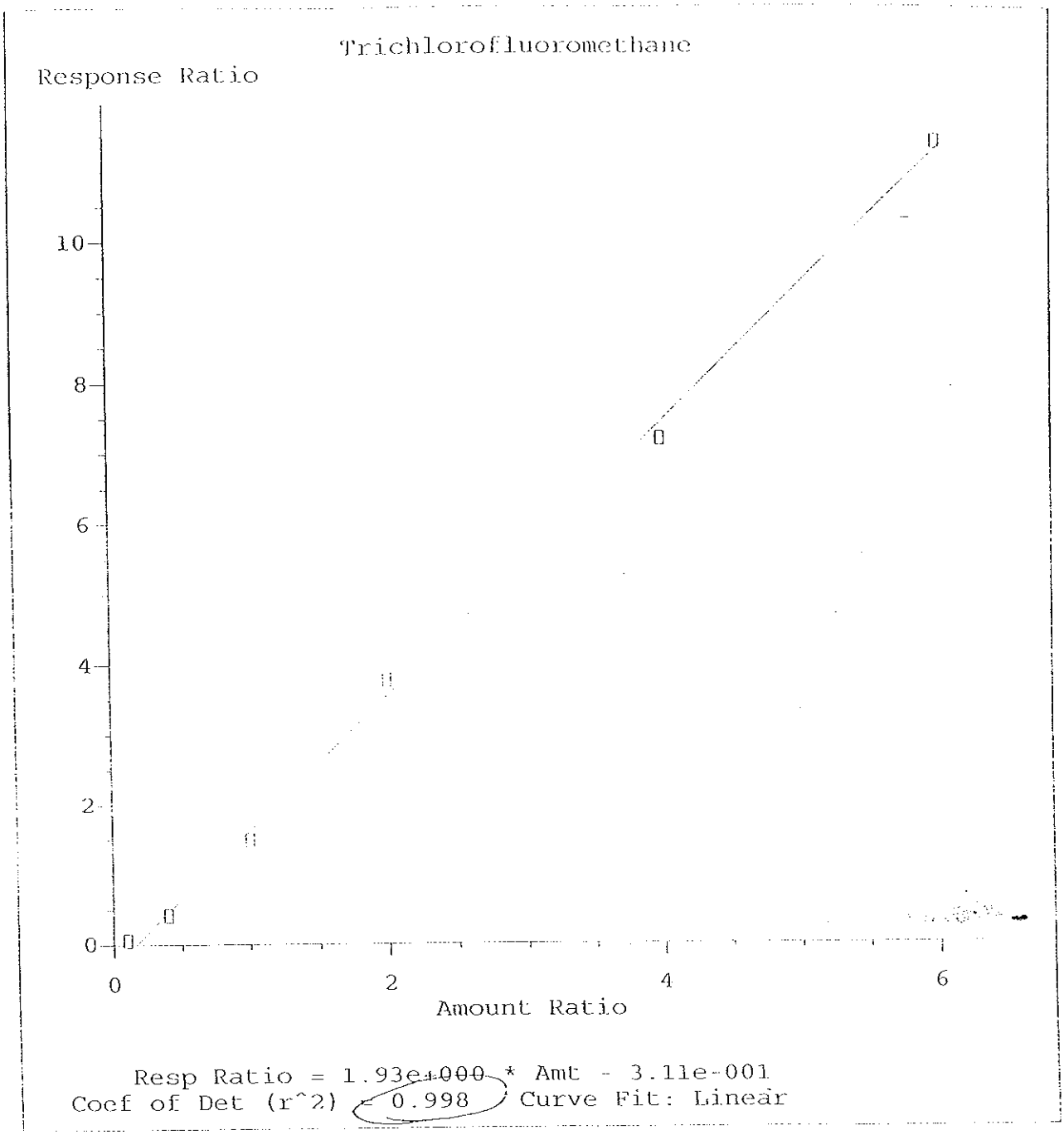
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration

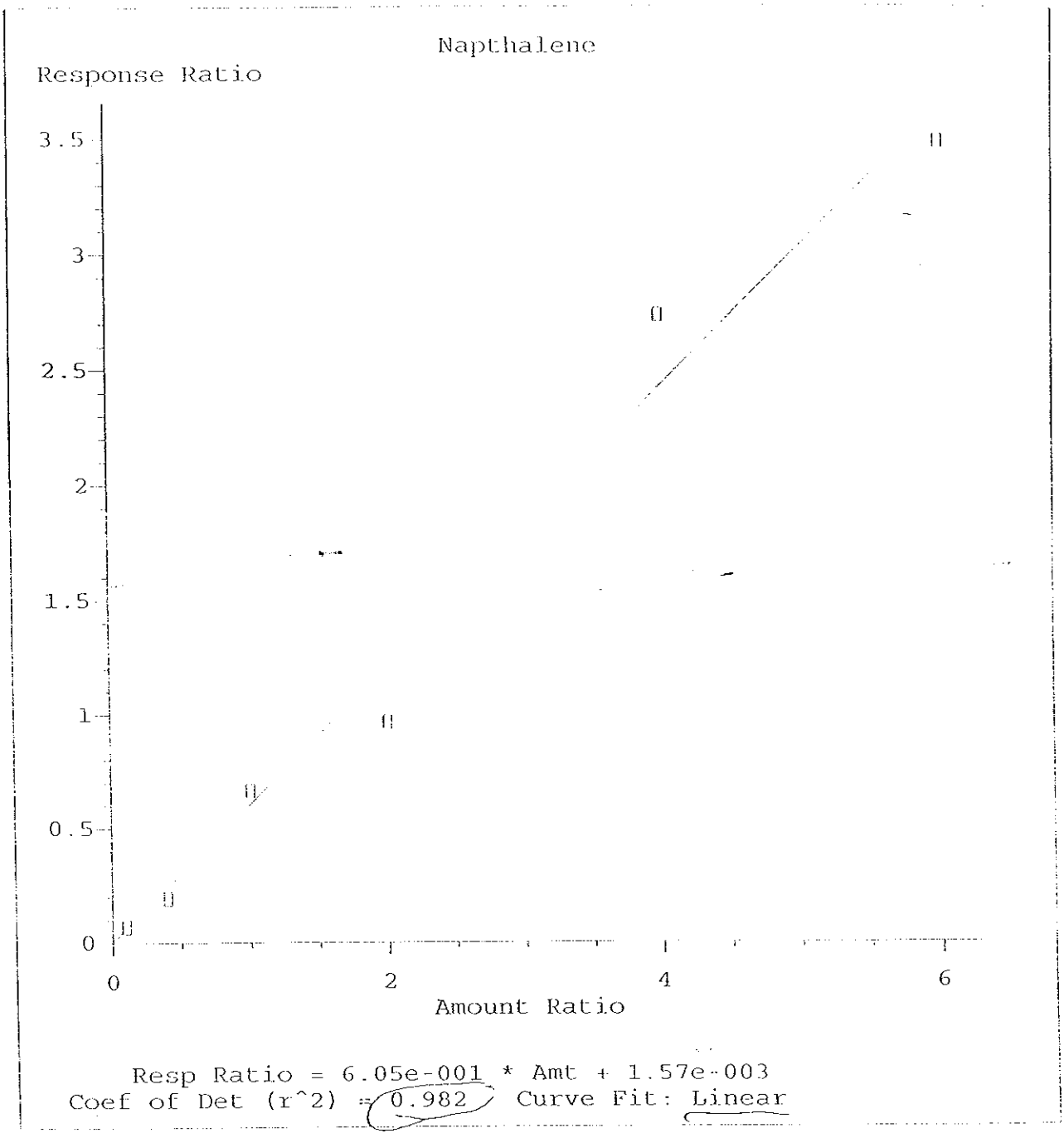
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RS
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	0.536	0.679	0.600	0.645	0.493	0.532	0.581	12.47
45)	P	1,1,2,2-Tetrachloro	0.532	0.624	0.508	0.562	0.438	0.456	0.520	13.26
46)	S	4-Bromofluorobenzen	0.879	0.908	0.878	0.882	0.890	0.863	0.883	1.67
47)		1,4-Dichloro-2-bute	0.089	0.118	0.105	0.115	0.080	0.086	0.099	16.32
48)		4-Ethyltoluene	1.126	1.226	1.231	1.272	0.940	1.293	1.181	11.13
49)		1,3,5-Trimethylbenz	0.817	0.934	0.991	0.970	0.763	0.980	0.909	10.56
50)		2-Chlorotoluene	1.065	1.276	1.202	1.213	0.981	1.235	1.162	9.78
51)		1,2,4-Trimethylbenz	0.858	1.036	0.986	1.013	0.799	0.999	0.949	10.17
52)		1,3-Dichlorobenzene	0.716	0.857	0.830	0.840	0.649	0.802	0.782	10.48
53)		1,4-Dichlorobenzene	0.751	0.901	0.877	0.893	0.699	0.825	0.824	10.06
54)		1,2-Dichlorobenzene	0.658	0.791	0.748	0.783	0.618	0.695	0.715	9.80
55)		1,2,4-Trichlorobenz	0.492	0.543	0.523	0.581	0.411	0.463	0.502	12.05
56)		Napthalene	0.707	0.666	0.581	0.683	0.484	0.482	-----	
							L	M= 0.605	R^2=0.98	
								B= 0.002		
57)		Hexachlorobutadiene	0.530	0.464	0.377	0.443	0.366	0.418	0.433	13.92

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



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 20:58:58 2001



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00	ng		-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00	ng		-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00	ng		-0.03 282.19%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.36%#				
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68	ng		-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.27%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67	ng		98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58	ng	#	45
4) Chloromethane	4.36	50	54217	16.33	ng	#	92
5) Vinyl chloride	4.59	62	51362	17.20	ng	#	87
6) Bromomethane	5.42	94	98746	24.20	ng	#	82
7) Chloroethane	5.54	64	32840	18.79	ng	#	89
8) Trichlorofluoromethane	6.04	101	39870	6.56	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29	ng		83
10) 1,1-Dichloroethene	7.20	96	66093	21.79	ng		85
12) Methylene chloride	8.12	49	91249	15.70	ng	#	94
13) Carbon disulfide	8.27	76	181220	18.71	ng	#	93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60	ng	#	85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71	ng		89
16) n-Hexane	8.78	57	80570	20.60	ng	#	1
17) 1,1-Dichloroethane	9.51	63	119239	16.98	ng	#	98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26	ng		92
19) Chloroform	11.08	83	153161	17.29	ng		98
20) Isooctane	12.03	57	303517	20.95	ng		97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80	ng		89
22) Carbon tetrachloride	12.51	117	137597	17.08	ng		99
24) 1,2-Dichloroethane	12.77	62	78090	14.06	ng		98
25) 1,2-Dibromoethane	19.75	107	111469	20.00	ng		97
27) Benzene	12.85	78	179158	21.12	ng		99

(#) = qualifier out of range (m) = manual integration
CMA0025.D TO14S.M Thu Nov 22 14:43:44 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

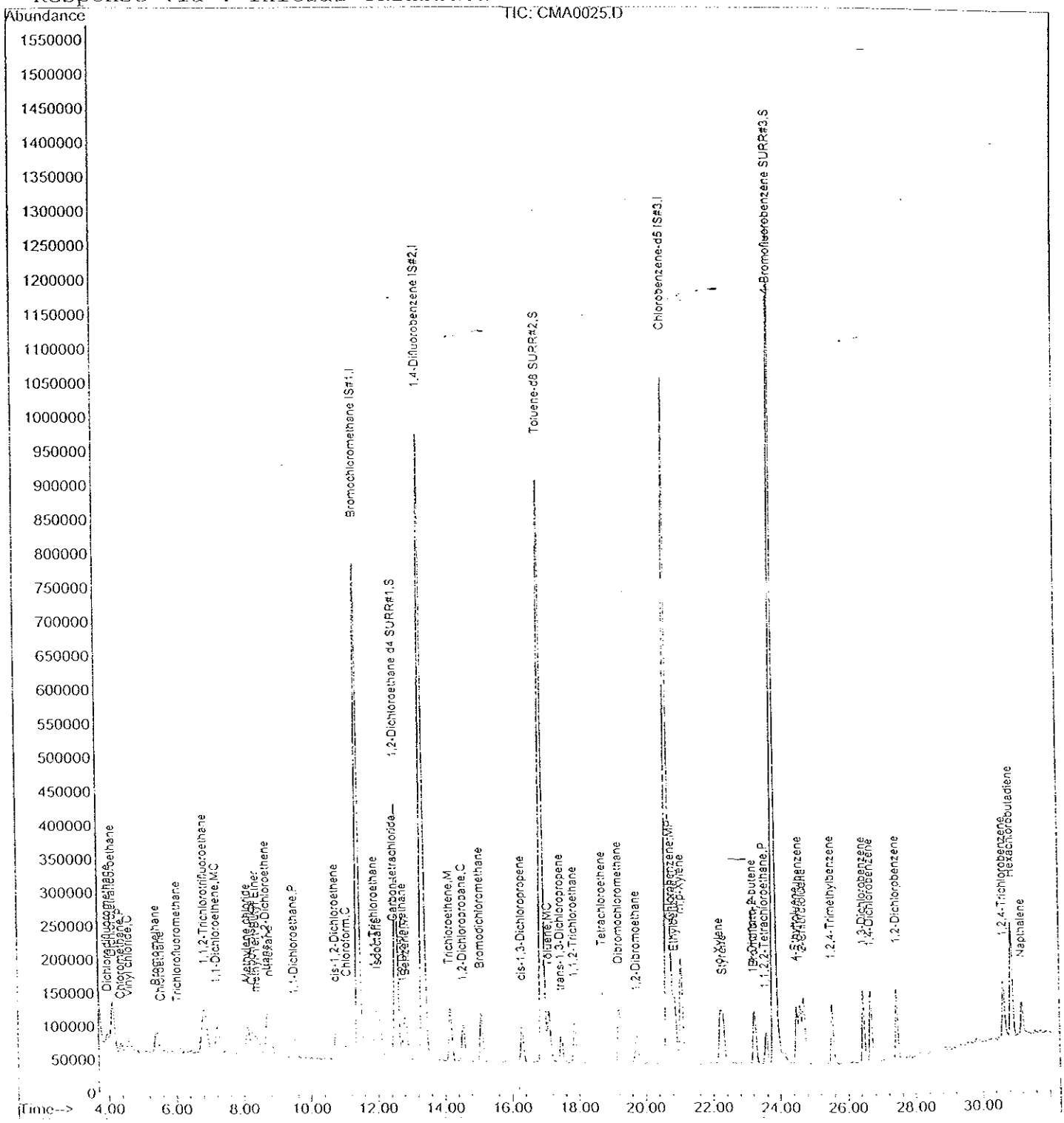
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	95845	23.30	ng		96
29)	1,2-Dichloropropane	14.56	63	72859	19.13	ng		95
30)	Bromodichloromethane	15.07	83	169881	17.23	ng		99
31)	cis-1,3-Dichloropropene	16.30	75	105593	18.65	ng		94
33)	Toluene	17.11	92	110233	21.32	ng	#	95
34)	trans-1,3-Dichloropropene	17.46	75	79087	16.48	ng	#	82
35)	1,1,2-Trichloroethane	17.87	97	67774	20.88	ng		98
37)	Tetrachloroethene	18.72	164	87289	23.66	ng		95
38)	Dibromochloromethane	19.22	127	120192	20.80	ng	#	94
39)	Chlorobenzene	20.79	112	160392	21.82	ng		92
40)	Ethylbenzene	20.88	106	65807	22.17	ng		99
41)	m,p-Xylene	21.07	106	165326	42.60	ng		99
42)	o-Xylene	22.21	106	78495	21.26	ng		99
43)	Styrene	22.31	104	119668	20.45	ng		95
44)	Bromoform	23.25	173	108489	22.72	ng		99
45)	1,1,2,2-Tetrachloroethane	23.56	83	107840	20.51	ng	#	99
47)	1,4-Dichloro-2-butene	23.22	75	17978	18.55	ng	#	90
48)	4-Ethyltoluene	24.50	105	227968	22.22	ng		95
49)	1,3,5-Trimethylbenzene	24.59	105	165409	19.65	ng		90
50)	2-Chlorotoluene	24.70	91	215651	19.02	ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	173761	19.86	ng		98
52)	1,3-Dichlorobenzene	26.47	146	145028	22.89	ng		94
53)	1,4-Dichlorobenzene	26.69	146	152149	22.95	ng	#	93
54)	1,2-Dichlorobenzene	27.45	146	133248	22.68	ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	99718	24.12	ng		97
56)	Napthalene	31.19	128	143146	23.66	ng	#	89
57)	Hexachlorobutadiene	30.88	225	107311	30.39	ng		99

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

Data File : D:\HPCHEM\1\DATA01\MA122P\CMA0025.D Vial: 14
Acq On : 22 Nov 2001 14:11 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:43 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

B.A. 11/30/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 / 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 / 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 / 318.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%			
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28	ng	# 97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	13.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122F\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

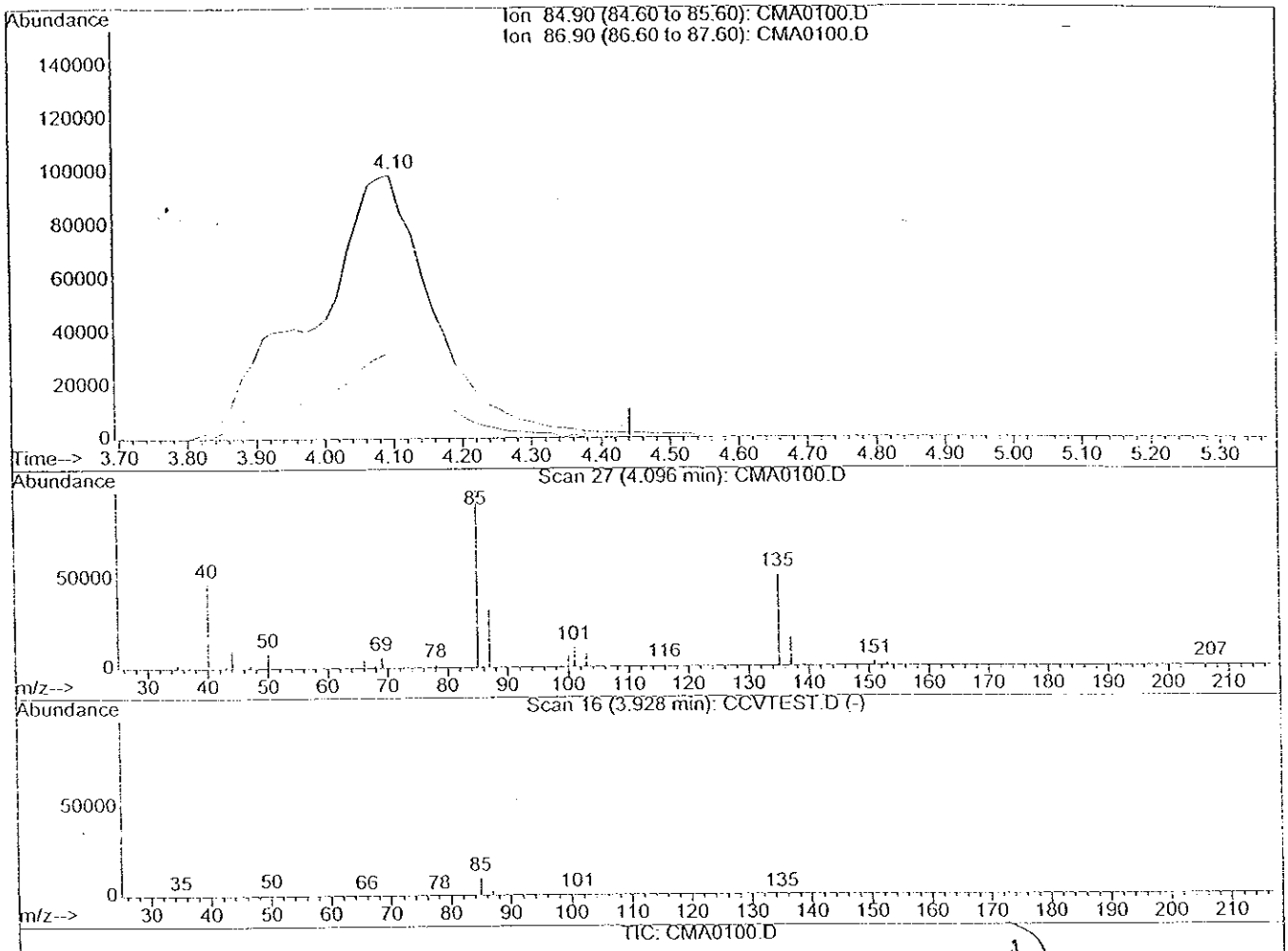
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01	ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33)	Toluene	17.11	92	471365	81.74	ng		99
34)	trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35)	1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37)	Tetrachloroethene	18.72	164	379057	91.16	ng		94
38)	Dibromochloromethane	19.20	127	507313	77.89	ng		98
39)	Chlorobenzene	20.77	112	690880	83.38	ng		97
40)	Ethylbenzene	20.88	106	269786	80.64	ng		100
41)	m,p-Xylene	21.07	106	715119	163.47	ng		99
42)	o-Xylene	22.21	106	335595	80.64	ng		98
43)	Styrene	22.29	104	516712	78.36	ng		99
44)	Bromoform	23.24	173	450088	83.61	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47)	1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48)	4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50)	2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52)	1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53)	1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54)	1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56)	Napthalene	31.19	128	442169	64.85	ng	#	90
57)	Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

(#) = qualifier out of range (m) = manual integration
CMA0100.D TO14S.M Thu Nov 22 20:45:01 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS I
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

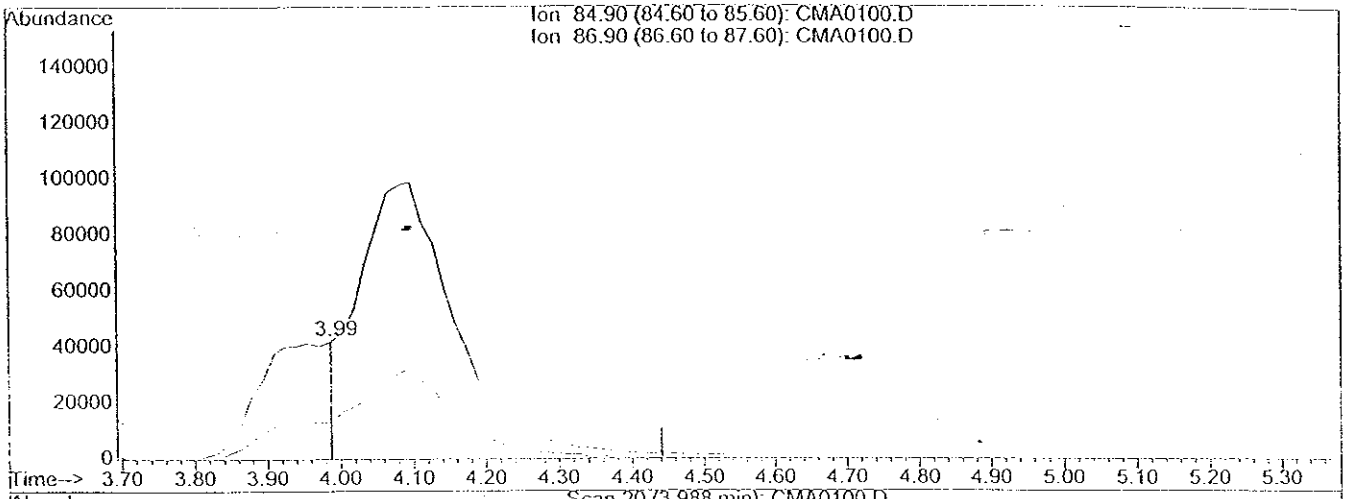
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

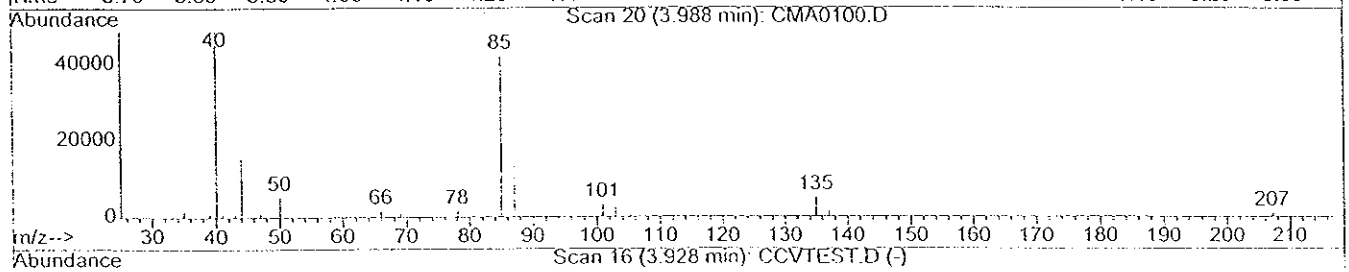
before (mis-integrated)

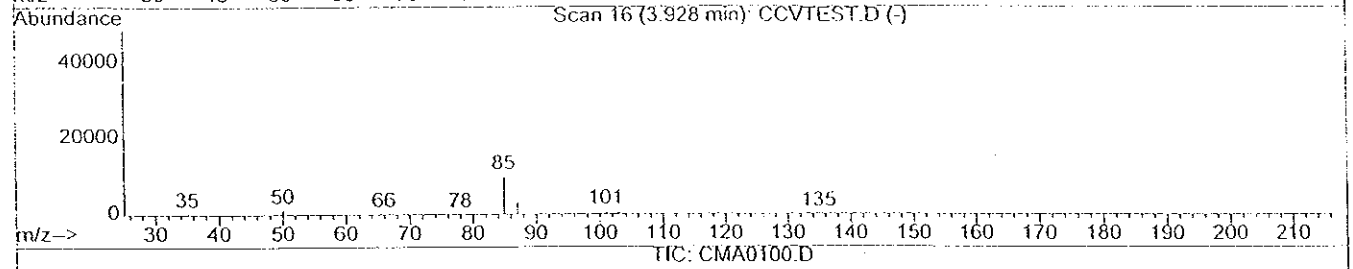
CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS D
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 14:47:39 2001
Response via : Multiple Level Calibration







(2) Dichlorodifluoromethane

3.99min 47.28ng m

response 296446

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	131.84#
0.00	0.00	0.00
0.00	0.00	0.00

afh
11-22-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.18%			
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.79%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.22%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng	97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

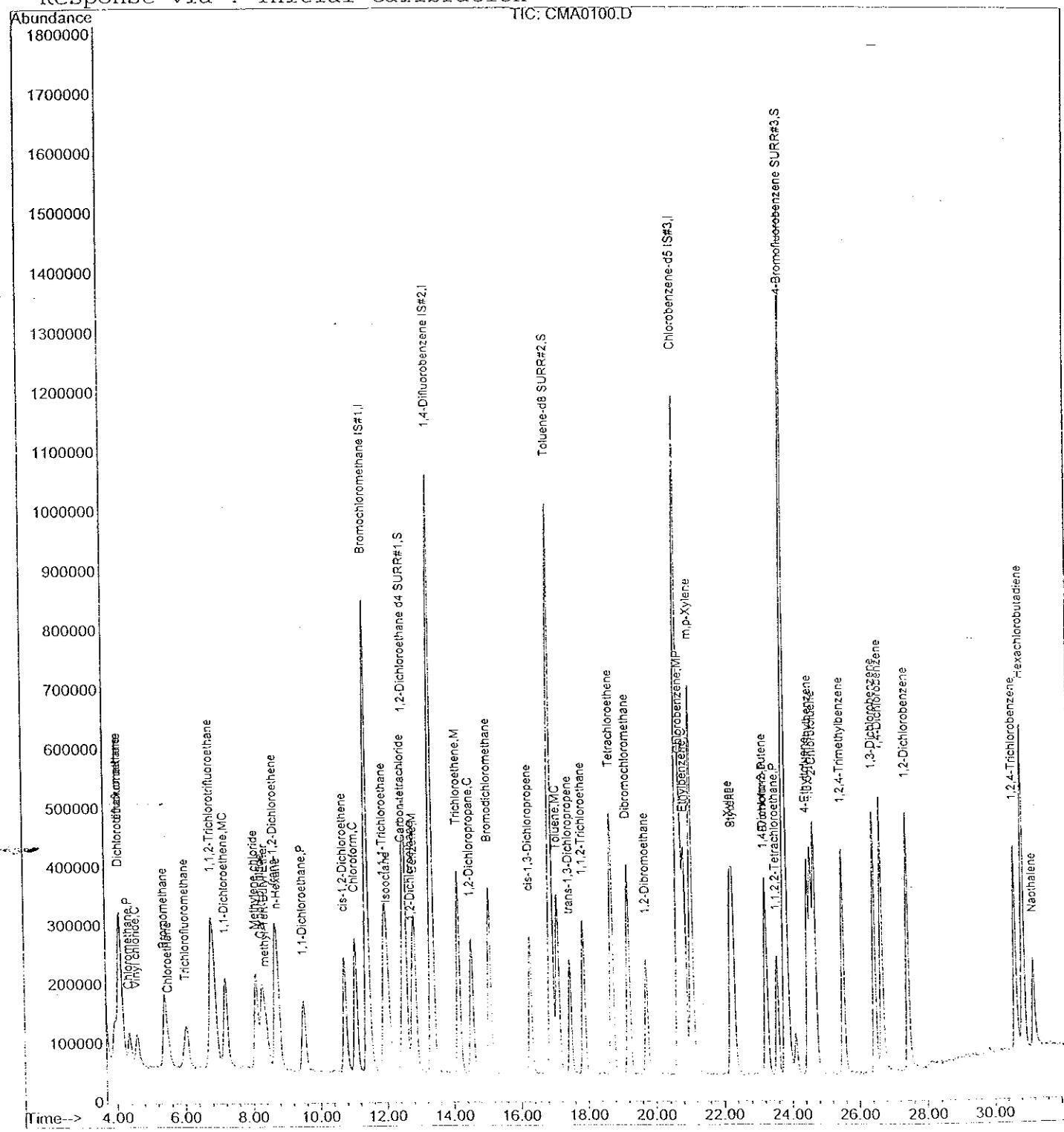
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	408278	89.01	ng		95
29) 1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30) Bromodichloromethane	15.07	83	723015	65.75	ng		99
31) cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33) Toluene	17.11	92	471365	81.74	ng		99
34) trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35) 1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37) Tetrachloroethene	18.72	164	379057	91.16	ng		94
38) Dibromochloromethane	19.20	127	507313	77.89	ng		98
39) Chlorobenzene	20.77	112	690880	83.38	ng		97
40) Ethylbenzene	20.88	106	269786	80.64	ng		100
41) m,p-Xylene	21.07	106	715119	163.47	ng		99
42) o-Xylene	22.21	106	335595	80.64	ng		98
43) Styrene	22.29	104	516712	78.36	ng		99
44) Bromoform	23.24	173	450088	83.61	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47) 1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48) 4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	696312	73.38	ng	#	82
50) 2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51) 1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52) 1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53) 1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54) 1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56) Napthalene	31.19	128	442169	64.85	ng	#	90
57) Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001 Original SH 11/22/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	747317	250.00	ng	-0.03 342.15%
26) 1,4-Difluorobenzene IS#2	13.36	114	2968219	250.00	ng	-0.03 313.17%
36) Chlorobenzene-d5 IS#3	20.68	117	2302990	250.00	ng	-0.03 320.90%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	820411	147.75	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 59.10%#			
32) Toluene-d8 SURR#2	16.90	98	2311670	235.45	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 94.18%			
46) 4-Bromofluorobenzene SURR#	23.83	95	2090630	232.72	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.09%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	827926	133.15	ng	90
3) Dichlorotetrafluoroethane	4.10	135	1388168	229.31	ng	# 38
4) Chloromethane	4.36	50	667704	177.47	ng	97
5) Vinyl chloride	4.58	62	667727	197.30	ng	97
6) Bromomethane	5.40	94	1057285	228.66	ng	# 96
7) Chloroethane	5.49	64	444066	224.24	ng	97
8) Trichlorofluoromethane	6.02	101	1119090	162.40	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.81	151	1602469	276.08	ng	84
10) 1,1-Dichloroethene	7.19	96	879523	255.94	ng	88
12) Methylene chloride	8.09	49	1170582	177.71	ng	99
13) Carbon disulfide	8.27	76	2364904	215.47	ng	95
14) methyl-Tert-Butyl Ether	8.37	73	1088522	197.18	ng	99
15) trans-1,2-Dichloroethene	8.68	96	964847	250.40	ng	92
16) n-Hexane	8.75	57	900365	203.19	ng	# 1
17) 1,1-Dichloroethane	9.51	63	1569813	197.24	ng	99
18) cis-1,2-Dichloroethene	10.74	61	1256735	190.36	ng	90
19) Chloroform	11.07	83	1998117	199.07	ng	99
20) Isooctane	12.03	57	2929672	178.46	ng	97
21) 1,1,1-Trichloroethane	11.92	97	1675247	188.72	ng	90
22) Carbon tetrachloride	12.49	117	1799050	197.14	ng	97
24) 1,2-Dichloroethane	12.76	62	994608	158.08	ng	# 98
25) 1,2-Dibromoethane	19.73	107	1598340	253.04	ng	98
27) Benzene	12.84	78	2294603	241.48	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

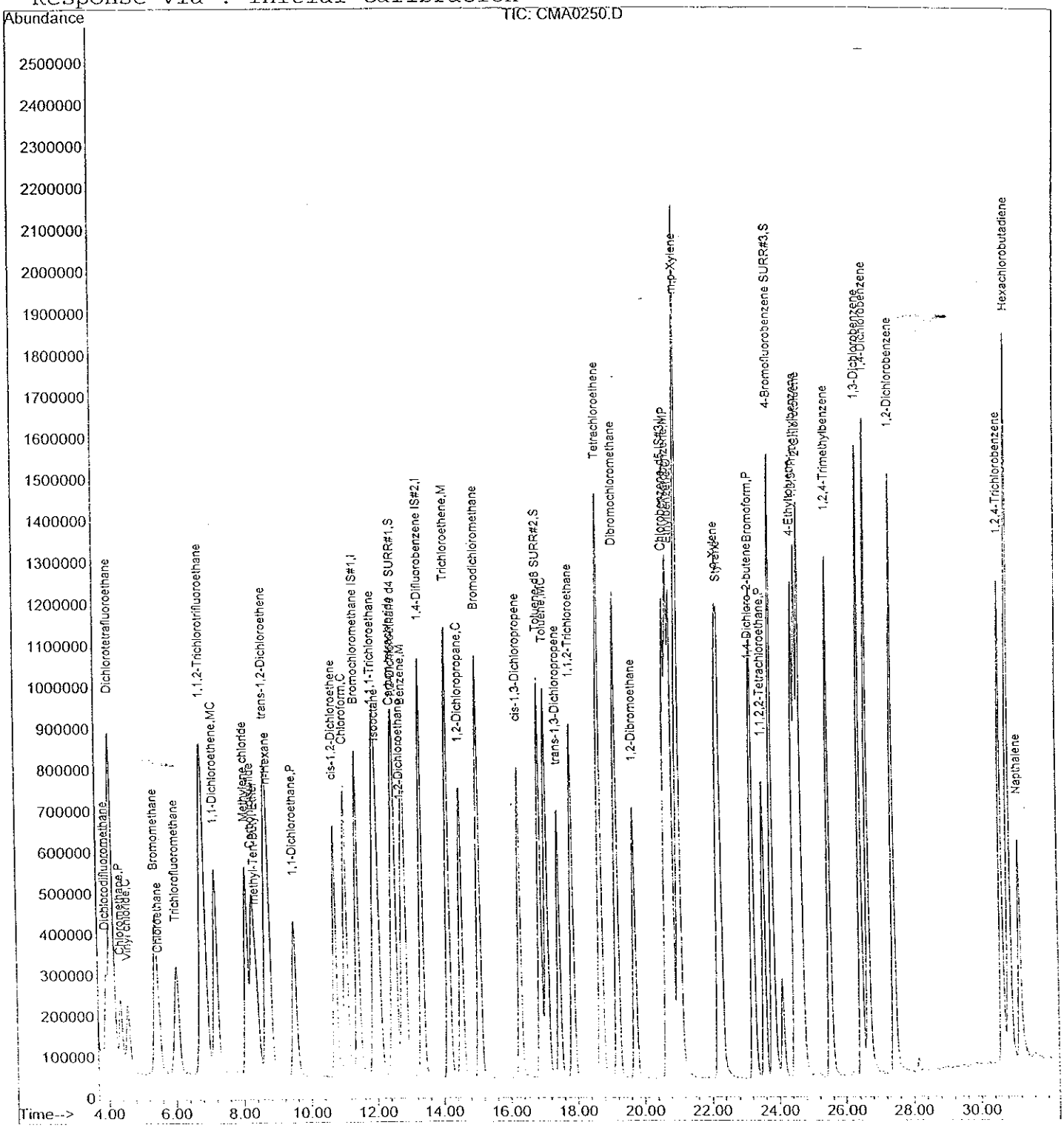
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	1288590	279.77	ng		95
29) 1,2-Dichloropropane	14.54	63	972142	227.89	ng		98
30) Bromodichloromethane	15.07	83	2284620	206.89	ng		99
31) cis-1,3-Dichloropropene	16.28	75	1439679	227.09	ng		99
33) Toluene	17.09	92	1486003	256.60	ng		99
34) trans-1,3-Dichloropropene	17.46	75	1137293	211.64	ng		96
35) 1,1,2-Trichloroethane	17.87	97	966109	265.81	ng		97
37) Tetrachloroethene	18.72	164	1207383	287.81	ng		95
38) Dibromochloromethane	19.20	127	1667056	253.68	ng		98
39) Chlorobenzene	20.77	112	2194379	262.49	ng		95
40) Ethylbenzene	20.86	106	878711	260.33	ng		97
41) m,p-Xylene	21.07	106	2263755	512.90	ng		98
42) o-Xylene	22.21	106	1107267	263.72	ng		97
43) Styrene	22.29	104	1732542	260.42	ng		97
44) Bromoform	23.24	173	1563705	287.91	ng		99
45) 1,1,2,2-Tetrachloroethane	23.56	83	1438178	240.48	ng		99
47) 1,4-Dichloro-2-butene	23.21	75	272354	247.14	ng		92
48) 4-Ethyltoluene	24.50	105	2824082	242.01	ng		94
49) 1,3,5-Trimethylbenzene	24.59	105	2149970	224.58	ng	#	77
50) 2-Chlorotoluene	24.70	91	2938488	227.88	ng		96
51) 1,2,4-Trimethylbenzene	25.54	105	2386166	239.77	ng		96
52) 1,3-Dichlorobenzene	26.45	146	1974072	274.03	ng		95
53) 1,4-Dichlorobenzene	26.67	146	2075315	275.28	ng	#	94
54) 1,2-Dichlorobenzene	27.43	146	1821255	272.65	ng		95
55) 1,2,4-Trichlorobenzene	30.63	180	1250003	265.87	ng		100
56) Napthalene	31.17	128	1532679	222.80	ng	#	92
57) Hexachlorobutadiene	30.88	225	1068702	266.11	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0250.D TO14S.M Thu Nov 22 15:58:03 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D Vial: 16
Acq On : 22 Nov 2001 15:25 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:58 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng	-0.02 / 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng	-0.03 / 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng	-0.03 / 314.16%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#			
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng	-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%			
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng	-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1844056m	320.89	ng	# 98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	# 26
4) Chloromethane	4.36	50	1284225	369.32	ng	95
5) Vinyl chloride	4.58	62	1256220	401.61	ng	97
6) Bromomethane	5.42	94	2007486	469.75	ng	# 97
7) Chloroethane	5.51	64	856510	467.97	ng	97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng	82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng	88
12) Methylene chloride	8.10	49	2159716	354.74	ng	99
13) Carbon disulfide	8.27	76	4502881	443.88	ng	98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng	98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng	92
16) n-Hexane	8.77	57	1747631	426.72	ng	# 1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng	98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng	91
19) Chloroform	11.07	83	3825367	412.36	ng	98
20) Isooctane	12.03	57	5483567	361.41	ng	96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng	91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng	97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	# 97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng	97
27) Benzene	12.84	78	4427183	462.51	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: TO14S.RES

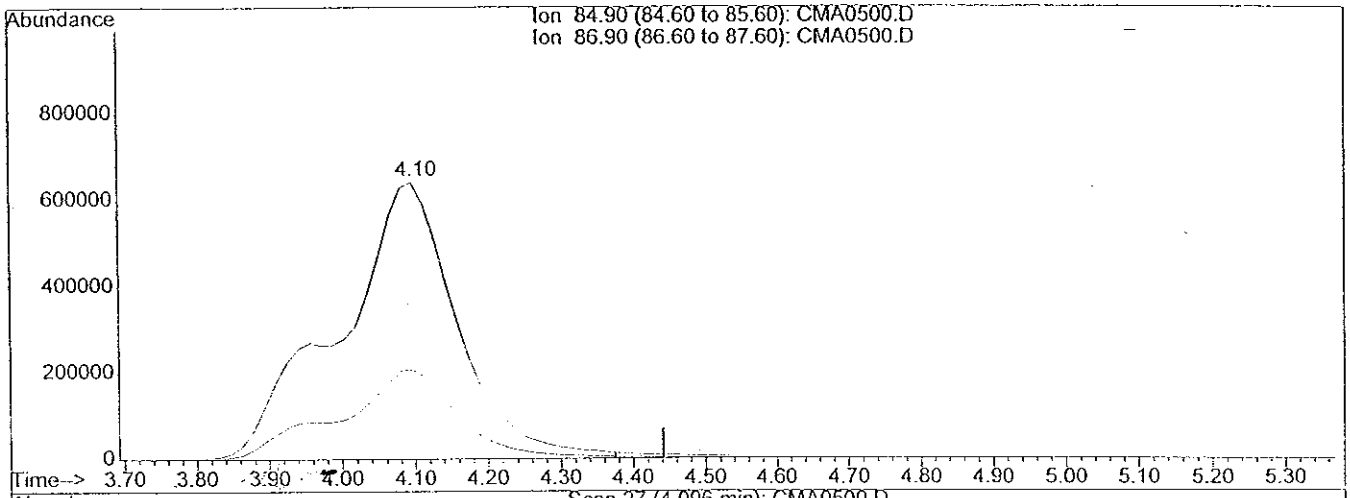
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

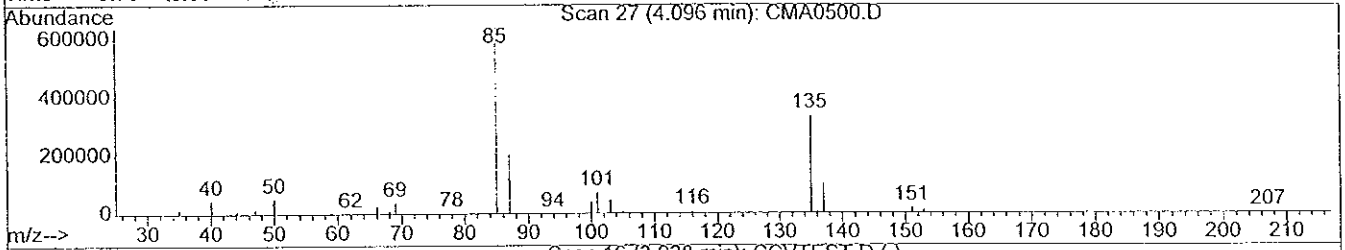
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70	ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33)	Toluene	17.11	92	2870951	492.12	ng		98
34)	trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35)	1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37)	Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38)	Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39)	Chlorobenzene	20.77	112	4188342	511.74	ng		94
40)	Ethylbenzene	20.88	106	1693683	512.53	ng		99
41)	m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42)	o-Xylene	22.21	106	2136548	519.78	ng		95
43)	Styrene	22.29	104	3277411	503.19	ng		97
44)	Bromoform	23.25	173	2400417	451.44	ng		100
45)	1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48)	4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49)	1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50)	2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52)	1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53)	1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56)	Napthalene	31.19	128	2175497	323.03	ng	#	92
57)	Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

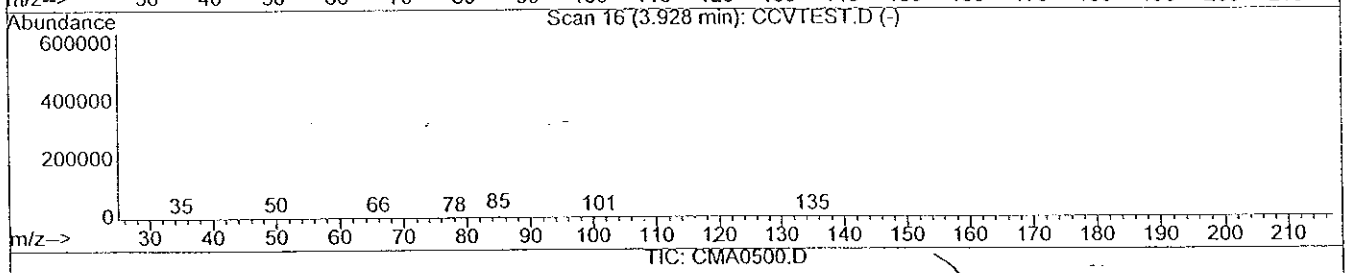
(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 20:48:42 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

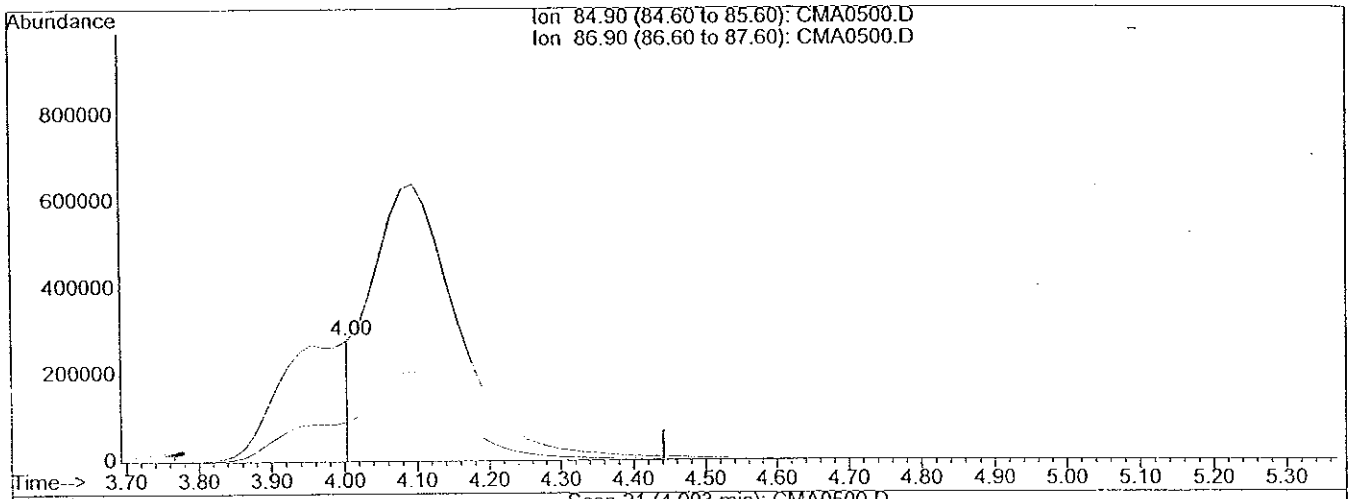
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

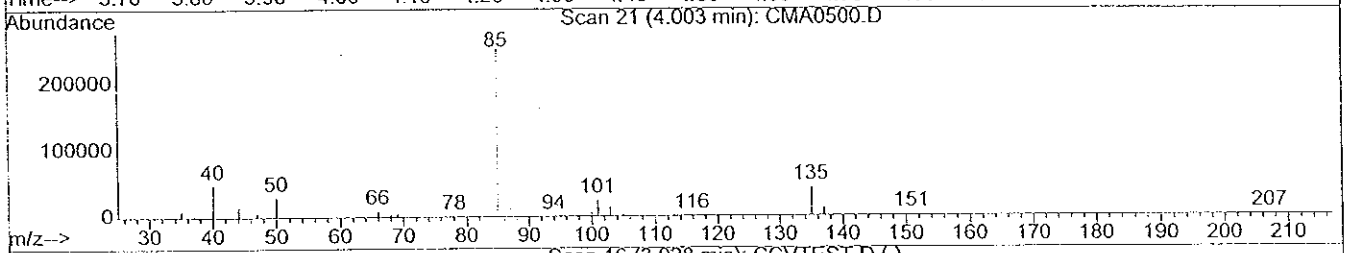
Be ford (missing | co-elated)

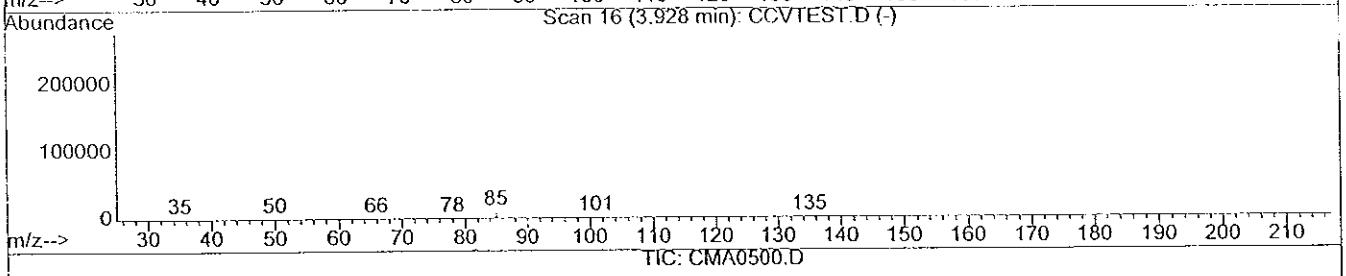
CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:48 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:47:44 2001
Response via : Multiple Level Calibration







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.27#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
11/22/01

11-24-01

CMA0500.D TO14S.M Thu Nov 22 20:48:14 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00	ng		-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00	ng		-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00	ng		-0.03 314.16%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68	ng		-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 57.07%#				
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.88%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 88.53%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40	ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68	ng	#	26
4) Chloromethane	4.36	50	1284225	369.32	ng		95
5) Vinyl chloride	4.58	62	1256220	401.61	ng		97
6) Bromomethane	5.42	94	2007486	469.75	ng	#	97
7) Chloroethane	5.51	64	856510	467.97	ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39	ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28	ng		88
12) Methylene chloride	8.10	49	2159716	354.74	ng		99
13) Carbon disulfide	8.27	76	4502881	443.88	ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53	ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08	ng		92
16) n-Hexane	8.77	57	1747631	426.72	ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84	ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99	ng		91
19) Chloroform	11.07	83	3825367	412.36	ng		98
20) Isooctane	12.03	57	5483567	361.41	ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12	ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53	ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94	ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21	ng		97
27) Benzene	12.84	78	4427183	462.51	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 16:35:21 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

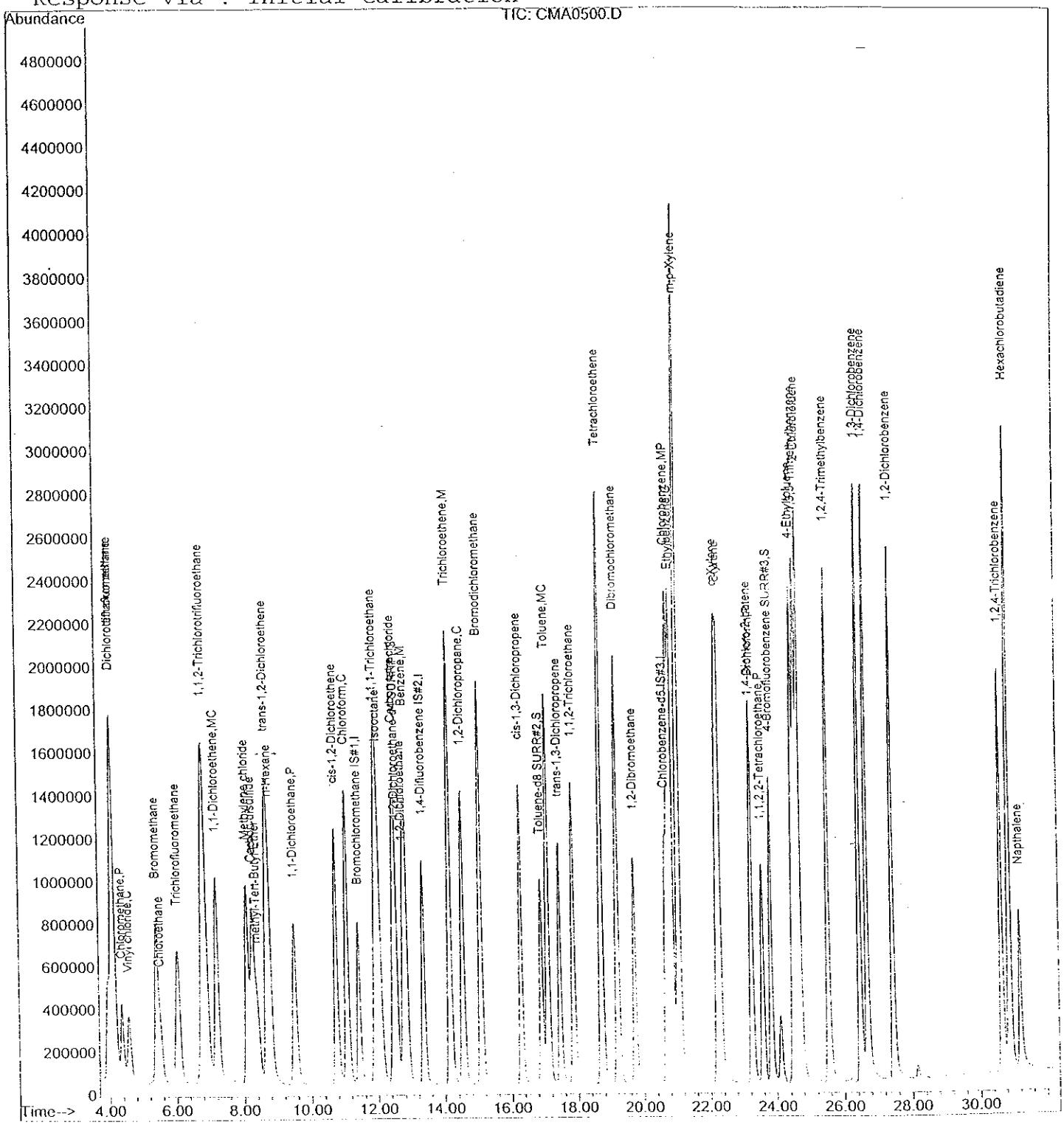
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70	ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93	ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09	ng		98
33)	Toluene	17.11	92	2870951	492.12	ng		98
34)	trans-1,3-Dichloropropene	17.46	75	1946542	359.58	ng		98
35)	1,1,2-Trichloroethane	17.87	97	1581503	431.94	ng		97
37)	Tetrachloroethene	18.72	164	2362211	575.17	ng		95
38)	Dibromochloromethane	19.20	127	2829227	439.77	ng		98
39)	Chlorobenzene	20.77	112	4188342	511.74	ng		94
40)	Ethylbenzene	20.88	106	1693683	512.53	ng		99
41)	m,p-Xylene	21.07	106	4383149	1014.39	ng		96
42)	o-Xylene	22.21	106	2136548	519.78	ng		95
43)	Styrene	22.29	104	3277411	503.19	ng		97
44)	Bromoform	23.25	173	2400417	451.44	ng		100
45)	1,1,2,2-Tetrachloroethane	23.56	83	2056168	351.19	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	387280	358.97	ng		92
48)	4-Ethyltoluene	24.50	105	5829345	510.26	ng		95
49)	1,3,5-Trimethylbenzene	24.61	105	4420240	471.62	ng		89
50)	2-Chlorotoluene	24.70	91	5571099	441.31	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	4502643	462.15	ng		95
52)	1,3-Dichlorobenzene	26.47	146	3614890	512.56	ng		94
53)	1,4-Dichlorobenzene	26.69	146	3720955	504.15	ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	3135068	479.40	ng		95
55)	1,2,4-Trichlorobenzene	30.64	180	2085615	453.11	ng		99
56)	Napthalene	31.19	128	2175497	323.03	ng	#	92
57)	Hexachlorobutadiene	30.88	225	1885829	479.65	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 16:35:22 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

BA 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#				
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 21:09:45 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

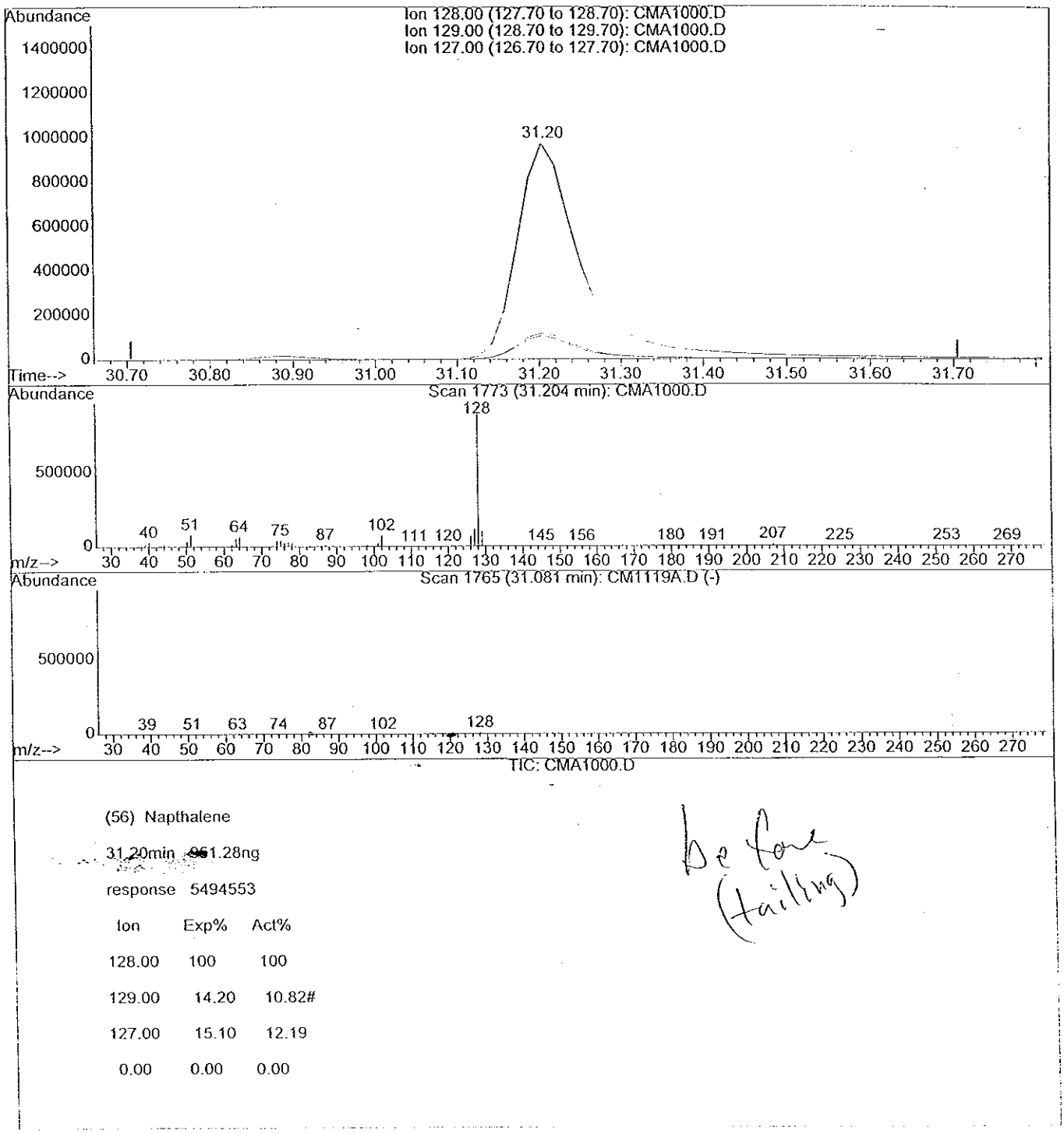
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5286344m	915.23	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 21:09:46 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS In.
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 961.28ng

response 5494553

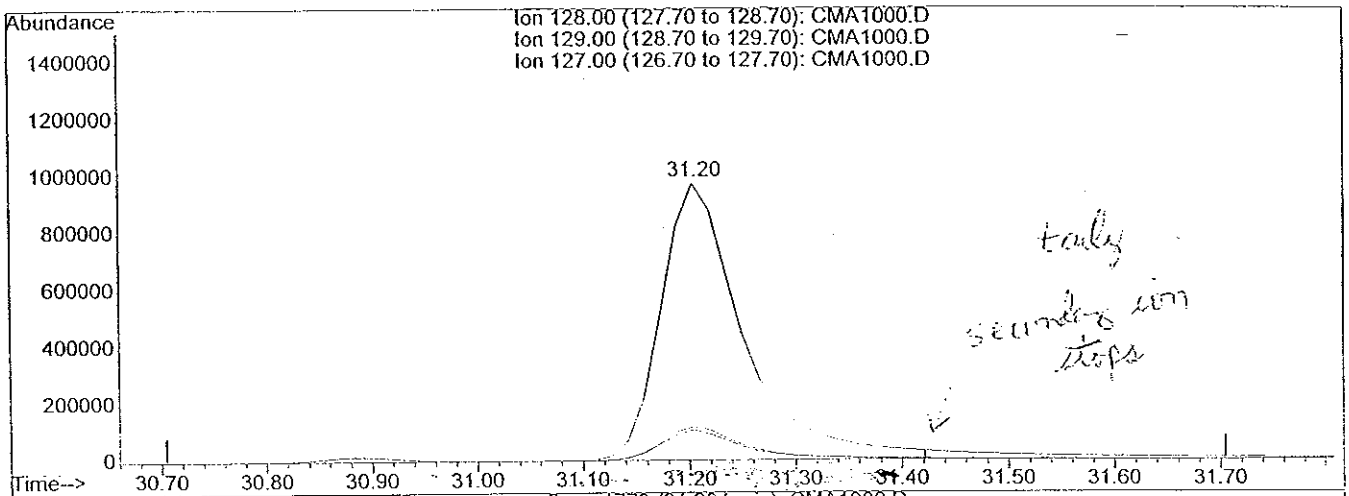
Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

Before (tailing)

CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration



(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.84%#				
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 92.83%				
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.41%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 17:30:22 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

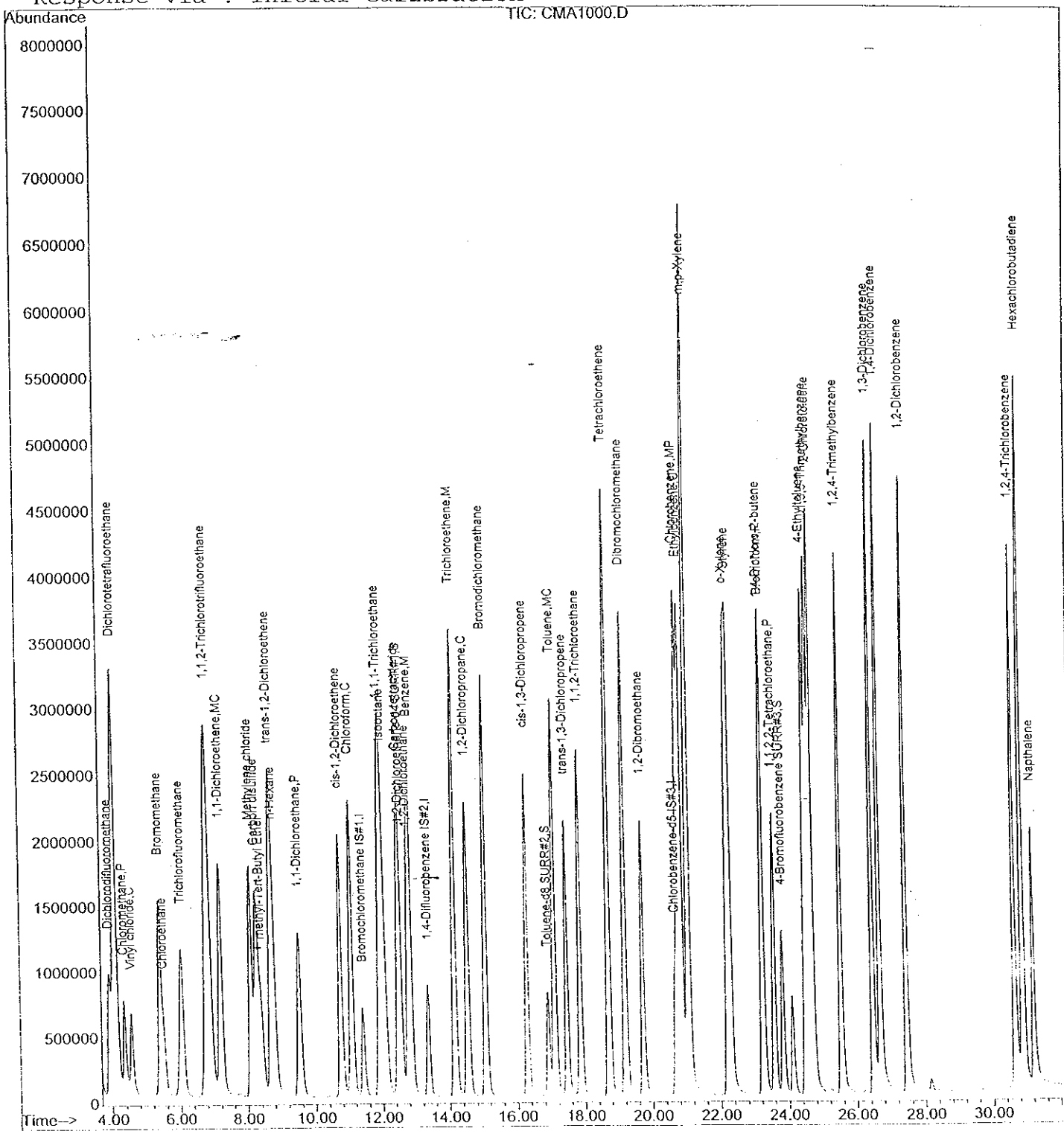
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	4254495	1092.20	ng		93
29)	1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30)	Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31)	cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33)	Toluene	17.09	92	4788893	977.79	ng		98
34)	trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35)	1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37)	Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38)	Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39)	Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40)	Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41)	m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42)	o-Xylene	22.21	106	3660995	1038.48	ng		94
43)	Styrene	22.29	104	5744605	1028.38	ng		96
44)	Bromoform	23.25	173	4989717	1094.16	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48)	4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49)	1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50)	2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51)	1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52)	1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53)	1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55)	1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56)	Napthalene	31.20	128	5494553	951.28	ng	#	92
57)	Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 17:30:22 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



CMA1000.D TO14S.M Thu Nov 22 17:30:24 2001 Page 3

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	634249	250.00	ng	-0.02 290.39%
26) 1,4-Difluorobenzene IS#2	13.36	114	2600798	250.00	ng	-0.03 274.40%
36) Chlorobenzene-d5 IS#3	20.69	117	1981283	250.00	ng	-0.02 276.07%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.57	65	632851	134.29	ng	-0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 53.72%#			
32) Toluene-d8 SURR#2	16.92	98	1970807	229.09	ng	-0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 91.64%			
46) 4-Bromofluorobenzene SURR#	23.84	95	1740302	225.18	ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.07%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.94	85	4935791	935.33	ng	
3) Dichlorotetrafluoroethane	4.09	135	7446198	1449.32	ng	# 44
4) Chloromethane	4.36	50	3382343	1059.28	ng	# 96
5) Vinyl chloride	4.56	62	3168424	1103.09	ng	97
6) Bromomethane	5.41	94	5426495	1382.82	ng	# 98
7) Chloroethane	5.51	64	2270536	1350.98	ng	96
8) Trichlorofluoromethane	6.05	101	7232899	1236.76	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	8477979	1721.01	ng	81
10) 1,1-Dichloroethene	7.20	96	4596546	1576.05	ng	86
12) Methylene chloride	8.10	49	5698090	1019.24	ng	96
13) Carbon disulfide	8.27	76	12272113	1317.43	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	5104092	1089.43	ng	98
15) trans-1,2-Dichloroethene	8.69	96	4769897	1458.61	ng	90
16) n-Hexane	8.78	57	4342794	1154.77	ng	# 1
17) 1,1-Dichloroethane	9.53	63	7860477	1163.70	ng	98
18) cis-1,2-Dichloroethene	10.76	61	6258103	1116.90	ng	88
19) Chloroform	11.08	83	9812958	1151.95	ng	98
20) Isooctane	12.04	57	14645922	1051.21	ng	95
21) 1,1,1-Trichloroethane	11.95	97	7963993	1057.12	ng	89
22) Carbon tetrachloride	12.51	117	8783308	1134.03	ng	97
24) 1,2-Dichloroethane	12.77	62	4388761	821.89	ng	# 97
25) 1,2-Dibromoethane	19.74	107	7240589	1350.63	ng	98
27) Benzene	12.85	78	11283448	1355.23	ng	98

(#) = qualifier out of range (m) = manual integration
CMA1500.D TO14S.M Thu Nov 22 18:25:29 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

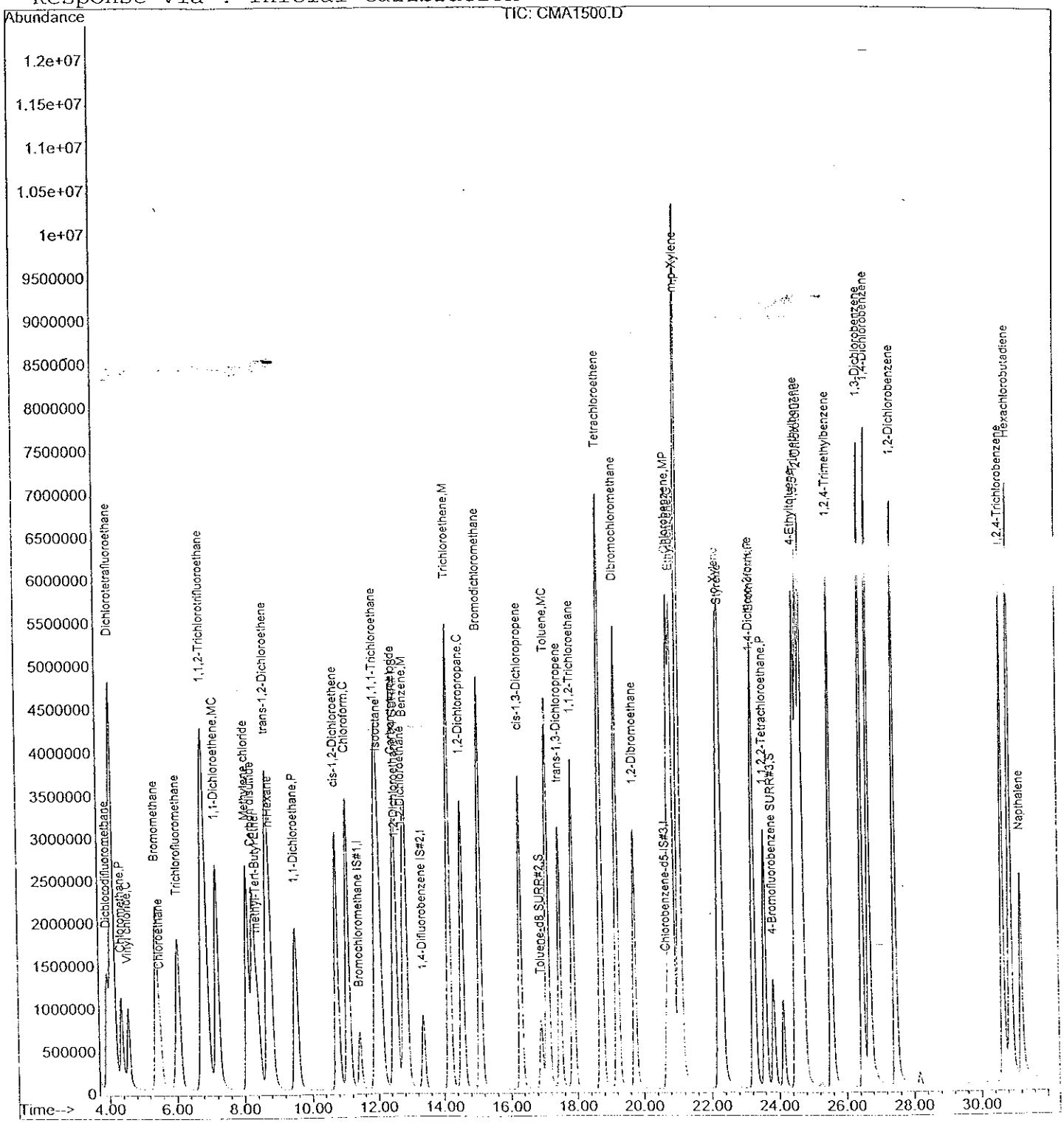
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88	ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29	ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55	ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10	ng		96
33) Toluene	17.10	92	7379692	1454.35	ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58	ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29	ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63	ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36	ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47	ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02	ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70	ng		95
42) o-Xylene	22.23	106	5544185	1534.89	ng		94
43) Styrene	22.32	104	8782292	1534.41	ng		96
44) Bromoform	23.27	173	7134144	1526.83	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88	ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33	ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18	ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11777[illegible]	[illegible]	ng		
50) 2-Chlorotoluene	24.71	91	14289333	1289.09	ng		94
51) 1,2,4-Trimethylbenzene	25.55	105	11726608	1369.68	ng		96
52) 1,3-Dichlorobenzene	26.48	146	9865243	1591.80	ng	#	94
53) 1,4-Dichlorobenzene	26.70	146	10428453	1607.89	ng	#	93
54) 1,2-Dichlorobenzene	27.46	146	8892199	1547.37	ng	#	94
55) 1,2,4-Trichlorobenzene	30.66	180	6219579	1537.66	ng		99
56) Napthalene	31.22	128	6912312	1167.99	ng	#	92
57) Hexachlorobutadiene	30.89	225	4486552	1298.56	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 12-26-01
Batch MA8258 (1) 2 3
IS# 8 -MSW- 26 - 3
BFB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 23 - 3
8260 -MSW- -

Method (TO14) /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:44	1 #3	BFBST2	BFM1226A	50ppb			W	YES		Daily 12 hr. BFB Tune
12:06	14	To14 5.m	CM 1226A	50ppb		Y N	W		BDH	Daily Cal Check/bfb tune/95 ion area = 965,000
12:41	15		MA258A BK	ST		Y N				Daily Method Blank
13:~~51~~ 16	16 BH 12/26		MA258 LCS	50ppb		Y N				Batch# 258 LCS
13:51	1		QC008	ST.		Y N	A (To14)			QC Can check #008 ST. 500mls - passed
14:29	1		12300-1R	ST.	✓	Y N				500mls
15:06	1		12611-1	ST		Y N				
15:40	1		-2			Y N				
16:17	1		12630-1	ST.		Y N				
16:54	1		12633-1			Y N				
17:31	2		12604-3	X10		Y N				50mls
18:08	3		-4	X1000		Y N				0.5ml re-run X100
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 12/26/01
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

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

Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1226A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

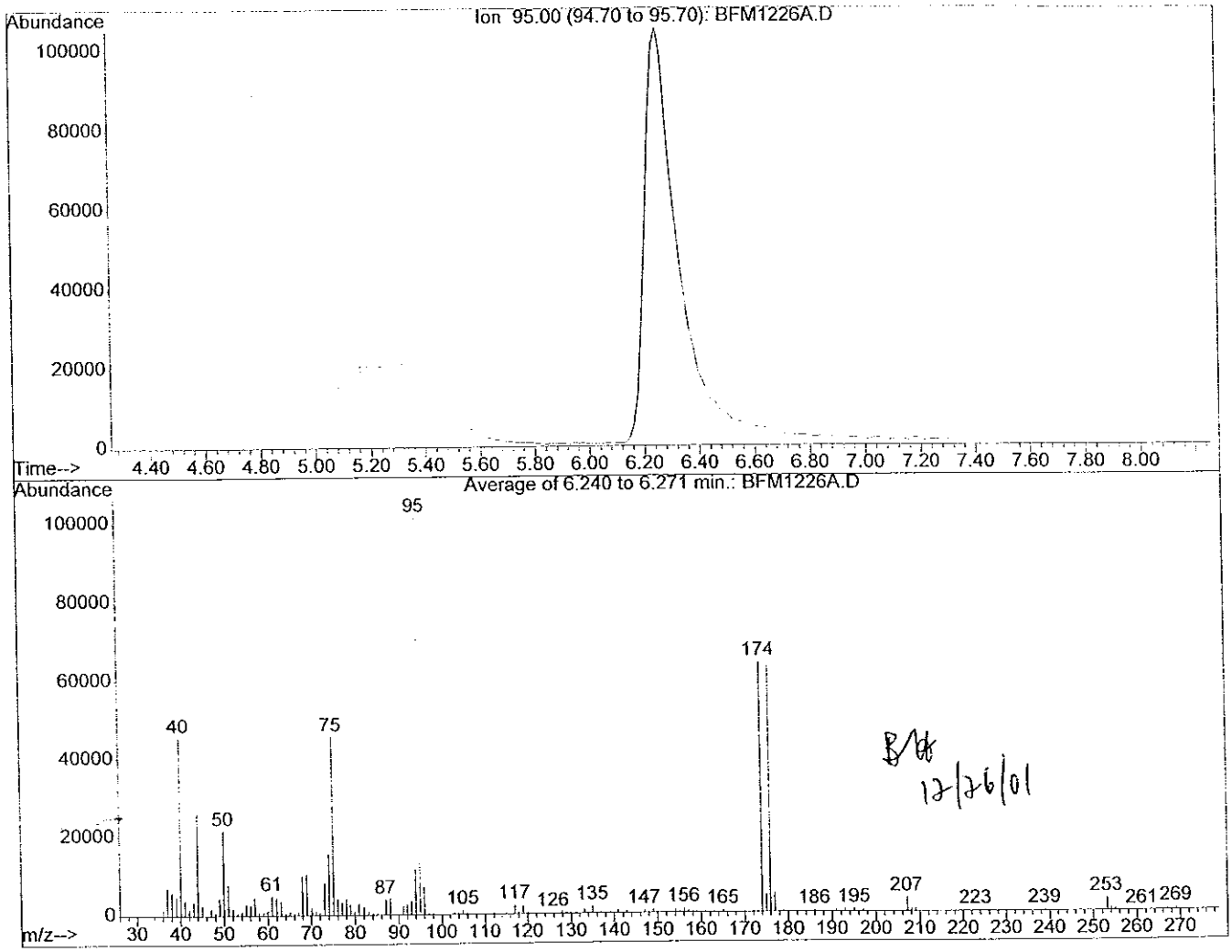
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1226A	BFBSTL	BFB050\DAILY 12 HR. BFB TUNE.
2	Sample	14	CM1226A	TO14S	VSTD050\DAILY CALIB. CHECK 50
3	Sample	15	MA256ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
4	Sample	16	MA256LCS	TO14S	VLCSMA\BATCH #258 LCS 50ppb/
5	Sample	1	QC008	TO14S	QC CAN CHECK #008 ST. 500mls
6	Sample	1	123001R	TO14S	12300-1 ST. 500mls
7	Sample	1	126111	TO14S	063SVE1061IA12200145\12611-1
8	Sample	1	126112	TO14S	063SVE1062IA12200145\12611-2
9	Sample	1	126301	TO14S	062SVEEA12200119\12630-1 ST.
10	Sample	1	126331	TO14S	063SVE1780IA12200144\12633-1
11	Sample	1	126332	TO14S	063SVE2780IA12200144\12633-2
12	Sample	1	126333	TO14S	063ASI780EA12200144\12633-3 S
13	Sample	1	126334	TO14S	063TMX780EA12200144\12633-4 S
14	Sample	2	126041	TO14S	12604-1 X100 5mls
15	Sample	3	126042	TO14S	12604-2 X100 5mls
16	Sample	4	126043	TO14S	12604-3 X100 5mls
17	Sample	5	126044	TO14S	12604-4 X100 5mls
18	Sample	6	126045	TO14S	12604-5 X100 5mls
19	Sample	7	126046	TO14S	12604-6 X100 5mls
20	Sample	8	126047	TO14S	12604-7 X100 5mls

Last Modified: Wed Dec 26 11:39:46 2001

BFB

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D
Acq On : 26 Dec 2001 11:44
Sample : BFB050\DAILY 12 HR. BFB TUNE.
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



Spectrum Information: Average of 6.240 to 6.271 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.4	21699	PASS
75	95	30	60	45.0	45659	PASS
95	95	100	100	100.0	101357	PASS
96	95	5	9	7.2	7289	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.1	63984	PASS
175	174	5	9	7.2	4598	PASS
176	174	95	101	98.6	63061	PASS
177	176	5	9	7.8	4915	PASS

BFM1226A.D TO14S.M Wed Dec 26 11:53:44 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D Vial: 13
Acq On : 26 Dec 2001 11:44 Operator: BDH
Sample : BFB050\DAILY 12 HR. BFB TUNE. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.790	11	17	38	rVB	497037	3672681	84.36%	45.759%
2	6.256	38	47	82	rVB2	470031	4353495	100.00%	54.241%

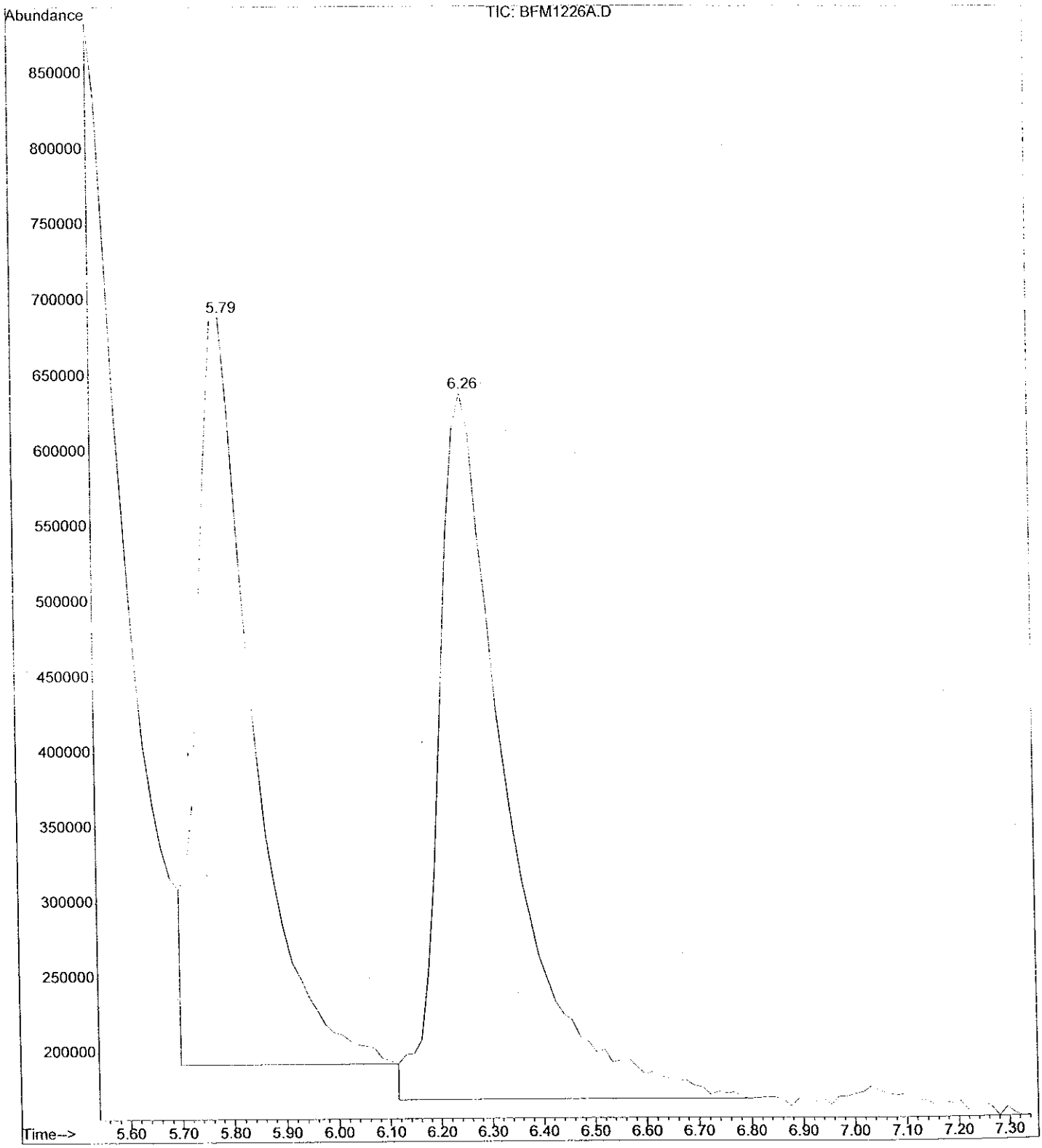
Sum of corrected areas: 8026176

BFM1226A.D BFBSTL.M Wed Dec 26 11:51:47 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1226A\BFM1226A.D
Acq On : 26 Dec 2001 11:44
Sample : BFB050\DAILY 12 HR. BFB TUNE.
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1226A.D BFBSTL.M Wed Dec 26 11:51:47 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D (21 Dec 2001 9:59)

original - Passes BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	653005	250.00	ng		-0.02 89.14%
26) 1,4-Difluorobenzene IS#2	13.28	114	2555779	250.00	ng		-0.02 85.27%
36) Chlorobenzene-d5 IS#3	20.59	117	1973430	250.00	ng		-0.02 85.65%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.47	65	797376	286.40	ng		-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.56%				
32) Toluene-d8 SURR#2	16.82	98	2005558	253.46	ng		-0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.38%				
46) 4-Bromofluorobenzene SURR#	23.76	95	1788470	256.53	ng		0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 102.61%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.91	85	720006	227.42	ng		99
3) Dichlorotetrafluoroethane	4.05	135	1001146	209.81	ng	#	39
4) Chloromethane	4.30	50	555988	244.85	ng	#	97
5) Vinyl chloride	4.53	62	568696	261.26	ng		97
6) Bromomethane	5.36	94	847458	231.08	ng		99
7) Chloroethane	5.47	64	371426	253.06	ng		99
8) Trichlorofluoromethane	5.98	101	980576	230.74	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.77	151	1277731	235.98	ng		88
10) 1,1-Dichloroethene	7.14	96	716118	244.12	ng		94
12) Methylene chloride	8.03	49	1049047	276.89	ng		95
13) Carbon disulfide	8.18	76	2009365	254.36	ng		99
14) methyl-Tert-Butyl Ether	8.31	73	1081050	308.87	ng		97
15) trans-1,2-Dichloroethene	8.60	96	779376	248.26	ng		95
16) n-Hexane	8.70	57	692068	230.04	ng	#	1
17) 1,1-Dichloroethane	9.43	63	1334488	257.88	ng		99
18) cis-1,2-Dichloroethene	10.65	61	1114640	269.90	ng		96
19) Chloroform	10.98	83	1767104	270.02	ng		99
20) Isooctane	11.94	57	2382824	235.31	ng		99
21) 1,1,1-Trichloroethane	11.85	97	1475355	269.63	ng		91
22) Carbon tetrachloride	12.42	117	1565414	266.12	ng		97
24) 1,2-Dichloroethane	12.67	62	923490	298.00	ng		99
25) 1,2-Dibromoethane	19.63	107	1416265	292.42	ng		97
27) Benzene	12.75	78	1957891	268.65	ng		99

(#) = qualifier out of range (m) = manual integration
CM1226A.D TO14S.M Wed Dec 26 12:38:41 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

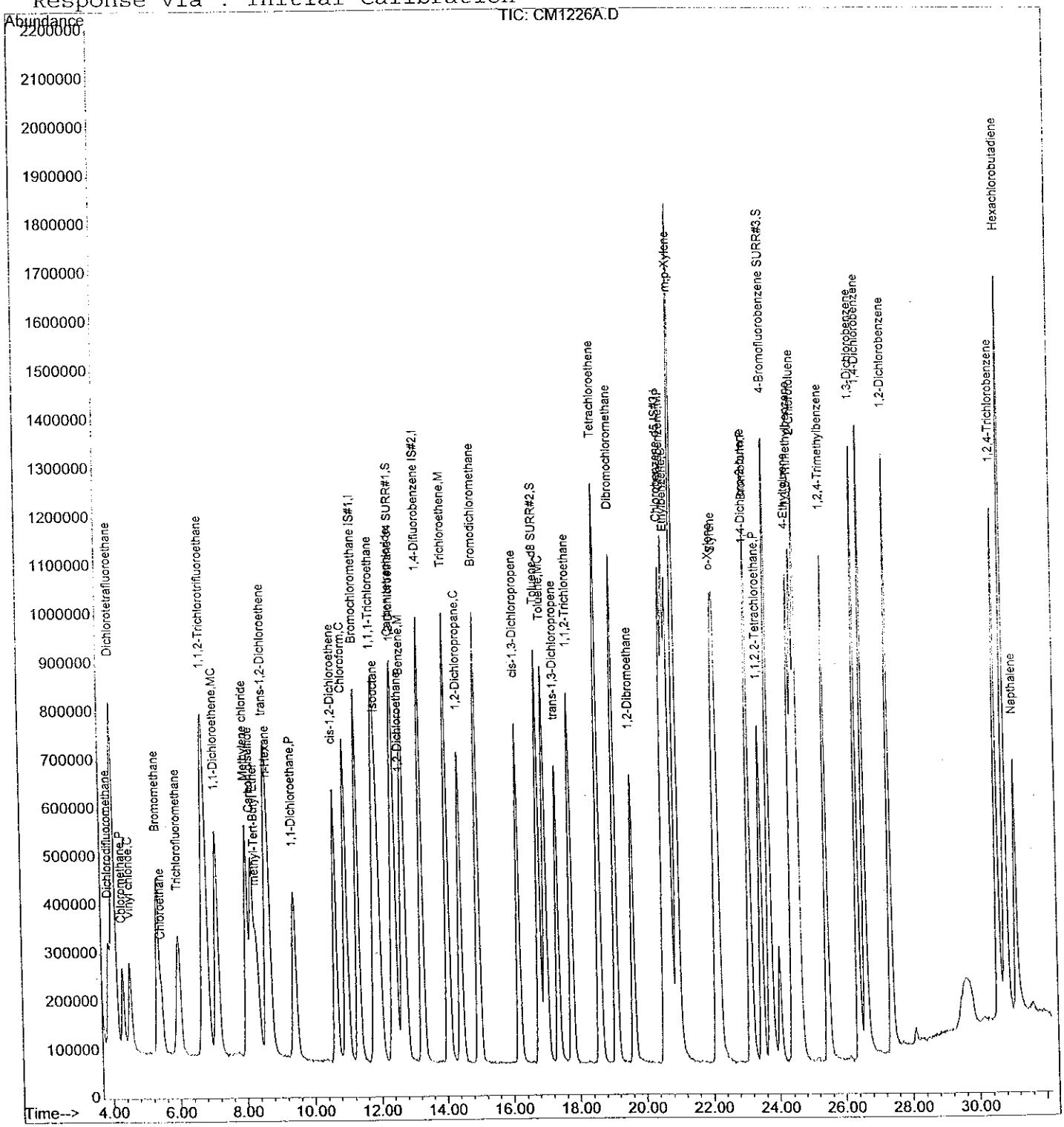
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.07	130	1058197	258.60	ng		96
29) 1,2-Dichloropropane	14.46	63	831006	271.91	ng		96
30) Bromodichloromethane	14.98	83	2045960	290.84	ng		99
31) cis-1,3-Dichloropropene	16.19	75	1254613	282.58	ng		95
33) Toluene	17.00	92	1218759	260.57	ng		98
34) trans-1,3-Dichloropropene	17.37	75	1042666	304.79	ng		94
35) 1,1,2-Trichloroethane	17.78	97	837962	294.72	ng		97
37) Tetrachloroethene	18.62	164	968014	250.94	ng		96
38) Dibromochloromethane	19.11	127	1459756	289.49	ng		99
39) Chlorobenzene	20.68	112	1828326	263.27	ng		96
40) Ethylbenzene	20.77	106	722821	259.21	ng		98
41) m,p-Xylene	20.98	106	1861996	519.17	ng		100
42) o-Xylene	22.13	106	909990	261.07	ng		100
43) Styrene	22.20	104	1439742	265.78	ng		99
44) Bromoform	23.17	173	1370944	298.99	ng		99
45) 1,1,2,2-Tetrachloroethane	23.49	83	1346380	327.85	ng		100
47) 1,4-Dichloro-2-butene	23.13	75	267783	343.42	ng		94
48) 4-Ethyltoluene	24.42	105	2286526	245.23	ng		93
49) 1,3,5-Trimethylbenzene	24.52	105	1876030	261.44	ng		88
50) 2-Chlorotoluene	24.62	91	2473225	269.62	ng		96
51) 1,2,4-Trimethylbenzene	25.48	105	1982111	264.73	ng		97
52) 1,3-Dichlorobenzene	26.41	146	1628169	263.63	ng		96
53) 1,4-Dichlorobenzene	26.63	146	1710985	262.91	ng		96
54) 1,2-Dichlorobenzene	27.39	146	1540888	272.84	ng		96
55) 1,2,4-Trichlorobenzene	30.59	180	1108193	279.64	ng		100
56) Napthalene	31.15	128	1506883	320.07	ng	#	92
57) Hexachlorobutadiene	30.83	225	918168	268.49	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D Vial: 14
Acq On : 26 Dec 2001 12:06 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 12:38 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D
Acq On : 26 Dec 2001 12:06
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:08 2001
Response via : Multiple Level Calibration

passed BH 12/26/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	87	0.00
2		Dichlorodifluoromethane	1.212	1.103	9.0#	87	0.00
3		Dichlorotetrafluoroethane	1.827	1.533	16.1#	72	0.00
4	P	Chloromethane	0.869	0.851	2.1#	83	0.00
5	C	Vinyl chloride	0.833	0.871	-4.6#	85	0.00
6		Bromomethane	1.404	1.298	7.5#	80	0.00
7		Chloroethane	0.562	0.569	-1.2	84	0.00
8		Trichlorofluoromethane	1.456	1.502	-3.2#	88	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	1.957	5.6#	80	0.00
10	MC	1,1-Dichloroethene	1.123	1.097	2.3#	81	0.00
11		Iodomethane	0.000	0.000	0.0	126	0.00
12		Methylene chloride	1.450	1.606	-10.8#	90	0.00
13		Carbon disulfide	3.024	3.077	-1.8	85	0.00
14		methyl-Tert-Butyl Ether	1.340	1.656	-23.6#	99	0.00
15		trans-1,2-Dichloroethene	1.202	1.194	0.7	81	0.00
16		n-Hexane	1.152	1.060	8.0#	77	0.00
17	P	1,1-Dichloroethane	1.981	2.044	-3.2#	85	0.00
18		cis-1,2-Dichloroethene	1.581	1.707	-8.0#	89	0.00
19	C	Chloroform	2.506	2.706	-8.0#	88	0.00
20		Isooctane	3.877	3.649	5.9#	81	0.00
21		1,1,1-Trichloroethane	2.095	2.259	-7.8#	88	0.00
22		Carbon tetrachloride	2.252	2.397	-6.4#	87	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.221	-14.5#	97	0.00
24		1,2-Dichloroethane	1.186	1.414	-19.2#	93	0.00
25		1,2-Dibromoethane	1.854	2.169	-17.0#	89	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	86	0.00
27	M	Benzene	0.713	0.766	-7.4#	85	0.00
28	M	Trichloroethene	0.400	0.414	3.5#	82	0.00
29	C	1,2-Dichloropropane	0.299	0.325	-8.7#	85	0.00
30		Bromodichloromethane	0.688	0.801	-16.4#	90	0.00
31		cis-1,3-Dichloropropene	0.434	0.491	-13.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.774	0.785	1.4	87	0.00
33	MC	Toluene	0.458	0.477	-4.1#	82	0.00
34		trans-1,3-Dichloropropene	0.335	0.408	-21.8#	92	0.00
35		1,1,2-Trichloroethane	0.278	0.328	-18.0#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.489	0.491	-0.4	80	0.00
38		Dibromochloromethane	0.639	0.740	-15.8#	88	0.00
39	MP	Chlorobenzene	0.880	0.926	-5.2#	83	0.00

(#) = Out of Range
CM1226A.D TO14S.M Wed Dec 26 12:42:15 2001

Data File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D
Acq On : 26 Dec 2001 12:06
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:08 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.366	-3.7#	82	0.00
41		m,p-Xylene	0.454	0.472	-4.0#	82	0.00
42		o-Xylene	0.442	0.461	-4.3#	82	0.00
43		Styrene	0.686	0.730	-6.4#	83	0.00
44	P	Bromoform	0.581	0.695	-19.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.682	-31.2#	94	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.906	-2.6#	86	0.00
47		1,4-Dichloro-2-butene	0.099	0.136	-37.4#	98	0.00
48		4-Ethyltoluene	1.181	1.159	1.9	81	0.00
49		1,3,5-Trimethylbenzene	0.909	0.951	-4.6#	87	0.00
50		2-Chlorotoluene	1.162	1.253	-7.8#	84	0.00
51		1,2,4-Trimethylbenzene	0.949	1.004	-5.8#	83	0.00
52		1,3-Dichlorobenzene	0.782	0.825	-5.5#	82	0.00
53		1,4-Dichlorobenzene	0.824	0.867	-5.2#	82	0.00
54		1,2-Dichlorobenzene	0.715	0.781	-9.2#	85	0.00
55		1,2,4-Trichlorobenzene	0.502	0.562	-12.0#	89	0.00
56		Napthalene	0.601	0.764	-27.1#	98	0.00
57		Hexachlorobutadiene	0.433	0.465	-7.4#	86	0.00

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK renamed Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00	ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00	ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00	ng	0.00 88.93%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%			
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%			

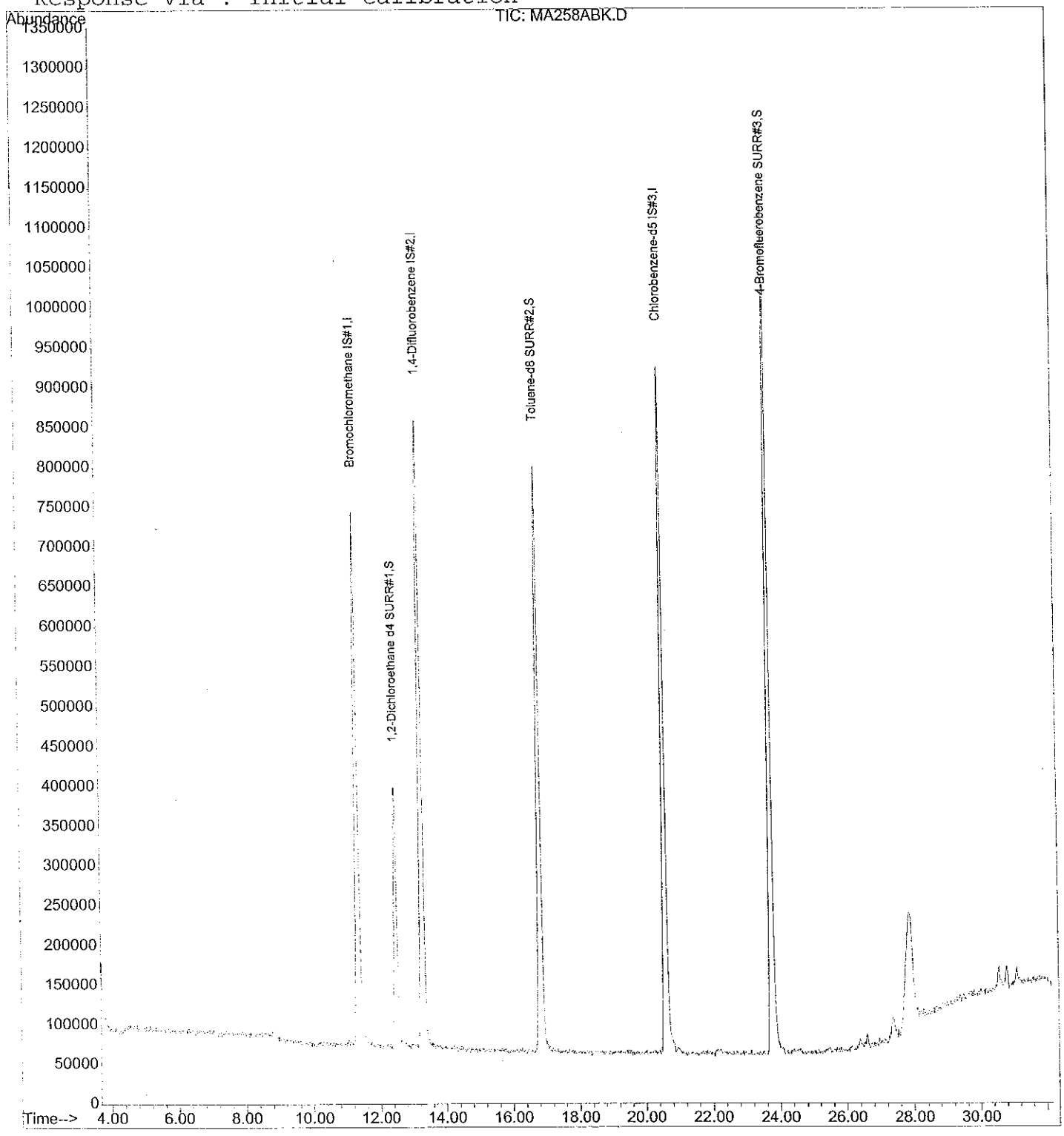
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:45 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D
Acq On : 26 Dec 2001 12:41
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA258ABK
MS Integration Params: rteint.p
Quant Time: Dec 26 13:33 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Rename to proper Batch ID

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00	ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00	ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00	ng	0.00 88.93%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%			
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
MA256ABK.D TO14S.M Wed Dec 26 13:33:49 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:14 2001 Quant Results File: TO14S.RES

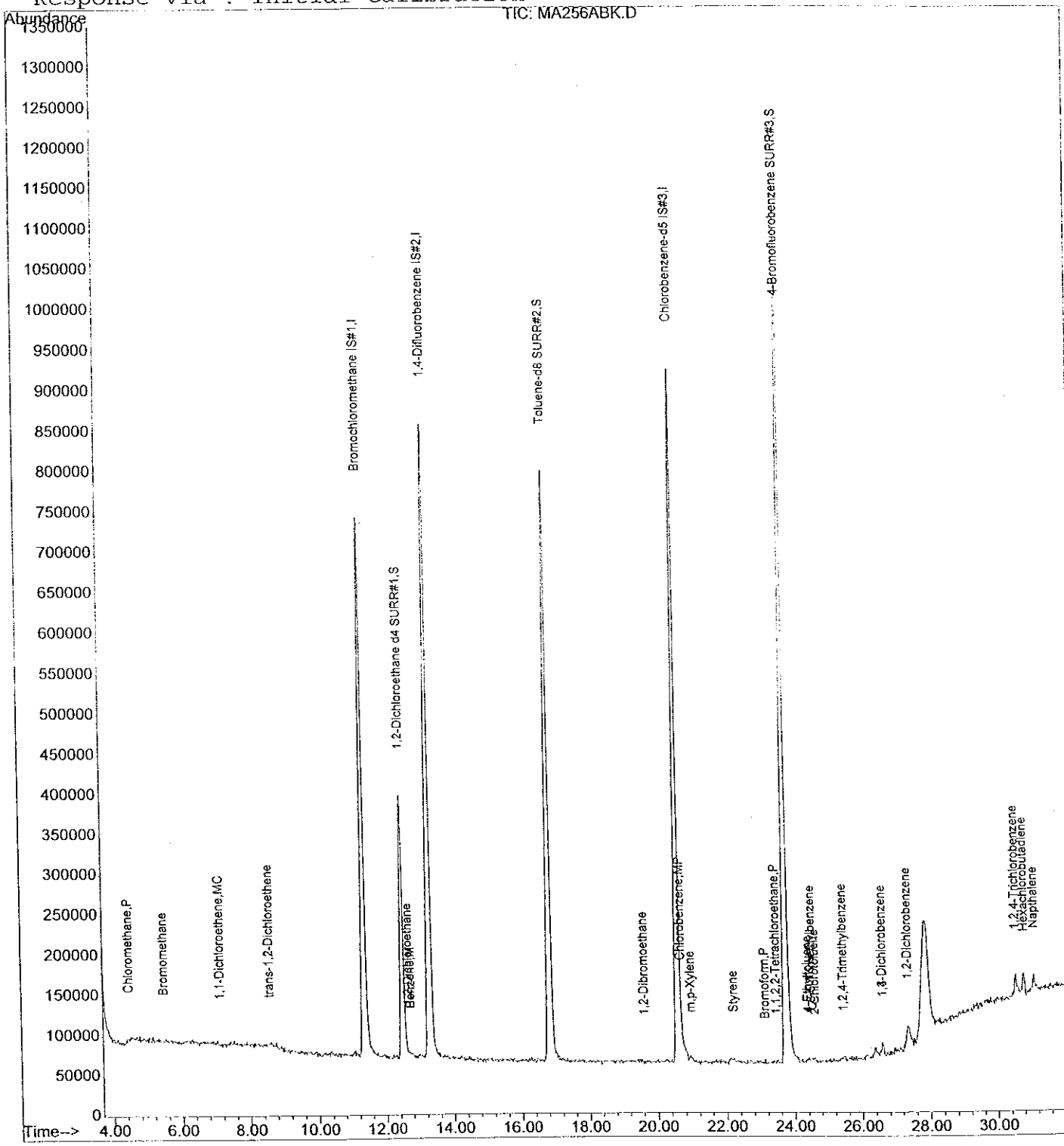
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	592443	250.00	ng	0.01 90.73%
26) 1,4-Difluorobenzene IS#2	13.29	114	2281050	250.00	ng	0.01 89.25%
36) Chlorobenzene-d5 IS#3	20.59	117	1754873	250.00	ng	0.00 88.93%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	698553	276.56	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 110.62%			
32) Toluene-d8 SURR#2	16.83	98	1771272	250.81	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.32%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1575175	254.07	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.63%			
Target Compounds						Qvalue
4) Chloromethane	4.44	50	1073	0.52	ng	# 46
6) Bromomethane	5.47	94	1087	0.33	ng	# 9
10) 1,1-Dichloroethene	7.13	96	1932	0.73	ng	# 1
15) trans-1,2-Dichloroethene	8.57	96	1070	0.38	ng	# 1
24) 1,2-Dichloroethane	12.67	62	1133	0.40	ng	# 49
25) 1,2-Dibromoethane	19.62	107	992	0.23	ng	# 3
27) Benzene	12.73	78	5932	0.91	ng	# 54
39) Chlorobenzene	20.70	112	4711	0.76	ng	# 1
41) m,p-Xylene	20.98	106	3536	1.11	ng	# 1
43) Styrene	22.22	104	3598	0.75	ng	# 1
44) Bromoform	23.15	173	1893	0.46	ng	# 32
45) 1,1,2,2-Tetrachloroethane	23.47	83	3143	0.86	ng	# 30
48) 4-Ethyltoluene	24.41	105	16008	1.93	ng	# 46
49) 1,3,5-Trimethylbenzene	24.51	105	10437	1.64	ng	# 60
50) 2-Chlorotoluene	24.62	91	16575	2.03	ng	# 47
51) 1,2,4-Trimethylbenzene	25.46	105	15109	2.27	ng	# 70
52) 1,3-Dichlorobenzene	26.61	146	17365	3.16	ng	93
53) 1,4-Dichlorobenzene	26.61	146	17365	3.00	ng	93
54) 1,2-Dichlorobenzene	27.37	146	13205	2.63	ng	92
55) 1,2,4-Trichlorobenzene	30.55	180	26715	7.58	ng	# 92
56) Napthalene	31.11	128	56117	19.10	ng	# 84
57) Hexachlorobutadiene	30.82	225	18537	6.10	ng	92

(#) = qualifier out of range (m) = manual integration CRL|NR|NSF
MA256ABK.D TO14S.M Wed Dec 26 13:14:04 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256ABK.D Vial: 15
Acq On : 26 Dec 2001 12:41 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:14 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Jan 03 13:53:40 2002
Response via : Multiple Level Calibration

	Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC 1,1-Dichloroethene	236.66	250.00	94.66	58 to 138%	[ ]
27)	M Benzene	278.40	250.00	111.36	87 to 116%	[ ]
28)	M Trichloroethene	272.93	250.00	109.17	85 to 116%	[ ]
33)	MC Toluene	280.09	250.00	112.04	86 to 113%	[ ]
39)	MP Chlorobenzene	274.66	250.00	109.86	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	112630					
Batch	MAB258	Actual ng result	mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene		278.4	0.5000	0.5568	111%	87-116%
Chlorobenzene		274.66	0.5000	0.5493	110%	88-111%
1,1-Dichloroethene		236.66	0.5000	0.4733	95%	58-138%
Toluene		280.09	0.5000	0.5602	112%	86-113%
Trichloroethene		272.93	0.5000	0.5459	109%	85-116%
1,2-Dichloroethane-d4		280.63	0.5000	0.5613	112%	61-140%
Toluene-d8		256.02	0.5000	0.5120	102%	90-109%
4-Bromofluorobenzene		249.02	0.5000	0.4980	100%	87-112%

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Renamed Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

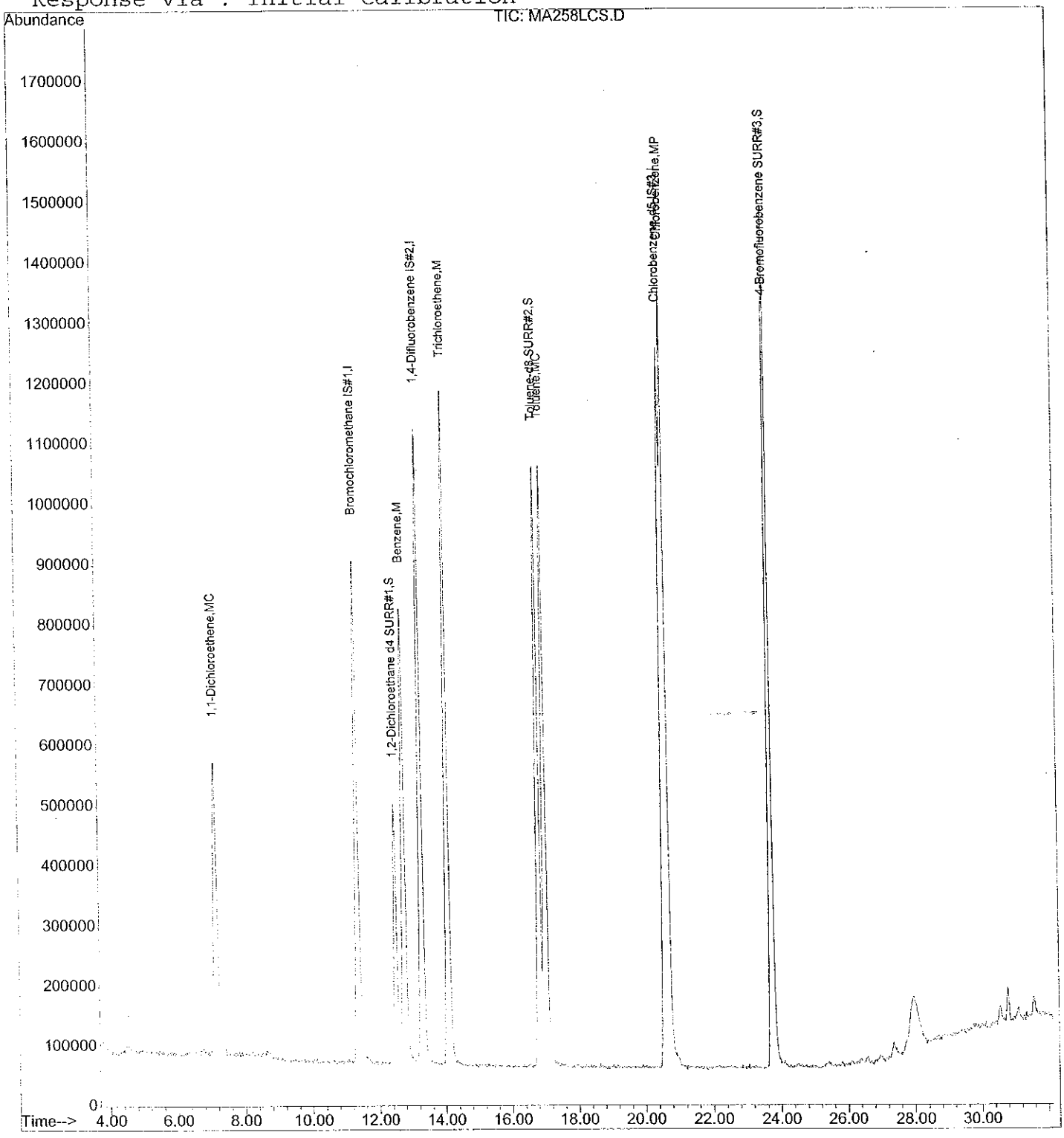
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00	ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00	ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00	ng	0.00 119.23%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.25%			
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.41%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02	ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.61%			
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.14	96	824324	236.66	ng	91
27) Benzene	12.76	78	2396679	278.40	ng	99
28) Trichloroethene	14.10	130	1319254	272.93	ng	95
33) Toluene	17.01	92	1547455	280.09	ng	98
39) Chlorobenzene	20.68	112	2274250	274.66	ng	87

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1226A\MA258LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Thu Jan 03 13:31:45 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 14:57 2001 Quant Results File: TO14S.RES

Rename to proper Batch ID

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

BH 12/26/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00	ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00	ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00	ng	0.00 119.23%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.25%			
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.41%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02	ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.61%			
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.14	96	824324	236.66	ng	91
27) Benzene	12.76	78	2396679	278.40	ng	99
28) Trichloroethene	14.10	130	1319254	272.93	ng	95
33) Toluene	17.01	92	1547455	280.09	ng	98
39) Chlorobenzene	20.68	112	2274250	274.66	ng	87

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Wed Dec 26 14:57:06 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	775359	250.00	ng	0.03 118.74%
26) 1,4-Difluorobenzene IS#2	13.29	114	3018922	250.00	ng	0.01 118.12%
36) Chlorobenzene-d5 IS#3	20.59	117	2352924	250.00	ng	0.00 119.23%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	927685	280.63	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 112.25%			
32) Toluene-d8 SURR#2	16.83	98	2392893	256.02	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.41%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2070028	249.02	ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.61%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.88	85	7326	1.95	ng	# 41
4) Chloromethane	4.42	50	2032	0.75	ng	# 46
6) Bromomethane	5.39	94	1192	0.27	ng	# 9
9) 1,1,2-Trichlorotrifluoroet	6.74	151	8979	1.40	ng	# 72
10) 1,1-Dichloroethene	7.14	96	824324	236.66	ng	91
13) Carbon disulfide	8.18	76	11263	1.20	ng	# 93
15) trans-1,2-Dichloroethene	8.65	96	6677	1.79	ng	# 1
16) n-Hexane	8.71	57	16121	4.51	ng	# 1
22) Carbon tetrachloride	12.40	117	3095	0.44	ng	# 85
24) 1,2-Dichloroethane	12.73	62	20588	5.60	ng	# 49
27) Benzene	12.76	78	2396679	278.40	ng	99
28) Trichloroethene	14.10	130	1319254	272.93	ng	95
29) 1,2-Dichloropropane	14.07	63	2046	0.57	ng	# 1
33) Toluene	17.01	92	1547455	280.09	ng	98
34) trans-1,3-Dichloropropene	17.01	75	14689	3.64	ng	# 1
37) Tetrachloroethene	18.63	164	1101	0.24	ng	# 42
39) Chlorobenzene	20.68	112	2274250	274.66	ng	87
41) m,p-Xylene	20.99	106	5318	1.24	ng	# 1
43) Styrene	22.20	104	2925	0.45	ng	# 45
48) 4-Ethyltoluene	24.50	105	19455	1.75	ng	# 89
49) 1,3,5-Trimethylbenzene	24.50	105	19455	2.27	ng	# 64
50) 2-Chlorotoluene	24.61	91	15759	1.44	ng	# 59
51) 1,2,4-Trimethylbenzene	25.45	105	13164	1.47	ng	88

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Wed Dec 26 13:48:30 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001 Quant Results File: TO14S.RES

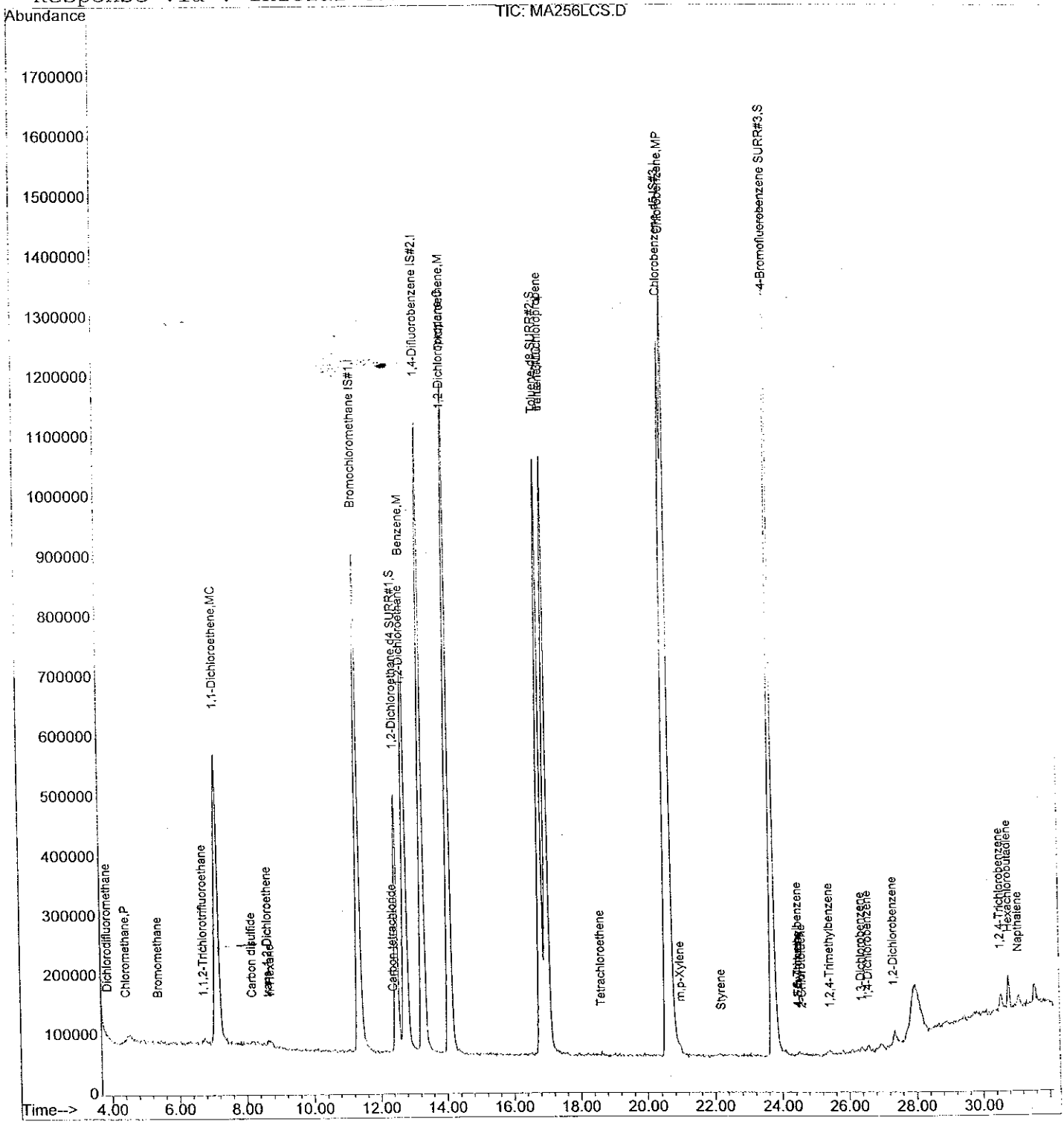
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52) 1,3-Dichlorobenzene	26.39	146	12047	1.64	ng	#	60
53) 1,4-Dichlorobenzene	26.59	146	11805	1.52	ng	#	66
54) 1,2-Dichlorobenzene	27.35	146	11022	1.64	ng	#	80
55) 1,2,4-Trichlorobenzene	30.55	180	29998	6.35	ng	#	86
56) Napthalene	31.10	128	52505	15.13	ng	#	78
57) Hexachlorobutadiene	30.80	225	33665	8.26	ng		93

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Wed Dec 26 13:48:30 2001 Page 2

Data File : D:\HPCHEM\1\DATA01\M1226A\MA256LCS.D Vial: 16
Acq On : 26 Dec 2001 13:16 Operator: BDH
Sample : VLCSMA\BATCH #258 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA258ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 13:48 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D
Acq On : 26 Dec 2001 16:17
Sample : 062SVEEA12200119\12630-1 ST. 500mls
Misc : Pi/Pf=2 MA258ABK
MS Integration Params: rteint.p
Quant Time: Dec 26 17:01 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.00 4

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

BM 12/26/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	829999	250.00	ng	0.04 / 127.10%
26) 1,4-Difluorobenzene IS#2	13.29	114	3343793	250.00	ng	0.01 / 130.83%
36) Chlorobenzene-d5 IS#3	20.58	117	2589434	250.00	ng	0.00 / 131.21%

mg/m3 report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	985626	278.53	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 111.41%			
32) Toluene-d8 SURR#2	16.83	98	2632894	254.33	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.73%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2270326	248.17	ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.27%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
126301.D TO14S.M Wed Dec 26 17:02:11 2001 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D
Acq On : 26 Dec 2001 16:17
Sample : 062SVEEA12200119\12630-1 ST. 500mls
Misc : Pi/Pf=2 MA25ABK 1/26/26
MS Integration Params: rteint.p
Quant Time: Dec 26 16:49 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1226A\CM1226A.D (26 Dec 2001 12:06)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	829999	250.00	ng	0.04 127.10%
26) 1,4-Difluorobenzene IS#2	13.29	114	3343793	250.00	ng	0.01 130.83%
36) Chlorobenzene-d5 IS#3	20.58	117	2589434	250.00	ng	0.00 131.21%
System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.49	65	985626	278.53	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 111.41%			
32) Toluene-d8 SURR#2	16.83	98	2632894	254.33	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.73%			
46) 4-Bromofluorobenzene SURR#	23.72	95	2270326	248.17	ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.27%			
Target Compounds						Qvalue
6) Bromomethane	5.34	94	1156	0.25	ng	# 9
12) Methylene chloride	8.07	49	1104	0.23	ng	# 13
15) trans-1,2-Dichloroethene	8.64	96	5499	1.38	ng	# 1
24) 1,2-Dichloroethane	12.70	62	3279	0.83	ng	# 49
27) Benzene	12.79	78	1900	0.20	ng	# 54
37) Tetrachloroethene	18.61	164	986	0.19	ng	# 1
41) m,p-Xylene	20.97	106	2287	0.49	ng	# 1
45) 1,1,2,2-Tetrachloroethane	23.52	83	37142	6.89	ng	# 30
48) 4-Ethyltoluene	24.37	105	25008	2.04	ng	# 69
49) 1,3,5-Trimethylbenzene	24.51	105	16737	1.78	ng	90
50) 2-Chlorotoluene	24.48	91	976	0.08	ng	# 47
51) 1,2,4-Trimethylbenzene	25.44	105	29114	2.96	ng	92
56) Napthalene	31.09	128	3358	6.48	ng	# 64

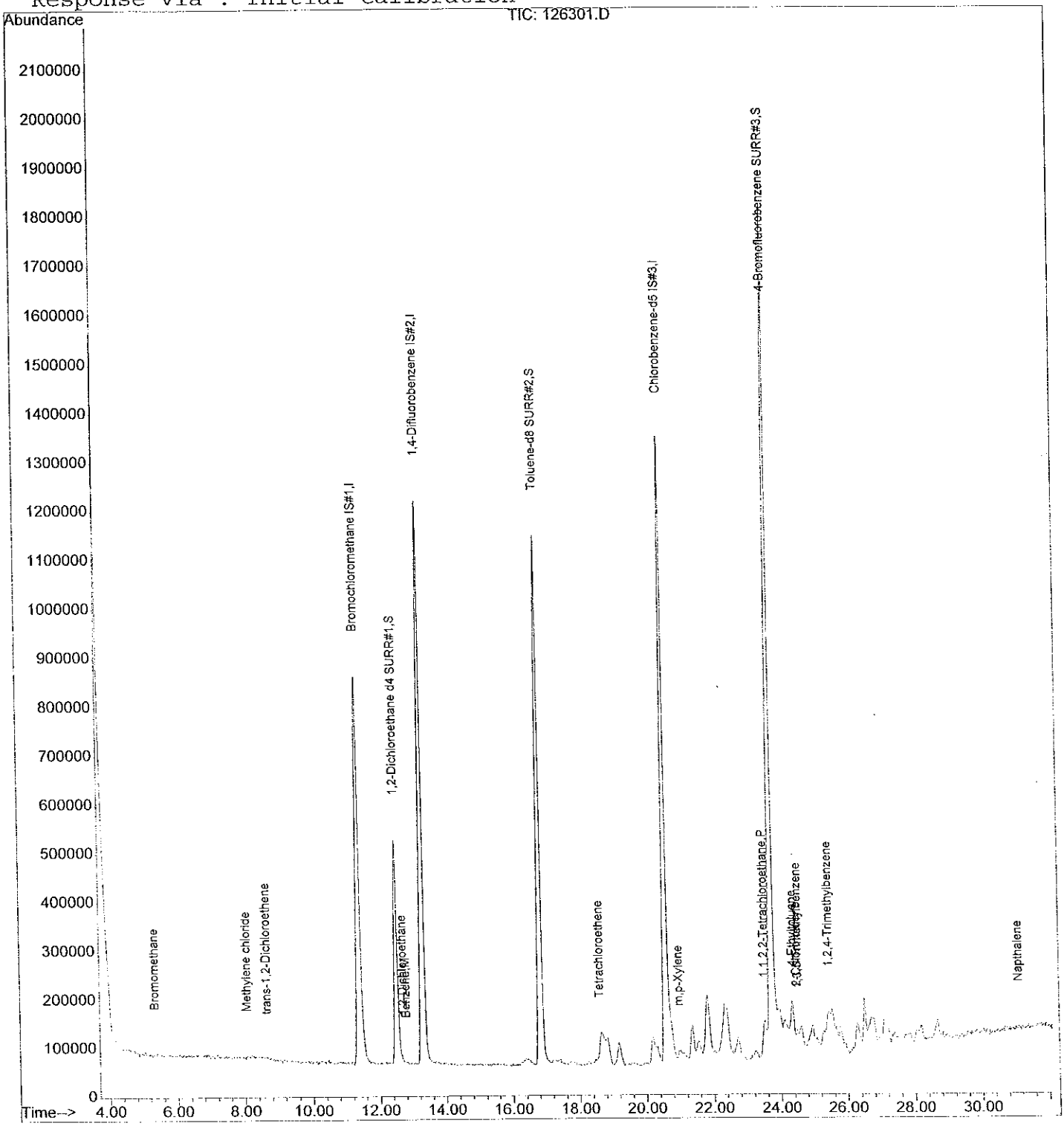
ng report

4

(#) = qualifier out of range (m) = manual integration
126301.D TO14S.M Wed Dec 26 16:49:17 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1226A\126301.D Vial: 1
Acq On : 26 Dec 2001 16:17 Operator: BDH
Sample : 062SVEEA12200119\12630-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 26 16:49 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 26 12:42:11 2001
Response via : Initial Calibration



AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

Analyst/Date Rep

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~	LOG I.D.
502C	A8040136	Acc STD	2000 µg/ml	7/1999	DWJ 5/15/98	7-VN 2-1
502A-R	A7040270	Acc STD	2000 µg/ml	7/1999	DWJ 5/28/98	7-VN 2-2
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	DWJ 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWJ 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	DWJ 6/16/98	7-VN 2-6
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	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 ~~LAD~~ 7/28/98	7-VN 2-9
8260 Surr	A11719	Restek	2500 µg/ml	8/2001	DWJ 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWJ 10/6/98	7-VN 2-11
Matrix Spike	LA76020	Supleco	25 µg/ml	8/2000	DWJ 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DWJ 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varian	6/2000	DWJ 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-Chloro ethyl vinyl ether	A8090042-3B	Accustandard	200.1 µg/ml	9/99	DWJ 1/27/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWJ 3/9/99	7-VN 2-19
Custom Keytone Mix	LA011115	Resteck	2000 µg/ml	3/2000	DWJ 3/10/99	7-VN 2-20
8260 Volatile Kit	Varian	Resteck	Varian	6/2001	DWJ 3/10/9	7-VN 2-21
8260 Cali Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWJ 5/10/99	7-VN 2-22
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWJ 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWJ 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	DWJ 6/29/99	7-VN 2-27
Idomethane	LA81867	Supelco	2000	4/2000	DWJ 6/29/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Away 1st Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2,000 µg/ml	4/2001	DWJ 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWJ 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl NA pthalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	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	Varian	Varian 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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* To be used if neat standard is to be kept after container is opened.

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules DATE OPENED	LOG I.D.
8260 IS STD	A0148111	Restek	2500 µg/mL	2/2003	10	P-VN 1-1
MTBE	A0149181	Restek	2000 µg/mL	6/2003	2	P-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/mL	6/2000	2	P-VN 1-3
Carbon Disulfide	LA85601	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
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/mL	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/mL	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/mL	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/mL	6/2002	1	P-VN 1-9
8260 Surr	A0142015	Restek	2500 µg/mL	12/2002	10	P-VN 1-10
Chloroprene	P0587	Ultra	100 µg/mL	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/mL	1/17/2001	3	P-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/mL	12/2001	6	P-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000 µg/mL	5/2001	2	P-VN 1-14
Vinyl Acetate	A0162591	Restek	10,000 µg/mL	4/2001	5	P-VN 1-15
Custom keytone Mix	A0162581	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 µg/mL	10/2001 (earliest)	1	P-VN 1-18
MTBE	A0158501	Restek	2000	10/2003	1	P-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	P-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	P-VN 1-21
1&2-Methyl-Naphthalene	LA90445	Supelco	2000	5/10/2001	3	P-VN 1-22
Isopropyl Ether	A0162591	Restek	2000	5/12/2001	3	P-VN 1-23
1&2-Methyl Naphthalene	A0164641	Restek	4000	5/15/2001	5	P-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	P-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/mL	7/1/2001	6/13/05 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/mL	5/1/2003	5	8-VN 1-27

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89947	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix C	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016378	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016548	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE/ Freon 113	A016494 A016542	Restek	2000	11/2001	11/1/00	drench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B011 0234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	Accustandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Mix	B 1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Tabuethylene	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: IS/SURR
Date: 9-26-01
Analyst: GCB

Standard I.D.: 8-MSW26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8-MSW26-2
Location: MS018 Freezer
Solvent: MeOH VOA E74

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

Comments:

Sol. Name: TO14 IS/Surr
Date: 10-12-01
Analyst: BAM

Standard I.D.: 8-MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A013764	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-29	LA89933	5/1/2003	1000	625	25mls	25ppm

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW3-4 IS	A016278	8/03	2500	500	10	125ug/ml
8-VN2-13 SURR	A017773	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

Sol. Name: TO14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

Standard I.D.: 8-MSW23-3
Location: MS018-Std Freezer
Solvent: MEOH-Lot E04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Custom)	LA90724	7-1-01	2500ug/ml	250ul	25 mls	25ug/ml
8-VN2-11 (Iso-octane)	B011034	12-1-01	2000ug/ml	312.5ul	25 mls	25ug/ml

Comments: expires 12/28/01

Appendix B

Laboratory Analytical Reports for Groundwater Samples (provided on CD)

1010000 1000101 1100110
PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	11-28-01; 10:20 AM
Date Reported:	12-10-01
PEL Submission Number:	2111099
Project:	NAS Cecil Field (103RD Street)

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method: 8260, 8310, 6010, and FLPRO

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Organics **1**
METHOD8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 42
Standards Data 59
METHOD8310 HPLC PAH ORGANICS 66
Sample Data 70
QC Summary 80
Standards Data 90
METHODFL-PRO GC FL- PRO ORGANICS 102
Sample Data 106
QC Summary 116
Standards Data 126

Inorganics **138**
METALS DATA PACKAGE TOTALS 140
Sample Data 144
QC Summary 154

Chain of Custody Documentation **181**

Addendum **188**

Organics

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

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

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

The initial calibration for the water matrix met the criteria. Dichlorodifluoromethane, Trichlorofluoromethane, Methylene Chloride, Carbon tetrachloride, 1,2-Dichloroethane, Trichloroethene, Tetrachloroethene, Bromoform, tert-Butylbenzene, and Hexachlorobutadiene required a linear fit in the water calibration and met the criteria with an R squared value > 0.99. The continuing calibration verification for the water met the criteria using the average percent D allowed by SW846 EPA method 8000.

B. Blanks:

The blank for the water samples met all criteria.

C. Surrogates:

All surrogate criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

D. Spikes:

Laboratory Control Samples (LCS)

All criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, SMW11Q40118, was analyzed as an MS/SD at a dilution of 1:5 where one out of 114 analytes did not meet the acceptance criteria for percent recovery. All criteria were met for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. Sample SMW11Q40118 required a 1:5 dilution due to a high concentration of 1,2,4-Trimethylbenzene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Ana Pelo **DATE:** 12/6/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: 8260

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
SMW11Q40118DL1	211109907DL1
062DUPQ40118	211109910
062EQBQ40118	211109911
062TBQ40118	211109912

Sample Data

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID: 09901.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1108

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID 09901.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1108

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
541-39-00	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

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID 09901.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1108

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID: 09902.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1133

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID 09902.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1133

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID: 09902.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1133

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID 09903.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1159

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID: 09903.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1159

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID 09903.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1159

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID: 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID: 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID 09904.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1224

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID: 09905.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1249

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID 09905.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1249

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID: 09905.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1249

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-0 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID: 09906.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1314

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID: 09906.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1314

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID: 09906.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1314

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID: 09907.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1455

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	0.42	J
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	0.19	J
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID: 09907.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1455

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	44	
511-39-00	p,m-Xylene	35	
95-47-6	o-Xylene	0.91	J
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	18	
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	18	
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	13	
98-06-6	tert-Butylbenzene	14	
95-63-6	1,2,4-Trimethylbenzene	114	E
135-98-8	sec-Butylbenzene	9.4	
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	8.3	
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID 09907.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1455

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	83	
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	36	

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907DL1 Lab File ID 09907R.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1701

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
594-20-7	2,2-Dichloropropane	2.2	U
156-59-2	cis-1,2-Dichloroethene	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	3	U
108-88-3	Toluene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
142-28-9	1,3-Dichloropropane	5	U
124-48-1	Dibromochloromethane	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907DL1 Lab File ID 09907R.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1701

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	1.2	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	37	
511-39-00	p,m-Xylene	32	
95-47-6	o-Xylene	1.2	J
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene (Cumene)	17	
108-86-1	Bromobenzene	0.75	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	2.3	U
103-65-1	n-Propylbenzene	15	
95-49-8	2-Chlorotoluene	5	U
106-43-4	4-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	15	
98-06-6	tert-Butylbenzene	1.9	U
95-63-6	1,2,4-Trimethylbenzene	123	
135-98-8	sec-Butylbenzene	8.2	
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
99-87-6	4-Isopropyltoluene	0.95	U
104-51-8	n-Butylbenzene	1.8	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.8	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	2.3	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118DL1

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907DL1 Lab File ID 09907R.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1701

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: CEF-103-SMW-1 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	58	
87-61-6	1,2,3-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	33	

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID: 09910.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1339

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Duplicate Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID: 09910.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1339

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Duplicate Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID 09910.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1339

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Duplicate Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID 09911.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID 09911.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1405

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID 09911.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1405

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109912 Lab File ID 09912.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1430

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109912 Lab File ID: 09912.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1430

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109912 Lab File ID 09912.D

Sample wt/vol: 5 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1430

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID: XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID: XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: XBLKA14.D Lab Sample ID: 1203BLKA12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 0926

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
2	SMW01Q40118	211109901	09901.D	12/03/01	1108
3	SMW02Q40118	211109902	09902.D	12/03/01	1133
4	SMW05Q40118	211109903	09903.D	12/03/01	1159
5	SMW06Q40118	211109904	09904.D	12/03/01	1224
6	SMW07Q40118	211109905	09905.D	12/03/01	1249
7	SMW10Q40118	211109906	09906.D	12/03/01	1314
8	062DUPQ40118	211109910	09910.D	12/03/01	1339
9	062EQBQ40118	211109911	09911.D	12/03/01	1405
10	062TBQ40118	211109912	09912.D	12/03/01	1430
11	SMW11Q40118	211109907	09907.D	12/03/01	1455
12	SMW11Q40118DL1MS	211109908DL1	09908SR.D	12/03/01	1610
13	SMW11Q40118DL1SD	211109909DL1	09909SR.D	12/03/01	1636
14	SMW11Q40118DL1	211109907DL1	09907R.D	12/03/01	1701

COMMENTS:

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111099

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	106.0	106.0	106.4	110.8			0
062EQBQ40118	105.2	104.0	102.8	106.8			0
062TBQ40118	102.0	105.4	103.8	102.8			0
1203BLKA12	103.2	104.4	106.6	100.8			0
1203LCSA11	108.0	104.6	101.6	107.2			0
SMW01Q40118	99.8	101.2	102.2	105.2			0
SMW02Q40118	105.4	104.0	105.6	109.0			0
SMW05Q40118	102.8	103.6	104.0	105.2			0
SMW06Q40118	104.0	102.0	104.4	104.0			0
SMW07Q40118	103.2	102.8	103.2	98.2			0
SMW10Q40118	104.6	105.4	103.8	107.2			0
SMW11Q40118	99.8	101.8	96.2	100.0			0
SMW11Q40118DL1	106.8	103.2	106.0	108.4			0
SMW11Q40118DL1MS	107.6	103.6	102.0	106.2			0
SMW11Q40118DL1SD	105.4	100.6	100.0	107.6			0

		Control Limits
S1	= Dibromofluoromethane	86 - 118
S2	= Toluene d8	88 - 110
S3	= 4-Bromofluorobenzene	86 - 115
S4	= 1,2-Dichloroethane-d4	80 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: BFB13.D BFB Injection Date: 11/30/01

Instrument ID: VMS01 BFB Injection Time: 1441

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	18.5	
75	30.0 - 60.0% of mass 95	51	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.2	(0.3)1
174	50.0 - 100.0% of mass 95	87.7	
175	5.0 - 9.0% of mass 174	5.5	(6.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.6	(95.4)1
177	5.0 - 9.0% of mass 176	6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1634	1PPBSTD	1PPB.D	11/30/01	1646
2	STD1635	2PPBSTD	2PPB.D	11/30/01	1712
3	STD1636	5PPBSTD	5PPB.D	11/30/01	1737
4	STD1637	10PPBSTD	10PPB.D	11/30/01	1803
5	STD1638	20PPBSTD	20PPB.D	11/30/01	1828
6	STD1639	50PPBSTD	50PPB.D	11/30/01	1854
7	STD1640	60PPBSTD	60PPB.D	11/30/01	1920
8	STD1641	80PPBSTD	80PPB.D	11/30/01	1946

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: BFB13.D BFB Injection Date: 12/03/01

Instrument ID: VMS01 BFB Injection Time: 0602

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.9	
75	30.0 - 60.0% of mass 95	46.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	5.6	
173	Less than 2.0% of mass 174	0.1	(0.2)1
174	50.0 - 100.0% of mass 95	80.3	
175	5.0 - 9.0% of mass 174	5.2	(6.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.1	(98.6)1
177	5.0 - 9.0% of mass 176	5.6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1817	1203CCVA11	50CCV12.D	12/03/01	0657
2	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
3	1203BLKA12	1203BLKA12	XBLKA14.D	12/03/01	0926
4	SMW01Q40118	211109901	09901.D	12/03/01	1108
5	SMW02Q40118	211109902	09902.D	12/03/01	1133
6	SMW05Q40118	211109903	09903.D	12/03/01	1159
7	SMW06Q40118	211109904	09904.D	12/03/01	1224
8	SMW07Q40118	211109905	09905.D	12/03/01	1249
9	SMW10Q40118	211109906	09906.D	12/03/01	1314
10	062DUPQ40118	211109910	09910.D	12/03/01	1339
11	062EQBQ40118	211109911	09911.D	12/03/01	1405
12	062TBQ40118	211109912	09912.D	12/03/01	1430
13	SMW11Q40118	211109907	09907.D	12/03/01	1455
14	SMW11Q40118DL1M	211109908DL1	09908SR.D	12/03/01	1610
15	SMW11Q40118DL1S	211109909DL1	09909SR.D	12/03/01	1636
16	SMW11Q40118DL1	211109907DL1	09907R.D	12/03/01	1701

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID (Standard): 20PPB.D Date Analyzed: 11/30/2001

Instrument ID: VMS01 Time Analyzed: 18:28

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA #	RT	IS2 AREA #	RT	IS3 AREA #	RT
	MID CAL STD	883098	9.88	470145	12.21	1205268	6.63
	UPPER LIMIT	1766196	10.38	940290	12.71	2410536	7.13
	LOWER LIMIT	441549	9.38	235072.5	11.71	602634	6.13
	EPA SAMPLE NO.						
1	1203LCSA11	1082323	9.87	590699	12.21	1446570	6.62
2	1203BLKA12	997477	9.87	502728	12.21	1330332	6.62
3	SMW01Q40118	959668	9.87	490195	12.21	1319034	6.62
4	SMW02Q40118	939519	9.87	475858	12.21	1253855	6.62
5	SMW05Q40118	931626	9.87	470857	12.21	1239690	6.62
6	SMW06Q40118	949574	9.87	476370	12.21	1279443	6.62
7	SMW07Q40118	926267	9.87	470284	12.21	1243290	6.62
8	SMW10Q40118	920158	9.87	470672	12.21	1227541	6.62
9	062DUPQ40118	890777	9.88	455531	12.21	1208955	6.63
10	062EQBQ40118	887063	9.88	455489	12.21	1211637	6.63
11	062TBQ40118	892788	9.88	453692	12.21	1208199	6.63
12	SMW11Q40118	914055	9.87	517506	12.21	1226445	6.62
13	SMW11Q40118DL1MS	1014537	9.88	540568	12.21	1363235	6.62
14	SMW11Q40118DL1SD	1015372	9.87	550559	12.21	1361170	6.62
15	SMW11Q40118DL1	1006808	9.87	528962	12.21	1363119	6.62

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	17	85.0	68 - 116
Chloromethane	20	18	90.0	55 - 144
Vinyl chloride	20	18	90.0	63 - 133
Bromomethane	20	19	95.0	76 - 135
Chloroethane	20	22	110.0	69 - 136
Trichlorofluoromethane	20	22	110.0	59 - 144
1,1-Dichloroethene	20	22	110.0	52 - 150
Methylene chloride	20	21	105.0	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	64 - 131
1,1-Dichloroethane	20	23	115.0	76 - 122
2,2-Dichloropropane	20	26	130.0	69 - 132
cis-1,2-Dichloroethene	20	23	115.0	71 - 122
Bromochloromethane	20	22	110.0	80 - 113
Chloroform	20	22	110.0	77 - 121
1,1,1-Trichloroethane	20	24	120.0	69 - 126
Carbon tetrachloride	20	22	110.0	68 - 127
Benzene	20	23	115.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	21	105.0	76 - 120
1,2-Dichloropropane	20	22	110.0	79 - 119
Dibromomethane	20	22	110.0	80 - 117
Bromodichloromethane	20	23	115.0	72 - 120
Toluene	20	23	115.0	76 - 119
1,1,2-Trichloroethane	20	22	110.0	79 - 116
Tetrachloroethene	20	22	110.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	22	110.0	75 - 124
1,1,1,2-Tetrachloroethane	20	22	110.0	75 - 110
Ethylbenzene	20	22	110.0	71 - 129
p,m-Xylene	40	44	110.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	22	110.0	75 - 124
Styrene	20	22	110.0	78 - 118
Bromoform	20	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	22	110.0	76 - 126
Bromobenzene	20	20	100.0	80 - 118
1,1,2,2-Tetrachloroethane	20	21	105.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
n-Propylbenzene	20	22	110.0	76 - 125
2-Chlorotoluene	20	21	105.0	72 - 119
4-Chlorotoluene	20	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	22	110.0	76 - 126
tert-Butylbenzene	20	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	22	110.0	75 - 128
sec-Butylbenzene	20	22	110.0	6 - 178
1,3-Dichlorobenzene	20	23	115.0	80 - 115
1,4-Dichlorobenzene	20	22	110.0	78 - 117
4-Isopropyltoluene	20	22	110.0	6 - 178
n-Butylbenzene	20	22	110.0	76 - 134
1,2-Dichlorobenzene	20	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	21	105.0	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	72 - 131
Hexachlorobutadiene	20	21	105.0	79 - 129
Naphthalene	20	22	110.0	70 - 140
1,2,3-Trichlorobenzene	20	22	110.0	67 - 139
Xylene (total)	60	66	110.0	74 - 1270

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118DL1MS

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	100	0	96	96.0	68 - 116
Chloromethane	100	0	88	88.0	55 - 144
Vinyl chloride	100	0	90	90.0	63 - 133
Bromomethane	100	0	103	103.0	76 - 135
Chloroethane	100	0	104	104.0	69 - 136
Trichlorofluoromethane	100	0	113	113.0	59 - 144
1,1-Dichloroethene	100	0	113	113.0	52 - 150
Methylene chloride	100	0	101	101.0	72 - 123
trans-1,2-Dichloroethene	100	0	125	125.0	64 - 131
1,1-Dichloroethane	100	0	118	118.0	76 - 122
2,2-Dichloropropane	100	0	132	132.0	69 - 132
cis-1,2-Dichloroethene	100	0	116	116.0	71 - 122
Bromochloromethane	100	0	106	106.0	80 - 113
Chloroform	100	0	111	111.0	77 - 121
1,1,1-Trichloroethane	100	0	117	117.0	69 - 126
Carbon tetrachloride	100	0	109	109.0	68 - 127
Benzene	100	0	114	114.0	77 - 118
1,2-Dichloroethane	100	0	113	113.0	73 - 124
Trichloroethene	100	0	108	108.0	76 - 120
1,2-Dichloropropane	100	0	106	106.0	79 - 119
Dibromomethane	100	0	105	105.0	80 - 117
Bromodichloromethane	100	0	107	107.0	72 - 120
Toluene	100	0	112	112.0	76 - 119
1,1,2-Trichloroethane	100	0	110	110.0	79 - 116
Tetrachloroethene	100	0	103	103.0	72 - 123
1,3-Dichloropropane	100	0	104	104.0	82 - 114
Dibromochloromethane	100	0	108	108.0	68 - 118
1,2-Dibromoethane(EDB)	100	0	107	107.0	76 - 116
Chlorobenzene	100	0	104	104.0	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118DL1MS

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	100	0	108	108.0	75 - 110
Ethylbenzene	100	37	136	99.0	71 - 129
p,m-Xylene	200	32	243	105.5	74 - 127
o-Xylene	100	1.2	108	106.8	75 - 124
Styrene	100	0	110	110.0	78 - 118
Bromoform	100	0	98	98.0	58 - 124
Isopropylbenzene (Cumene)	100	17	124	107.0	76 - 126
Bromobenzene	100	0	103	103.0	80 - 118
1,1,2,2-Tetrachloroethane	100	0	109	109.0	79 - 114
1,2,3-Trichloropropane	100	0	120	120.0 *	79 - 111
n-Propylbenzene	100	15	122	107.0	76 - 125
2-Chlorotoluene	100	0	108	108.0	72 - 119
4-Chlorotoluene	100	0	108	108.0	32 - 158
1,3,5-Trimethylbenzene	100	15	120	105.0	76 - 126
tert-Butylbenzene	100	0	100	100.0	70 - 124
1,2,4-Trimethylbenzene	100	123	216	93.0	75 - 128
sec-Butylbenzene	100	8.2	118	109.8	6 - 178
1,3-Dichlorobenzene	100	0	110	110.0	80 - 115
1,4-Dichlorobenzene	100	0	108	108.0	78 - 117
4-Isopropyltoluene	100	0	117	117.0	6 - 178
n-Butylbenzene	100	0	118	118.0	76 - 134
1,2-Dichlorobenzene	100	0	109	109.0	80 - 116
1,2-Dibromo-3-chloropropane	100	0	116	116.0	43 - 152
1,2,4-Trichlorobenzene	100	0	120	120.0	72 - 131
Hexachlorobutadiene	100	0	108	108.0	79 - 129
Naphthalene	100	58	179	121.0	70 - 140
1,2,3-Trichlorobenzene	100	0	112	112.0	67 - 139
Xylene (total)	300	33	351	106.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118DL1MS

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.

Spike Recovery: 1 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118DL1SD

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	100	92	92.0	4.2	40	68 - 116
Chloromethane	100	83	83.0	5.6	17	55 - 144
Vinyl chloride	100	99	99.0	10.2	18	63 - 133
Bromomethane	100	104	104.0	0.6	20	76 - 135
Chloroethane	100	100	100.0	4.8	20	69 - 136
Trichlorofluoromethane	100	117	117.0	3.0	16	59 - 144
1,1-Dichloroethene	100	118	118.0	4.2	20	52 - 150
Methylene chloride	100	102	102.0	1.4	23	72 - 123
trans-1,2-Dichloroethene	100	117	117.0	6.6	18	64 - 131
1,1-Dichloroethane	100	115	115.0	2.2	20	76 - 122
2,2-Dichloropropane	100	130	130.0	1.9	20	69 - 132
cis-1,2-Dichloroethene	100	117	117.0	0.5	20	71 - 122
Bromochloromethane	100	105	105.0	0.9	20	80 - 113
Chloroform	100	111	111.0	0.4	20	77 - 121
1,1,1-Trichloroethane	100	116	116.0	0.4	22	69 - 126
Carbon tetrachloride	100	107	107.0	2.3	25	68 - 127
Benzene	100	113	113.0	1.0	18	77 - 118
1,2-Dichloroethane	100	108	108.0	4.3	20	73 - 124
Trichloroethene	100	100	100.0	7.7	21	76 - 120
1,2-Dichloropropane	100	107	107.0	1.4	20	79 - 119
Dibromomethane	100	104	104.0	1.0	20	80 - 117
Bromodichloromethane	100	110	110.0	3.3	20	72 - 120
Toluene	100	111	111.0	1.1	20	76 - 119
1,1,2-Trichloroethane	100	110	110.0	0.2	23	79 - 116
Tetrachloroethene	100	100	100.0	3.5	20	72 - 123
1,3-Dichloropropane	100	106	106.0	1.4	18	82 - 114
Dibromochloromethane	100	106	106.0	1.5	20	68 - 118
1,2-Dibromoethane(EDB)	100	105	105.0	1.4	22	76 - 116
Chlorobenzene	100	105	105.0	0.8	20	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118DL1SD

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	100	105	105.0	2.7	21	75 - 110
Ethylbenzene	100	135	98.0	0.6	21	71 - 129
p,m-Xylene	200	242	105.0	0.2	20	74 - 127
o-Xylene	100	107	105.8	0.9	20	75 - 124
Styrene	100	109	109.0	1.2	20	78 - 118
Bromoform	100	97	97.0	1.0	20	58 - 124
Isopropylbenzene (Cumene)	100	118	101.0	5.3	20	76 - 126
Bromobenzene	100	100	100.0	3.6	18	80 - 118
1,1,2,2-Tetrachloroethane	100	106	106.0	3.2	20	79 - 114
1,2,3-Trichloropropane	100	109	109.0	9.7	19	79 - 111
n-Propylbenzene	100	118	103.0	3.4	20	76 - 125
2-Chlorotoluene	100	105	105.0	2.8	30	72 - 119
4-Chlorotoluene	100	105	105.0	3.5	30	32 - 158
1,3,5-Trimethylbenzene	100	120	105.0	0.2	21	76 - 126
tert-Butylbenzene	100	95	95.0	5.0	22	70 - 124
1,2,4-Trimethylbenzene	100	208	85.0	3.9	19	75 - 128
sec-Butylbenzene	100	112	103.8	5.4	30	6 - 178
1,3-Dichlorobenzene	100	105	105.0	4.8	18	80 - 115
1,4-Dichlorobenzene	100	105	105.0	2.8	19	78 - 117
4-Isopropyltoluene	100	114	114.0	2.5	30	6 - 178
n-Butylbenzene	100	115	115.0	3.1	16	76 - 134
1,2-Dichlorobenzene	100	106	106.0	2.6	16	80 - 116
1,2-Dibromo-3-chloropropane	100	108	108.0	7.6	23	43 - 152
1,2,4-Trichlorobenzene	100	115	115.0	4.1	22	72 - 131
Hexachlorobutadiene	100	100	100.0	7.8	26	79 - 129
Naphthalene	100	171	113.0	4.9	26	70 - 140
1,2,3-Trichlorobenzene	100	112	112.0	0.2	27	67 - 139
Xylene (total)	300	349	105.3	0.4	40	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118DL1SD

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

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: _____

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Standards Data

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.145	0.169	0.164	0.195	0.185			
Chloromethane	#	0.237	0.245	0.246	0.239	0.262			#
Vinyl chloride	*	0.177	0.213	0.200	0.201	0.210			*
Bromomethane		0.134	0.184	0.132	0.154	0.175			
Chloroethane		0.148	0.129	0.126	0.123	0.172			
Trichlorofluoromethane		0.153	0.203	0.218	0.260	0.251			
1,1-Dichloroethene		0.253	0.268	0.269	0.321	0.306			
Methylene chloride		0.482	0.383	0.327	0.366	0.339			
trans-1,2-Dichloroethene		0.262	0.255	0.262	0.304	0.303			
1,1-Dichloroethane	#	0.330	0.353	0.376	0.411	0.401			#
2,2-Dichloropropane		0.241	0.205	0.237	0.260	0.261			
cis-1,2-Dichloroethene		0.210	0.210	0.210	0.250	0.258			
Bromochloromethane		0.157	0.124	0.105	0.139	0.145			
Chloroform	*	0.328	0.380	0.368	0.466	0.448			*
1,1,1-Trichloroethane		0.269	0.281	0.266	0.333	0.332			
Carbon tetrachloride		0.179	0.200	0.207	0.284	0.272			
Benzene		0.718	0.784	0.754	0.926	0.903			
1,2-Dichloroethane		0.697	0.286	0.276	0.327	0.322			
Trichloroethene		0.211	0.209	0.213	0.261	0.254			
1,2-Dichloropropane	*	0.216	0.261	0.220	0.250	0.259			*
Dibromomethane		0.184	0.163	0.160	0.179	0.177			
Bromodichloromethane		0.277	0.280	0.252	0.321	0.313			
Toluene	*	0.441	0.441	0.488	0.567	0.589			*
1,1,2-Trichloroethane		0.169	0.198	0.179	0.223	0.222			
Tetrachloroethene		0.160	0.197	0.196	0.261	0.239			
1,3-Dichloropropane		0.497	0.485	0.465	0.551	0.544			
Dibromochloromethane		0.275	0.277	0.274	0.349	0.346			
1,2-Dibromoethane(EDB)		0.293	0.255	0.276	0.313	0.324			
Chlorobenzene	#	0.791	0.785	0.784	0.921	0.920			#
1,1,1,2-Tetrachloroethane		0.238	0.258	0.255	0.312	0.300			
Ethylbenzene	*	0.354	0.377	0.403	0.468	0.474			*
p,m-Xylene		0.435	0.453	0.497	0.595	0.569			
o-Xylene		0.925	0.988	0.999	1.250	1.217			
Styrene		0.681	0.776	0.823	1.033	0.985			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Bromoform	#	0.170	0.156	0.166	0.206	0.222			#
Isopropylbenzene (Cumene)		2.152	2.153	2.292	2.737	2.678			
Bromobenzene		0.958	1.045	1.013	1.156	1.116			
1,1,2,2-Tetrachloroethane	#	0.662	0.694	0.645	0.782	0.748			#
1,2,3-Trichloropropane		0.139	0.186	0.198	0.212	0.227			
n-Propylbenzene		2.676	2.696	3.058	3.560	3.529			
2-Chlorotoluene		1.885	1.857	1.882	2.157	2.103			
4-Chlorotoluene		1.999	1.985	2.118	2.437	2.411			
1,3,5-Trimethylbenzene		1.720	1.874	1.960	2.311	2.258			
tert-Butylbenzene		1.423	1.459	1.533	1.869	2.135			
1,2,4-Trimethylbenzene		1.607	1.796	1.840	2.246	2.201			
sec-Butylbenzene		2.060	2.328	2.493	2.975	2.978			
1,3-Dichlorobenzene		1.034	1.131	1.210	1.350	1.414			
1,4-Dichlorobenzene	*	1.061	1.133	1.211	1.476	1.407			*
4-Isopropyltoluene		1.910	1.960	2.099	2.446	2.476			
n-Butylbenzene		1.763	1.826	1.927	2.487	2.388			
1,2-Dichlorobenzene		1.034	1.113	1.053	1.313	1.279			
1,2-Dibromo-3-chloropropane		0.097	0.100	0.089	0.117	0.116			
1,2,4-Trichlorobenzene		0.686	0.636	0.731	0.877	0.844			
Hexachlorobutadiene	*	0.132	0.169	0.183	0.203	0.202			*
Naphthalene		1.849	1.749	1.653	2.063	2.096			
1,2,3-Trichlorobenzene		0.827	0.658	0.625	0.761	0.794			
Xylene (total)		0.442	0.470	0.477	0.586	0.575			
Dibromofluoromethane			0.253	0.219	0.246	0.255			
Toluene d8			0.784	0.776	0.804	0.812			
4-Bromofluorobenzene			0.815	0.789	0.826	0.829			
1,2-Dichloroethane-d4			0.062	0.044	0.053	0.059			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.221	0.228	0.231			0.1924	0.99831	
Chloromethane	#	0.254	0.257	0.250			0.24873	3.5	#
Vinyl chloride	*	0.200	0.207	0.204			0.20146	5.5	*
Bromomethane		0.161	0.152	0.130			0.15273	13.3	
Chloroethane		0.139	0.129	0.113			0.1351	13.4	
Trichlorofluoromethane		0.272	0.297	0.281			0.24196	1	
1,1-Dichloroethene		0.303	0.298	0.287			0.28834	8	
Methylene chloride		0.325	0.327	0.323			0.35887	0.99978	
trans-1,2-Dichloroethene		0.299	0.296	0.309			0.28613	7.9	
1,1-Dichloroethane	#	0.402	0.408	0.409			0.38621	7.9	#
2,2-Dichloropropane		0.267	0.267	0.267			0.25056	8.7	
cis-1,2-Dichloroethene		0.265	0.263	0.268			0.24163	11.1	
Bromochloromethane		0.140	0.142	0.141			0.13661	11.5	
Chloroform	*	0.441	0.446	0.439			0.41451	11.9	*
1,1,1-Trichloroethane		0.339	0.350	0.349			0.31499	11.5	
Carbon tetrachloride		0.300	0.310	0.307			0.25727	0.99936	
Benzene		0.909	0.938	0.915			0.85594	10.3	
1,2-Dichloroethane		0.320	0.316	0.315			0.35726	0.99964	
Trichloroethene		0.261	0.270	0.264			0.24281	0.99956	
1,2-Dichloropropane	*	0.258	0.270	0.259			0.24906	8	*
Dibromomethane		0.175	0.182	0.176			0.17441	4.9	
Bromodichloromethane		0.318	0.329	0.333			0.30295	9.7	
Toluene	*	0.584	0.591	0.583			0.53564	12.6	*
1,1,2-Trichloroethane		0.228	0.221	0.222			0.20771	11	
Tetrachloroethene		0.254	0.261	0.258			0.2283	0.99957	
1,3-Dichloropropane		0.536	0.548	0.528			0.5191	6.3	
Dibromochloromethane		0.367	0.375	0.368			0.32892	13.8	
1,2-Dibromoethane(EDB)		0.316	0.314	0.308			0.29997	7.9	
Chlorobenzene	#	0.903	0.917	0.882			0.86301	7.5	#
1,1,1,2-Tetrachloroethane		0.312	0.318	0.310			0.28792	11.2	
Ethylbenzene	*	0.464	0.467	0.461			0.43362	11.1	*
p,m-Xylene		0.569	0.562	0.544			0.52808	11.2	
o-Xylene		1.190	1.232	1.172			1.12176	11.5	
Styrene		1.003	1.013	0.973			0.91086	14.5	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Bromoform	#	0.237	0.234	0.235			0.20332	0.99977	#
Isopropylbenzene (Cumene)		2.750	2.820	2.757			2.54244	11.4	
Bromobenzene		1.108	1.123	1.096			1.07663	6.1	
1,1,2,2-Tetrachloroethane	#	0.741	0.713	0.701			0.71077	6.4	#
1,2,3-Trichloropropane		0.213	0.207	0.202			0.19803	13.5	
n-Propylbenzene		3.567	3.600	3.462			3.26864	12.2	
2-Chlorotoluene		2.126	2.152	1.986			2.01854	6.5	
4-Chlorotoluene		2.373	2.405	2.348			2.25954	8.5	
1,3,5-Trimethylbenzene		2.302	2.294	2.270			2.12362	11.1	
tert-Butylbenzene		1.900	2.197	2.157			1.83417	0.99518	
1,2,4-Trimethylbenzene		2.222	2.283	2.209			2.0505	12.7	
sec-Butylbenzene		2.982	3.007	2.960			2.72286	13.8	
1,3-Dichlorobenzene		1.384	1.436	1.388			1.29322	11.5	
1,4-Dichlorobenzene	*	1.409	1.451	1.383			1.3164	12	*
4-Isopropyltoluene		2.507	2.583	2.465			2.30584	11.7	
n-Butylbenzene		2.384	2.414	2.339			2.19121	13.6	
1,2-Dichlorobenzene		1.299	1.311	1.231			1.2042	9.9	
1,2-Dibromo-3-chloropropane		0.125	0.120	0.115			0.10984	11.6	
1,2,4-Trichlorobenzene		0.906	0.916	0.886			0.81024	13.5	
Hexachlorobutadiene	*	0.228	0.226	0.228			0.19628	0.99955	*
Naphthalene		2.106	2.117	2.057			1.96131	9.4	
1,2,3-Trichlorobenzene		0.815	0.836	0.831			0.76846	10.7	
Xylene (total)		0.563	0.577	0.559			0.5311	10.9	
Dibromofluoromethane		0.252	0.258	0.255			0.24813	5.3	
Toluene d8		0.817	0.849	0.817			0.80844	3	
4-Bromofluorobenzene		0.830	0.863	0.833			0.82676	2.7	
1,2-Dichloroethane-d4		0.055	0.059	0.057			0.05553	10.8	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Dichlorodifluoromethane		54.6	50	LINR	9.2	20.0	
Chloromethane	#	52.8	50	AVRG	5.6	20.0	#
Vinyl chloride	*	51.2	50	AVRG	2.4	20.0	*
Bromomethane		47.6	50	AVRG	4.8	20.0	
Chloroethane		45.4	50	AVRG	9.2	20.0	
Trichlorofluoromethane		50.2	50	WLINR	0.4	20.0	
1,1-Dichloroethene		54.4	50	AVRG	8.8	20.0	
Methylene chloride		50.8	50	LINR	1.6	20.0	
trans-1,2-Dichloroethene		55.9	50	AVRG	11.8	20.0	
1,1-Dichloroethane	#	55.2	50	AVRG	10.4	20.0	#
2,2-Dichloropropane		65.3	50	AVRG	30.6	20.0	<-
cis-1,2-Dichloroethene		57	50	AVRG	14.0	20.0	
Bromochloromethane		53.1	50	AVRG	6.2	20.0	
Chloroform	*	54.3	50	AVRG	8.6	20.0	*
1,1,1-Trichloroethane		58.6	50	AVRG	17.2	20.0	
Carbon tetrachloride		53	50	LINR	6.0	20.0	
Benzene		55.2	50	AVRG	10.4	20.0	
1,2-Dichloroethane		51.5	50	LINR	3.0	20.0	
Trichloroethene		50.3	50	LINR	0.6	20.0	
1,2-Dichloropropane	*	54.1	50	AVRG	8.2	20.0	*
Dibromomethane		52.7	50	AVRG	5.4	20.0	
Bromodichloromethane		56	50	AVRG	12.0	20.0	
Toluene	*	55.8	50	AVRG	11.6	20.0	*
1,1,2-Trichloroethane		56.3	50	AVRG	12.6	20.0	
Tetrachloroethene		52.4	50	LINR	4.8	20.0	
1,3-Dichloropropane		53.7	50	AVRG	7.4	20.0	
Dibromochloromethane		58.2	50	AVRG	16.4	20.0	
1,2-Dibromoethane(EDB)		54.4	50	AVRG	8.8	20.0	
Chlorobenzene	#	54.1	50	AVRG	8.2	20.0	#
1,1,1,2-Tetrachloroethane		56.6	50	AVRG	13.2	20.0	
Ethylbenzene	*	54.5	50	AVRG	9.0	20.0	*
p,m-Xylene		109	100	AVRG	9.0	20.0	
o-Xylene		55.3	50	AVRG	10.6	20.0	
Styrene		57.1	50	AVRG	14.2	20.0	
Bromoform	#	53.7	50	LINR	7.4	20.0	#
Isopropylbenzene (Cumene)		54.5	50	AVRG	9.0	20.0	

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Bromobenzene		50.5	50	AVRG	1.0	20.0	
1,1,2,2-Tetrachloroethane	#	52.2	50	AVRG	4.4	20.0	#
1,2,3-Trichloropropane		52	50	AVRG	4.0	20.0	
n-Propylbenzene		53.4	50	AVRG	6.8	20.0	
2-Chlorotoluene		51.5	50	AVRG	3.0	20.0	
4-Chlorotoluene		51.2	50	AVRG	2.4	20.0	
1,3,5-Trimethylbenzene		51.9	50	AVRG	3.8	20.0	
tert-Butylbenzene		42.7	50	LINR	14.6	20.0	
1,2,4-Trimethylbenzene		53.2	50	AVRG	6.4	20.0	
sec-Butylbenzene		54.2	50	AVRG	8.4	20.0	
1,3-Dichlorobenzene		54.4	50	AVRG	8.8	20.0	
1,4-Dichlorobenzene	*	53.4	50	AVRG	6.8	20.0	*
4-Isopropyltoluene		55.1	50	AVRG	10.2	20.0	
n-Butylbenzene		54.1	50	AVRG	8.2	20.0	
1,2-Dichlorobenzene		54.2	50	AVRG	8.4	20.0	
1,2-Dibromo-3-chloropropane		54.8	50	AVRG	9.6	20.0	
1,2,4-Trichlorobenzene		57.1	50	AVRG	14.2	20.0	
Hexachlorobutadiene	*	53.3	50	LINR	6.6	20.0	*
Naphthalene		54.1	50	AVRG	8.2	20.0	
1,2,3-Trichlorobenzene		54.9	50	AVRG	9.8	20.0	
Xylene (total)		164	150	AVRG	9.3	20.0	
Dibromofluoromethane		53.9	50	AVRG	7.8	20.0	
Toluene d8		51.8	50	AVRG	3.6	20.0	
4-Bromofluorobenzene		49.9	50	AVRG	0.2	20.0	
1,2-Dichloroethane-d4		52.4	50	AVRG	4.8	20.0	

HPLC PAH ORGANICS

METHOD 8310

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

One client requested MS/SD set was analyzed with the water samples on sample SMW11Q40118, which met all criteria for relative percent difference, however Naphthalene, 2-Methylnaphthalene, and Acenaphthene exceeded criteria in the SD and Acenaphthene exceeded criteria in the MS. This was due to matrix interference from the parent sample and therefore, no further action was taken.

E. Internal standards:

All internal standard criteria were met.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

F. Samples:

Sample analysis proceeded normally.

The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: [redacted] DATE: 12-07-01

Jesse Leonard

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: 8310

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

101201 1026

Sample Data

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID: 99-01.D

Sample wt/vol: 890 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1054

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID 99-02.D

Sample wt/vol: 1000 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1128

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID: 99-03.D

Sample wt/vol: 925 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1203

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID: 99-04.D

Sample wt/vol: 960 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1237

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID: 99-05.D

Sample wt/vol: 980 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1321

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID 99-06.D

Sample wt/vol: 1000 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1356

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-1 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID: 99-07.D

Sample wt/vol: 900 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1431

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-1 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	19	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	12	
91-57-6	2-Methylnaphthalene	10	
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID 99-10.D

Sample wt/vol: 1000 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1649

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Duplicate Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID: 99-11.D

Sample wt/vol: 925 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/05/01 Time: 1724

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Equipment Blank Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 54706 Lab File ID 1130AB.D

Sample wt/vol: 1000 Units: ML Date Received: 11/30/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1847

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: QC Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Lab File ID: 1130AB.D Lab Sample ID: 54706

Instrument ID: SLC01 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 1847

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130ALCS	54707	1130ALCS.D	12/03/01	1921
2	SMW01Q40118	211109901	99-01.D	12/05/01	1054
3	SMW02Q40118	211109902	99-02.D	12/05/01	1128
4	SMW05Q40118	211109903	99-03.D	12/05/01	1203
5	SMW06Q40118	211109904	99-04.D	12/05/01	1237
6	SMW07Q40118	211109905	99-05.D	12/05/01	1321
7	SMW10Q40118	211109906	99-06.D	12/05/01	1356
8	SMW11Q40118	211109907	99-07.D	12/05/01	1431
9	SMW11Q40118MS	211109908	99-08.D	12/05/01	1505
10	SMW11Q40118SD	211109909	99-09.D	12/05/01	1615
11	062DUPQ40118	211109910	99-10.D	12/05/01	1649
12	062EQBQ40118	211109911	99-11.D	12/05/01	1724

COMMENTS:

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG NO.: 2111099

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	49.5						0
062EQBQ40118	51.9						0
1130AB	63.5						0
1130ALCS	78.5						0
SMW01Q40118	64.9						0
SMW02Q40118	66.0						0
SMW05Q40118	59.3						0
SMW06Q40118	60.6						0
SMW07Q40118	51.5						0
SMW10Q40118	63.5						0
SMW11Q40118	58.6						0
SMW11Q40118MS	56.0						0
SMW11Q40118SD	58.1						0

Control Limits

S1 = p-Terphenyl-d14 17 - 130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

101201 1026

8

PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID (Standard): 15STD.D Date Analyzed: 12/2/2001

Instrument ID: SLC01 Time Analyzed: 1:19

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	4273780		10.36						
	UPPER LIMIT	8547560		10.86						
	LOWER LIMIT	2136890		9.86						
	EPA SAMPLE NO.									
1	1130AB	4156905		10.49						
2	1130ALCS	4035212		10.48						
3	SMW01Q40118	4308061		10.37						
4	SMW02Q40118	4097927		10.38						
5	SMW05Q40118	4260607		10.37						
6	SMW06Q40118	4046817		10.38						
7	SMW07Q40118	4006709		10.37						
8	SMW10Q40118	4060500		10.39						
9	SMW11Q40118	4035501		10.39						
10	SMW11Q40118MS	4137104		10.38						
11	SMW11Q40118SD	4045953		10.38						
12	062DUPQ40118	3950513		10.46						
13	062EQBQ40118	3904190		10.44						

IS1 = Carbazole

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD2203	30STD	12/02/01	0010	18.38	
2	STD2204	20STD	12/02/01	0044	18.38	
3	STD2205	15STD	12/02/01	0119	18.37	
4	STD2206	10STD	12/02/01	0153	18.38	
5	STD2207	5STD	12/02/01	0228	18.37	
6	ZZZZZZ	ZZZZZZ	12/02/01	0303		
7	ZZZZZZ	ZZZZZZ	12/02/01	0337		
8	STD2210	.2STD	12/02/01	0412	18.38	
9	CCV2211	SECSTD1	12/02/01	0446	18.38	
10	ZZZZZZ	ZZZZZZ	12/02/01	0521		
11	ZZZZZZ	ZZZZZZ	12/03/01	1738		
12	CCV2214	CCV1B	12/03/01	1812	18.39	
13	1130AB	54706	12/03/01	1847	18.4	
14	1130ALCS	54707	12/03/01	1921	18.4	
15	1130ABMS	54708	12/03/01	1956		
16	1130ABSD	54709	12/03/01	2030		
17	ZZZZZZ	ZZZZZZ	12/03/01	2105		
18	ZZZZZZ	ZZZZZZ	12/03/01	2140		
19	ZZZZZZ	ZZZZZZ	12/03/01	2214		
20	ZZZZZZ	ZZZZZZ	12/03/01	2249		
21	ZZZZZZ	ZZZZZZ	12/03/01	2323		
22	ZZZZZZ	ZZZZZZ	12/03/01	2358		
23	CCV2225	CCV2	12/04/01	0032	18.42	
24	ZZZZZZ	ZZZZZZ	12/04/01	0107		
25	ZZZZZZ	ZZZZZZ	12/04/01	0142		
26	ZZZZZZ	ZZZZZZ	12/04/01	0216		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

8

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/05/01	0944		
28	CCV2232	CCV1B	12/05/01	1019	18.31	
29	SMW01Q40118	211109901	12/05/01	1054	18.23	
30	SMW02Q40118	211109902	12/05/01	1128	18.34	
31	SMW05Q40118	211109903	12/05/01	1203	18.39	
32	SMW06Q40118	211109904	12/05/01	1237	18.39	
33	SMW07Q40118	211109905	12/05/01	1321	18.4	
34	SMW10Q40118	211109906	12/05/01	1356	18.36	
35	SMW11Q40118	211109907	12/05/01	1431	18.37	
36	SMW11Q40118MS	211109908	12/05/01	1505	18.41	
37	CCV2241	CCV2	12/05/01	1540	18.42	
38	SMW11Q40118SD	211109909	12/05/01	1615	18.41	
39	062DUPQ40118	211109910	12/05/01	1649	18.42	
40	062EQBQ40118	211109911	12/05/01	1724	18.42	
41	CCV2245	CCV3	12/05/01	1759	18.42	
42	ZZZZZZ	ZZZZZZ	12/05/01	1833		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1130ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.1	61.0	11 - 85
Acenaphthylene	10	7.1	71.0	22 - 89
1-Methylnaphthalene	10	7.3	73.0	0 - 98
2-Methylnaphthalene	10	7.2	72.0	21 - 89
Acenaphthene	10	6.8	68.0	21 - 91
Fluorene	10	7	70.0	16 - 96
Phenanthrene	10	7.2	72.0	18 - 101
Anthracene	10	7.2	72.0	20 - 97
Fluoranthene	10	7.6	76.0	27 - 104
Pyrene	10	7.6	76.0	42 - 94
Benzo(a)anthracene	10	7.6	76.0	40 - 103
Chrysene	10	7.5	75.0	32 - 108
Benzo(b)fluoranthene	10	7.6	76.0	30 - 102
Benzo(k)fluoranthene	10	7.7	77.0	27 - 100
Benzo(a)pyrene	10	7.6	76.0	34 - 96
Dibenz(a,h)anthracene	10	8.2	82.0	27 - 99
Benzo(g,h,i)perylene	10	7.9	79.0	21 - 95
Indeno(1,2,3-cd)pyrene	10	7.5	75.0	18 - 97

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118MS

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	11	19	28	81.8	0 - 100
Acenaphthylene	11	0	5.6	50.9	0 - 111
1-Methylnaphthalene	11	12	22	90.9	0 - 135
2-Methylnaphthalene	11	10	20	90.9	6 - 94
Acenaphthene	11	0	14	127.3 *	9 - 96
Fluorene	11	0	5.9	53.6	5 - 101
Phenanthrene	11	0	5.6	50.9	7 - 110
Anthracene	11	0	5.3	48.2	0 - 111
Fluoranthene	11	0	6	54.5	20 - 113
Pyrene	11	0	5.9	53.6	22 - 118
Benzo(a)anthracene	11	0	5.7	51.8	26 - 113
Chrysene	11	0	5.7	51.8	27 - 113
Benzo(b)fluoranthene	11	0	5.6	50.9	26 - 107
Benzo(k)fluoranthene	11	0	5.6	50.9	24 - 107
Benzo(a)pyrene	11	0	5.7	51.8	23 - 107
Dibenz(a,h)anthracene	11	0	6.2	56.4	9 - 105
Benzo(g,h,i)perylene	11	0	5.9	53.6	21 - 99
Indeno(1,2,3-cd)pyrene	11	0	5.5	50.0	20 - 100

Spike Recovery: 1 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field SMW11Q40118SD

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	30	110.0*	8.6	65	0 - 100
Acenaphthylene	10	5.7	57.0	5.4	54	0 - 111
1-Methylnaphthalene	10	23	110.0	6.4	54	0 - 135
2-Methylnaphthalene	10	21	110.0*	4.9	65	6 - 94
Acenaphthene	10	15	150.0*	4.0	41	9 - 96
Fluorene	10	5.8	58.0	1.8	48	5 - 101
Phenanthrene	10	5.6	56.0	2.8	41	7 - 110
Anthracene	10	5.2	52.0	1.7	41	0 - 111
Fluoranthene	10	6.1	61.0	3.4	31	20 - 113
Pyrene	10	5.9	59.0	3.4	33	22 - 118
Benzo(a)anthracene	10	5.8	58.0	5.4	26	26 - 113
Chrysene	10	5.9	59.0	5.2	17	27 - 113
Benzo(b)fluoranthene	10	5.8	58.0	7.3	27	26 - 107
Benzo(k)fluoranthene	10	6	60.0	8.2	29	24 - 107
Benzo(a)pyrene	10	5.8	58.0	6.0	27	23 - 107
Dibenz(a,h)anthracene	10	6.3	63.0	4.0	31	9 - 105
Benzo(g,h,i)perylene	10	6.1	61.0	6.4	31	21 - 99
Indeno(1,2,3-cd)pyrene	10	5.7	57.0	7.2	43	20 - 100

RPD: 0 out of 18 outside limits

Spike Recovery: 3 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

Standards Data

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF0.2 =PT2STD.D RRF5 =5STD.D
RRF10 =10STD.D RRF15 =15STD.D RRF20 =20STD.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20
Naphthalene	0.013	0.013	0.012	0.012	0.012
Acenaphthylene	0.011	0.010	0.010	0.009	0.009
1-Methylnaphthalene	0.007	0.008	0.008	0.007	0.007
2-Methylnaphthalene	0.011	0.010	0.010	0.010	0.010
Acenaphthene	0.005	0.005	0.005	0.004	0.004
Fluorene	0.070	0.061	0.061	0.059	0.058
Phenanthrene	0.223	0.189	0.189	0.182	0.179
Anthracene	0.039	0.039	0.040	0.041	0.041
Fluoranthene	0.050	0.043	0.044	0.041	0.041
Pyrene	0.034	0.033	0.034	0.033	0.032
Benzo(a)anthracene	0.110	0.099	0.099	0.095	0.094
Chrysene	0.151	0.132	0.132	0.127	0.125
Benzo(b)fluoranthene	0.130	0.113	0.112	0.108	0.107
Benzo(k)fluoranthene	0.101	0.096	0.095	0.091	0.090
Benzo(a)pyrene	0.117	0.098	0.098	0.095	0.094
Dibenz(a,h)anthracene	0.022	0.024	0.024	0.023	0.022
Benzo(g,h,i)perylene	0.037	0.041	0.040	0.039	0.038
Indeno(1,2,3-cd)pyrene	0.136	0.119	0.118	0.115	0.113
p-Terphenyl-d14	0.039	0.036	0.036	0.034	0.033

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF30 =30STD.D

COMPOUND	RRF30				
Naphthalene	0.012				
Acenaphthylene	0.009				
1-Methylnaphthalene	0.007				
2-Methylnaphthalene	0.010				
Acenaphthene	0.005				
Fluorene	0.059				
Phenanthrene	0.182				
Anthracene	0.042				
Fluoranthene	0.041				
Pyrene	0.033				
Benzo(a)anthracene	0.096				
Chrysene	0.127				
Benzo(b)fluoranthene	0.108				
Benzo(k)fluoranthene	0.091				
Benzo(a)pyrene	0.096				
Dibenz(a,h)anthracene	0.022				
Benzo(g,h,i)perylene	0.039				
Indeno(1,2,3-cd)pyrene	0.115				
p-Terphenyl-d14	0.035				

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

COMPOUND	CURVE	COEFFICIENTS A0	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	AVRG		0.012457039	4.4
Acenaphthylene	AVRG		0.009641753	5.5
1-Methylnaphthalene	AVRG		0.007372587	4.1
2-Methylnaphthalene	AVRG		0.010307326	4
Acenaphthene	AVRG		0.004621362	3.9
Fluorene	AVRG		0.061358009	7.4
Phenanthrene	AVRG		0.190595983	8.6
Anthracene	AVRG		0.040243790	3.4
Fluoranthene	AVRG		0.043386240	8.3
Pyrene	AVRG		0.033114466	2.1
Benzo(a)anthracene	AVRG		0.098646680	6
Chrysene	AVRG		0.132132816	7.1
Benzo(b)fluoranthene	AVRG		0.112914762	7.6
Benzo(k)fluoranthene	AVRG		0.094231769	4.4
Benzo(a)pyrene	AVRG		0.09964648	8.9
Dibenz(a,h)anthracene	AVRG		0.022770356	4.1
Benzo(g,h,i)perylene	AVRG		0.039039242	3.2
Indeno(1,2,3-cd)pyrene	AVRG		0.119636576	7
p-Terphenyl-d14	AVRG		0.035493112	6

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT1: PT2STD.D RT2: 5STD.D
RT3: 10STD.D RT4: 15STD.D RT5: 20STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.547	11.533	11.537	11.540	11.543			
Acenaphthylene	12.770	12.763	12.767	12.770	12.777			
1-Methylnaphthalene	13.430	13.410	13.417	13.420	13.427			
2-Methylnaphthalene	13.770	13.750	13.753	13.757	13.767			
Acenaphthene	14.103	14.083	14.087	14.087	14.097			
Fluorene	14.447	14.433	14.440	14.443	14.450			
Phenanthrene	15.237	15.227	15.233	15.233	15.240			
Anthracene	16.042	16.034	16.039	16.037	16.046			
Fluoranthene	16.807	16.787	16.797	16.793	16.800			
Pyrene	17.340	17.323	17.333	17.333	17.337			
Benzo(a)anthracene	19.167	19.153	19.163	19.160	19.160			
Chrysene	19.567	19.553	19.563	19.560	19.560			
Benzo(b)fluoranthene	21.007	21.000	21.003	21.003	20.997			
Benzo(k)fluoranthene	21.660	21.647	21.653	21.653	21.643			
Benzo(a)pyrene	22.257	22.243	22.247	22.247	22.237			
Dibenz(a,h)anthracene	23.287	23.260	23.257	23.253	23.237			
Benzo(g,h,i)perylene	24.017	24.000	23.997	23.993	23.977			
Indeno(1,2,3-cd)pyrene	24.517	24.500	24.493	24.490	24.470			
p-Terphenyl-d14	18.380	18.367	18.377	18.373	18.377			

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PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT6: 30STD.D

COMPOUND	RT6					MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.557					11.545	11.323	11.783
Acenaphthylene	12.787					12.774	12.550	13.010
1-Methylnaphthalene	13.437					13.425	13.200	13.660
2-Methylnaphthalene	13.773					13.764	13.540	14.000
Acenaphthene	14.103					14.095	13.870	14.330
Fluorene	14.457					14.447	14.223	14.683
Phenanthrene	15.243					15.237	15.013	15.473
Anthracene	16.049					16.043	15.743	16.203
Fluoranthene	16.803					16.799	16.573	17.033
Pyrene	17.340					17.336	17.110	17.570
Benzo(a)anthracene	19.163					19.162	18.933	19.393
Chrysene	19.560					19.561	19.330	19.790
Benzo(b)fluoranthene	21.000					21.002	20.773	21.233
Benzo(k)fluoranthene	21.643					21.649	21.420	21.880
Benzo(a)pyrene	22.240					22.244	22.013	22.473
Dibenz(a,h)anthracene	23.240					23.255	23.017	23.477
Benzo(g,h,i)perylene	23.980					23.993	23.757	24.217
Indeno(1,2,3-cd)pyrene	24.473					24.489	24.250	24.710
p-Terphenyl-d14	18.377					18.376	18.150	18.610

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PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/02/01 Time: 0446

Lab File ID: SECSTD1.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0126	1.1
Acenaphthylene	0.00964	0.0092	4.6
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0112	8.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0607	1.1
Phenanthrene	0.1906	0.1886	1.0
Anthracene	0.04024	0.0424	5.4
Fluoranthene	0.04339	0.044	1.4
Pyrene	0.03311	0.0339	2.4
Benzo(a)anthracene	0.09865	0.0989	0.3
Chrysene	0.13213	0.1317	0.3
Benzo(b)fluoranthene	0.11291	0.113	0.1
Benzo(k)fluoranthene	0.09423	0.0951	0.9
Benzo(a)pyrene	0.09965	0.0994	0.3
Dibenz(a,h)anthracene	0.02277	0.0235	3.2
Benzo(g,h,i)perylene	0.03904	0.0404	3.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1193	0.3
p-Terphenyl-d14	0.03549	0.0348	1.9

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/03/01 Time: 1812

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0119	4.5
Acenaphthylene	0.00964	0.0089	7.7
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0107	3.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1757	7.8
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0401	7.6
Pyrene	0.03311	0.0308	7.0
Benzo(a)anthracene	0.09865	0.0923	6.4
Chrysene	0.13213	0.1227	7.1
Benzo(b)fluoranthene	0.11291	0.1054	6.7
Benzo(k)fluoranthene	0.09423	0.0888	5.8
Benzo(a)pyrene	0.09965	0.0935	6.2
Dibenz(a,h)anthracene	0.02277	0.022	3.4
Benzo(g,h,i)perylene	0.03904	0.0375	3.9
Indeno(1,2,3-cd)pyrene	0.11964	0.1121	6.3
p-Terphenyl-d14	0.03549	0.0329	7.3

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PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/04/01 Time: 0032

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0127	1.9
Acenaphthylene	0.00964	0.0094	2.5
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0114	10.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0608	0.9
Phenanthrene	0.1906	0.1888	0.9
Anthracene	0.04024	0.0425	5.6
Fluoranthene	0.04339	0.043	0.9
Pyrene	0.03311	0.0335	1.2
Benzo(a)anthracene	0.09865	0.0993	0.7
Chrysene	0.13213	0.1342	1.6
Benzo(b)fluoranthene	0.11291	0.1134	0.4
Benzo(k)fluoranthene	0.09423	0.0965	2.4
Benzo(a)pyrene	0.09965	0.0996	0.1
Dibenz(a,h)anthracene	0.02277	0.024	5.4
Benzo(g,h,i)perylene	0.03904	0.0405	3.7
Indeno(1,2,3-cd)pyrene	0.11964	0.12	0.3
p-Terphenyl-d14	0.03549	0.0353	0.5

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1019

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0116	6.9
Acenaphthylene	0.00964	0.0085	11.8
1-Methylnaphthalene	0.00737	0.0071	3.7
2-Methylnaphthalene	0.01031	0.0104	0.9
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0553	9.9
Phenanthrene	0.1906	0.1721	9.7
Anthracene	0.04024	0.0399	0.8
Fluoranthene	0.04339	0.04	7.8
Pyrene	0.03311	0.0307	7.3
Benzo(a)anthracene	0.09865	0.0885	10.3
Chrysene	0.13213	0.1174	11.1
Benzo(b)fluoranthene	0.11291	0.1016	10.0
Benzo(k)fluoranthene	0.09423	0.0858	8.9
Benzo(a)pyrene	0.09965	0.0912	8.5
Dibenz(a,h)anthracene	0.02277	0.0216	5.1
Benzo(g,h,i)perylene	0.03904	0.0363	7.0
Indeno(1,2,3-cd)pyrene	0.11964	0.1082	9.6
p-Terphenyl-d14	0.03549	0.0316	11.0

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1540

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0117	6.1
Acenaphthylene	0.00964	0.0085	11.8
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0106	2.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1755	7.9
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0392	9.7
Pyrene	0.03311	0.031	6.4
Benzo(a)anthracene	0.09865	0.0904	8.4
Chrysene	0.13213	0.1203	9.0
Benzo(b)fluoranthene	0.11291	0.104	7.9
Benzo(k)fluoranthene	0.09423	0.0877	6.9
Benzo(a)pyrene	0.09965	0.0931	6.6
Dibenz(a,h)anthracene	0.02277	0.0213	6.5
Benzo(g,h,i)perylene	0.03904	0.0368	5.7
Indeno(1,2,3-cd)pyrene	0.11964	0.1093	8.6
p-Terphenyl-d14	0.03549	0.0319	10.1

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PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SLC01 CalibrationDate: 12/05/01 Time: 1759

Lab File ID: CCV3.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0117	6.1
Acenaphthylene	0.00964	0.0088	8.7
1-Methylnaphthalene	0.00737	0.0073	0.9
2-Methylnaphthalene	0.01031	0.0106	2.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0569	7.3
Phenanthrene	0.1906	0.1761	7.6
Anthracene	0.04024	0.04	0.6
Fluoranthene	0.04339	0.0411	5.3
Pyrene	0.03311	0.0311	6.1
Benzo(a)anthracene	0.09865	0.0908	8.0
Chrysene	0.13213	0.121	8.4
Benzo(b)fluoranthene	0.11291	0.1042	7.7
Benzo(k)fluoranthene	0.09423	0.0866	8.1
Benzo(a)pyrene	0.09965	0.0915	8.2
Dibenz(a,h)anthracene	0.02277	0.0213	6.5
Benzo(g,h,i)perylene	0.03904	0.0369	5.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1095	8.5
p-Terphenyl-d14	0.03549	0.0324	8.7

GC FL-PRO ORGANICS

METHOD FL-PRO

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. Project specific RLs were used per client request.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111099

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 12-07-01

Jesse Leonard

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method: FL-PRO

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

101201 1026

Sample Data

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901 Lab File ID: 99-01.D

Sample wt/vol: 930 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1130

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.54	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902 Lab File ID 99-02.D

Sample wt/vol: 970 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1204

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903 Lab File ID 99-03.D

Sample wt/vol: 935 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1238

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.37	J

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904 Lab File ID 99-04.D

Sample wt/vol: 970 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1312

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.52	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905 Lab File ID 99-05.D

Sample wt/vol: 990 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1346

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-0 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.5	U

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906 Lab File ID 99-06.D

Sample wt/vol: 980 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1419

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-1 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.51	U

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907 Lab File ID 99-07D2.D

Sample wt/vol: 910 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1747

PercentSolids: 0 decanted : Dilution Factor: 2

Extraction: SEPF Station ID: CEF-103-SMW-1 Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	20	

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109910 Lab File ID: 99-10.D

Sample wt/vol: 965 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1708

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Duplicate Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.25	J

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911 Lab File ID: 99-11.D

Sample wt/vol: 935 Units: ML Date Received: 11/28/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 1742

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Equipment Blank Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.53	U

QC Summary

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 54756 Lab File ID: 1130BLKW.D

Sample wt/vol: 1000 Units: ML Date Received: 11/30/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 0701

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: QC Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.5	U

4

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Lab File ID 1130BLKW.D Lab Sample ID: 54756

Instrument ID: SFID02 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/01/01

Level:(low/med) LOW Time Analyzed: 0701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130LCS	54757	1130LCS.D	12/01/01	0736
2	SMW01Q40118	211109901	99-01.D	12/01/01	1130
3	SMW02Q40118	211109902	99-02.D	12/01/01	1204
4	SMW05Q40118	211109903	99-03.D	12/01/01	1238
5	SMW06Q40118	211109904	99-04.D	12/01/01	1312
6	SMW07Q40118	211109905	99-05.D	12/01/01	1346
7	SMW10Q40118	211109906	99-06.D	12/01/01	1419
8	062DUPQ40118	211109910	99-10.D	12/01/01	1708
9	062EQBQ40118	211109911	99-11.D	12/01/01	1742
10	SMW11Q40118	211109907	99-07D2.D	12/03/01	1747
11	SMW11Q40118MS	211109908	99-08D2.D	12/03/01	1821
12	SMW11Q40118SD	211109909	99-09D2.D	12/03/01	1854

COMMENTS:

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG NO.: 2111099

Column(1): RTX-5 ID: 0.53 (mm)

EPA / Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40118	130.0	98.4					0
062EQBQ40118	109.1	98.4					0
1130BLKW	110.0	65.0					0
1130LCS	120.0	80.0					0
SMW01Q40118	109.1	95.3					0
SMW02Q40118	110.0	87.1					0
SMW05Q40118	109.1	81.3					0
SMW06Q40118	140.0	101.6					0
SMW07Q40118	120.0	88.5					0
SMW10Q40118	130.0	149.2					0
SMW11Q40118	136.4	106.1					0
SMW11Q40118MS	136.4	109.2					0
SMW11Q40118SD	136.4	97.0					0

Control Limits

S1 = o-Terphenyl Surrogate 82 - 142

S2 = C39 Surrogate 42 - 193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD107	CAL7SV3473	11/19/01	1156	4.71	10.27
2	STD108	CAL6SV3474	11/19/01	1230	4.72	10.29
3	STD109	CAL5SV3475	11/19/01	1304	4.73	10.35
4	STD110	CAL4SV3476	11/19/01	1338	4.73	10.31
5	STD111	CAL3SV3477	11/19/01	1412	4.72	10.31
6	STD112	CAL2SV3478	11/19/01	1446	4.73	10.35
7	STD113	CAL1SV3479	11/19/01	1520	4.72	10.26
8	CCV114	SECSTDSV3480	11/19/01	1554	4.71	10.25
9	ZZZZZZ	ZZZZZZ	12/01/01	0553		
10	CCV1843	CCV1SV3503	12/01/01	0627	4.71	10.24
11	1130BLKW	54756	12/01/01	0701	4.71	10.23
12	1130LCS	54757	12/01/01	0736	4.7	10.2
13	ZZZZZZ	ZZZZZZ	12/01/01	1022		
14	ZZZZZZ	ZZZZZZ	12/01/01	1056		
15	SMW01Q40118	211109901	12/01/01	1130	4.72	10.3
16	SMW02Q40118	211109902	12/01/01	1204	4.72	10.27
17	SMW05Q40118	211109903	12/01/01	1238	4.73	10.35
18	SMW06Q40118	211109904	12/01/01	1312	4.72	10.29
19	SMW07Q40118	211109905	12/01/01	1346	4.73	10.29
20	SMW10Q40118	211109906	12/01/01	1419	4.72	10.29
21	CCV1854	CCV2SV3503	12/01/01	1453	4.72	10.27
22	ZZZZZZ	ZZZZZZ	12/01/01	1527		
23	ZZZZZZ	ZZZZZZ	12/01/01	1601		
24	ZZZZZZ	ZZZZZZ	12/01/01	1635		
25	062DUPQ40118	211109910	12/01/01	1708	4.69	10.18
26	062EQBQ40118	211109911	12/01/01	1742	4.71	10.17

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)

S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/01/01	1816		
28	ZZZZZZ	ZZZZZZ	12/01/01	1850		
29	ZZZZZZ	ZZZZZZ	12/01/01	1924		
30	ZZZZZZ	ZZZZZZ	12/01/01	1958		
31	ZZZZZZ	ZZZZZZ	12/01/01	2032		
32	CCV1865	CCV3SV3503	12/01/01	2106	4.68	10.12
33	ZZZZZZ	ZZZZZZ	12/01/01	2140		
34	ZZZZZZ	ZZZZZZ	12/01/01	2213		
35	ZZZZZZ	ZZZZZZ	12/01/01	2247		
36	ZZZZZZ	ZZZZZZ	12/01/01	2322		
37	ZZZZZZ	ZZZZZZ	12/03/01	1010		
38	ZZZZZZ	ZZZZZZ	12/03/01	1043		
39	ZZZZZZ	ZZZZZZ	12/03/01	1240		
40	ZZZZZZ	ZZZZZZ	12/03/01	1531		
41	ZZZZZZ	ZZZZZZ	12/03/01	1605		
42	ZZZZZZ	ZZZZZZ	12/03/01	1639		
43	CCV1876	CCV2SV3506	12/03/01	1713	4.71	10.22
44	SMW11Q40118	211109907	12/03/01	1747	4.7	10.24
45	SMW11Q40118MS	211109908	12/03/01	1821	4.71	10.22
46	SMW11Q40118SD	211109909	12/03/01	1854	4.68	10.14
47	ZZZZZZ	ZZZZZZ	12/03/01	1928		
48	ZZZZZZ	ZZZZZZ	12/03/01	2002		
49	ZZZZZZ	ZZZZZZ	12/03/01	2036		
50	ZZZZZZ	ZZZZZZ	12/03/01	2110		
51	ZZZZZZ	ZZZZZZ	12/03/01	2143		
52	ZZZZZZ	ZZZZZZ	12/03/01	2217		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

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FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
53	CCV1886	CCV3SV3506	12/03/01	2251	4.68	10.17

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)
S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1130LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3.4	100.0	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

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Form III

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FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118MS

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.7	20	22	54.1	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.8	22	52.6	1.8	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

Standards Data

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	26757147.059	9538605.882	4700275.294	4046228.824	3785790.196
o-Terphenyl Surrogate	3781060.000	3885040.000	3960140.000	4022380.000	3941080.000
C39 Surrogate	2726020.000	3034383.333	2893896.667	2924153.333	2946030.000

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	3683057.647	3567664.706			
o-Terphenyl Surrogate	3903260.000	3814920.000			
C39 Surrogate	3068433.333	3074806.667			

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

COMPOUND	CURVE	COEFFICIENTS A0	COEFFICIENTS A1	%RSD OR R^2
TPH	LINR	-0.2800849	2.89922E-07	0.99972
o-Terphenyl Surrogate	AVRG		3901125.714	2.1
C39 Surrogate	AVRG		2952531.905	4.2

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT1: CAL1.D RT2: CAL2.D
RT3: CAL3.D RT4: CAL4.D RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989	6.989	6.989	6.989			
o-Terphenyl Surrogate	4.720	4.733	4.723	4.727	4.733			
C39 Surrogate	10.260	10.353	10.307	10.310	10.353			

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FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989				6.989	2.129	11.849
o-Terphenyl Surrogate	4.723	4.707				4.724	4.650	4.790
C39 Surrogate	10.293	10.273				10.307	9.960	10.560

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FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 11/19/01 Time: 1554

Lab File ID: SECSTD.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.7	2.6	LINR	3.8	25.0
C39 Surrogate	0.32	0.3	AVRG	6.7	25.0
o-Terphenyl Surrogate	0.052	0.05	AVRG	4.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 0627

Lab File ID: CCV1.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
C39 Surrogate	0.31	0.3	AVRG	3.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 1453

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.8	2.6	LINR	7.7	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0
o-Terphenyl Surrogate	0.054	0.05	AVRG	8.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2106

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/03/01 Time: 1713

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3.1	2.6	LINR	19.2	25.0
C39 Surrogate	0.33	0.3	AVRG	10.0	25.0
o-Terphenyl Surrogate	0.06	0.05	AVRG	20.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID: SFID02 CalibrationDate: 12/03/01 Time: 2251

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
C39 Surrogate	0.34	0.3	AVRG	13.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

Inorganics

Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

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

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P	ICP
A	Flame AA
F	Furnace AA
CV	Manual Cold Vapor AA
TC	Total Organic Carbon
AS	Semi-Automated Spectrophotometric
CA	Midi-Distillation Spectrophotometric
T	Titrimetric
C	Manual Spectrophotometric
GR	Gravimetric
NR	Analyte was not required by your lab

METALS DATA PACKAGE
TOTALS

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111099

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA Method 6010B for metals analysis. All methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

IV. PREPARATION

EPA Method 3010A for water metals. Methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

V. ANALYSIS 12/6, 7/01 (6010B)

A. **Calibration:** All quality control criteria were met.

B. **Blanks:** All calibration and preparation blank quality control criteria were met.

C. **Spikes:** All recovery criteria were met.

D. **Duplicates:** All percent difference criteria were met.

E. **Samples:** All sample analysis proceeded normally. Please note that sample SMW11Q40118 was diluted for Lead due to negative interferences.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

G. **Laboratory Control Samples :** All percent recovery quality control criteria were met.

H. **Serial Dilution:** All dilution quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111099

I. **Post Digestion Spike:** All recovery criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Mark Carlson DATE: 12/10/01
Section Leader or designee

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2111099

SOW No.:

EPA Sample No	Lab Sample ID
SMW01Q40118	211109901
SMW02Q40118	211109902
SMW05Q40118	211109903
SMW06Q40118	211109904
SMW07Q40118	211109905
SMW10Q40118	211109906
SMW11Q40118	211109907
062DUPQ40118	211109910
062EQBQ40118	211109911

Were ICP interelement corrections applied?	Yes/No	Yes
Were ICP background corrections applied?	Yes/No	Yes
If yes - were raw data generated before application of background corrections?	Yes/No	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark Gudnason Name: Mark Gudnason

Date: 12/10/01 Title: Metals Section Leader

101301 1026

Sample Data

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW01Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109901

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW02Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109902

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1028

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW05Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109903

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1028

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW06Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109904

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	68			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW07Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109905

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	25			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW10Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109906

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW11Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109907

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	10	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

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1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062DUPQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: / WATER Lab Sample ID: 211109910

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	8.2			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Lab Sample ID: 211109911

Level:(low/med) LOW Date Received: 11/28/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1026

QC Summary

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	381.615	95.4	500	468.371	93.7	468.120	93.6	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	475.250	95.0	480.418	96.1	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	482.282	96.5	477.143	95.4	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	371.363	92.8	500	471.193	94.2	471.255	94.3	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	480.970	96.2	459.236	91.8	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1026

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil): WATER

Preparation Blank Concentration Units (ug/L or mg/Kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U	2	U	P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			2	U	2	U	2	U			P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 7	C	8	C	9	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U			P

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3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 10	C	11	C	12	C	Prepa-ration Blank	C	M
Lead			2	U							P

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.4	92.8			

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Lead	0	50		46.3	92.6			

101201 1026

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5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	460		10	U	500	92.0		P

Comments:

101201 1026

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	458		10	U	500	91.6		P

Comments:

101201 1026

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | SMW11Q40118A

Lab Code : PEL Case No. ____ SAS No: ____ SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	460		10.00	U	500	92.0		P

Comments:

101201 1028

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DUPLICATES

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	460		458		0.4		P

Comments:

101201 1026

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7

LABORATORY CONTROL SAMPLE

EPA Sample No.

54713LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Solid LCS Source:

Aqueous LCS Source: MET-15503, 0JF123-60

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	478	95.6				-	

101201 1026

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9

ICP SERIAL DILUTIONS

EPA Sample No.

SMW11Q40118L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	10.00	U	10	U			P

Comments:

101201 1026

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID Number : ICAP Date: 10/1/2001

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		2	2	P

Comments:

101201 1026

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11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. ..... SAS No.: ..... SDG No.: 2111099

ICP ID Number: ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for: Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.00036				

Comments:

101201 1026

U.S. EPA - CLP

11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No.: ..... SDG No.:

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for: Mn	Mo	Sb	V	
Lead	220.3					

Comments:

101201 1026

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ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

ICP ID NUMBER ICAP DATE : 5/1/2001

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

101201 1028

U.S. EPA - CLP

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PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
062DUPQ40118	30 Nov 01		50
062EQBQ40118	30 Nov 01		50
54712BLK	30 Nov 01		50
54713LCS	30 Nov 01		50
SMW01Q40118	30 Nov 01		50
SMW02Q40118	30 Nov 01		50
SMW05Q40118	30 Nov 01		50
SMW06Q40118	30 Nov 01		50
SMW07Q40118	30 Nov 01		50
SMW10Q40118	30 Nov 01		50
SMW11Q40118	30 Nov 01		50
SMW11Q40118MS	30 Nov 01		50
SMW11Q40118SD	30 Nov 01		50

101201 1026

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	15:07																				X						
STD3	1	15:14																				X						
STD2	1	15:19																										
ICV	1	15:25																				X						
ICB	1	15:32																				X						
ZZZZZZ	1	15:38																										
ICSA	1	15:44																				X						
ICSAB	1	15:51																				X						
CCV	1	15:57																				X						
CCB	1	16:03																				X						
54712BLK	1	16:10																				X						
54713LCS	1	16:16																				X						
ZZZZZZ	1	16:22																										
SMW11Q40118L	5	16:29																				X						
SMW11Q40118A	1	16:35																				X						
SMW11Q40118MS	1	16:41																				X						
SMW11Q40118SD	1	16:48																				X						
062DUPQ40118	1	16:54																				X						
062EQBQ40118	1	17:00																				X						
SMW01Q40118	1	17:06																				X						
CCV	1	17:13																				X						
CCB	1	17:19																				X						
SMW02Q40118	1	17:25																				X						
SMW05Q40118	1	17:32																				X						
SMW06Q40118	1	17:38																				X						
SMW07Q40118	1	17:44																				X						
SMW10Q40118	1	17:51																				X						
ZZZZZZ	1	17:57																										
ZZZZZZ	1	18:03																										
ZZZZZZ	1	18:10																										
ZZZZZZ	1	18:16																										
ZZZZZZ	1	18:22																										
CCV	1	18:28																				X						
CCB	1	18:35																				X						
ZZZZZZ	1	18:41																										
ZZZZZZ	1	18:47																										

101201 1026

U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																								
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	18:54																										
ZZZZZZ	1	19:00																										
ZZZZZZ	5	19:06																										
ZZZZZZ	1	19:13																										
ZZZZZZ	1	19:19																										
ZZZZZZ	1	19:25																										
ZZZZZZ	1	19:32																										
ZZZZZZ	1	19:38																										
CCV	1	19:44																				X						
CCB	1	19:51																				X						
ZZZZZZ	1	19:57																										
ZZZZZZ	1	20:03																										
ZZZZZZ	1	20:09																										
ZZZZZZ	1	20:16																										
ZZZZZZ	1	20:22																										
ZZZZZZ	1	20:28																										
ZZZZZZ	1	20:35																										
ZZZZZZ	1	20:41																										
ZZZZZZ	1	20:47																										
ZZZZZZ	1	20:54																										
CCV	1	21:00																				X						
CCB	1	21:06																				X						
ZZZZZZ	1	21:13																										
CCV	1	21:19																				X						
CCB	1	21:25																				X						

101201 1026

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																										
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	10:48																				X							
STD3	1	10:54																				X							
STD2	1	11:00																											
ICV	1	11:05																				X							
ICB	1	11:11																				X							
ZZZZZZ	1	11:18																											
ICSA	1	11:24																				X							
ICSAB	1	11:30																				X							
CCV	1	11:37																				X							
CCB	1	11:43																				X							
SMW11Q40118	5	11:49																				X							
ZZZZZZ	5	11:56																											
ZZZZZZ	5	12:02																											
ZZZZZZ	5	12:08																											
ZZZZZZ	5	12:15																											
ZZZZZZ	1	12:21																											
ZZZZZZ	1	12:27																											
ZZZZZZ	1	12:33																											
ZZZZZZ	5	12:41																											
ZZZZZZ	1	12:47																											
CCV	1	12:53																				X							
CCB	1	13:00																				X							
ZZZZZZ	1	13:06																											
ZZZZZZ	1	13:12																											
ZZZZZZ	1	13:18																											
ZZZZZZ	1	13:25																											
ZZZZZZ	1	13:31																											
ZZZZZZ	1	13:37																											
ZZZZZZ	1	13:44																											
ZZZZZZ	1	13:50																											
ZZZZZZ	1	13:56																											
ZZZZZZ	1	14:03																											
CCV	1	14:09																				X							
CCB	1	14:15																				X							
ZZZZZZ	1	14:22																											
ZZZZZZ	1	14:28																											

101201 1026

U.S. EPA - CLP

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ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111099

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
ZZZZZZ	1	14:34																											
ZZZZZZ	1	14:40																											
CCV	1	14:51																				X							
CCB	1	14:57																				X							

Chain of Custody Documentation

CHAIN-OF-CUSTODY RECORD

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

*Revised COC rec'd on 11/29/01 (2nd) 11/29/01 *

COC NUMBER: 163151-020

2nd 0999 MK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
S. Cecil Field	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.):
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
Quarterly GW Sampling Event			FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	*Extra IL Ambers rec'd for all 8310's & Pro's *	
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2705 Fax: (813)248-1537		

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

ANALYSES REQUIRED (Include Method Numbers)

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
/ Dumaop / Anthony Cain / Garnett McCurdy ones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687188285, 792468220943, 791715112609. (6 Coolers)	Temp upon rec't 4°C / pH<2 (Pro's) (VOC's: 01, 03, 04, 06-12) pH=3 (VOC's: 02, 05) (Lead: 04) / pH=5 (Lead: 06, 11) pH=7 (Lead: 05) / pH=8 (Lead: 01-03, 07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature:		
Dumaop	11/27/01	17:30	Federal Express	11/27/01	17:30
Name and Signature:			Printed Name and Signature:		
			Michael A. Kuhlow / PEL	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

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

Form CCI001, Rev 02/00

11/29/01 THU 09:34 FAX 3047774262 CH2M HILL CONSTRUCTORS 007

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Phone No (770) 604-9182 ; Fax No (770) 604-9282

11/29/01.

CHAIN-OF-CUSTODY RECORD

Unrevised COC rec'd with samples

2111-099 MK

COC NUMBER: 163151-020

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.S. Cecil Field 3rd Street	163151	PEL/ Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
3rd Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
J Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

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)	ANALYSES REQUIRED (Include Method Numbers): VOAs by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
	062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
	062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
	062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
	062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
	062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
	062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
	062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
	062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
	062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Jody Dumaop / Anthony Cain / Garnett McCurdy J.A Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rect 4°C / pH=2(VOC's:02,05)(Metals:04) pH=2(Pra's, VOC's:01,03,04,06-12) / pH=5(Metals:06,11) pH=7(Metals:05) pH=7(Metals:01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature:		
Jaop	11/27/01	17:30	Federal Express	11/27/01	17:30
Name and Signature:			Printed Name and Signature:		
Fed Ex			Michael A. Kulay	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-099

Client: CH2M Hill	Date Recd: 11/28/01
Project: Cecil Field 0062	Due Date:
Log In Tech: MK	Recd Via: Client Crosstown (FedEx)
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C)	4		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL		✓	Correct Sample Containers	✓	
Soil Origin Domestic NA			Soil Origin Foreign NA		

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: (STND)/RUSH		
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results		✓
COC Received/Dated by PEL	✓		Client Requests FAX Results		✓
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2111-099 By TMR

Client/Project CH2M Hill / Cecil Field 0062 Date 11/28/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other _____ pH _____
2111-099-01	(2) pH<2	(1) pH=8			(3) pH<2	
-02					(3) pH=3	
-03					(3) pH<2	
-04		(1) pH=3				
-05		(1) pH=7			(2) pH=3	
-06		(1) pH=5			(3) pH<2	
-07		(1) pH=8				
-08						
-09						
-10						
-11		(1) pH=5				
-12						

Changed Client ID's for CH2M Hill

PROJECT SEQ: 2111099 **REQNBR:** 20410

OLD CUST ID	OLD LENGTH	NEW CUST ID	NEW LENGTH
062DUPQ40118	12		
062EQBQ40118	12		
062SMW01Q40118	14		
062SMW02Q40118	14		
062SMW05Q40118	14		
062SMW06Q40118	14		
062SMW07Q40118	14		
062SMW10Q40118	14		
062SMW11Q40118	14		
062SMW11Q40118MS	16		
062SMW11Q40118SD	16		
062TBQ40118	11		

CHam Hill / Cecil Field 0062 2111-099

Sample #	Parameter	Rel'd	Rec'd	DATE	TIME
1-12	8021(w) 8260	✓	DK	12/3/01	0900
1-12	8021(w)	✓	MK	12/3/01	1530
1-11	8310(w)	✓	RW	11/30/01	1230
1-11	8310(w)	RW	~~RW~~	~~11/30/01~~	1230
1-11	Lead(w)	✓	GK	11/30/01	2000
1-11	Lead(w)	GK	✓	11/30/01	2130
1-11	Fl Pro(w)	✓	AS	11.30.01	1400
1-11	Fl Pro(w)	Consumed			

Addendum

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	11-28-01; 10:20 AM
Date to be Reported:	12-12-01
Laboratory Submission Number/SDG:	2111099
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods: 8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 45 analyses on 12 samples (including QC) *29-Nov-01*

Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW01Q40118	211109901	CEF-103-SMW-	W	11/27/01 11:00:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW02Q40118	211109902	CEF-103-SMW-	W	11/27/01 2:20:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW05Q40118	211109903	CEF-103-SMW-	W	11/27/01 12:05:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW06Q40118	211109904	CEF-103-SMW-	W	11/27/01 1:35:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

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Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW07Q40118	211109905	CEF-103-SMW-	W	11/27/01 10:45:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW10Q40118	211109906	CEF-103-SMW-	W	11/27/01 11:35:00 AM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118	211109907	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118MS	211109908	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 2111099

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW11Q40118SD	211109909	CEF-103-SMW-	W	11/27/01 2:10:00 PM	11/28/01 10:20:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062DUPQ40118	211109910	Duplicate	W	11/27/01	11/28/01 10:20:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062EQBQ40118	211109911	Equipment	W	11/27/01 3:00:00 PM	11/28/01 10:20:00 AM
Method					
6010	Metals			6010	
8260	Volatile Organic Compounds			8260	
8310	PAH			8310	
FL-PRO	Petroleum Hydrocarbons			FL-PRO	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TBQ40118	211109912	Trip Blank	W	11/28/01	11/28/01 10:20:00 AM
Method					
8260	Volatile Organic Compounds			8260	

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

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 11/29/01 (JWD) 12/3/01

COC NUMBER: 163151-020

2111 099 MK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	ADDRESSEE (Address, Tel No., and Fax No.):
NAS Cecil Field	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812 FAX: (904) 7774262
Street	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.):
PROJECT PHASE/SITE/TASK: Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 565 FAX:604-9282
PROJECT CONTACT: Canelos	PROJECT TEL NO AND FAX NO: Ph:(904)777-4812 Fax:(904) 777-4262	LAB TEL NO AND FAX NO: Ph: (813)247-2805 Fax: (813)248-1537	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company) *Extra IL Ambers rec'd for all 8310's & Pro's*	RECIPIENT 3 (Address, Tel No., and Fax No.):

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

PERSON(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Jay Dumsop / Anthony Cain / Garnett McCurdy Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rec't 4°C / pH<2 (Pro's/VOC's: 01,03,04,06-12) pH=3 (VOC's: 02,05) (Lead: 04) / pH=5 (Lead: 06, 11) pH=7 (Lead: 05) / pH=8 (Lead: 01-03,07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature:		
Dumsop	11/27/01	17:30	Federal Express	11/27/01	17:30
Name and Signature:			Printed Name and Signature:		
			Michael A. Kelley/PEL	11/28/01	10:20
Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 01/00

12/28/01 THU 08:31 FAX 904 777 4262 CH2M HILL CONSTRUCTORS 002

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

11/29/01 *Unrevised COC rec'd with samples*

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-020

2111-099 MK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
3rd Street Quarterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
J Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

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)	ANALYSES REQUIRED (Include Method Numbers) Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW01-Q4-01-18	CEF-103-SMW-01	W	11/27/01	11:00	III/C	14	3	2	1	2							Grab		01
	062-SMW02-Q4-01-18	CEF-103-SMW-02	W	11/27/01	14:20	III/C	14	3	2	1	2							Grab	Turbid	02
	062-SMW05-Q4-01-18	CEF-103-SMW-05	W	11/27/01	12:05	III/C	14	3	2	1	2							Grab		03
	062-SMW06-Q4-01-18	CEF-103-SMW-06	W	11/27/01	13:35	III/C	14	3	2	1	2							Grab	Turbid	04
	062-SMW07-Q4-01-18	CEF-103-SMW-07	W	11/27/01	10:45	III/C	14	3	2	1	2							Grab	Turbid	05
	062-SMW10-Q4-01-18	CEF-103-SMW-10	W	11/27/01	11:35	III/C	14	3	2	1	2							Grab	Turbid	06
	062-SMW11-Q4-01-18	CEF-103-SMW-11	W	11/27/01	14:10	III/C	14	9	6	3	6							Grab	MS/MSD	07 08 09
	062-DUP-Q4-01-18	Duplicate	W	11/27/01	NA	III/C	14	3	2	1	2							Grab		10
	062-EQB-Q4-01-18	Equipment Blank	W	11/27/01	15:00	III/C	14	3	2	1	2							Grab		11
	062-TB-Q4-01-18	Trip Blank	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	12
	Temp Blank	Temp Blank	W	NA	NA	III/C	14					6						Grab	Prepared By Lab	

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Judy Dumaop / Anthony Cain / Garnett McCurdy Jones Environmental Services	Federal Express TRK #790227392373, 791715112642, 791715112366, 792687288285, 792468220943, 791715112609. (6 Coolers)	Temp upon rect 4°C / pH=5(VOC's:02,05)(Metals:04) pH<2(Pest's, VOC's:01,03,04,06-12) / pH=5(Metals:08, 11) pH=7(Metals:09) pH>12(Metals:01-03, 07-10)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Dumaop	11/27/01	17:30	Printed Name and Signature: Federal Express	11/27/01	17:30
Printed Name and Signature: Fed Ex			Printed Name and Signature: Michael A. Kulay	11/28/01	10:20
Printed Name and Signature:			Printed Name and Signature:		

94

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

Form CC1001, Rev 02/00

Changed Client ID's for CH2M Hill

PROJECT SEQ: 2111099 **REQNBR:** 20410

OLD CUST ID	OLD LENGTH	NEW CUST ID	NEW LENGTH
062DUPQ40118	12	[redacted]	
062EQBQ40118	12	[redacted]	
062SMW01Q40118	14	[redacted]	
062SMW02Q40118	14	[redacted]	
062SMW05Q40118	14	[redacted]	
062SMW06Q40118	14	[redacted]	
062SMW07Q40118	14	[redacted]	
062SMW10Q40118	14	[redacted]	
062SMW11Q40118	14	[redacted]	
062SMW11Q40118MS	16	[redacted]	
062SMW11Q40118SD	16	[redacted]	
062TBQ40118	11	[redacted]	

1010000 1000101 1100110
PEL Laboratories, Inc.

Customer Name: CH2MHILL
Date & Time Received: 11-28-01; 10:20 AM
Date Reported: 12-10-01
PEL Submission Number: 2111102
Project: NAS Cecil Field (103RD Street)

Samples: The submission consisted of 3 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method: 8260, 8310, 6010, and FLPRO

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Organics **1**
METHOD8260 GC/ MS VOLATILE ORGANICS 4
Sample Data 8
QC Summary 18
Standards Data 35
METHOD8310 HPLC PAH ORGANICS 42
Sample Data 46
QC Summary 49
Standards Data 58
METHODFL-PRO GC FL- PRO ORGANICS 67
Sample Data 71
QC Summary 74
Standards Data 83

Inorganics **94**
METALS DATA PACKAGE TOTALS 96
Sample Data 100
QC Summary 103

Chain of Custody Documentation **130**

Addendum **136**

Organics

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when incicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated bland as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

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

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC/MS VOLATILE ORGANICS

METHOD 8260

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA 8260B/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. **Calibration:**

All acceptance criteria were met.

The initial calibration for the water matrix met the criteria. Dichlorodifluoromethane, Trichlorofluoromethane, Methylene Chloride, Carbon tetrachloride, 1,2-Dichloroethane, Trichloroethene, Tetrachloroethene, Bromoform, tert-Butylbenzene, and Hexachlorobutadiene required a linear fit in the water calibration and met the criteria with an R squared value > 0.99. The continuing calibration verification for the water met the criteria using the average percent D allowed by SW846 EPA method 8000.

B. **Blanks:**

The blank for the water samples met all criteria.

C. **Surrogates:**

All surrogate criteria were met.

CASE NARRATIVE
GC/MS VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

D. Spikes:

Laboratory Control Samples (LCS)

All criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client did not specify a sample to be spiked. Reagent water spikes were analyzed as an MS/SD where seven out of 114 analytes did not meet the acceptance criteria for percent recovery. All criteria were met for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Pelo **DATE:** 12/7/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: 8260

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202
062TB2Q40118	211110203

101201 1032

Sample Data

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID: 10201.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1043

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-3 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID: 10201.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1043

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-3 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID 10201.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1043

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-3 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID: 10202.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1016

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-4 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID: 10202.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1016

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-4 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
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.: SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID 10202.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1016

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-103-SMW-4 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TB2Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110203 Lab File ID: 10203.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0951

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank No.2 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TB2Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110203 Lab File ID: 10203.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0951

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank No.2 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TB2Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110203 Lab File ID: 10203.D

Sample wt/vol: 5 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0951

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank No.2 Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

QC Summary

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
594-20-7	2,2-Dichloropropane	0.43	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	0.6	U
108-88-3	Toluene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-28-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	0.4	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID: XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q
106-93-4	1,2-Dibromoethane(EDB)	0.25	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene (Cumene)	0.2	U
108-86-1	Bromobenzene	0.15	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
96-18-4	1,2,3-Trichloropropane	0.46	U
103-65-1	n-Propylbenzene	0.19	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	0.38	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	0.21	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
99-87-6	4-Isopropyltoluene	0.19	U
104-51-8	n-Butylbenzene	0.35	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	0.56	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	0.46	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 1203BLKA12 Lab File ID: XBLKA14.D

Sample wt/vol: 5 Units: ML Date Received: 12/03/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 0926

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: QC Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U
1330-20-7	Xylene (total)	2	U

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VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1203BLKA12

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Lab File ID: XBLKA14.D Lab Sample ID: 1203BLKA12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 0926

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
2	1203BLKA12MS	1203BLKA12MS	BLKMS.D	12/03/01	0810
3	1203BLKA12MSD	1203BLKA12MSD	BLKSD.D	12/03/01	0836
4	062TB2Q40118	211110203	10203.D	12/03/01	0951
5	SMW4Q40118	211110202	10202.D	12/03/01	1016
6	SMW3Q40118	211110201	10201.D	12/03/01	1043

COMMENTS:

Page 1 of 1

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111102

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062TB2Q40118	104.4	105.8	105.8	106.0			0
1203BLKA12	103.2	104.4	106.6	100.8			0
1203BLKA12MS	107.4	101.2	99.4	109.4			0
1203BLKA12MSD	106.0	101.6	99.2	105.6			0
1203LCSA11	108.0	104.6	101.6	107.2			0
SMW3Q40118	105.4	99.4	96.8	104.6			0
SMW4Q40118	104.6	104.2	100.2	102.6			0

		Control Limits
S1	= Dibromofluoromethane	86 - 118
S2	= Toluene d8	88 - 110
S3	= 4-Bromofluorobenzene	86 - 115
S4	= 1,2-Dichloroethane-d4	80 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID: BFB13.D BFB Injection Date: 11/30/01

Instrument ID: VMS01 BFB Injection Time: 1441

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	18.5	
75	30.0 - 60.0% of mass 95	51	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.2	(0.3)1
174	50.0 - 100.0% of mass 95	87.7	
175	5.0 - 9.0% of mass 174	5.5	(6.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.6	(95.4)1
177	5.0 - 9.0% of mass 176	6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1634	1PPBSTD	1PPB.D	11/30/01	1646
2	STD1635	2PPBSTD	2PPB.D	11/30/01	1712
3	STD1636	5PPBSTD	5PPB.D	11/30/01	1737
4	STD1637	10PPBSTD	10PPB.D	11/30/01	1803
5	STD1638	20PPBSTD	20PPB.D	11/30/01	1828
6	STD1640	60PPBSTD	60PPB.D	11/30/01	1920
7	STD1641	80PPBSTD	80PPB.D	11/30/01	1946

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID: BFB13.D BFB Injection Date: 12/03/01

Instrument ID: VMS01 BFB Injection Time: 0602

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.9	
75	30.0 - 60.0% of mass 95	46.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	5.6	
173	Less than 2.0% of mass 174	0.1	(0.2)1
174	50.0 - 100.0% of mass 95	80.3	
175	5.0 - 9.0% of mass 174	5.2	(6.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.1	(98.6)1
177	5.0 - 9.0% of mass 176	5.6	(7.1)2

1-Value is % of mass 174

2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1817	1203CCVA11	50CCV12.D	12/03/01	0657
2	1203LCSA11	1203LCSA11	LCSA11.D	12/03/01	0722
3	1203BLKA12MS	1203BLKA12M	BLKMS.D	12/03/01	0810
4	1203BLKA12MSD	1203BLKA12M	BLKSD.D	12/03/01	0836
5	1203BLKA12	1203BLKA12	XBLKA14.D	12/03/01	0926
6	062TB2Q40118	211110203	10203.D	12/03/01	0951
7	SMW4Q40118	211110202	10202.D	12/03/01	1016
8	SMW3Q40118	211110201	10201.D	12/03/01	1043

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID (Standard): 20PPB.D Date Analyzed: 11/30/2001

Instrument ID: VMS01 Time Analyzed: 18:28

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	883098		9.88	470145		12.21	1205268		6.63
	UPPER LIMIT	1766196		10.38	940290		12.71	2410536		7.13
	LOWER LIMIT	441549		9.38	235072.5		11.71	602634		6.13
	EPA SAMPLE NO.									
1	1203LCSA11	1082323		9.87	590699		12.21	1446570		6.62
2	1203BLKA12MS	1055841		9.87	567557		12.21	1413404		6.62
3	1203BLKA12MSD	1032046		9.87	561663		12.21	1381620		6.62
4	1203BLKA12	997477		9.87	502728		12.21	1330332		6.62
5	062TB2Q40118	960922		9.87	492749		12.21	1290390		6.62
6	SMW4Q40118	963420		9.87	504633		12.21	1289719		6.62
7	SMW3Q40118	973573		9.87	500566		12.21	1304888		6.62

IS1 = Chlorobenzene d5
IS2 = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	17	85.0	68 - 116
Chloromethane	20	18	90.0	55 - 144
Vinyl chloride	20	18	90.0	63 - 133
Bromomethane	20	19	95.0	76 - 135
Chloroethane	20	22	110.0	69 - 136
Trichlorofluoromethane	20	22	110.0	59 - 144
1,1-Dichloroethene	20	22	110.0	52 - 150
Methylene chloride	20	21	105.0	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	64 - 131
1,1-Dichloroethane	20	23	115.0	76 - 122
2,2-Dichloropropane	20	26	130.0	69 - 132
cis-1,2-Dichloroethene	20	23	115.0	71 - 122
Bromochloromethane	20	22	110.0	80 - 113
Chloroform	20	22	110.0	77 - 121
1,1,1-Trichloroethane	20	24	120.0	69 - 126
Carbon tetrachloride	20	22	110.0	68 - 127
Benzene	20	23	115.0	77 - 118
1,2-Dichloroethane	20	21	105.0	73 - 124
Trichloroethene	20	21	105.0	76 - 120
1,2-Dichloropropane	20	22	110.0	79 - 119
Dibromomethane	20	22	110.0	80 - 117
Bromodichloromethane	20	23	115.0	72 - 120
Toluene	20	23	115.0	76 - 119
1,1,2-Trichloroethane	20	22	110.0	79 - 116
Tetrachloroethene	20	22	110.0	72 - 123
1,3-Dichloropropane	20	21	105.0	82 - 114
Dibromochloromethane	20	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	21	105.0	76 - 116
Chlorobenzene	20	22	110.0	75 - 124
1,1,1,2-Tetrachloroethane	20	22	110.0	75 - 110
Ethylbenzene	20	22	110.0	71 - 129
p,m-Xylene	40	44	110.0	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1203LCSA11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
o-Xylene	20	22	110.0	75 - 124
Styrene	20	22	110.0	78 - 118
Bromoform	20	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	22	110.0	76 - 126
Bromobenzene	20	20	100.0	80 - 118
1,1,2,2-Tetrachloroethane	20	21	105.0	79 - 114
1,2,3-Trichloropropane	20	22	110.0	79 - 111
n-Propylbenzene	20	22	110.0	76 - 125
2-Chlorotoluene	20	21	105.0	72 - 119
4-Chlorotoluene	20	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	22	110.0	76 - 126
tert-Butylbenzene	20	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	22	110.0	75 - 128
sec-Butylbenzene	20	22	110.0	6 - 178
1,3-Dichlorobenzene	20	23	115.0	80 - 115
1,4-Dichlorobenzene	20	22	110.0	78 - 117
4-Isopropyltoluene	20	22	110.0	6 - 178
n-Butylbenzene	20	22	110.0	76 - 134
1,2-Dichlorobenzene	20	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	21	105.0	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	72 - 131
Hexachlorobutadiene	20	21	105.0	79 - 129
Naphthalene	20	22	110.0	70 - 140
1,2,3-Trichlorobenzene	20	22	110.0	67 - 139
Xylene (total)	60	66	110.0	74 - 127

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | 1203BLKA12MS

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	16	80.0	68 - 116
Chloromethane	20	0	18	90.0	55 - 144
Vinyl chloride	20	0	18	90.0	63 - 133
Bromomethane	20	0	21	105.0	76 - 135
Chloroethane	20	0	19	95.0	69 - 136
Trichlorofluoromethane	20	0	22	110.0	59 - 144
1,1-Dichloroethene	20	0	23	115.0	52 - 150
Methylene chloride	20	0	20	100.0	72 - 123
trans-1,2-Dichloroethene	20	0	21	105.0	64 - 131
1,1-Dichloroethane	20	0	22	110.0	76 - 122
2,2-Dichloropropane	20	0	25	125.0	69 - 132
cis-1,2-Dichloroethene	20	0	22	110.0	71 - 122
Bromochloromethane	20	0	22	110.0	80 - 113
Chloroform	20	0	22	110.0	77 - 121
1,1,1-Trichloroethane	20	0	23	115.0	69 - 126
Carbon tetrachloride	20	0	21	105.0	68 - 127
Benzene	20	0	22	110.0	77 - 118
1,2-Dichloroethane	20	0	21	105.0	73 - 124
Trichloroethene	20	0	21	105.0	76 - 120
1,2-Dichloropropane	20	0	21	105.0	79 - 119
Dibromomethane	20	0	22	110.0	80 - 117
Bromodichloromethane	20	0	23	115.0	72 - 120
Toluene	20	0	22	110.0	76 - 119
1,1,2-Trichloroethane	20	0	22	110.0	79 - 116
Tetrachloroethene	20	0	20	100.0	72 - 123
1,3-Dichloropropane	20	0	21	105.0	82 - 114
Dibromochloromethane	20	0	22	110.0	68 - 118
1,2-Dibromoethane(EDB)	20	0	21	105.0	76 - 116
Chlorobenzene	20	0	22	110.0	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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101201 1032

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | 1203BLKA12MS

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	0	21	105.0	75 - 110
Ethylbenzene	20	0	21	105.0	71 - 129
p,m-Xylene	40	0	43	107.5	74 - 127
o-Xylene	20	0	22	110.0	75 - 124
Styrene	20	0	22	110.0	78 - 118
Bromoform	20	0	21	105.0	58 - 124
Isopropylbenzene (Cumene)	20	0	22	110.0	76 - 126
Bromobenzene	20	0	21	105.0	80 - 118
1,1,2,2-Tetrachloroethane	20	0	21	105.0	79 - 114
1,2,3-Trichloropropane	20	0	21	105.0	79 - 111
n-Propylbenzene	20	0	22	110.0	76 - 125
2-Chlorotoluene	20	0	21	105.0	72 - 119
4-Chlorotoluene	20	0	21	105.0	32 - 158
1,3,5-Trimethylbenzene	20	0	22	110.0	76 - 126
tert-Butylbenzene	20	0	19	95.0	70 - 124
1,2,4-Trimethylbenzene	20	0	22	110.0	75 - 128
sec-Butylbenzene	20	0	22	110.0	6 - 178
1,3-Dichlorobenzene	20	0	22	110.0	80 - 115
1,4-Dichlorobenzene	20	0	22	110.0	78 - 117
4-Isopropyltoluene	20	0	22	110.0	6 - 178
n-Butylbenzene	20	0	22	110.0	76 - 134
1,2-Dichlorobenzene	20	0	22	110.0	80 - 116
1,2-Dibromo-3-chloropropane	20	0	19	95.0	43 - 152
1,2,4-Trichlorobenzene	20	0	23	115.0	72 - 131
Hexachlorobutadiene	20	0	21	105.0	79 - 129
Naphthalene	20	0	21	105.0	70 - 140
1,2,3-Trichlorobenzene	20	0	21	105.0	67 - 139
Xylene (total)	60	0	65	108.3	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1203BLKA12MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.

Spike Recovery: 0 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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101201 1032

Form III

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.: 1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	16	80.0	4.4	40	68 - 116
Chloromethane	20	19	95.0	10.0	17	55 - 144
Vinyl chloride	20	20	100.0	10.3	18	63 - 133
Bromomethane	20	21	105.0	2.3	20	76 - 135
Chloroethane	20	20	100.0	4.2	20	69 - 136
Trichlorofluoromethane	20	24	120.0	8.4	16	59 - 144
1,1-Dichloroethene	20	25	125.0	7.6	20	52 - 150
Methylene chloride	20	21	105.0	3.2	23	72 - 123
trans-1,2-Dichloroethene	20	23	115.0	9.7	18	64 - 131
1,1-Dichloroethane	20	24	120.0	7.3	20	76 - 122
2,2-Dichloropropane	20	27	135.0*	9.8	20	69 - 132
cis-1,2-Dichloroethene	20	24	120.0	7.9	20	71 - 122
Bromochloromethane	20	23	115.0*	0.5	20	80 - 113
Chloroform	20	23	115.0	4.1	20	77 - 121
1,1,1-Trichloroethane	20	25	125.0	9.6	22	69 - 126
Carbon tetrachloride	20	23	115.0	10.2	25	68 - 127
Benzene	20	24	120.0*	7.0	18	77 - 118
1,2-Dichloroethane	20	22	110.0	1.2	20	73 - 124
Trichloroethene	20	22	110.0	8.8	21	76 - 120
1,2-Dichloropropane	20	23	115.0	5.3	20	79 - 119
Dibromomethane	20	22	110.0	0.2	20	80 - 117
Bromodichloromethane	20	23	115.0	2.4	20	72 - 120
Toluene	20	24	120.0*	5.6	20	76 - 119
1,1,2-Trichloroethane	20	22	110.0	3.3	23	79 - 116
Tetrachloroethene	20	23	115.0	14.1	20	72 - 123
1,3-Dichloropropane	20	22	110.0	4.5	18	82 - 114
Dibromochloromethane	20	23	115.0	5.8	20	68 - 118
1,2-Dibromoethane(EDB)	20	22	110.0	3.0	22	76 - 116
Chlorobenzene	20	23	115.0	5.0	20	75 - 124

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

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VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.: 1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	20	23	115.0*	6.4	21	75 - 110
Ethylbenzene	20	23	115.0	8.2	21	71 - 129
p,m-Xylene	40	47	117.5	9.3	20	74 - 127
o-Xylene	20	23	115.0	6.1	20	75 - 124
Styrene	20	24	120.0*	7.0	20	78 - 118
Bromoform	20	21	105.0	0.5	20	58 - 124
Isopropylbenzene (Cumene)	20	24	120.0	8.3	20	76 - 126
Bromobenzene	20	22	110.0	2.2	18	80 - 118
1,1,2,2-Tetrachloroethane	20	22	110.0	7.3	20	79 - 114
1,2,3-Trichloropropane	20	23	115.0*	5.4	19	79 - 111
n-Propylbenzene	20	23	115.0	7.8	20	76 - 125
2-Chlorotoluene	20	22	110.0	5.0	30	72 - 119
4-Chlorotoluene	20	22	110.0	8.8	30	32 - 158
1,3,5-Trimethylbenzene	20	23	115.0	6.1	21	76 - 126
tert-Butylbenzene	20	20	100.0	6.7	22	70 - 124
1,2,4-Trimethylbenzene	20	23	115.0	6.1	19	75 - 128
sec-Butylbenzene	20	23	115.0	8.0	30	6 - 178
1,3-Dichlorobenzene	20	23	115.0	5.8	18	80 - 115
1,4-Dichlorobenzene	20	23	115.0	4.8	19	78 - 117
4-Isopropyltoluene	20	23	115.0	4.7	30	6 - 178
n-Butylbenzene	20	23	115.0	3.7	16	76 - 134
1,2-Dichlorobenzene	20	23	115.0	5.1	16	80 - 116
1,2-Dibromo-3-chloropropane	20	22	110.0	10.7	23	43 - 152
1,2,4-Trichlorobenzene	20	23	115.0	1.8	22	72 - 131
Hexachlorobutadiene	20	21	105.0	0.0	26	79 - 129
Naphthalene	20	22	110.0	6.2	26	70 - 140
1,2,3-Trichlorobenzene	20	23	115.0	6.1	27	67 - 139
Xylene (total)	60	70	116.7	8.2	40	74 - 127

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.: 1203BLKA12MSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

RPD: 0 out of 57 outside limits

Spike Recovery: 7 out of 57 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

Standards Data

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.145	0.169	0.164	0.195	0.185			
Chloromethane	#	0.237	0.245	0.246	0.239	0.262			#
Vinyl chloride	*	0.177	0.213	0.200	0.201	0.210			*
Bromomethane		0.134	0.184	0.132	0.154	0.175			
Chloroethane		0.148	0.129	0.126	0.123	0.172			
Trichlorofluoromethane		0.153	0.203	0.218	0.260	0.251			
1,1-Dichloroethene		0.253	0.268	0.269	0.321	0.306			
Methylene chloride		0.482	0.383	0.327	0.366	0.339			
trans-1,2-Dichloroethene		0.262	0.255	0.262	0.304	0.303			
1,1-Dichloroethane	#	0.330	0.353	0.376	0.411	0.401			#
2,2-Dichloropropane		0.241	0.205	0.237	0.260	0.261			
cis-1,2-Dichloroethene		0.210	0.210	0.210	0.250	0.258			
Bromochloromethane		0.157	0.124	0.105	0.139	0.145			
Chloroform	*	0.328	0.380	0.368	0.466	0.448			*
1,1,1-Trichloroethane		0.269	0.281	0.266	0.333	0.332			
Carbon tetrachloride		0.179	0.200	0.207	0.284	0.272			
Benzene		0.718	0.784	0.754	0.926	0.903			
1,2-Dichloroethane		0.697	0.286	0.276	0.327	0.322			
Trichloroethene		0.211	0.209	0.213	0.261	0.254			
1,2-Dichloropropane	*	0.216	0.261	0.220	0.250	0.259			*
Dibromomethane		0.184	0.163	0.160	0.179	0.177			
Bromodichloromethane		0.277	0.280	0.252	0.321	0.313			
Toluene	*	0.441	0.441	0.488	0.567	0.589			*
1,1,2-Trichloroethane		0.169	0.198	0.179	0.223	0.222			
Tetrachloroethene		0.160	0.197	0.196	0.261	0.239			
1,3-Dichloropropane		0.497	0.485	0.465	0.551	0.544			
Dibromochloromethane		0.275	0.277	0.274	0.349	0.346			
1,2-Dibromoethane(EDB)		0.293	0.255	0.276	0.313	0.324			
Chlorobenzene	#	0.791	0.785	0.784	0.921	0.920			#
1,1,1,2-Tetrachloroethane		0.238	0.258	0.255	0.312	0.300			
Ethylbenzene	*	0.354	0.377	0.403	0.468	0.474			*
p,m-Xylene		0.435	0.453	0.497	0.595	0.569			
o-Xylene		0.925	0.988	0.999	1.250	1.217			
Styrene		0.681	0.776	0.823	1.033	0.985			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF1 =1PPB.D RRF2 =2PPB.D
RRF10 =5PPB.D RRF10 =10PPB.D RRF20 =20PPB.D

COMPOUND		RRF1	RRF2	RRF10	RRF10	RRF20	$\overline{RRF}$	% RSD	
Bromoform	#	0.170	0.156	0.166	0.206	0.222			#
Isopropylbenzene (Cumene)		2.152	2.153	2.292	2.737	2.678			
Bromobenzene		0.958	1.045	1.013	1.156	1.116			
1,1,2,2-Tetrachloroethane	#	0.662	0.694	0.645	0.782	0.748			#
1,2,3-Trichloropropane		0.139	0.186	0.198	0.212	0.227			
n-Propylbenzene		2.676	2.696	3.058	3.560	3.529			
2-Chlorotoluene		1.885	1.857	1.882	2.157	2.103			
4-Chlorotoluene		1.999	1.985	2.118	2.437	2.411			
1,3,5-Trimethylbenzene		1.720	1.874	1.960	2.311	2.258			
tert-Butylbenzene		1.423	1.459	1.533	1.869	2.135			
1,2,4-Trimethylbenzene		1.607	1.796	1.840	2.246	2.201			
sec-Butylbenzene		2.060	2.328	2.493	2.975	2.978			
1,3-Dichlorobenzene		1.034	1.131	1.210	1.350	1.414			
1,4-Dichlorobenzene	*	1.061	1.133	1.211	1.476	1.407			*
4-Isopropyltoluene		1.910	1.960	2.099	2.446	2.476			
n-Butylbenzene		1.763	1.826	1.927	2.487	2.388			
1,2-Dichlorobenzene		1.034	1.113	1.053	1.313	1.279			
1,2-Dibromo-3-chloropropane		0.097	0.100	0.089	0.117	0.116			
1,2,4-Trichlorobenzene		0.686	0.636	0.731	0.877	0.844			
Hexachlorobutadiene	*	0.132	0.169	0.183	0.203	0.202			*
Naphthalene		1.849	1.749	1.653	2.063	2.096			
1,2,3-Trichlorobenzene		0.827	0.658	0.625	0.761	0.794			
Xylene (total)		0.442	0.470	0.477	0.586	0.575			
Dibromofluoromethane			0.253	0.219	0.246	0.255			
Toluene d8			0.784	0.776	0.804	0.812			
4-Bromofluorobenzene			0.815	0.789	0.826	0.829			
1,2-Dichloroethane-d4			0.062	0.044	0.053	0.059			

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Dichlorodifluoromethane		0.221	0.228	0.231			0.1924	0.99831	
Chloromethane	#	0.254	0.257	0.250			0.24873	3.5	#
Vinyl chloride	*	0.200	0.207	0.204			0.20146	5.5	*
Bromomethane		0.161	0.152	0.130			0.15273	13.3	
Chloroethane		0.139	0.129	0.113			0.1351	13.4	
Trichlorofluoromethane		0.272	0.297	0.281			0.24196	1	
1,1-Dichloroethene		0.303	0.298	0.287			0.28834	8	
Methylene chloride		0.325	0.327	0.323			0.35887	0.99978	
trans-1,2-Dichloroethene		0.299	0.296	0.309			0.28613	7.9	
1,1-Dichloroethane	#	0.402	0.408	0.409			0.38621	7.9	#
2,2-Dichloropropane		0.267	0.267	0.267			0.25056	8.7	
cis-1,2-Dichloroethene		0.265	0.263	0.268			0.24163	11.1	
Bromochloromethane		0.140	0.142	0.141			0.13661	11.5	
Chloroform	*	0.441	0.446	0.439			0.41451	11.9	*
1,1,1-Trichloroethane		0.339	0.350	0.349			0.31499	11.5	
Carbon tetrachloride		0.300	0.310	0.307			0.25727	0.99936	
Benzene		0.909	0.938	0.915			0.85594	10.3	
1,2-Dichloroethane		0.320	0.316	0.315			0.35726	0.99964	
Trichloroethene		0.261	0.270	0.264			0.24281	0.99956	
1,2-Dichloropropane	*	0.258	0.270	0.259			0.24906	8	*
Dibromomethane		0.175	0.182	0.176			0.17441	4.9	
Bromodichloromethane		0.318	0.329	0.333			0.30295	9.7	
Toluene	*	0.584	0.591	0.583			0.53564	12.6	*
1,1,2-Trichloroethane		0.228	0.221	0.222			0.20771	11	
Tetrachloroethene		0.254	0.261	0.258			0.2283	0.99957	
1,3-Dichloropropane		0.536	0.548	0.528			0.5191	6.3	
Dibromochloromethane		0.367	0.375	0.368			0.32892	13.8	
1,2-Dibromoethane(EDB)		0.316	0.314	0.308			0.29997	7.9	
Chlorobenzene	#	0.903	0.917	0.882			0.86301	7.5	#
1,1,1,2-Tetrachloroethane		0.312	0.318	0.310			0.28792	11.2	
Ethylbenzene	*	0.464	0.467	0.461			0.43362	11.1	*
p,m-Xylene		0.569	0.562	0.544			0.52808	11.2	
o-Xylene		1.190	1.232	1.172			1.12176	11.5	
Styrene		1.003	1.013	0.973			0.91086	14.5	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 Calibration Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Calibration Time: 1946

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF100 =50PPB.D RRF120 =60PPB.D
RRF160 =80PPB.D

COMPOUND		RRF100	RRF120	RRF160			$\overline{RRF}$	% RSD	
Bromoform	#	0.237	0.234	0.235			0.20332	0.99977	#
Isopropylbenzene (Cumene)		2.750	2.820	2.757			2.54244	11.4	
Bromobenzene		1.108	1.123	1.096			1.07663	6.1	
1,1,2,2-Tetrachloroethane	#	0.741	0.713	0.701			0.71077	6.4	#
1,2,3-Trichloropropane		0.213	0.207	0.202			0.19803	13.5	
n-Propylbenzene		3.567	3.600	3.462			3.26864	12.2	
2-Chlorotoluene		2.126	2.152	1.986			2.01854	6.5	
4-Chlorotoluene		2.373	2.405	2.348			2.25954	8.5	
1,3,5-Trimethylbenzene		2.302	2.294	2.270			2.12362	11.1	
tert-Butylbenzene		1.900	2.197	2.157			1.83417	0.99518	
1,2,4-Trimethylbenzene		2.222	2.283	2.209			2.0505	12.7	
sec-Butylbenzene		2.982	3.007	2.960			2.72286	13.8	
1,3-Dichlorobenzene		1.384	1.436	1.388			1.29322	11.5	
1,4-Dichlorobenzene	*	1.409	1.451	1.383			1.3164	12	*
4-Isopropyltoluene		2.507	2.583	2.465			2.30584	11.7	
n-Butylbenzene		2.384	2.414	2.339			2.19121	13.6	
1,2-Dichlorobenzene		1.299	1.311	1.231			1.2042	9.9	
1,2-Dibromo-3-chloropropane		0.125	0.120	0.115			0.10984	11.6	
1,2,4-Trichlorobenzene		0.906	0.916	0.886			0.81024	13.5	
Hexachlorobutadiene	*	0.228	0.226	0.228			0.19628	0.99955	*
Naphthalene		2.106	2.117	2.057			1.96131	9.4	
1,2,3-Trichlorobenzene		0.815	0.836	0.831			0.76846	10.7	
Xylene (total)		0.563	0.577	0.559			0.5311	10.9	
Dibromofluoromethane		0.252	0.258	0.255			0.24813	5.3	
Toluene d8		0.817	0.849	0.817			0.80844	3	
4-Bromofluorobenzene		0.830	0.863	0.833			0.82676	2.7	
1,2-Dichloroethane-d4		0.055	0.059	0.057			0.05553	10.8	

Calibration Criteria Is Stated In Narrative

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Dichlorodifluoromethane		54.6	50	LINR	9.2	20.0	
Chloromethane	#	52.8	50	AVRG	5.6	20.0	#
Vinyl chloride	*	51.2	50	AVRG	2.4	20.0	*
Bromomethane		47.6	50	AVRG	4.8	20.0	
Chloroethane		45.4	50	AVRG	9.2	20.0	
Trichlorofluoromethane		50.2	50	WLINR	0.4	20.0	
1,1-Dichloroethene		54.4	50	AVRG	8.8	20.0	
Methylene chloride		50.8	50	LINR	1.6	20.0	
trans-1,2-Dichloroethene		55.9	50	AVRG	11.8	20.0	
1,1-Dichloroethane	#	55.2	50	AVRG	10.4	20.0	#
2,2-Dichloropropane		65.3	50	AVRG	30.6	20.0	<-
cis-1,2-Dichloroethene		57	50	AVRG	14.0	20.0	
Bromochloromethane		53.1	50	AVRG	6.2	20.0	
Chloroform	*	54.3	50	AVRG	8.6	20.0	*
1,1,1-Trichloroethane		58.6	50	AVRG	17.2	20.0	
Carbon tetrachloride		53	50	LINR	6.0	20.0	
Benzene		55.2	50	AVRG	10.4	20.0	
1,2-Dichloroethane		51.5	50	LINR	3.0	20.0	
Trichloroethene		50.3	50	LINR	0.6	20.0	
1,2-Dichloropropane	*	54.1	50	AVRG	8.2	20.0	*
Dibromomethane		52.7	50	AVRG	5.4	20.0	
Bromodichloromethane		56	50	AVRG	12.0	20.0	
Toluene	*	55.8	50	AVRG	11.6	20.0	*
1,1,2-Trichloroethane		56.3	50	AVRG	12.6	20.0	
Tetrachloroethene		52.4	50	LINR	4.8	20.0	
1,3-Dichloropropane		53.7	50	AVRG	7.4	20.0	
Dibromochloromethane		58.2	50	AVRG	16.4	20.0	
1,2-Dibromoethane(EDB)		54.4	50	AVRG	8.8	20.0	
Chlorobenzene	#	54.1	50	AVRG	8.2	20.0	#
1,1,1,2-Tetrachloroethane		56.6	50	AVRG	13.2	20.0	
Ethylbenzene	*	54.5	50	AVRG	9.0	20.0	*
p,m-Xylene		109	100	AVRG	9.0	20.0	
o-Xylene		55.3	50	AVRG	10.6	20.0	
Styrene		57.1	50	AVRG	14.2	20.0	
Bromoform	#	53.7	50	LINR	7.4	20.0	#
Isopropylbenzene (Cumene)		54.5	50	AVRG	9.0	20.0	

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: VMS01 CalibrationDate: 12/03/01 Time: 0657

Lab File ID: 50CCV12.D Init. Calib. Date: 11/30/01

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		SAMPLE AMOUNT	50 AMOUNT	CURVE	%D	MAX %D	
Bromobenzene		50.5	50	AVRG	1.0	20.0	
1,1,2,2-Tetrachloroethane	#	52.2	50	AVRG	4.4	20.0	#
1,2,3-Trichloropropane		52	50	AVRG	4.0	20.0	
n-Propylbenzene		53.4	50	AVRG	6.8	20.0	
2-Chlorotoluene		51.5	50	AVRG	3.0	20.0	
4-Chlorotoluene		51.2	50	AVRG	2.4	20.0	
1,3,5-Trimethylbenzene		51.9	50	AVRG	3.8	20.0	
tert-Butylbenzene		42.7	50	LINR	14.6	20.0	
1,2,4-Trimethylbenzene		53.2	50	AVRG	6.4	20.0	
sec-Butylbenzene		54.2	50	AVRG	8.4	20.0	
1,3-Dichlorobenzene		54.4	50	AVRG	8.8	20.0	
1,4-Dichlorobenzene	*	53.4	50	AVRG	6.8	20.0	*
4-Isopropyltoluene		55.1	50	AVRG	10.2	20.0	
n-Butylbenzene		54.1	50	AVRG	8.2	20.0	
1,2-Dichlorobenzene		54.2	50	AVRG	8.4	20.0	
1,2-Dibromo-3-chloropropane		54.8	50	AVRG	9.6	20.0	
1,2,4-Trichlorobenzene		57.1	50	AVRG	14.2	20.0	
Hexachlorobutadiene	*	53.3	50	LINR	6.6	20.0	*
Naphthalene		54.1	50	AVRG	8.2	20.0	
1,2,3-Trichlorobenzene		54.9	50	AVRG	9.8	20.0	
Xylene (total)		164	150	AVRG	9.3	20.0	
==========							
Dibromofluoromethane		53.9	50	AVRG	7.8	20.0	
Toluene d8		51.8	50	AVRG	3.6	20.0	
4-Bromofluorobenzene		49.9	50	AVRG	0.2	20.0	
1,2-Dichloroethane-d4		52.4	50	AVRG	4.8	20.0	

HPLC PAH ORGANICS

METHOD 8310

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

All internal standard criteria were met.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

F. Samples:

Sample analysis proceeded normally.

The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ DATE: 12-07-01
Jesse Leonard

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: 8310

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

101201 1033

Sample Data

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID: 102-01.D

Sample wt/vol: 925 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 2105

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-3 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID: 102-02.D

Sample wt/vol: 980 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 2140

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-4 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	1.1	
193-39-5	Indeno(1,2,3-cd)pyrene	0.74	

QC Summary

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 54706 Lab File ID 1130AB.D

Sample wt/vol: 1000 Units: ML Date Received: 11/30/01

Concentrated Extract Volume: 1 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/03/01 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: QC Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130AB

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID 1130AB.D Lab Sample ID: 54706

Instrument ID: SLC01 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/03/01

Level:(low/med) LOW Time Analyzed: 1847

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130ALCS	54707	1130ALCS.D	12/03/01	1921
2	1130ABMS	54708	1130ABMS.D	12/03/01	1956
3	1130ABSD	54709	1130ABSD.D	12/03/01	2030
4	SMW3Q40118	211110201	102-01.D	12/03/01	2105
5	SMW4Q40118	211110202	102-02.D	12/03/01	2140

COMMENTS:

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2111102

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
1130AB	63.5						0
1130ABMS	75.5						0
1130ABSD	72.5						0
1130ALCS	78.5						0
SMW3Q40118	58.3						0
SMW4Q40118	57.8						0

Control Limits

S1 = p-Terphenyl-d14 17 - 130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

101201 1038

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PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID (Standard): 15STD.D Date Analyzed: 12/2/2001

Instrument ID: SLC01 Time Analyzed: 1:19

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	4273780		10.36						
	UPPER LIMIT	8547560		10.86						
	LOWER LIMIT	2136890		9.86						
	EPA SAMPLE NO.									
1	1130AB	4156905		10.49						
2	1130ALCS	4035212		10.48						
3	1130ABMS	4114752		10.47						
4	1130ABSD	4146390		10.48						
5	SMW3Q40118	3977068		10.48						
6	SMW4Q40118	3941685		10.49						

IS1 = Carbazole

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

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PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.38 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD2203	30STD	12/02/01	0010	18.38	
2	STD2204	20STD	12/02/01	0044	18.38	
3	STD2205	15STD	12/02/01	0119	18.37	
4	STD2206	10STD	12/02/01	0153	18.38	
5	STD2207	5STD	12/02/01	0228	18.37	
6	ZZZZZZ	ZZZZZZ	12/02/01	0303		
7	ZZZZZZ	ZZZZZZ	12/02/01	0337		
8	STD2210	.2STD	12/02/01	0412	18.38	
9	CCV2211	SECSTD1	12/02/01	0446	18.38	
10	ZZZZZZ	ZZZZZZ	12/02/01	0521		
11	ZZZZZZ	ZZZZZZ	12/03/01	1738		
12	CCV2214	CCV1B	12/03/01	1812	18.39	
13	1130AB	54706	12/03/01	1847	18.4	
14	1130ALCS	54707	12/03/01	1921	18.4	
15	1130ABMS	54708	12/03/01	1956	18.39	
16	1130ABSD	54709	12/03/01	2030	18.4	
17	SMW3Q40118	211110201	12/03/01	2105	18.4	
18	SMW4Q40118	211110202	12/03/01	2140	18.4	
19	ZZZZZZ	ZZZZZZ	12/03/01	2214		
20	ZZZZZZ	ZZZZZZ	12/03/01	2249		
21	ZZZZZZ	ZZZZZZ	12/03/01	2323		
22	ZZZZZZ	ZZZZZZ	12/03/01	2358		
23	CCV2225	CCV2	12/04/01	0032	18.42	
24	ZZZZZZ	ZZZZZZ	12/04/01	0107		
25	ZZZZZZ	ZZZZZZ	12/04/01	0142		
26	ZZZZZZ	ZZZZZZ	12/04/01	0216		

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

101201 1033

FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1130ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.1	61.0	11 - 85
Acenaphthylene	10	7.1	71.0	22 - 89
1-Methylnaphthalene	10	7.3	73.0	0 - 98
2-Methylnaphthalene	10	7.2	72.0	21 - 89
Acenaphthene	10	6.8	68.0	21 - 91
Fluorene	10	7	70.0	16 - 96
Phenanthrene	10	7.2	72.0	18 - 101
Anthracene	10	7.2	72.0	20 - 97
Fluoranthene	10	7.6	76.0	27 - 104
Pyrene	10	7.6	76.0	42 - 94
Benzo(a)anthracene	10	7.6	76.0	40 - 103
Chrysene	10	7.5	75.0	32 - 108
Benzo(b)fluoranthene	10	7.6	76.0	30 - 102
Benzo(k)fluoranthene	10	7.7	77.0	27 - 100
Benzo(a)pyrene	10	7.6	76.0	34 - 96
Dibenz(a,h)anthracene	10	8.2	82.0	27 - 99
Benzo(g,h,i)perylene	10	7.9	79.0	21 - 95
Indeno(1,2,3-cd)pyrene	10	7.5	75.0	18 - 97

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130ABMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	6.2	62.0	0 - 100
Acenaphthylene	10	0	6.9	69.0	0 - 111
1-Methylnaphthalene	10	0	7.6	76.0	0 - 135
2-Methylnaphthalene	10	0	7.2	72.0	6 - 94
Acenaphthene	10	0	6.6	66.0	9 - 96
Fluorene	10	0	6.8	68.0	5 - 101
Phenanthrene	10	0	7	70.0	7 - 110
Anthracene	10	0	7	70.0	0 - 111
Fluoranthene	10	0	7.5	75.0	20 - 113
Pyrene	10	0	7.4	74.0	22 - 118
Benzo(a)anthracene	10	0	7.4	74.0	26 - 113
Chrysene	10	0	7.4	74.0	27 - 113
Benzo(b)fluoranthene	10	0	7.4	74.0	26 - 107
Benzo(k)fluoranthene	10	0	7.4	74.0	24 - 107
Benzo(a)pyrene	10	0	7.3	73.0	23 - 107
Dibenz(a,h)anthracene	10	0	7.6	76.0	9 - 105
Benzo(g,h,i)perylene	10	0	7.3	73.0	21 - 99
Indeno(1,2,3-cd)pyrene	10	0	7	70.0	20 - 100

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1130ABSD

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	5.5	55.0	11.9	65	0 - 100
Acenaphthylene	10	6.6	66.0	4.9	54	0 - 111
1-Methylnaphthalene	10	7	70.0	7.7	54	0 - 135
2-Methylnaphthalene	10	6.8	68.0	5.5	65	6 - 94
Acenaphthene	10	6.3	63.0	4.1	41	9 - 96
Fluorene	10	6.4	64.0	5.5	48	5 - 101
Phenanthrene	10	6.6	66.0	5.9	41	7 - 110
Anthracene	10	6.6	66.0	5.3	41	0 - 111
Fluoranthene	10	6.8	68.0	10.2	31	20 - 113
Pyrene	10	7	70.0	6.0	33	22 - 118
Benzo(a)anthracene	10	7	70.0	5.7	26	26 - 113
Chrysene	10	7	70.0	5.2	17	27 - 113
Benzo(b)fluoranthene	10	6.9	69.0	6.0	27	26 - 107
Benzo(k)fluoranthene	10	7	70.0	5.4	29	24 - 107
Benzo(a)pyrene	10	6.9	69.0	5.6	27	23 - 107
Dibenz(a,h)anthracene	10	6.8	68.0	11.1	31	9 - 105
Benzo(g,h,i)perylene	10	6.5	65.0	11.4	31	21 - 99
Indeno(1,2,3-cd)pyrene	10	6.5	65.0	6.4	43	20 - 100

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

Standards Data

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF0.2 =PT2STD.D RRF5 =5STD.D
RRF10 =10STD.D RRF15 =15STD.D RRF20 =20STD.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20
Naphthalene	0.013	0.013	0.012	0.012	0.012
Acenaphthylene	0.011	0.010	0.010	0.009	0.009
1-Methylnaphthalene	0.007	0.008	0.008	0.007	0.007
2-Methylnaphthalene	0.011	0.010	0.010	0.010	0.010
Acenaphthene	0.005	0.005	0.005	0.004	0.004
Fluorene	0.070	0.061	0.061	0.059	0.058
Phenanthrene	0.223	0.189	0.189	0.182	0.179
Anthracene	0.039	0.039	0.040	0.041	0.041
Fluoranthene	0.050	0.043	0.044	0.041	0.041
Pyrene	0.034	0.033	0.034	0.033	0.032
Benzo(a)anthracene	0.110	0.099	0.099	0.095	0.094
Chrysene	0.151	0.132	0.132	0.127	0.125
Benzo(b)fluoranthene	0.130	0.113	0.112	0.108	0.107
Benzo(k)fluoranthene	0.101	0.096	0.095	0.091	0.090
Benzo(a)pyrene	0.117	0.098	0.098	0.095	0.094
Dibenz(a,h)anthracene	0.022	0.024	0.024	0.023	0.022
Benzo(g,h,i)perylene	0.037	0.041	0.040	0.039	0.038
Indeno(1,2,3-cd)pyrene	0.136	0.119	0.118	0.115	0.113
p-Terphenyl-d14	0.039	0.036	0.036	0.034	0.033

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RRF30 =30STD.D

COMPOUND	RRF30				
Naphthalene	0.012				
Acenaphthylene	0.009				
1-Methylnaphthalene	0.007				
2-Methylnaphthalene	0.010				
Acenaphthene	0.005				
Fluorene	0.059				
Phenanthrene	0.182				
Anthracene	0.042				
Fluoranthene	0.041				
Pyrene	0.033				
Benzo(a)anthracene	0.096				
Chrysene	0.127				
Benzo(b)fluoranthene	0.108				
Benzo(k)fluoranthene	0.091				
Benzo(a)pyrene	0.096				
Dibenz(a,h)anthracene	0.022				
Benzo(g,h,i)perylene	0.039				
Indeno(1,2,3-cd)pyrene	0.115				
p-Terphenyl-d14	0.035				

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

COMPOUND	CURVE	COEFFICIENTS A0	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	AVRG		0.012457039	4.4
Acenaphthylene	AVRG		0.009841753	5.5
1-Methylnaphthalene	AVRG		0.007372567	4.1
2-Methylnaphthalene	AVRG		0.010307326	4
Acenaphthene	AVRG		0.004621362	3.9
Fluorene	AVRG		0.061359009	7.4
Phenanthrene	AVRG		0.190595983	8.6
Anthracene	AVRG		0.040243790	3.4
Fluoranthene	AVRG		0.043386240	8.3
Pyrene	AVRG		0.033114466	2.1
Benzo(a)anthracene	AVRG		0.099646680	6
Chrysene	AVRG		0.132132816	7.1
Benzo(b)fluoranthene	AVRG		0.112914762	7.6
Benzo(k)fluoranthene	AVRG		0.094231769	4.4
Benzo(a)pyrene	AVRG		0.09964648	8.9
Dibenz(a,h)anthracene	AVRG		0.022770356	4.1
Benzo(g,h,i)perylene	AVRG		0.039039242	3.2
Indeno(1,2,3-cd)pyrene	AVRG		0.119636576	7
p-Terphenyl-d14	AVRG		0.035493112	6

Calibration Criteria Is Stated In Narrative

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT1: PT2STD.D RT2: 5STD.D
RT3: 10STD.D RT4: 15STD.D RT5: 20STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.547	11.533	11.537	11.540	11.543			
Acenaphthylene	12.770	12.763	12.767	12.770	12.777			
1-Methylnaphthalene	13.430	13.410	13.417	13.420	13.427			
2-Methylnaphthalene	13.770	13.750	13.753	13.757	13.767			
Acenaphthene	14.103	14.083	14.087	14.087	14.097			
Fluorene	14.447	14.433	14.440	14.443	14.450			
Phenanthrene	15.237	15.227	15.233	15.233	15.240			
Anthracene	16.042	16.034	16.039	16.037	16.046			
Fluoranthene	16.807	16.787	16.797	16.793	16.800			
Pyrene	17.340	17.323	17.333	17.333	17.337			
Benzo(a)anthracene	19.167	19.153	19.163	19.160	19.160			
Chrysene	19.567	19.553	19.563	19.560	19.560			
Benzo(b)fluoranthene	21.007	21.000	21.003	21.003	20.997			
Benzo(k)fluoranthene	21.660	21.647	21.653	21.653	21.643			
Benzo(e)pyrene	22.257	22.243	22.247	22.247	22.237			
Dibenz(a,h)anthracene	23.287	23.260	23.257	23.253	23.237			
Benzo(g,h,i)perylene	24.017	24.000	23.997	23.993	23.977			
Indeno(1,2,3-cd)pyrene	24.517	24.500	24.493	24.490	24.470			
p-Terphenyl-d14	18.380	18.367	18.377	18.373	18.377			

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PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 Calibration Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 0412

LAB FILE ID: RT6: 30STD.D

COMPOUND	RT6					MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.557					11.545	11.323	11.783
Acenaphthylene	12.787					12.774	12.550	13.010
1-Methylnaphthalene	13.437					13.425	13.200	13.660
2-Methylnaphthalene	13.773					13.764	13.540	14.000
Acenaphthene	14.103					14.095	13.870	14.330
Fluorene	14.457					14.447	14.223	14.683
Phenanthrene	15.243					15.237	15.013	15.473
Anthracene	16.049					16.043	15.743	16.203
Fluoranthene	16.803					16.799	16.573	17.033
Pyrene	17.340					17.336	17.110	17.570
Benzo(a)anthracene	19.163					19.162	18.933	19.393
Chrysene	19.560					19.561	19.330	19.790
Benzo(b)fluoranthene	21.000					21.002	20.773	21.233
Benzo(k)fluoranthene	21.643					21.649	21.420	21.880
Benzo(a)pyrene	22.240					22.244	22.013	22.473
Dibenz(a,h)anthracene	23.240					23.255	23.017	23.477
Benzo(g,h,i)perylene	23.980					23.993	23.757	24.217
Indeno(1,2,3-cd)pyrene	24.473					24.489	24.250	24.710
p-Terphenyl-d14	18.377					18.376	18.150	18.610

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/02/01 Time: 0446

Lab File ID: SECSTD1.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0126	1.1
Acenaphthylene	0.00964	0.0092	4.6
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0112	8.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0607	1.1
Phenanthrene	0.1906	0.1886	1.0
Anthracene	0.04024	0.0424	5.4
Fluoranthene	0.04339	0.044	1.4
Pyrene	0.03311	0.0339	2.4
Benzo(a)anthracene	0.09865	0.0969	0.3
Chrysene	0.13213	0.1317	0.3
Benzo(b)fluoranthene	0.11291	0.113	0.1
Benzo(k)fluoranthene	0.09423	0.0951	0.9
Benzo(a)pyrene	0.09965	0.0994	0.3
Dibenz(a,h)anthracene	0.02277	0.0235	3.2
Benzo(g,h,i)perylene	0.03904	0.0404	3.5
Indeno(1,2,3-cd)pyrene	0.11964	0.1193	0.3
p-Terphenyl-d14	0.03549	0.0348	1.9

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/03/01 Time: 1812

Lab File ID: CCV1B.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01246	0.0119	4.5
Acenaphthylene	0.00964	0.0089	7.7
1-Methylnaphthalene	0.00737	0.0072	2.3
2-Methylnaphthalene	0.01031	0.0107	3.8
Acenaphthene	0.00462	0.0043	6.9
Fluorene	0.06136	0.0566	7.8
Phenanthrene	0.1906	0.1757	7.8
Anthracene	0.04024	0.0395	1.8
Fluoranthene	0.04339	0.0401	7.6
Pyrene	0.03311	0.0308	7.0
Benzo(a)anthracene	0.09865	0.0923	6.4
Chrysene	0.13213	0.1227	7.1
Benzo(b)fluoranthene	0.11291	0.1054	6.7
Benzo(k)fluoranthene	0.09423	0.0888	5.8
Benzo(a)pyrene	0.09965	0.0935	6.2
Dibenz(a,h)anthracene	0.02277	0.022	3.4
Benzo(g,h,i)perylene	0.03904	0.0375	3.9
Indeno(1,2,3-cd)pyrene	0.11964	0.1121	6.3
p-Terphenyl-d14	0.03549	0.0329	7.3

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SLC01 CalibrationDate: 12/04/01 Time: 0032

Lab File ID: CCV2.D Init. Calib. Date: 12/02/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	RRF	RRF15	%D
Naphthalene	0.01246	0.0127	1.9
Acenaphthylene	0.00964	0.0094	2.5
1-Methylnaphthalene	0.00737	0.0078	5.8
2-Methylnaphthalene	0.01031	0.0114	10.6
Acenaphthene	0.00462	0.0047	1.7
Fluorene	0.06136	0.0608	0.9
Phenanthrene	0.1906	0.1888	0.9
Anthracene	0.04024	0.0425	5.6
Fluoranthene	0.04339	0.043	0.9
Pyrene	0.03311	0.0335	1.2
Benzo(a)anthracene	0.09865	0.0993	0.7
Chrysene	0.13213	0.1342	1.6
Benzo(b)fluoranthene	0.11291	0.1134	0.4
Benzo(k)fluoranthene	0.09423	0.0965	2.4
Benzo(a)pyrene	0.09965	0.0996	0.1
Dibenz(a,h)anthracene	0.02277	0.024	5.4
Benzo(g,h,i)perylene	0.03904	0.0405	3.7
Indeno(1,2,3-cd)pyrene	0.11964	0.12	0.3
p-Terphenyl-d14	0.03549	0.0353	0.5

GC FL-PRO ORGANICS

METHOD FL-PRO

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

Florida DEP/FL PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All blank criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Spikes (LCS)

All LCS criteria were met.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

All MS/SD criteria were met.

E. Internal standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally. Project specific RLs were used per client request.

CASE NARRATIVE
FLORIDA PETROLEUM RANGE ORGANICS (FL PRO) SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2111102

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ DATE: 12-09-01

Jesse Leonard

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method: FL-PRO

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

101201 1033

Sample Data

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201 Lab File ID: 102-01.D

Sample wt/vol: 970 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 2213

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-3 Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.95	

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202 Lab File ID: 102-02.D

Sample wt/vol: 955 Units: ML Date Received: 11/29/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 2247

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-103-SMW-4 Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	7.8	

QC Summary

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 54756 Lab File ID: 1130BLKW.D

Sample wt/vol: 1000 Units: ML Date Received: 11/30/01

Concentrated Extract Volume: 2 Date Extracted: 11/30/01

Level:(low/med) LOW Date Analyzed: 12/01/01 Time: 0701

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: QC Method: FL-PRO

GPC Cleanup: (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
5289290-40-0	TPH	0.5	U

4

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1130BLKW

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Lab File ID 1130BLKW.D Lab Sample ID: 54756

Instrument ID: SFID02 Date Extracted: 11/30/01

Matrix: WATER Date Analyzed: 12/01/01

Level:(low/med) LOW Time Analyzed: 0701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	1130LCS	54757	1130LCS.D	12/01/01	0736
2	1130BLKWMS	54758	1130MS.D	12/01/01	1022
3	1130BLKWSD	54759	1130MSD.D	12/01/01	1056
4	SMW3Q40118	211110201	102-01.D	12/01/01	2213
5	SMW4Q40118	211110202	102-02.D	12/01/01	2247

COMMENTS:

Page 1 of 1

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG NO.: 2111102

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
1130BLKW	110.0	65.0					0
1130BLKWMS	120.0	96.7					0
1130BLKWSD	120.0	98.3					0
1130LCS	120.0	80.0					0
SMW3Q40118	130.0	103.2					0
SMW4Q40118	130.0	82.5					0

Control Limits

S1 = o-Terphenyl Surrogate	82 -	142
S2 = C39 Surrogate	42 -	193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

101201 1038

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD107	CAL7SV3473	11/19/01	1156	4.71	10.27
2	STD108	CAL6SV3474	11/19/01	1230	4.72	10.29
3	STD109	CAL5SV3475	11/19/01	1304	4.73	10.35
4	STD110	CAL4SV3476	11/19/01	1338	4.73	10.31
5	STD111	CAL3SV3477	11/19/01	1412	4.72	10.31
6	STD112	CAL2SV3478	11/19/01	1446	4.73	10.35
7	STD113	CAL1SV3479	11/19/01	1520	4.72	10.26
8	CCV114	SECSTDSV3480	11/19/01	1554	4.71	10.25
9	ZZZZZZ	ZZZZZZ	12/01/01	0553		
10	CCV1843	CCV1SV3503	12/01/01	0627	4.71	10.24
11	1130BLKW	54756	12/01/01	0701	4.71	10.23
12	1130LCS	54757	12/01/01	0736	4.7	10.2
13	1130BLKWMS	54758	12/01/01	1022	4.7	10.23
14	1130BLKWSD	54759	12/01/01	1056	4.7	10.2
15	ZZZZZZ	ZZZZZZ	12/01/01	1130		
16	ZZZZZZ	ZZZZZZ	12/01/01	1204		
17	ZZZZZZ	ZZZZZZ	12/01/01	1238		
18	ZZZZZZ	ZZZZZZ	12/01/01	1312		
19	ZZZZZZ	ZZZZZZ	12/01/01	1346		
20	ZZZZZZ	ZZZZZZ	12/01/01	1419		
21	CCV1854	CCV2SV3503	12/01/01	1453	4.72	10.27
22	ZZZZZZ	ZZZZZZ	12/01/01	1527		
23	ZZZZZZ	ZZZZZZ	12/01/01	1601		
24	ZZZZZZ	ZZZZZZ	12/01/01	1635		
25	ZZZZZZ	ZZZZZZ	12/01/01	1708		
26	ZZZZZZ	ZZZZZZ	12/01/01	1742		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.07 MINUTES)
S2	=	C39 Surrogate	(+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 11/19/01

Instrument ID: SFID02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.72 S2 : 10.26

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	12/01/01	1816		
28	ZZZZZZ	ZZZZZZ	12/01/01	1850		
29	ZZZZZZ	ZZZZZZ	12/01/01	1924		
30	ZZZZZZ	ZZZZZZ	12/01/01	1958		
31	ZZZZZZ	ZZZZZZ	12/01/01	2032		
32	CCV1865	CCV3SV3503	12/01/01	2106	4.68	10.12
33	ZZZZZZ	ZZZZZZ	12/01/01	2140		
34	SMW3Q40118	211110201	12/01/01	2213	4.69	10.17
35	SMW4Q40118	211110202	12/01/01	2247	4.7	10.19
36	CCV1869	CCV4SV3503	12/01/01	2322	4.69	10.14

QC LIMITS

S1 = o-Terphenyl Surrogate (+/- 0.07 MINUTES)

S2 = C39 Surrogate (+/- 0.3 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

FORM VIII

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1130LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	LCS CONCENTRATION MG/L	LCS % REC #	QC LIMITS REC.
TPH	3.4	3.4	100.0	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

101201 1033

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

1130BLKWMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	SAMPLE CONCENTRATION MG/L	MS CONCENTRATION MG/L	MS % REC #	QC LIMITS REC.
TPH	3.4	0	3.3	97.1	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

101201 1033

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field | 1130BLKWSD

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

COMPOUND	SPIKE ADDED MG/L	MSD CONCENTRATION MG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3.4	3.4	100.0	2.9	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS: _____

_____

Form III

101201 1030

Standards Data

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF0.034 =CAL1.D RRF0.17 =CAL2.D
RRF0.85 =CAL3.D RRF1.7 =CAL4.D RRF2.55 =CAL5.D

COMPOUND	RRF0.034	RRF0.17	RRF0.85	RRF1.7	RRF2.55
TPH	26757147.059	9538605.882	4700275.294	4046228.824	3785790.196
o-Terphenyl Surrogate	3781060.000	3885040.000	3960140.000	4022380.000	3941080.000
C39 Surrogate	2726020.000	3034383.333	2893896.667	2924153.333	2946030.000

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RRF5.1 =CAL6.D RRF6.8 =CAL7.D

COMPOUND	RRF5.1	RRF6.8			
TPH	3683057.647	3567664.706			
o-Terphenyl Surrogate	3903260.000	3814920.000			
C39 Surrogate	3068433.333	3074806.667			

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

COMPOUND	CURVE	COEFFICIENTS		%RSD OR R^2
		AO	A1	
TPH	LINR	-0.2800849	2.89922E-07	0.99972
o-Terphenyl Surrogate	AVRG		3901125.714	2.1
C39 Surrogate	AVRG		2952531.905	4.2

Calibration Criteria Is Stated In Narrative

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID:	RT1: CAL1.D	RT2: CAL2.D
RT3: CAL3.D	RT4: CAL4.D	RT5: CAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989	6.989	6.989	6.989			
o-Terphenyl Surrogate	4.720	4.733	4.723	4.727	4.733			
C39 Surrogate	10.260	10.353	10.307	10.310	10.353			

6

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 Calibration Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time: 1520

LAB FILE ID: RT6: CAL6.D RT7: CAL7.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	RT WINDOW TO
TPH	6.989	6.989				6.989	2.129	11.849
o-Terphenyl Surrogate	4.723	4.707				4.724	4.650	4.790
C39 Surrogate	10.293	10.273				10.307	9.960	10.560

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 11/19/01 Time: 1554

Lab File ID: SECSTD.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.7	2.6	LINR	3.8	25.0
C39 Surrogate	0.32	0.3	AVRG	6.7	25.0
o-Terphenyl Surrogate	0.052	0.05	AVRG	4.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 0627

Lab File ID: CCV1.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
C39 Surrogate	0.31	0.3	AVRG	3.3	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 1453

Lab File ID: CCV2.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	2.8	2.6	LINR	7.7	25.0
o-Terphenyl Surrogate	0.054	0.05	AVRG	8.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2106

Lab File ID: CCV3.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
o-Terphenyl Surrogate	0.057	0.05	AVRG	14.0	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID: SFID02 CalibrationDate: 12/01/01 Time: 2322

Lab File ID: CCV4.D Init. Calib. Date: 11/19/01

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	2.55 AMOUNT	CURVE	%D	MAX %D
TPH	3	2.6	LINR	15.4	25.0
C39 Surrogate	0.3	0.3	AVRG	0.0	25.0
o-Terphenyl Surrogate	0.056	0.05	AVRG	12.0	25.0

Inorganics

Inorganic Data Qualifiers

C (Concentration) Qualifier - Entries and their meanings are:

B The reported value obtained was less than the RL but greater than or equal to the MDL.

E The reported value obtained was over calibration or linear range.

U The reported value obtained was less than the MDL or was not detected.

Q Qualifier - Entries and their meanings are:

U The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM 1 if it is an isolated problem.

M Duplicate injection precision was not met (two analyses of the same sample did not agree).

N Spiked sample recovery not within control limits.

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

W Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

***** Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

X The data is flagged as rejected by analyst utilizing analytical judgement.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can apear in the same field.

M (Method) Qualifier - Enter one of the following:

P	ICP
A	Flame AA
F	Furnace AA
CV	Manual Cold Vapor AA
TC	Total Organic Carbon
AS	Semi-Automated Spectrophotometric
CA	Midi-Distillation Spectrophotometric
T	Titrimetric
C	Manual Spectrophotometric
GR	Gravimetric
NR	Analyte was not required by your lab

METALS DATA PACKAGE
TOTALS

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111102

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA Method 6010B for metals analysis. All methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures.

IV. PREPARATION

EPA Method 3010A for water metals. Methods performed according to EPA guidelines and PEL Laboratory's Standard Operating Procedures. The batch quality control samples are referenced in SDG 2111099.

V. ANALYSIS 12/6, 7/01 (6010B)

A. **Calibration:** All quality control criteria were met.

B. **Blanks:** All calibration and preparation blank quality control criteria were met.

C. **Spikes:** All recovery criteria were met.

D. **Duplicates:** All percent difference criteria were met.

E. **Samples:** All sample analysis proceeded normally.

F. **ICP interference Check Samples:** All percent recovery quality control criteria were met.

G. **Laboratory Control Samples :** All percent recovery quality control criteria were met.

H. **Serial Dilution:** All dilution quality control criteria were met.

CASE NARRATIVE
Metals

PEL Lab Reference No./SDG: 2111102

I. **Post Digestion Spike:** All recovery criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ DATE: 12/16/04
Section Leader or designee

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SDG No.: 2111102

SOW No.:

EPA Sample No	Lab Sample ID
SMW3Q40118	211110201
SMW4Q40118	211110202

Were ICP interelement corrections applied?	Yes/No	Yes
Were ICP background corrections applied?	Yes/No	Yes
If yes - were raw data generated before application of background corrections?	Yes/No	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark Gudnason Name: Mark Gudnason

Date: 12/10/01 Title: Metals Section Leader

101201 1039

Sample Data

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW3Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110201

Level:(low/med) LOW Date Received: 11/29/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	122			P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

_____

_____

_____

101201 1033

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

SMW4Q40118

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Lab Sample ID: 211110202

Level:(low/med) LOW Date Received: 11/29/2001

PercentSolids: 0

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7439-92-1	Lead	2	U		P

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

101201 1633

QC Summary

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.: 2111102

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	381.615	95.4	500	468.371	93.7	468.120	93.6	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

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.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	475.250	95.0	480.418	96.1	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. 1 SAS No: SDG No.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	482.282	96.5	477.143	95.4	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

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.: 2111102

Initial Calibration Source: MET-17602

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead	400	371.363	92.8	500	471.193	94.2	471.255	94.3	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1033

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.: 2111102

Initial Calibration Source:

Continuing Calibration Source: MET-17607

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R (1)	True	Found	%R (1)	Found	%R (1)	M
Lead				500	480.970	96.2	459.236	91.8	P

(1) Control Limits: Mercury 80-120; Cyanide 85-115; Other Metals 90-110

101201 1039

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil): WATER

Preparation Blank Concentration Units (ug/L or mg/Kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U	2	U	P

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 4	C	5	C	6	C	Prepa-ration Blank	C	M
Lead			2	U	2	U	2	U			P

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 7	C	8	C	9	C	Prepa-ration Blank	C	M
Lead	2	U	2	U	2	U	2	U			P

U.S. EPA - CLP

3

BLANKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Preparation Blank Matrix (water/soil):

Preparation Blank Concentration Units (ug/L or mg/Kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 10	C	11	C	12	C	Prepa-ration Blank	C	M
Lead			2	U							P

101291 1033

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. S/S No: SDG No.: 2111102

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.4	92.8			

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID#: ICAP ICSA Source: MET-11302

ICSAB Source: MET-16501

Concentration Units: ug/L

	True		Initial Found			Final Found		
Analyte	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Lead	0	50		46.3	92.6			

101201 1033

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	460		10	U	500	92.0		P

Comments:

101201 1038

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	458		10	U	500	91.6		P

Comments:

101201 1033

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA Sample No.

SMW11Q40118A

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No: ..... SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Control Limit %R	Spiked Sample	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	80 - 120	460		10.00	U	500	92.0		P

Comments:

U.S. EPA - CLP

6

DUPLICATES

EPA Sample No.

SMW11Q40118SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (mg/L or mg/kg): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead	20	460		458		0.4		P

Comments:

101201 1639

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 54713LCS

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Solid LCS Source:

Aqueous LCS Source: MET-15503, 0JF123-60

	Aqueous (UG/L)			Solid				
Analyte	True	Found	%R	True	Found	C	Limits	%R
Lead	500	478	95.6				-	

101201 1033

U.S. EPA - CLP

9

ICP SERIAL DILUTIONS

EPA Sample No.

SMW11Q40118L

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Matrix: WATER Level:(low/med) LOW

Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Lead	10.00	U	10	U			P

Comments:

101201 1039

U.S. EPA - CLP

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID Number : ICAP Date: 10/1/2001

Furnace AA ID Number :

Analyte	Wave-length (nm)	Back-ground	CRDL (UG/L)	MDL (UG/L)	M
Lead	220.3		2	2	P

Comments:

101201 1933

U.S. EPA - CLP

11A

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No.: SDG No.: 2111102

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for: Al	Ca	Cr	Fe	Mg
Lead	220.3	-0.00036				

Comments:

101201 1033

U.S. EPA - CLP

11B

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. ..... SAS No.: ..... SDG No.:

ICP ID Number : ICAP Date: 5/1/2001

Analyte	Wave-length	Interelement Correction Factors for: Mn	Mo	Sb	V	
Lead	220.3					

Comments:

101201 1033

U.S. EPA - CLP

12

ICP LINEAR RANGES (SEMI-ANNUALLY)

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

ICP ID NUMBER ICAP DATE : 5/1/2001

Analyte	Integ. Time (sec.)	Concentration ug/L	M
Lead	15	25000	P

Comments:

101201 1039

U.S. EPA - CLP

13

PREPARATION LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Method : 6010

EPA Sample No:	Preparation Date	Weight (gram)	Volume (mL)
54712BLK	30 Nov 01		50
54713LCS	30 Nov 01		50
SMW11Q40118	30 Nov 01		50
SMW11Q40118MS	30 Nov 01		50
SMW11Q40118SD	30 Nov 01		50
SMW3Q40118	30 Nov 01		50
SMW4Q40118	30 Nov 01		50

101201 1033

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	15:07																				X							
STD3	1	15:14																				X							
STD2	1	15:19																											
ICV	1	15:25																				X							
ICB	1	15:32																				X							
ZZZZZZ	1	15:38																											
ICSA	1	15:44																				X							
ICSAB	1	15:51																				X							
CCV	1	15:57																				X							
CCB	1	16:03																				X							
54712BLK	1	16:10																				X							
54713LCS	1	16:16																				X							
ZZZZZZ	1	16:22																											
SMW11Q40118L	5	16:29																				X							
SMW11Q40118A	1	16:35																				X							
SMW11Q40118MS	1	16:41																				X							
SMW11Q40118SD	1	16:48																				X							
ZZZZZZ	1	16:54																											
ZZZZZZ	1	17:00																											
ZZZZZZ	1	17:06																											
CCV	1	17:13																				X							
CCB	1	17:19																				X							
ZZZZZZ	1	17:25																											
ZZZZZZ	1	17:32																											
ZZZZZZ	1	17:38																											
ZZZZZZ	1	17:44																											
ZZZZZZ	1	17:51																											
SMW3Q40118	1	17:57																				X							
SMW4Q40118	1	18:03																				X							
ZZZZZZ	1	18:10																											
ZZZZZZ	1	18:16																											
ZZZZZZ	1	18:22																											
CCV	1	18:28																				X							
CCB	1	18:35																				X							
ZZZZZZ	1	18:41																											
ZZZZZZ	1	18:47																											

101201 1033

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/6/2001 End Date : 12/6/2001

EPA Sample No.	D/F	Time	%R	Analytes
				AG AL AS BA BE CA CD CN CO CR CU FE HG K MG MN MO NA NI PB SB SE SN TL V ZN
ZZZZZZ	1	18:54		
ZZZZZZ	1	19:00		
ZZZZZZ	5	19:06		
ZZZZZZ	1	19:13		
ZZZZZZ	1	19:19		
ZZZZZZ	1	19:25		
ZZZZZZ	1	19:32		
ZZZZZZ	1	19:38		
CCV	1	19:44		X
CCB	1	19:51		X
ZZZZZZ	1	19:57		
ZZZZZZ	1	20:03		
ZZZZZZ	1	20:09		
ZZZZZZ	1	20:16		
ZZZZZZ	1	20:22		
ZZZZZZ	1	20:28		
ZZZZZZ	1	20:35		
ZZZZZZ	1	20:41		
ZZZZZZ	1	20:47		
ZZZZZZ	1	20:54		
CCV	1	21:00		X
CCB	1	21:06		X
ZZZZZZ	1	21:13		
CCV	1	21:19		X
CCB	1	21:25		X

101201 1033

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																									
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SN	TL	V	ZN
STD1-B	1	10:48																				X						
STD3	1	10:54																				X						
STD2	1	11:00																										
ICV	1	11:05																				X						
ICB	1	11:11																				X						
ZZZZZZ	1	11:18																										
ICSA	1	11:24																				X						
ICSAB	1	11:30																				X						
CCV	1	11:37																				X						
CCB	1	11:43																				X						
SMW11Q40118	5	11:49																				X						
ZZZZZZ	5	11:56																										
ZZZZZZ	5	12:02																										
ZZZZZZ	5	12:08																										
ZZZZZZ	5	12:15																										
ZZZZZZ	1	12:21																										
ZZZZZZ	1	12:27																										
ZZZZZZ	1	12:33																										
ZZZZZZ	5	12:41																										
ZZZZZZ	1	12:47																										
CCV	1	12:53																				X						
CCB	1	13:00																				X						
ZZZZZZ	1	13:06																										
ZZZZZZ	1	13:12																										
ZZZZZZ	1	13:18																										
ZZZZZZ	1	13:25																										
ZZZZZZ	1	13:31																										
ZZZZZZ	1	13:37																										
ZZZZZZ	1	13:44																										
ZZZZZZ	1	13:50																										
ZZZZZZ	1	13:56																										
ZZZZZZ	1	14:03																										
CCV	1	14:09																				X						
CCB	1	14:15																				X						
ZZZZZZ	1	14:22																										
ZZZZZZ	1	14:28																										

101201 1033

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2111102

Instrument ID Number : ICAP Method : P

Start Date : 12/7/2001 End Date : 12/7/2001

EPA Sample No.	D/F	Time	%R	Analytes																								
				AG	AL	AS	BA	BE	CA	CD	CN	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	TL	V	ZN
ZZZZZZ	1	14:34																										
ZZZZZZ	1	14:40																										
CCV	1	14:51																				X						
CCB	1	14:57																				X						

101391 1033

Chain of Custody Documentation

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

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 10/29/01 (MP) *

2111-102 m.a.

COC NUMBER 163151-21

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.):
.S. Cecil Field d Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
ECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
d Street rterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
ECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO						SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2						Grab		01
062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2						Grab		02
062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3									Grab	Prepared By Lab	03
NA	Temperature Blank	W	NA	NA	III/C	14					1						Prepared By Lab	
Temp 4°C	pH<2 (8260, PAH, [illegible]) NO3 / CrVI + 8310 / PRO Amb rec'd / pH>9 (Metals)																	

SAMPLER(S) AND COMPANY: (please print)
Dumaop / Anthony Cain
ones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791715762117.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature: Mike Noll		
Dumaop Name and Signature:	11/28/1	11:00	Federal Express	10:40 11/28/01	11:00
			Printed Name and Signature:		
Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

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

CHAIN-OF-CUSTODY RECORD

Unrevised COC rec'd w/ Samples (THB) 10/29/01 2111-102

COC NUMBER: Ag. 163151-21

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.):
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
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.):
rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

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)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO						SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2						Grab		01
	062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2						Grab		02
	062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3									Grab	Prepared By Lab	03
	NA	Temperature Blank	W	NA	NA	III/C	14					1						Prepared By Lab	

11/29/01

Temp upon rec't 4°C pH<2(8260 PRO, Aromatics) Extra prd-B 10 containers pH = 7 (metals)

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Andy Dumaop / Anthony Cain J. Jones Environmental Services	Federal Express TRK #791715762117.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Dumaop	11/28/01	11:00	Federal Express	11/28/01	11:00
Printed Name and Signature:			Printed Name and Signature: Mike Mall		
FED-X			PSC	11/29/01	10:40
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-102

Client: CH2MHill	Date Recd: 11/29/01
Project: Cecil Field	Due Date: ~~12/10/01~~ (MK)
Log In Tech: Noll	Recd Via: Client Crosstown ~~FedEx~~
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C) 4°C	✓		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL pH<2 (8260, 810, [illegible]) (MK)	(MK)	✓	Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: ~~STND~~/ RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2111-102 By Noll

Client/Project _____ Date 11/29/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other _____ pH _____
2111-102-01	(2) pH<2	(1) pH=7			(3) pH<2	
-02	↓	↓			↓	
-03	—	—				

2111-102 Chemistry Cecil Field 0062

Sample #	Parameter	Rel'd	Rec'd	DATE	TIME	Sampl
~~well 8260~~						01-(
~~well 8260~~						01-
01-03	8260 (W)	W	[illegible]	12/3/01 12/4/01	0900 [illegible]	
01-03	8260 (W)		W			
01-02	PRO (W)	W	AG	11-30-01	1400	
01-02	PRO (W)	CONSOLIDATED				
01-02	8310 (W)	W	RW	11-30-01	1230	
01-02	8310 (W)	CONSOLIDATED				
01-02	6010 (W)	W	GK	11/30/01	2000	
01-02	6010 (W)	GK	W	11/30/01	2130	

Addendum

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	11-28-01; 10:20 AM
Date to be Reported:	12-12-01
Laboratory Submission Number/SDG:	2111102
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 3 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods: 8260, 8310, 6010, and FLPRO.

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 9 analyses on 3 samples (including QC) *29-Nov-01*

Report/SDG #: 2111102

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW3Q40118	211110201	CEF-103-SMW-	W	11/28/01 9:20:00 AM	11/29/01 10:40:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
SMW4Q40118	211110202	CEF-103-SMW-	W	11/28/01 9:40:00 AM	11/29/01 10:40:00 AM

Method		
6010	Metals	6010
8260	Volatile Organic Compounds	8260
8310	PAH	8310
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TB2Q40118	211110203	Trip Blank No.2	WQ	11/29/01	11/29/01 10:40:00 AM

Method		
8260	Volatile Organic Compounds	8260

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
nta, GA 30346-1278
ne (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Revised COC rec'd on 10/29/01 (ZMD) * 2111-102

COC NUMBER: 163151-21

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.):
..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
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.):
rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	ANALYSES REQUIRED (Include Method Numbers): Volatiles by 8260B	PAHs by 8310	Lead by 6010B	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	
Temp 4°C	pH<2 (8260, PAH, [illegible]) pH>9 (EXtra 8310) PRO Ambers rec'd pH<2 (Metals)																		

SAMPLER(S) AND COMPANY: (please print)
Ty Dumsop / Anthony Cain
Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK #791715762117.

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Name and Signature:			Printed Name and Signature: Mike Noll		
Dsop	11/28/01	11:00	Federal Express	11/28/01	11:00
Name and Signature:			Printed Name and Signature:		
Name and Signature:			Printed Name and Signature:		

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

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H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
nta, GA 30346-1278
No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

*Unrevised COC rec'd w/ Samples (MK) 10/29/01 * 2111-102

COC NUMBER: 163151-21

JECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
A.S. Cecil Field 3rd Street	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
JECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
3rd Street arterly GW Sampling Event	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
JECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
ll Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

EM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8021B	PAHs by 8310	Lead by 239.2	TRPH by FL-PRO							SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SMW3-Q4-01-18	CEF-103-SMW-3	W	11/28/01	9:20	III/C	14	3	2	1	2							Grab		01
2	062-SMW4-Q4-01-18	CEF-103-SMW-4	W	11/28/01	9:40	III/C	14	3	2	1	2							Grab		02
3	062-TB2-Q4-01-18	Trip Blank No. 2	W	NA	NA	III/C	14	3										Grab	Prepared By Lab	03
4	NA	Temperature Blank	W	NA	NA	III/C	14					1							Prepared By Lab	

Temp upon rec't 4°C pH<2 (8260, PRO, ~~metals~~ Nall) 11/29/01 Extra pro-8210 containers pH = 7 (metals)

MPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ndy Dumaop / Anthony Cain A. Jones Environmental Services	Federal Express TRK #791715762117.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
ted Name and Signature:			Printed Name and Signature:		
umaop [signature]	11/28/01	11:00	Federal Express	11/28/01	11:00
ted Name and Signature:			Printed Name and Signature: Mike Nall		
FED-X			[signature] PEL	11/29/01	10:40
ted Name and Signature:			Printed Name and Signature:		

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

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PEL LAB SAMPLE LOG IN SHEET

Client Information Project # 2111-102

Client: CH2MHill	Date Recd: 11/29/01
Project: Cecil Field	Due Date: ~~12/10/01~~ (ZMK)
Log In Tech: Noll	Recd Via: Client Crosstown ~~FedEx~~
Comments:	Other:

SAMPLE VERIFICATION

	YES	NO		YES	NO
Samples/Cooler Secure	✓		All Smpls. on COC Accounted For	✓	
Samples Received on Ice	✓		All Samples Received Intact	✓	
Temperature WNL	✓		Sample Vol. Sufficient For Analysis	✓	
Temperature of Samples (°C) 4°C	✓		Samples Received W/I Hold Time	✓	
pH verified	✓		Are All Samples to be Analyzed	✓	
pH WNL pH<2 (8260, 510, [illegible]) (ZMK)	(ZMK)	✓	Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: ~~STND~~/ RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conducted Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #: