N60200.AR.003243
NAS CECIL FIELD, FL
5090.3a

FOURTH QUARTER 2001 OPERATION AND MAINTENANCE STATUS REPORT FOR BIOSPARGING AND SOIL VAPOR EXTRACTION SYSTEM AT DAY TANK 1 SITE NAS CECIL FIELD FL

3/1/2002

CH2MHILL CONSTRUCTORS INC

Fourth Quarter 2001
Operation and Maintenance Status Report

Biosparging and Soil Vapor Extraction System

Day Tank 1 Site

October 1, 2001 – December 31, 2001

Naval Air Station Cecil Field
Jacksonville, Florida

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

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL Constructors, Inc.

115 Perimeter Center Place, N.E.

Suite 700

Atlanta, GA 30346

March 2002

Contents

Acronyms ..... **iv**
1.0 Introduction **1-1**
1.1 Objective 1-1
1.2 Site History 1-1
1.3 Remediation System/Technology Description 1-1
2.0 System Performance Monitoring **2-1**
2.1 Operational Efficiencies 2-1
2.1.1 Biosparging System 2-1
2.1.2 Vapor Collection System 2-1
2.2 Summary of Maintenance and System Downtime 2-1
2.3 Pressure/Flow Rate Monitoring 2-2
2.3.1 Air Sparge System 2-2
2.3.2 Vapor Extraction System 2-2
2.4 Groundwater Level Measurements 2-2
3.0 Summary of Sampling and Laboratory Analytical Results **3-1**
3.1 Vapor Monitoring 3-1
3.2 Groundwater Monitoring 3-1
4.0 Conclusions and Recommendations **4-1**
5.0 References **5-1**

Tables

2-1 Biosparge Wellhead Pressure/Flow Measurements 2-3
2-2 Vapor Collection System Wellhead Vacuum/Flow Measurements 2-9
2-3 Depth to Groundwater/LNAPL Measurements 2-12
3-1 Pre-Treatment Vapor Analytical Results 3-2
3-2 Post-Treatment Vapor Analytical Results 3-3
3-3 Pounds per Day Loading/Emissions Rates 3-4
3-4 Groundwater Analytical Results 3-5
3-5 Groundwater Field Analytical Results 3-6

Figures

1-1 Bioverting and Biosparging System 1-3

Appendices

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

Acronyms

ABB-ES	ABB Environmental Services, Inc.
acfh	actual cubic feet per hour
acfm	actual cubic feet per minute
AST	aboveground storage tank
bls	below land surface
CCI	CH2M HILL Constructors, Inc.
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CTO	Contract Task Order
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
GCTLs	groundwater criteria target levels
J.A. Jones	J.A. Jones Environmental Services
lbs/day	pounds per day
LNAPL	light non-aqueous phase liquids
mg/m^3	milligrams per cubic meter
NAS	Naval Air Station
NASDC	Natural Attenuation Source Default Concentration
NAVFAC	Naval Facilities Engineering Command
O&M	operation and maintenance
ppb	parts per billion
psi	pounds per square inch
RAP	Remedial Action Plan
scfm	standard cubic feet per minute
SVE	soil vapor extraction
SVOAs	semivolatile organic aromatics
VCS	vapor collection system
VEW	vapor extraction well
VOAs	volatile organic aromatics
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 Day Tank 1, 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 Day Tank 1 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). Biosparging/vapor collection is the technology being utilized to achieve this objective.

1.2 Site History

The Day Tank 1 site is located at the former NAS Cecil Field, approximately 1/8 miles south of the "A" Avenue gate on Jet Road. The site formerly contained a 200,000-gallon aboveground storage tank (AST), piping, and associated equipment to supply jet propellant fuel to the high-speed refuelers located on the flightline. It was reported that numerous spills occurred at the site over the course of the operation of the fuel delivery system (ABB Environmental Services, Inc. [ABB-ES], 1997). ABB-ES completed a contamination assessment for the facility in 1996, which documented the presence of petroleum-contaminated soil and groundwater at the site. A Remedial Action Plan (RAP) was subsequently developed by ABB-ES in 1997 for the excavation of 20,000 tons of petroleum-contaminated soil and the installation of a biosparging/vapor collection remediation system to address the contaminated groundwater at the site. The AST was removed and 24,000 tons of contaminated soil was excavated in November 1999 by CCI/J.A. Jones Environmental Services (J.A. Jones) under Response Action Contract No. N62467-98-D-0995, CTO No. 0002 (CCI, 2000). The biosparge/vapor collection system (VCS) was constructed by CCI/J.A. Jones from January 2000 to February 2000 and start-up was performed on February 29, 2000. The system was operated and maintained by CCI/J.A. Jones under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002 for the first year of operation and is currently being operated and maintained by CCI/J.A. Jones under Response Action Contract No. N62467-98-D-0995, CTO No. 0062.

1.3 Remediation System/Technology Description

The chosen technology utilizes the injection of compressed air into the groundwater to volatilize and promote biodegradation of dissolved organic compounds. The vapor collection system (VCS) was installed to recover the undissolved portion of the injected air.

The biosparge system consists of 16 injection wells that are screened from 32 to 35 feet below land surface (bls), a rotary screw-type compressor, a receiver tank, two oil coalescing filters, and associated piping and instrumentation. The biosparge system is designed for each biosparge well to operate at an airflow rate of 60 actual cubic feet per hour (acfh) and at a wellhead pressure of 18 pounds per square inch (psi).

The VCS consists of eight extraction wells that are screened from 3 to 18 feet bls, a regenerative vacuum blower, a moisture separator equipped with a centrifugal transfer pump and storage tank, and associated piping and instrumentation. The VCS was initially equipped with two 1,000-pound granular activated carbon units (installed in series), which were removed after the first 30 days of operation based upon the concentrations of the pre-treatment air stream. The VCS is designed for each vapor extraction well to operate at an airflow rate of 6 actual cubic feet per minute (acfm) and at a vacuum pressure of 23 inches of water (in H_2O).

The locations of the biosparge/vapor extraction wells and the remediation system are shown on Figure 1-1.

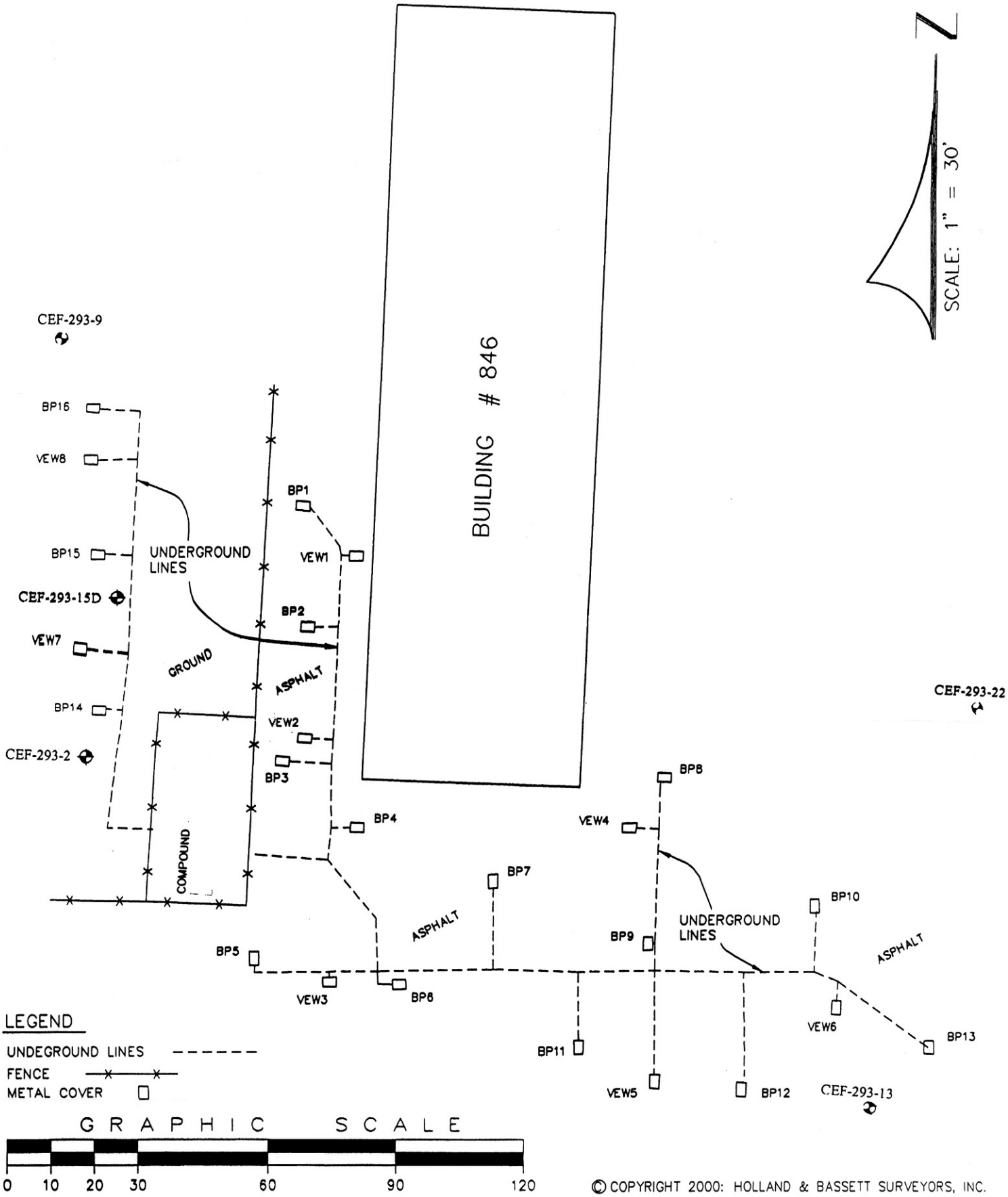


Figure 1-1
Site Map
DayTank 1 Site
NAS Cecil Field

CH2MHILL

A042001001ATL - NAS100.FH8

2.0 System Performance Monitoring

O&M checks of the system were performed weekly during the monitoring period. System checks were performed weekly during the monitoring period.

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

2.1 Operational Efficiencies

2.1.1 Biosparging System

	Period	To Date
Hours of Possible Operation	2,208	16,127
Hours of Actual Operation	2,129	14,135
Percent hours of Operation	96.4	87.7

2.1.2 Vapor Collection System

	Period	To Date
Hours of Possible Operation	2,208	16,127
Hours of Actual Operation	2,194	15,072
Percent hours of Operation	99.4	93.5

2.2 Summary of Maintenance and System Downtime

Maintenance was performed during the period in accordance with manufacturer's specifications.

The biosparge system was shut down for a total of 79 hours (3.3 days) during the monitoring period as described below:

- The system shut down for a total of 72.5 hours as a result of broken belts on the air compressor. The belts were replaced and the system restarted.
- The system was manually shut down for a total 6.5 hours while the quarterly groundwater sampling event and water level measurements were performed.

The vapor collection system was shut down for a total of 14 hours (0.6 days) during the monitoring period as described below:

- The system was manually shut down for a 14 hours while the quarterly groundwater sampling event and water level measurements were performed.

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. The airflow rate at each header pipe was measured on the same schedule. The data from the flow and pressure measurement events are provided in Table 2-1.

During normal operation, the wellhead pressures for the shallow sparge wells averaged 10.1 psi, compared to the design pressure of 18 psi. The air injection rate averaged 54.9 acfh for each sparge well compared to the design injection rate of 60 acfh per sparge well.

2.3.2 Vapor Extraction System

During the monitoring period, vacuum pressure was measured at each vapor extraction wellhead on a monthly basis. The airflow rate at each header pipe was measured on the same schedule. The data from the flow and vacuum pressure measurement events are provided in Table 2-2.

During normal operation, the wellhead vacuum pressures for the vapor extraction wells averaged 33.6 inches of water, compared to the design vacuum pressure of 23 inches of water. The airflow rates averaged 6.1 acfm for each extraction well, compared to the design extraction rate of 6 acfm.

2.4 Groundwater Level Measurements

Depth to groundwater/light non-aqueous phase liquid (LNAPL) measurements were recorded at selected monitoring wells on a quarterly basis during the monitoring period. The top of casing elevation, depth to LNAPL measurements, depth to water measurements, calculated LNAPL thickness, and calculated water level elevations are provided in Table 2-3.

LNAPL was noted only in vapor extraction well VEW-1 during the monitoring period. LNAPL was recovered from VEW-1 via bailing during the monitoring period. Total LNAPL recovered during the monitoring period was 1.0 gallon and total recovery to date is 15.5 gallons.

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-01	2/29/2000	60	3
	3/1/2000	60	5
	3/2/2000	60	6
	4/7/2000	65	NM
	4/24/2000	60	12
	5/30/2000	60	11
	7/24/2000	60	12
	8/22/2000	60	12
	10/30/2000	60	11
	11/27/2000	60	11
	12/11/2000	60	10
	1/29/2001	60	11
	2/26/2001	70	10
	4/16/2001	55	11
	5/21/2001	55	10.5
	7/3/2001	55	10
	7/30/2001	50	11
	8/29/2001	55	10
	9/18/2001	40	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	55	10
BP-02	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	62	10
	4/7/2000	65	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	55	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	65	10
	2/26/2001	75	9
	4/16/2001	60	10
	5/21/2001	55	10
	7/3/2001	45	10
	7/30/2001	60	10
	8/29/2001	50	10
	9/18/2001	55	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	55	10
BP-03	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	64	9.5
	4/7/2000	65	8
	4/24/2000	60	10
	5/30/2000	NM	10
	7/24/2000	120	10
	8/22/2000	NM	10
	10/30/2000	120	10
	11/27/2000	120	10
	12/11/2000	NM	10
	1/29/2001	NM	10
	2/26/2001	120	9
	4/16/2001	NM	10
	5/21/2001	NM	10
	7/3/2001	NM	10
	7/30/2001	NM	10
	8/29/2001	NM	10
	9/18/2001	NM	10
	10/29/2001	0	10
	11/26/2001	0	10
	12/12/2001	0	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-04	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	62	10
	4/7/2000	65	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	50	10
	8/22/2000	60	10
	10/30/2000	60	11
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	60	10
	2/26/2001	50	10
	4/16/2001	60	10
	5/21/2001	60	10
	7/3/2001	60	10
	7/30/2001	60	10
	8/29/2001	60	10
	9/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	65	10
BP-05	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	60	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	50	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	65	10
	1/29/2001	60	10
	2/26/2001	70	9
	4/16/2001	60	10
	5/21/2001	60	10
	7/3/2001	35	10
	7/30/2001	40	10
	8/29/2001	45	10
	9/18/2001	50	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-06	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	65	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	70	10
	1/29/2001	60	10
	2/26/2001	80	10
	4/16/2001	60	10
	5/21/2001	60	10
	7/3/2001	40	10
	7/30/2001	50	10
	8/29/2001	60	10
	9/18/2001	60	10
	10/29/2001	50	10
	11/26/2001	NA	NA
	12/12/2001	60	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-07	2/29/2000	65	10
	3/1/2000	65	10
	3/2/2000	60	10
	4/7/2000	60	10
	4/24/2000	55	10
	5/30/2000	60	10
	7/24/2000	50	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	70	10
	1/29/2001	60	10
	2/26/2001	80	8
	4/16/2001	60	10
	5/21/2001	65	10
	7/3/2001	60	10
	7/30/2001	60	10
	8/29/2001	60	10
	9/18/2001	55	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-08	2/29/2000	65	10
	3/1/2000	65	10
	3/2/2000	60	10
	4/7/2000	60	10
	4/24/2000	NM	NM
	5/30/2000	50	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	50	10
	2/26/2001	25	9
	4/16/2001	70	10
	5/21/2001	55	10
	7/3/2001	30	10
	7/30/2001	50	10
	8/29/2001	60	10
	9/18/2001	45	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-09	2/29/2000	60	10
	3/1/2000	65	12
	3/2/2000	NM	NM
	4/7/2000	65	10
	4/24/2000	NM	NM
	5/30/2000	60	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	70	10
	2/26/2001	70	10
	4/16/2001	65	10
	5/21/2001	60	10
	7/3/2001	50	10
	7/30/2001	60	10
	8/29/2001	60	10
	9/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-10	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	NM	10
	4/24/2000	NM	NM
	5/30/2000	60	10
	7/24/2000	50	10
	8/22/2000	55	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	65	10
	1/29/2001	60	10
	2/26/2001	80	10
	4/16/2001	80	10
	5/21/2001	70	10
	7/3/2001	40	10
	7/30/2001	50	10
	8/29/2001	55	10
	9/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-11	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	60	10
	4/24/2000	NM	NM
	5/30/2000	60	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	50	10
	2/26/2001	50	10
	4/16/2001	55	11
	5/21/2001	50	10
	7/3/2001	30	10
	7/30/2001	60	10
	8/29/2001	50	10
	9/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-12	2/29/2000	NM	NM
	3/1/2000	65	NM
	3/2/2000	60	NM
	4/7/2000	65	NM
	4/24/2000	NM	NM
	5/30/2000	55	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10.5
	11/27/2000	60	10
	12/11/2000	65	10
	1/29/2001	NM	NM
	2/26/2001	60	10
	4/16/2001	60	10
	5/21/2001	50	10
	7/3/2001	20	10
	7/30/2001	50	10
	8/29/2001	50	10
	9/18/2001	60	12
	10/29/2001	60	10
	11/26/2001	40	10
	12/12/2001	60	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-13	2/29/2000	65	10
	3/1/2000	65	10
	3/2/2000	60	10
	4/7/2000	65	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	40	10
	8/22/2000	60	10
	10/30/2000	65	10
	11/27/2000	60	10
	12/11/2000	65	10
	1/29/2001	50	10
	2/26/2001	20	9
	4/16/2001	60	10
	5/21/2001	65	10
	7/3/2001	65	10
	7/30/2001	60	10
	8/29/2001	60	10
	9/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
BP-14	2/29/2000	60	16
	3/1/2000	60	16
	3/2/2000	60	16
	4/7/2000	55	16
	4/24/2000	55	16
	5/30/2000	NM	10
	7/24/2000	60	16
	8/22/2000	60	16
	10/30/2000	70	18
	11/27/2000	60	18
	12/11/2000	60	10
	1/29/2001	65	10
	2/26/2001	70	12
	4/16/2001	60	10
	5/21/2001	60	16
	7/3/2001	50	18
	7/30/2001	50	14
	8/29/2001	55	15
	9/18/2001	60	16
	10/29/2001	60	10
	11/26/2001	60	15
	12/12/2001	60	10
BP-15	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	60	10
	4/24/2000	55	10
	5/30/2000	60	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	60	10
	2/26/2001	60	9
	4/16/2001	50	10
	5/21/2001	50	10
	7/3/2001	30	10
	7/30/2001	50	10
	8/29/2001	50	10
	9/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-16	2/29/2000	60	10
	3/1/2000	60	10
	3/2/2000	60	10
	4/7/2000	65	10
	4/24/2000	60	10
	5/30/2000	60	10
	7/24/2000	60	10
	8/22/2000	60	10
	10/30/2000	70	10
	11/27/2000	60	10
	12/11/2000	60	10
	1/29/2001	60	10
	2/26/2001	70	10
	4/16/2001	60	10
	5/21/2001	60	10
	7/3/2001	50	10
	7/30/2001	50	10
	8/29/2001	60	10
	9/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10

NM = not measured
psi = pounds per square inch
acfh = actual cubic feet per hour

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-1	2/29/2000	4	38
	3/1/2000	4	38
	3/2/2000	2	39
	4/7/2000	3	41
	4/24/2000	2	40
	5/30/2000	6	6
	7/24/2000	11	2
	8/22/2000	7	8
	10/30/2000	4	10
	11/27/2000	6	10
	12/11/2000	5	8
	1/29/2001	4	21
	2/26/2001	5	15
	4/16/2001	6	8
	5/21/2001	5	36
	7/3/2001	5	42
	7/30/2001	6	50
	8/29/2001	5	NM
	9/18/2001	3	22
	10/29/2001	5	45
	11/26/2001	6	35
	12/12/2001	5	45
VEW-2	2/29/2000	6	26
	3/1/2000	6	26
	3/2/2000	5	23
	4/7/2000	NM	40
	4/24/2000	NM	28
	5/30/2000	1	26
	7/24/2000	2	27
	8/22/2000	0	25
	10/30/2000	7	26
	11/27/2000	4	20
	12/11/2000	6	20
	1/29/2001	4	25
	2/26/2001	8	25
	4/16/2001	6	20
	5/21/2001	3	34
	7/3/2001	4	20
	7/30/2001	6	25
	8/29/2001	5	20
	9/18/2001	4	27
	10/29/2001	6	28
	11/26/2001	6	32
	12/12/2001	5	46
VEW-3	2/29/2000	8	28
	3/1/2000	8	28
	3/2/2000	6	19
	4/7/2000	6	18
	4/24/2000	6	16
	5/30/2000	6	13
	7/24/2000	2	30
	8/22/2000	6	1
	10/30/2000	5	10.5
	11/27/2000	6	15
	12/11/2000	6.5	14
	1/29/2001	6	15
	2/26/2001	6	15
	4/16/2001	5	14
	5/21/2001	6	10
	7/3/2001	7	8
	7/30/2001	6	10
	8/29/2001	6	10
	9/18/2001	6	10
	10/29/2001	6	10
	11/26/2001	NA	NA
	12/12/2001	8	60

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-4	2/29/2000	8	38
	3/1/2000	8	38
	3/2/2000	5	37
	4/7/2000	7	14
	4/24/2000	NM	NM
	5/30/2000	6	31
	7/24/2000	6	15
	8/22/2000	6	8
	10/30/2000	7	8
	11/27/2000	7	8
	12/11/2000	7	7
	1/29/2001	6	5
	2/26/2001	6	12
	4/16/2001	8	5
	5/21/2001	10	15
	7/3/2001	8	6
	7/30/2001	6	10
	8/29/2001	8	5
	9/18/2001	5	4
	10/29/2001	6	12
	11/26/2001	6	31
	12/12/2001	6	54
VEW-5	2/29/2000	5	38
	3/1/2000	5	38
	3/2/2000	4	37
	4/7/2000	6	40
	4/24/2000	5	24
	5/30/2000	6	5
	7/24/2000	6	0
	8/22/2000	6	6
	10/30/2000	6	32
	11/27/2000	6	15
	12/11/2000	6	18
	1/29/2001	7	10
	2/26/2001	7	18
	4/16/2001	6	18
	5/21/2001	6	24
	7/3/2001	6	NM
	7/30/2001	6	32
	8/29/2001	6	15
	9/18/2001	4	29
	10/29/2001	6	30
	11/26/2001	6	25
	12/12/2001	6	51
VEW-6	2/29/2000	4	38
	3/1/2000	4	38
	3/2/2000	4	39
	4/7/2000	6	43
	4/24/2000	6	40
	5/30/2000	6	41
	7/24/2000	6	40
	8/22/2000	6	10
	10/30/2000	6	39
	11/27/2000	7	13
	12/11/2000	8	20
	1/29/2001	7	15
	2/26/2001	10	56
	4/16/2001	6	20
	5/21/2001	6	17
	7/3/2001	5	NM
	7/30/2001	6	45
	8/29/2001	6	18
	9/18/2001	4	NM
	10/29/2001	6	35
	11/26/2001	6	15
	12/12/2001	6	55

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-7	2/29/2000	11	22
	3/1/2000	11	24
	3/2/2000	6	18
	4/7/2000	6	40
	4/24/2000	6	15
	5/30/2000	5	32
	7/24/2000	6	5
	8/22/2000	6	5
	10/30/2000	7	5
	11/27/2000	7	7
	12/11/2000	7	5
	1/29/2001	6	6
	2/26/2001	10	5
	4/16/2001	7	5
	5/21/2001	6	16
	7/3/2001	10	7
	7/30/2001	6	5
	8/29/2001	8	6
	9/18/2001	5	NM
	10/29/2001	5	6
	11/26/2001	8	6
	12/12/2001	8	58
VEW-8	2/29/2000	8	24
	3/1/2000	8	24
	3/2/2000	6	22
	4/7/2000	7	20
	4/24/2000	6	20
	5/30/2000	6	17
	7/24/2000	6	14
	8/22/2000	6	14
	10/30/2000	6	14
	11/27/2000	6	15
	12/11/2000	6	14
	1/29/2001	6	15
	2/26/2001	7	15
	4/16/2001	6	15
	5/21/2001	6	14
	7/3/2001	8	25
	7/30/2001	6	25
	8/29/2001	6	20
	9/18/2001	4	6
	10/29/2001	5	25
	11/26/2001	6	15
	12/12/2001	6	53

NM = not measured
in H_2O = inches of water
acfm = actual cubic feet per minute

TABLE 2-3
Depth to Groundwater/LNAPL Measurements

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
CEF-293-01	06/13/00	NA	none present	8.79	0.00	NA
	09/14/00		none present	5.55	0.00	NA
	12/21/00		none present	7.72	0.00	NA
	03/15/01		none present	8.03	0.00	NA
	06/25/01		none present	7.37	0.00	NA
	09/19/01		none present	4.17	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	7.43	0.00	NA
CEF-293-02	06/13/00	NA	none present	9.70	0.00	NA
	09/14/00		none present	6.83	0.00	NA
	12/21/00		none present	8.81	0.00	NA
	03/15/01		none present	9.22	0.00	NA
	06/25/01		none present	8.36	0.00	NA
	09/19/01		none present	5.87	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.53	0.00	NA
CEF-293-04	06/13/00	77.22	none present	9.45	0.00	67.77
	09/14/00		none present	5.44	0.00	71.78
	12/21/00		none present	8.33	0.00	68.89
	03/15/01		none present	8.62	0.00	68.60
	06/25/01		none present	7.75	0.00	69.47
	09/19/01		none present	1.85	0.00	75.37
	10/03/01		none present	6.33	0.00	70.89
	12/19/01		none present	7.74	0.00	69.48
CEF-293-05	06/13/00	NA	none present	9.01	0.00	NA
	09/14/00		none present	3.18	0.00	NA
	12/21/00		none present	7.95	0.00	NA
	03/15/01		none present	NM	0.00	NA
	06/25/01		none present	NM	0.00	NA
	09/19/01		none present	1.95	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	7.59	0.00	NA
CEF-293-06	06/13/00	NA	none present	9.77	0.00	NA
	09/14/00		none present	6.89	0.00	NA
	12/21/00		none present	8.75	0.00	NA
	03/15/01		none present	9.00	0.00	NA
	06/25/01		none present	8.39	0.00	NA
	09/19/01		none present	5.85	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.44	0.00	NA
CEF-293-07	06/13/00	NA	none present	9.95	0.00	NA
	09/14/00		none present	6.85	0.00	NA
	12/21/00		none present	8.92	0.00	NA
	03/15/01		none present	9.29	0.00	NA
	06/25/01		none present	8.60	0.00	NA
	09/19/01		none present	5.44	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.55	0.00	NA
CEF-293-09	06/13/00	77.36	none present	9.93	0.00	67.43
	09/14/00		none present	7.01	0.00	70.35
	12/21/00		none present	8.96	0.00	68.40
	03/15/01		none present	9.29	0.00	68.07
	06/25/01		none present	8.37	0.00	68.99
	09/19/01		none present	5.81	0.00	71.55
	10/03/01		none present	7.29	0.00	70.07
	12/19/01		none present	8.70	0.00	68.66
CEF-293-10	06/13/00	NA	none present	9.46	0.00	NA
	09/14/00		none present	6.75	0.00	NA
	12/21/00		none present	8.52	0.00	NA
	03/15/01		none present	8.80	0.00	NA
	06/25/01		none present	8.21	0.00	NA
	09/19/01		none present	5.69	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.28	0.00	NA

TABLE 2-3
Depth to Groundwater/LNAPL Measurements

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
CEF-293-11	06/13/00	NA	none present	9.62	0.00	NA
	09/14/00		none present	6.91	0.00	NA
	12/21/00		none present	8.70	0.00	NA
	03/15/01		none present	9.12	0.00	NA
	06/25/01		none present	8.46	0.00	NA
	09/19/01		none present	5.85	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.48	0.00	NA
CEF-293-13	06/13/00	75.97	none present	9.05	0.00	66.92
	09/14/00		none present	6.31	0.00	69.66
	12/21/00		none present	8.11	0.00	67.86
	03/15/01		none present	8.63	0.00	67.34
	06/25/01		none present	8.06	0.00	67.91
	09/19/01		none present	7.40	0.00	68.57
	10/03/01		none present	6.67	0.00	69.30
	12/19/01		none present	7.89	0.00	68.08
CEF-293-14	06/13/00	NA	none present	9.34	0.00	NA
	09/14/00		none present	6.45	0.00	NA
	12/21/00		none present	8.40	0.00	NA
	03/15/01		none present	9.71	0.00	NA
	06/25/01		none present	8.10	0.00	NA
	09/19/01		none present	5.19	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.14	0.00	NA
CEF-293-19	06/13/00	NA	none present	8.95	0.00	NA
	09/14/00		none present	6.99	0.00	NA
	12/21/00		none present	8.75	0.00	NA
	03/15/01		none present	9.11	0.00	NA
	06/25/01		none present	8.55	0.00	NA
	09/19/01		none present	5.93	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.54	0.00	NA
CEF-293-20	06/13/00	76.14	none present	9.40	0.00	66.74
	09/14/00		none present	6.85	0.00	69.29
	12/21/00		none present	8.53	0.00	67.61
	03/15/01		none present	8.81	0.00	67.33
	06/25/01		none present	8.25	0.00	67.89
	09/19/01		none present	5.70	0.00	70.44
	10/03/01		none present	6.98	0.00	69.16
	12/19/01		none present	8.35	0.00	67.79
CEF-293-21	06/13/00	NA	none present	9.51	0.00	NA
	09/14/00		none present	6.98	0.00	NA
	12/21/00		none present	8.62	0.00	NA
	03/15/01		none present	8.94	0.00	NA
	06/25/01		none present	8.37	0.00	NA
	09/19/01		none present	5.81	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.46	0.00	NA
CEF-293-22	06/13/00	75.95	none present	8.88	0.00	67.07
	09/14/00		none present	6.20	0.00	69.75
	12/21/00		none present	7.89	0.00	68.06
	03/15/01		none present	8.34	0.00	67.61
	06/25/01		none present	7.70	0.00	68.25
	09/19/01		none present	5.10	0.00	70.85
	10/03/01		none present	6.51	0.00	69.44
	12/19/01		none present	7.79	0.00	68.16
VEW-01	06/13/00	76.32	8.60	10.89	2.29	67.03
	09/14/00		4.85	7.70	2.85	70.62
	10/12/00		6.26	7.39	1.13	69.72
	10/18/00		6.39	7.29	0.90	69.66
	10/24/00		6.55	7.56	1.01	69.47
	10/30/00		6.80	7.70	0.90	69.25
	11/07/00		6.95	7.20	0.25	69.30
	11/13/00		7.05	8.13	1.08	68.95

TABLE 2-3
Depth to Groundwater/LNAPL Measurements

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
VEW-01	11/20/00		7.10	8.30	1.20	68.86
continued	11/27/00		7.05	9.05	2.00	68.67
	12/06/01		7.25	10.15	2.90	68.20
	12/11/00		7.35	10.10	2.75	68.15
	12/18/00		7.32	10.80	3.48	67.96
	12/21/00		7.80	9.61	1.81	67.98
	01/03/01		7.45	11.85	4.40	67.55
	01/17/01		8.16	9.36	1.20	67.80
	01/29/01		7.68	11.11	3.43	67.61
	02/13/01		7.57	11.48	3.91	67.58
	02/19/01		7.61	11.45	3.84	67.56
	02/26/01		7.70	11.68	3.98	67.43
	03/06/01		7.55	11.10	3.55	67.71
	03/12/01		7.59	11.31	3.72	67.61
	03/15/01		8.34	10.50	2.16	67.33
	04/09/01		7.29	8.08	0.79	68.79
	04/16/01		7.31	8.29	0.98	68.72
	05/03/01		7.20	11.00	3.80	67.98
	05/08/01		7.35	11.10	3.75	67.85
	05/14/01		7.52	11.58	4.06	67.58
	05/21/01		7.59	11.50	3.91	67.56
	06/25/01		7.70	10.55	2.85	67.77
	07/03/01		6.55	10.67	4.12	68.53
	08/06/01		5.60	8.49	2.89	69.85
	09/19/01		5.21	6.15	0.94	70.83
	10/03/01		NM	NM	NM	NM
	12/07/01		4.90	5.70	0.80	71.18
	12/12/01		7.80	10.70	2.90	67.65
	12/19/01		7.48	9.08	1.60	68.36
VEW-02	06/13/00	75.86	7.50	13.02	5.52	62.84
	09/14/00		5.75	5.76	0.01	70.10
	12/21/00		7.70	7.73	0.03	68.13
	03/15/01		8.34	8.36	0.02	67.50
	06/25/01		7.92	7.96	0.04	67.90
	09/19/01		none present	4.98	0.00	70.88
	10/03/01		none present	6.20	0.00	69.66
	12/19/01		none present	7.40	0.00	68.46
VEW-03	06/13/00	75.28	none present	8.05	0.00	67.23
	09/14/00		none present	5.25	0.00	70.03
	12/21/00		none present	7.21	0.00	68.07
	03/15/01		none present	7.75	0.00	67.53
	06/25/01		none present	7.06	0.00	68.22
	09/19/01		none present	4.15	0.00	71.13
	10/03/01		none present	5.55	0.00	69.73
	12/19/01		none present	6.93	0.00	68.35
VEW-04	06/13/00	75.54	none present	8.38	0.00	67.16
	09/14/00		none present	5.68	0.00	69.86
	12/21/00		none present	7.60	0.00	67.94
	03/15/01		none present	8.07	0.00	67.47
	06/25/01		none present	7.70	0.00	67.84
	09/19/01		none present	4.67	0.00	70.87
	10/03/01		none present	6.04	0.00	69.50
	12/19/01		none present	7.31	0.00	68.23
VEW-05	06/13/00	74.63	none present	7.53	0.00	67.10
	09/14/00		none present	4.85	0.00	69.78
	12/21/00		none present	6.75	0.00	67.88
	03/15/01		none present	7.18	0.00	67.45
	06/25/01		none present	6.56	0.00	68.07
	09/19/01		none present	3.83	0.00	70.80
	10/03/01		none present	5.16	0.00	69.47
	12/19/01		none present	7.42	0.00	67.21

TABLE 2-3
Depth to Groundwater/LNAPL Measurements

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
VEW-06	06/13/00	74.31	none present	7.26	0.00	67.05
	09/14/00		none present	4.60	0.00	69.71
	12/21/00		none present	6.40	0.00	67.91
	03/15/01		none present	6.94	0.00	67.37
	06/25/01		none present	6.45	0.00	67.86
	09/19/01		none present	3.72	0.00	70.59
	10/03/01		none present	5.03	0.00	69.28
	12/19/01		none present	6.16	0.00	68.15
VEW-07	06/13/00	76.44	none present	9.06	0.00	67.38
	09/14/00		none present	6.15	0.00	70.29
	12/21/00		none present	8.15	0.00	68.29
	03/15/01		none present	8.65	0.00	67.79
	06/25/01		none present	8.36	0.00	68.08
	09/19/01		none present	5.15	0.00	71.29
	10/03/01		none present	6.50	0.00	69.94
	12/19/01		none present	7.80	0.00	68.64
VEW-08	06/13/00	76.43	none present	9.06	0.00	67.37
	09/14/00		none present	6.16	0.00	70.27
	12/21/00		none present	8.11	0.00	68.32
	03/15/01		none present	8.57	0.00	67.86
	06/25/01		none present	8.33	0.00	68.10
	09/19/01		none present	5.35	0.00	71.08
	10/03/01		none present	6.41	0.00	70.02
	12/19/01		none present	7.76	0.00	68.67

LNAPL = Light Non-Aqueous Phase Liquid
NA = Not Available
NM = Not Measured
Elevation is referenced to National Geodetic Vertical Datum 1929 (NGVD 1929)
Depth to LNAPL is measured from top of casing
Depth to water is measured from top of casing

3.0 Summary of Sampling and Laboratory Analytical Results

3.1 Vapor Monitoring

The VCS discharge stack was sampled monthly during the monitoring period for analyses by U.S. Environmental Protection Agency (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 and 3-2. The pounds per day loading rate summary is provided in Table 3-3.

Based upon an average pounds per day VOC removal rate of 0.004 pounds per day and an on-stream time of 91.4 days, a total of 0.4 pounds of volatile organic compounds (VOCs) were removed from the subsurface during the monitoring period via volatilization and 22.5 pounds have been removed to date. It should be noted that this calculation does not take into account the reductions that were a result of biodegradation of the contaminants in the groundwater or the mass removed via recovery of LNAPL.

3.2 Groundwater Monitoring

Twelve monitoring locations (five monitoring wells and seven vapor extraction wells) at the site were sampled on December 19, 2001, for volatile organic aromatics (VOAs) and semi-volatile organic aromatics (SVOAs) by EPA Methods 8021 and 8310, respectively. All sampling points exhibited decreases in contaminant concentrations from the baseline groundwater sampling event that was performed on January 25, 2000. The contaminant concentrations for 10 of the 12 monitoring locations are below groundwater cleanup target levels (GCTLs) per Chapter 62-777 FAC for all constituents. Presently two monitoring locations, monitor well CEF-293-22 and vapor extraction well VEW-02, exhibit contaminant concentrations that exceed the GCTLs. Vapor extraction well VEW-2, which previously contained minimal LNAPL, did not contain LNAPL during the third and fourth quarters. The other monitoring location, vapor extraction well VEW-01 contains LNAPL (discussed in Section 2.4). Vapor extraction well VEW-1 was not sampled during the fourth quarter due to the presence of LNAPL.

The locations of the monitoring/vapor extraction 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 3-4.

Dissolved oxygen (DO) measurements were recorded at selected monitoring wells on December 19, 2001. The results are summarized in Table 3-5. The results indicate that the DO concentrations in the monitoring/vapor extraction wells within the treatment zone were elevated as a result of remediation system operation.

TABLE 3-1

Pre-Treatment Vapor Analytical Results

Compound	02/28/00	03/07/00	03/16/00	03/23/00	05/30/00	06/19/00	07/24/00	08/15/00	09/18/00	10/18/00	11/13/00	12/11/00	01/17/01	02/13/01	03/12/01	04/16/01	05/03/01	05/29/01	06/15/01	07/17/01	08/14/01	09/27/01	10/15/01	11/20/01	12/12/01
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	2130	3580	824	5060	4690	8640	7750	2840	1610	ND	1120	878	550	446	932	317	457	460	170	280	140	ND	ND	40	60
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	62.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	898	1780	422	2870	3380	5940	6330	2650	1600	ND	1520	1010	957	662	1320	NA	898	860	380	530	60	ND	100	210	300
2-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	605	1080	224	1470	1510	3030	2580	782	336	ND	NS	654	152	144	165	70.3	79.6	430	170	240	160	ND	ND	50	70
Alpha-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	112	1350	210	979	83.3	138	161	33.5	9.6	12	30	ND	12	27	19	12	12	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	19	ND	72.9	21	ND	ND	ND	1.2	ND	ND	ND	ND	ND	3.2	0.77	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	3.1	3.6	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorotetrafluroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1540	3060	585	4510	1740	3320	3360	811	260	107	392	165	134	213	198	91.9	98.8	190	90	120	ND	ND	ND	ND	ND
Freon 113	229	ND	2350	305	263	389	1860	165	47	ND	ND	68	ND	93.6	27	20	22	NA	NA	NA	NA	NA	NA	NA	NA
Freon 114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	840	380	410	ND	ND	80	140	150
m,p-Xylene	2840	6460	1200	9410	4640	7540	7460	1820	141	275	811	397	451	681	793	405	376	650	290	390	130	ND	120	90	80
m-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	87.3	114	163	46.7	105	ND	11	ND	ND	ND	ND	9.3	2.3	0.41	2.4	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	397	1820	375	2940	2270	3620	3760	1340	91.9	168	759	572	432	370	581	200	344	330	140	170	60	ND	ND	50	60
p-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230	ND	ND
Tetrachloroethene	ND	ND	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	90.7	1410	1060	2770	452	500	715	112	23	17	54.6	13	39.1	79.4	63.6	32	33	70	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	1.3	0.89	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	3230	8280	1570	12300	6940	11200	11200	3170	233	443	1570	971	880	1050	1370	607	720	980	430	ND	ND	ND	ND	140	ND
Total Volatile Organics (ug/m^3)	8842	20540	7399	30428	19264.2	33247.5	34081	10553.5	4129.5	585.3	4686.6	3757	2727.1	2725.3	4104	1157.91	2327.86	3830	1620	2140	550	0	530	580	720

Note:
1. Total Volatile Organics = Sum of all detected volatile organic compounds
2. In computing Total Volatile Organics not detected compounds were assumed to be zero.
3. All samples were analyzed by EPA Method 18, TO-14.
4. All concentrations are in micrograms per cubic meter. (ug/m3)
   ND= Not Detected, please see Appendix D for detection limits
   NA= Not analyzed for listed parameter

TABLE 3-2
Post-Treatment Vapor Analytical Results

Compound	2/28/2000	3/7/2000	3/16/2000	3/23/2000
1,1,1-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
1,2,4-Trimethylbenzene	1.5	0.74	0.83	ND
1,2-Dibromoethane	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND
2-Chlorotoluene	ND	ND	ND	ND
4-Ethyltoluene	ND	ND	ND	ND
Alpha-Chlorotoluene	ND	ND	ND	ND
Benzene	0.32	ND	0.86	ND
Bromoform	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Chloroform	ND	ND	0.68	ND
Chloromethane	ND	0.63	0.70	0.98
cis-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Dichlorodifluoromethane	ND	0.78	1.5	1.6
Dichlorotetrafluroethane	ND	ND	ND	ND
Ethylbenzene	3.8	0.74	0.74	0.65
Freon 113	2.0	1.8	73	7.6
Freon 114	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
Hexane	ND	ND	ND	ND
m,p-Xylene	5.2	1.1	1.6	1.1
m-Dichlorobenzene	6.6	5.6	5.0	3.9
Methyl Tert Butyl Ether	ND	ND	ND	ND
Methylene Chloride	1.4	ND	2.9	1.2
o-Dichlorobenzene	ND	ND	ND	ND
o-Xylene	1.7	0.56	0.61	0.52
p-Dichlorobenzene	0.66	ND	ND	ND
Styrene	6.8	1.3	1.2	2
Tetrachloroethene	0.94	4.3	3.4	ND
Toluene	13.0	1	34	1.4
Trans-1,2-Dichloroethene	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND
Trans-1,4-Dichloro-2-butene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
Trichlorotrifluoroethane	ND	ND	ND	ND
Vinyl Chloride	ND	0.56	0.25	ND
Xylenes (total)	6.9	1.6	2.2	1.6
Total Volatile Organics	43.92	19.11	127.27	20.95

Notes:
1. Total Volatile Organics = Sum of all detected volatile organic compounds
2. In computing Total Volatile Organics not detected compounds were assumed to be zero.
3. All samples were analyzed by EPA Method 18, TO-14.
   All concentrations are in micrograms per cubic meter.
   ND= Not Detected, please see Appendix D for detection limits

TABLE 3-3
Pounds per Day Loading/Emissions Rates

Location	Sample Date	Flow Rate (SCFM)	Total VOC Concentration (mg/m^3)	Loading Rate (lbs/day)
Pre-Treatment	2/28/2000	44	8.842	0.035
	3/7/2000	56	20.54	0.103
	3/16/2000	61	7.399	0.041
	3/23/2000	46	19.26	0.080
	5/30/2000	44	30.42	0.120
	6/19/2000	45	33.25	0.135
	7/24/2000	50	34.08	0.153
	8/15/2000	49	10.55	0.046
	9/18/2000	51	4.13	0.019
	10/18/2000	48	0.79	0.003
	11/13/2000	48	4.69	0.020
	12/11/2000	48	3.78	0.016
	1/17/2001	45	2.27	0.009
	2/13/2001	49	2.730	0.012
	3/12/2001	70	4.104	0.026
	4/16/2001	63	1.764	0.010
	5/3/2001	65	3.047	0.018
	5/29/2001	70	4.810	0.030
	6/15/2001	70	2.050	0.013
	7/17/2001	70	2.140	0.013
	8/14/2001	60	0.550	0.003
	9/27/2001	75	0.000	0.000
	10/15/2001	70	0.530	0.003
	11/20/2001	70	0.580	0.004
	12/12/2001	70	0.720	0.005
Post-Treatment	2/28/2000	44	0.044	0.00017
	3/7/2000	56	0.019	0.00010
	3/16/2000	61	0.127	0.00070
	3/23/2000	46	0.030	0.00012

TABLE 3-4

Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethyl-benzene	Toluene	Xylenes (total)	Acenaph-thylene	Acenaph-thene	Fluoran-thene	Pyrene	Chrysene	Benzo (a) anthracene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Indeno (1,2,3-cd) Pyrene	Naphtha-lene	1-Methyl-napthalene	2-Methyl-napthalene	Phenanthrene
CEF-293-04	01/25/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	0.18	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CEF 293-09	01/25/00	43.1	602	826	2150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	378	128	182	ND
	06/13/00	ND	1.4	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CEF 293-13	01/25/00	57.6	43	2.3	70.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	124	54.2	68	ND
	06/13/00	128	124	3.1	193	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	157	64.2	82.2	ND
	09/14/00	112	106	2.2	161	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	163	61.1	75	ND
	12/21/00	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	40.7	29.6	39.2	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.6	15.5	20.6	ND
	06/25/01	0.24	1.3	ND	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	7	11	0.22
	09/19/01	ND	0.13	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	1.9	ND
	12/19/01	ND	0.53	ND	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38	0.97	1.8	0.3
CEF 293-20	01/25/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	0.67	0.25	0.37	0.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54	19	21	0.34
	09/19/01	0.72	0.35	ND	1.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	0.68	ND	0.52	0.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CEF 293-22	01/25/00	24.2	19.4	0.88	47.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	142	59.6	67	ND
	06/13/00	43.2	60.6	5.5	218	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	188	80.3	95.4	ND
	09/14/00	6.4	8.4	ND	20.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38.7	22	25.1	ND
	12/21/00	19.7	9.7	<1	11.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	95	31.6	42.4	ND
	03/15/01	32.6	28.2	0.97	72.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	148	49.7	71.3	ND
	06/25/01	25	12	ND	18.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45	16	22	ND
	09/19/01	1.9	0.44	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.9	4.8	6.8	ND
	12/19/01	8.7	1.2	ND	1.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34.2	13.4	17	0.57
VEW-01	01/25/00	18.5	257	59.4	726	ND		ND	ND	ND		ND	ND	ND	ND		350	220	307	ND
	06/13/00	FREE PRODUCT																		
	09/14/00	FREE PRODUCT																		
	12/21/00	FREE PRODUCT																		
	03/15/01	FREE PRODUCT																		
	06/25/01	FREE PRODUCT																		
	09/19/01	FREE PRODUCT																		
	10/03/01	FREE PRODUCT																		
	12/19/01	FREE PRODUCT																		
VEW-02	01/25/00	91.6	149	29.2	573	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	283	118	139	ND
	06/13/00	FREE PRODUCT																		
	09/14/00	ND	ND	ND	156	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	FREE PRODUCT																		
	03/15/01	FREE PRODUCT																		
	06/25/01	FREE PRODUCT																		
	09/19/01	ND	14	ND	7.1	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	2.1	ND	5.9	0.28	0.69	ND	0.76	0.49	0.51	1.8	ND	ND	4.6	2.2	2.1
	12/19/01	ND	22	ND	12.6	8.9	2.2	11.6	18.2	1.3	1.2	0.93	0.86	ND	0.34	0.38	ND	19.3	18.7	7.5

TABLE 3-4

Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethyl-benzene	Toluene	Xylenes (total)	Acenaph-thylene	Acenaph-thene	Fluoran-thene	Pyrene	Chrysene	Benzo (a) anthracene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Indeno (1,2,3-cd) Pyrene	Naphtha-lene	1-Methyl-napthalene	2-Methyl-napthalene	Phenanthrene
VEW-03	01/25/00	24.4	85.6	11.5	128	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220	78	102	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-04	01/25/00	81	138	7.8	288	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	232	88.7	108	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-05	01/25/00	118	72.5	11.3	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	194	59.8	86.1	ND
	06/13/00	33.2	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-06	01/25/00	31.1	97.9	12.7	283	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	189	64.6	77.2	ND
	06/13/00	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-07	01/25/00	48	213	97.8	459	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	481	172	210	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-08	01/25/00	53.4	242	4.5	451	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	393	124	162	ND
	06/13/00	4	41.8	1.4	37.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	86.6	44.9	39.6	ND
	09/14/00	ND	4.8	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	6.5	5.2	ND
	12/21/00	ND	10.6	<1	9.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.7	16	17.1	ND
	03/15/01	ND	6.4	ND	5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7	3.7	3.8	ND
	06/25/01	ND	1.5	ND	0.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	0.46	0.96	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	0.5	ND
	12/19/01	ND	1.9	ND	1.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.84	0.67	ND
Cleanup Goal - RAP		1	NA	NA	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GCTL		1	30	40	20	210	20	280	210	4.8	0.2	0.2	0.5	0.2	210	0.2	20	20	20	210
NADSC		100	300	400	200	2100	200	2800	2100	480	20	20	50	20	2100	20	200	200	200	2100

Notes:

1. All concentrations are in mg/L.
3. ND= Not Detected, please see Appendix B for detection limits
4. NS = Not Sampled
5. NA = Not Analyzed

= above GC

= above NADSC

TABLE 3-5
Groundwater Field Analytical Results

	Date	ph (s. u.)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (^oC)
CEF-293-4	1/25/2000	6.69	0.218	NM	21.3
	6/13/2000	6.15	0.259	-0.50	26.3
	9/14/2000	6.30	0.246	1.94	27.4
	12/21/2000	8.44	0.263	2.90	20.5
	3/15/2001	6.30	0.247	1.22	20.6
	6/25/2001	6.22	0.259	NM	25.2
	9/19/2001	6.06	0.416	0.57	26.3
	12/19/2001	7.22	0.232	3.75	22.7
CEF-293-9	1/25/2000	5.99	0.088	NM	21.4
	6/13/2000	5.55	0.068	-0.36	24.6
	9/14/2000	6.03	0.830	2.82	26.0
	12/21/2000	7.71	0.075	5.50	22.4
	3/15/2001	6.29	0.066	7.80	20.7
	6/25/2001	6.31	0.094	NM	23.3
	9/19/2001	5.94	0.244	4.93	25.0
	12/19/2001	7.19	0.079	5.88	23.2
CEF-293-13	1/25/2000	5.64	0.039	NM	21.4
	6/13/2000	4.99	0.068	-0.33	24.4
	9/14/2000	4.87	0.054	2.14	26.1
	12/21/2000	7.41	0.075	1.42	21.5
	3/15/2001	5.50	0.063	2.14	19.8
	6/25/2001	5.01	0.069	NM	24.4
	9/19/2001	5.43	0.157	2.34	26.9
	12/19/2001	6.22	0.068	2.22	23.0
CEF-293-20	1/25/2000	5.96	0.062	NM	20.8
	6/13/2000	5.04	0.083	-0.16	27.0
	9/14/2000	5.19	0.100	1.38	29.3
	12/21/2000	7.65	0.101	2.24	24.6
	3/15/2001	5.49	0.105	2.78	23.4
	6/25/2001	4.83	0.103	NM	26.3
	9/19/2001	5.34	0.149	2.00	29.0
	12/19/2001	7.17	0.113	2.34	24.8
CEF-293-22	1/25/2000	6.44	0.126	NM	23.0
	6/13/2000	5.71	0.180	-0.47	27.7
	9/14/2000	5.74	0.812	1.83	28.0
	12/21/2000	8.14	0.573	2.80	23.1
	3/15/2001	5.86	0.230	2.27	22.0
	6/25/2001	5.55	0.365	NM	25.2
	9/19/2001	5.69	1.030	3.22	27.6
	12/19/2001	6.91	0.416	2.30	24.0
VEW-1	1/25/2000	5.33	0.057	NM	23.0
	6/13/2000	NM	NM	NM	NM
	9/14/2000	NM	NM	NM	NM
	12/21/2000	NM	NM	NM	NM
	3/15/2001	NM	NM	NM	NM
	6/25/2001	NM	NM	NM	NM
	9/19/2001	NM	NM	NM	NM
	12/19/2001	NM	NM	NM	NM
VEW-2	1/25/2000	5.63	0.085	NM	22.7
	6/13/2000	NM	NM	NM	NM
	9/14/2000	6.20	0.114	2.26	26.2
	12/21/2000	NM	NM	NM	NM
	3/15/2001	NM	NM	NM	NM
	6/25/2001	NM	NM	NM	NM
	9/19/2001	6.04	0.137	5.06	26.7
	12/19/2001	7.00	0.095	2.26	24.8

TABLE 3-5
Groundwater Field Analytical Results

	Date	ph (s. u.)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (^oC)
VEW-3	1/25/2000	5.90	0.070	NM	22.1
	6/13/2000	4.86	0.034	-0.57	26.2
	9/14/2000	5.44	0.040	5.23	26.8
	12/21/2000	7.74	0.047	6.02	22.8
	3/15/2001	6.24	0.047	8.02	21.8
	6/25/2001	4.80	0.056	NM	24.7
	9/19/2001	6.38	0.130	5.86	26.9
	12/19/2001	6.94	0.057	6.79	23.9
VEW-4	1/25/2000	5.59	0.078	NM	23.0
	6/13/2000	NM	NM	NM	NM
	9/14/2000	6.48	0.086	2.48	26.6
	12/21/2000	7.92	0.045	4.55	23.8
	3/15/2001	5.31	0.045	6.81	22.2
	6/25/2001	5.40	0.045	NM	24.8
	9/19/2001	6.59	0.098	5.64	26.8
	12/19/2001	7.42	0.050	5.34	24.0
VEW-5	1/25/2000	6.28	0.113	NM	21.5
	6/13/2000	4.87	0.080	-0.59	25.5
	9/14/2000	5.96	0.066	3.23	26.8
	12/21/2000	7.84	0.069	3.42	21.6
	3/15/2001	5.58	0.061	5.80	20.7
	6/25/2001	5.35	0.060	NM	24.7
	9/19/2001	6.14	0.106	4.78	27.4
	12/19/2001	6.74	0.057	5.03	22.9
VEW-6	1/25/2000	5.78	0.076	NM	21.4
	6/13/2000	5.28	0.151	-0.60	26.0
	9/14/2000	8.81	0.066	3.08	26.9
	12/21/2000	7.37	0.083	4.33	22.3
	3/15/2001	6.57	0.127	7.26	20.9
	6/25/2001	5.54	0.064	NM	25.3
	9/19/2001	6.30	0.145	5.18	27.3
	12/19/2001	6.61	0.050	5.76	23.8
VEW-7	1/25/2000	5.63	0.074	NM	21.8
	6/13/2000	5.12	0.126	-0.56	24.9
	9/14/2000	5.52	0.070	2.22	25.8
	12/21/2000	7.78	0.700	2.67	22.5
	3/15/2001	5.96	0.068	6.65	21.5
	6/25/2001	5.60	0.078	NM	24.0
	9/19/2001	5.49	0.109	8.56	25.4
	12/19/2001	6.83	0.064	3.04	23.3
VEW-8	1/25/2000	6.29	0.206	NM	22.1
	6/13/2000	5.60	0.219	-0.60	24.2
	9/14/2000	5.77	0.118	1.92	25.9
	12/21/2000	7.87	0.156	1.31	22.5
	3/15/2001	6.35	0.137	2.06	21.2
	6/25/2001	5.86	0.128	NM	23.4
	9/19/2001	4.69	0.162	7.21	25.5
	12/19/2001	5.5	0.089	3.75	23.0

s. u. = standard units
mS/cm = milli siemens per centimeter
mg/L = Milligrams per liter
^oC = degrees Centigrade
NM = not measured

4.0 Conclusions and Recommendations

Of the five monitoring wells (CEF-293-4, 9, 13, 20 and 22) and seven extraction wells (VEW-2 through VEW-8) sampled during the fourth quarter, two locations, CEF-293-22 and VEW-2, were found to have contaminant concentrations greater than the GCTL specified by Chapter 62-777 FAC. Both locations were below the Natural Attenuation Source Default Concentration (NASDC) specified by Chapter 62-777 FAC. Monitoring well CEF-293-22 is located outside the design radius of influence of the biosparge system and VEW-2 previously contained LNAPL prior to the third quarter. The third quarter 2001 is the first quarter that LNAPL was not noted in VEW-2.

Vapor extraction well VEW-1 was not sampled during the monitoring period due to the presence of LNAPL. LNAPL has been bailed on a periodic basis from VEW-1 since October 2000 and a total of approximately 15.5 gallons has been recovered to date. No significant decreases in LNAPL thickness at VEW-1 were noted during the monitoring period.

It is recommended that the remediation system continue to operate and recovery of LNAPL continue to be performed until LNAPL is no longer present in VEW-1. VEW-1 should be sampled after LNAPL is no longer present to ensure that the groundwater in this area has been remediated. The source of the LNAPL in the vicinity of VEW-1 and VEW-2 is believed to be due to an underground abandoned fuel pipe that still contains product. Navy approval has been received to locate the underground piping and to remove any remaining product. Additional plans for delineation and recovery of LNAPL in the vicinity of VEW-1 and VEW-2 are currently being developed by the Comprehensive Long-Term Environmental Action, Navy (CLEAN) contractor.

5.0 References

ABB Environmental Services, Inc. January 1997. Remedial Action Plan, Day Tank 1, Facility 293, Naval Air Station Cecil Field, Jacksonville, Florida.

CH2M HILL Constructors, Inc. January 2000. Work Plan Addendum No. 03, Day Tank 1 Biosparge and Vapor Collection System Installation, Naval Air Station Cecil Field, Jacksonville, Florida.

Appendix A

Laboratory Analytical Reports for Air Samples
(provided on CD)

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13481123

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5005	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5119	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	---	---	---	---

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13481123

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4463	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5129	103 %	86-113

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13481123

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
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	0.5021	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	0.5000	100 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5091	102 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.5000	0.4781	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	---	---

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.

CH2MHILL DATA DELIVERABLE EVALUATION

Project Name: NAS Cecil Field Monthly Air

CTO: 62 **Project Number:** 163151 **SDG#:** C110416

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

C110416

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-015

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-21	SVE Effluent	AIR	10/15/01	10:35	III/C	14 Day	1								1	Grab	Summa Canister	285
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Anthony Cain J.A. Jones Environmental Services	Federal Express TRK #791678865018.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	10/15/01	12:00	Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature:		
			Davette Howard / Davette Howard	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 CCI091, Rev 02/00

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C110416 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:** pbc **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: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10416-1	062-SVE-E-A-1015-01-21	10-15-01/10:35

PARAMETER	10416-1
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

001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10416-1	062-SVE-E-A-1015-01-21	10-15-01/10:35

PARAMETER	10416-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.08
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	0.23
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	0.10
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	107 %
Surrogate - Toluene-d8	101 %
Surrogate - 4-Bromofluorobenzene	97 %

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
10416-1	062-SVE-E-A-1015-01-21	10-15-01/10:35

PARAMETER	10416-1
Dilution Factor	1
Prep Date	10.25.01
Prep Time	13:24
Analysis Date	10.25.01
Analysis Time	13:37
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
STL Pensacola is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
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	---	---	---	---

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
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: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	251.07	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	250.01	100 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	254.53	102 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.5000	239.04	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	10.25.01	---	10.25.01	---	---
Prep Time	09:16	---	09:50	---	---
Analysis Date	10.25.01	---	10.25.01	---	---
Analysis Time	09:29	---	10:03	---	---
Batch ID	MAB218	MAB218	MAB218	MAB218	MAB218
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10416
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 135211029

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
10416-2	Method Blank	
10416-3	Lab Control Standard True Value	
10416-4	Lab Control Standard Result	
10416-5	Lab Control Standard % Recovery	
10416-6	LCS Accuracy Control Limit (%R)	

PARAMETER	10416-2	10416-3	10416-4	10416-5	10416-6

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

007

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C110416 Date Received: 10-17-01

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

Airbill Number(s): 7916 7886 5018

Shipped By: Fed Ex

Cooler Number(s): 285; 298

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH **Date:** 10-17-01 **Logged By:** pk **Date:** 10/12/01

♣ *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

C110416

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-015

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatifes by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1015-01-21	SVE Effluent	AIR	10/15/01	10:35	III/C	14 Day	1									1	Grab	Summa Canister	285
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Anthony Cain J.A. Jones Environmental Services	Federal Express TRK #791678865018.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	10/15/01	12:00	Federal Express	10/15/01	12:00
Printed Name and Signature:			Printed Name and Signature:		
			Davette Howard / Davette Howard	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

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.

Revised 06/19/01

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

STL PENSACOLA
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 grantec

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 12/31/0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 110416
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Oct. 17, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1015-01-21	110416-1	SVEEA21

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
104161	062SVEA10150121	107	101	97	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

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 #	110416					
Batch	MAB218	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		250.27	0.5000	0.5005	100%	87-116%
Chlorobenzene		255.95	0.5000	0.5119	102%	88-111%
1,1-Dichloroethene		223.16	0.5000	0.4463	89%	58-138%
Toluene		256.43	0.5000	0.5129	103%	86-113%
Trichloroethene		251.07	0.5000	0.5021	100%	85-116%
1,2-Dichloroethane-d4		250.01	0.5000	0.5000	100%	61-140%
Toluene-d8		254.53	0.5000	0.5091	102%	90-109%
4-Bromofluorobenzene		239.04	0.5000	0.4781	96%	87-112%

4A

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.: C110416

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	SVEEA21	062SVEA10150121\1041	104161.D	13:37

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.: C110416

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.: C110416

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	SVEEA21	062SVEA10150121\1041	104161.D	10/25/01	13:37

Response Factor Report GC/MS Ins

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

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

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

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

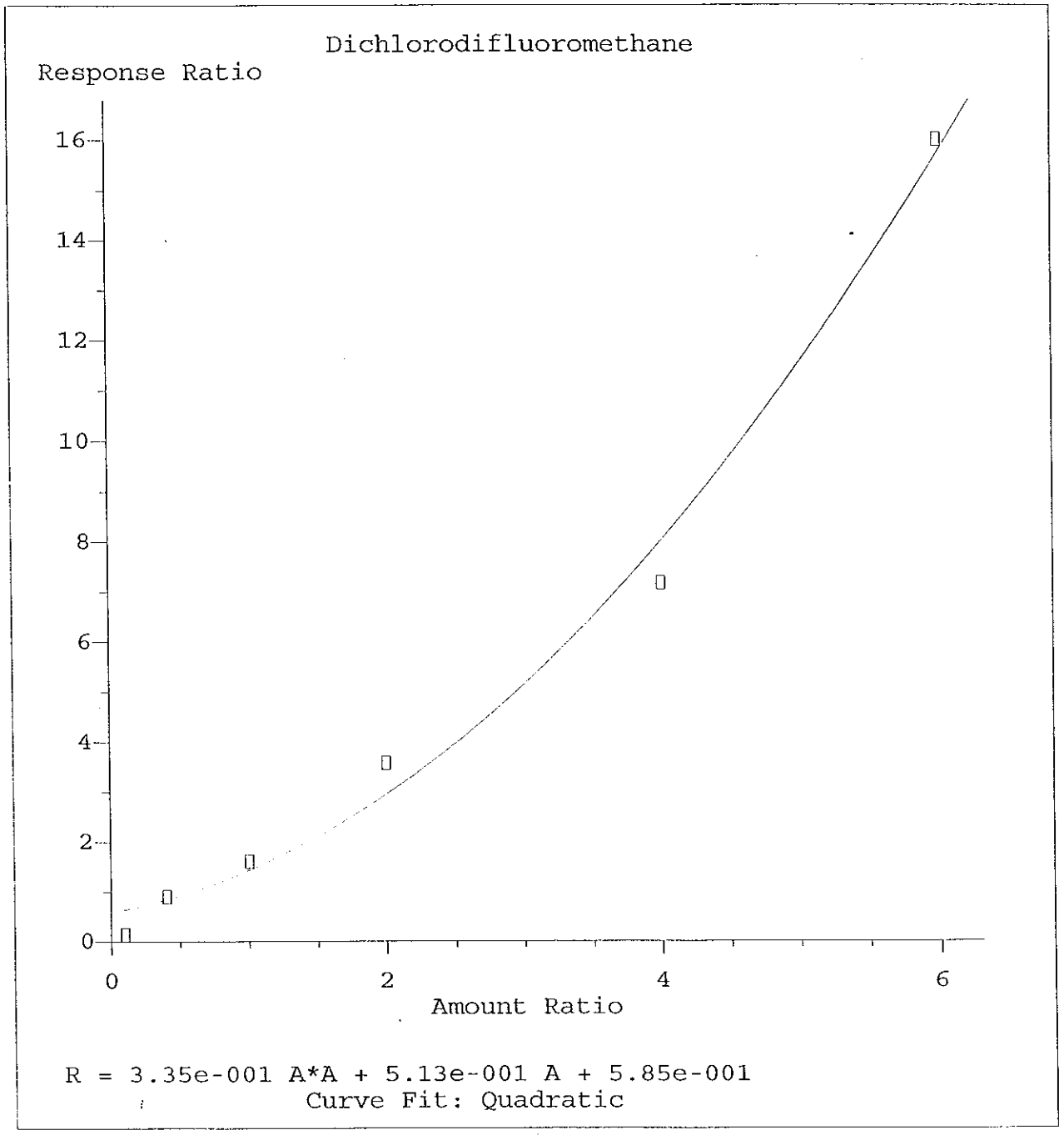
Response Factor Report GC/MS Ins

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

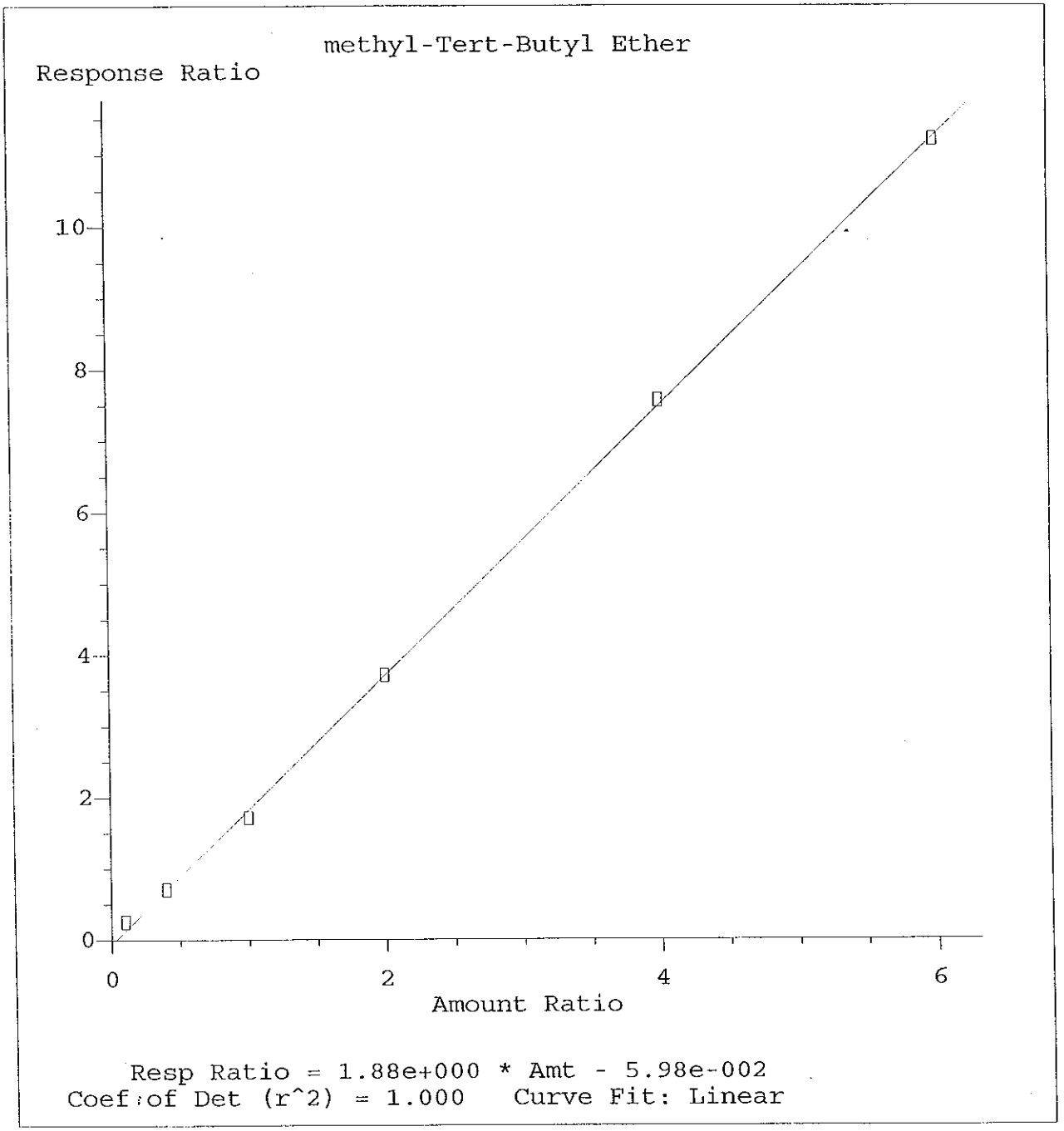
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		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

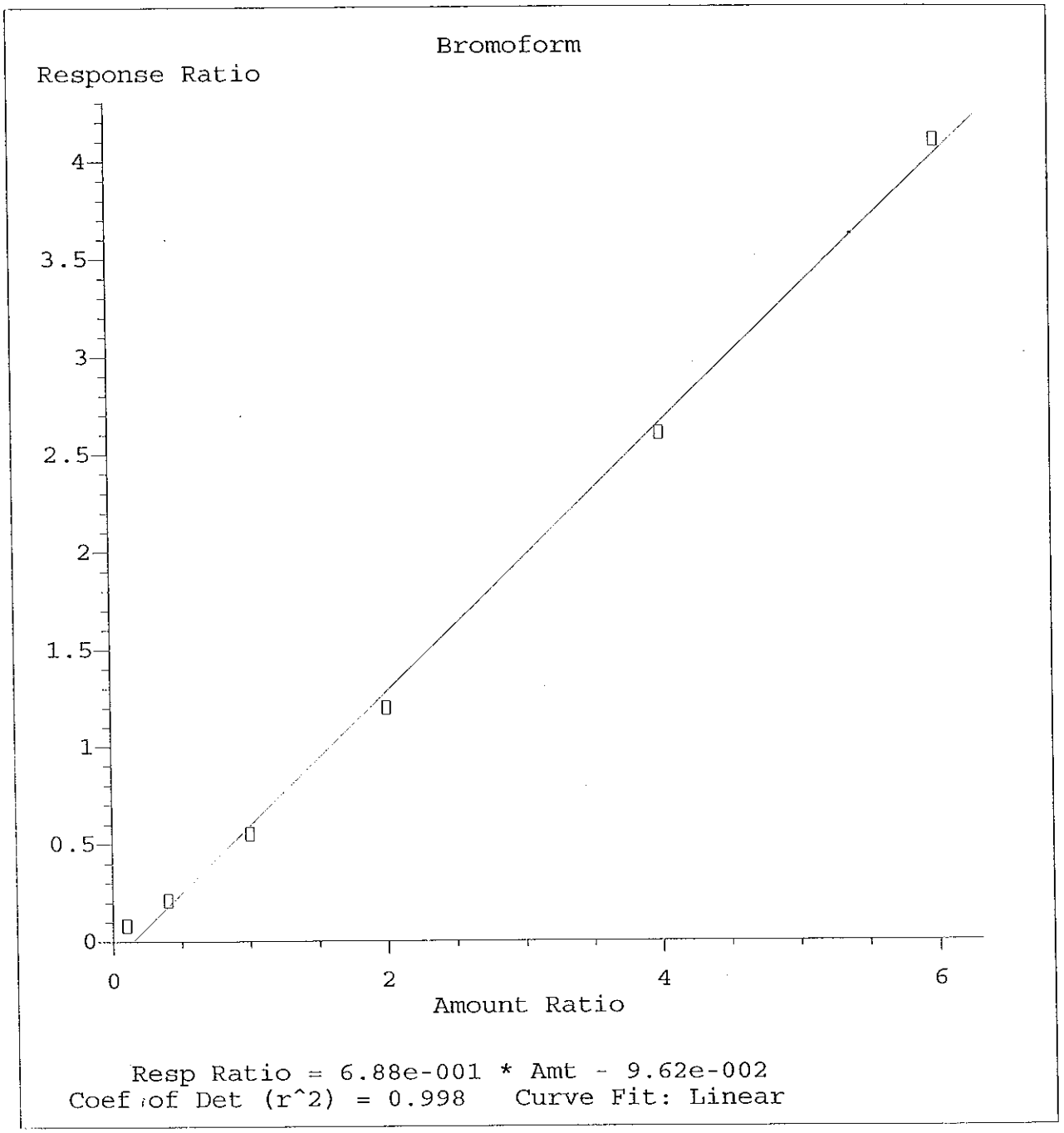
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



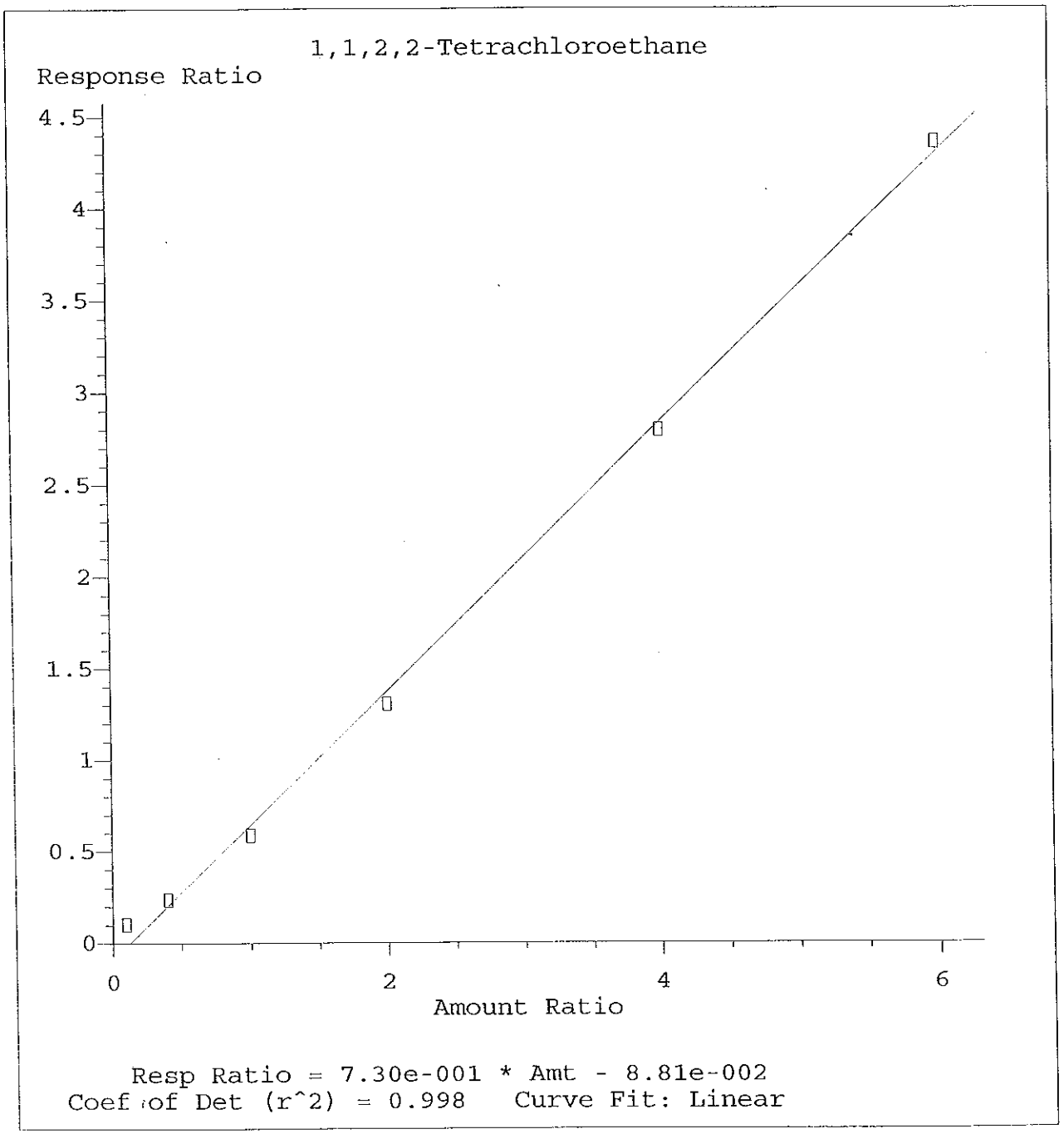
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



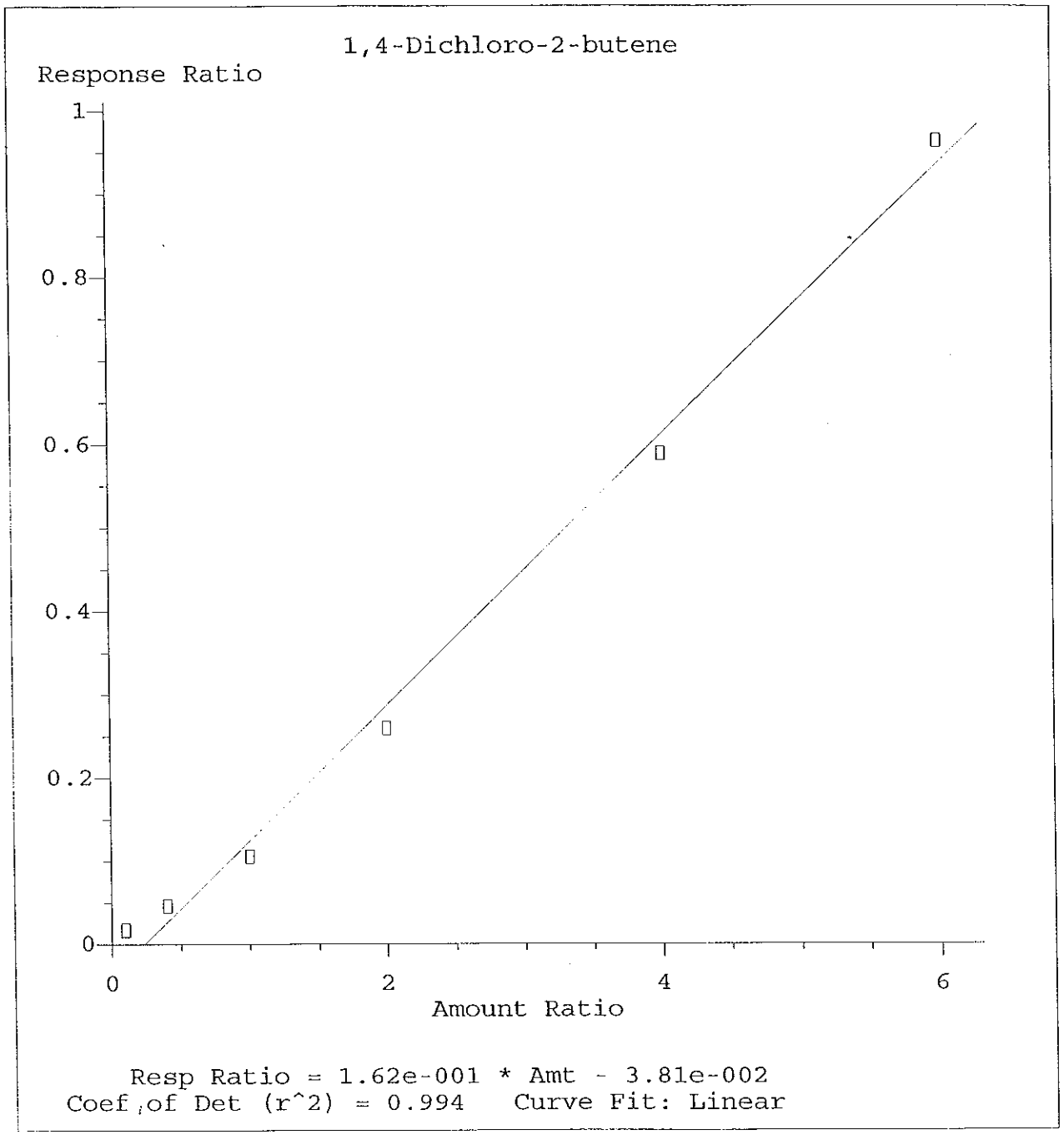
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



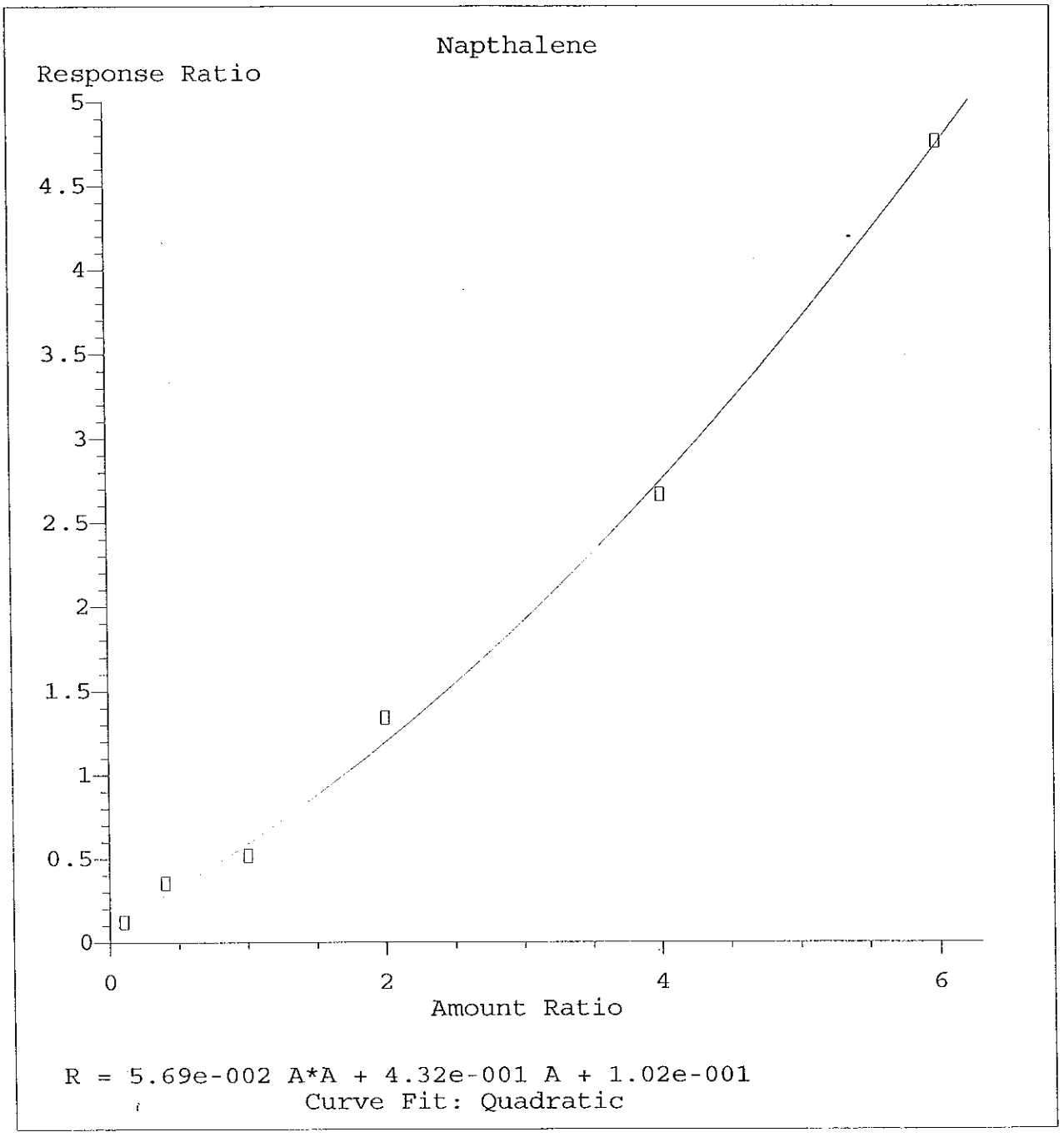
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV102401\TO14S.M
Calibration Table Last Updated: Fri Oct 26 13:22:09 2001



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

Evaluate Continuing Calibration Report

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	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

Evaluate Continuing Calibration Report

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

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

Evaluate Continuing Calibration Report

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

(#) = Out of Range

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

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

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C110416

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	SVEEA21	359713	11.52	1474670	13.43	1132293	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

Comment: TO14 INITIAL CALIBRATION SEQUENCE
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

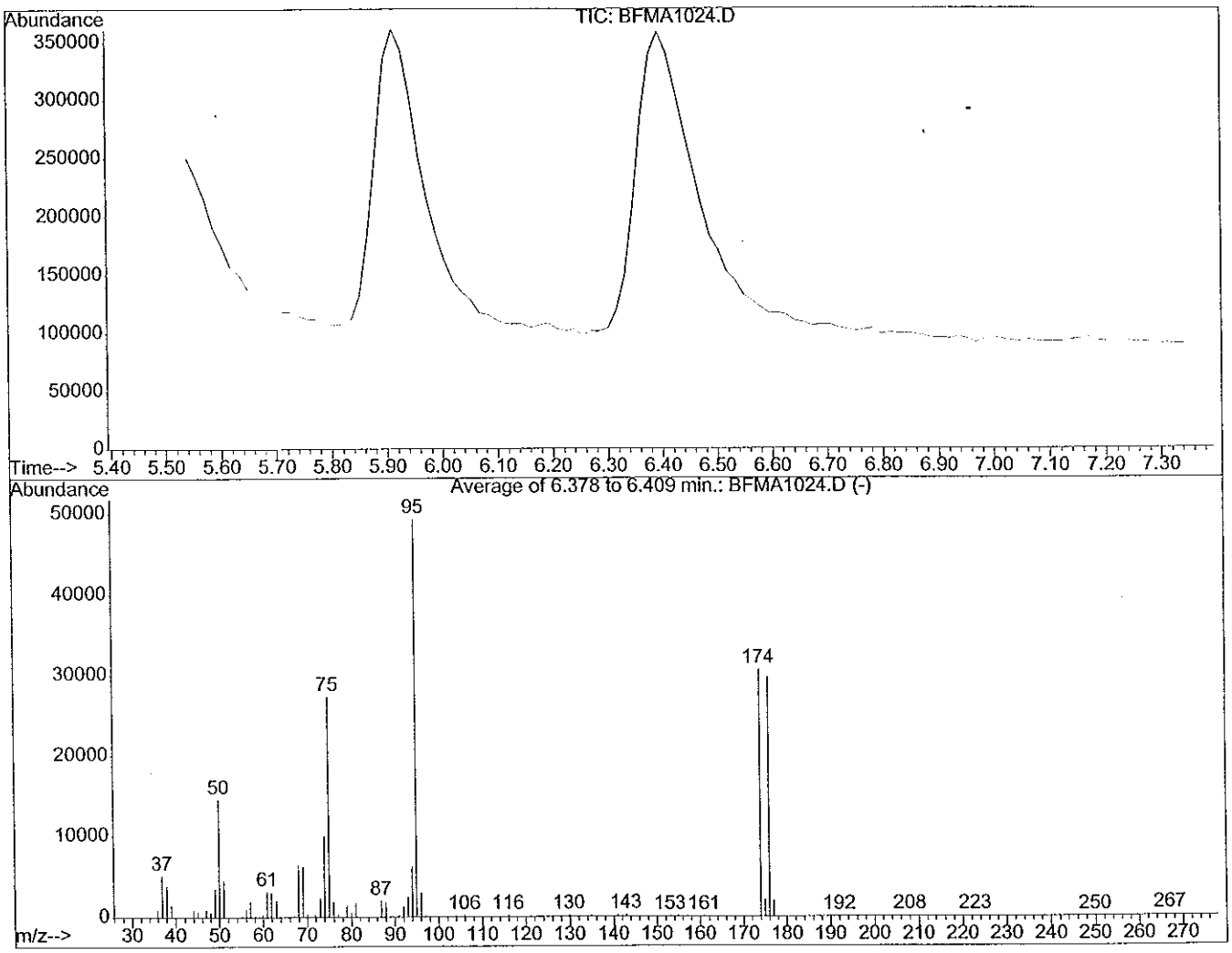
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	BFMA1024	BFBSTL	DAILY BFB 12HR. TUNE
2	Sample	15	MA217ABK	TO14S	DAILY METHOD BLANK
3	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB. not used
4	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB not used
5	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb 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	"	"	"

Toll curve

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

BFB Tune Evaluation

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



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

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

BFMA1024.D TO14S.M Fri Oct 26 13:02:21 2001

Average of 6.378 to 6.409 min.: BFMA1024.D

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%

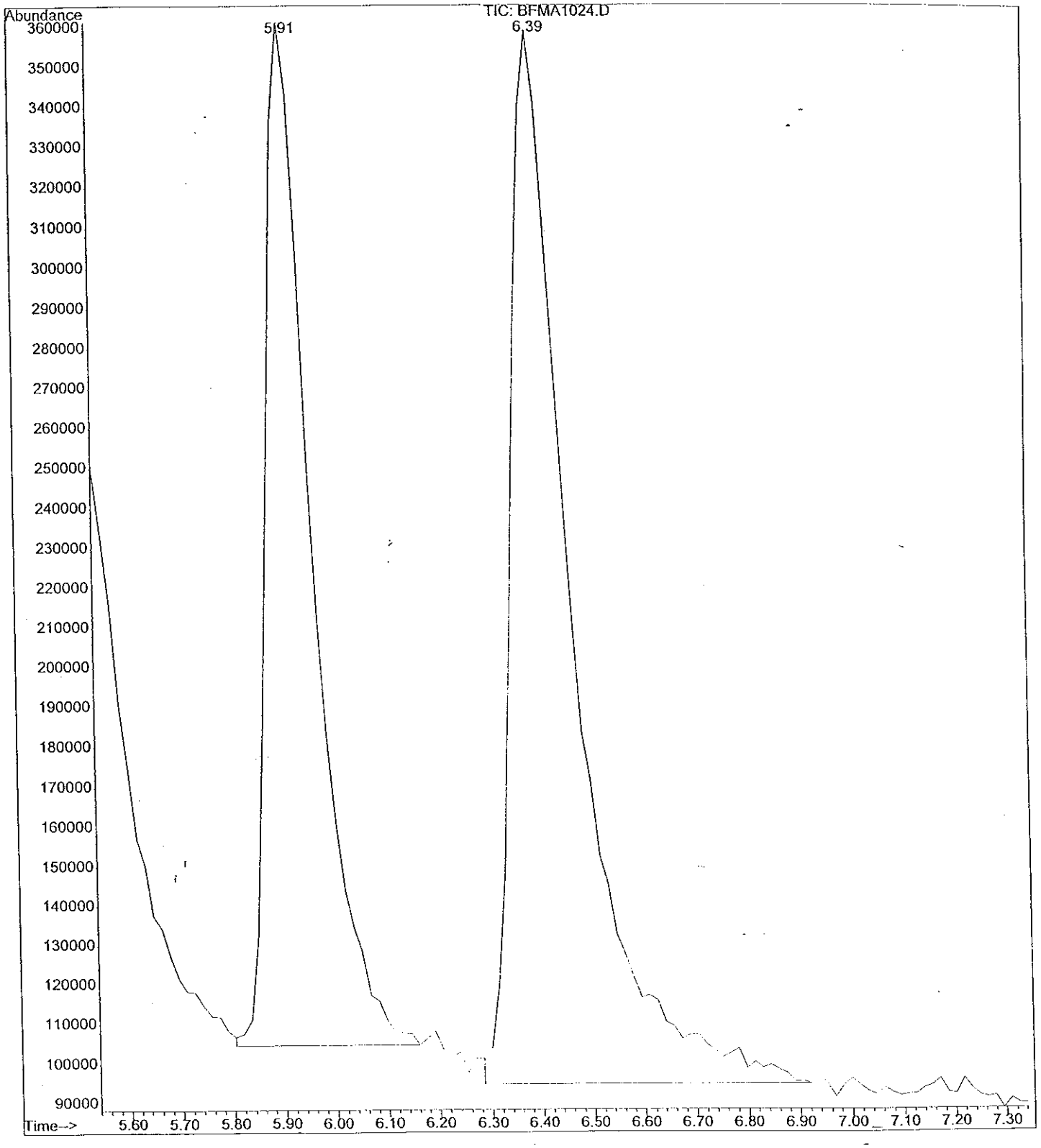
Sum of corrected areas: 3816904

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

Area Percent Report

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

Response Factor Report GC/MS Ins

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 BH 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	0.828	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----------							

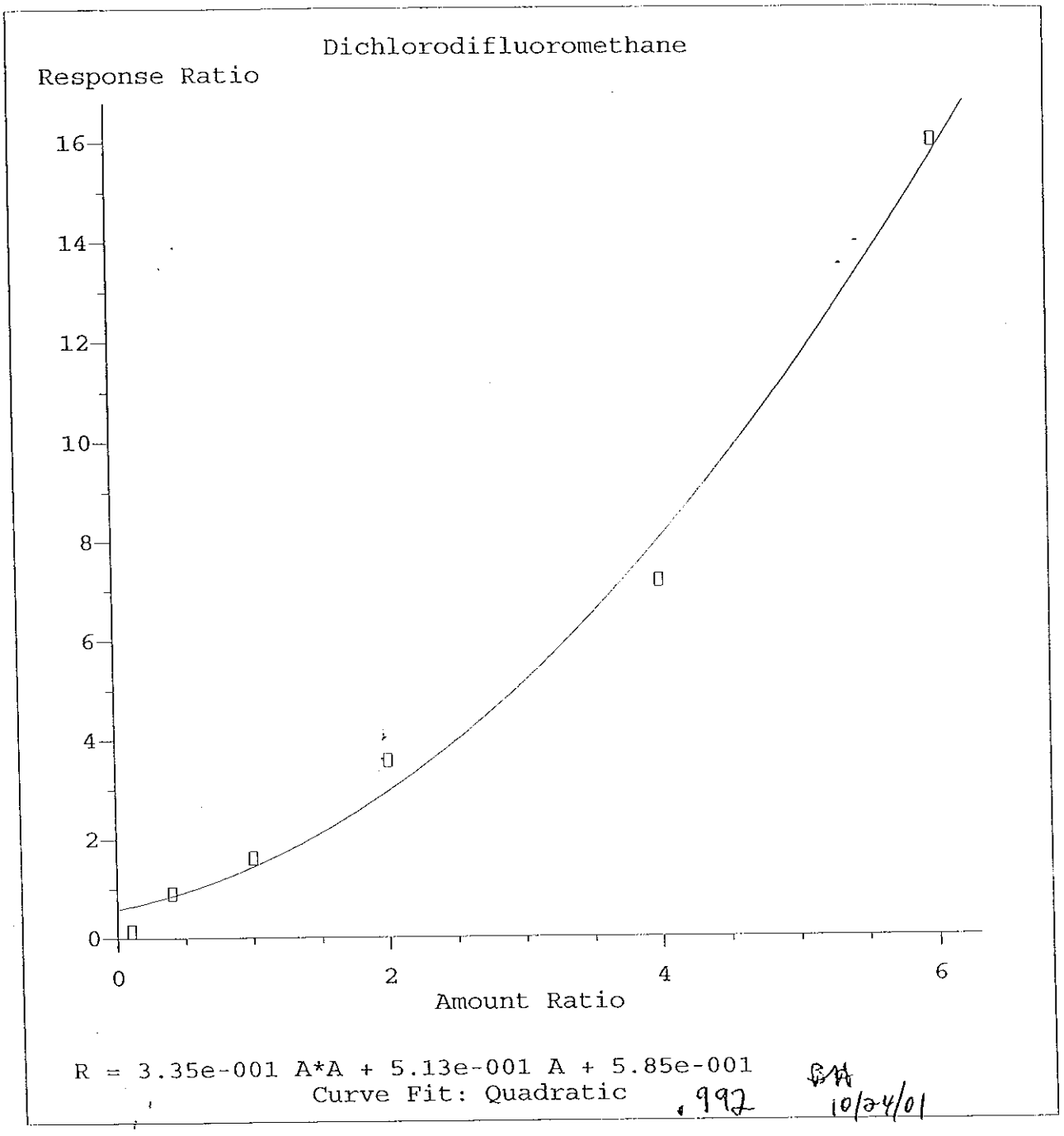
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

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

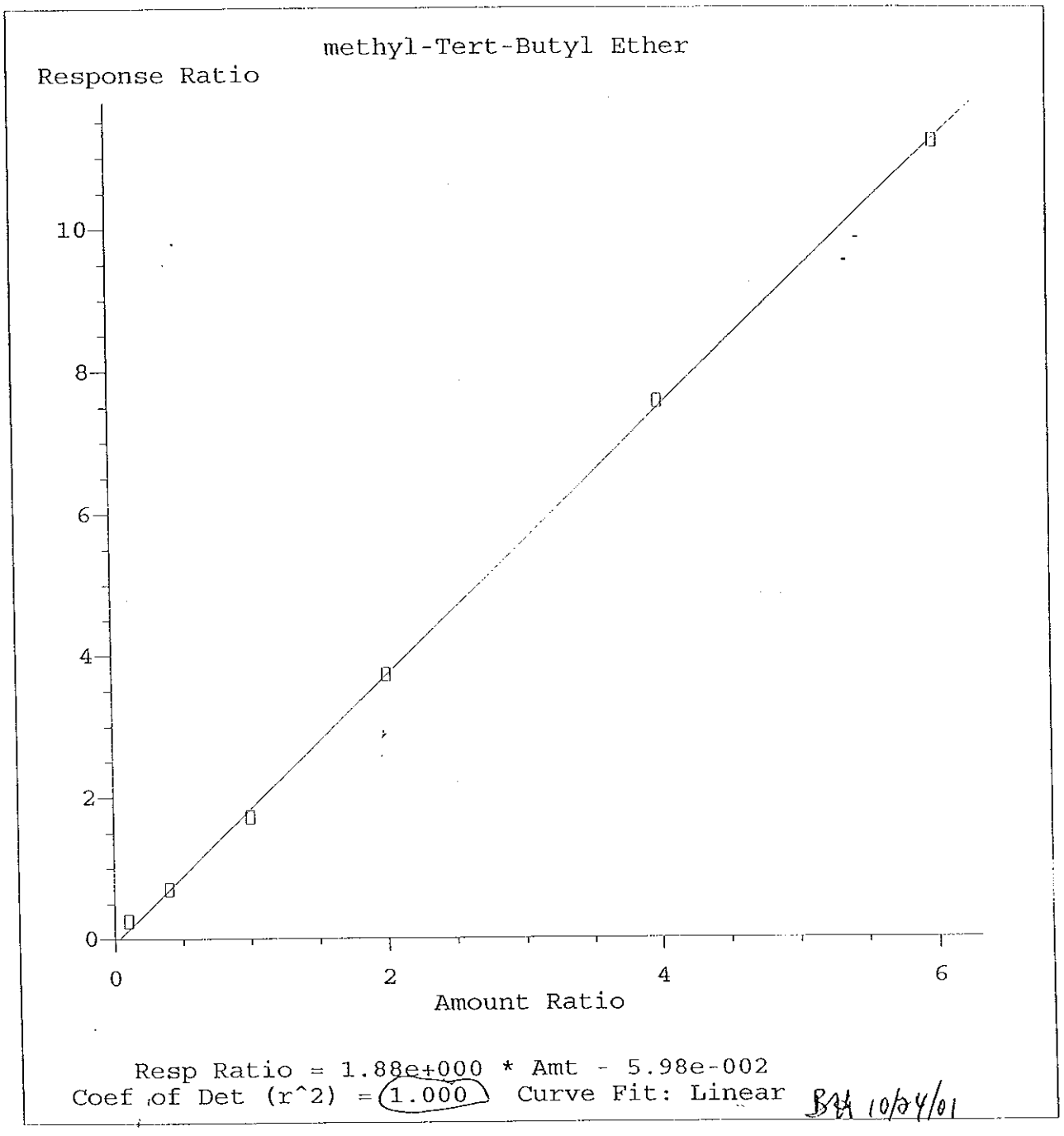
Calibration Files
25 =CMA0025R.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100R.D 500 =CMA0500.D

		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

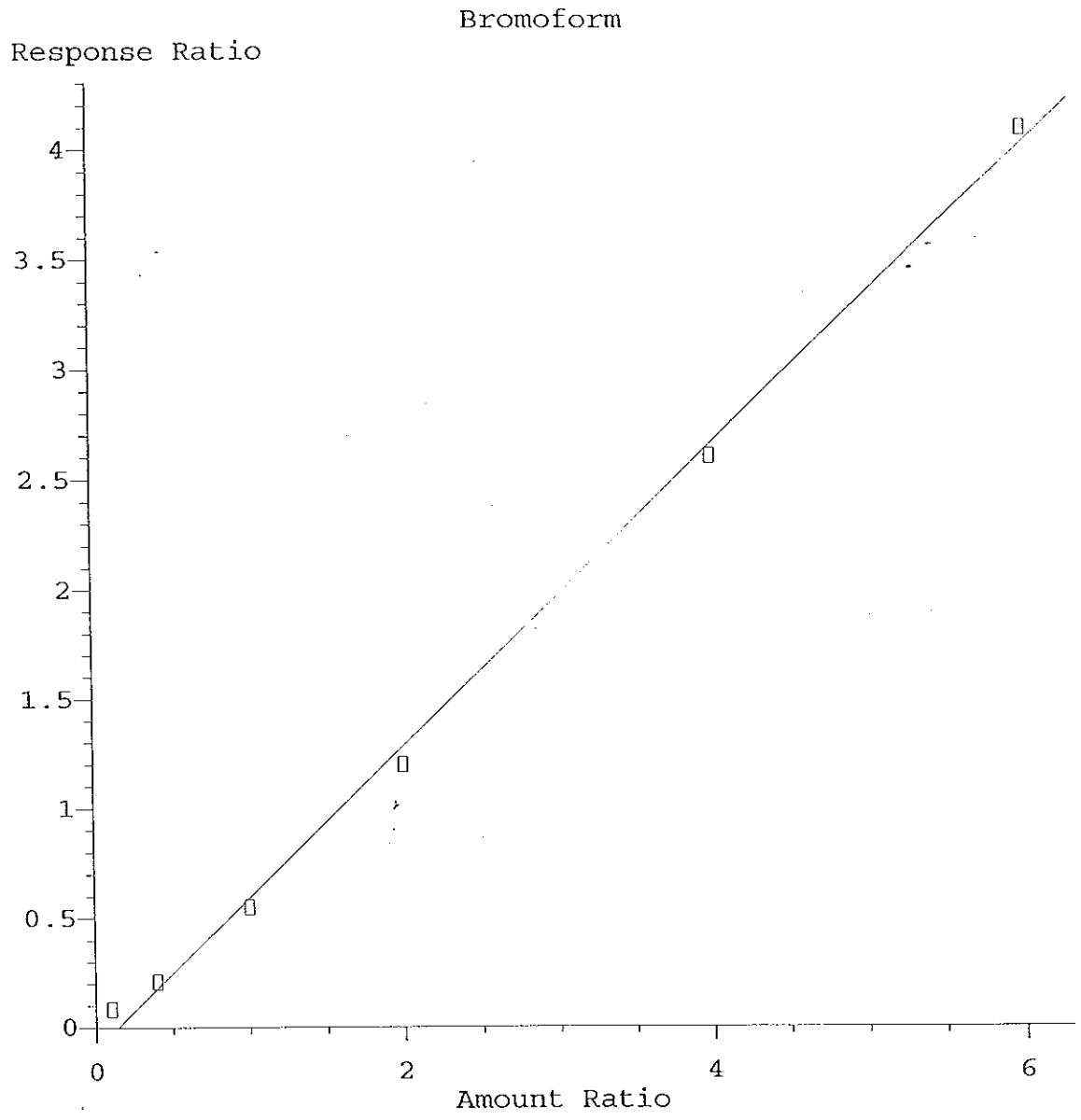
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



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

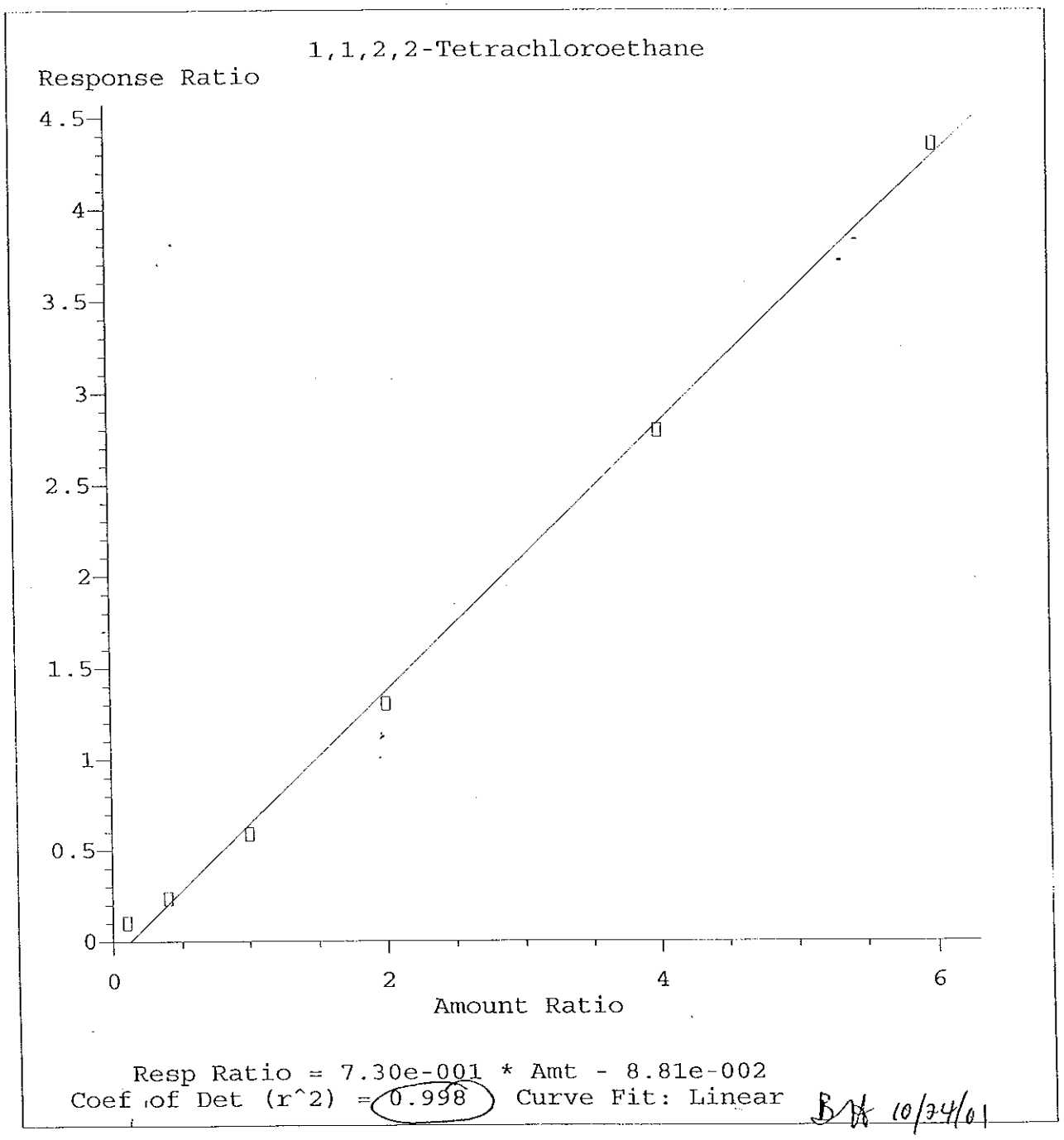


Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:25:19 2001

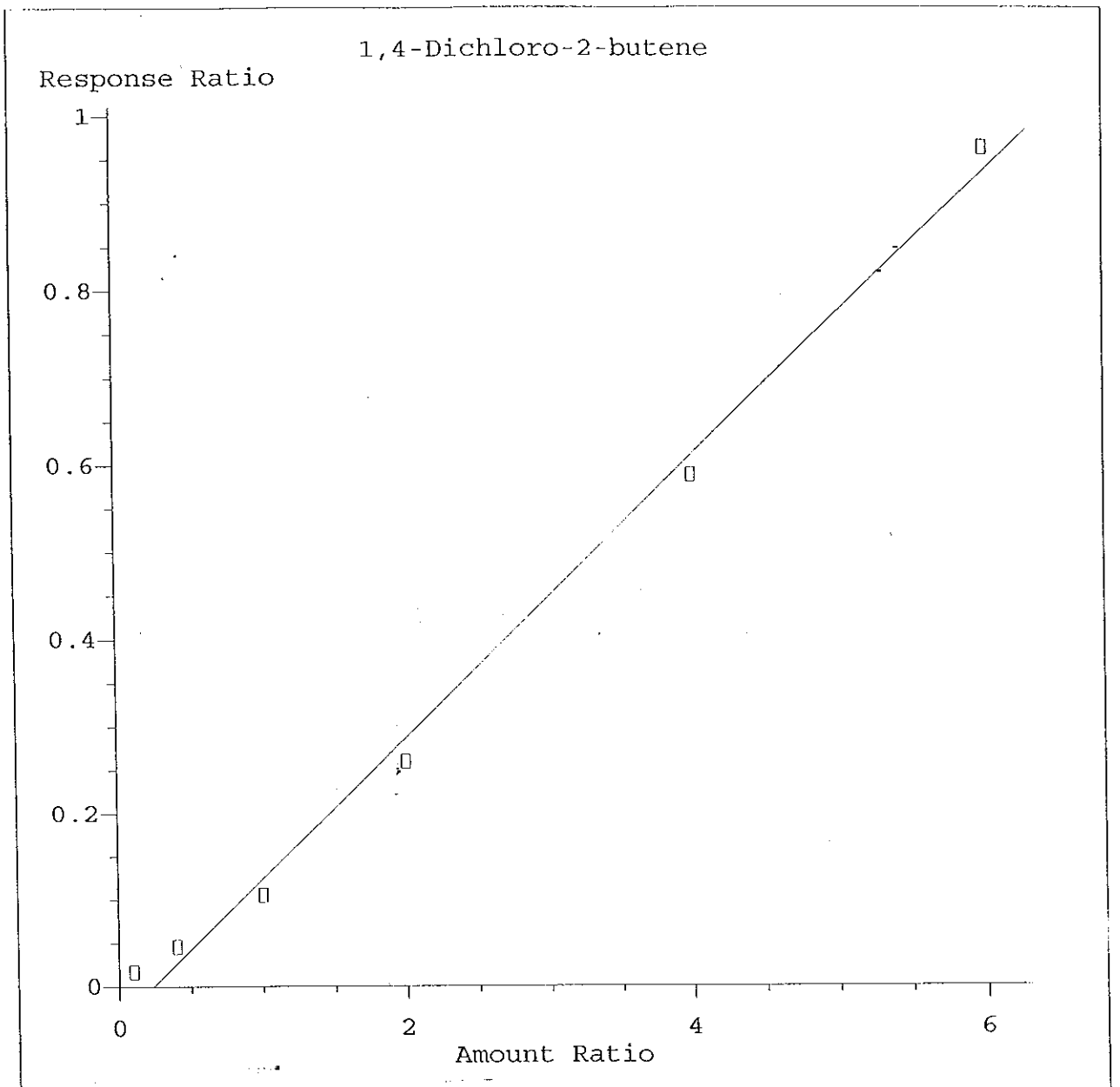


Resp Ratio = 6.88e-001 * Amt - 9.62e-002
Coef of Det (r^2) = 0.998 Curve Fit: Linear BA 10/24/01

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



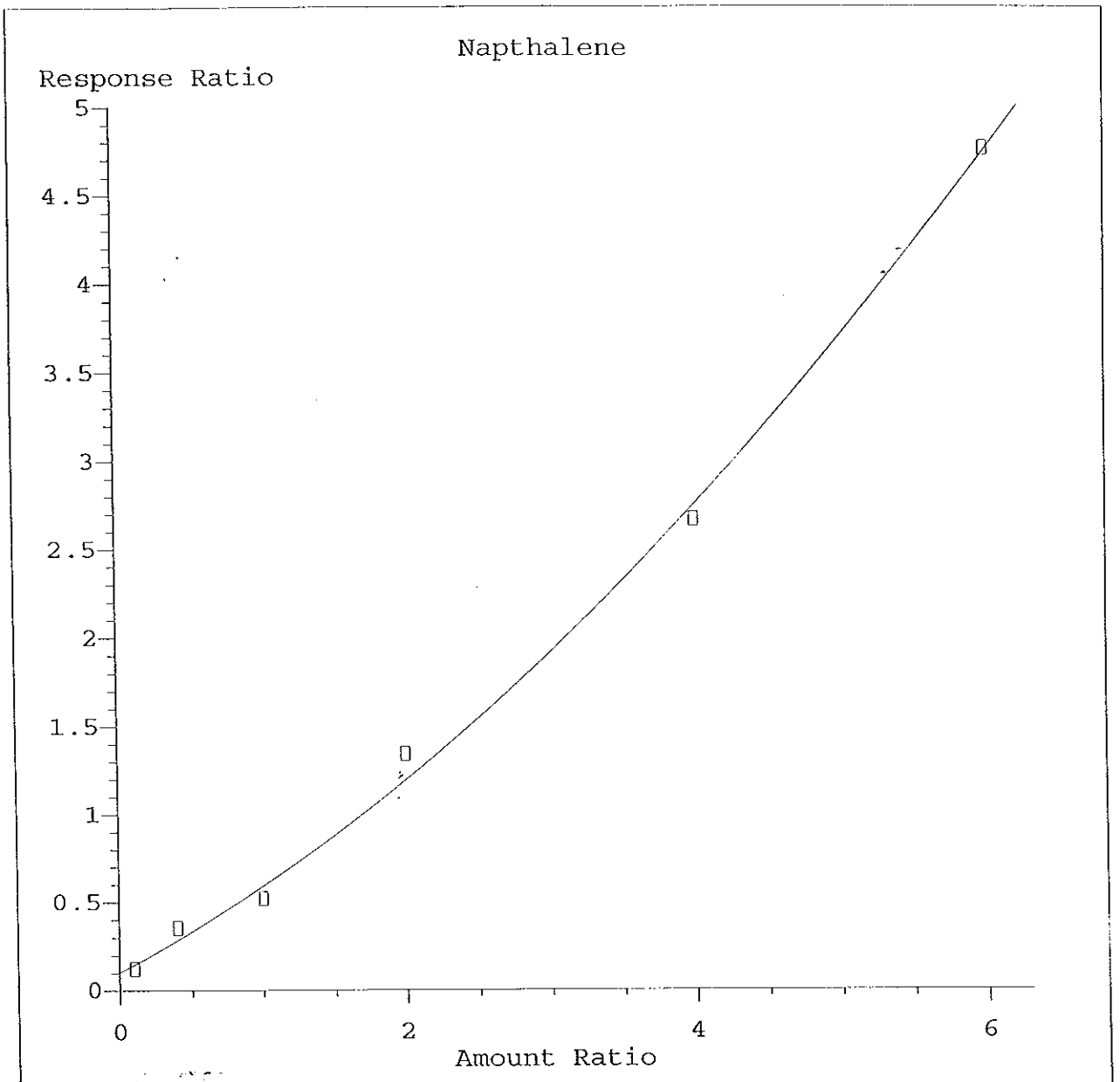
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Wed Oct 24 15:26:06 2001



Resp Ratio = 1.62e-001 * Amt - 3.81e-002
Coef of Det (r^2) = 0.994 Curve Fit: Linear

BA 10/24/01

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



R = 5.69e-002 A*A + 4.32e-001 A + 1.02e-001
Curve Fit: Quadratic .997 DH 10/24/01

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

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

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

Quant Results File: TO14S.RES

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

BH 10/24/01

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00	ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00	ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00	ng	0.00 104.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87	ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 113.95%			
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.71%			
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 93.07%			

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.03	85	58539m	6.94	ng	# 82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53	ng	# 32
4) Chloromethane	4.42	50	54501	31.95	ng	# 84
5) Vinyl chloride	4.65	62	45304	28.33	ng	# 89
6) Bromomethane	5.47	94	63214	27.33	ng	91
7) Chloroethane	5.60	64	27159	26.47	ng	# 87
8) Trichlorofluoromethane	6.13	101	76300	29.69	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83	ng	98
10) 1,1-Dichloroethene	7.29	96	47924	26.69	ng	80
12) Methylene chloride	8.21	49	111935	34.72	ng	# 80
13) Carbon disulfide	8.36	76	144676	27.32	ng	# 77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15	ng	# 68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80	ng	89
16) n-Hexane	8.87	57	73561	33.16	ng	# 1
17) 1,1-Dichloroethane	9.62	63	110346	28.23	ng	# 97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43	ng	# 89
19) Chloroform	11.19	83	135948	28.09	ng	# 92
20) Isooctane	12.13	57	281769	37.08	ng	89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03	ng	# 88
22) Carbon tetrachloride	12.62	117	124248	28.67	ng	98
24) 1,2-Dichloroethane	12.88	62	99619	35.56	ng	# 93
25) 1,2-Dibromoethane	19.85	107	111982	34.52	ng	99
27) Benzene	12.96	78	144795	27.71	ng	97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D 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

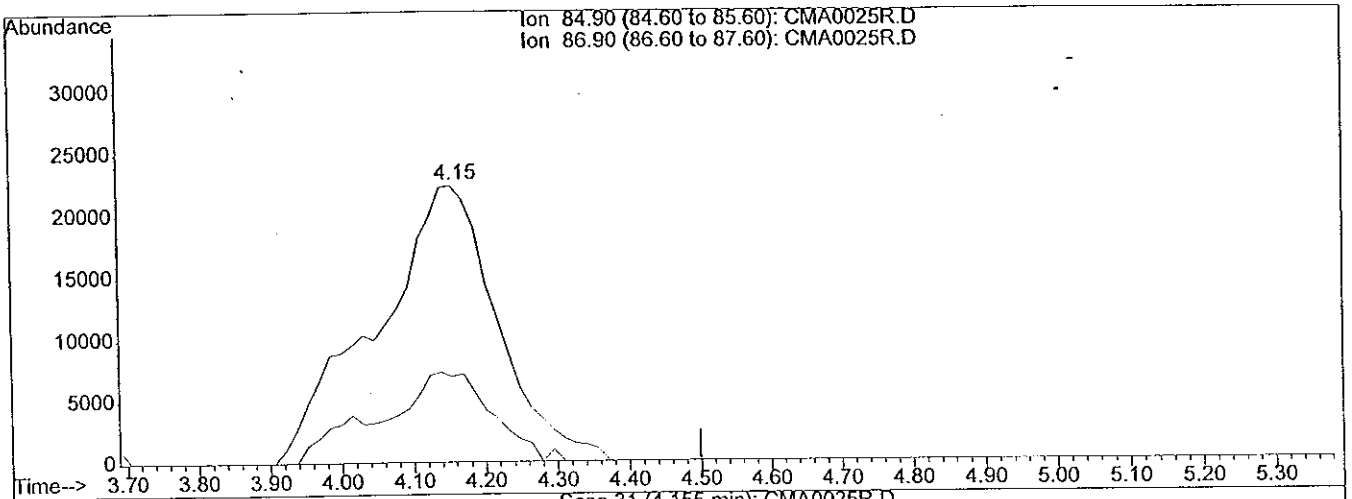
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.29	130	68130	26.00 ng		96
29) 1,2-Dichloropropane	14.67	63	64049	26.95 ng	#	74
30) Bromodichloromethane	15.21	83	160043	28.29 ng	#	99
31) cis-1,3-Dichloropropene	16.40	75	92662	27.16 ng	#	60
33) Toluene	17.23	92	85129	26.82 ng		94
34) 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

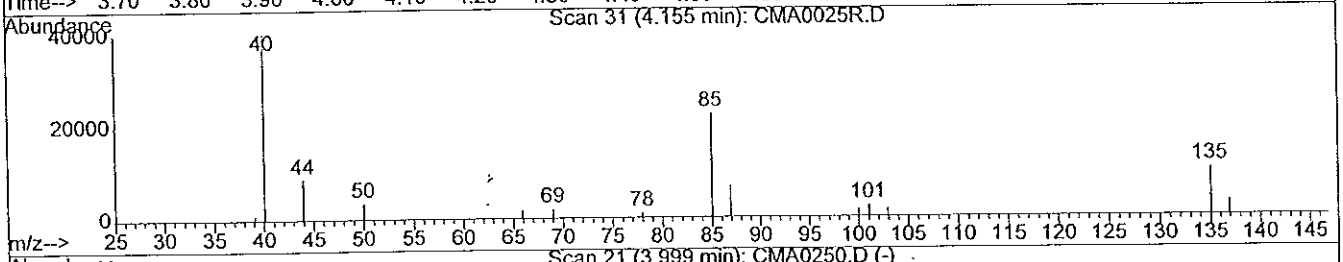
(#) = qualifier out of range (m) = manual integration

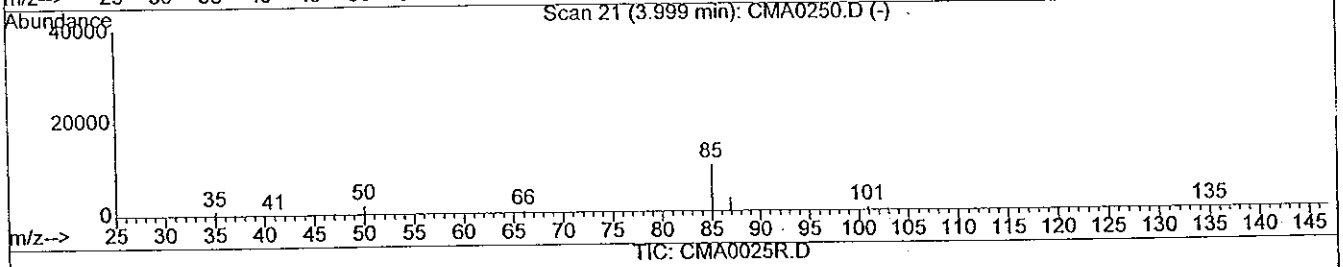
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:44 2001

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

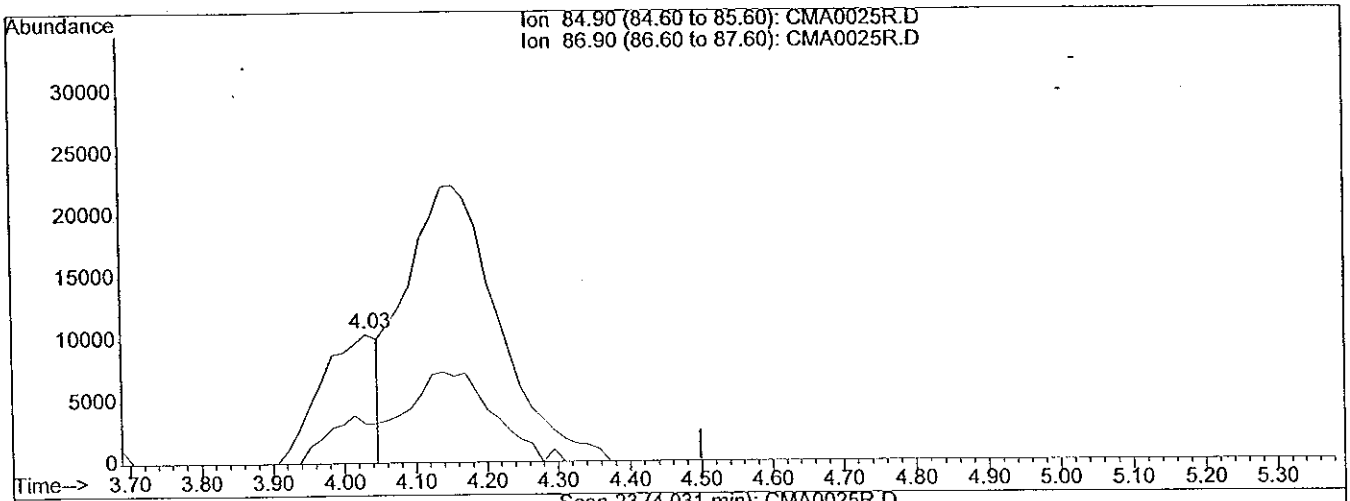
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	23.52#
0.00	0.00	0.00
0.00	0.00	0.00

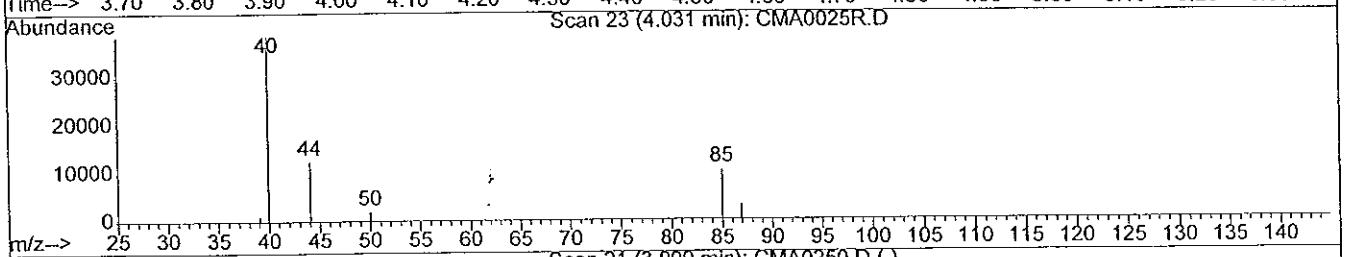
before
(mis-integrated
co-elution)

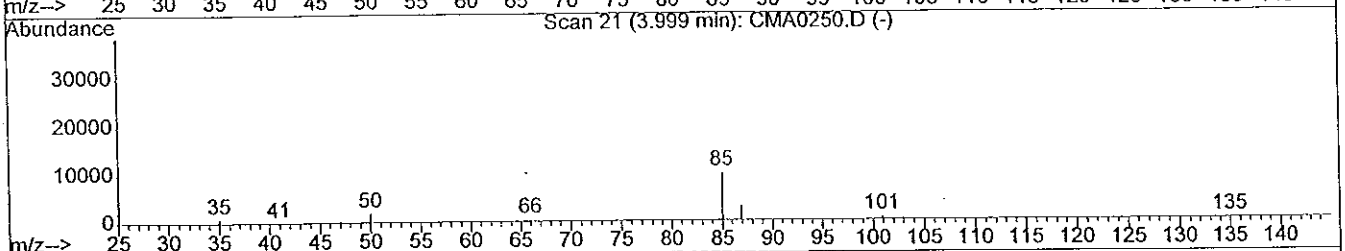
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D
Acq On : 24 Oct 2001 11:26
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 15:06 2001

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 BAT 10-24-01

10-26-01

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
IS QA File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D (24 Oct 2001 10:49)

orig. BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	403835	250.00 ng	0.00 109.67%
26) 1,4-Difluorobenzene IS#2	13.49	114	1670232	250.00 ng	0.02 104.30%
36) Chlorobenzene-d5 IS#3	20.80	117	1258324	250.00 ng	0.00 104.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.69	65	720993	284.87 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 113.95%					
32) Toluene-d8 SURR#2	17.03	98	1399786	259.27 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.71%					
46) 4-Bromofluorobenzene SURR#	23.95	95	1164074	232.67 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 93.07%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.15	85	262224	31.09 ng	#	82
3) Dichlorotetrafluoroethane	4.15	135	77665	27.53 ng	#	32
4) Chloromethane	4.42	50	54501	31.95 ng	#	84
5) Vinyl chloride	4.65	62	45304	28.33 ng	#	89
6) Bromomethane	5.47	94	63214	27.33 ng		91
7) Chloroethane	5.60	64	27159	26.47 ng	#	87
8) Trichlorofluoromethane	6.13	101	76300	29.69 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.87	151	88101	27.83 ng		98
10) 1,1-Dichloroethene	7.29	96	47924	26.69 ng		80
12) Methylene chloride	8.21	49	111935	34.72 ng	#	80
13) Carbon disulfide	8.36	76	144676	27.32 ng	#	77
14) methyl-Tert-Butyl Ether	8.49	73	103297	45.15 ng	#	68
15) trans-1,2-Dichloroethene	8.80	96	55427	28.80 ng		89
16) n-Hexane	8.87	57	73561	33.16 ng	#	1
17) 1,1-Dichloroethane	9.62	63	110346	28.23 ng	#	97
18) cis-1,2-Dichloroethene	10.86	61	86104	26.43 ng	#	89
19) Chloroform	11.19	83	135948	28.09 ng	#	92
20) Isooctane	12.13	57	281769	37.08 ng		89
21) 1,1,1-Trichloroethane	12.06	97	122861	30.03 ng	#	88
22) Carbon tetrachloride	12.62	117	124248	28.67 ng		98
24) 1,2-Dichloroethane	12.88	62	99619	35.56 ng	#	93
25) 1,2-Dibromoethane	19.85	107	111982	34.52 ng		99
27) Benzene	12.96	78	144795	27.71 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0025R.D 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

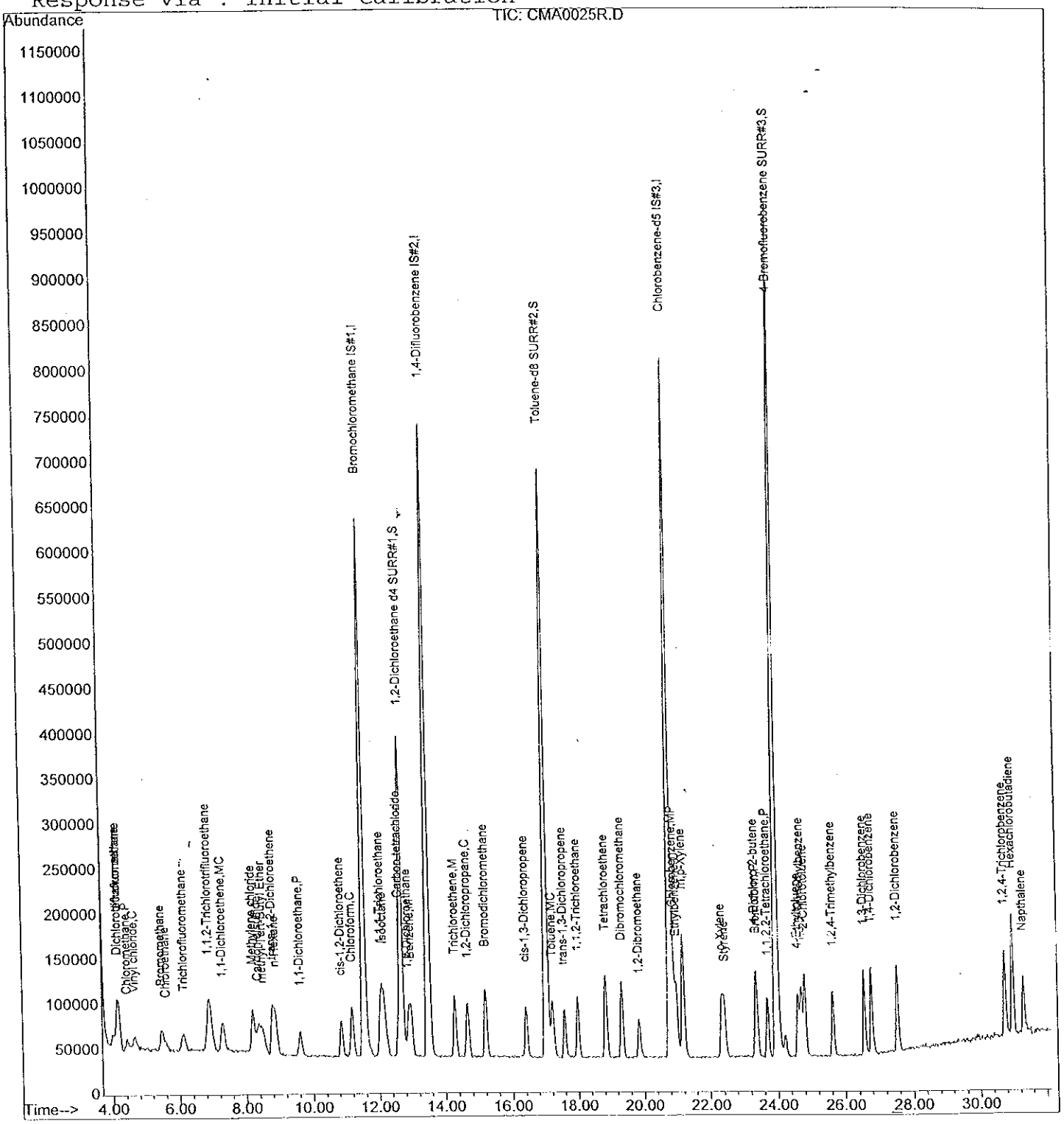
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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



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

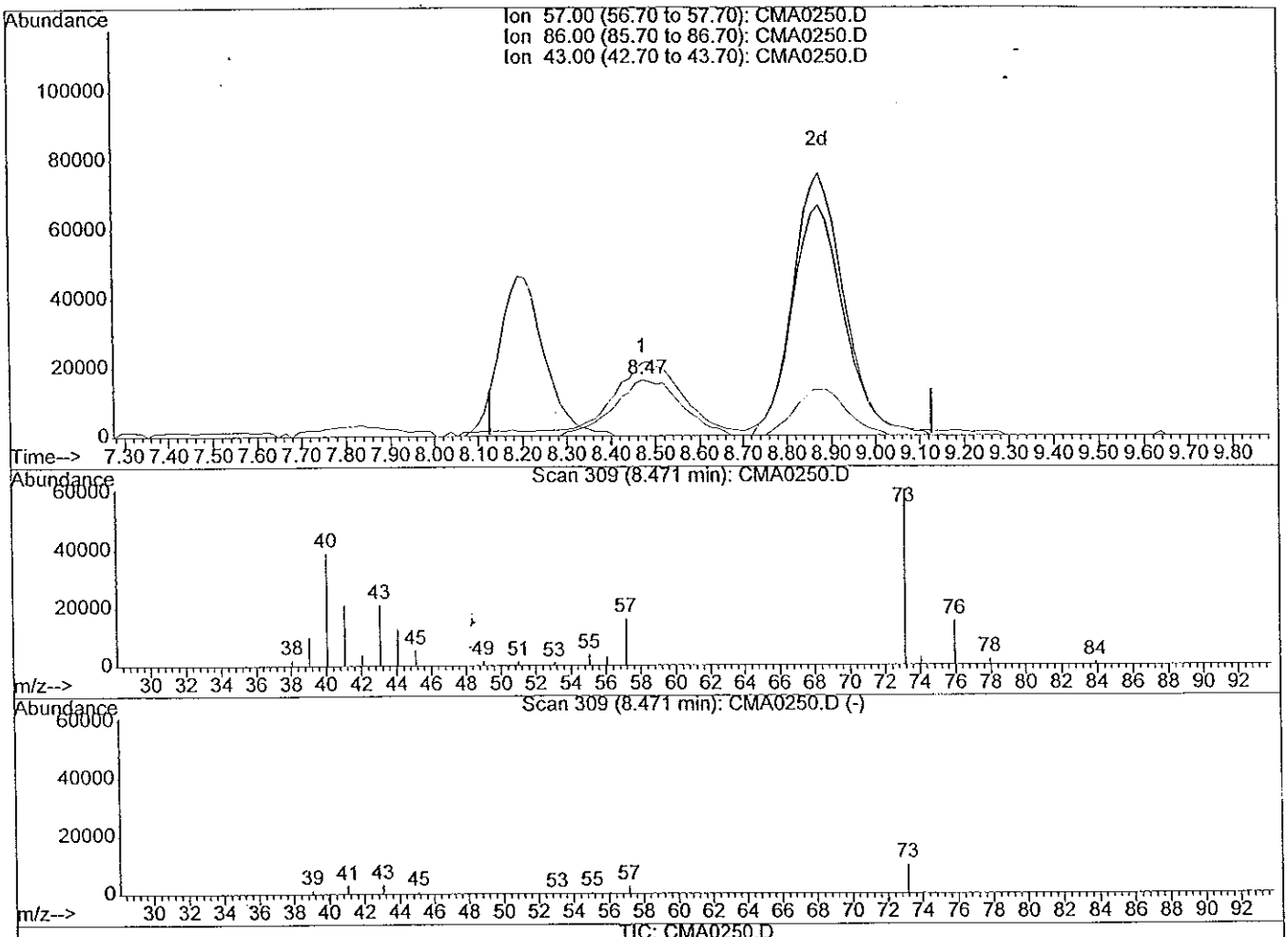
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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\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



(16) n-Hexane

8.47min 85.35ng

response 172617

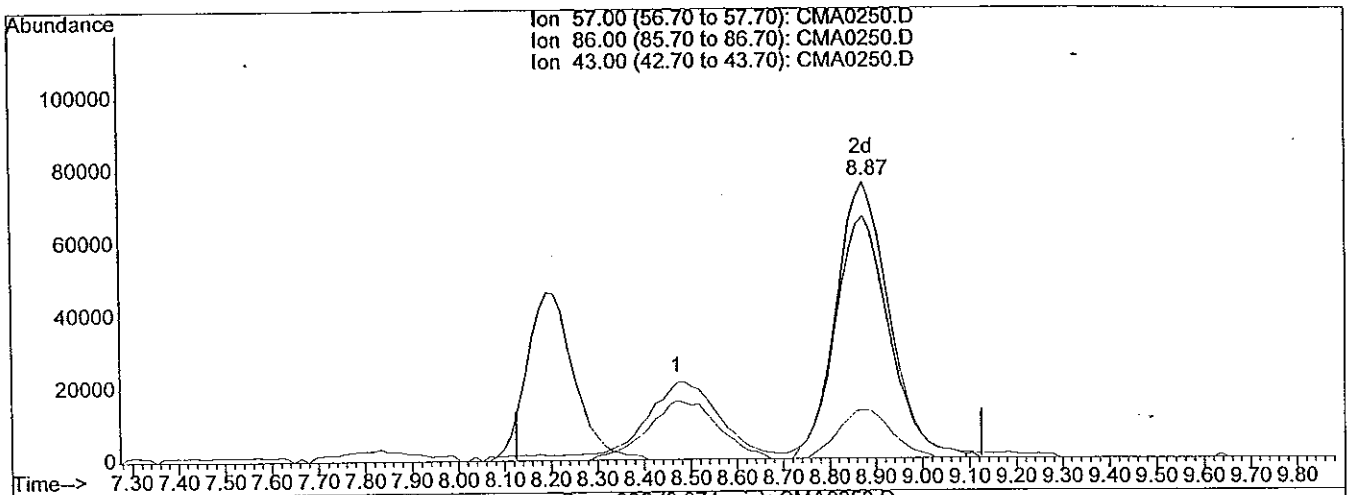
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	118.04#
0.00	0.00	0.00

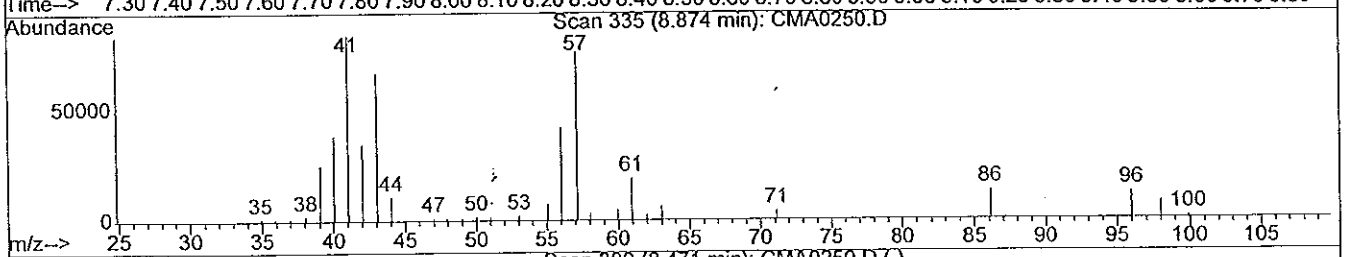
Define (wrong peak)

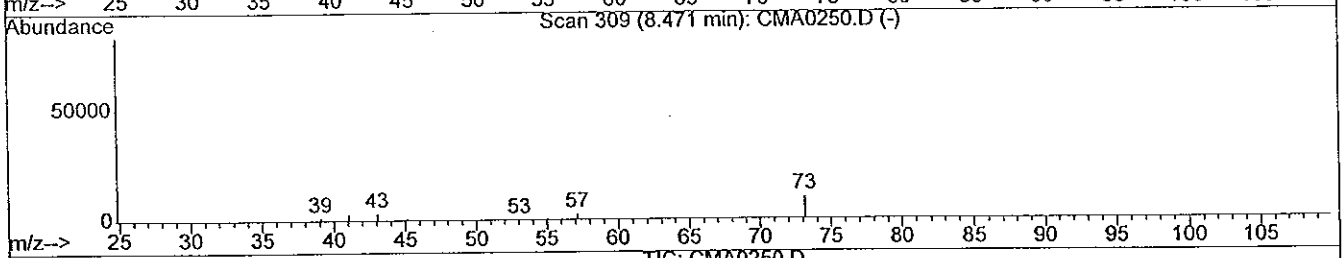
Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D
Acq On : 24 Oct 2001 10:49
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA217ABK
MS Integration Params: rteint.p
Quant Time: Oct 24 13:40 2001

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

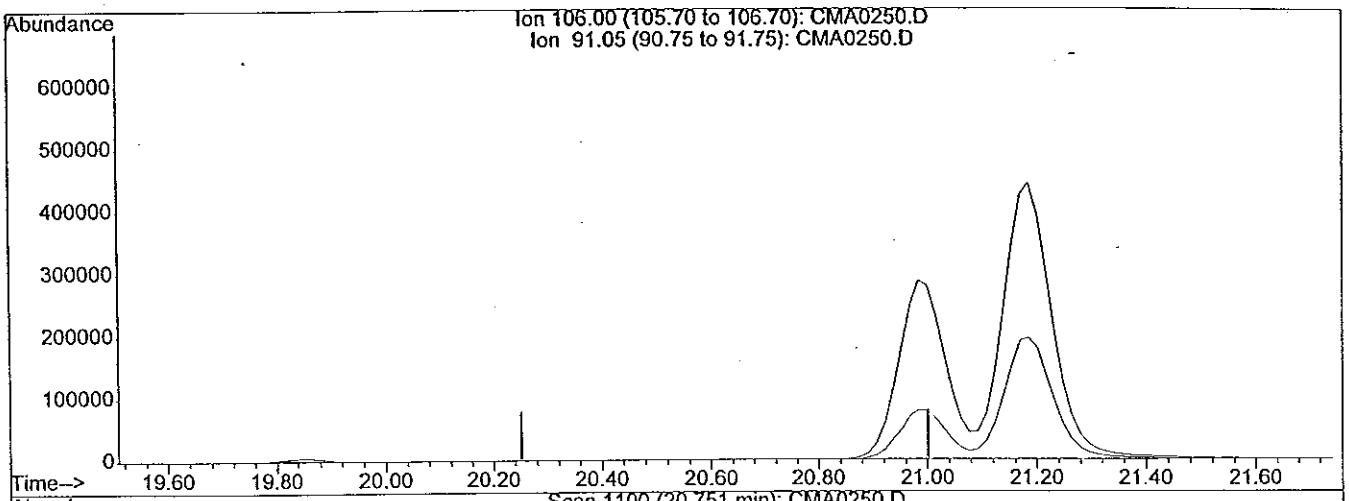
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	33.61#
0.00	0.00	0.00

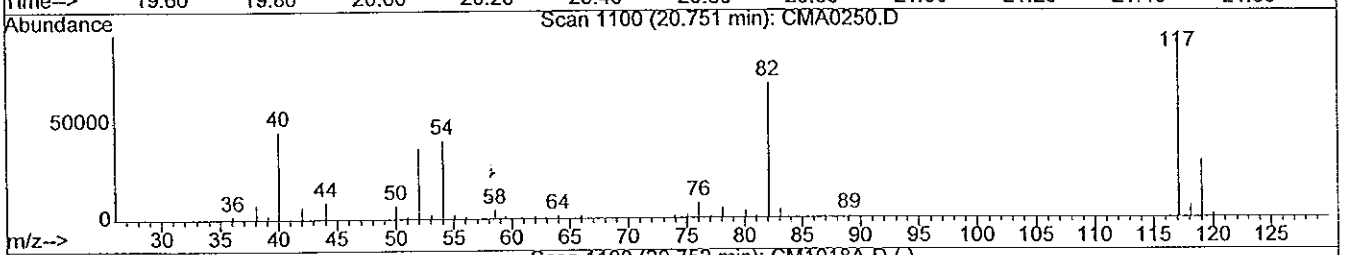
after
BDH 10/24/01

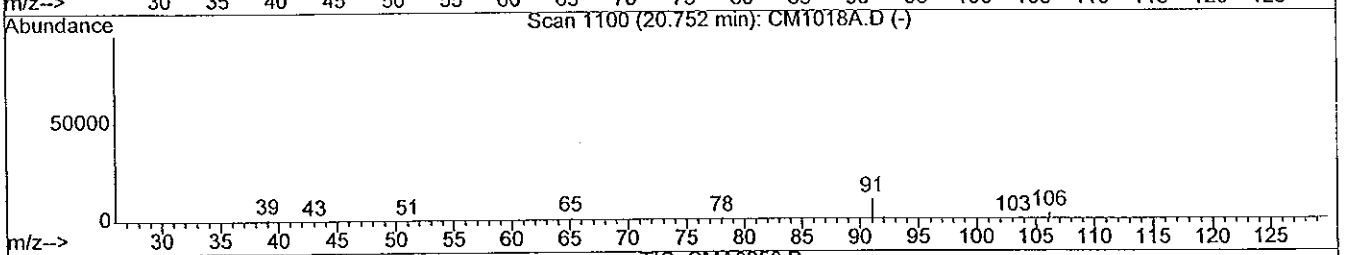
10-26-01

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D 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 11:21 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







TIC: CMA0250.D

(40) Ethylbenzene (C)

20.75min 0.00ng

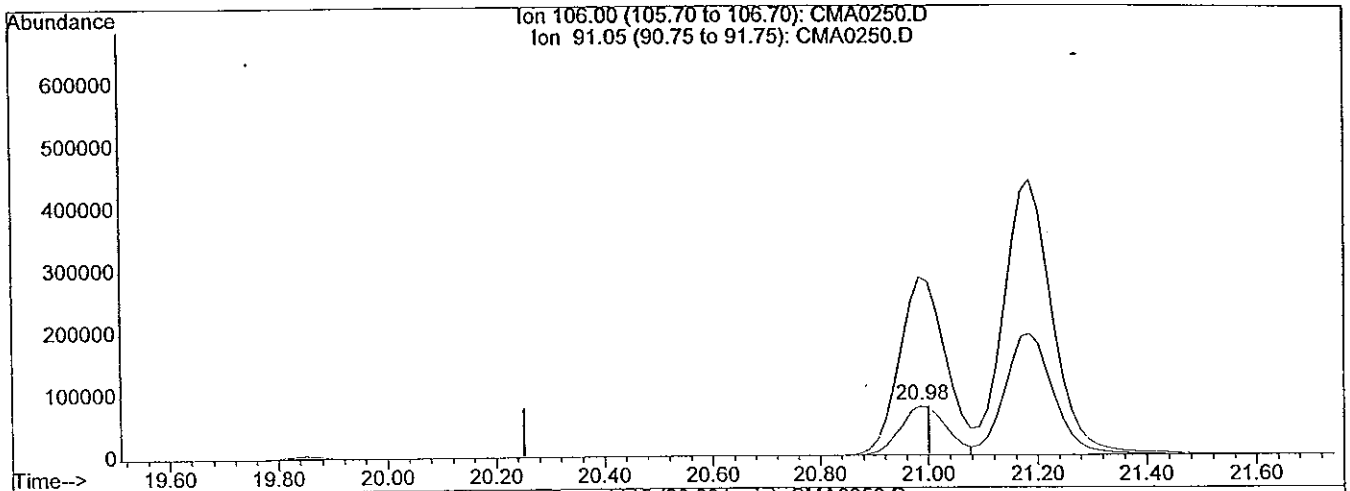
response 0

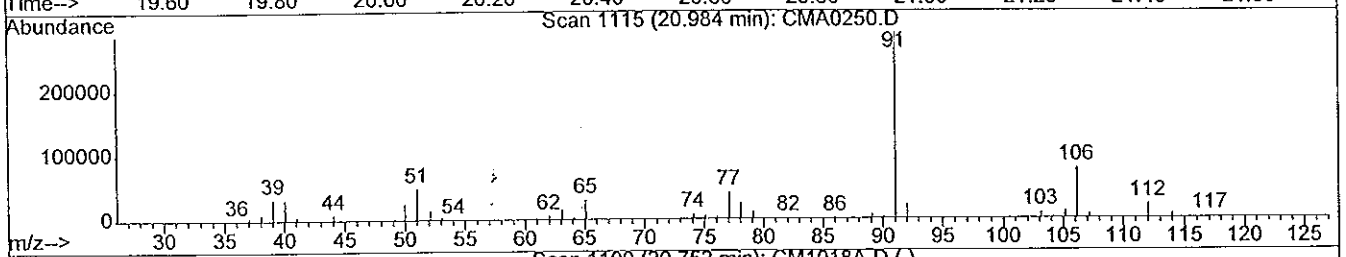
Ion	Exp%	Act%
106.00	100	0.00
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

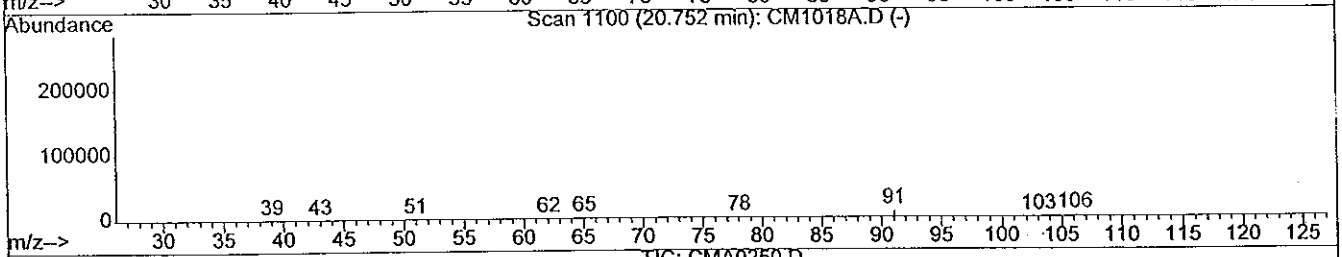
before (missed peak; just outside RT window)

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA0250.D 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







TIC: CMA0250.D

(40) Ethylbenzene (C)

20.98min 265.09ng m

response 470972

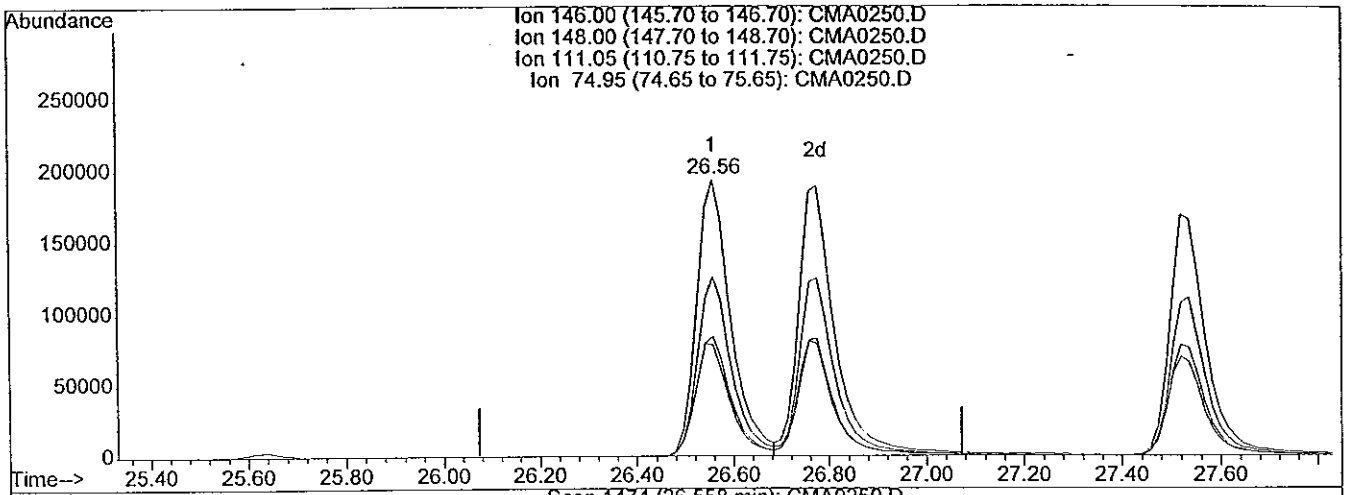
Ion	Exp%	Act%
106.00	100	100
91.05	332.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

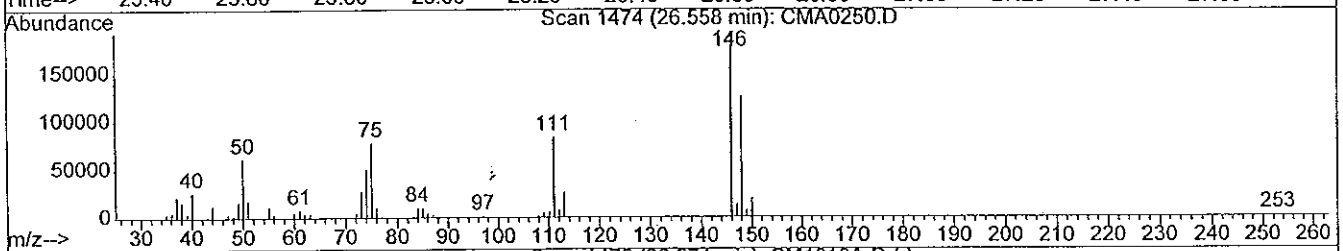
after
DH 10/24/01

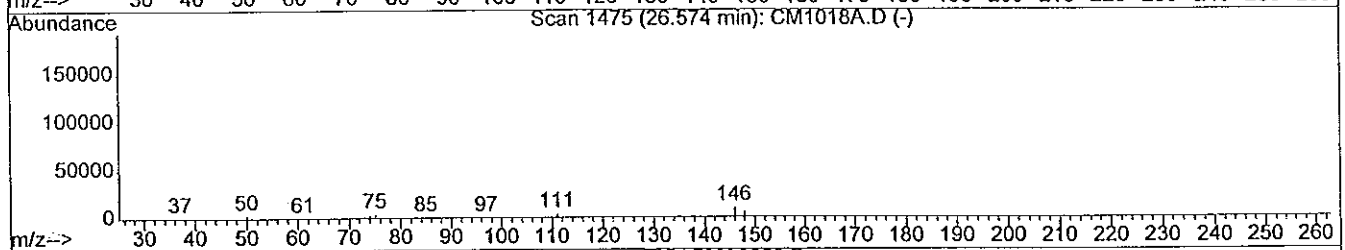
TB 10-26-01

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







TIC: CMA0250.D

(53) 1,4-Dichlorobenzene

26.56min 236.90ng

response 943975

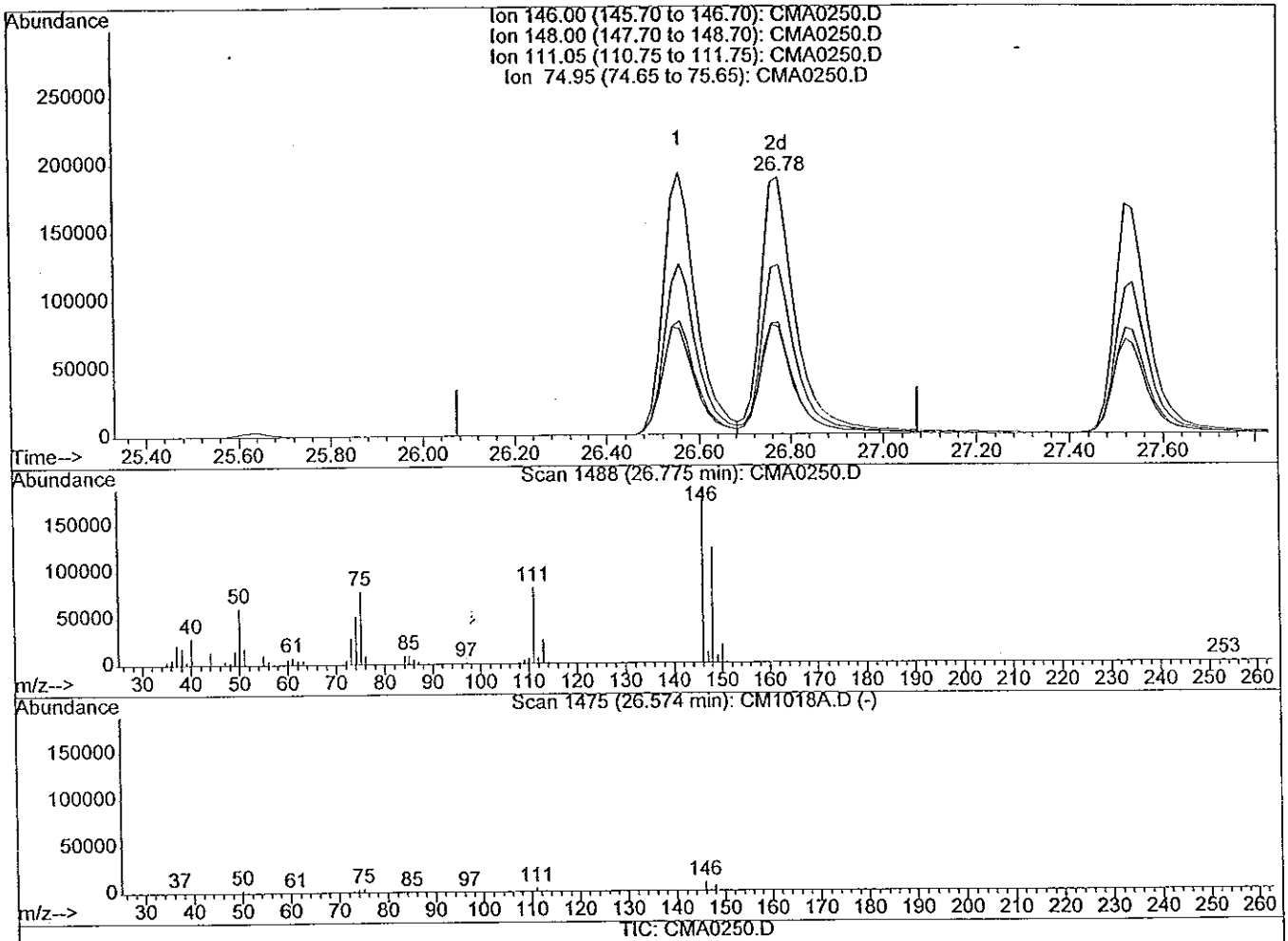
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.94
111.05	43.10	44.04
74.95	36.90	41.68

before (wrong peak)

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



(53) 1,4-Dichlorobenzene

26.78min 247.69ng m

response 986973

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

after
BA
10/24/01

TM
10-26-01

CMA0250.D TO14S.M Wed Oct 24 11:33:06 2001

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 11:21 2001 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 orig.
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1018A\CM1018A.D (18 Oct 2001 9:14)

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 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 11:21 2001 Quant Results File: TO14S.RES

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

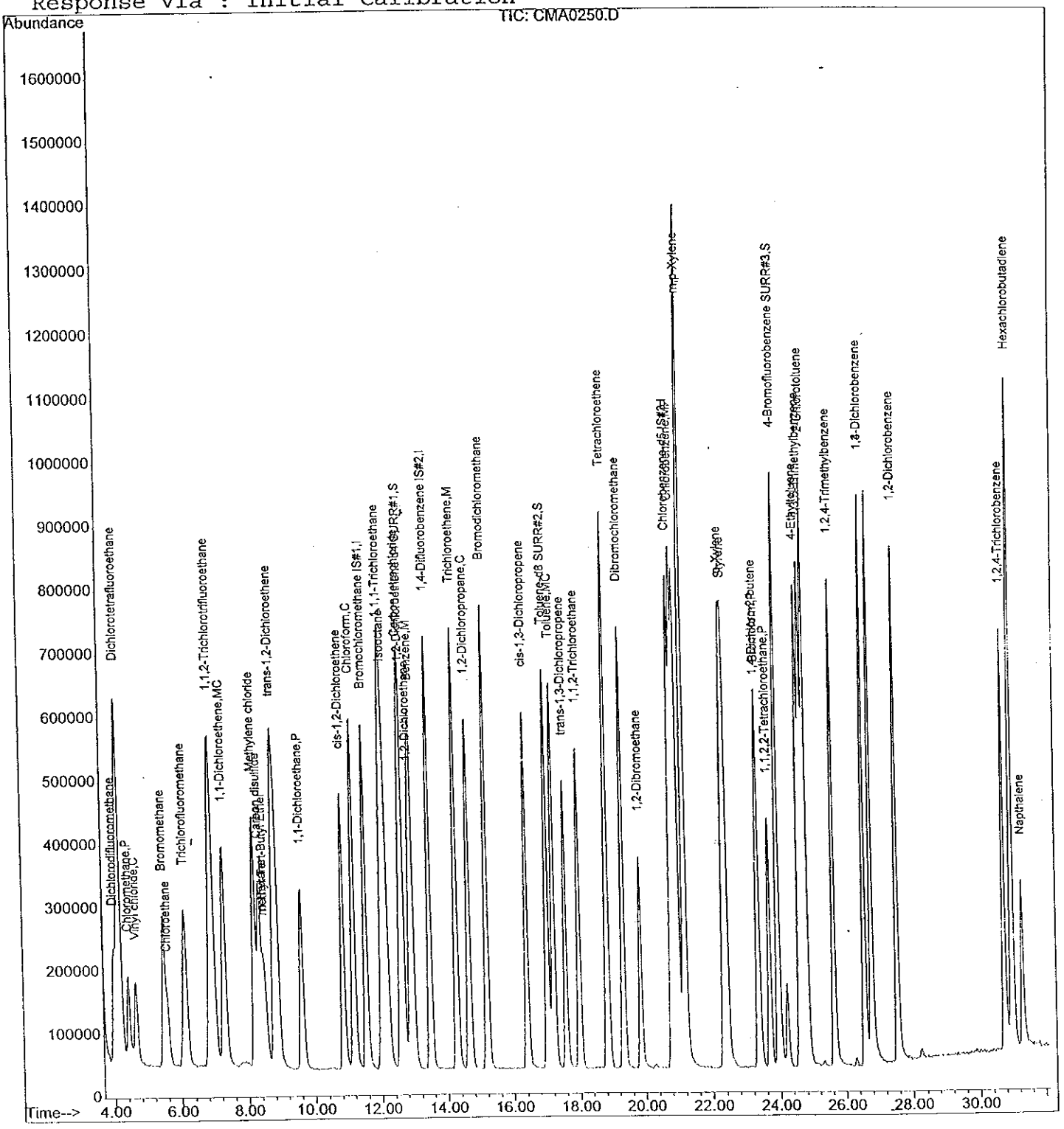
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.28	130	655661	260.92 ng		97
29)	1,2-Dichloropropane	14.67	63	604992	265.54 ng	#	80
30)	Bromodichloromethane	15.19	83	1487706	274.32 ng		98
31)	cis-1,3-Dichloropropene	16.40	75	852570	260.64 ng	#	71
33)	Toluene	17.23	92	817016	268.48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

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

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

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

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



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

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

Quant Results File: TO14S.RES

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

orig. SH 10/24/01

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

ng report

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

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

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

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

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

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

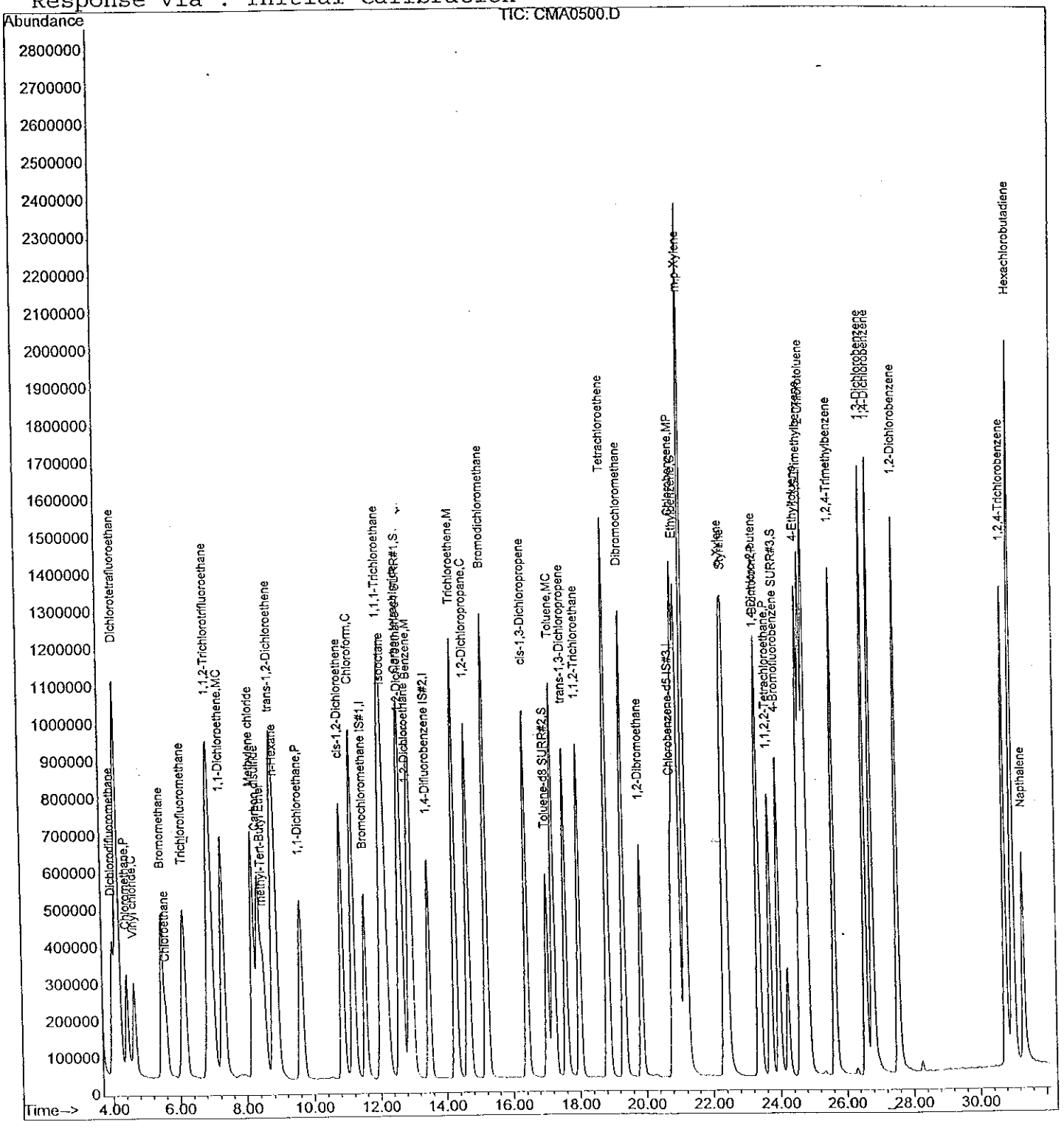
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.30	130	1124713	514.22 ng		97
29) 1,2-Dichloropropane	14.67	63	1046814	527.87 ng	#	81
30) Bromodichloromethane	15.21	83	2589250	548.51 ng		98
31) cis-1,3-Dichloropropene	16.42	75	1529163	537.08 ng	#	71
33) Toluene	17.23	92	1401707	529.18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

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

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

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

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



Quantitation Report

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. SJ 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.54	128	381143	250.00	ng	0.00 103.51%
26) 1,4-Difluorobenzene IS#2	13.50	114	1562902	250.00	ng	0.03 97.59%
36) Chlorobenzene-d5 IS#3	20.86	117	1183115	250.00	ng	0.06 98.12%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	691978	289.68	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 115.87%						
32) Toluene-d8 SURR#2	17.07	98	1280433	253.45	ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.38%						
46) 4-Bromofluorobenzene SURR#	24.01	95	1136531	241.61	ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.64%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	2735069	343.61	ng	98
3) Dichlorotetrafluoroethane	4.14	135	2769932	1040.50	ng #	34
4) Chloromethane	4.40	50	1829586	1136.39	ng	95
5) Vinyl chloride	4.61	62	1651969	1094.71	ng	97
6) Bromomethane	5.47	94	2276884	1043.14	ng	97
7) Chloroethane	5.57	64	1064134	1098.81	ng #	93
8) Trichlorofluoromethane	6.11	101	3775685	1236.43	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	3068817	1026.93	ng	98
10) 1,1-Dichloroethene	7.29	96	1856306	1095.25	ng	82
12) Methylene chloride	8.19	49	3407078	1119.70	ng #	83
13) Carbon disulfide	8.36	76	5434383	1087.27	ng	99
14) methyl-Tert-Butyl Ether	8.47	73	2884045	1335.74	ng #	89
15) trans-1,2-Dichloroethene	8.78	96	1956401	1077.26	ng	88
16) n-Hexane	8.87	57	2265746	1082.29	ng #	1
17) 1,1-Dichloroethane	9.62	63	4092898	1109.40	ng	99
18) cis-1,2-Dichloroethene	10.86	61	3400663	1106.14	ng	90
19) Chloroform	11.19	83	5058553	1107.31	ng #	92
20) Isooctane	12.15	57	7647454	1066.26	ng	93
21) 1,1,1-Trichloroethane	12.06	97	4224028	1093.76	ng	92
22) Carbon tetrachloride	12.63	117	4469033	1092.77	ng	98
24) 1,2-Dichloroethane	12.90	62	3208228	1213.23	ng #	98
25) 1,2-Dibromoethane	19.90	107	3427551	1119.46	ng	99
27) Benzene	12.97	78	5184887	1060.40	ng	96

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

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

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

Quant Results File: TO14S.RES

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

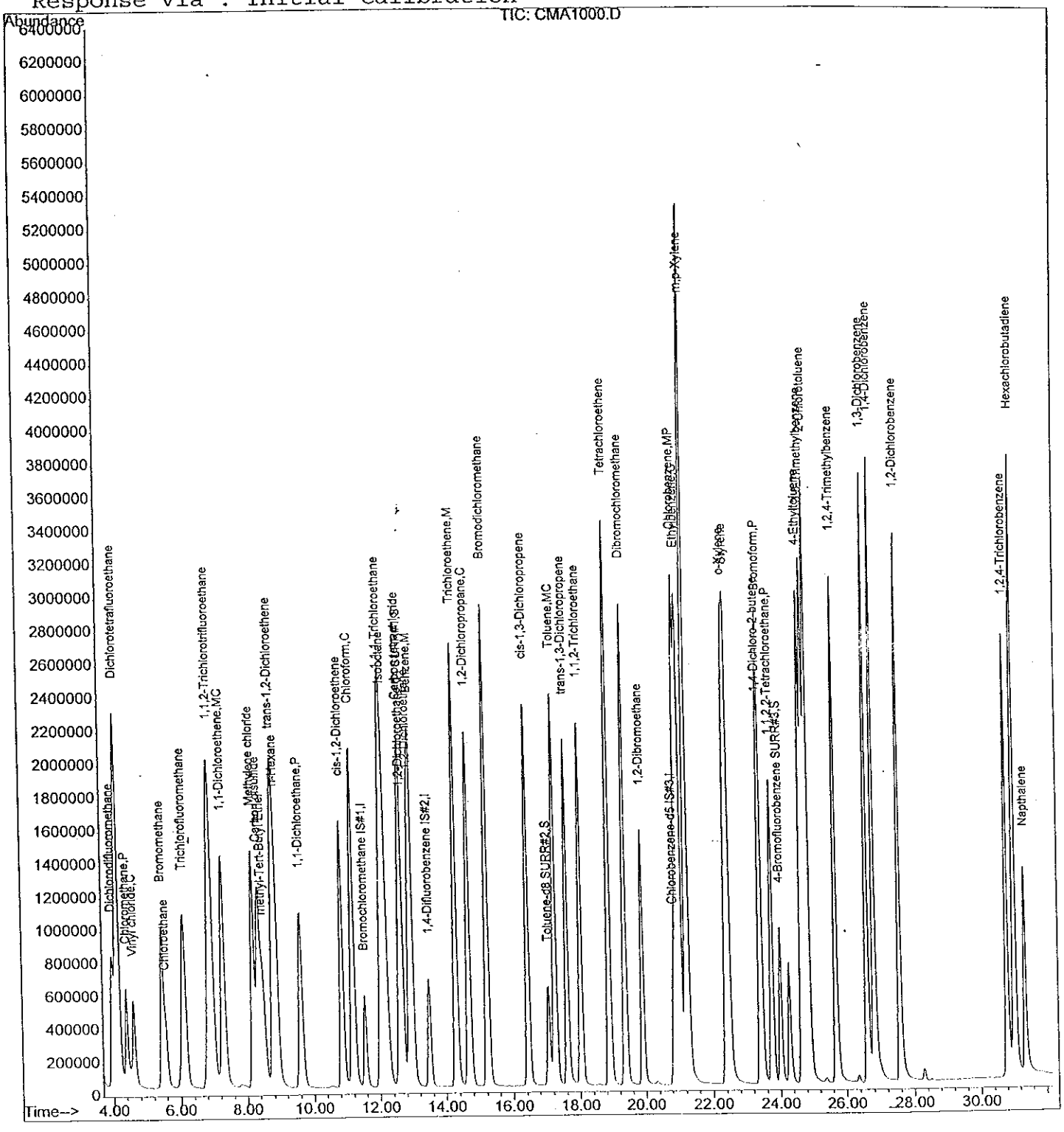
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.31	130	2574537	1049.80 ng		97
29) 1,2-Dichloropropane	14.68	63	2381129	1070.89 ng	#	81
30) Bromodichloromethane	15.22	83	5935390	1121.41 ng		98
31) cis-1,3-Dichloropropene	16.44	75	3562044	1115.80 ng	#	72
33) Toluene	17.26	92	3196310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

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

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

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

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



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

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

orig BH 10/24/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.55	128	299711	250.00	ng	0.00 81.39%
26) 1,4-Difluorobenzene IS#2	13.49	114	1220318	250.00	ng	0.02 76.20%
36) Chlorobenzene-d5 IS#3	20.83	117	936333	250.00	ng	0.03 77.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.69	65	527563	280.86	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.34%						
32) Toluene-d8 SURR#2	17.06	98	1008524	255.67	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.27%						
46) 4-Bromofluorobenzene SURR#	23.98	95	963269	258.75	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.50%						

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

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

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

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

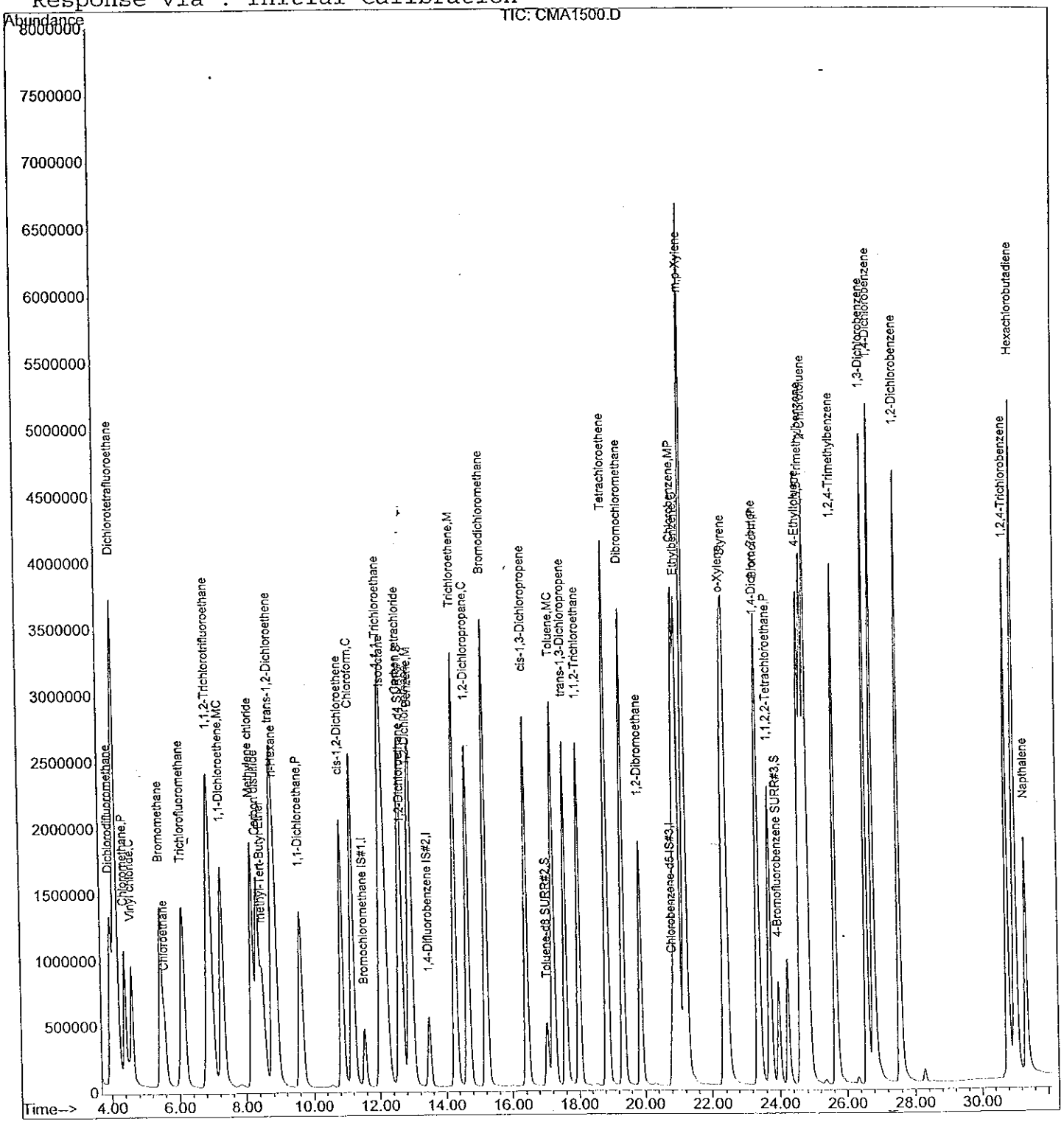
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 13:41:16 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

Data File : D:\HPCHEM\1\DATA01\M1024A\CMA1500.D 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

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



Sequence Name: D:\HPCHEM\1\SEQUENCE\[illegible]

Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1025A\
Pre-Seq Cmd:
Post-Seq Cmd:

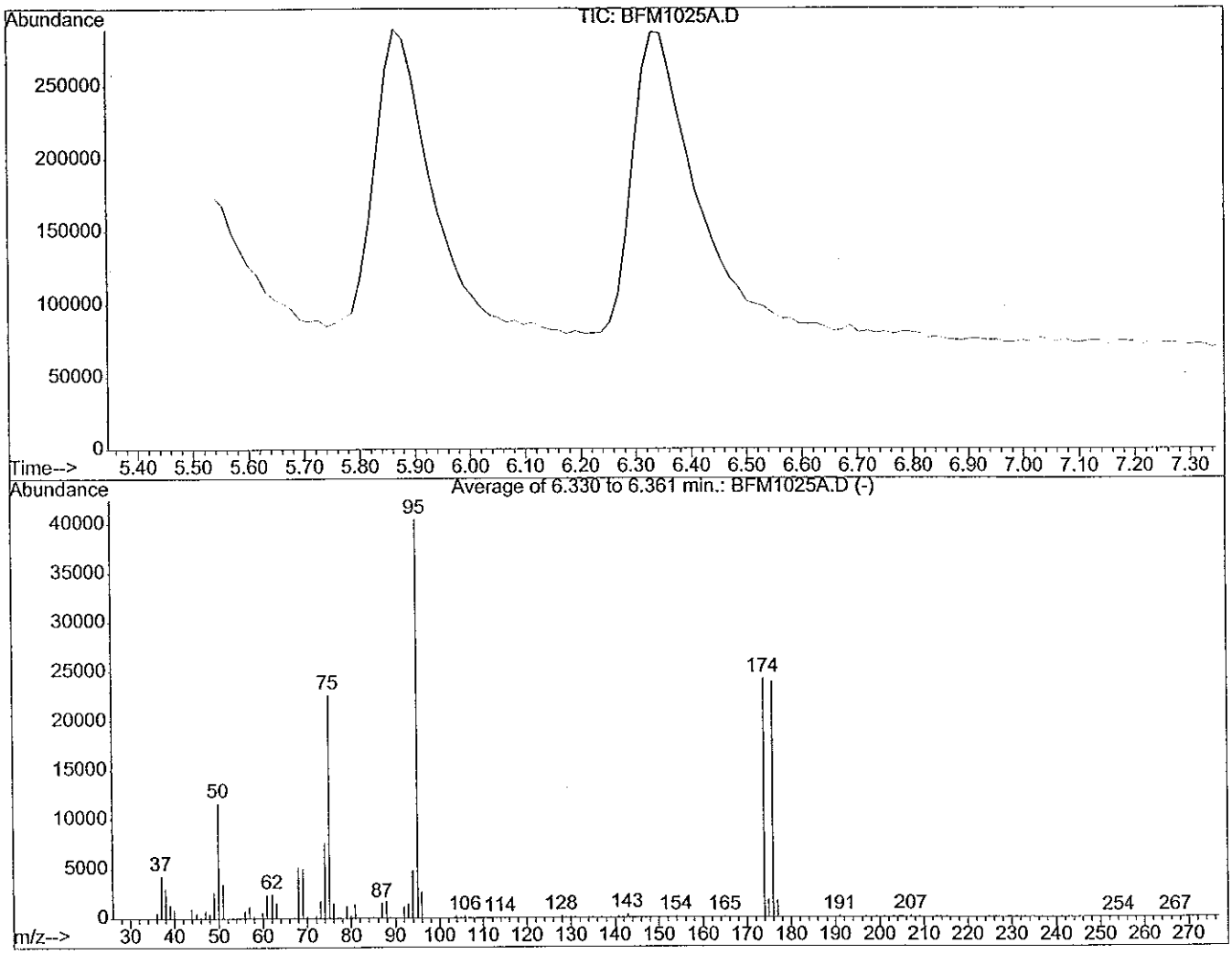
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

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

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

BFB Tune Evaluation

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



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

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

BFM1025A.D TO14S.M Fri Oct 26 13:04:56 2001

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.
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						

Area Percent Report

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

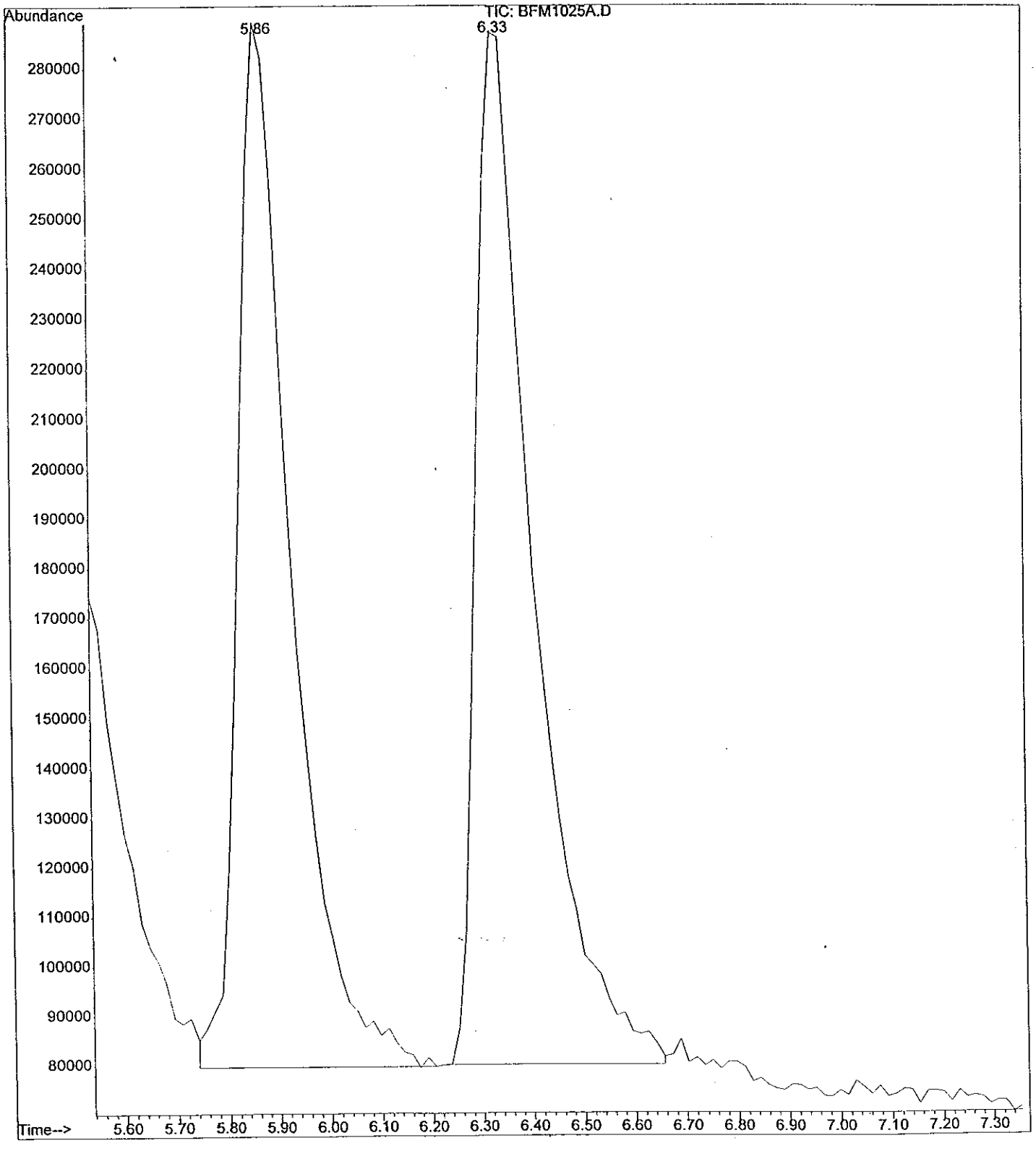
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.864	14	22	44	rVB2	209604	1533389	93.04%	48.198%
2	6.330	45	52	73	rBV	207086	1648060	100.00%	51.802%

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 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



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

Evaluate Continuing Calibration Report

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

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

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

passes BH 10/25/01

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

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

(#) = Out of Range

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

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

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

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

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

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

Evaluate Continuing Calibration Report

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

Evaluate Continuing Calibration Report

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

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

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

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

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

Quantitation Report

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

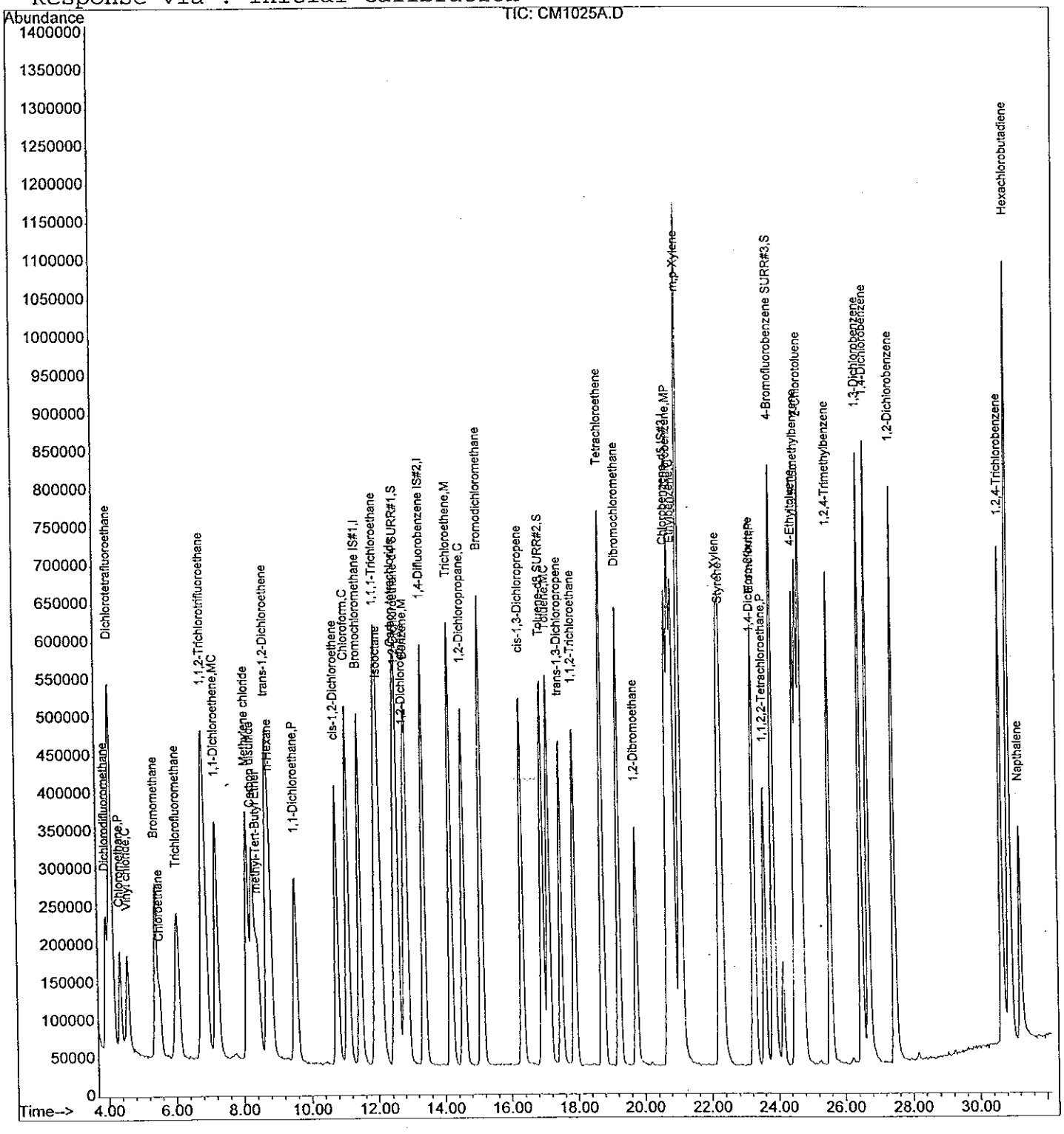
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 24 15:28:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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 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
Quant Time: Oct 25 9:24 2001 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



Quantitation Report

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 10:06 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)

BJK 10/25/01

ng report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00 ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00 ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00 ng	0.03 88.75%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 102.49%		
32) Toluene-d8 SURR#2	16.96	98	961330	248.26 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.30%		
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.34%		

Target Compounds Qvalue

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

Quantitation Report

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

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

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

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	280257	250.00	ng	0.03 90.39%
26) 1,4-Difluorobenzene IS#2	13.41	114	1169848	250.00	ng	0.02 91.42%
36) Chlorobenzene-d5 IS#3	20.74	117	869092	250.00	ng	0.03 88.75%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	513552	256.22	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.49%						
32) Toluene-d8 SURR#2	16.96	98	961330	248.26	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.30%						
46) 4-Bromofluorobenzene SURR#	23.89	95	799608	238.36	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.34%						

Target Compounds

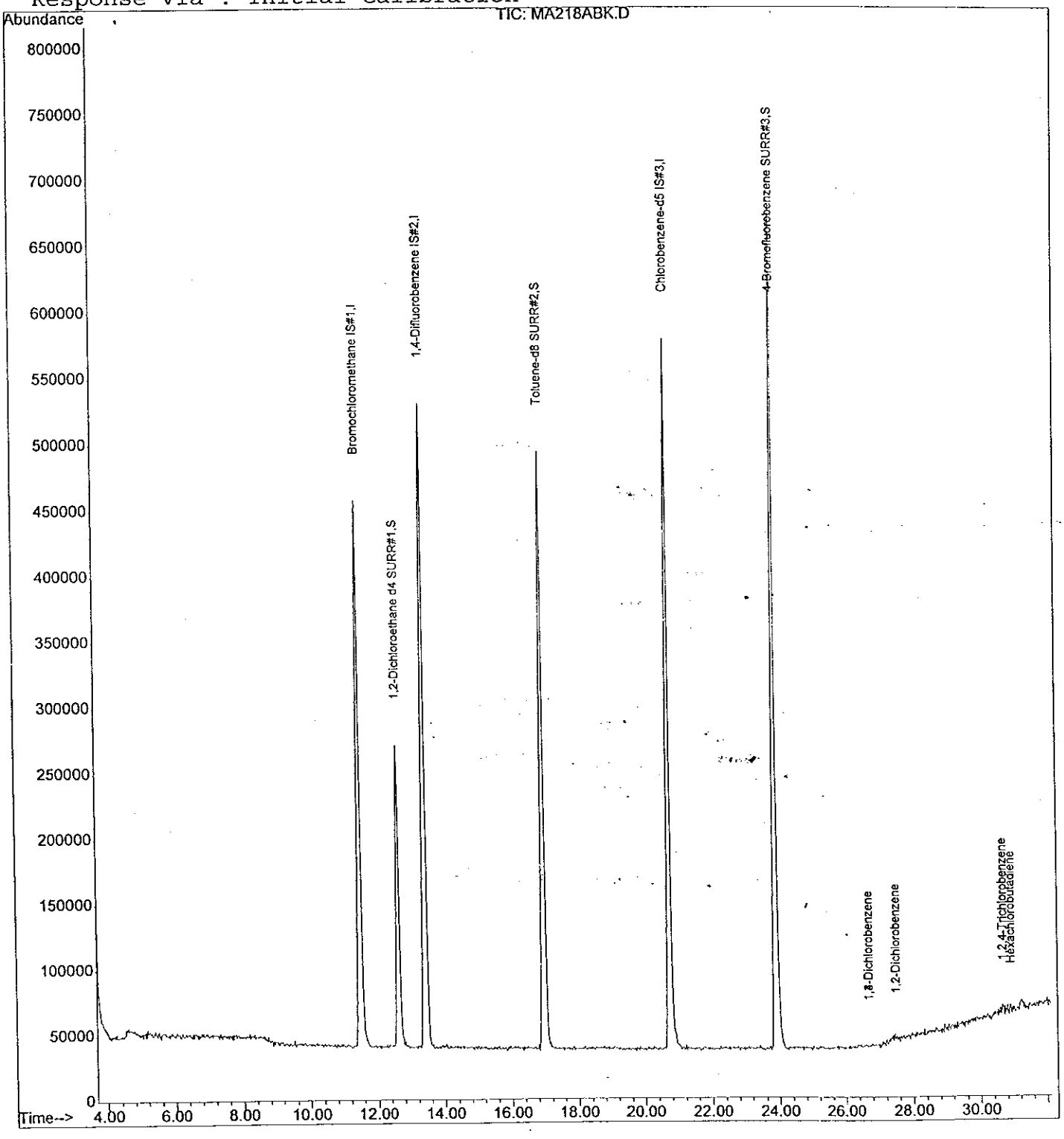
						Qvalue
52) 1,3-Dichlorobenzene	26.70	146	2049	0.73	ng	# 27
53) 1,4-Dichlorobenzene	26.70	146	2049	0.69	ng	# 27
54) 1,2-Dichlorobenzene	27.49	146	1017	0.39	ng	# 26
55) 1,2,4-Trichlorobenzene	30.67	180	5903	3.12	ng	# 85
56) Napthalene	31.23	128	15216	Below	Cal	# 64
57) Hexachlorobutadiene	30.91	225	1018	0.64	ng	# 19

CRL/NR/NSF on C.O.

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

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

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

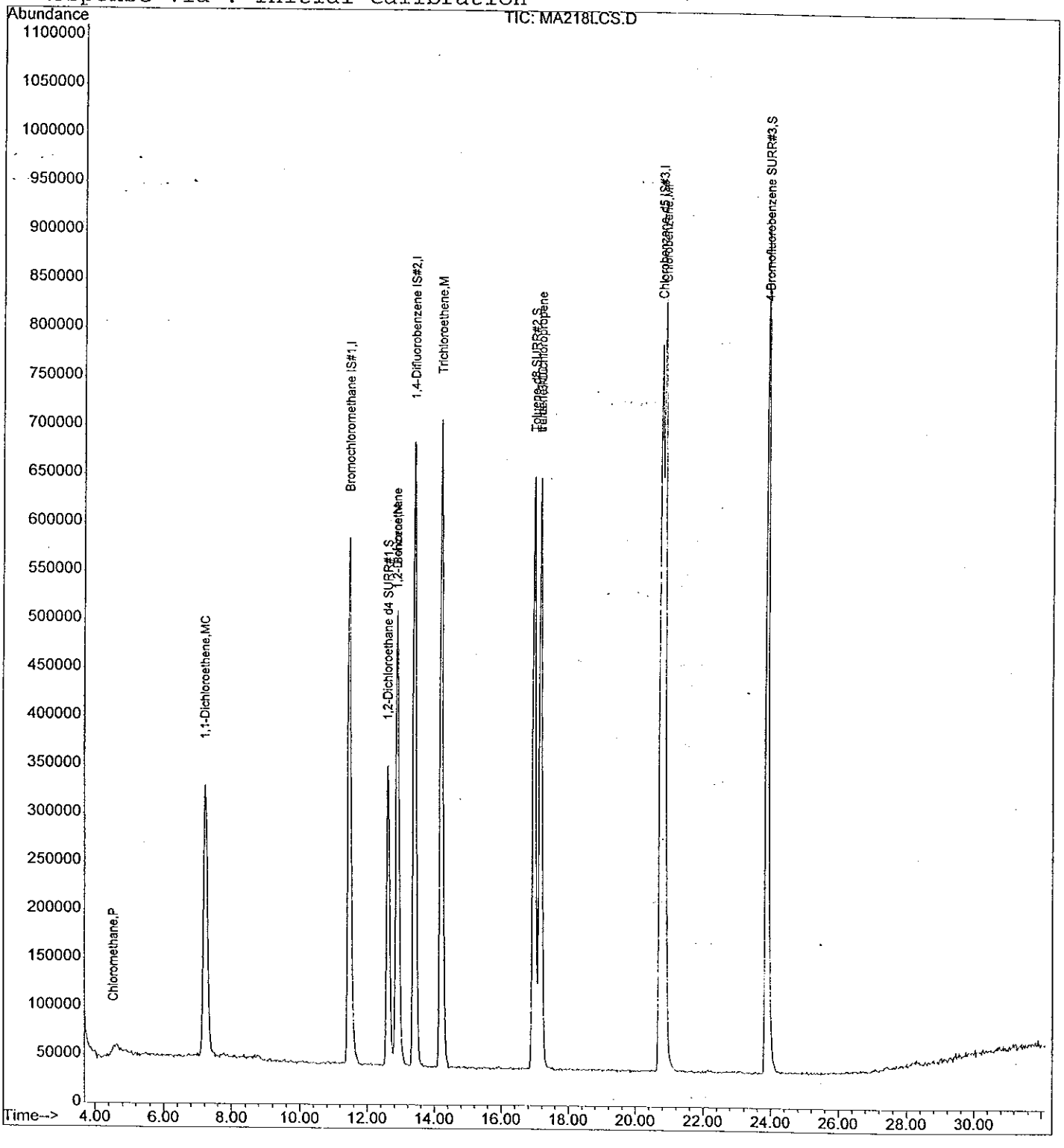
(#) = qualifier out of range (m) = manual integration

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



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 10:35 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 orig.
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1025A\CM1025A.D (25 Oct 2001 8:52)

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D Vial: 1
Acq On : 25 Oct 2001 13:37 Operator: BDH
Sample : 062SVEA10150121\10416-1 ST. 500mls Inst : ~~GC/MS~~ Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Oct 26 6:47 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 10/26/01

mg/m3 report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	359713	250.00 ng	0.06 116.01%
26) 1,4-Difluorobenzene IS#2	13.43	114	1474670	250.00 ng	0.03 115.24%
36) Chlorobenzene-d5 IS#3	20.74	117	1132293	250.00 ng	0.03 115.63%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.63	65	688114	267.47 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 106.99%		
32) Toluene-d8 SURR#2	16.98	98	1228187	251.61 ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.64%		
46) 4-Bromofluorobenzene SURR#	23.89	95	1062985	243.21 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.28%		

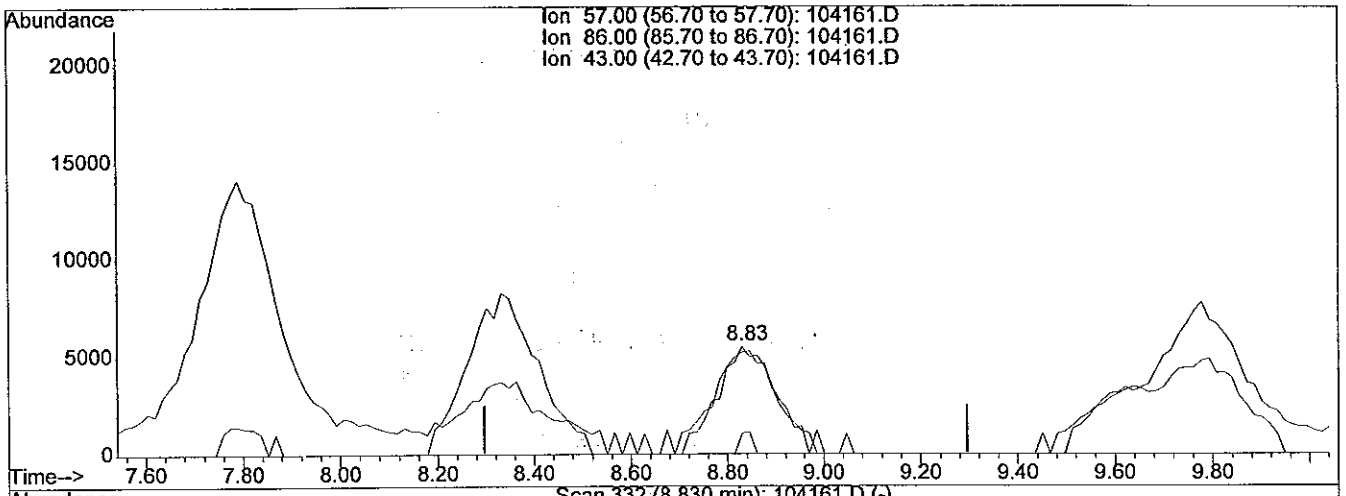
Target Compounds

					Qvalue
16) n-Hexane	8.83	57	47028	0.08 ng #	1
37) Tetrachloroethene	18.78	164	125183	0.23 ng	99
40) Ethylbenzene	20.94	106	5288	0.01 ng #	1
41) m,p-Xylene	21.13	106	27953	0.05 ng	80
42) o-Xylene	22.27	106	12723	0.02 ng #	60
48) 4-Ethyltoluene	24.51	105	49462	0.03 ng	97
49) 1,3,5-Trimethylbenzene	24.65	105	118896	0.10 ng	96
51) 1,2,4-Trimethylbenzene	25.60	105	40018	0.03 ng #	82

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D Vial: 1
Acq On : 25 Oct 2001 13:37 Operator: BDH
Sample : 062SVEA10150121\10416-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 26 6:46 2001 Quant Results File: temp.res

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



(16) n-Hexane

8.83min 20.30ng

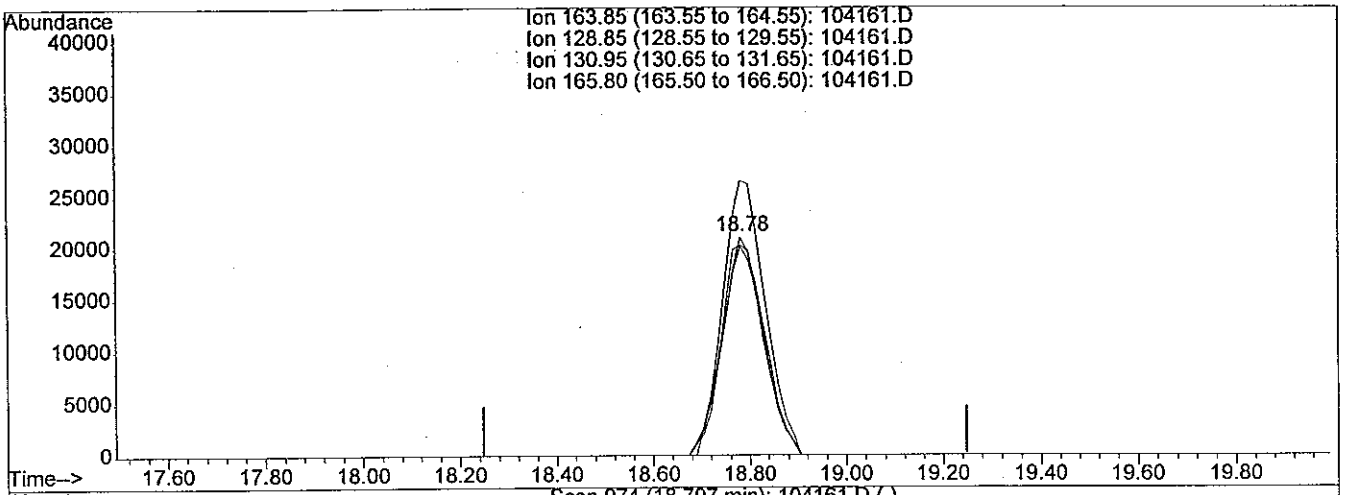
response 47028

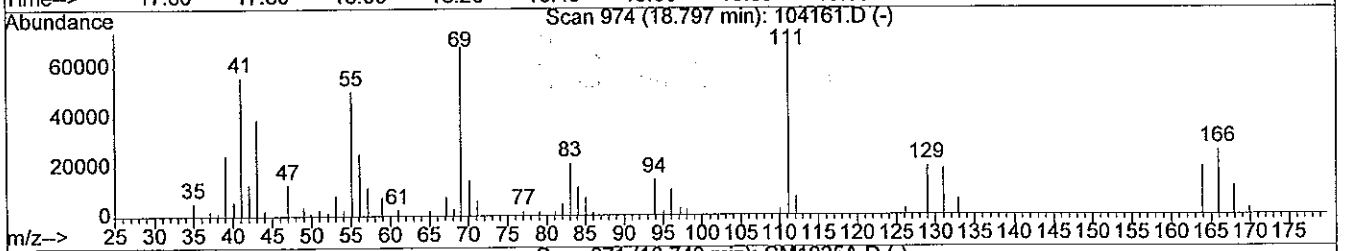
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	4.34#
43.00	325.00	109.79#
0.00	0.00	0.00

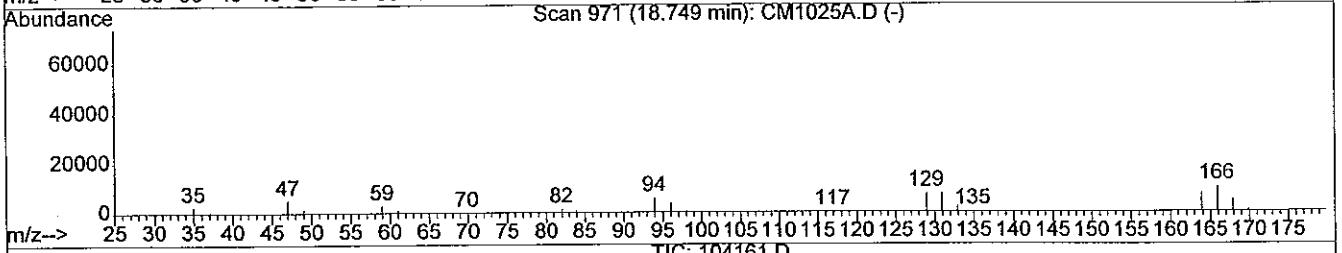
Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D
Acq On : 25 Oct 2001 13:37
Sample : 062SVEA10150121\10416-1 ST. 500mls
Misc : Pi/Pf=2 MA218ABK
MS Integration Params: rteint.p
Quant Time: Oct 26 6:47 2001

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 Oct 25 09:45:42 2001
Response via : Multiple Level Calibration







TIC: 104161.D

(37) Tetrachloroethene

18.78min 57.17ng

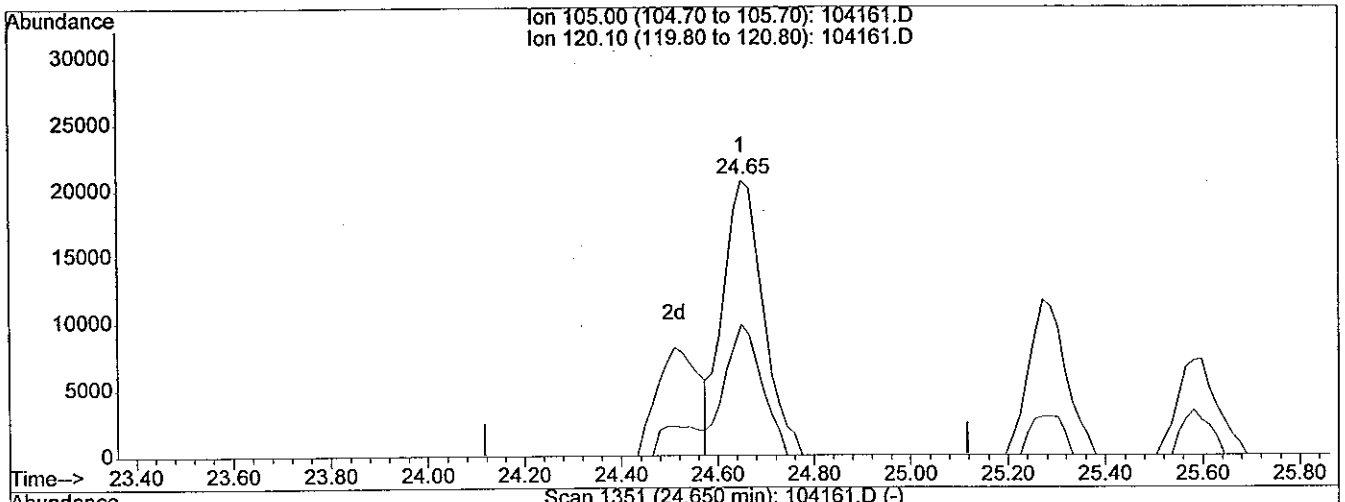
response 125183

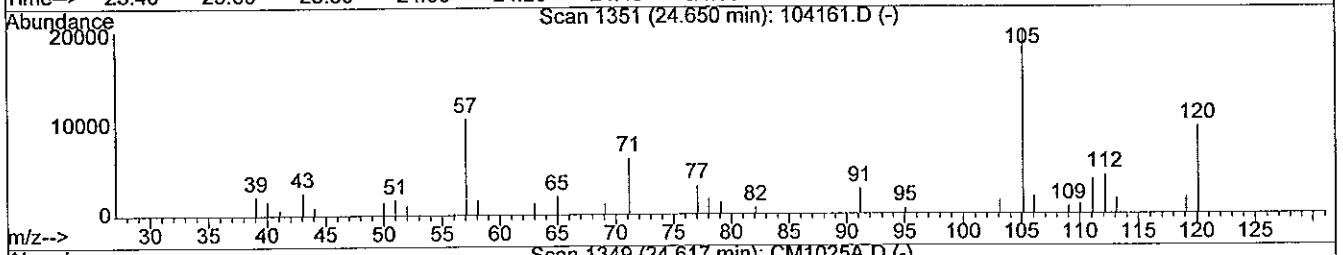
Ion	Exp%	Act%
163.85	100	100
128.85	100.40	101.24
130.95	98.30	97.08
165.80	129.80	130.79

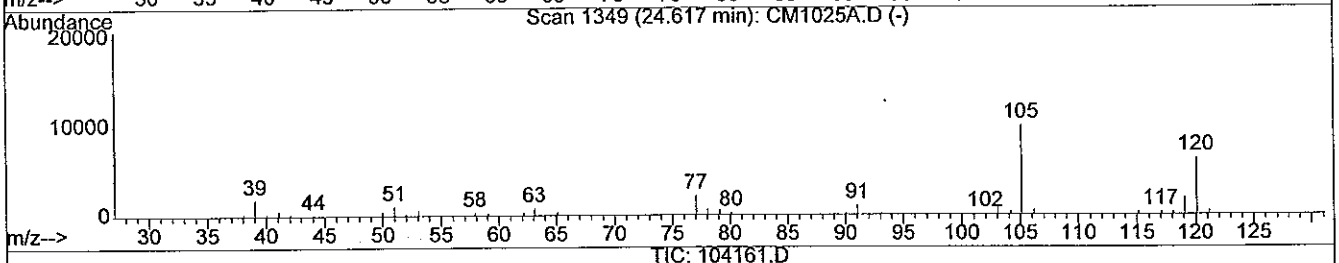
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D Vial: 1
Acq On : 25 Oct 2001 13:37 Operator: BDH
Sample : 062SVEA10150121\10416-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 26 6:47 2001 Quant Results File: temp.res

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







TIC: 104161.D

(49) 1,3,5-Trimethylbenzene

24.65min 25.30ng

response 118896

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	43.73
0.00	0.00	0.00
0.00	0.00	0.00

104161.D TO14S.M Fri Oct 26 06:47:42 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D Vial: 1
Acq On : 25 Oct 2001 13:37 Operator: BDH
Sample : 062SVEA10150121\10416-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 14:09 2001 Quant Results File: TO14S.RES

BH 10/25/01

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)

re-run ST. - possible n-hexane C.O. from 10381-3R

no carry over report this analysis ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	359713	250.00	ng	0.06 116.01%
26) 1,4-Difluorobenzene IS#2	13.43	114	1474670	250.00	ng	0.03 115.24%
36) Chlorobenzene-d5 IS#3	20.74	117	1132293	250.00	ng	0.03 115.63%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.63	65	688114	267.47	ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 106.99%			
32) Toluene-d8 SURR#2	16.98	98	1228187	251.61	ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.64%			
46) 4-Bromofluorobenzene SURR#	23.89	95	1062985	243.21	ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.28%			

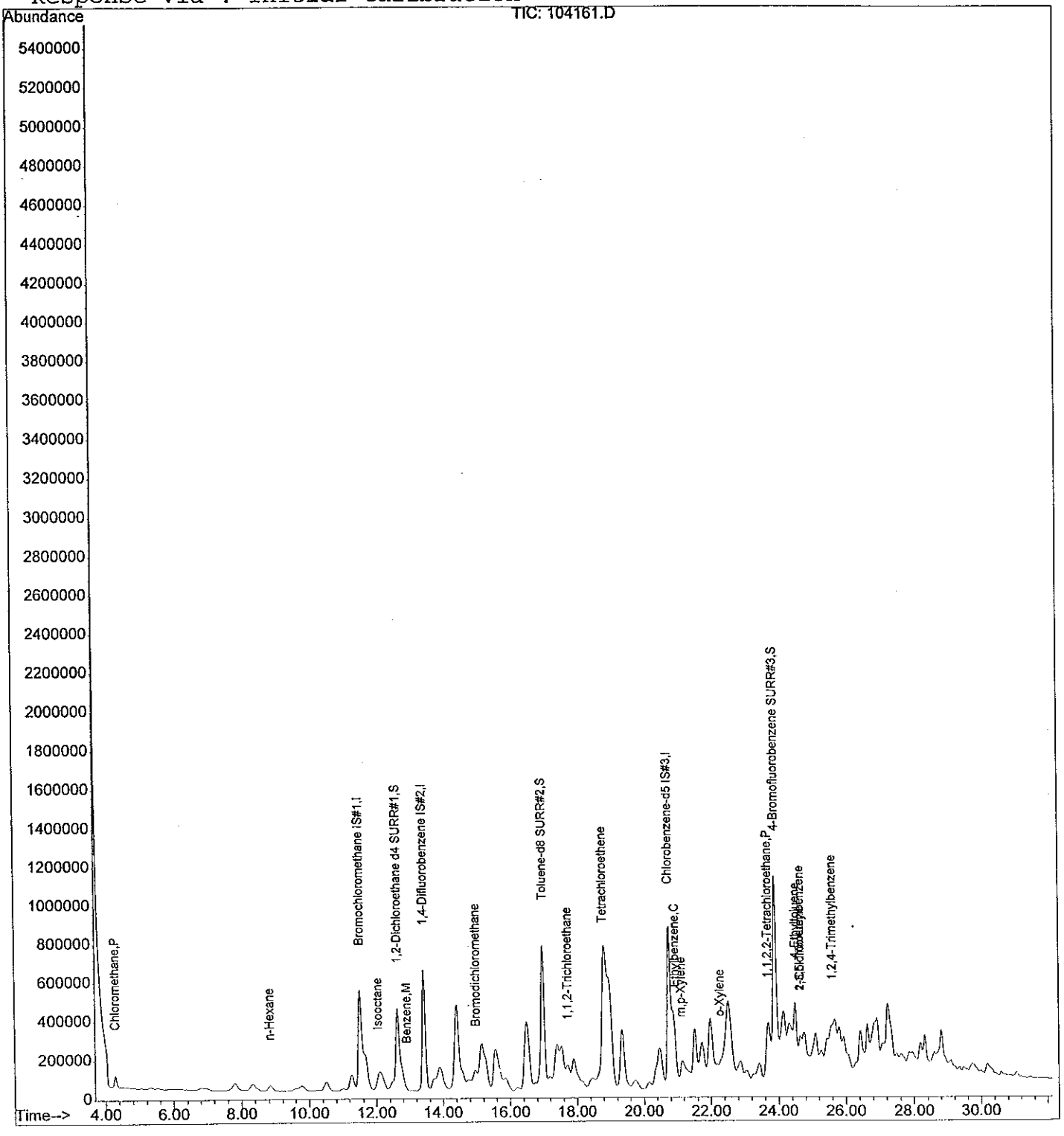
Target Compounds

						Qvalue
4) Chloromethane	4.28	50	938	0.49	ng	# 46
16) n-Hexane	8.83	57	47028	20.30	ng C.O.?	# 1
20) Isooctane	12.06	57	30203	3.65	ng	# 1
27) Benzene	12.91	78	5764	1.18	ng	# 54
30) Bromodichloromethane	14.99	83	12186	2.22	ng	# 25
35) 1,1,2-Trichloroethane	17.73	97	131960	68.07	ng	# 20
37) Tetrachloroethene	18.78	164	125183	57.17	ng	99
40) Ethylbenzene	20.94	106	5288	3.10	ng	# 1
41) m,p-Xylene	21.13	106	27953	12.69	ng	80
42) o-Xylene	22.27	106	12723	5.98	ng	# 60
45) 1,1,2,2-Tetrachloroethane	23.69	83	109495	58.48	ng	# 30
48) 4-Ethyltoluene	24.51	105	49462	8.45	ng	97
49) 1,3,5-Trimethylbenzene	24.65	105	118896	25.30	ng	96
50) 2-Chlorotoluene	24.65	91	20095	3.14	ng	# 47
51) 1,2,4-Trimethylbenzene	25.60	105	40018	8.10	ng	# 82

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

Data File : D:\HPCHEM\1\DATA01\M1025A\104161.D Vial: 1
Acq On : 25 Oct 2001 13:37 Operator: BDH
Sample : 062SVEA10150121\10416-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA218ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 25 14:09 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



ce 10-25-01
tch MA8217 ① 2 3
8 -MSW- 1/25 3
3 8 -MSW- 1/26 3

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

Batch 1 2 3
AIR-SPK 8 -MSW- 21 10/24
W-SPK -MSW- -

Sequence cont. on page

IME	POS #	BH 10/24 METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
										~~Daily Cal Check~~/bfb tune/95 ion area = 459,000 BH 10/24
8:31	15	BFBSTL	~~CW~~ BH 10/24 BFMA1024	50ppb		Y N	W	Yes	BH	Daily Method Blank
8:52	15	TO14	MA217A BK	ST		Y N				Batch# 217 LCS a 2nd Source
9:26	16		MA217 LCS	50ppb		Y N				25ng Init. Calib. can't see gases, re-run w/new STD (not used)
1:34	14		CMA0025	5ppb		Y N				(not used)
0:11	14		CMA0100	20ppb		Y N				100ng
0:49	14		CMA0250	50ppb		Y N				250ng
1:26	14		CMA0025R	5ppb	✓	Y N				25ng re-run w/new STD vial for gases
2:04	14		CMA0500	100ppb		Y N				500ng
3:00	14		CMA1000	200ppb		Y N			BH 10/24	1000ng
3:33	14	BFBSTL	BLKTUBE	—		Y N	—	—		MPM post #14 carry-over clean-up
3:51	14	TO14	CMA2000	300ppb		Y N	W	Yes		2000ng Init. Calib.
14:24	14	BFBSTL	BLKTUBE	—		Y N	—	—		MPM post #14 carry-over clean-up
14:47	14	TO14	CMA0100R	20ppb		Y N	W	Yes		100ng Init Calib. re-run w/new STD vial for gases
16:00	1		10415-1	X100		Y N	A (TO14)			5mls CAN re-run ST/see OCCE
:	2		-2			Y N				
:	3		-3			Y N				
:	4		10381-1	X500		Y N				1.0ml
:	5		-2			Y N				
:	6		-3			Y N				
:	7-3	BFBSTL	BLKTUBE	—		Y N	—	—		MPM cleanup
:						Y N				
:						Y N				
:						Y N				BH 10/24/01

102

1

* 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 ppb~~			W	Yes	BH	Daily BFB 12 Hour Tune
08:52	14	TO14S.m	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				

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Prep	LOG I.D.
502C	A2040136	Acc STD	2000 µg/ml	7/1999	DHD 5/15/98	7-VN 2-1
502A-R	A7040370	Acc STD	2000 µg/ml	7/1999	DHD 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DHD 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	DHD 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LAB~~ ~~BH~~ 7/29/98	7-VN 2-9
8260 SURR	A11795	Restek	2500 µg/ml	8/2001	DHD 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DHD 10/6/98	7-VN 2-11
Matrix Spike	LA76920	Supelco	25 µg/ml	8/2000	DHD 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DHD 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Various	6/2000	DHD 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8080942-OB	Accustandard	200.1 µg/ml	9/99	BD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DHD 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DHD 3/9/99	7-VN 2-19
Custom Keytones Mix	EA011115	Restek	2000 µg/ml	3/2000	DHD 3/10/99	7-VN 2-20
8260 Volatile Kit	Various	Restek	Various	6/2001	DHD 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DHD 5/10/99	7-VN 2-22
VOC Mix 6	LA80482	Supelco	2000 µg/ml	4/2000	DHD 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DHD 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DHD 5/14/99	7-VN 2-25
Custom TO14 Voa Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DHD 6/9/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	DHD 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	Analyst Date Recd ~~* DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DW 6/29/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DW 6/29/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DW 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DW 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	DW 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	MO 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MO 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MO 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DW 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SUPR	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	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 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/Varia	10/2001 (earliest)	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88505	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90448	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016359	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/08 24	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.

Rem 7/5 4/12

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	LA89988	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810078	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810078	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	1 trench	8-VN 2-9
n-Hexane	B0110235	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-ons	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/16/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-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	LA90471	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

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

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: BAH

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	4/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

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

Comments: 12/20/01 - exp. date

Sol. Name: To14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (Toxic cylinder)	LA90724	7-1-01	2500 µg/ml	250 µl	25 mls	25 µg/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 µg/ml	312.5 µl	25 mls	25 µg/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

Ms. Tatiana Romanova
CH2M Hill Constructors,
115 Perimeter Center Pl
Atlanta, GA 30346

C110417 Revisions

Contract No.: CT0-0062
0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 14131123

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	0.5005	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5119	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	---	---	---	---

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 14131123

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	0.4463	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5129	103 %	86-113

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.

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-10417
Received: 17 OCT 01
Reported: 29 OCT 01
Revised: 03 DEC 01
Client PO. No.: 2916
Cl Project No: 163151

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 14131123

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	0.5021	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	0.5000	100 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5091	102 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	0.5000	0.4781	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	---	---

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.

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number:	C111557
Project:	CTO-0062, Cecil Field Day Tank 1
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. The QC data was evaluated against STL Pensacola's in-house generated control limits.

Rick Hayes
Senior Project Manager
STL Pensacola

CCI NAVY RAC PMO
DEC 13 2001

December 11, 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
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: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.14
4-Ethyltoluene, mg/m3	0.05J
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	0.04J
1,3,5-Trimethylbenzene, mg/m3	0.21
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.09J
Surrogate - 1,2-Dichloroethane-d4	97 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	101 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
Dilution Factor	1
Prep Date	11.28.01
Prep Time	15:46
Analysis Date	11.28.01
Analysis Time	15:59
Batch ID	MAB241
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5206	104 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5395	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4620	92 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5285	106 %	86-113

SEVERN TRENT SERVICES
STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5323	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	98 %	0.5000	0.5025	101 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.4963	99 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4922	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	11.28.01	---	11.28.01	---	---
Prep Time	10:46	---	11:36	---	---
Analysis Date	11.28.01	---	11.28.01	---	---
Analysis Time	10:59	---	11:49	---	---
Batch ID	MAB241	MAB241	MAB241	MAB241	MAB241
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 102311211

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6

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 <u>and</u> analyte is not detected <u>or</u> surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

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

Abbreviations

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

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

CLP and CLP-like Projects

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

Revised 06/19/01

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

\word\certlist\condcert.lst revised 08/13/01

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C111557 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♦? Yes* No
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? Yes No*
7. Were all sample containers received intact? Yes No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No* N/A
9. Is there sufficient volume for analysis requested? Yes No* N/A (Can)
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) Yes No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No N/A
12. If sent, were matrix spike bottles returned? Yes No* N/A
13. Was Project Manager notified of problems? (initials:_____) Yes No* N/A

Airbill Number(s): 7902 2350 3419

Shipped By: FEDEX

Cooler Number(s): air Can

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

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

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

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

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

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

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

C 111557

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-019

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	STL - Pensacola Rick Hayes	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.):
Day Tank 1 Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1120-01-22	SVE Effluent	AIR	11/20/01	10:10	III/C	14 Day	1							2	0	7	Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

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

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

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	11/21/01	11:00	Printed Name and Signature: Federal Express	11/21/01	11:00
Printed Name and Signature:			Printed Name and Signature: R. ELSPEEMAN, Robert Elspeman, 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 CCI001, Rev 02/00

12

C 111 557

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

MON
AA
Deliver by:
26NOV01

32514-FL-US

BFM

F3 PNSA

Please fold this document in half and place it in the waybill pouch affixed to your shipment so that the barcode portion of the label can be read and scanned.
**WARNING: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with the cancellation of your FedEx account number.

Shipping Label

Schedule Courier | Find a Dropoff Location | Shipping History

Shipment Complete | Cancel Shipment

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read an
4. To print a receipt of your shipment, please click on "Shipping History."

Ship a New Package

Ship Inside U.S. | Ship Outside U.S. | Ship to Same Recipient

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, nondelivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

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

CH2M-CONST-GA C111557
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#: 111557
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Nov. 26, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1120-01-22	111557-1	SVEEA22

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
115571	062SVEEA1120012	97	103	101	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

TO-14 NG-MG/M3 CONVERSION

order # 111557

Batch MAB241

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

LCS Blank Summary Report

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

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

ng report

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

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

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.: C111557

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	SVEEA22	062SVEEA11200122\115	115571.D	15:59

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.: C111557

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.	SVEEA22	062SVEEA11200122/11	115571.D	11/28/01	15:59

page 1 of 1

FORM V - VOA

Response Factor Report GC/MS Ins

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

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

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

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

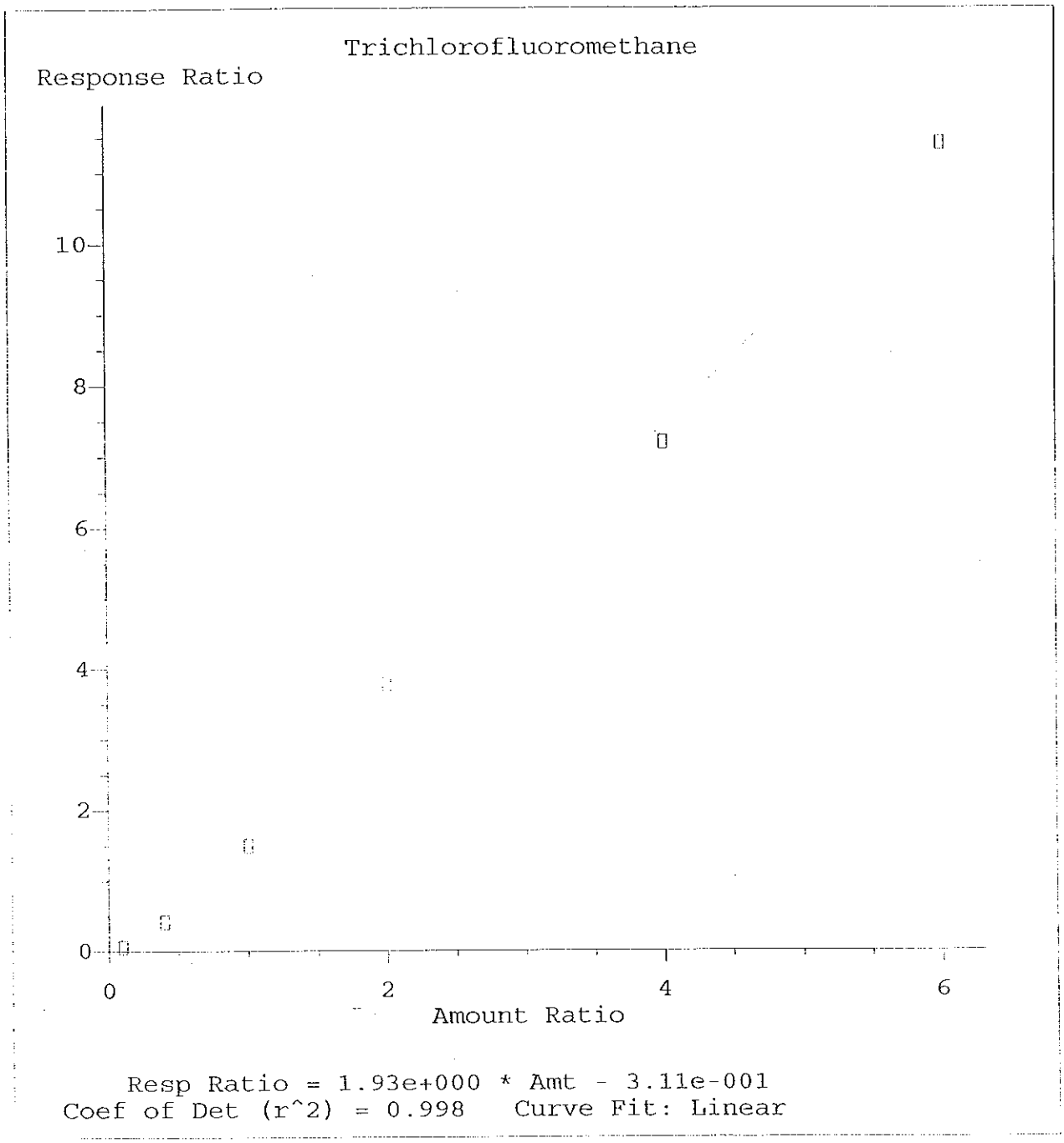
Response Factor Report GC/MS Ins

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

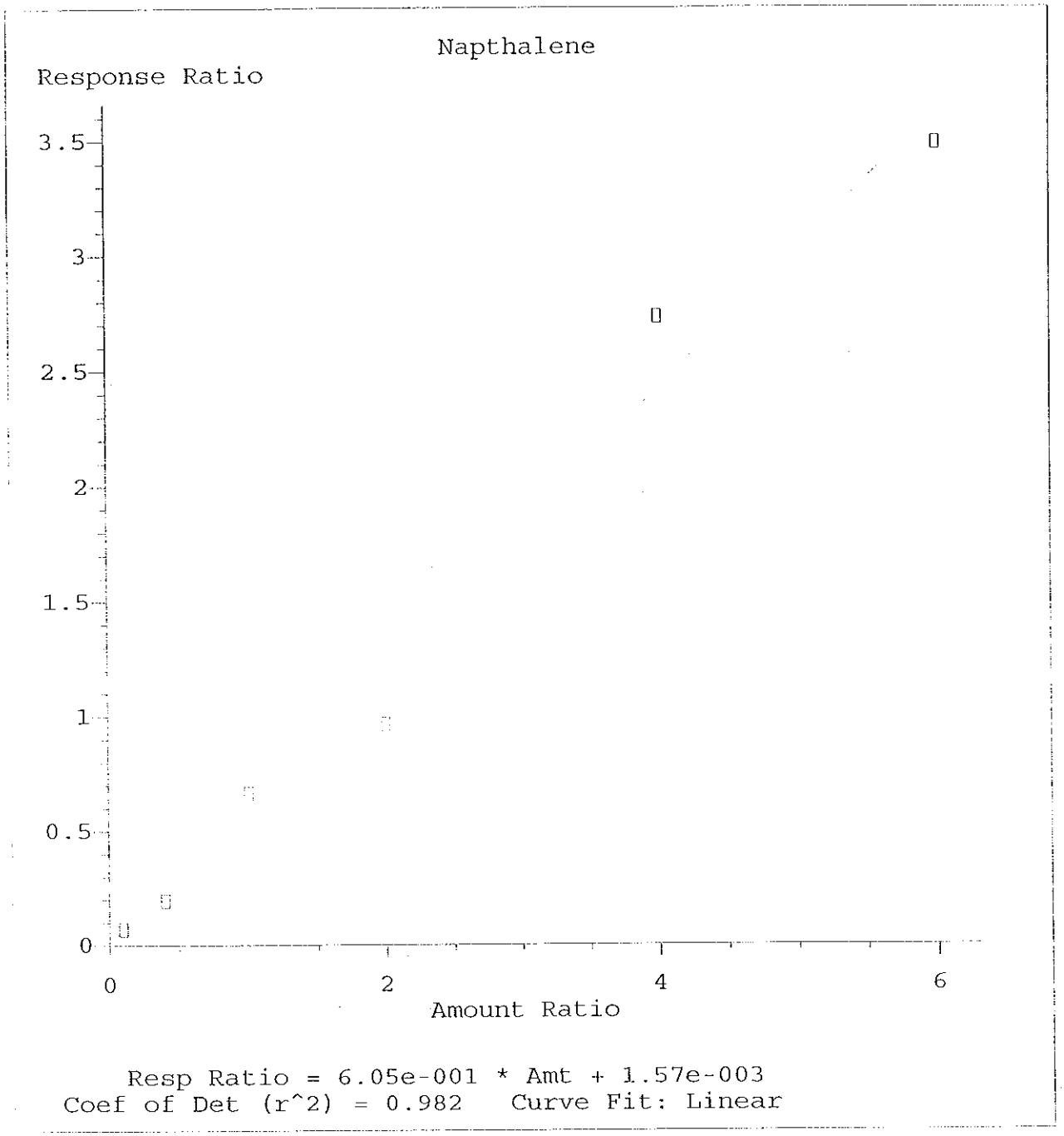
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

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

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



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

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

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

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

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

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

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

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

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.: C111557

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	SVEEA22	673905	11.42	2376530	13.35	1900275	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

Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1122P\
Pre-Seq Cmd:
Post-Seq Cmd:

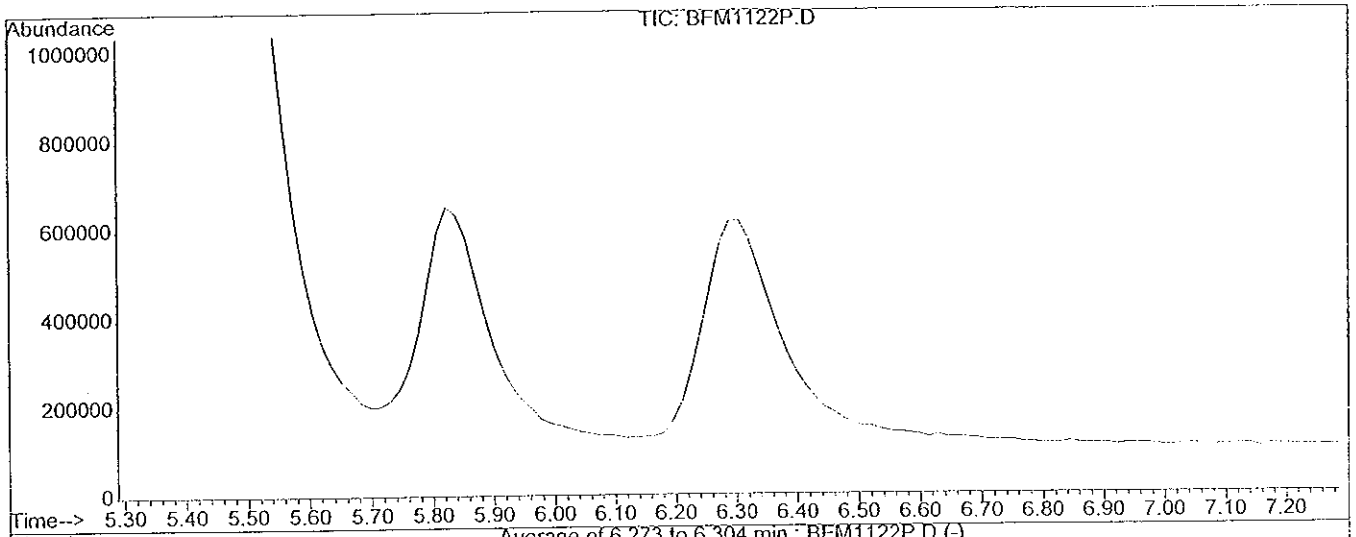
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

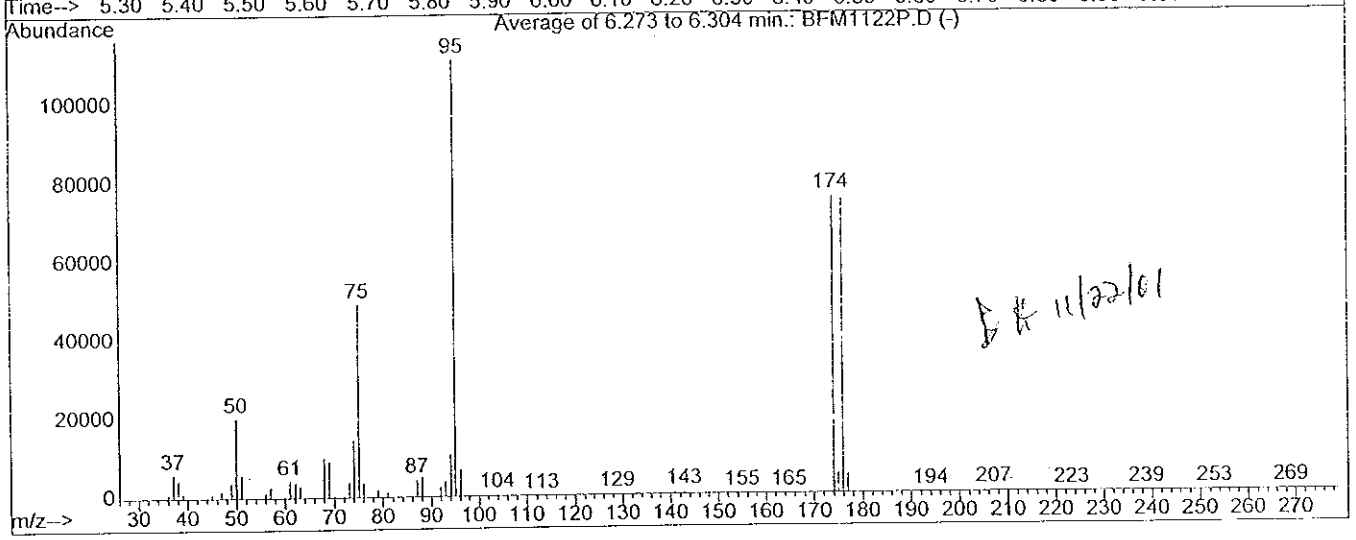
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

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

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





BF 11/22/01

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

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%

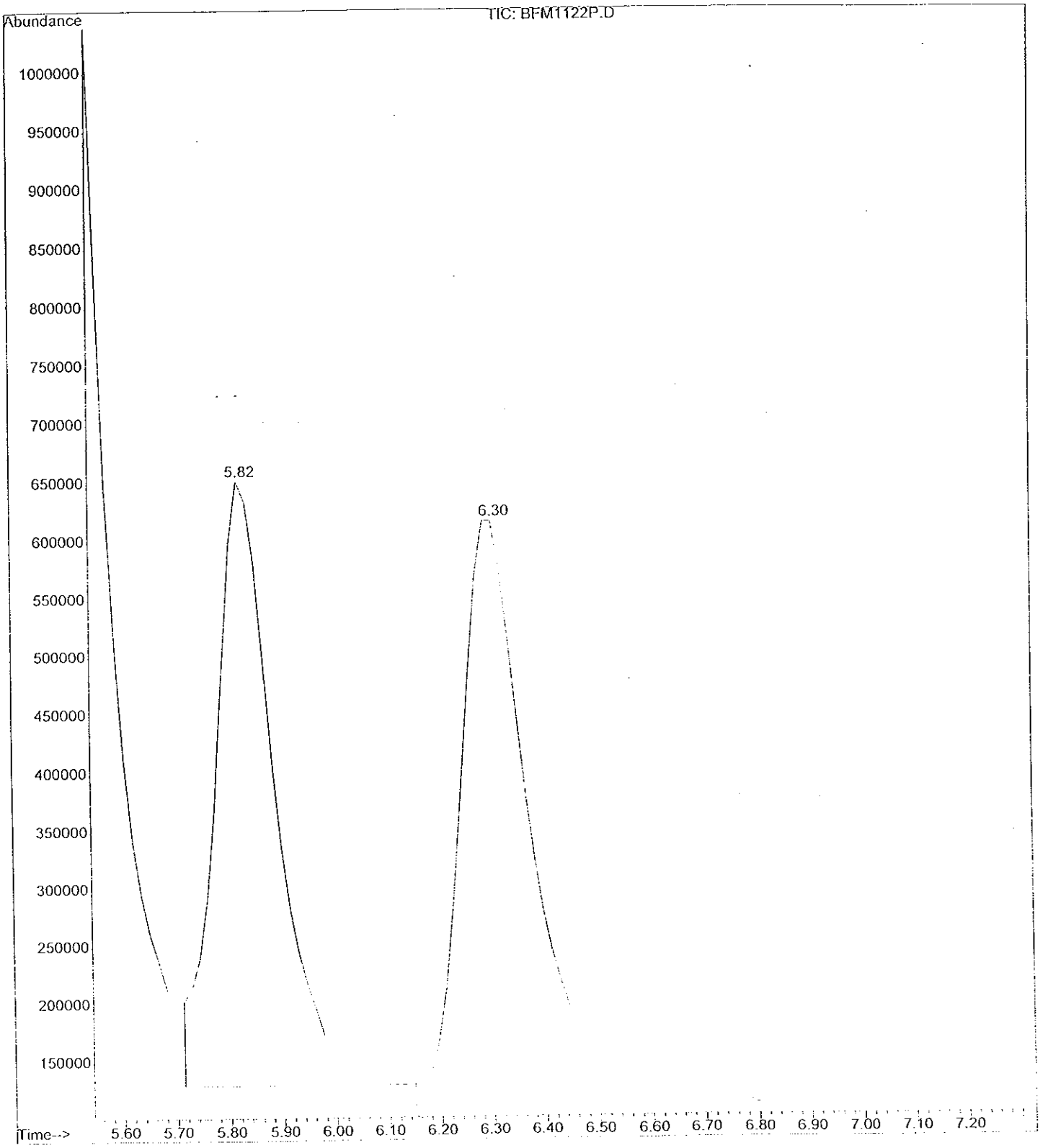
Sum of corrected areas: 8872066

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 ###

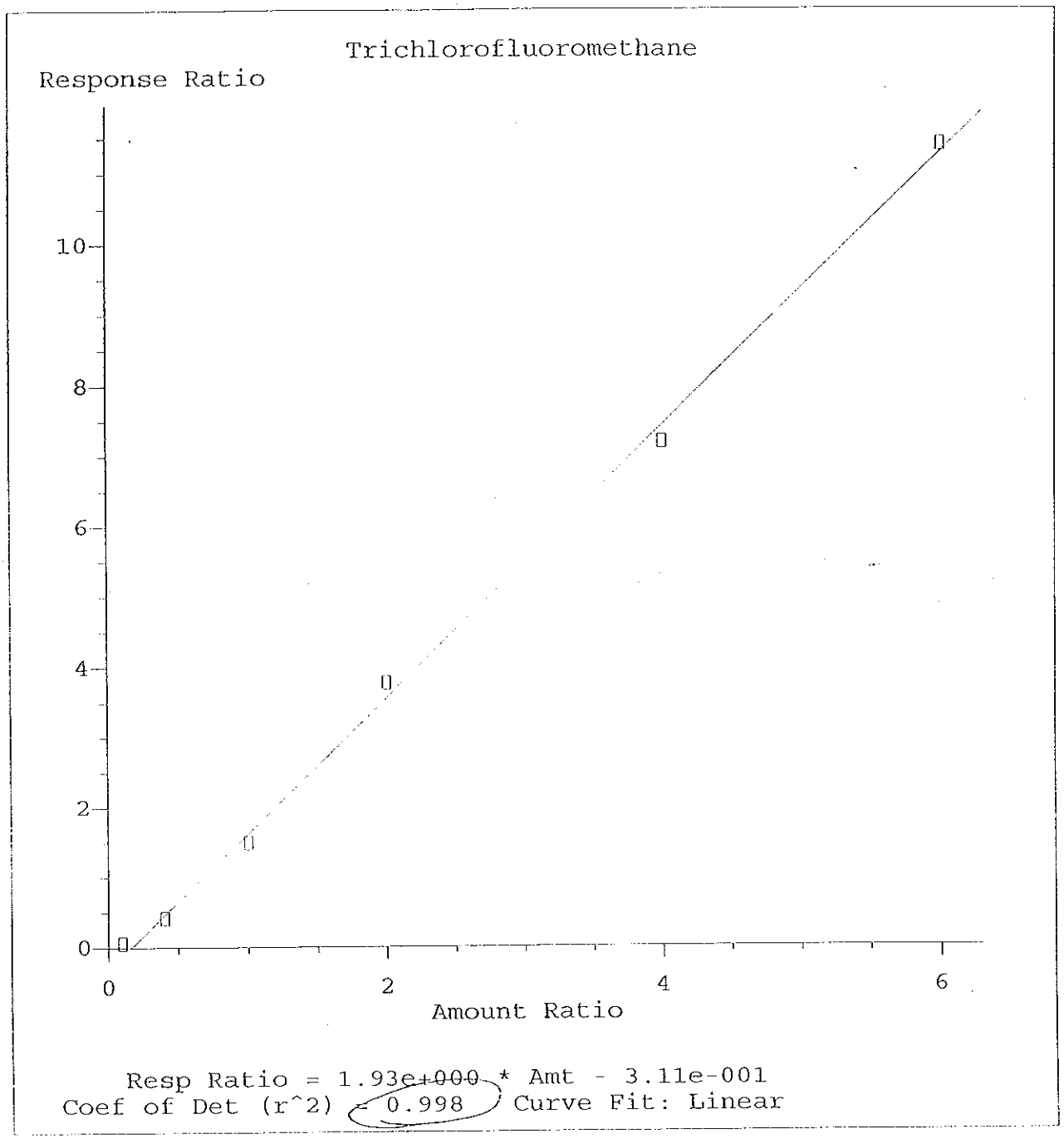
Response Factor Report GC/MS Ins

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

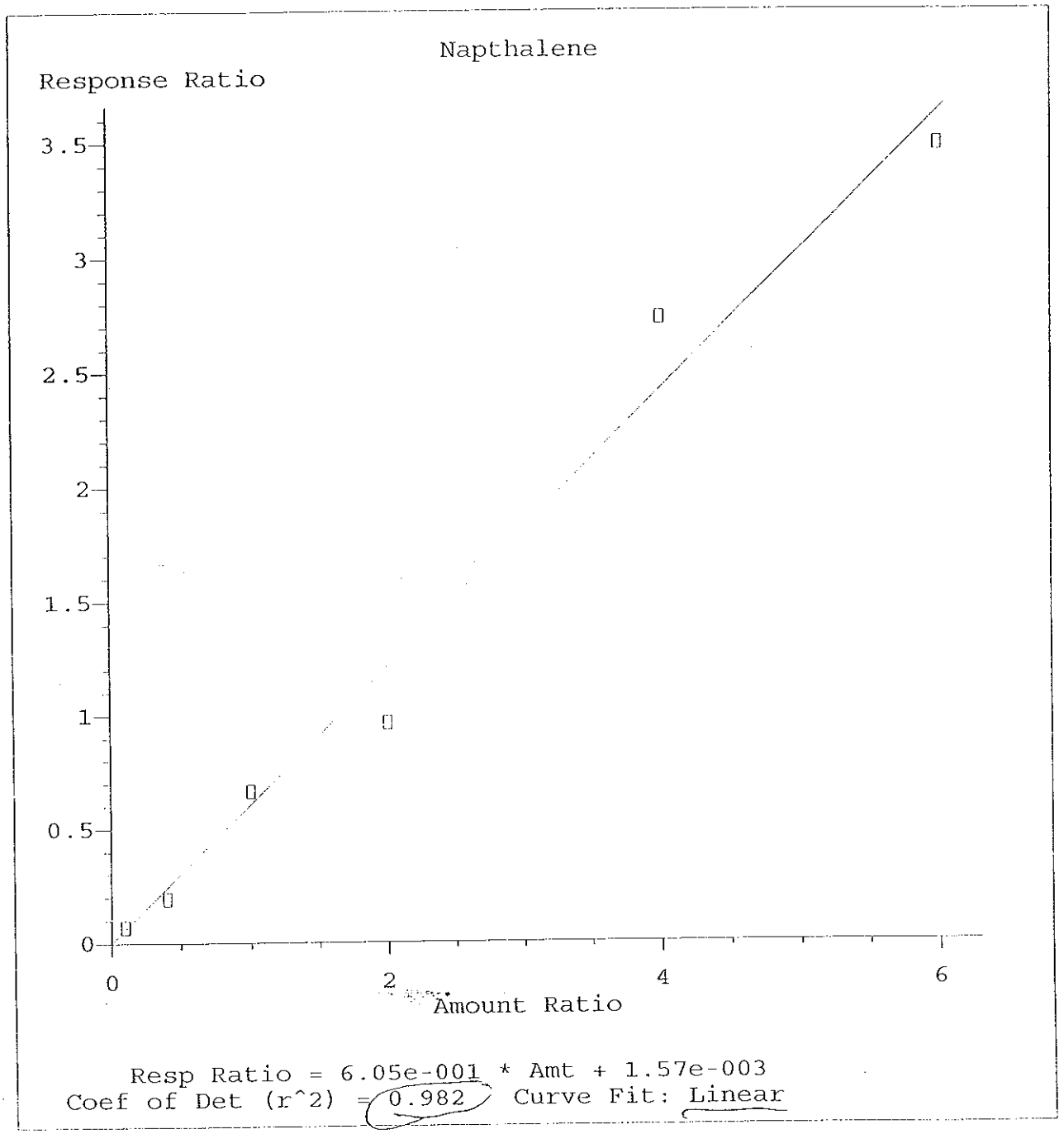
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	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

BJ 11-22-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

BH 11/22/01

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

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

Quant Results File: TO14S.RES

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

original BDH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	659552	250.00 ng	-0.02 301.97%
26) 1,4-Difluorobenzene IS#2	13.36	114	2650398	250.00 ng	-0.03 279.64%
36) Chlorobenzene-d5 IS#3	20.68	117	2025171	250.00 ng	-0.03 282.19%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	727305	148.41 ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 59.36%#					
32) Toluene-d8 SURR#2	16.92	98	2066232	235.68 ng	-0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.27%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1779113	225.21 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.08%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	75020	13.67 ng		98
3) Dichlorotetrafluoroethane	4.11	135	115295	21.58 ng	#	45
4) Chloromethane	4.36	50	54217	16.33 ng	#	92
5) Vinyl chloride	4.59	62	51362	17.20 ng	#	87
6) Bromomethane	5.42	94	98746	24.20 ng	#	82
7) Chloroethane	5.54	64	32840	18.79 ng	#	89
8) Trichlorofluoromethane	6.04	101	39870	6.56 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.84	151	124453	24.29 ng		83
10) 1,1-Dichloroethene	7.20	96	66093	21.79 ng		85
12) Methylene chloride	8.12	49	91249	15.70 ng	#	94
13) Carbon disulfide	8.27	76	181220	18.71 ng	#	93
14) methyl-Tert-Butyl Ether	8.38	73	95489	19.60 ng	#	85
15) trans-1,2-Dichloroethene	8.69	96	70417	20.71 ng		89
16) n-Hexane	8.78	57	80570	20.60 ng	#	1
17) 1,1-Dichloroethane	9.51	63	119239	16.98 ng	#	98
18) cis-1,2-Dichloroethene	10.76	61	94748	16.26 ng		92
19) Chloroform	11.08	83	153161	17.29 ng		98
20) Isooctane	12.03	57	303517	20.95 ng		97
21) 1,1,1-Trichloroethane	11.94	97	131587	16.80 ng		89
22) Carbon tetrachloride	12.51	117	137597	17.08 ng		99
24) 1,2-Dichloroethane	12.77	62	78090	14.06 ng		98
25) 1,2-Dibromoethane	19.75	107	111469	20.00 ng		97
27) Benzene	12.85	78	179158	21.12 ng		99

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

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

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

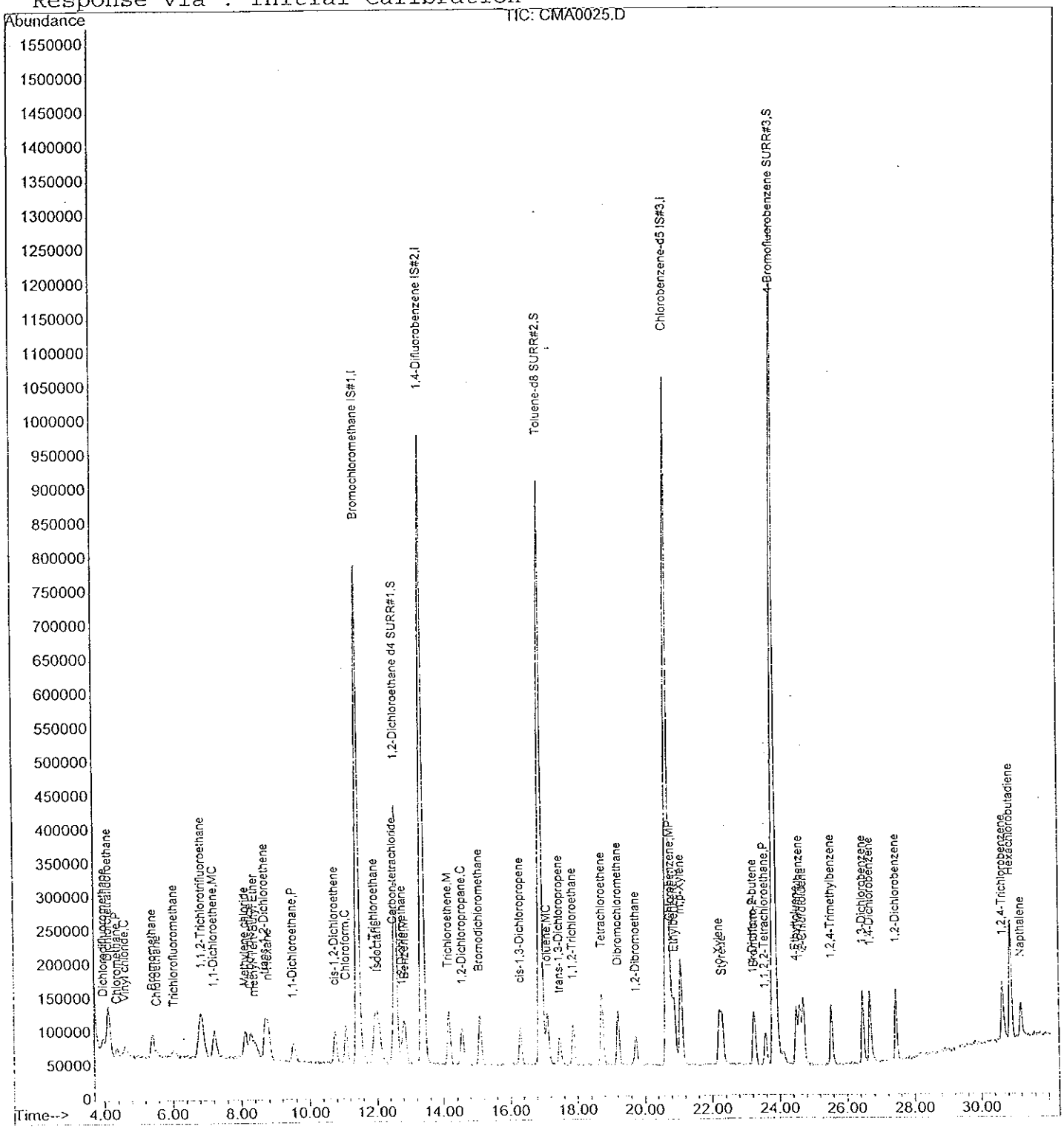
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0025.D 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
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001

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

Quant Results File: TO14S.RES

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

B.A. 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00 ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00 ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00 ng	-0.03 318.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.18%					
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.79%					
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.22%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.99	85	296446m	47.28 ng	#	97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38 ng	#	26
4) Chloromethane	4.34	50	234313	61.77 ng	#	95
5) Vinyl chloride	4.58	62	216303	63.39 ng		96
6) Bromomethane	5.40	94	354015	75.93 ng	#	93
7) Chloroethane	5.51	64	139656	69.94 ng		99
8) Trichlorofluoromethane	6.02	101	315067	45.35 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07 ng		82
10) 1,1-Dichloroethene	7.20	96	278552	80.39 ng		87
12) Methylene chloride	8.09	49	356949	53.74 ng		97
13) Carbon disulfide	8.27	76	759303	68.61 ng		97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76 ng		97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25 ng		92
16) n-Hexane	8.75	57	281184	62.93 ng	#	1
17) 1,1-Dichloroethane	9.51	63	504895	62.92 ng		99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71 ng		91
19) Chloroform	11.07	83	642388	63.47 ng		99
20) Isooctane	12.03	57	896151	54.14 ng		98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11 ng		92
22) Carbon tetrachloride	12.50	117	576813	62.69 ng		97
24) 1,2-Dichloroethane	12.76	62	306106	48.25 ng		98
25) 1,2-Dibromoethane	19.73	107	469753	73.76 ng		99
27) Benzene	12.84	78	744820	78.71 ng		99

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

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

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

Quant Results File: TO14S.RES

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

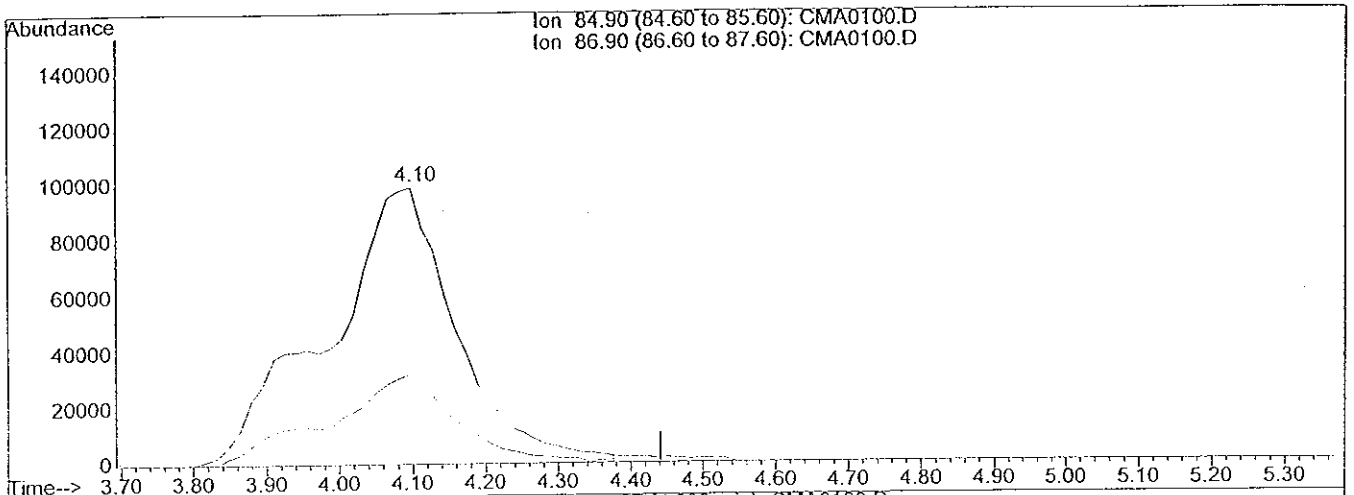
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01	ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51	ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75	ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78	ng		98
33)	Toluene	17.11	92	471365	81.74	ng		99
34)	trans-1,3-Dichloropropene	17.46	75	347511	64.94	ng		93
35)	1,1,2-Trichloroethane	17.87	97	290510	80.27	ng		96
37)	Tetrachloroethene	18.72	164	379057	91.16	ng		94
38)	Dibromochloromethane	19.20	127	507313	77.89	ng		98
39)	Chlorobenzene	20.77	112	690880	83.38	ng		97
40)	Ethylbenzene	20.88	106	269786	80.64	ng		100
41)	m,p-Xylene	21.07	106	715119	163.47	ng		99
42)	o-Xylene	22.21	106	335595	80.64	ng		98
43)	Styrene	22.29	104	516712	78.36	ng		99
44)	Bromoform	23.24	173	450088	83.61	ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	400133	67.50	ng		98
47)	1,4-Dichloro-2-butene	23.22	75	73033	66.86	ng		92
48)	4-Ethyltoluene	24.50	105	858314	74.21	ng		94
49)	1,3,5-Trimethylbenzene	24.59	105	696312	75.56	ng	#	82
50)	2-Chlorotoluene	24.70	91	896136	70.12	ng		95
51)	1,2,4-Trimethylbenzene	25.54	105	729184	73.93	ng		98
52)	1,3-Dichlorobenzene	26.47	146	593003	83.05	ng		95
53)	1,4-Dichlorobenzene	26.67	146	638300	85.42	ng		94
54)	1,2-Dichlorobenzene	27.45	146	563906	85.17	ng		95
55)	1,2,4-Trichlorobenzene	30.63	180	374964	80.46	ng		98
56)	Napthalene	31.19	128	442169	64.85	ng	#	90
57)	Hexachlorobutadiene	30.88	225	334628	84.07	ng		99

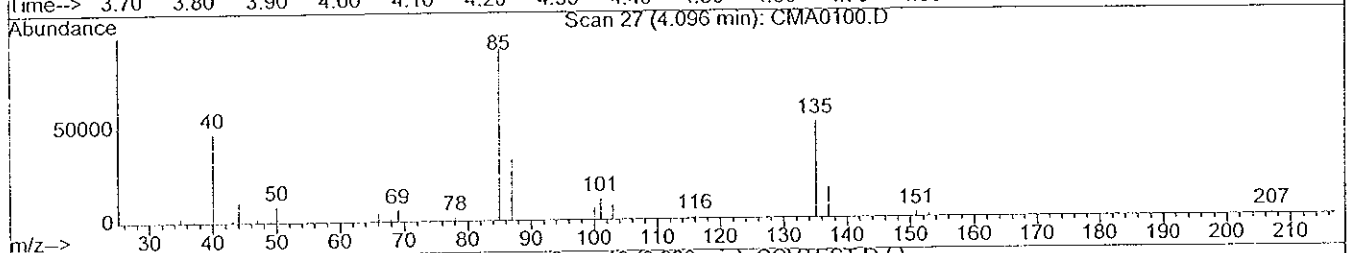
(#) = qualifier out of range (m) = manual integration

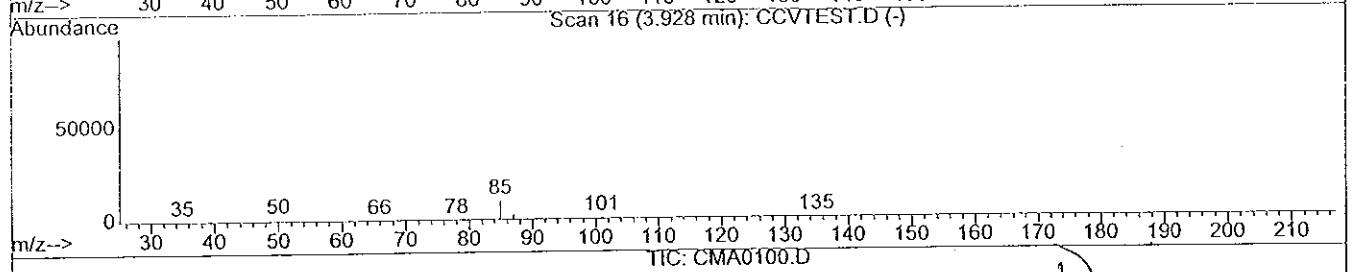
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D
Acq On : 22 Nov 2001 14:48
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001

Vial: 15
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: temp.res

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







TIC: CMA0100.D

(2) Dichlorodifluoromethane

4.10min 194.40ng

response 1218746

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

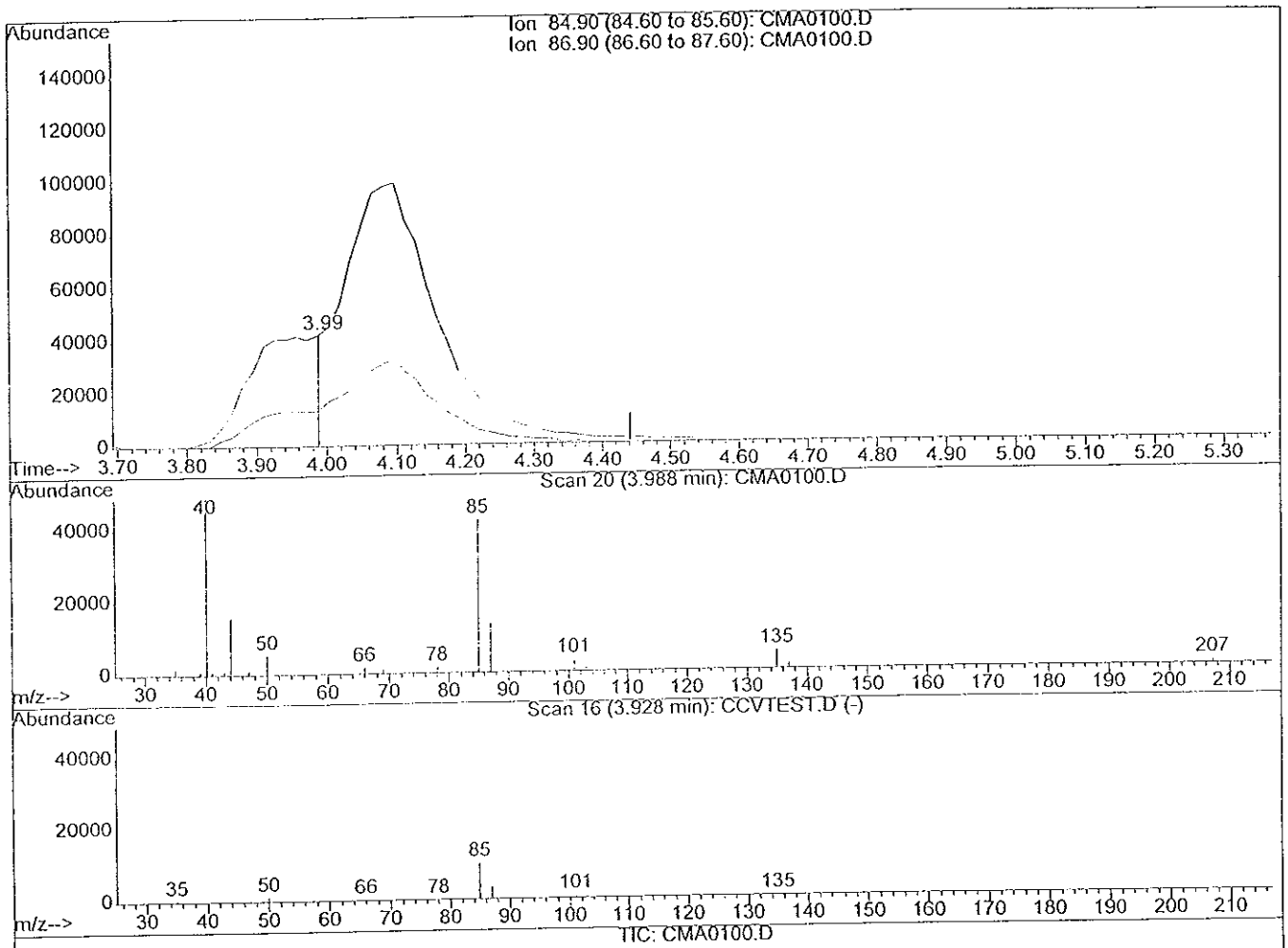
before (mis-integ. / coeluted)

CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

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
11-22-01

11-27-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

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

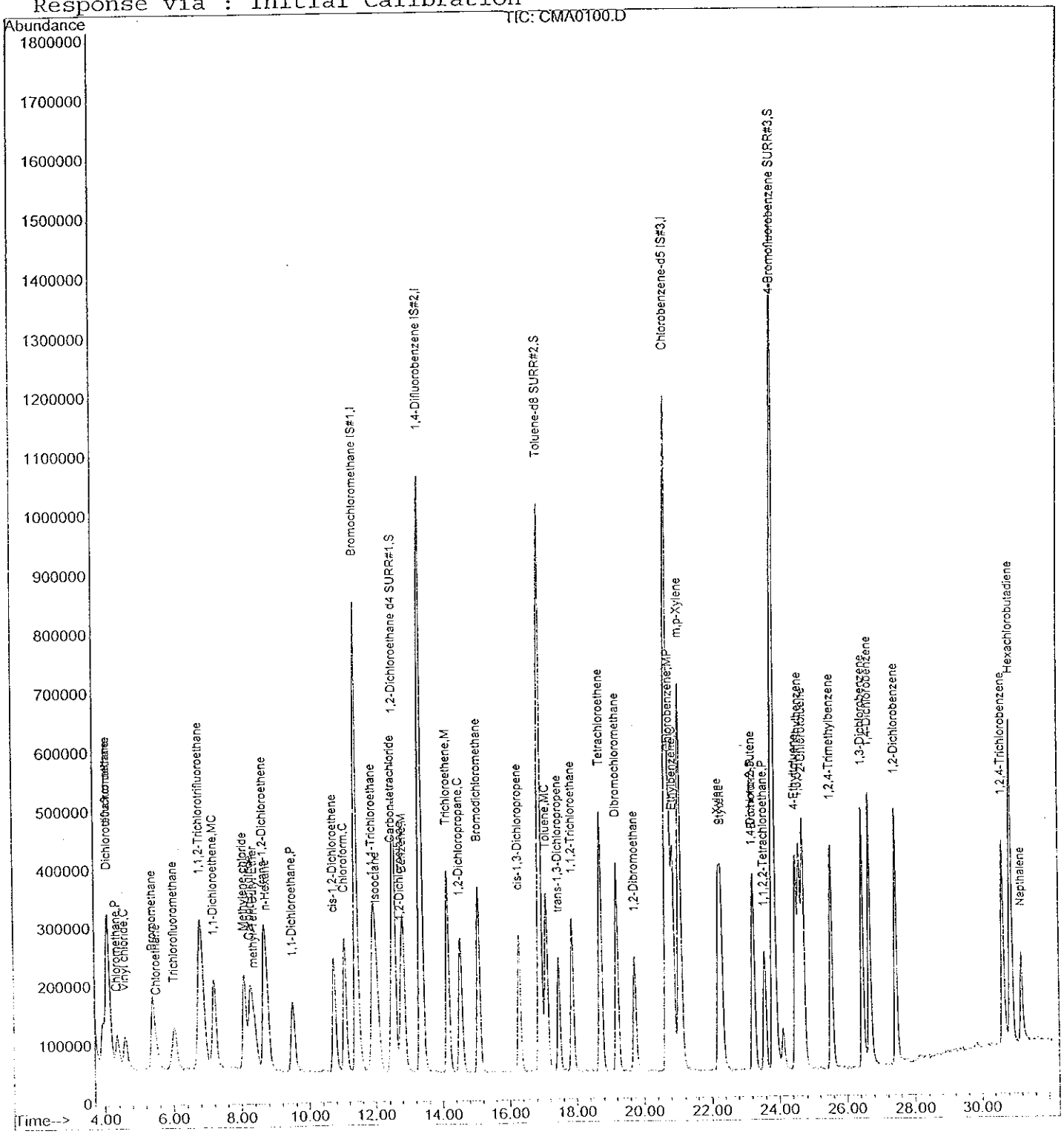
(#) = qualifier out of range (m) = manual integration

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



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

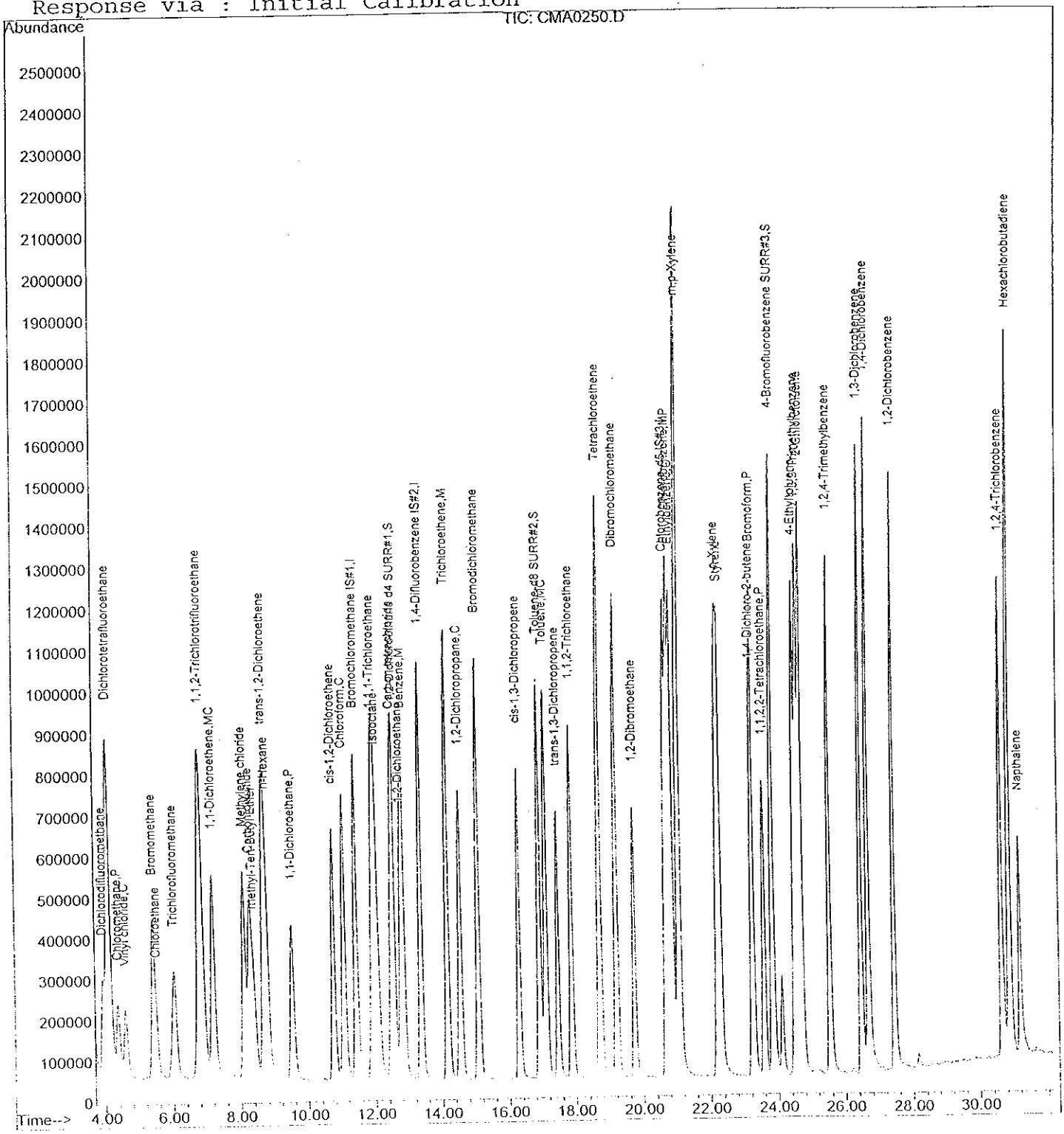
(#) = qualifier out of range (m) = manual integration

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

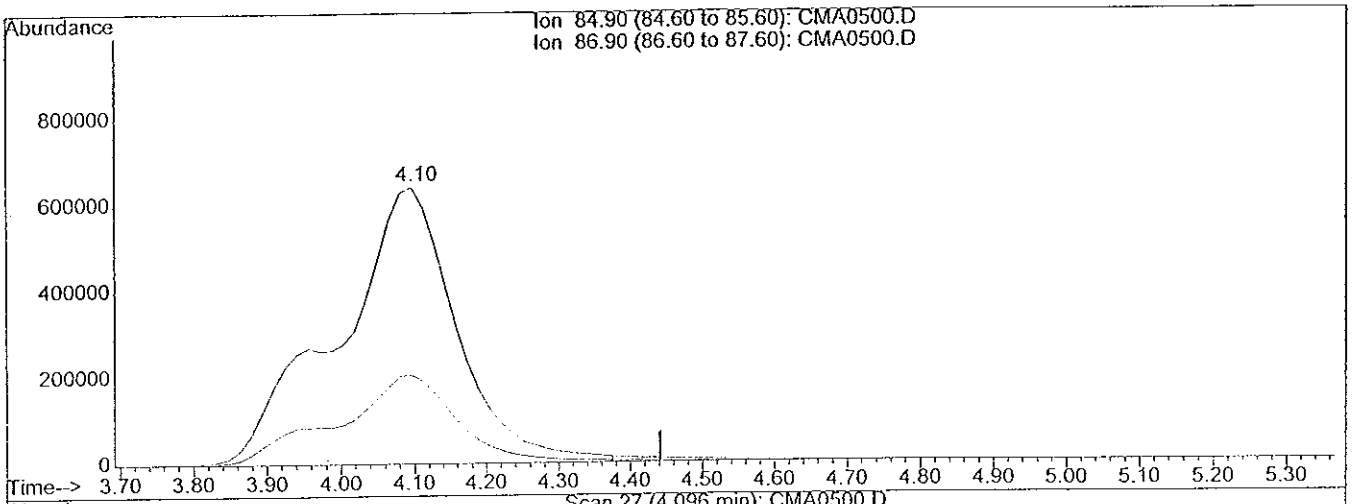
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70 ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33)	Toluene	17.11	92	2870951	492.12 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

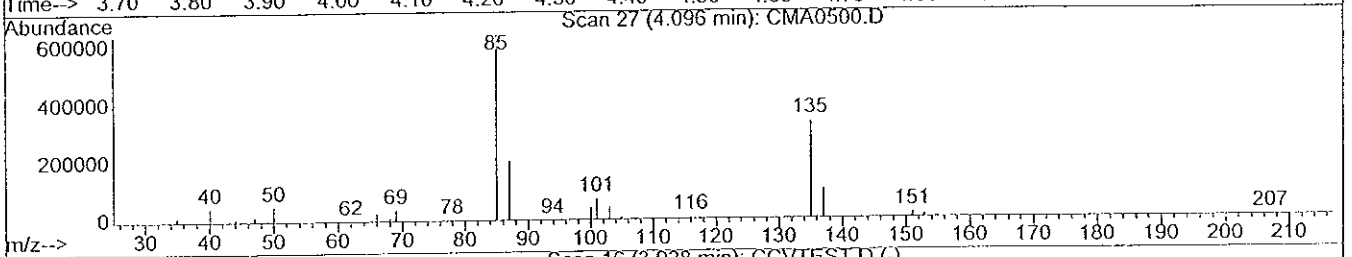
(#) = qualifier out of range (m) = manual integration

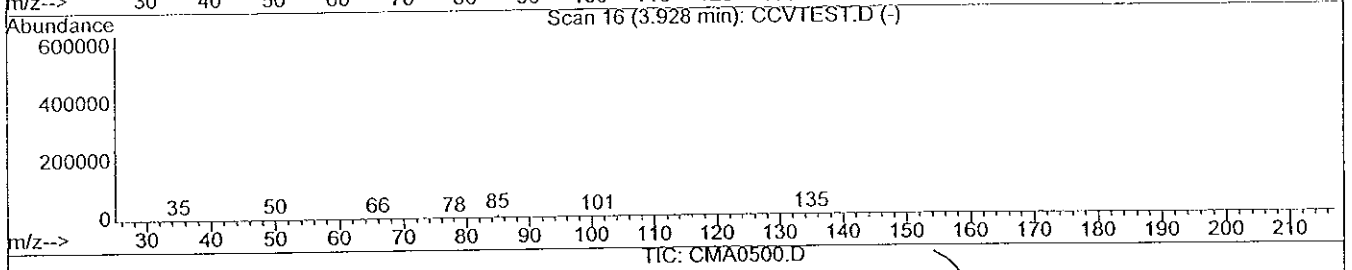
Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D
Acq On : 22 Nov 2001 16:03
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001

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

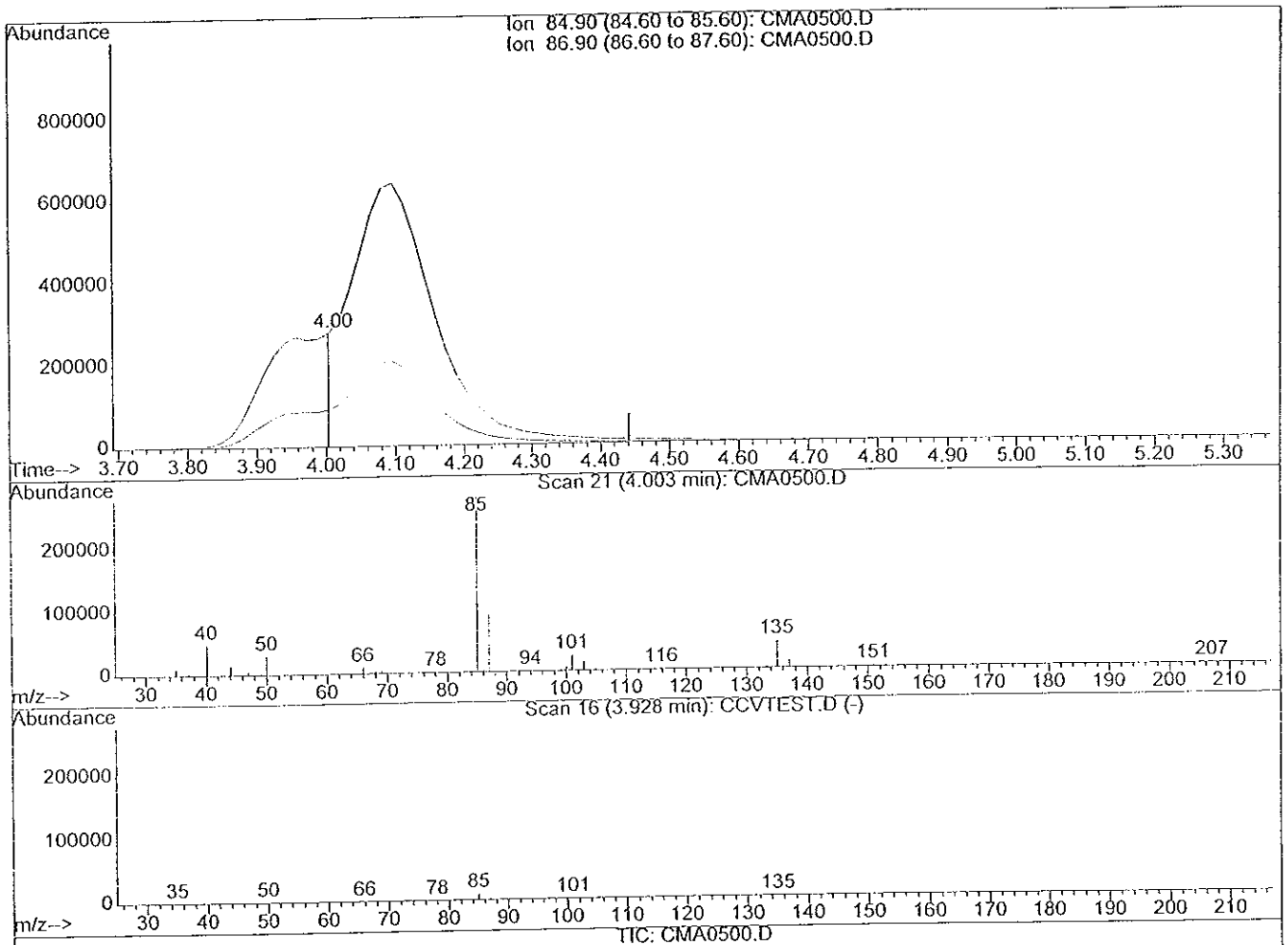
Defined (misintegrated co-eluted)

CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

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

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

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



(2) Dichlorodifluoromethane

4.00min 320.89ng m

response 1844056

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

after
BH
11/22/01

11-24-01

CMA0500.D TO14S.M Thu Nov 22 20:48:14 2001

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

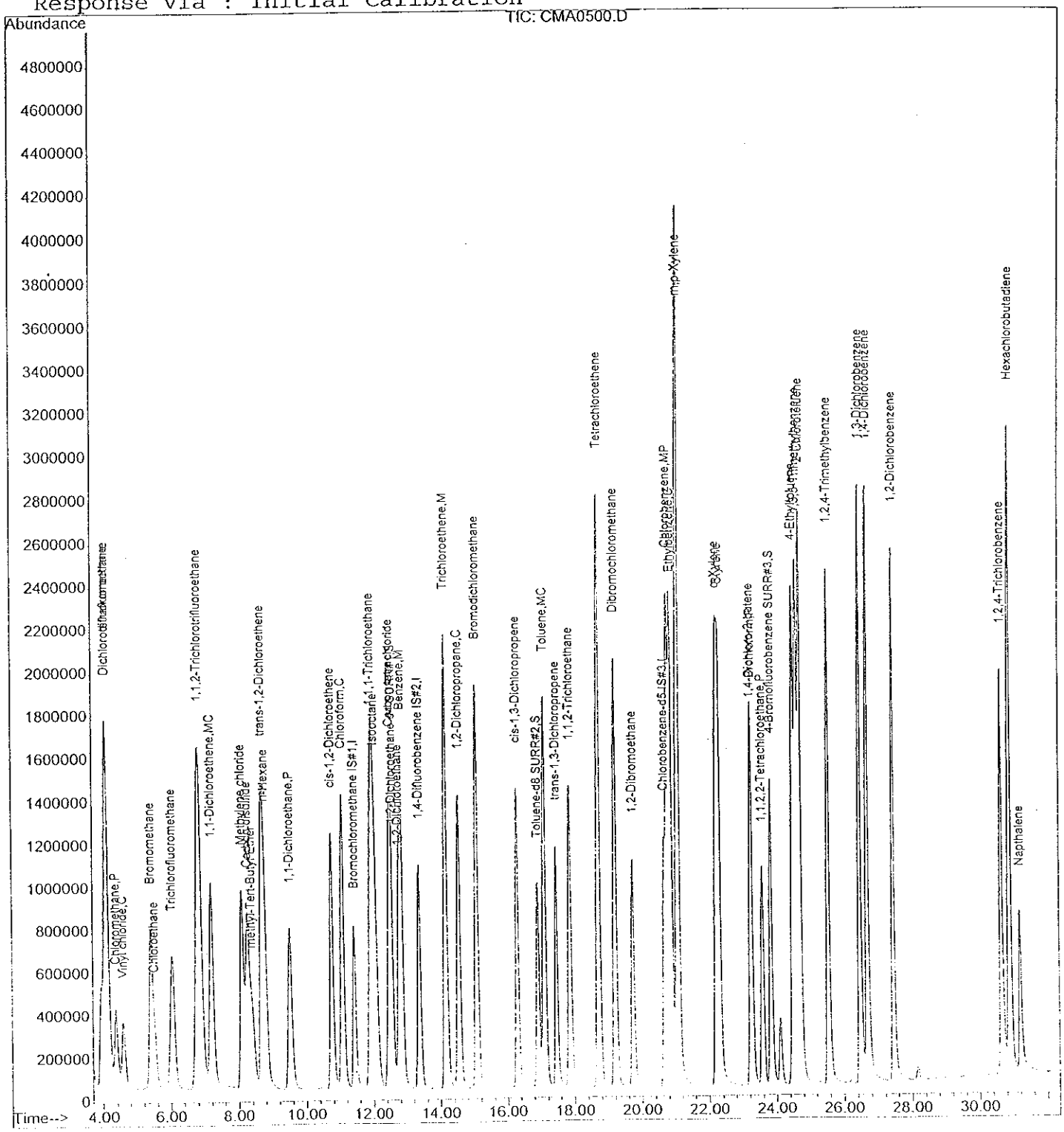
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70 ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33)	Toluene	17.11	92	2870951	492.12 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



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

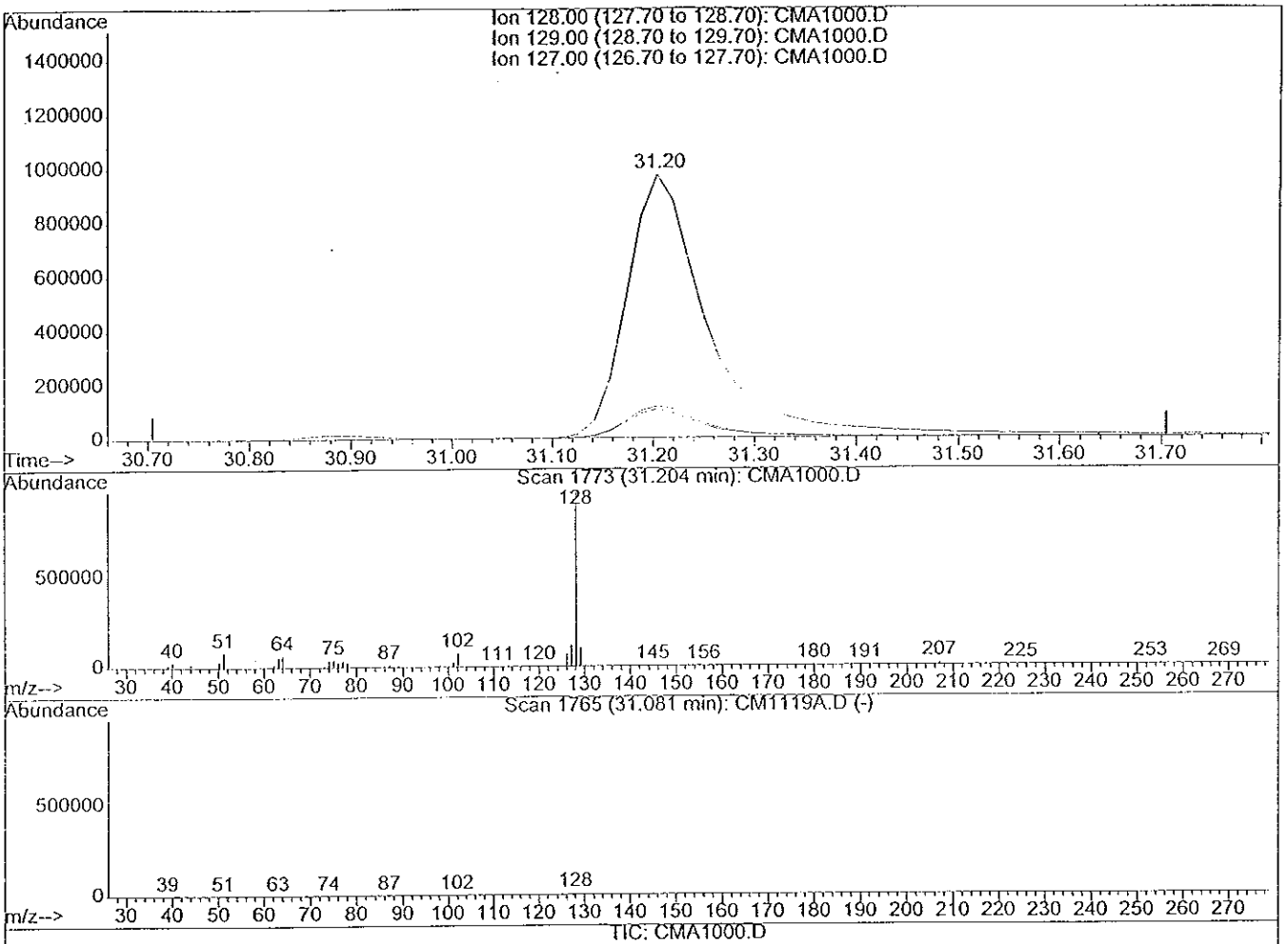
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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 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

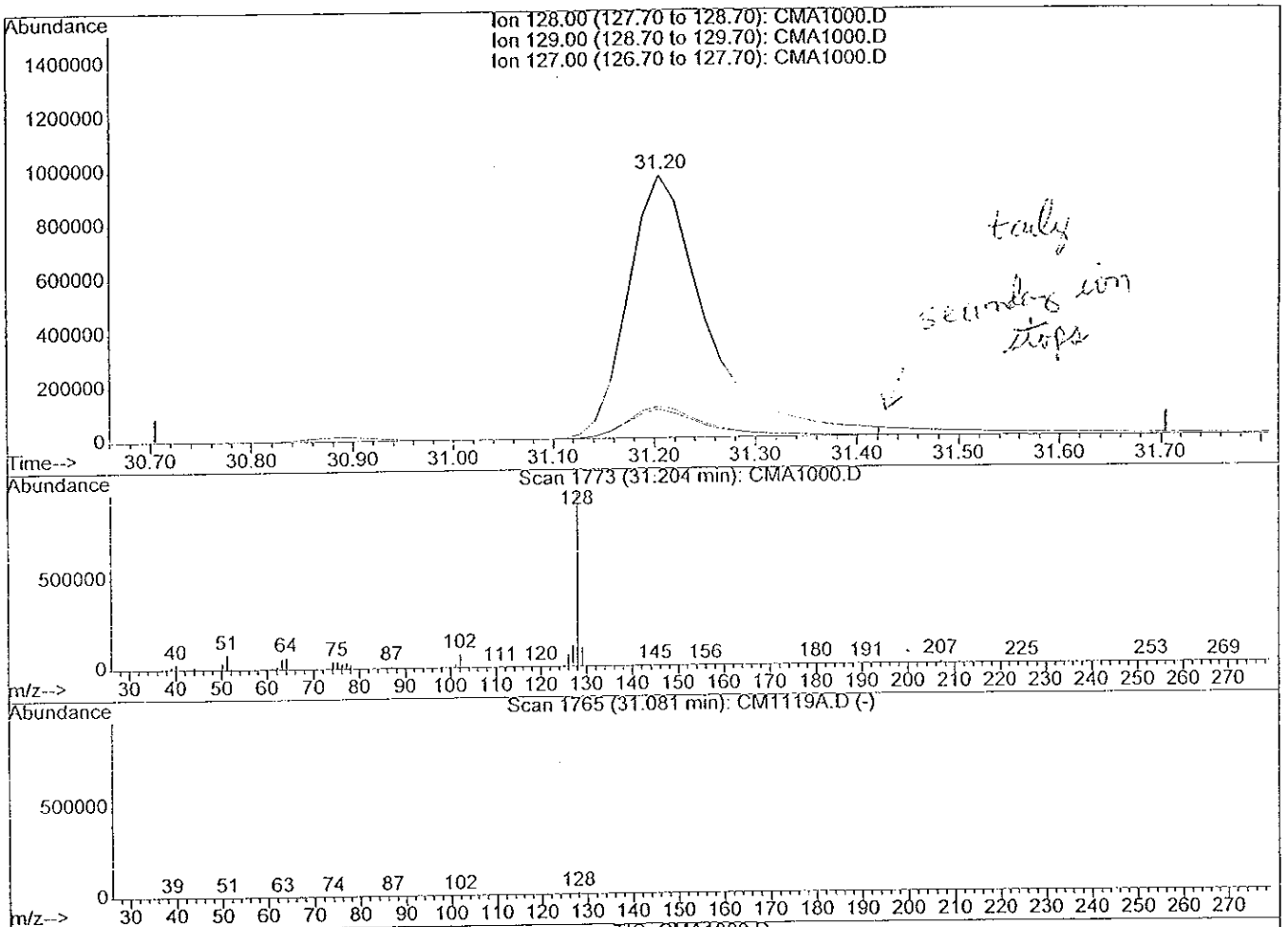
Before (tailing)

CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
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



truly
seconds in tops

(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

after
B 11/22/01

11-29-01

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

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

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng		-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng		-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng		-0.03 269.44%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng		-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#							
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng		-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%							
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng		-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng	#	43
4) Chloromethane	4.34	50	2269279	718.82	ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng		96
6) Bromomethane	5.40	94	3658163	942.87	ng	#	97
7) Chloroethane	5.49	64	1503351	904.74	ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng		86
12) Methylene chloride	8.10	49	3782190	684.28	ng		97
13) Carbon disulfide	8.26	76	8103282	879.86	ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng		90
16) n-Hexane	8.77	57	2872334	772.51	ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng		89
19) Chloroform	11.07	83	6416217	761.83	ng		98
20) Isooctane	12.03	57	9902255	718.87	ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng		98
27) Benzene	12.84	78	7380435	918.40	ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
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

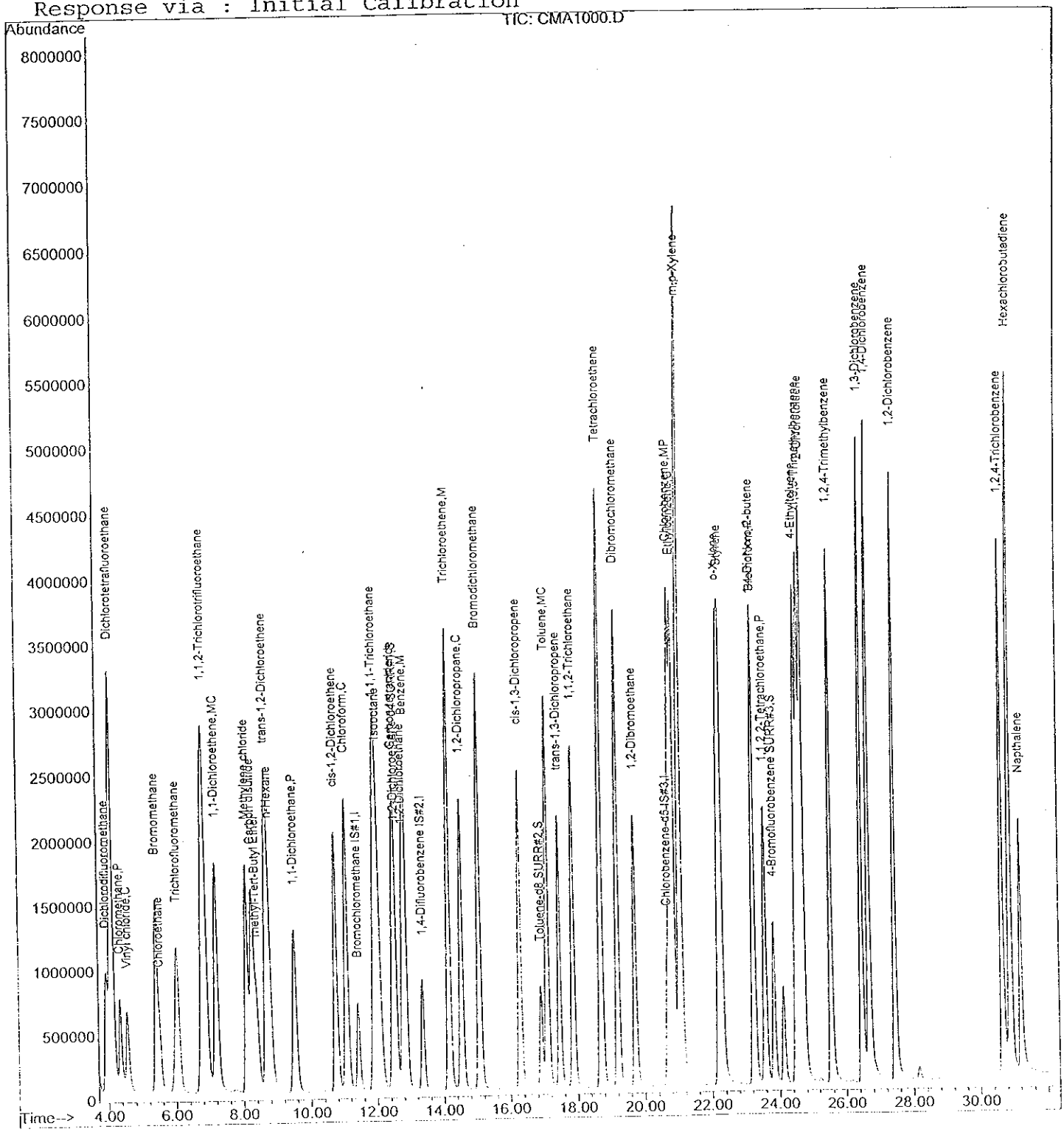
(#) = qualifier out of range (m) = manual integration

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

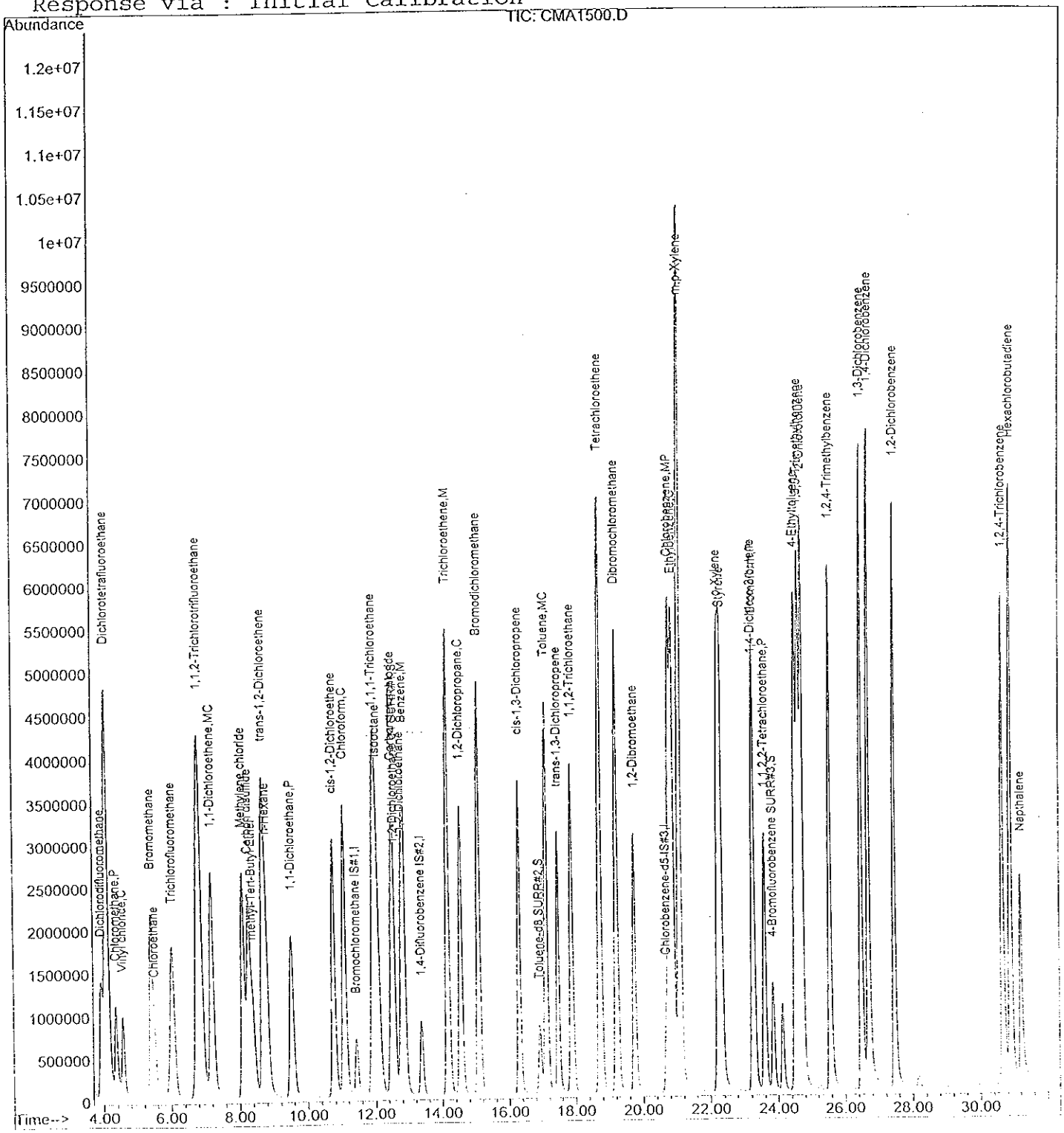
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88 ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29 ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55 ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10 ng		96
33) Toluene	17.10	92	7379692	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\[illegible]
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1128A\
Pre-Seq Cmd:
Post-Seq Cmd:

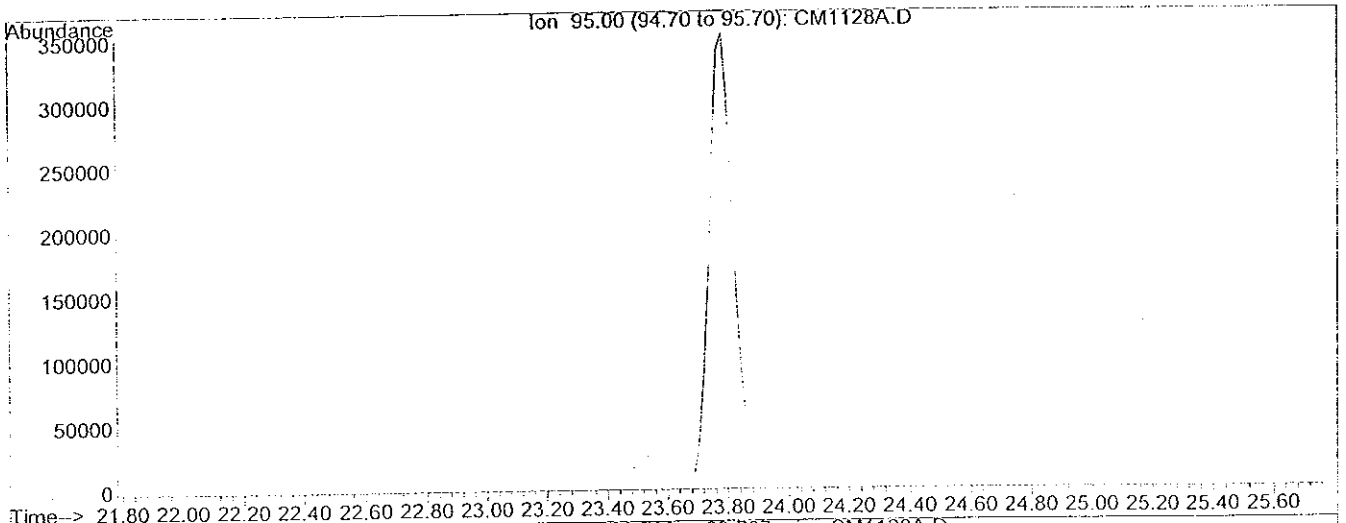
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

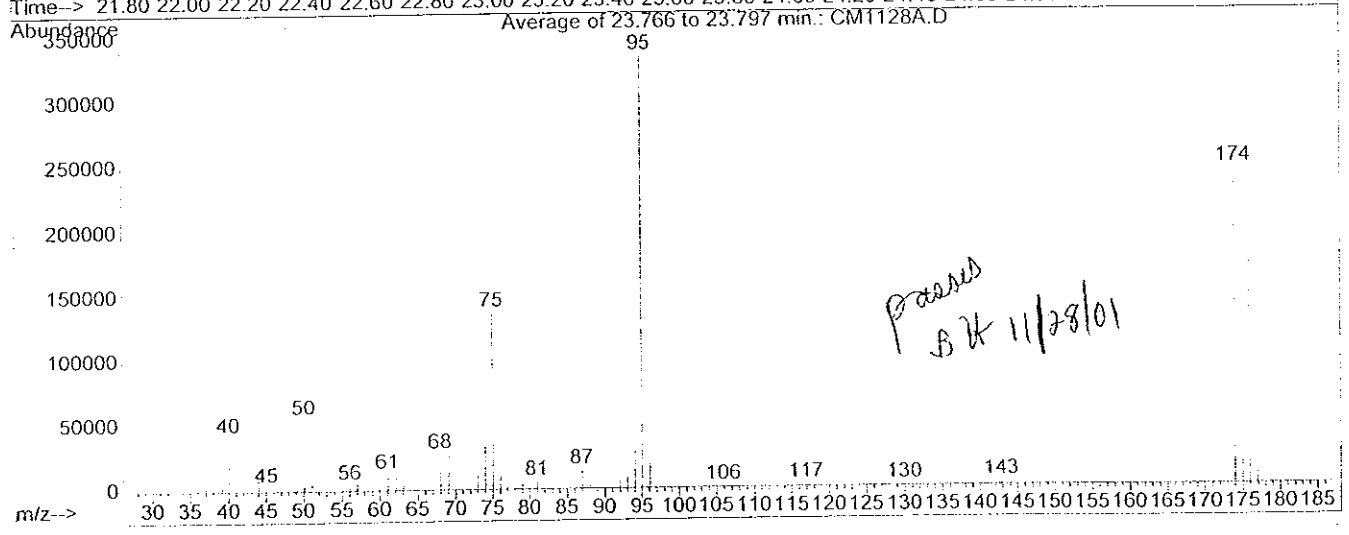
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

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





passed BH 11/28/01

Spectrum Information: Average of 23.766 to 23.797 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	55064	PASS
75	95	30	60	41.0	137088	PASS
95	95	100	100	100.0	334208	PASS
96	95	5	9	6.6	22080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.9	243499	PASS
175	174	5	9	7.1	17264	PASS
176	174	95	101	98.0	238571	PASS
177	176	5	9	6.3	15082	PASS

CM1128A.D TO14S.M Wed Nov 28 10:29:38 2001

Evaluate Continuing Calibration

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

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:17 2001
Response via : Multiple Level Calibration

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

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

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

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

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

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

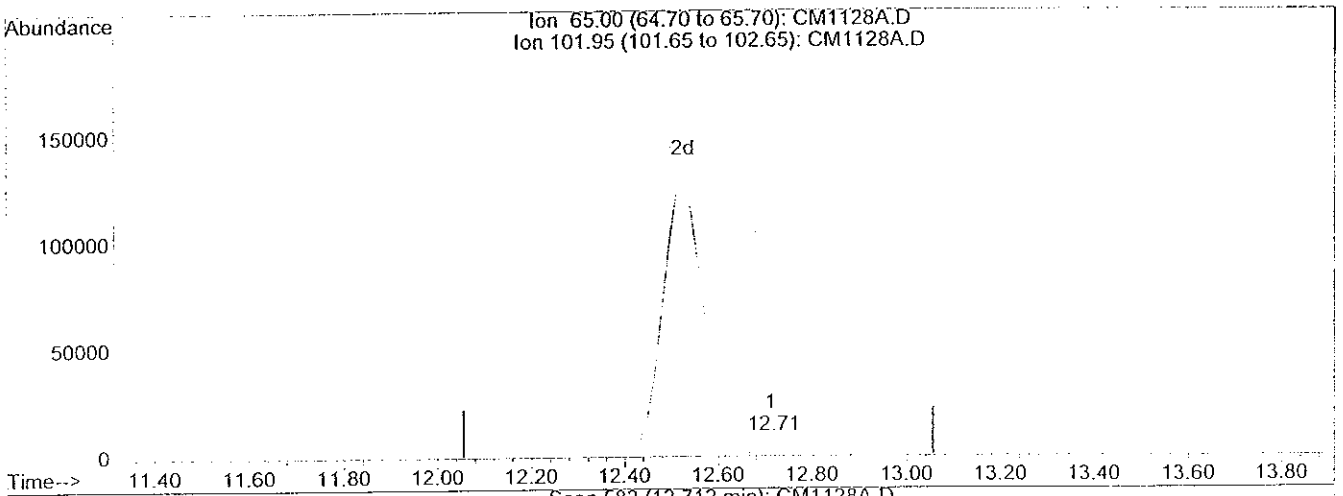
(#) = qualifier out of range (m) = manual integration

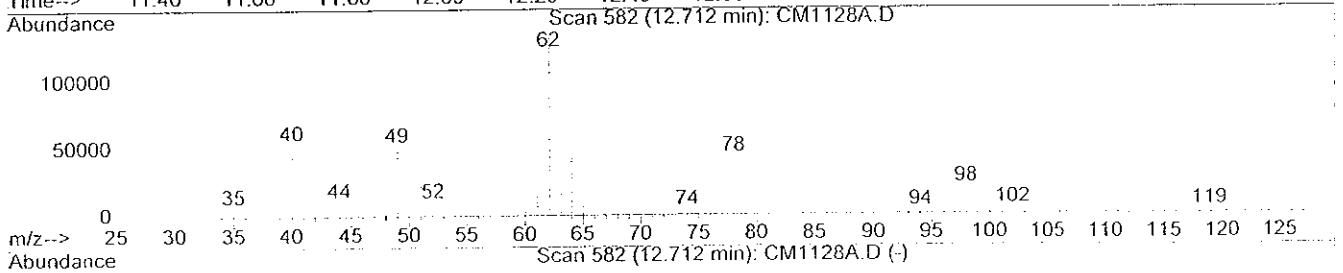
Quantitation Report (Qedit)

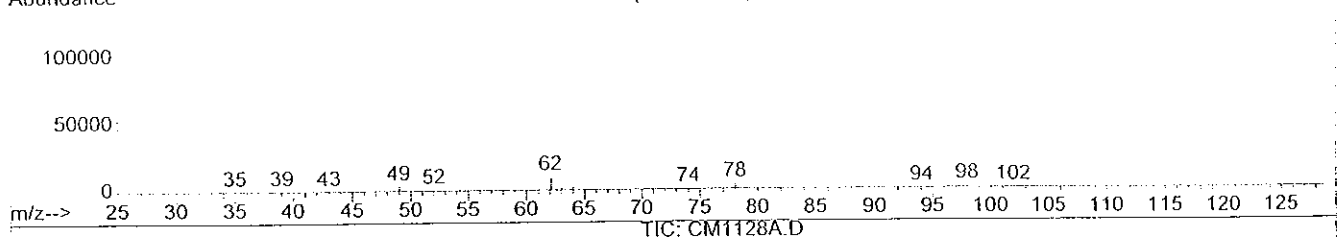
Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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

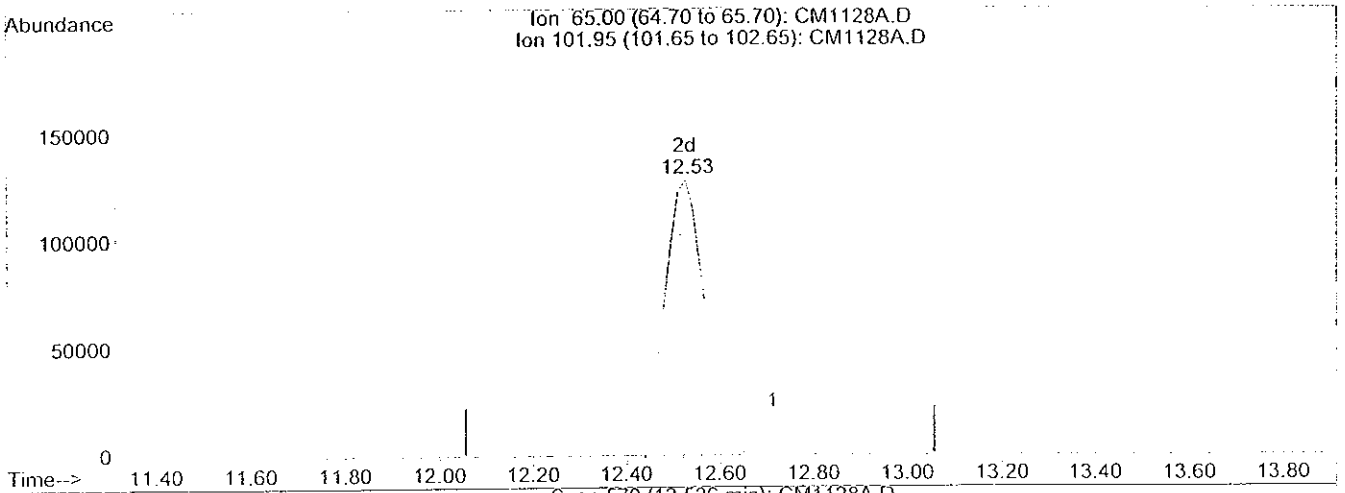
before (missed peak)

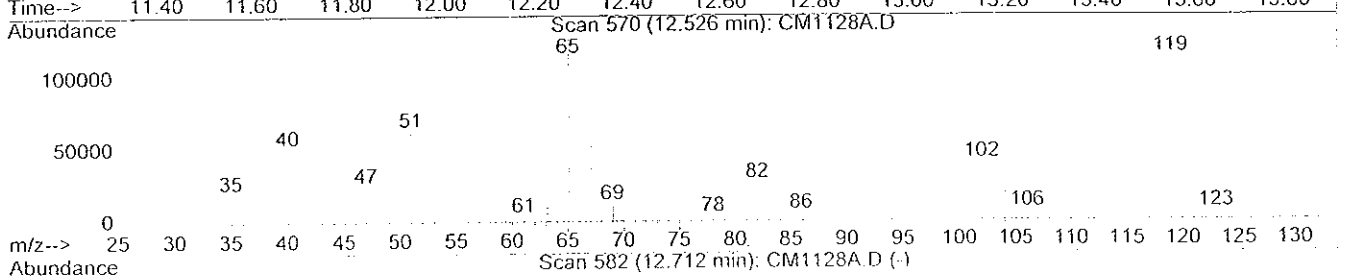
CM1128A.D TO14S.M Wed Nov 28 10:32:05 2001

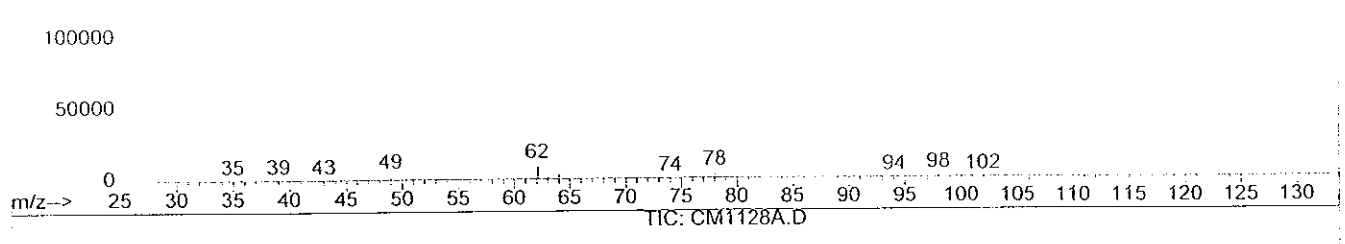
Quantitation Report (QT...)

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

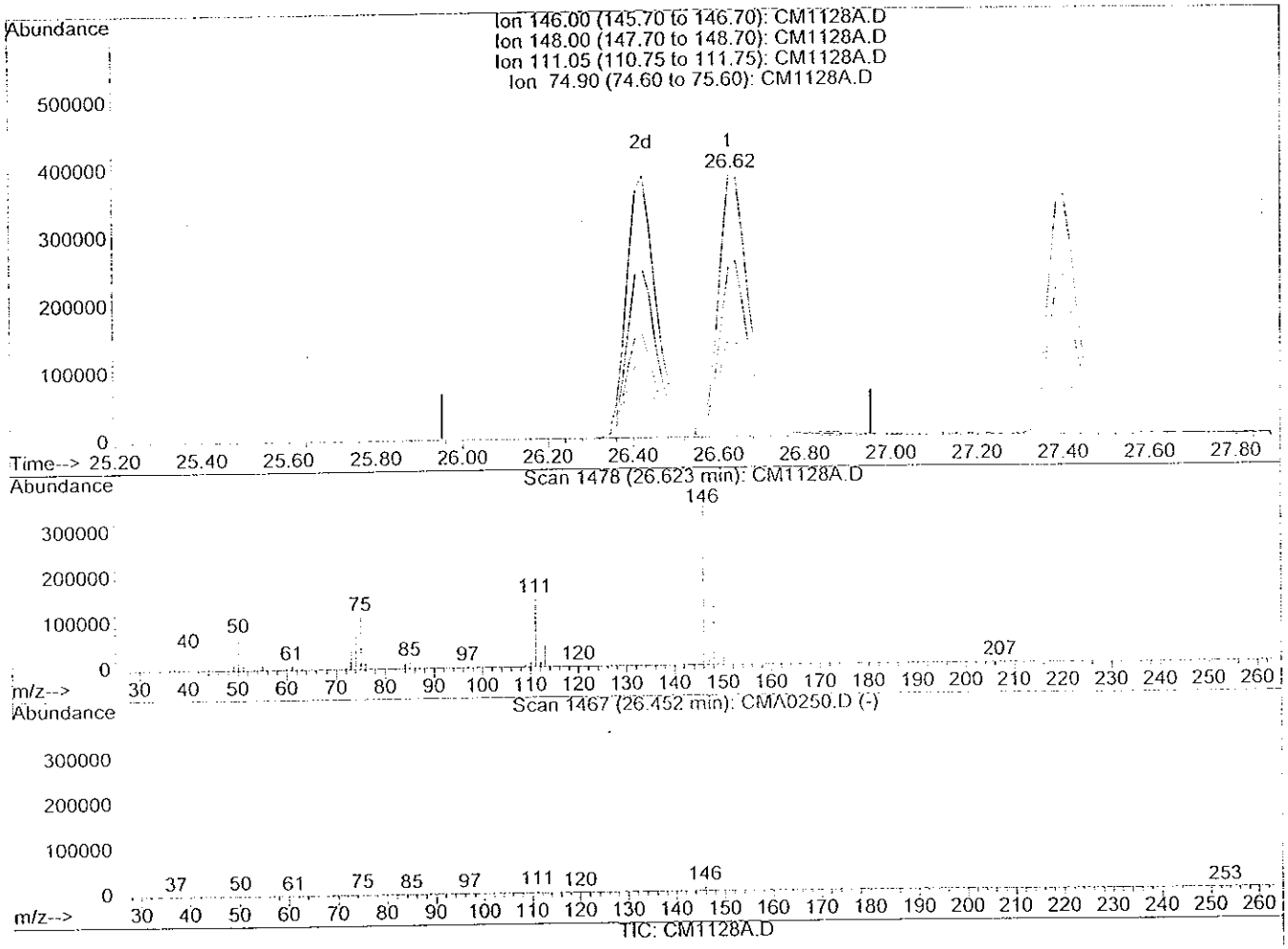
CM1128A.D TO14S.M Wed Nov 28 10:32:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
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

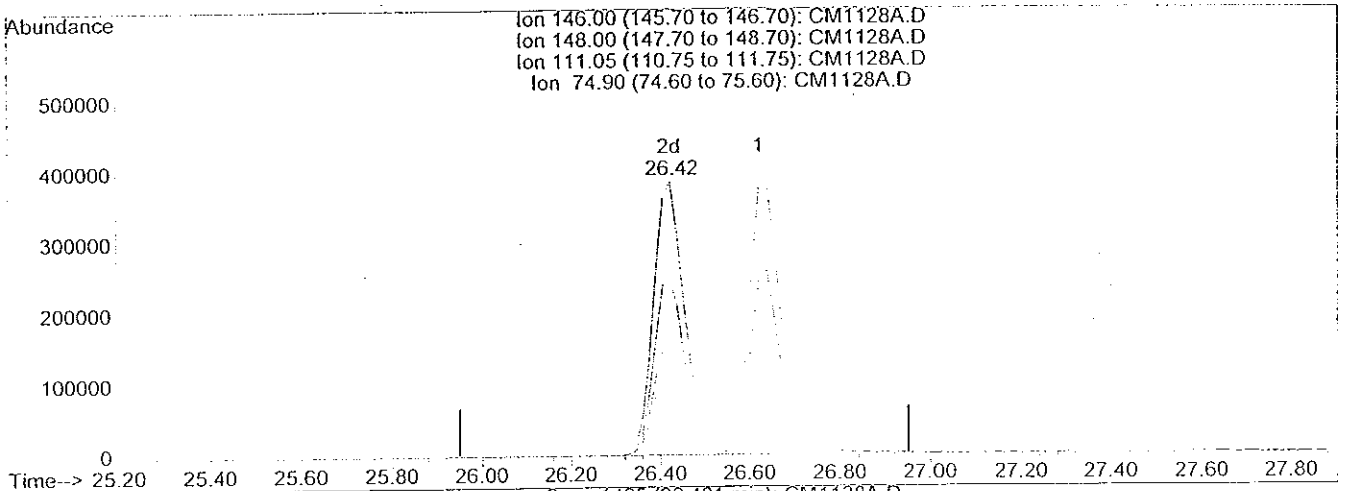
before
(wrong peak)

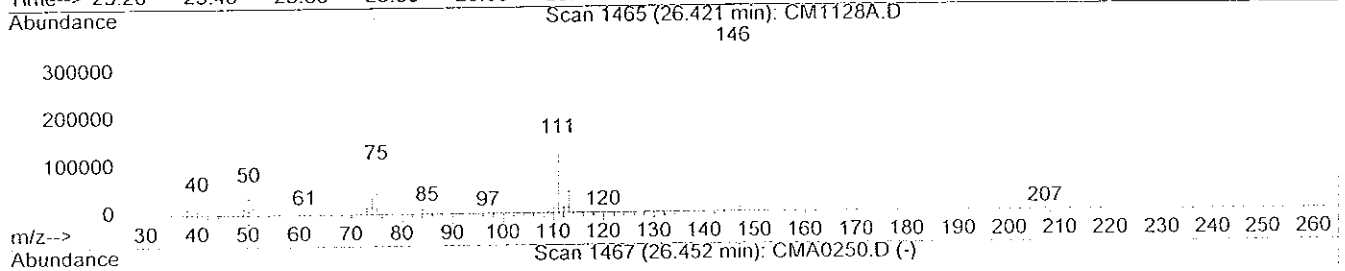
CM1128A.D TO14S.M Wed Nov 28 10:30:14 2001

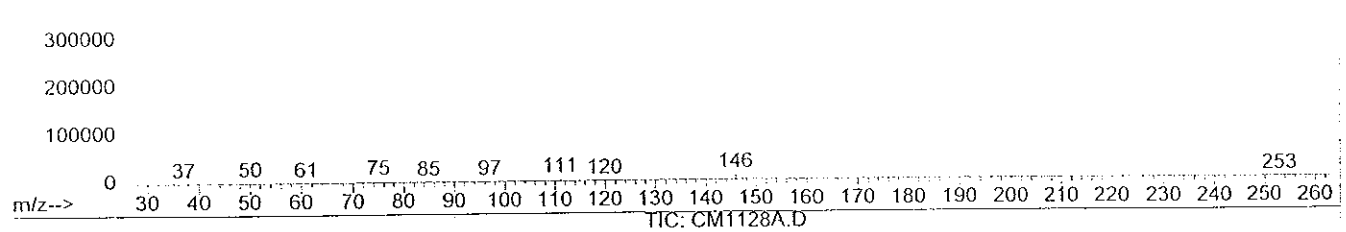
Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:30 2001

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
BDH 11/28/01

11-29-01

CM1128A.D TO14S.M Wed Nov 28 10:30:19 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00 ng	-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00 ng	-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00 ng	-0.05 103.08%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.71	65	52538	15.95 ng	0.16
Spiked Amount 250.000 Range 61 - 140 Recovery = 6.38%#					
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.03%					
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.41%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88 ng		91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19 ng	#	42
4) Chloromethane	4.33	50	680166	253.25 ng	#	96
5) Vinyl chloride	4.56	62	683071	265.32 ng		97
6) Bromomethane	5.38	94	1022044	235.63 ng	#	99
7) Chloroethane	5.49	64	431451	248.53 ng		98
8) Trichlorofluoromethane	6.01	101	709186	155.06 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58 ng		81
10) 1,1-Dichloroethene	7.17	96	874172	251.95 ng		85
12) Methylene chloride	8.07	49	1119090	249.74 ng		98
13) Carbon disulfide	8.23	76	2406192	257.52 ng		98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65 ng		98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14 ng		90
16) n-Hexane	8.72	57	857489	240.98 ng	#	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75 ng		99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09 ng		88
19) Chloroform	11.04	83	1909764	246.72 ng		98
20) Isooctane	11.98	57	2704757	225.82 ng		97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39 ng		91
22) Carbon tetrachloride	12.46	117	1709308	245.68 ng		97
24) 1,2-Dichloroethane	12.73	62	886849	241.96 ng	#	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09 ng		98
27) Benzene	12.79	78	2240715	252.47 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:03 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

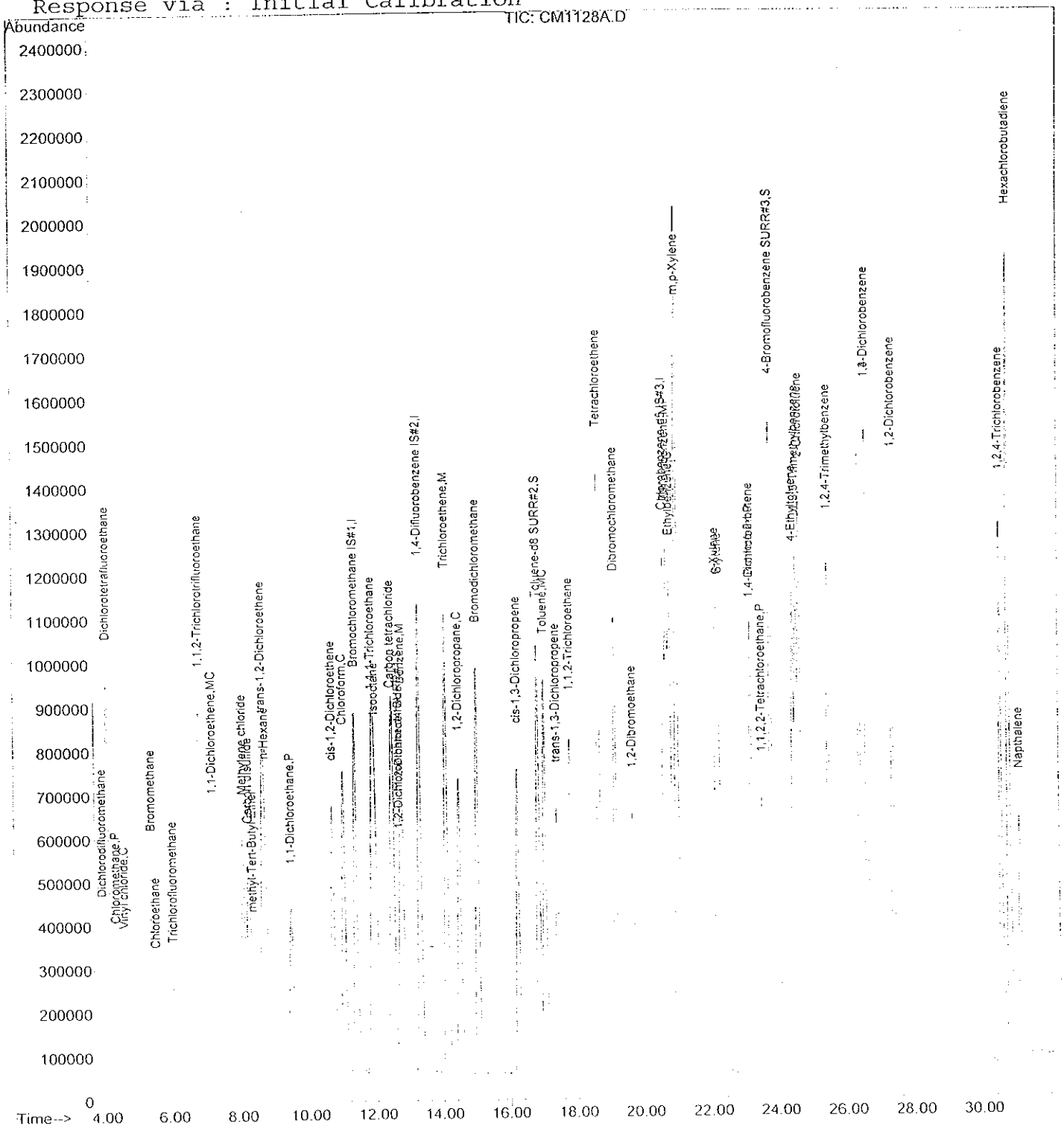
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.12	130	1253283	251.50 ng		93
29) 1,2-Dichloropropane	14.50	63	909704	244.44 ng		97
30) Bromodichloromethane	15.04	83	2107004	245.96 ng		99
31) cis-1,3-Dichloropropene	16.25	75	1340162	247.87 ng		98
33) Toluene	17.06	92	1419152	249.16 ng		99
34) trans-1,3-Dichloropropene	17.42	75	1040475	249.76 ng		99
35) 1,1,2-Trichloroethane	17.82	97	847991	244.92 ng		96
37) Tetrachloroethene	18.67	164	1192234	256.92 ng		93
38) Dibromochloromethane	19.16	127	1494788	246.43 ng		97
39) Chlorobenzene	20.72	112	2114458	253.11 ng		93
40) Ethylbenzene	20.82	106	828084	246.86 ng		99
41) m,p-Xylene	21.02	106	2192808	508.26 ng		92
42) o-Xylene	22.17	106	1041833	248.47 ng		98
43) Styrene	22.24	104	1662897	255.19 ng		97
44) Bromoform	23.19	173	1392067	252.38 ng		99
45) 1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07 ng		99
47) 1,4-Dichloro-2-butene	23.18	75	236426	252.06 ng		91
48) 4-Ethyltoluene	24.45	105	2605946	232.33 ng		94
49) 1,3,5-Trimethylbenzene	24.54	105	2118334	245.40 ng		88
50) 2-Chlorotoluene	24.65	91	2752179	249.41 ng		95
51) 1,2,4-Trimethylbenzene	25.49	105	2247221	249.50 ng		95
52) 1,3-Dichlorobenzene	26.62	146	1942471	261.46 ng		94
53) 1,4-Dichlorobenzene	26.62	146	2017612	257.73 ng	#	94
54) 1,2-Dichlorobenzene	27.40	146	1754592	258.27 ng	#	93
55) 1,2,4-Trichlorobenzene	30.58	180	1361919	285.69 ng		100
56) Napthalene	31.13	128	1599490	283.12 ng	#	92
57) Hexachlorobutadiene	30.81	225	1143710	278.03 ng		99

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

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)

BAA 11/28/01

ng report

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

(#) = 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

CRL/NR/NSF

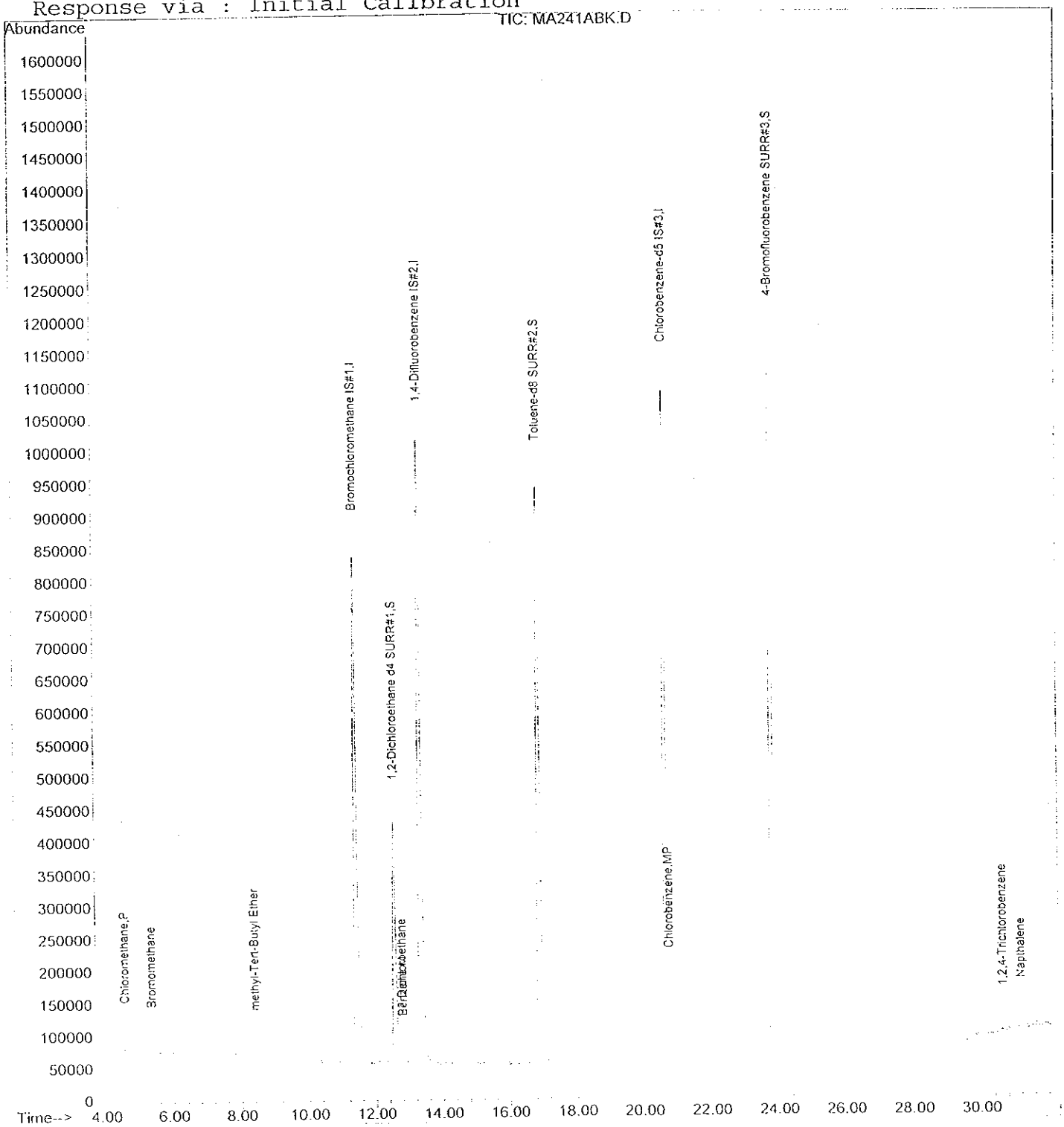
(#) = qualifier out of range (m) = manual integration
MA241ABK.D TO14S.M Wed Nov 28 11:31:22 2001

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241ABK.D
Acq On : 28 Nov 2001 10:59
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 11:31 2001

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration



LCS Blank Summary Report

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

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

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

* = out of control limits
Thu Nov 29 09:22:01 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
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 13:27 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)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00 ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00 ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00 ng	0.04 101.06%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.50%					
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.26%					
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.43%					

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.19	96	816654	231.01 ng	86
27) Benzene	12.83	78	2347061	260.31 ng	98
28) Trichloroethene	14.14	130	1347269	266.13 ng	93
33) Toluene	17.09	92	1528943	264.23 ng	98
39) Chlorobenzene	20.76	112	2277420	269.75 ng #	85

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00 ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00 ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00 ng	0.04 101.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.50%					
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.26%					
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.43%					

Target Compounds

						Qvalue
4) Chloromethane	4.57	50	940	0.34 ng	#	11
6) Bromomethane	5.45	94	5513	1.25 ng	#	9
10) 1,1-Dichloroethene	7.19	96	816654	231.01 ng		86
14) methyl-Tert-Butyl Ether	8.37	73	10536	2.50 ng	#	52
24) 1,2-Dichloroethane	12.81	62	19716	5.28 ng	#	49
25) 1,2-Dibromoethane	19.72	107	7064	1.21 ng		85
27) Benzene	12.83	78	2347061	260.31 ng		98
28) Trichloroethene	14.14	130	1347269	266.13 ng		93
33) Toluene	17.09	92	1528943	264.23 ng		98
34) trans-1,3-Dichloropropene	17.08	75	13103	3.10 ng	#	1
35) 1,1,2-Trichloroethane	17.86	97	1093	0.31 ng	#	14
39) Chlorobenzene	20.76	112	2277420	269.75 ng	#	85
44) Bromoform	23.23	173	13171	2.36 ng	#	64
45) 1,1,2,2-Tetrachloroethane	23.55	83	25476	5.10 ng	#	94
48) 4-Ethyltoluene	24.58	105	972	0.09 ng	#	46
49) 1,3,5-Trimethylbenzene	24.58	105	972	0.11 ng	#	30
50) 2-Chlorotoluene	24.70	91	1970	0.18 ng	#	47
51) 1,2,4-Trimethylbenzene	25.91	105	9172	1.01 ng	#	31
52) 1,3-Dichlorobenzene	26.46	146	940	0.13 ng	#	27
53) 1,4-Dichlorobenzene	26.67	146	1049	0.13 ng	#	27
54) 1,2-Dichlorobenzene	27.43	146	3680	0.54 ng	#	55
55) 1,2,4-Trichlorobenzene	30.63	180	24674	5.12 ng	#	90
56) Napthalene	31.18	128	87878	21.02 ng	#	87

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

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

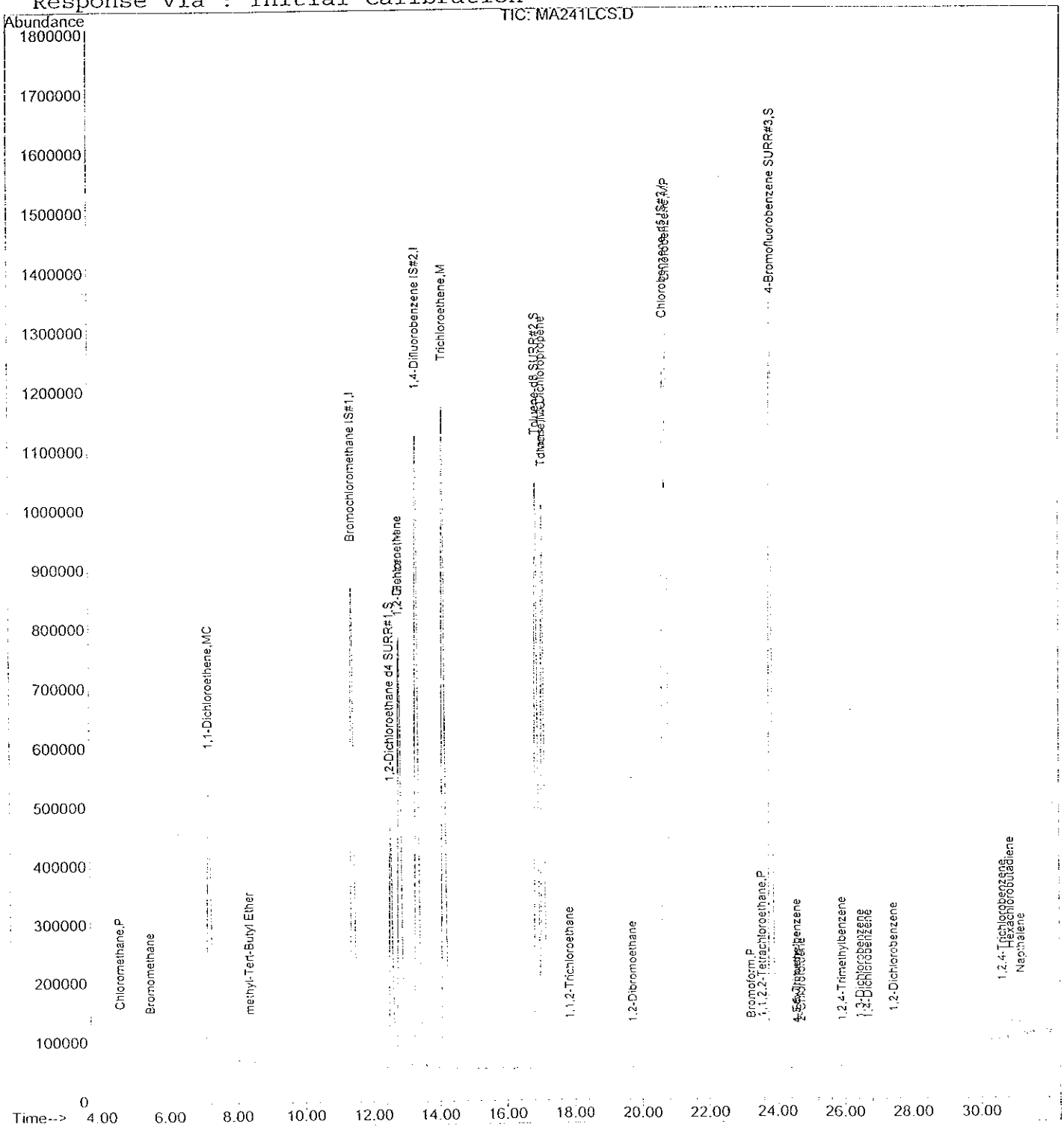
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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
MA241LCS.D TO14S.M Wed Nov 28 12:08:42 2001

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



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed 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

mg/m3 report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	673905	250.00	ng	0.03 87.25%
26) 1,4-Difluorobenzene IS#2	13.35	114	2376530	250.00	ng	0.03 76.36%
36) Chlorobenzene-d5 IS#3	20.63	117	1900275	250.00	ng	0.00 80.05%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	694933	241.87	ng	0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.75%						
32) Toluene-d8 SURR#2	16.87	98	1885861	256.31	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.52%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1702245	253.56	ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.42%						

Target Compounds

						Qvalue
16) n-Hexane	8.77	57	111295	0.14	ng ✓ #	1
27) Benzene	12.84	78	23553	0.01	ng <mdl	59
33) Toluene	17.06	92	28646	0.03	ng <mdl	85
40) Ethylbenzene	20.82	106	15117	0.02	ng <mdl	79
41) m,p-Xylene	21.02	106	73903	0.09	ng ✓ F	99
42) o-Xylene	22.15	106	47626	0.06	ng ✓	89
48) 4-Ethyltoluene	24.40	105	117218	0.05	ng ✓ F	89
49) 1,3,5-Trimethylbenzene	24.54	105	357217	0.21	ng ✓	94
51) 1,2,4-Trimethylbenzene	25.49	105	72347	0.04	ng ✓ F	94

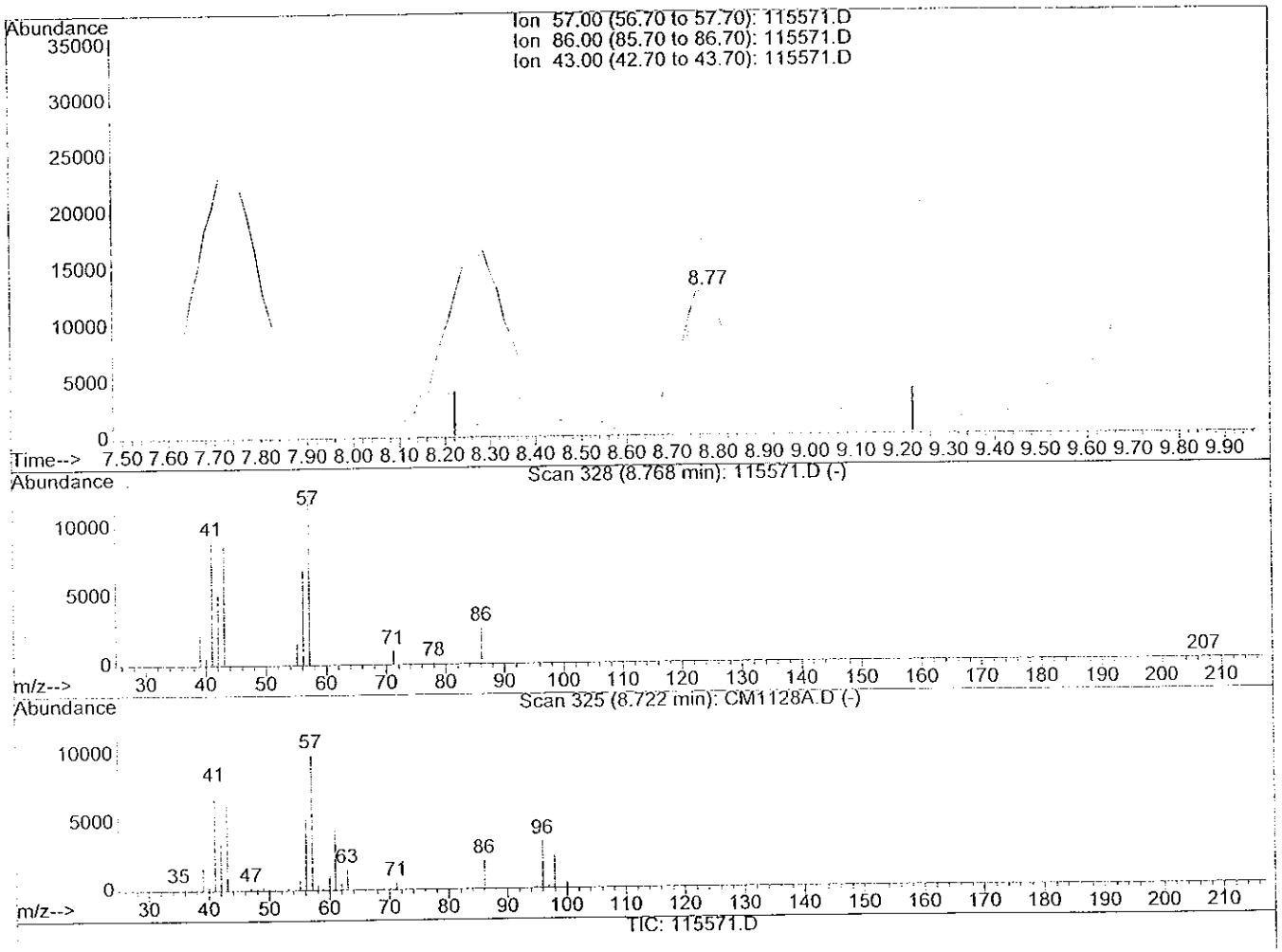
(#) = qualifier out of range (m) = manual integration
115571.D TO14S.M Wed Nov 28 16:38:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:34 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



(16) n-Hexane

8.77min 35.85ng

response 111295

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	18.43#
43.00	325.00	95.19#
0.00	0.00	0.00

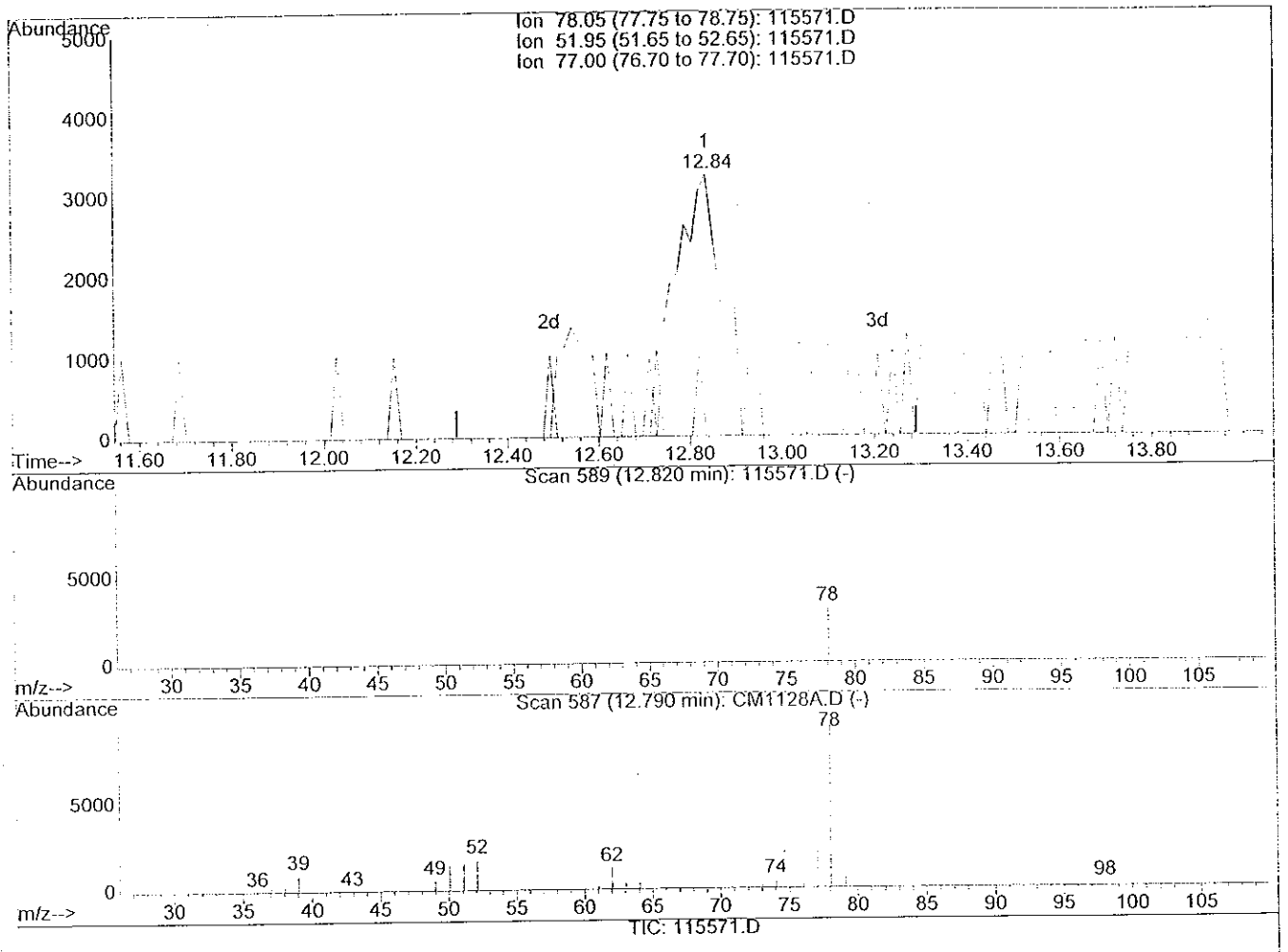
115571.D TO14S.M Wed Nov 28 16:35:25 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 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 : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(27) Benzene (M)

12.84min 3.48ng

response 23553

Ion	Exp%	Act%
78.05	100	100
51.95	18.10	0.00#
77.00	24.80	3.96#
0.00	0.00	0.00

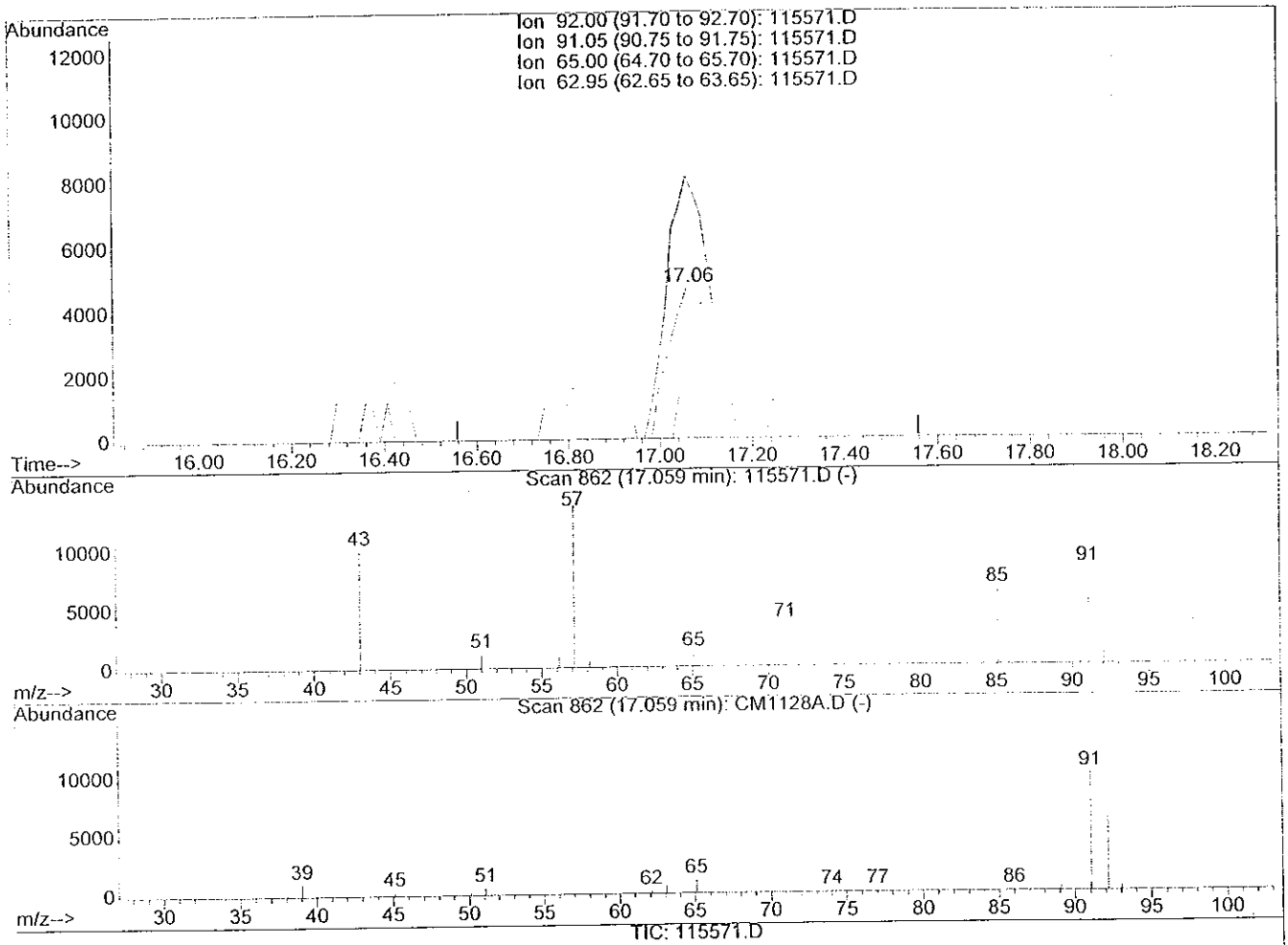
115571.D TO14S.M Wed Nov 28 16:36:02 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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 6.59ng

response 28646

Ion	Exp%	Act%
92.00	100	100
91.05	165.10	183.54
65.00	20.80	16.97
62.95	14.20	0.00#

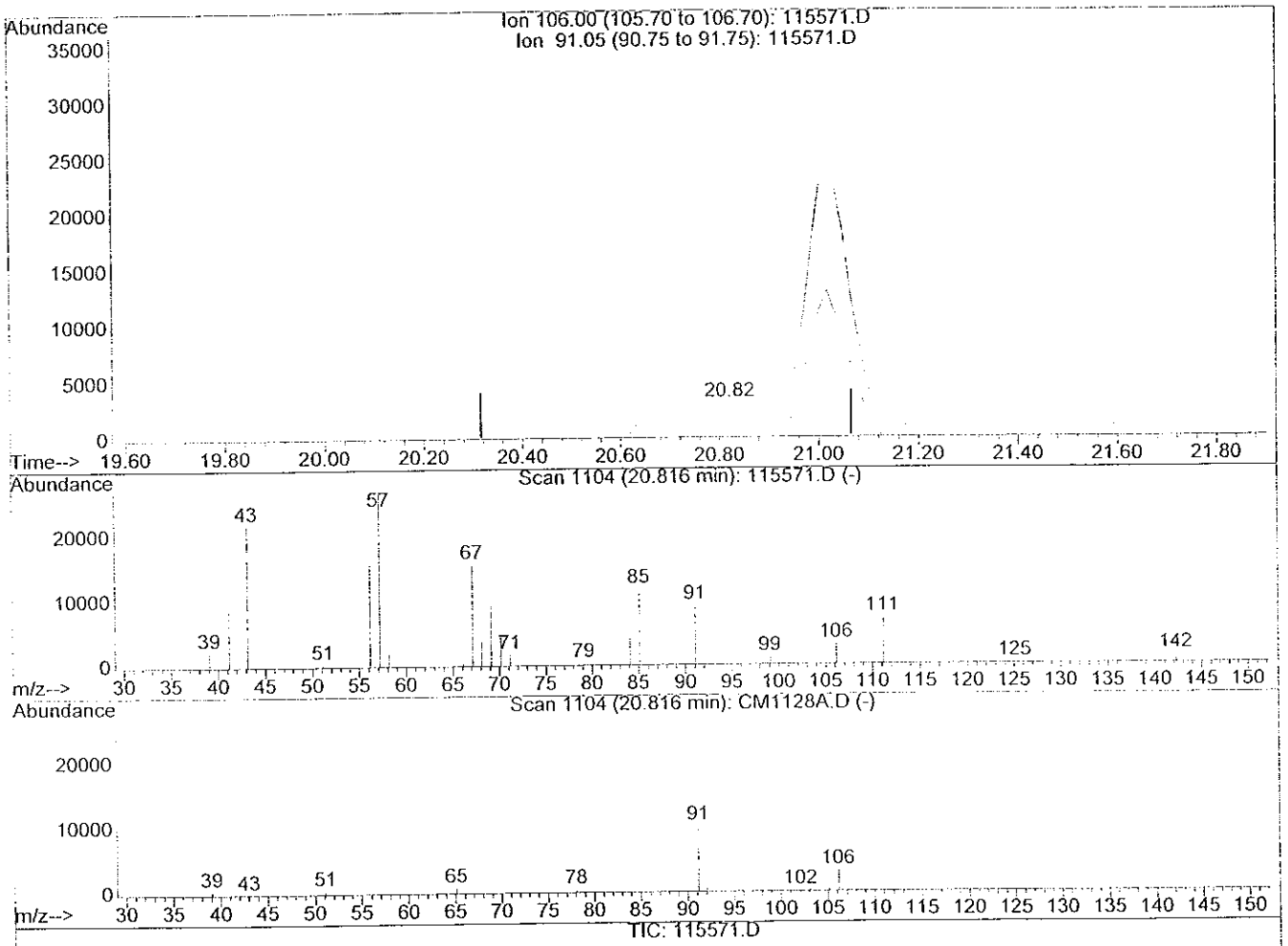
115571.D TO14S.M Wed Nov 28 16:36:23 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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 5.63ng

response 15117

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	376.06
0.00	0.00	0.00
0.00	0.00	0.00

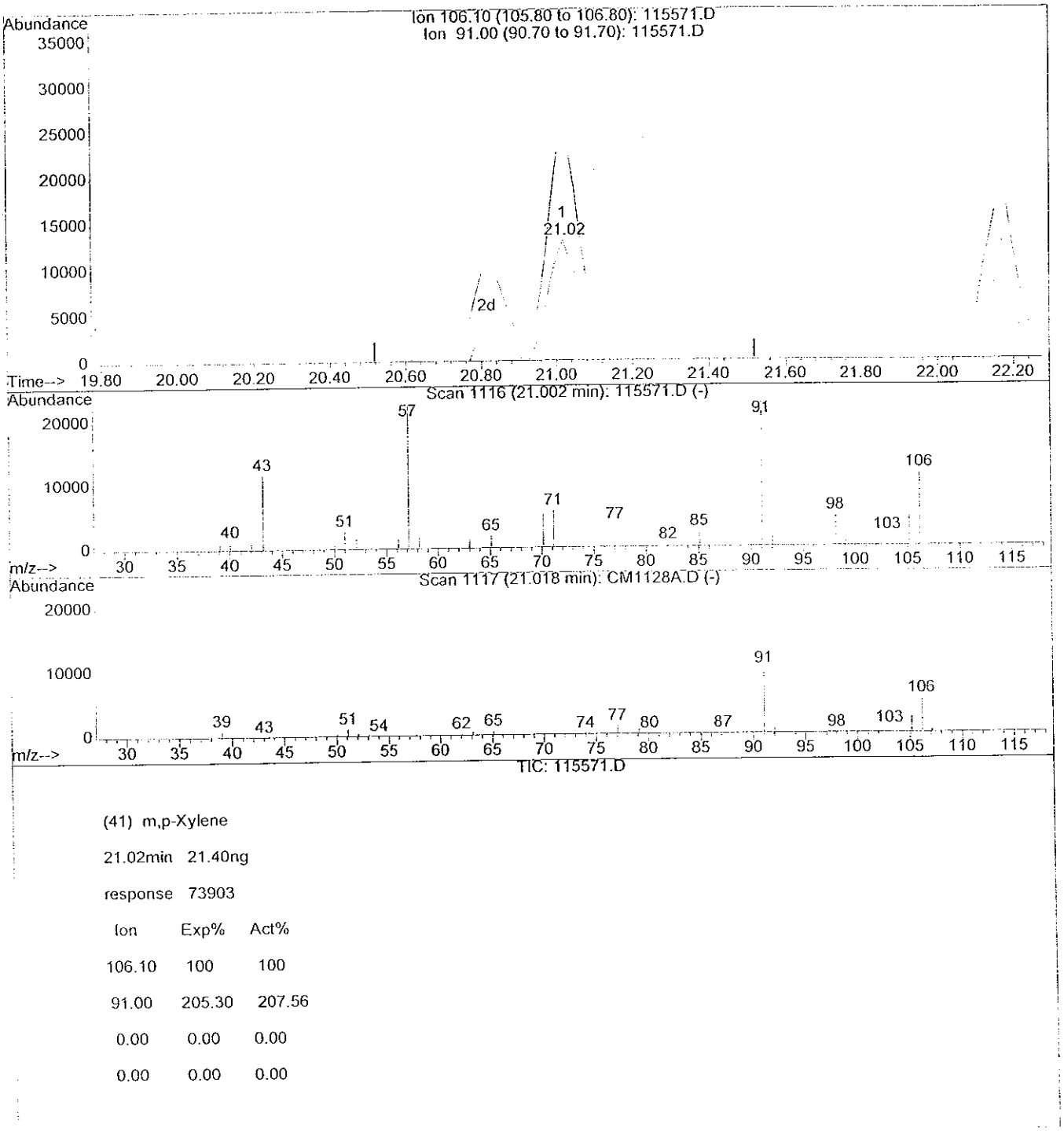
115571.D TO14S.M Wed Nov 28 16:36:42 2001

Quantitation Report (QedIt)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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

21.02min 21.40ng

response 73903

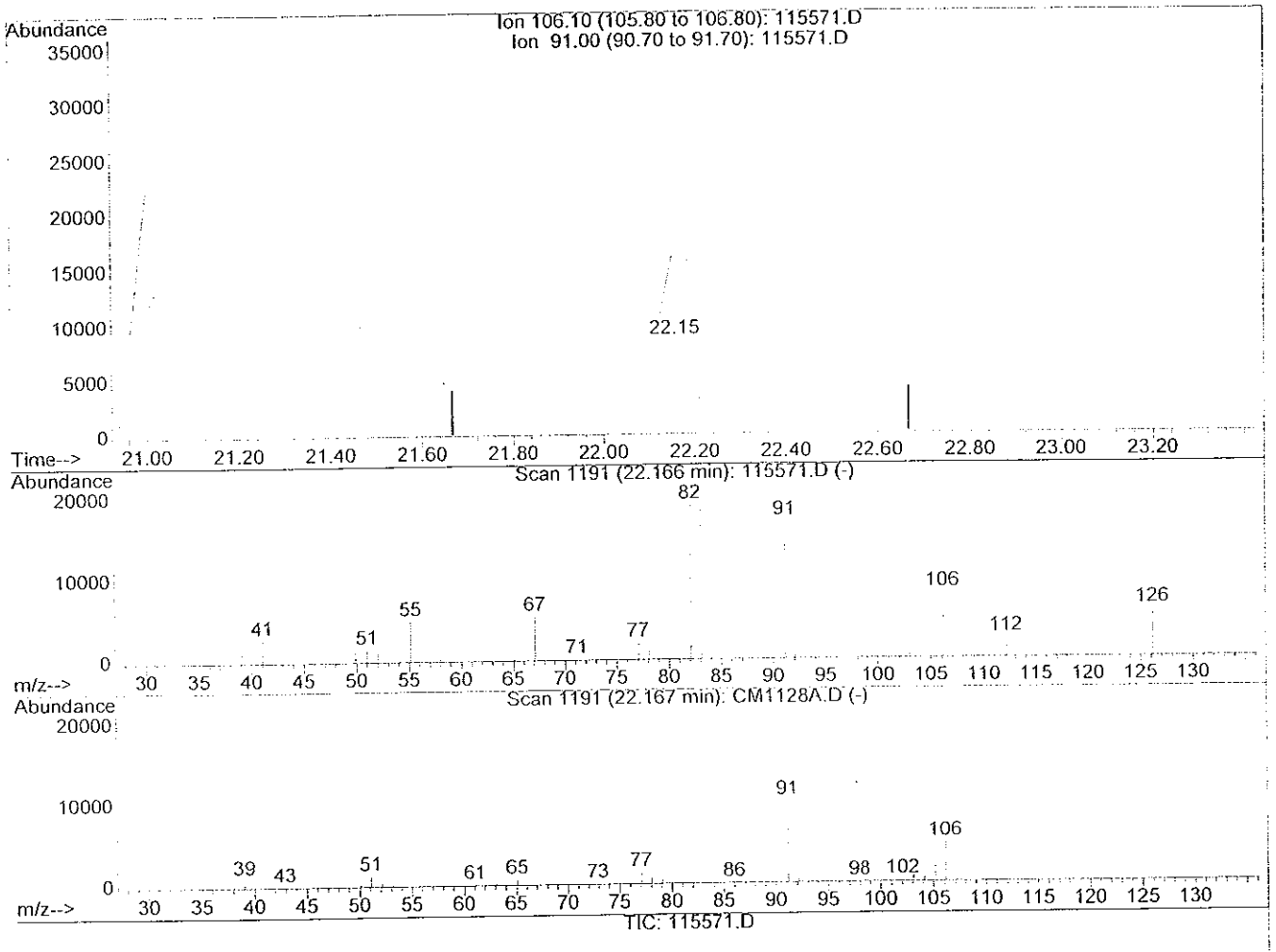
Ion	Exp%	Act%
106.10	100	100
91.00	205.30	207.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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

22.15min 14.19ng

response 47626

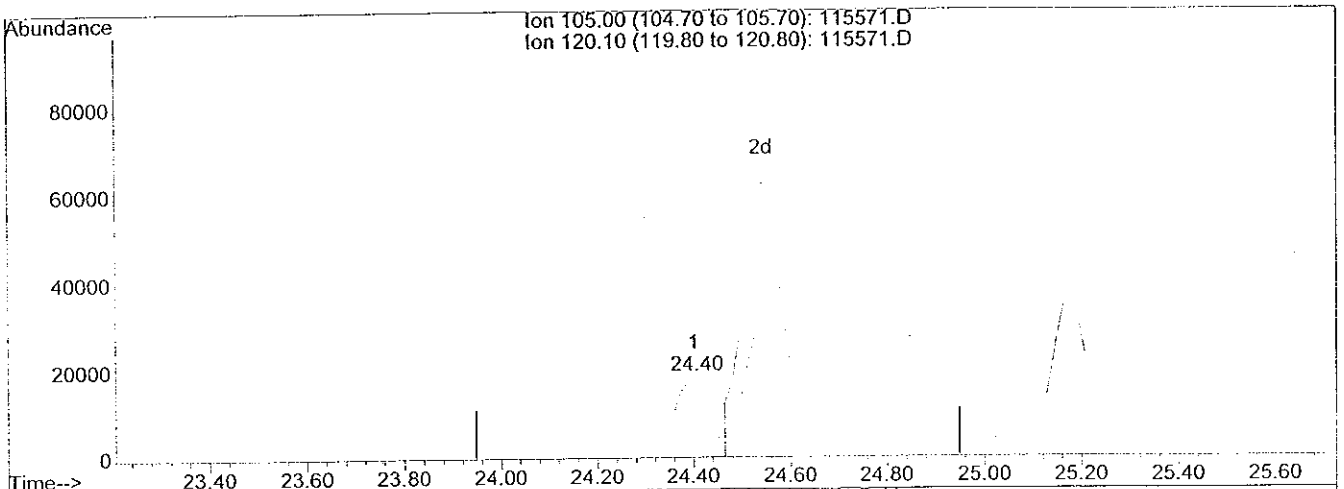
Ion	Exp%	Act%
106.10	100	100
91.00	215.80	233.85
0.00	0.00	0.00
0.00	0.00	0.00

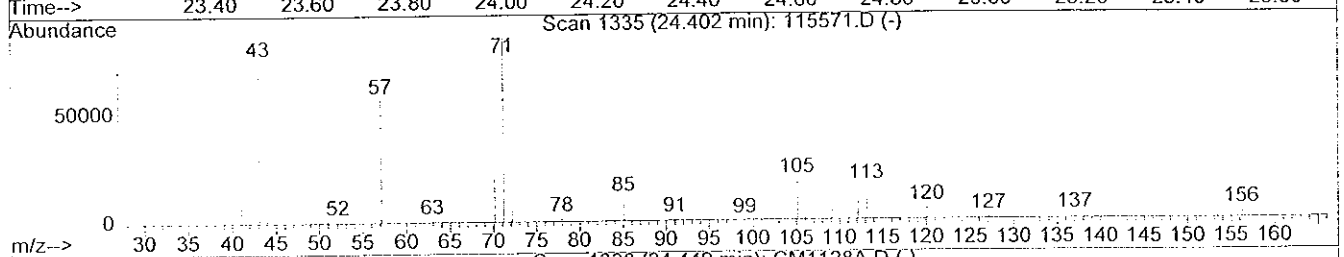
Quantification Report (QedIt)

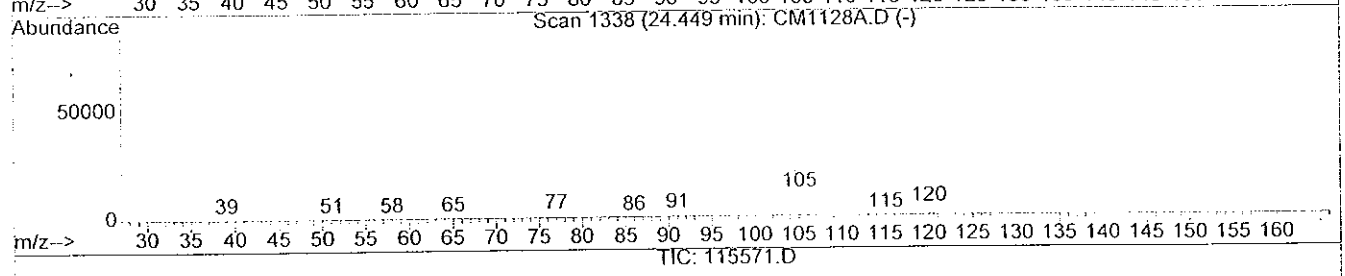
Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

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: 115571.D

(48) 4-Ethyltoluene

24.40min 13.06ng

response 117218

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	23.10
0.00	0.00	0.00
0.00	0.00	0.00

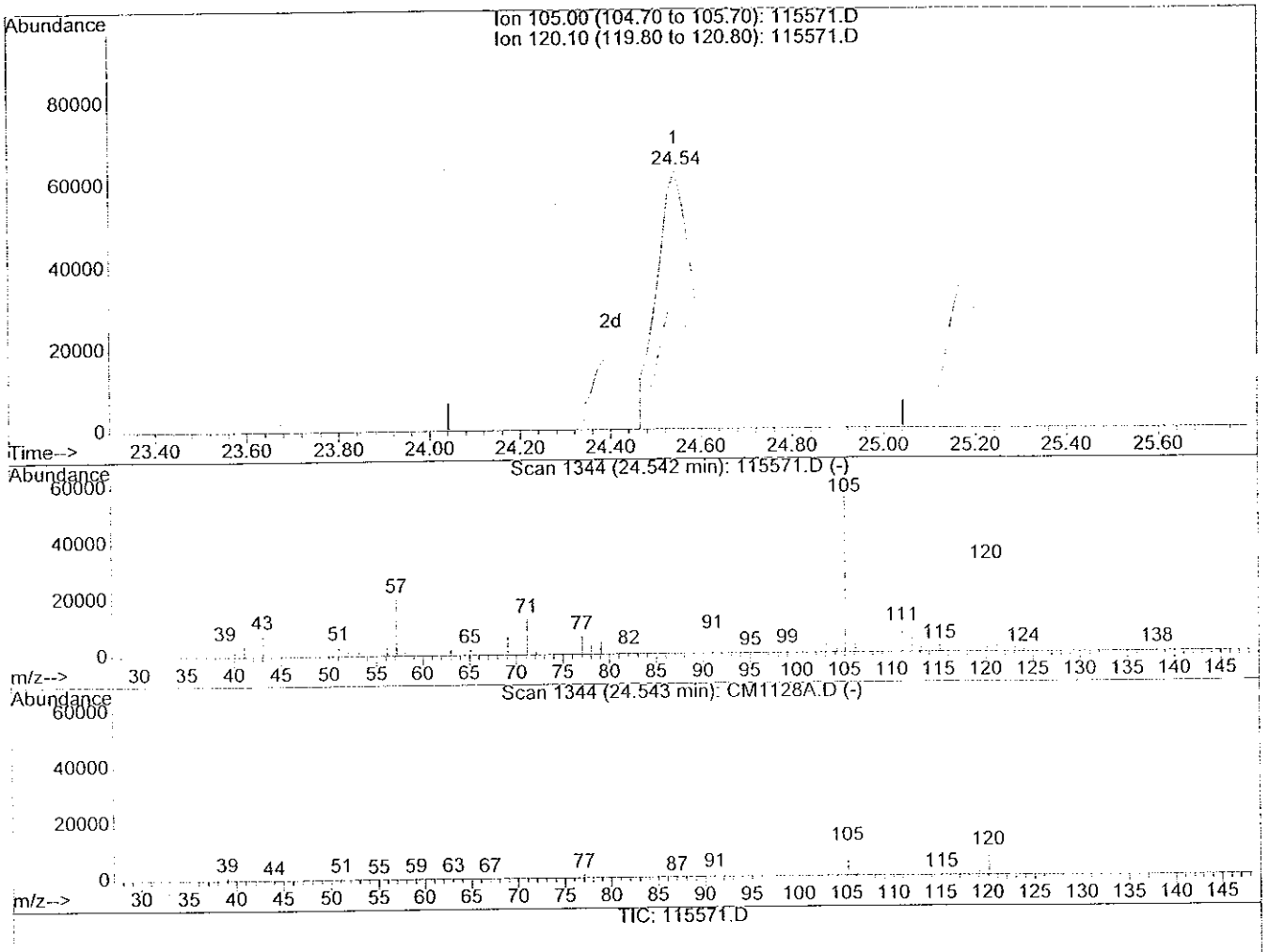
115571.D TO14S.M Wed Nov 28 16:37:30 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 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 51.70ng

response 357217

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	50.57
0.00	0.00	0.00
0.00	0.00	0.00

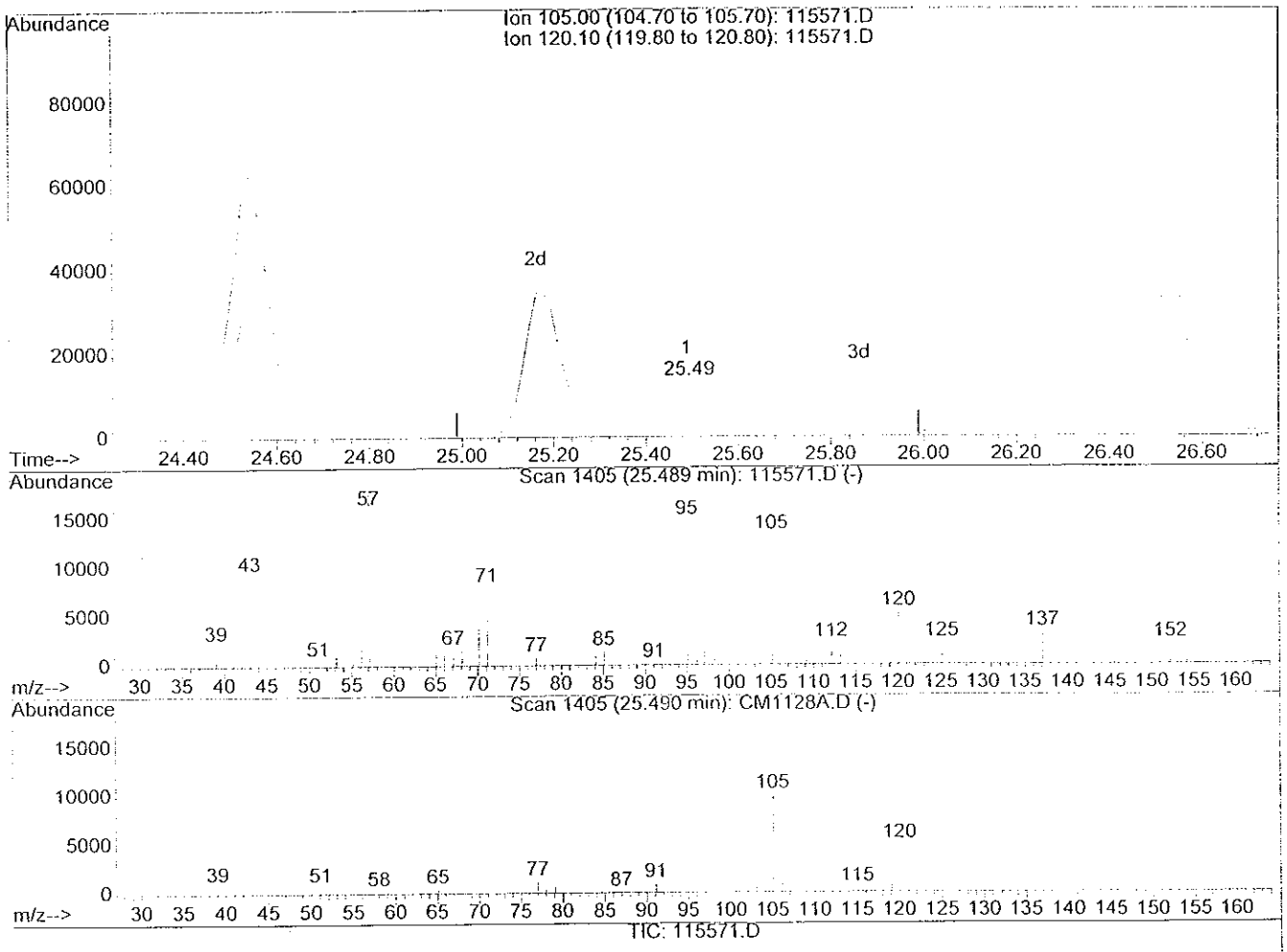
115571.D TO14S.M Wed Nov 28 16:37:40 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 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

25.49min 10.03ng

response 72347

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	41.19
0.00	0.00	0.00
0.00	0.00	0.00

115571.D TO14S.M Wed Nov 28 16:37:54 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:31 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	11.42	128	673905	250.00	ng	0.03 87.25%
26) 1,4-Difluorobenzene IS#2	13.35	114	2376530	250.00	ng	0.03 76.36%
36) Chlorobenzene-d5 IS#3	20.63	117	1900275	250.00	ng	0.00 80.05%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.54	65	694933	241.87	ng	0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.75%						
32) Toluene-d8 SURR#2	16.87	98	1885861	256.31	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.52%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1702245	253.56	ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.42%						

Target Compounds						Qvalue
4) Chloromethane	4.67	50	948	0.40	ng	# 46
6) Bromomethane	5.46	94	1044	0.28	ng	# 9
15) trans-1,2-Dichloroethene	9.03	96	941	0.29	ng	# 1
16) n-Hexane	8.77	57	111295	35.85	ng	# 1
20) Isooctane	12.03	57	94067	9.00	ng	# 1
27) Benzene	12.84	78	23553	3.48	ng	# 59
29) 1,2-Dichloropropane	14.31	63	5651	1.99	ng	# 1
30) Bromodichloromethane	14.84	83	34174	5.22	ng	# 25
33) Toluene	17.06	92	28646	6.59	ng	# 85
35) 1,1,2-Trichloroethane	18.01	97	34757	13.15	ng	# 14
38) Dibromochloromethane	19.26	127	14237	2.93	ng	# 82
39) Chlorobenzene	20.66	112	20868	3.12	ng	# 77
40) Ethylbenzene	20.82	106	15117	5.63	ng	79
41) m,p-Xylene	21.02	106	73903	21.40	ng	99
42) o-Xylene	22.15	106	47626	14.19	ng	89
45) 1,1,2,2-Tetrachloroethane	23.56	83	151665	38.35	ng	# 48
48) 4-Ethyltoluene	24.40	105	117218	13.06	ng	89
49) 1,3,5-Trimethylbenzene	24.54	105	357217	51.70	ng	94
50) 2-Chlorotoluene	24.54	91	46847	5.30	ng	# 47
51) 1,2,4-Trimethylbenzene	25.49	105	72347	10.03	ng	94

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

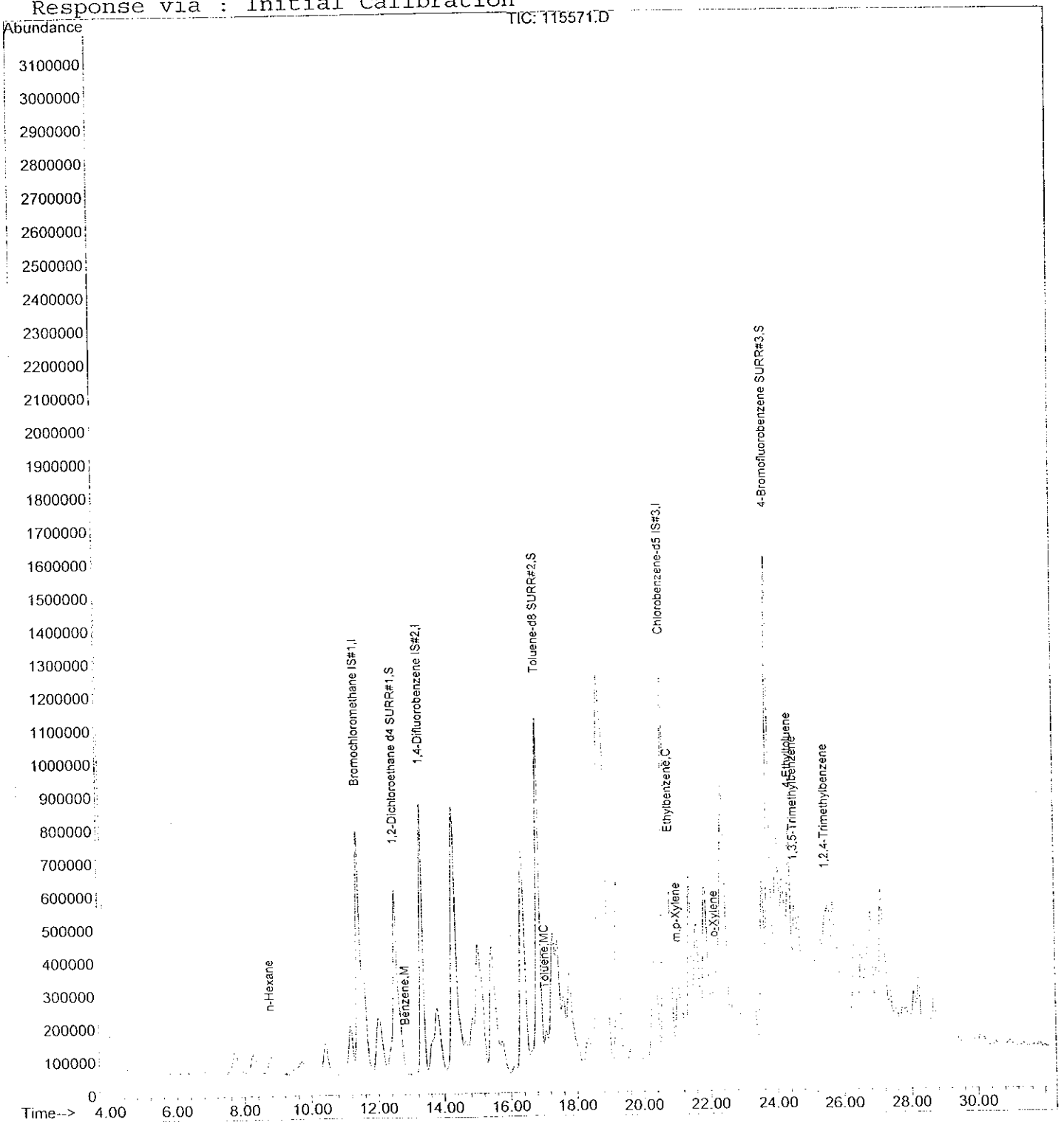
Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.00

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



STL Pensacola / GCMS Volatiles Run Log

te 11-28-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD

tch MA241 1 2 3 | Batch _____ 1 2 3 | Batch _____ 1 2 3 | Maint. ___

8 -MSW- 26 - 3 | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 23 - 3 | Sequence cont.

B 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- - | on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
9:31	14	TO14S.m	CM 1128A	50ppb		Y N	W	YES	BOH	Daily Cal Check/bfb tune/95 ion area = 2,063,000
0:59	15		MA241A BK	ST		Y N				Daily Method Blank
1:36	16		MA241 LCS	50ppb		Y N				Batch# 241 LCS
:	1		QC228	ST.		Y N	A (TO14)			500mls QC CAN check # 228
2:31	2		11586-1	X500		Y N		YES		1.0ml
3:08	3		11552-1	X500		Y N				1.0ml
3:42	4		-2			Y N				re-run X50
4:16	5		-3			Y N				
5:23	1		11556-1	ST		Y N				500mls
:	1		11557-1	ST.		Y N				
:	1		QC228	ST.		Y N				
4:50	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 d relinquished sample(s) back to the sample storage refrigerator.

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

STL Pensacola / GCMS Volatiles Run Log

ate 11-22-01 Instrument ID : MARILYN Method : TO14 /8260AIR /8260WATER /624MOD
atch MA8235 1 2 3 Batch 1 2 3 Maint. ___
S# 8 -MSW- 26 - 3 TO14 8 -MSW- 23 - 3 AIR-SPK 8 -MSW- 23 - 3 Sequence cont.
FB 8 -MSW- 26 - 3 8260 -MSW- - W-SPK -MSW- - on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
12:47		BFBSTL	BFM11221	50ppb			W	Yes	BAH	Daily BFB Tune 1,136,000
5:25		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	—			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				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.

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

104

36

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date R-P	LOG I.D.
502C	A204036	Acc STD	2000 µg/ml	7/1999	DAD 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DAD 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DAD 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	DAD 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 mixture (2nd Source)	M0219	Ultra	2000 µg/ml	3/2000	~~BH~~ 7/24/98	7-VN 2-9
8260 SURR	A11714	Restek	2500 µg/ml	8/2001	DAD 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DAD 10/6/98	7-VN 2-11
Matrix Spike	LA76420	Supelco	25 µg/ml	8/2000	DAD 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DAD 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DAD 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethylvinylether	A8090342-3B	Accustandard	200.1 µg/ml	9/99	BD 1/27/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAD 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAD 3/9/99	7-VN 2-19
Custom Keytones Mix	A011115	Restek	2000 µg/ml	3/2000	DAD 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DAD 3/10/99	7-VN 2-21
8260 Calib Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DAD 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DAD 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DAD 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	38/2000	DAD 5/14/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83948	Supelco	2000 µg/ml	9/2000	DAD 6/9/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	DAD 6/9/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst Date Recd ~~* DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA88367	Supelco	2000 µg/ml	4/2001	MJ 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	MJ 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	MJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	SDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short list Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SUPR	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	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom Keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Customs	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000 µg/mix	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90443	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016295	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/02 ~~5~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/mL	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810028	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810028	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	drench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add-ons	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/6/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-To14	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	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 Tetrachloroethene	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: MCO

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/SURT
Date: 10-12-01
Analyst: SAA

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50uls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

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

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

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

Comments: expires 12/12/01

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

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

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

Comments: 12/20/01 - exp. date

Sol. Name: To14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (To14 Calibration)	LA90724	7-1-01	2500 ug/ml	250 ul	25 mls	25 ug/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 ug/ml	312.5 ul	25 mls	25 ug/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C111557
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field

Client Sample ID	STL Sample ID
062-SVE-E-A-1120-01-22	C111557-1

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 (ADP)

Rick Hayes
Senior Project Manager

11/30/01

DEC 3 2001
COUNTY RAC PMO

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
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: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.14
4-Ethyltoluene, mg/m3	0.05F
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	0.04F
1,3,5-Trimethylbenzene, mg/m3	0.21
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.09F
Surrogate - 1,2-Dichloroethane-d4	97 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	101 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
11557-1	062-SVE-E-A-1120-01-22	11-20-01/10:10

PARAMETER	11557-1
Dilution Factor	1
Prep Date	11.28.01
Prep Time	15:46
Analysis Date	11.28.01
Analysis Time	15:59
Batch ID	MAB241
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5206	104 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5395	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4620	92 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5285	106 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5323	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	98 %	0.5000	0.5025	101 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.4963	99 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4922	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	11.28.01	---	11.28.01	---	---
Prep Time	10:46	---	11:36	---	---
Analysis Date	11.28.01	---	11.28.01	---	---
Analysis Time	10:59	---	11:49	---	---
Batch ID	MAB241	MAB241	MAB241	MAB241	MAB241
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-11557
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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 155111129

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
11557-2	Method Blank	
11557-3	Lab Control Standard True Value	
11557-4	Lab Control Standard Result	
11557-5	Lab Control Standard % Recovery	
11557-6	LCS Accuracy Control Limit (%R)	

PARAMETER	11557-2	11557-3	11557-4	11557-5	11557-6

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 <u>and</u> analyte is not detected <u>or</u> surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2.	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised 06/19/01

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

Abbreviations

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

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

CLP and CLP-like Projects

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

Revised 06/19/01

STL PENSACOLA
State Certifications

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

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

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

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

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

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

\word\certlist\condcert.lst revised 08/13/01

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C111557 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♦? Yes♣ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No♣
7. Were all sample containers received intact? (Yes) No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ (N/A)
9. Is there sufficient volume for analysis requested? Yes No♣ (N/A *(Can)*)
10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) (Yes) No♣
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes♣ No (N/A)
12. If sent, were matrix spike bottles returned? Yes No♣ (N/A)
13. Was Project Manager notified of problems? (initials:_____) Yes No♣ (N/A)

Airbill Number(s): 7902 2350 3419

Shipped By: FEDEX

Cooler Number(s): air Can

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

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

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

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

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

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

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

C 111557

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-019

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	STL - Pensacola Rick Hayes	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.):
Day Tank 1 Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1120-01-22	SVE Effluent	AIR	11/20/01	10:10	III/C	14 Day	1							207			Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Anthony Cain J.A. Jones Environmental Services	Federal Express TRK #7902 2350 3419.	

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, Robert 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 CCI001, Rev 02/00

12

C 111 557

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 32514

SHIP DATE: 21NOV01
WEIGHT: 16 LBS

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 2350 3419 FORM 0201

BFM

MON
AA

Deliver by:
26NOV01

32514-FL-US

F3 PNSA

Please fold this document in half and place it in the waybill pouch affixed to your shipment so that the barcode portion of the label can be read and scanned. WARNING: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with the cancellation of your FedEx account number.

Shipping Label

Schedule Courier | Find a Dropoff Location | Shipping History

Shipment Complete | Cancel Shipment

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read an
4. To print a receipt of your shipment, please click on "Shipping History."

Ship a New Package

Ship Inside U.S. | Ship Outside U.S. | Ship to Same Recipient

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, nondelivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Attach one file Label here

CH2M-CONST-GA C111557
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: PEL
Labeled by: PEL
Delivered by: PEL

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

\excel\sampctrl\smpcklst.xls July 13, 2001

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 111557
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Nov. 26, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1120-01-22	111557-1	SVEEA22

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
115571	062SVEEA1120012	97	103	101	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

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	111557					
Batch	MAB241	Actual	mg/m3	mg/m3		
		ng result	TRUE	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%

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
Quant Type: WATER

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

ng report

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

* = out of control limits

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111557

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	SVEEA22	062SVEEA11200122\115	115571.D	15:59

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.: C111557

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.	SVEEA22	062SVEEA11200122/11	115571.D	11/28/01	15:59

page 1 of 1

FORM V - VOA

Response Factor Report GC/MS Ins

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

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

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

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

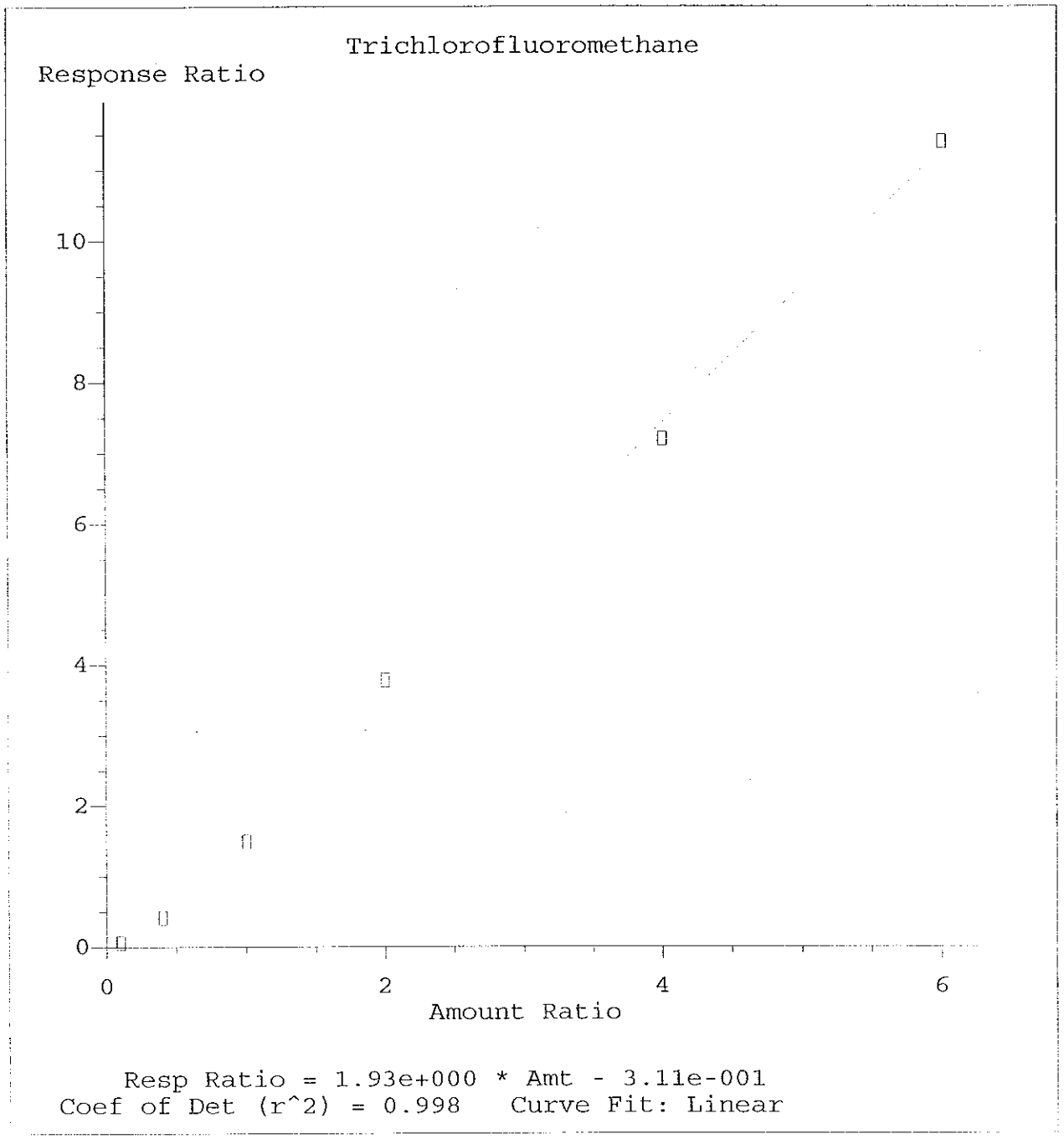
Response Factor Report GC/MS Ins

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

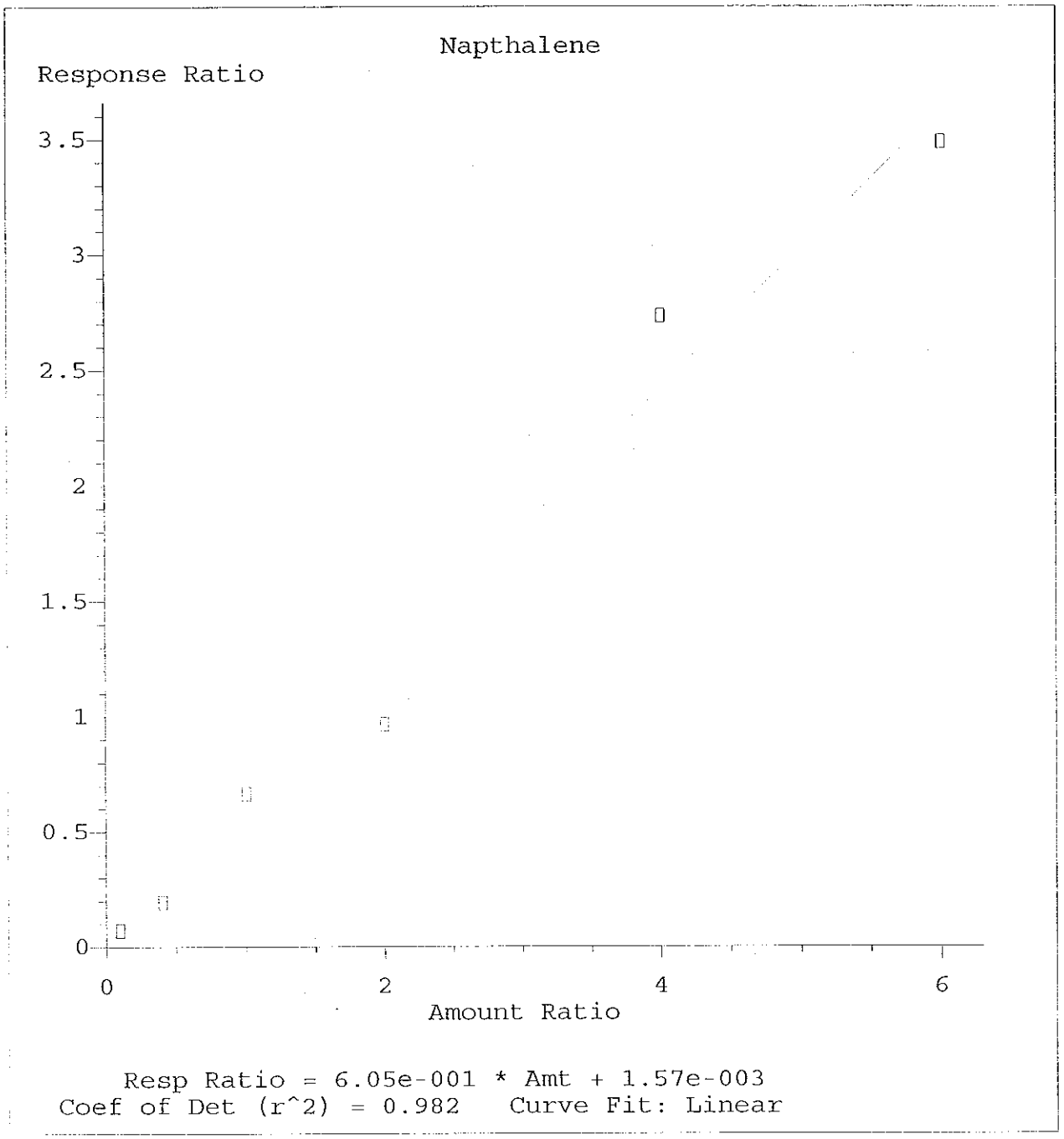
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

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

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



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



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

Evaluate Continuing Calibration Report

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

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

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

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

(#) = Out of Range

Evaluate Continuing Calibration Report

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

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

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

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

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

Evaluate Continuing Calibration Report

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

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

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

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

(#) = Out of Range

Evaluate Continuing Calibration Report

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

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

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C111557

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	SVEEA22	673905	11.42	2376530	13.35	1900275	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

Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1122P\
Pre-Seq Cmd:
Post-Seq Cmd:

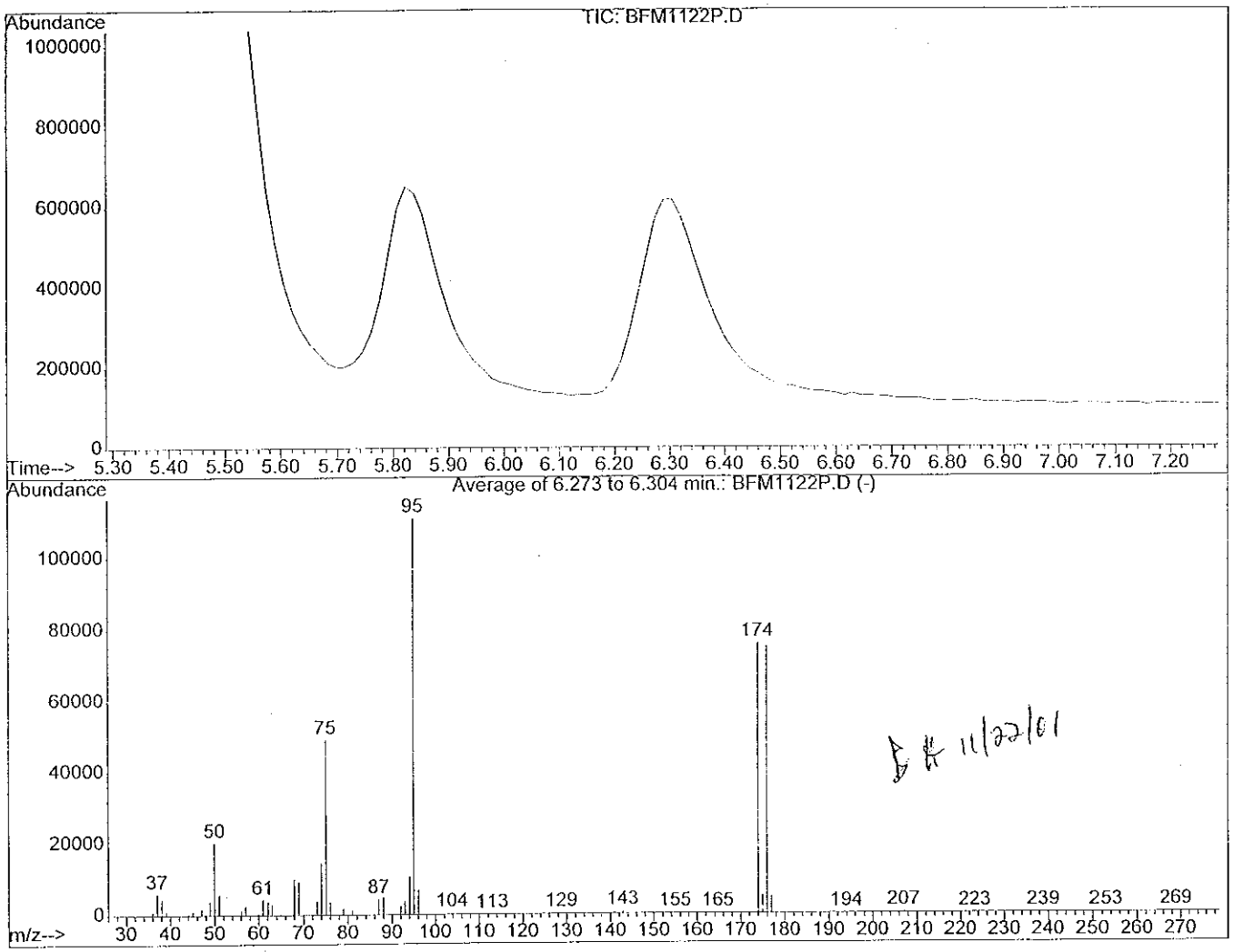
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

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 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\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

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 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

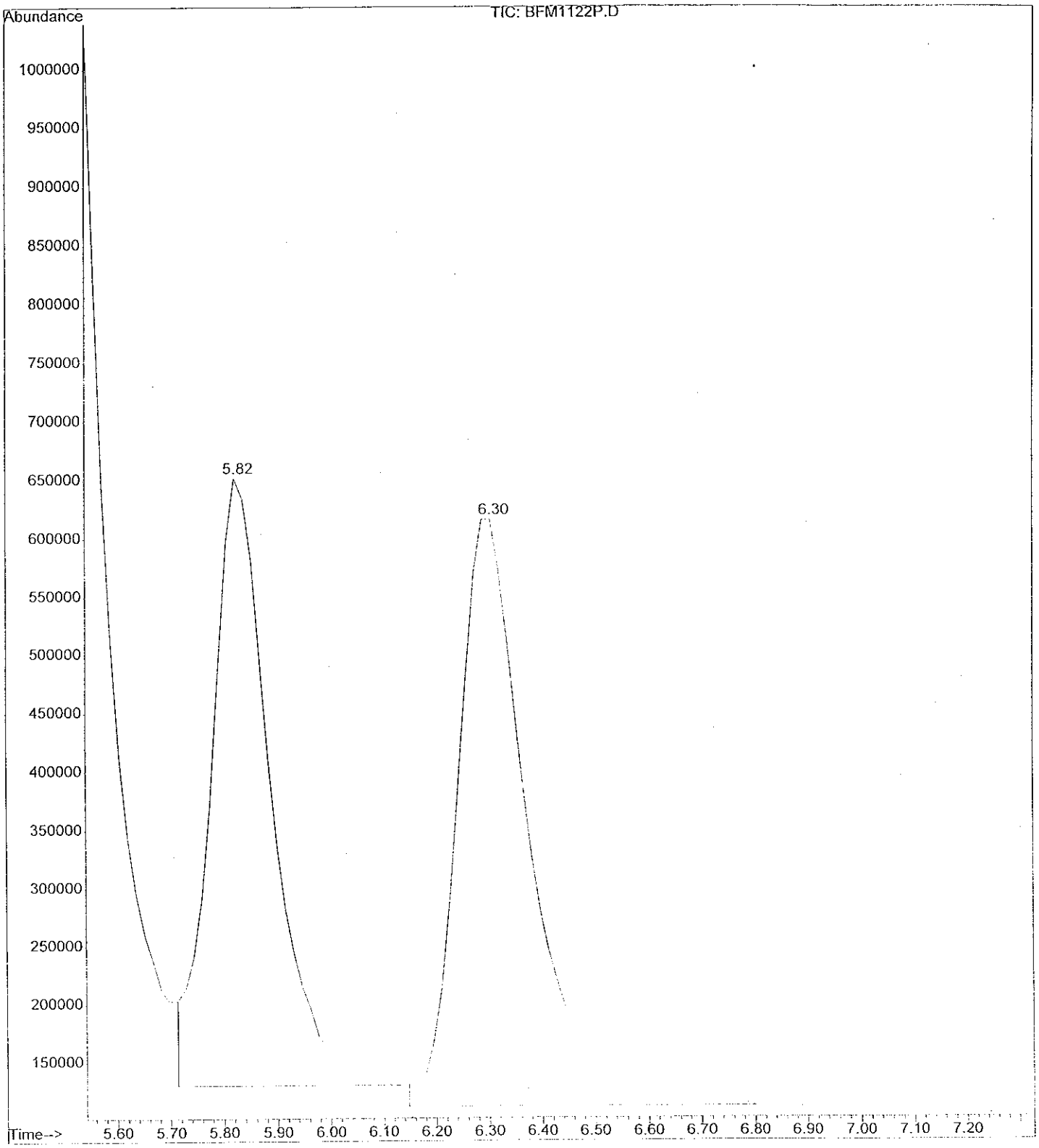
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

Sum of corrected areas: 8872066

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

Area Percent Report

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

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 ###

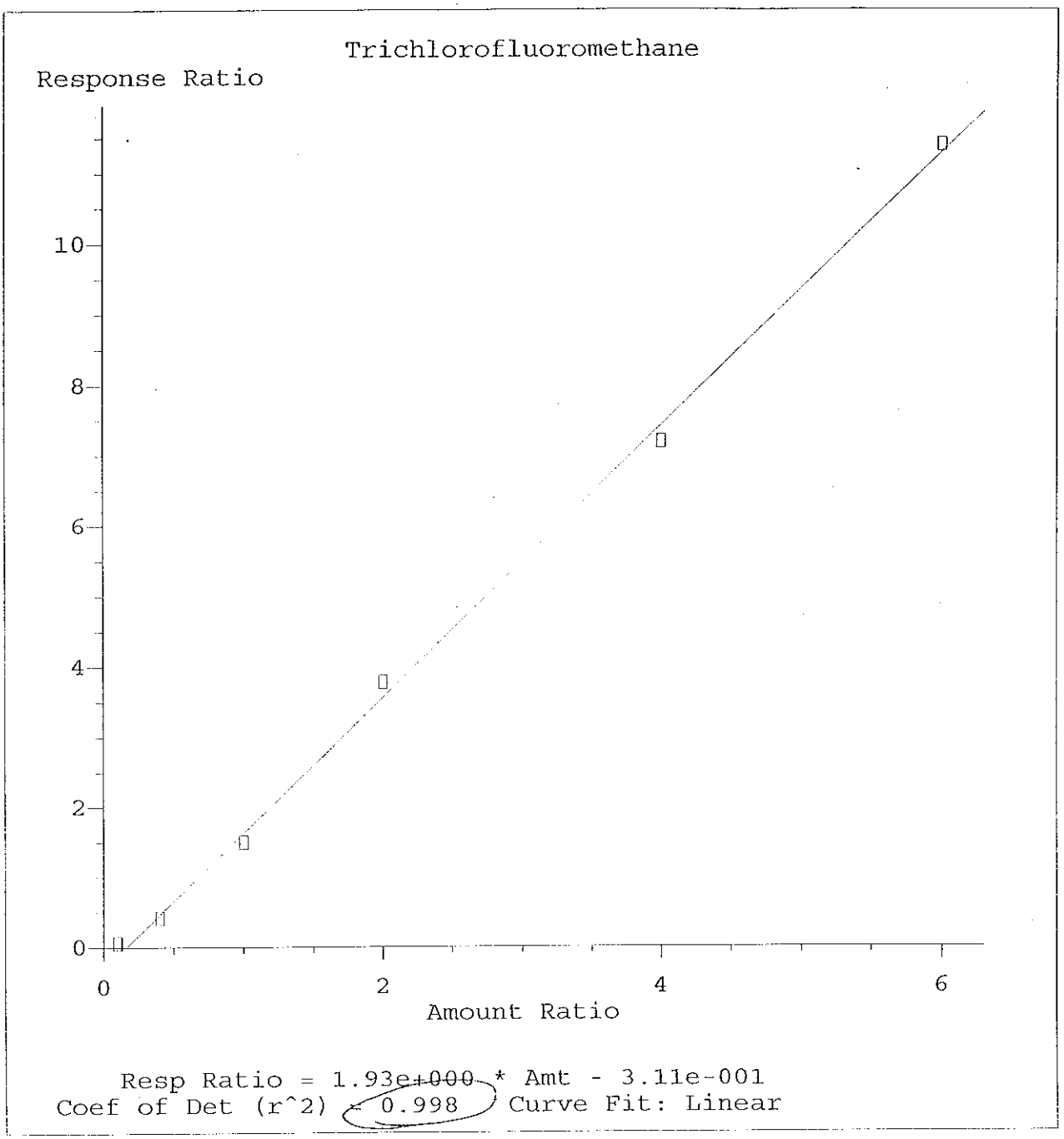
Response Factor Report GC/MS Ins

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

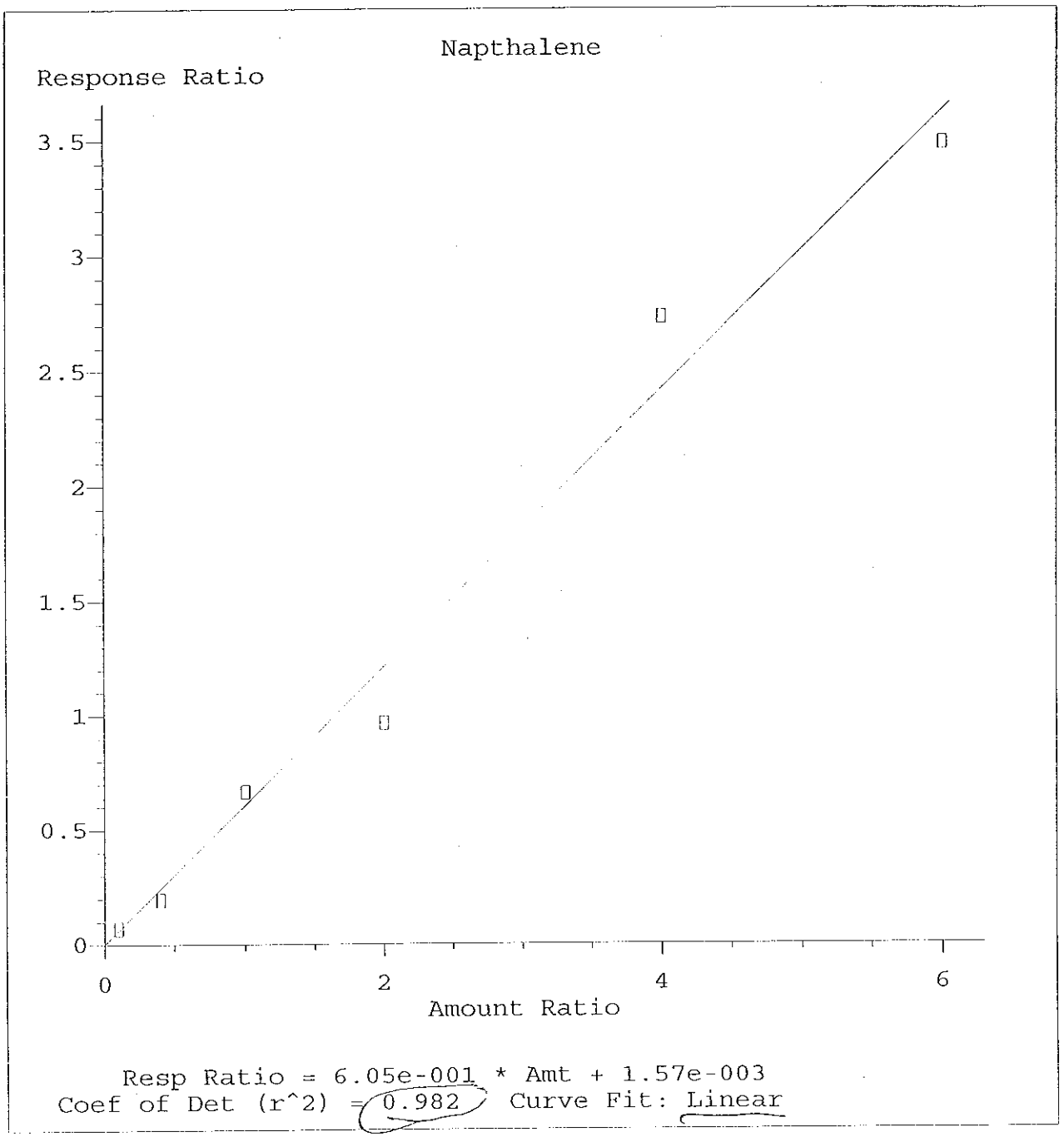
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87#
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	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

BH 11-22-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

BH 11/22/01

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

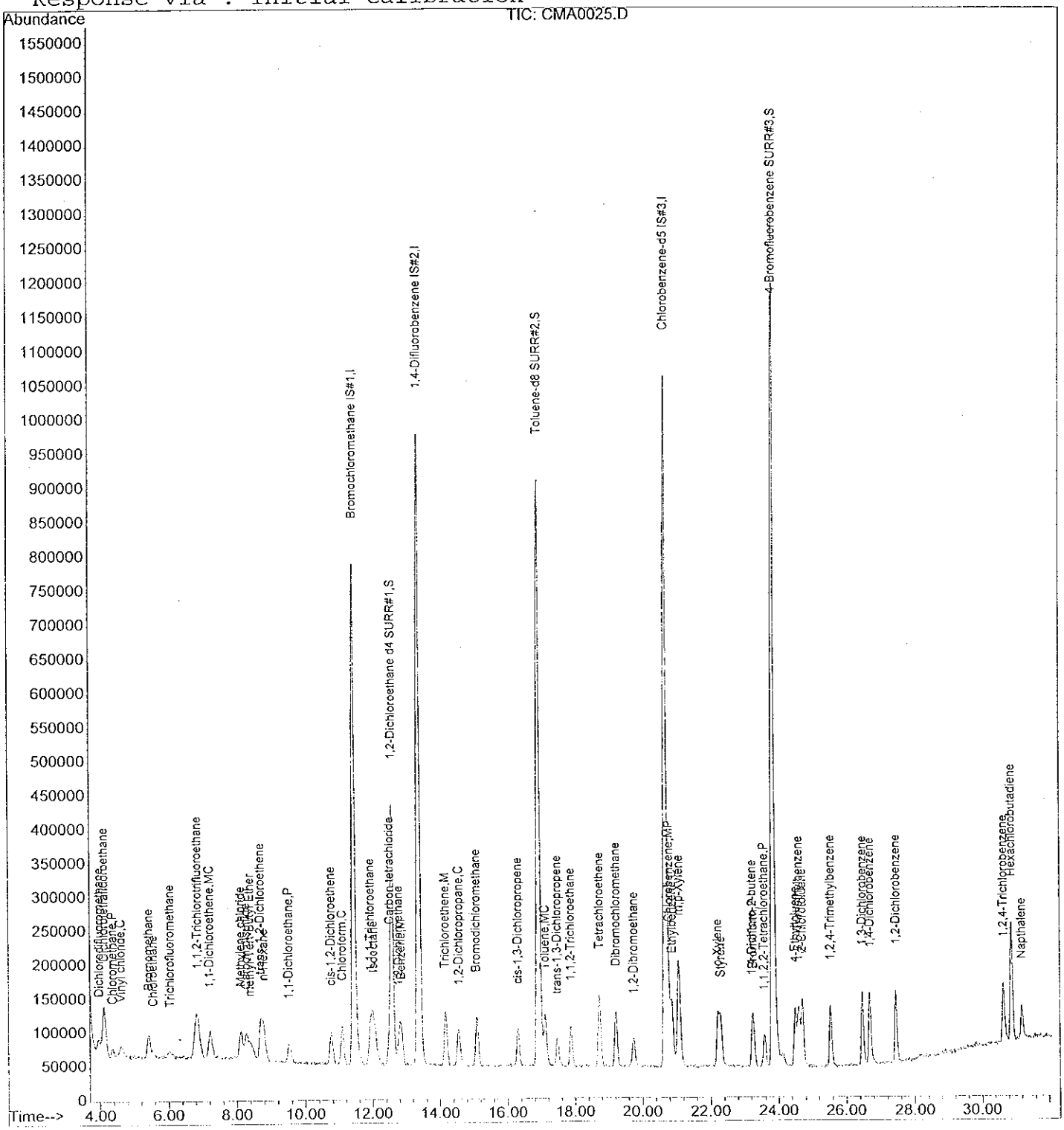
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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



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 Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

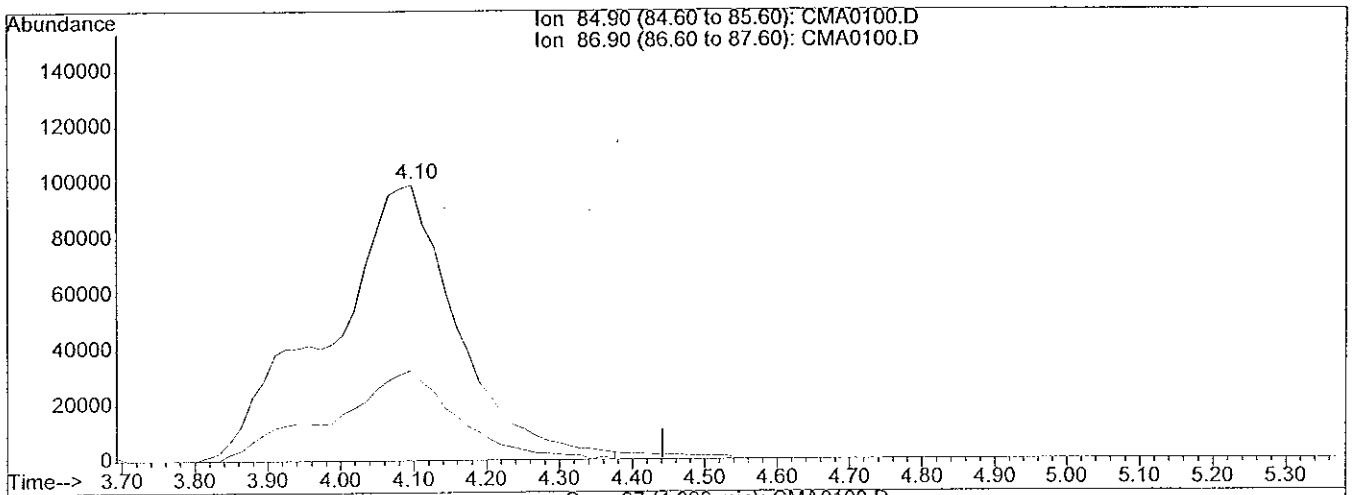
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

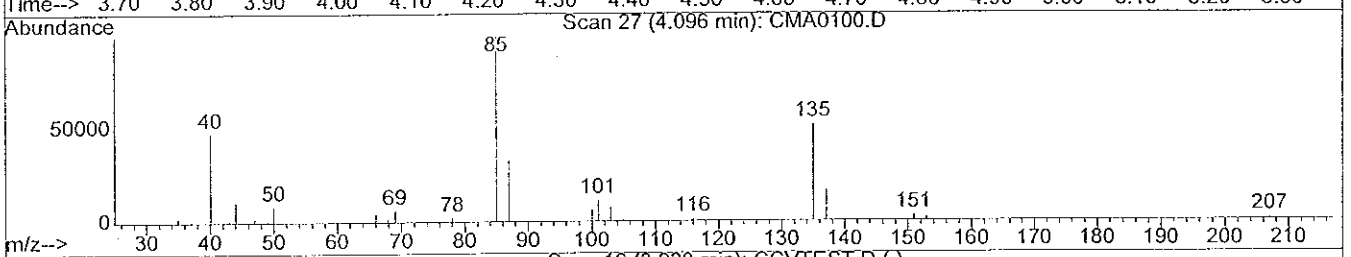
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01 ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33)	Toluene	17.11	92	471365	81.74 ng		99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

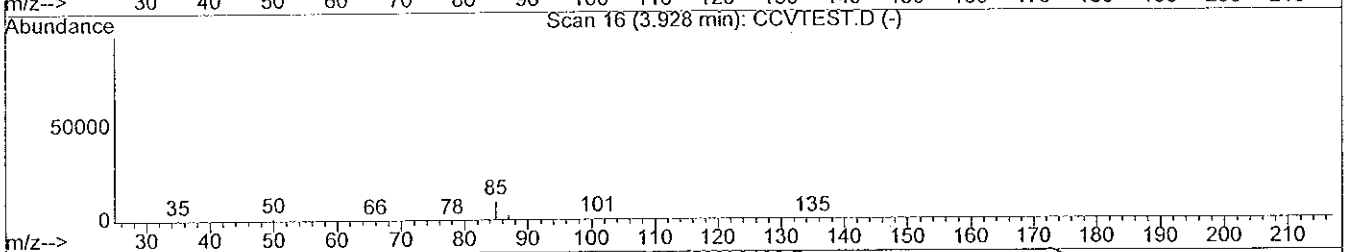
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D 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

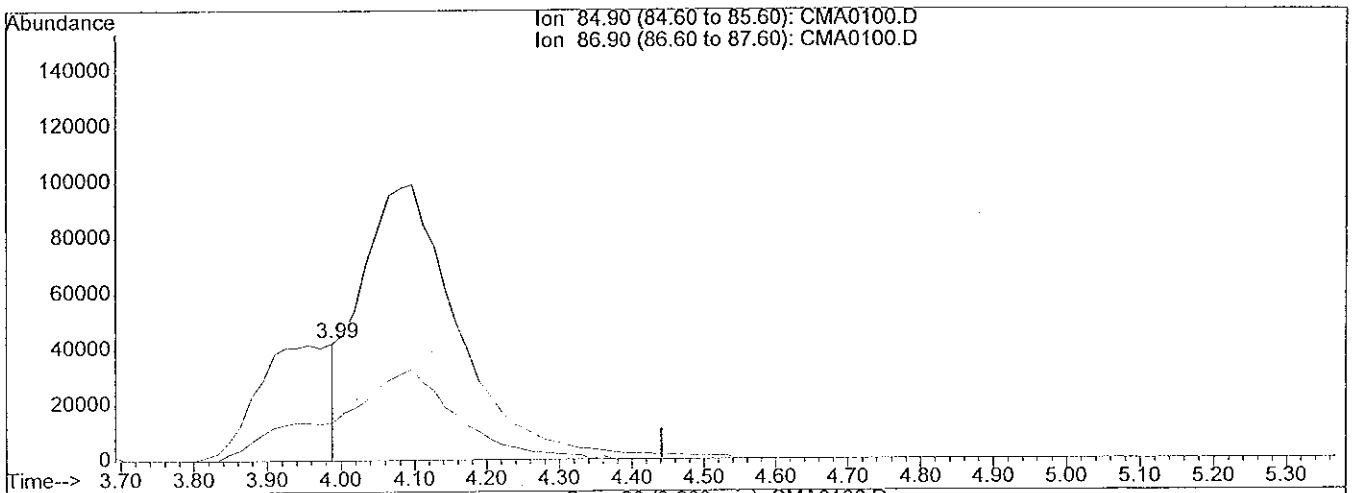
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

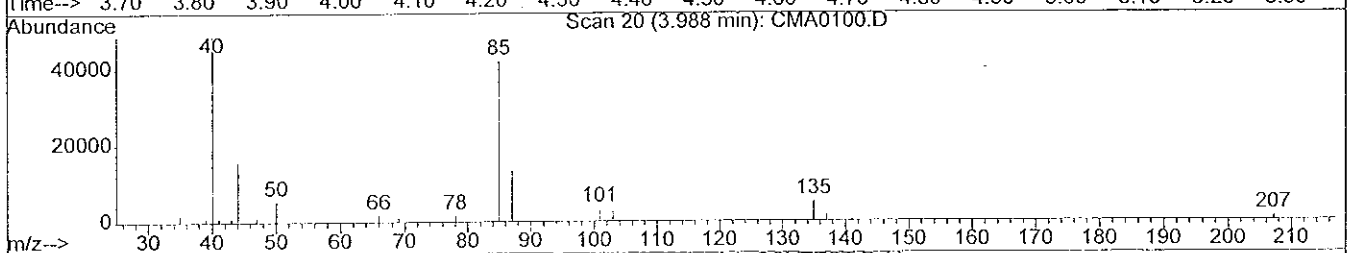
before (mis-integ. / coeluted)

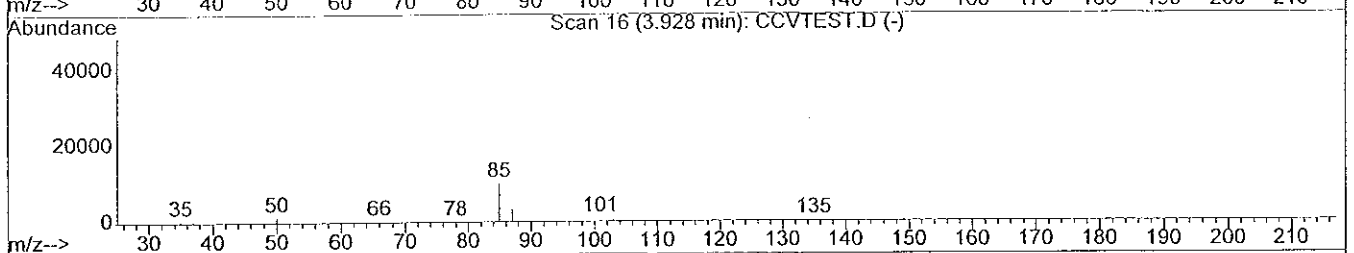
CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

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 Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 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

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

11-27-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

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 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

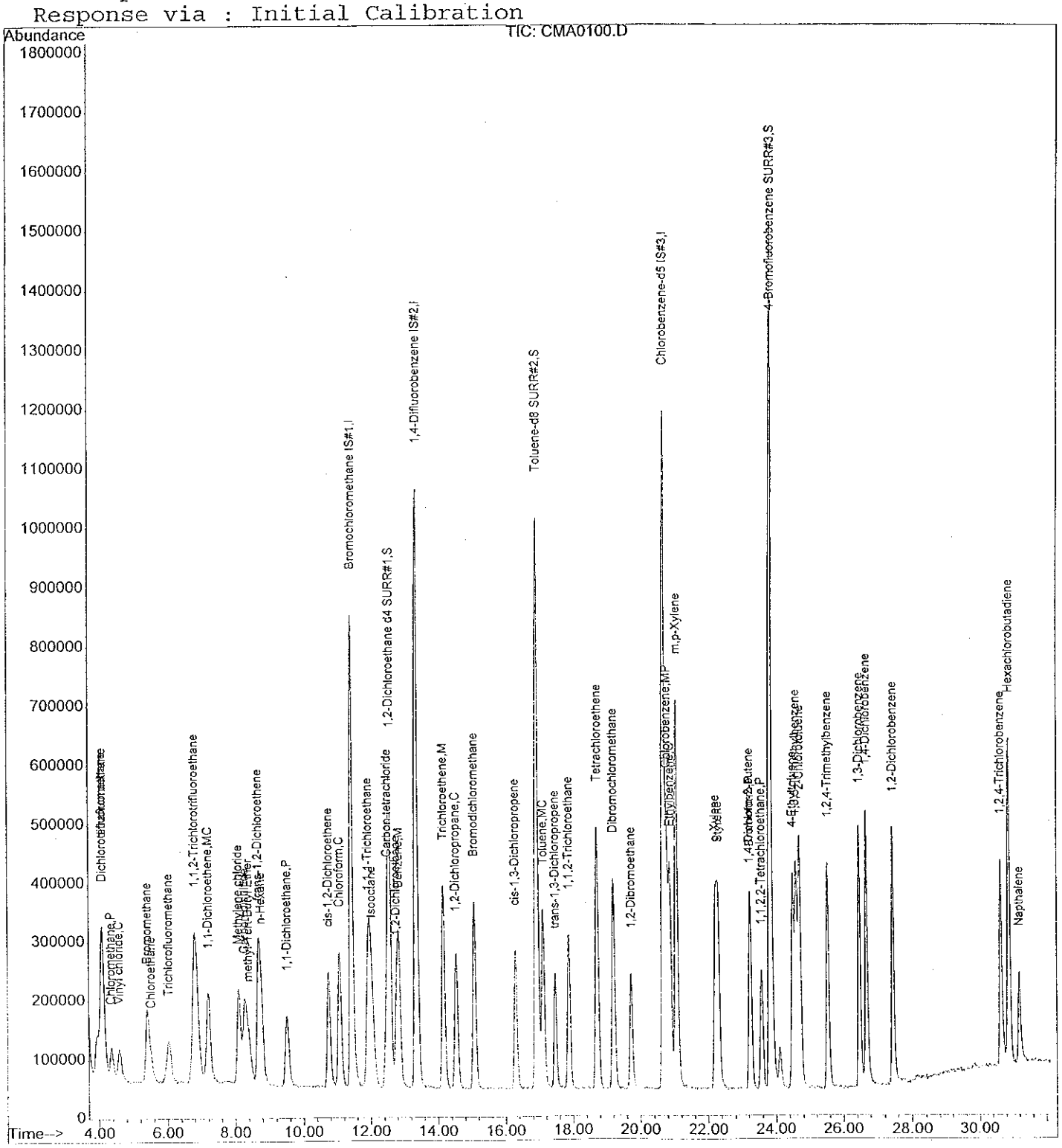
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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



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 $ 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

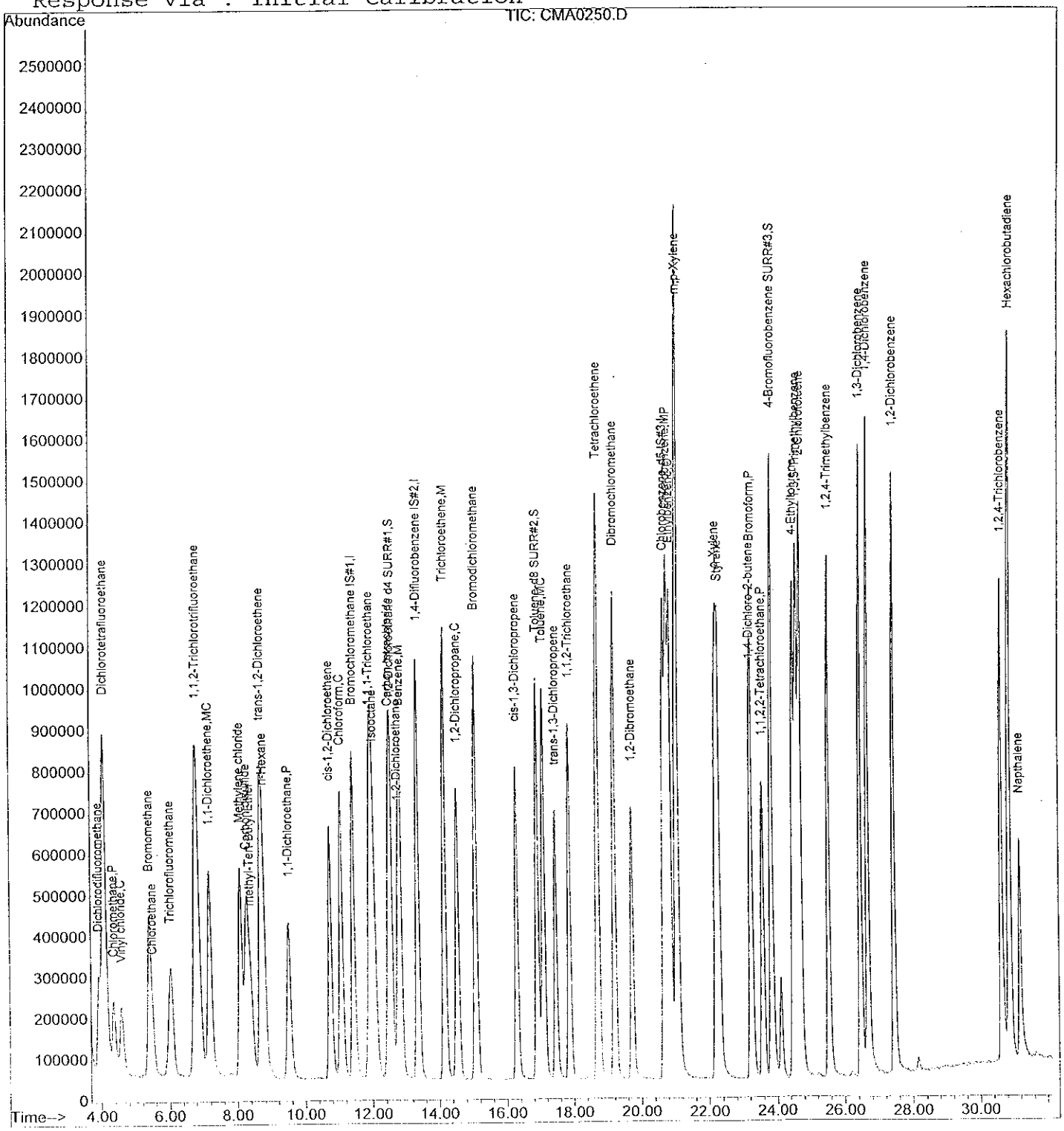
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

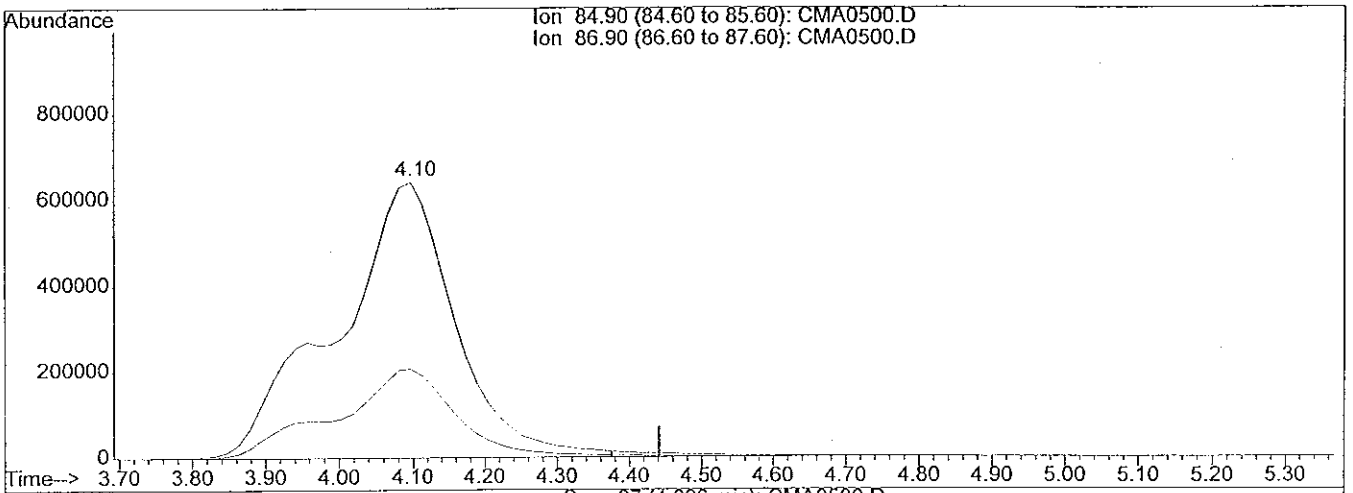
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

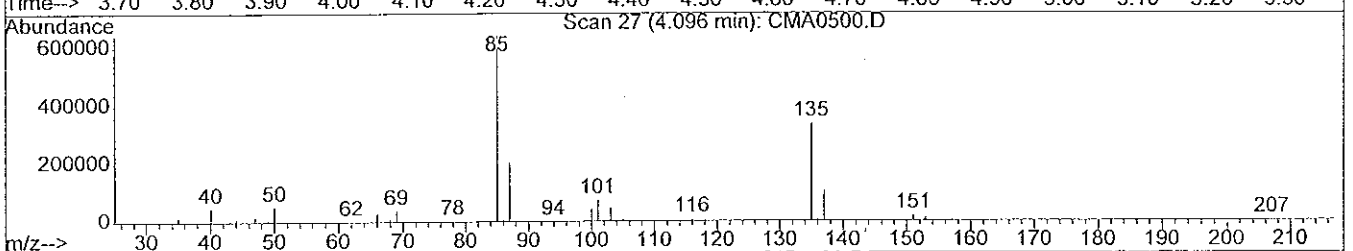
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	2494877	537.70 ng		95
29)	1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30)	Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33)	Toluene	17.11	92	2870951	492.12 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

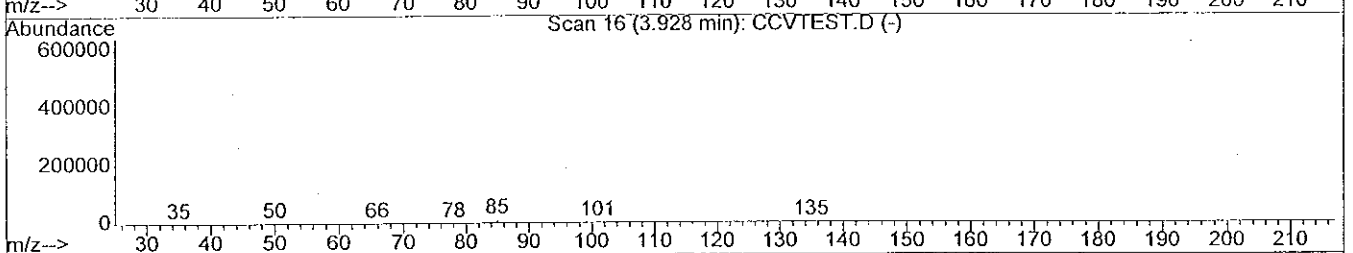
(#) = qualifier out of range (m) = manual integration

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







TIC: CMA0500.D

(2) Dichlorodifluoromethane

4.10min 1259.40ng

response 7237453

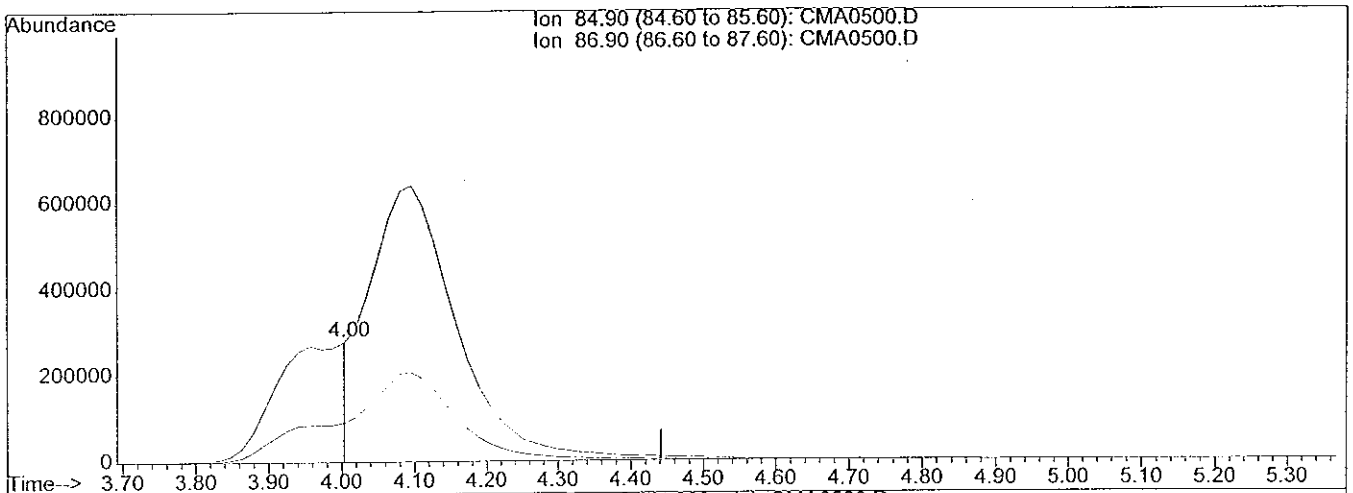
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

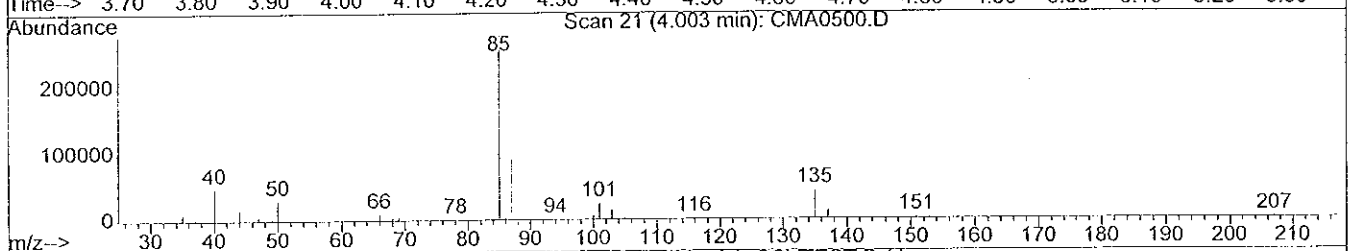
Be fore (misintg | co-eluted)

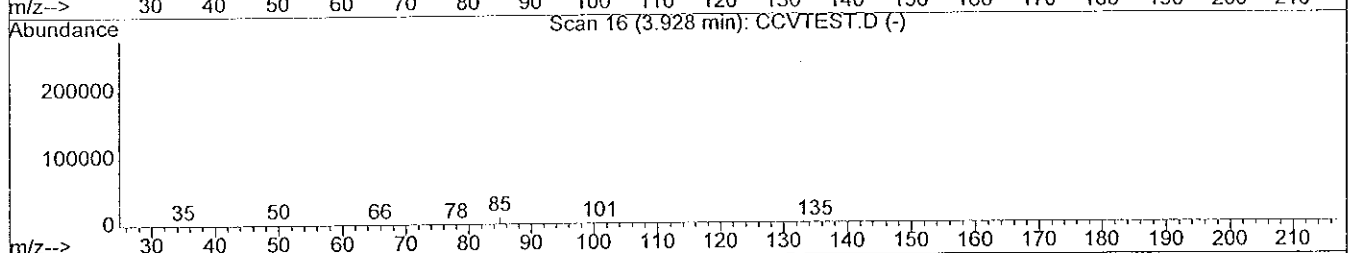
CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

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

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

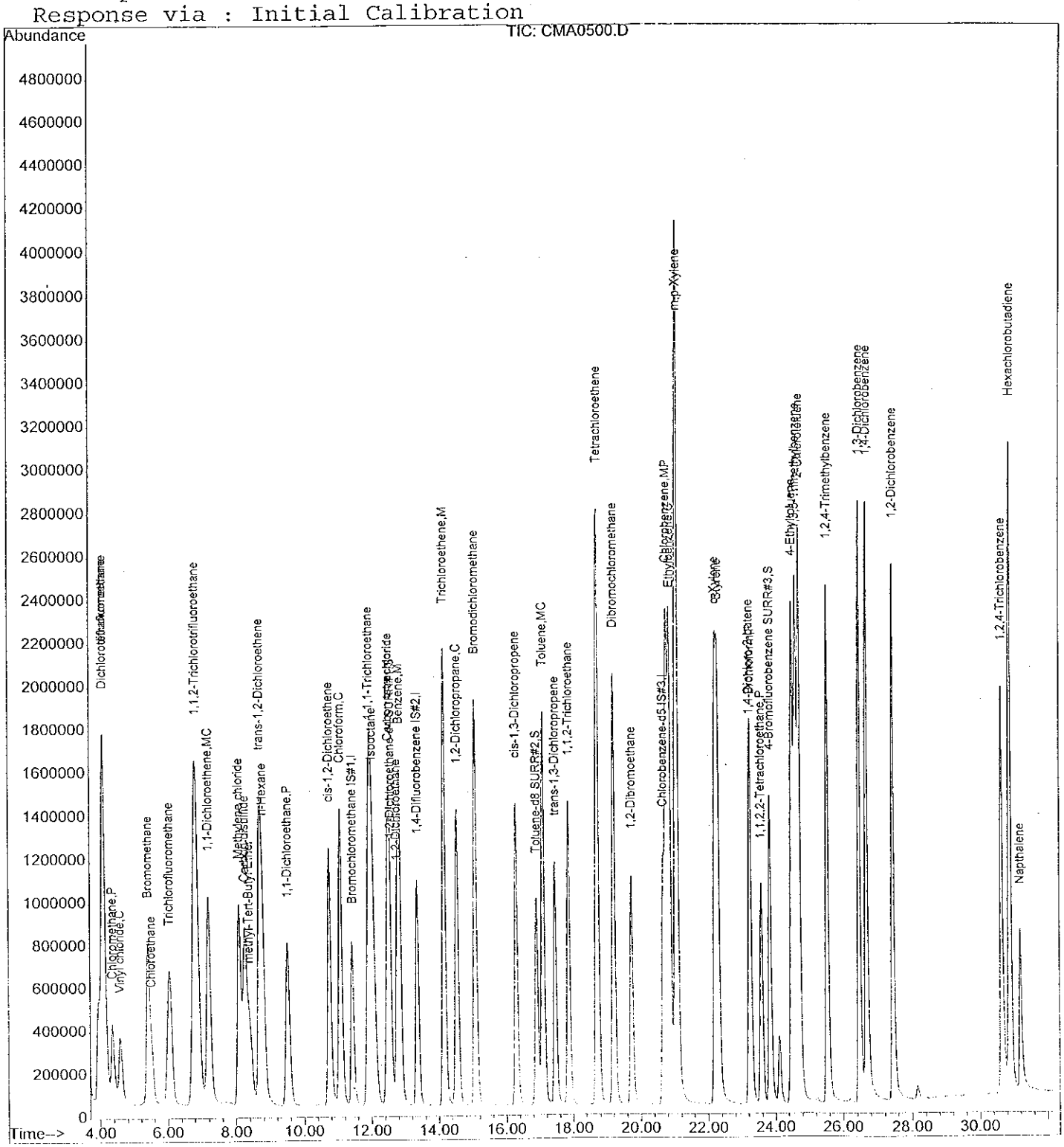
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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



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 21:03 2001 Quant Results File: TO14S.RES

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

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00 ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00 ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00 ng	-0.03 269.44%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#					
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71 ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77 ng	#	43
4) Chloromethane	4.34	50	2269279	718.82 ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87 ng		96
6) Bromomethane	5.40	94	3658163	942.87 ng	#	97
7) Chloroethane	5.49	64	1503351	904.74 ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61 ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99 ng		86
12) Methylene chloride	8.10	49	3782190	684.28 ng		97
13) Carbon disulfide	8.26	76	8103282	879.86 ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88 ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65 ng		90
16) n-Hexane	8.77	57	2872334	772.51 ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92 ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82 ng		89
19) Chloroform	11.07	83	6416217	761.83 ng		98
20) Isooctane	12.03	57	9902255	718.87 ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75 ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16 ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89 ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56 ng		98
27) Benzene	12.84	78	7380435	918.40 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
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

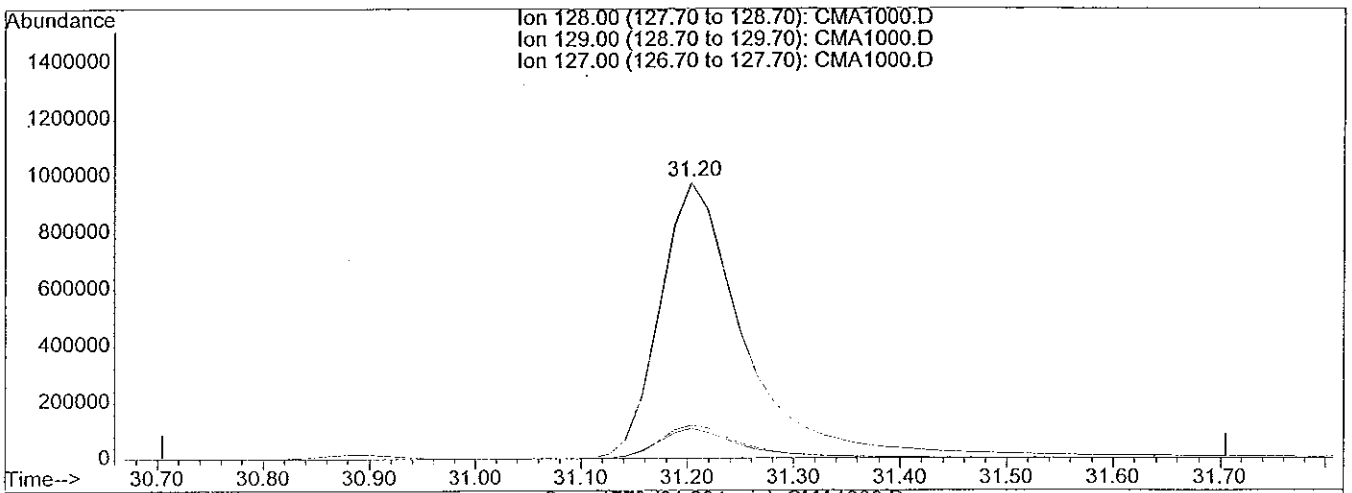
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

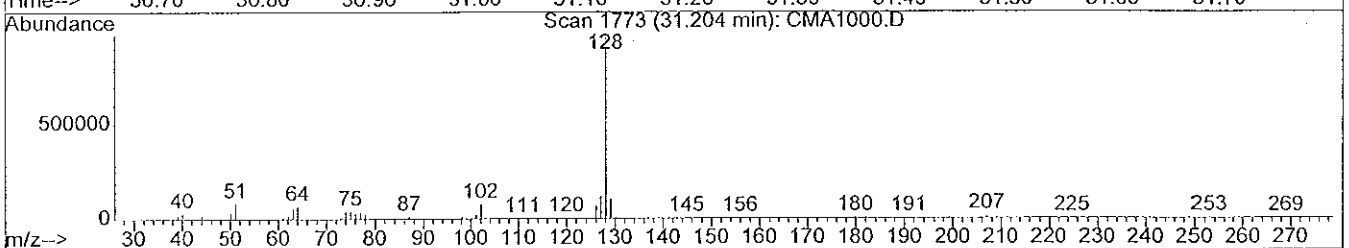
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	4254495	1092.20 ng		93
29)	1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30)	Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31)	cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33)	Toluene	17.09	92	4788893	977.79 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

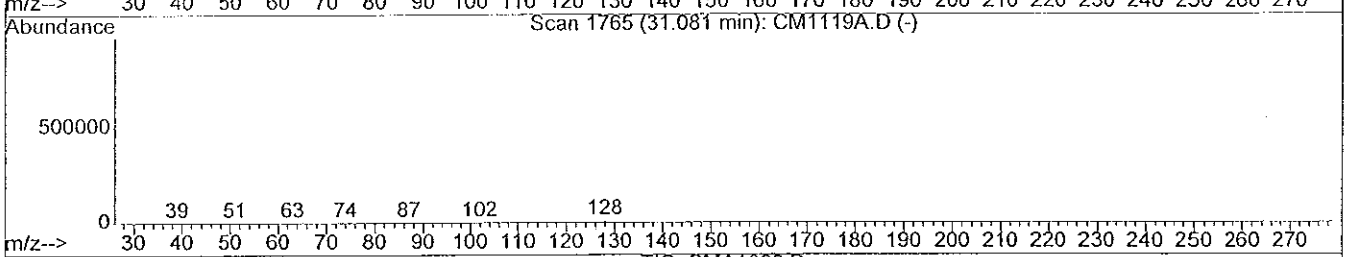
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D 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







TIC: CMA1000.D

(56) Napthalene

31.20min 951.28ng

response 5494553

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

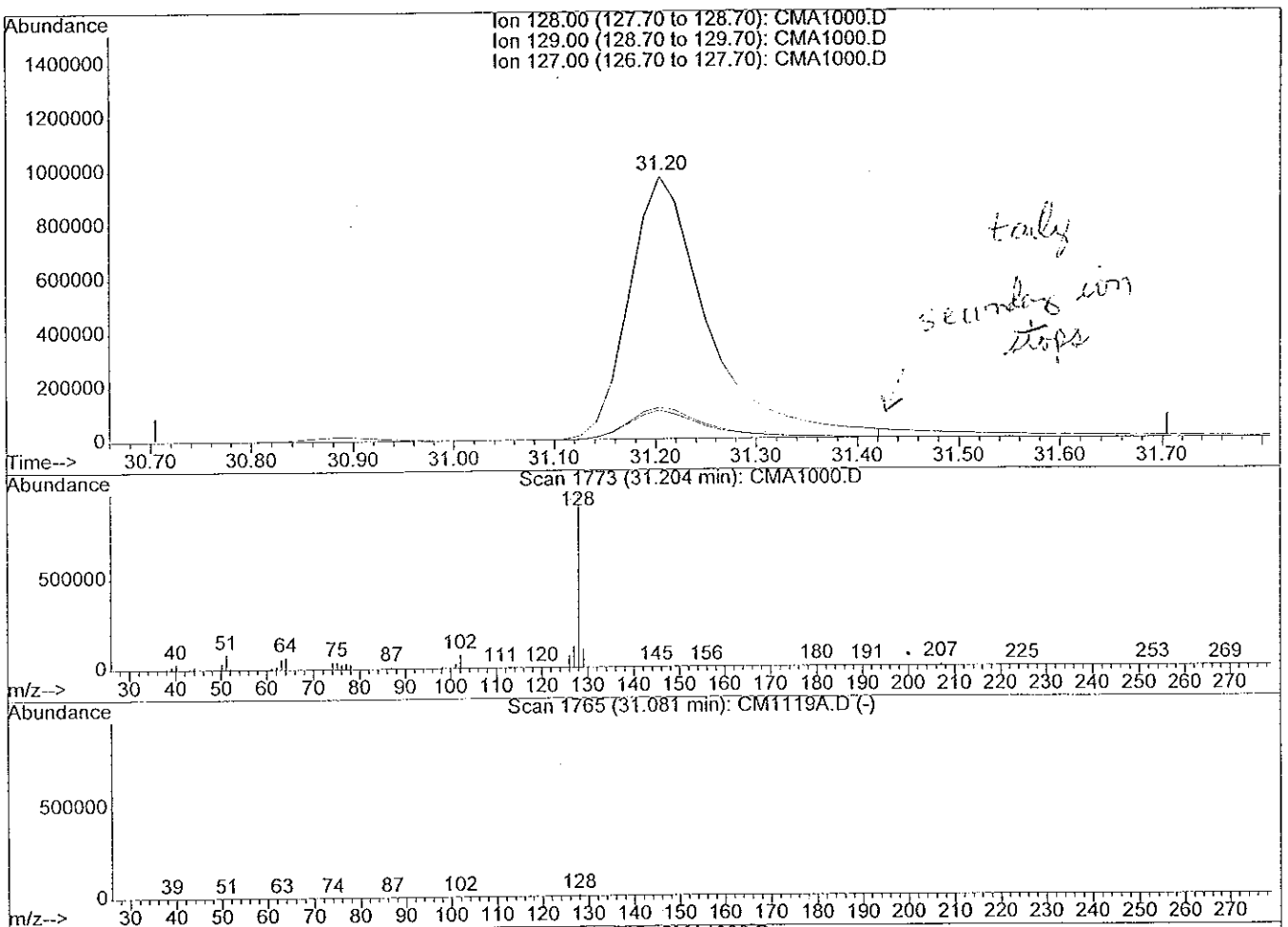
Before (tailing)

CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

Quantitation Report (Qedit)

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

after
11/27/01

11-29-01

CMA1000.D TO14S.M Thu Nov 22 21:03:56 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D
Acq On : 22 Nov 2001 16:58
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001

Vial: 3
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: TO14S.RES

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

original BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00 ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00 ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00 ng	-0.03 269.44%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#					
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71 ng		99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77 ng	#	43
4) Chloromethane	4.34	50	2269279	718.82 ng	#	96
5) Vinyl chloride	4.56	62	2177757	766.87 ng		96
6) Bromomethane	5.40	94	3658163	942.87 ng	#	97
7) Chloroethane	5.49	64	1503351	904.74 ng		96
8) Trichlorofluoromethane	6.04	101	4512254	780.39 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61 ng		82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99 ng		86
12) Methylene chloride	8.10	49	3782190	684.28 ng		97
13) Carbon disulfide	8.26	76	8103282	879.86 ng		100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88 ng		98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65 ng		90
16) n-Hexane	8.77	57	2872334	772.51 ng	#	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92 ng		98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82 ng		89
19) Chloroform	11.07	83	6416217	761.83 ng		98
20) Isooctane	12.03	57	9902255	718.87 ng		95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75 ng		89
22) Carbon tetrachloride	12.50	117	5775008	754.16 ng		97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89 ng	#	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56 ng		98
27) Benzene	12.84	78	7380435	918.40 ng		98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

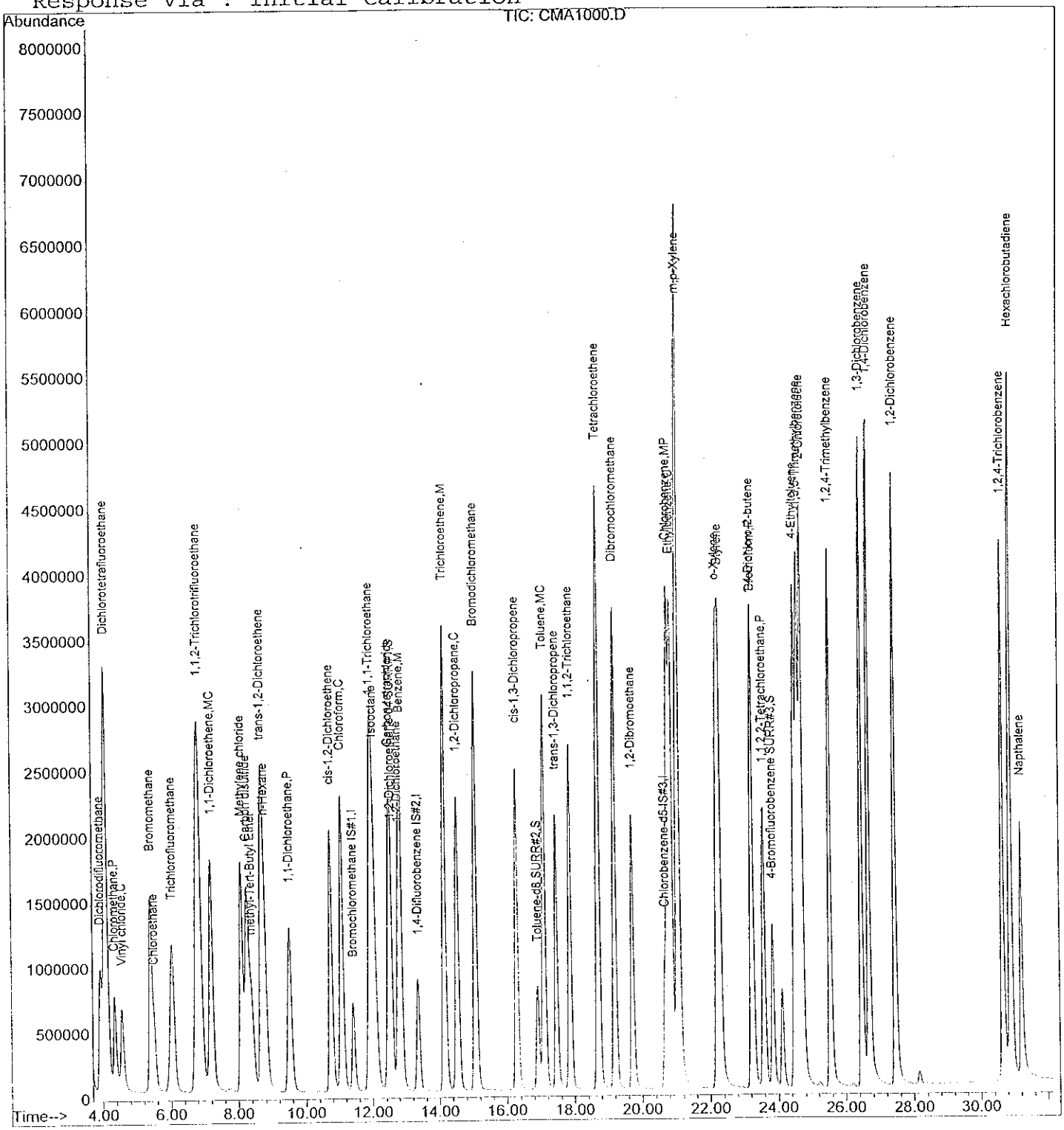
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	4254495	1092.20 ng		93
29)	1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30)	Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31)	cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33)	Toluene	17.09	92	4788893	977.79 ng		98
34)	trans-1,3-Dichloropropene	17.45	75	3641504	801.26 ng		99
35)	1,1,2-Trichloroethane	17.87	97	2987120	971.79 ng		97
37)	Tetrachloroethene	18.71	164	4017560	1140.58 ng		94
38)	Dibromochloromethane	19.20	127	5253498	952.13 ng		97
39)	Chlorobenzene	20.77	112	7185799	1023.70 ng		92
40)	Ethylbenzene	20.86	106	2850047	1005.60 ng		99
41)	m,p-Xylene	21.07	106	7392219	1994.72 ng		93
42)	o-Xylene	22.21	106	3660995	1038.48 ng		94
43)	Styrene	22.29	104	5744605	1028.38 ng		96
44)	Bromoform	23.25	173	4989717	1094.16 ng		99
45)	1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03 ng		99
47)	1,4-Dichloro-2-butene	23.22	75	889767	961.60 ng		89
48)	4-Ethyltoluene	24.50	105	9838320	1004.11 ng		96
49)	1,3,5-Trimethylbenzene	24.61	105	7505974	933.78 ng		88
50)	2-Chlorotoluene	24.70	91	9379260	866.29 ng		94
51)	1,2,4-Trimethylbenzene	25.54	105	7838457	938.07 ng		97
52)	1,3-Dichlorobenzene	26.47	146	6497173	1074.14 ng	#	94
53)	1,4-Dichlorobenzene	26.69	146	6904103	1090.69 ng	#	94
54)	1,2-Dichlorobenzene	27.45	146	6056662	1079.88 ng	#	94
55)	1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68 ng		99
56)	Napthalene	31.20	128	5494553	951.28 ng	#	92
57)	Hexachlorobutadiene	30.89	225	3428403	1016.71 ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

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



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
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

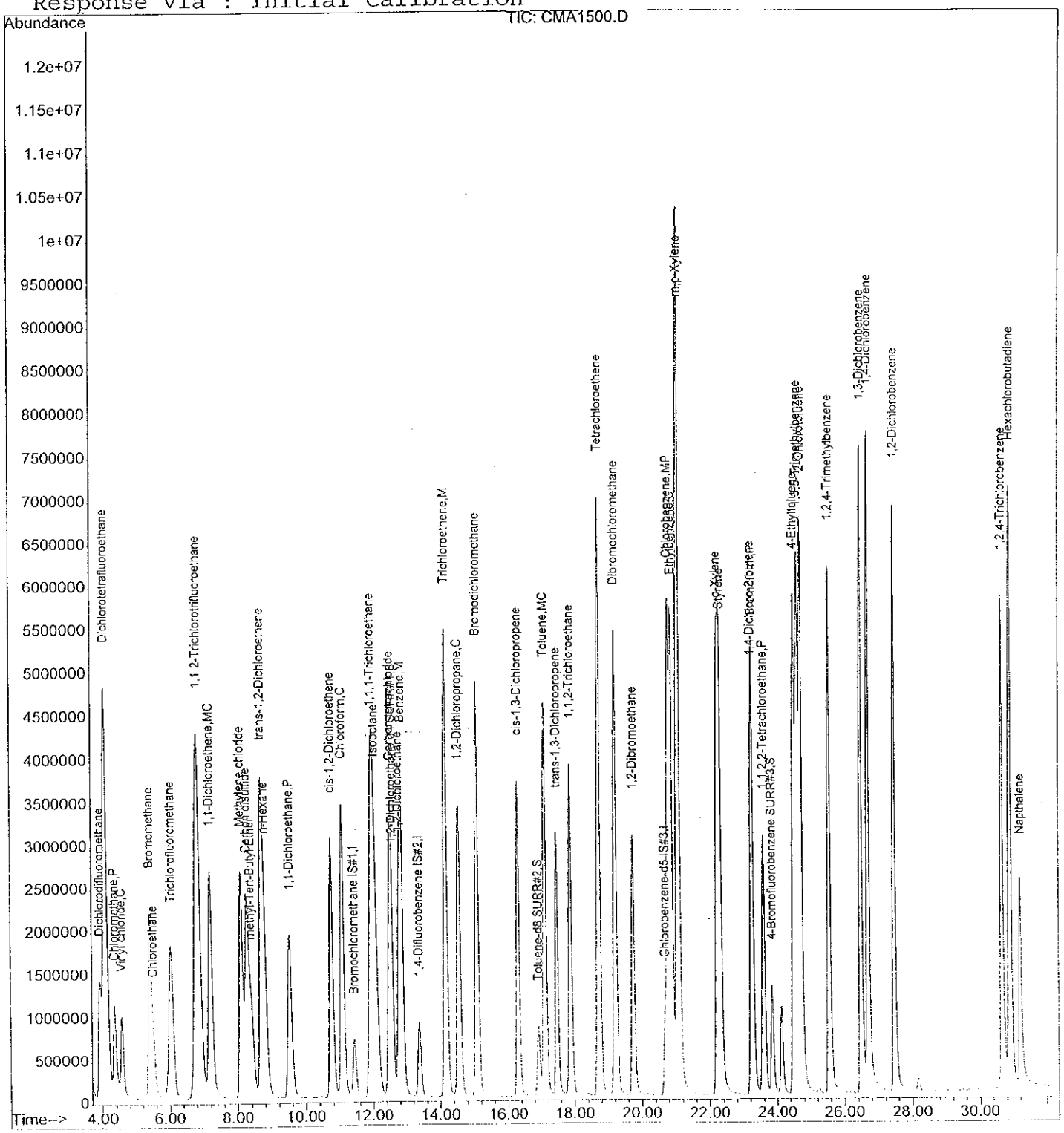
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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 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

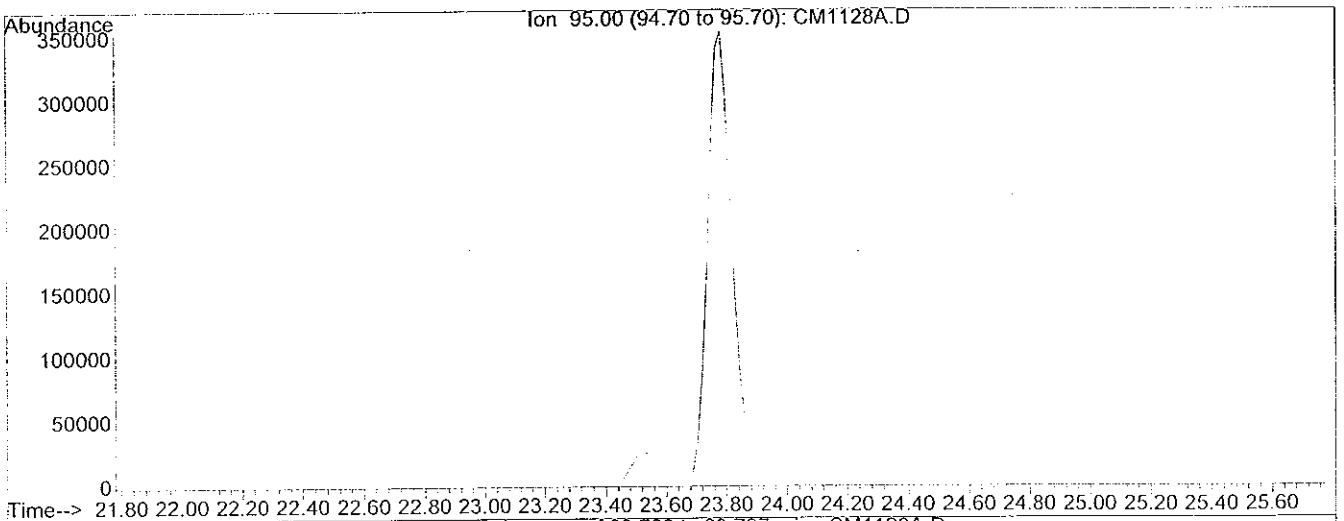
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

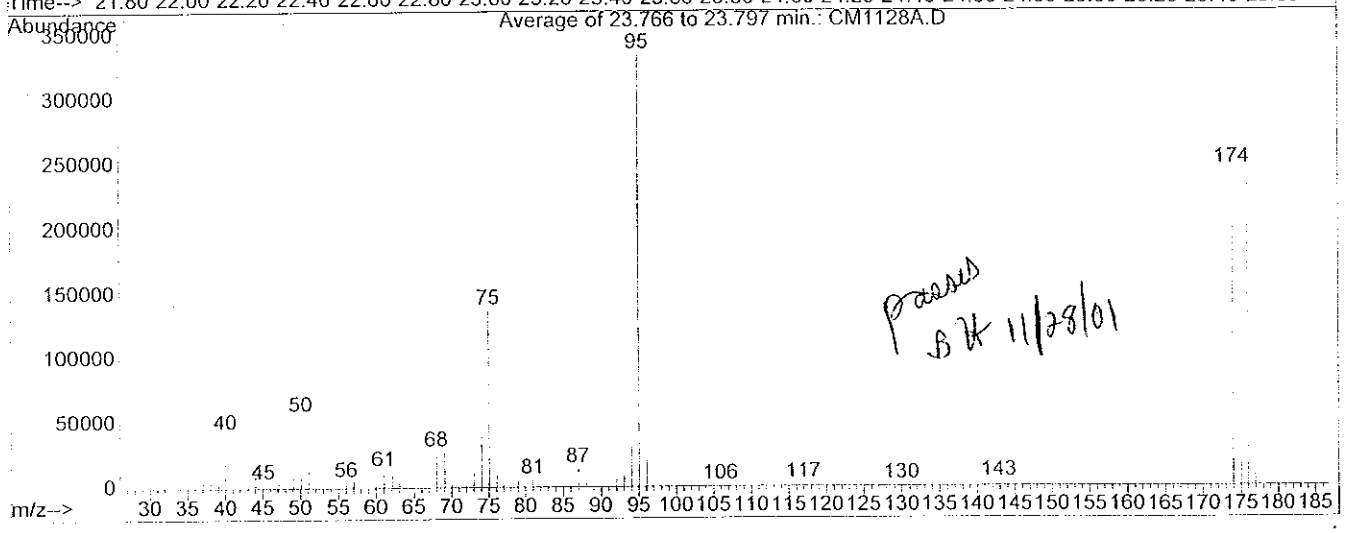
Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM1128A	TO14S	VSTD050\DAILY CALIB. CHECK 50
2	Sample	15	MA241ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
3	Sample	16	MA241LCS	TO14S	VLCSMA\BATCH #241 LCS 50ppb/
4	Sample	1	BLKTUBE	BFBSTL	POS.#1 SKIP
5	Sample	2	115861	TO14S	11586-1 X500 1.0ml
6	Sample	3	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

BFB

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

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





Passes
BK 11/28/01

Spectrum Information: Average of 23.766 to 23.797 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	55064	PASS
75	95	30	60	41.0	137088	PASS
95	95	100	100	100.0	334208	PASS
96	95	5	9	6.6	22080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.9	243499	PASS
175	174	5	9	7.1	17264	PASS
176	174	95	101	98.0	238571	PASS
177	176	5	9	6.3	15082	PASS

CM1128A.D TO14S.M Wed Nov 28 10:29:38 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D 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

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 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

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	772353	250.00	ng	-0.03 103.35%
26) 1,4-Difluorobenzene IS#2	13.32	114	3112331	250.00	ng	-0.05 104.86%
36) Chlorobenzene-d5 IS#3	20.63	117	2373923	250.00	ng	-0.05 103.08%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	781052m	237.19	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 94.88%						
32) Toluene-d8 SURR#2	16.86	98	2385479	247.57	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.03%						
46) 4-Bromofluorobenzene SURR#	23.78	95	2042437	243.53	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.41%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	864551	230.88	ng	91
3) Dichlorotetrafluoroethane	4.08	135	1344333	238.19	ng #	42
4) Chloromethane	4.33	50	680166	253.25	ng #	96
5) Vinyl chloride	4.56	62	683071	265.32	ng	97
6) Bromomethane	5.38	94	1022044	235.63	ng #	99
7) Chloroethane	5.49	64	431451	248.53	ng	98
8) Trichlorofluoromethane	6.01	101	709186	155.06	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.80	151	1585583	247.58	ng	81
10) 1,1-Dichloroethene	7.17	96	874172	251.95	ng	85
12) Methylene chloride	8.07	49	1119090	249.74	ng	98
13) Carbon disulfide	8.23	76	2406192	257.52	ng	98
14) methyl-Tert-Butyl Ether	8.35	73	1045884	252.65	ng	98
15) trans-1,2-Dichloroethene	8.64	96	947391	255.14	ng	90
16) n-Hexane	8.72	57	857489	240.98	ng #	1
17) 1,1-Dichloroethane	9.48	63	1504130	245.75	ng	99
18) cis-1,2-Dichloroethene	10.71	61	1202076	246.09	ng	88
19) Chloroform	11.04	83	1909764	246.72	ng	98
20) Isooctane	11.98	57	2704757	225.82	ng	97
21) 1,1,1-Trichloroethane	11.89	97	1588093	245.39	ng	91
22) Carbon tetrachloride	12.46	117	1709308	245.68	ng	97
24) 1,2-Dichloroethane	12.73	62	886849	241.96	ng #	97
25) 1,2-Dibromoethane	19.68	107	1426906	249.09	ng	98
27) Benzene	12.79	78	2240715	252.47	ng	98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
Acq On : 28 Nov 2001 9:31
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 10:32 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:05 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

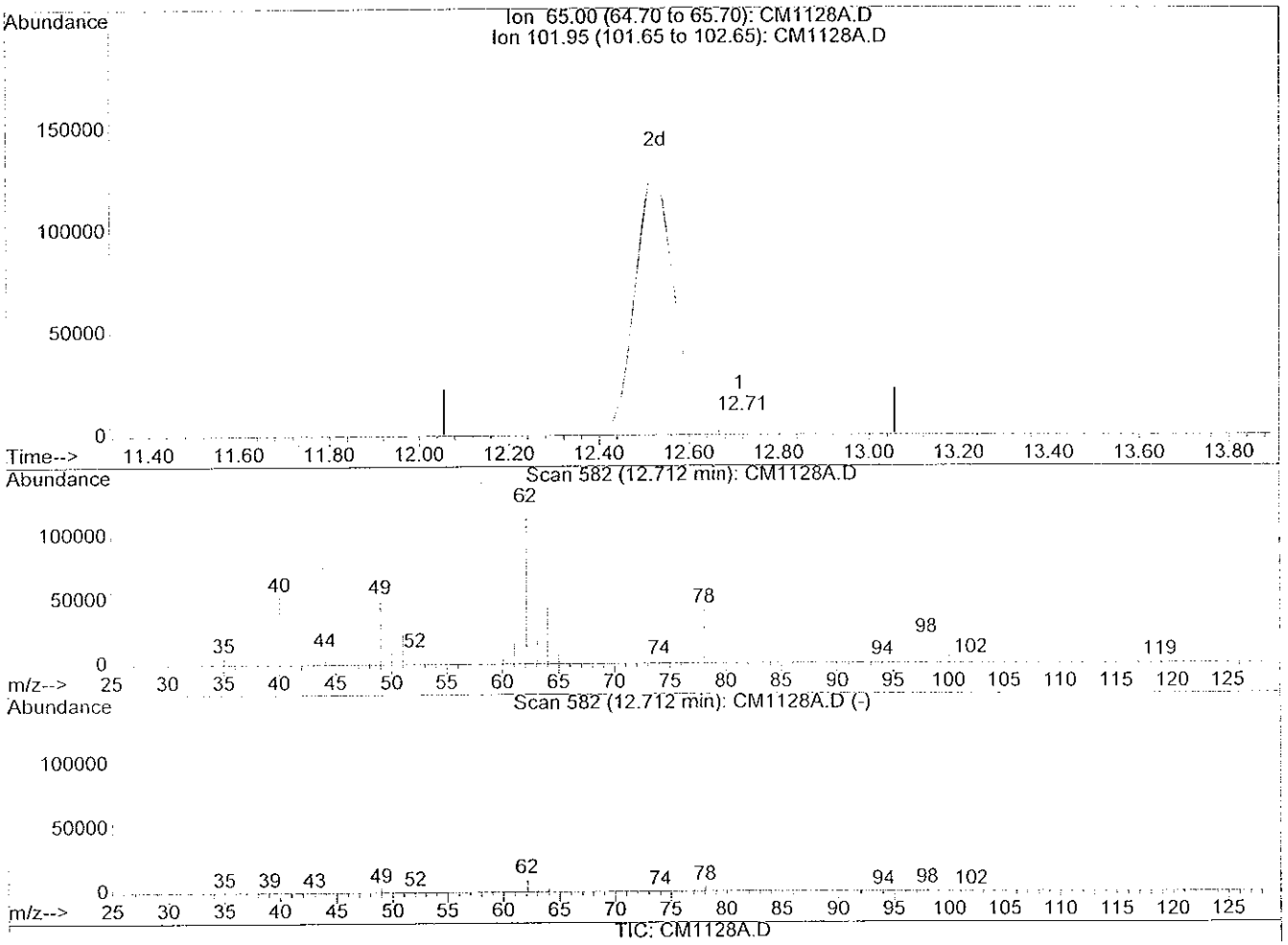
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.12	130	1253283	251.50 ng		93
29)	1,2-Dichloropropane	14.50	63	909704	244.44 ng		97
30)	Bromodichloromethane	15.04	83	2107004	245.96 ng		99
31)	cis-1,3-Dichloropropene	16.25	75	1340162	247.87 ng		98
33)	Toluene	17.06	92	1419152	249.16 ng		99
34)	trans-1,3-Dichloropropene	17.42	75	1040475	249.76 ng		99
35)	1,1,2-Trichloroethane	17.82	97	847991	244.92 ng		96
37)	Tetrachloroethene	18.67	164	1192234	256.92 ng		93
38)	Dibromochloromethane	19.16	127	1494788	246.43 ng		97
39)	Chlorobenzene	20.72	112	2114458	253.11 ng		93
40)	Ethylbenzene	20.82	106	828084	246.86 ng		99
41)	m,p-Xylene	21.02	106	2192808	508.26 ng		92
42)	o-Xylene	22.17	106	1041833	248.47 ng		98
43)	Styrene	22.24	104	1662897	255.19 ng		97
44)	Bromoform	23.19	173	1392067	252.38 ng		99
45)	1,1,2,2-Tetrachloroethane	23.52	83	1240300	251.07 ng		99
47)	1,4-Dichloro-2-butene	23.18	75	236426	252.06 ng		91
48)	4-Ethyltoluene	24.45	105	2605946	232.33 ng		94
49)	1,3,5-Trimethylbenzene	24.54	105	2118334	245.40 ng		88
50)	2-Chlorotoluene	24.65	91	2752179	249.41 ng		95
51)	1,2,4-Trimethylbenzene	25.49	105	2247221	249.50 ng		95
52)	1,3-Dichlorobenzene	26.42	146	1912389m	257.41 ng		94
53)	1,4-Dichlorobenzene	26.62	146	2017612	257.73 ng	#	94
54)	1,2-Dichlorobenzene	27.40	146	1754592	258.27 ng	#	93
55)	1,2,4-Trichlorobenzene	30.58	180	1361919	285.69 ng		100
56)	Napthalene	31.13	128	1599490	283.12 ng	#	92
57)	Hexachlorobutadiene	30.81	225	1143710	278.03 ng		99

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

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D 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 10:30 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)

12.71min 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

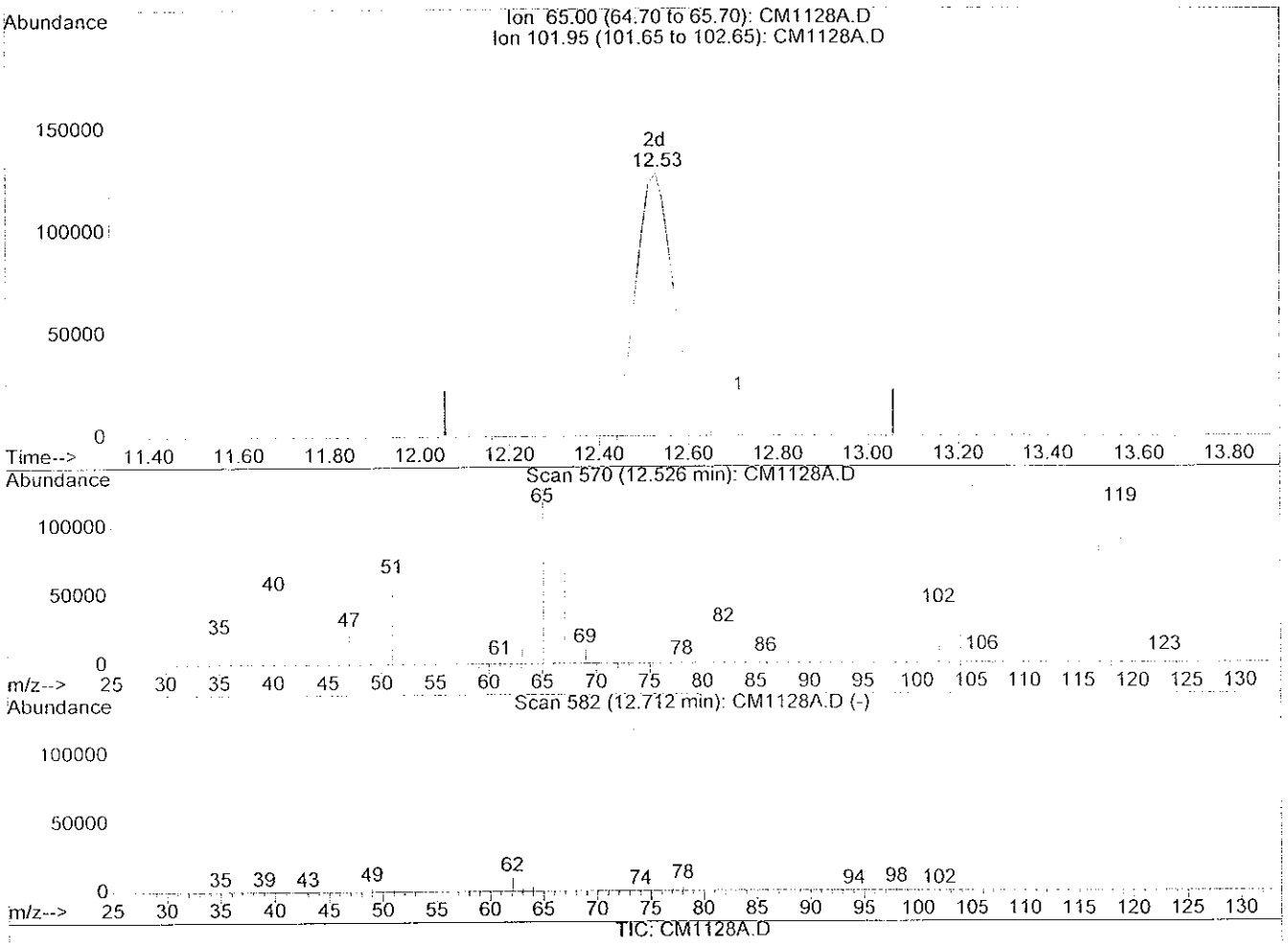
before (missed peak)

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

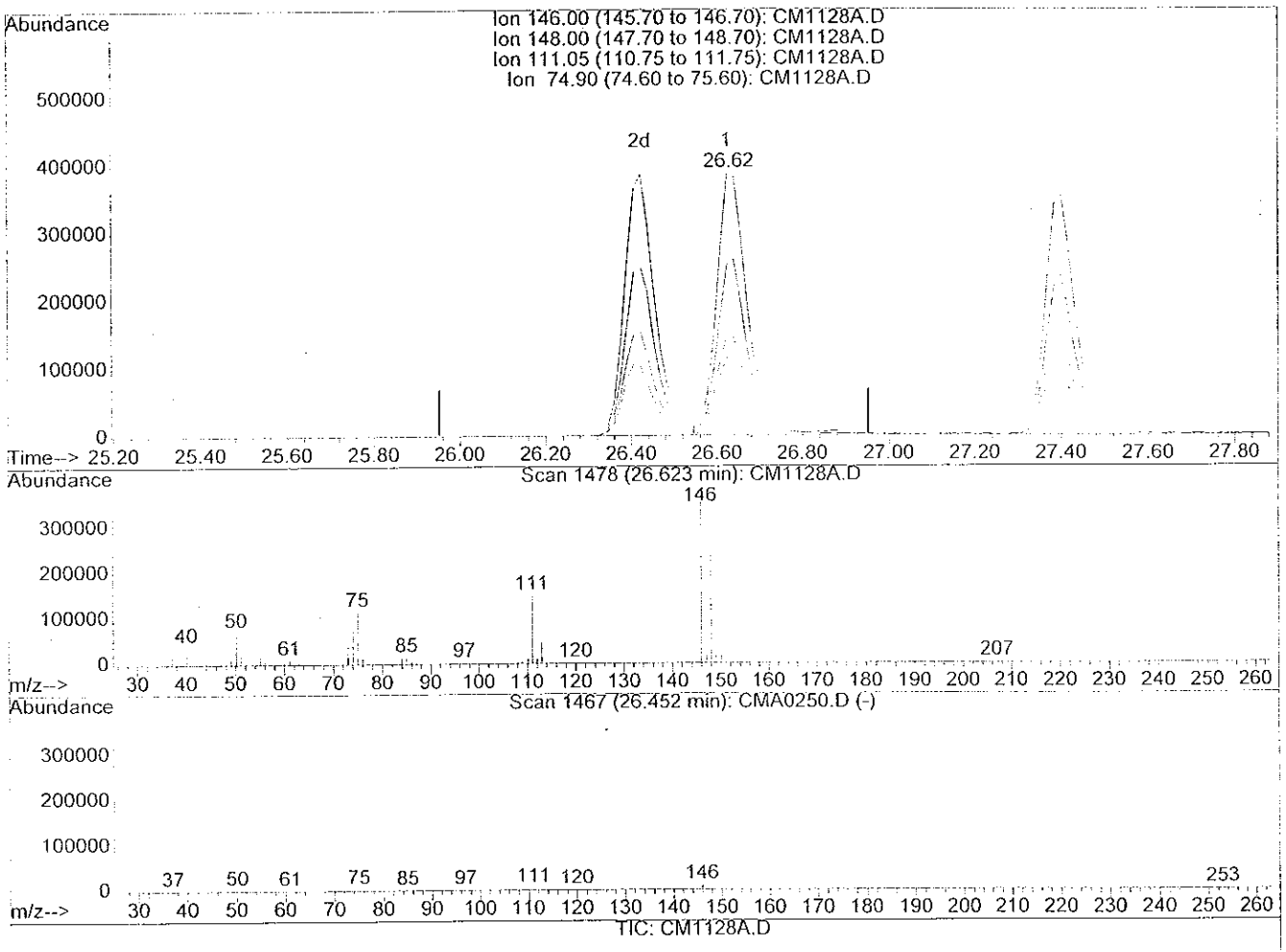
CM1128A.D TO14S.M Wed Nov 28 10:32:10 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D
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

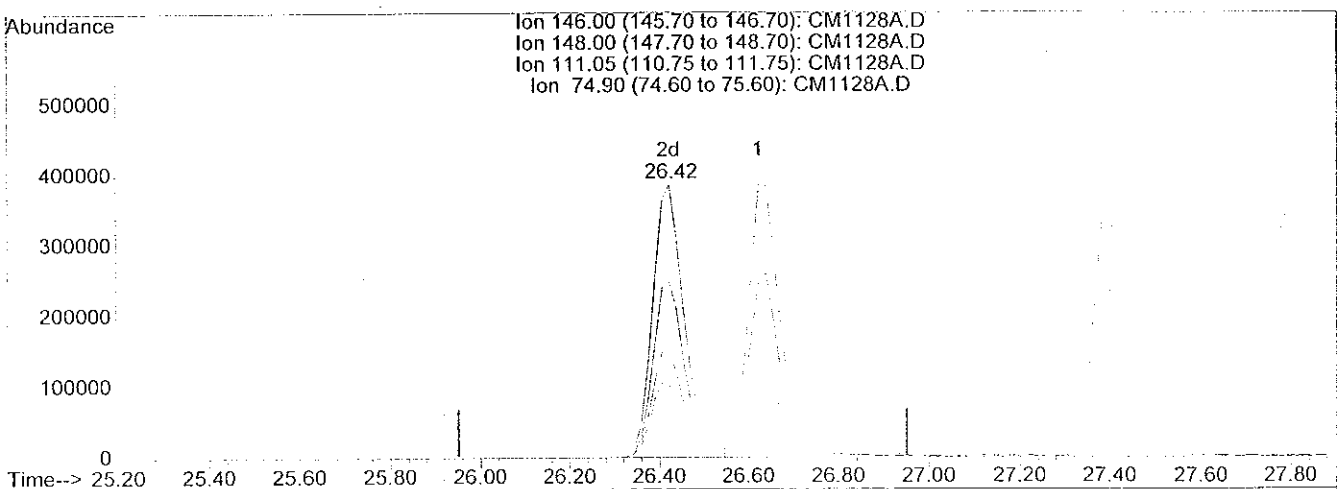
Be fore
(wrong peak)

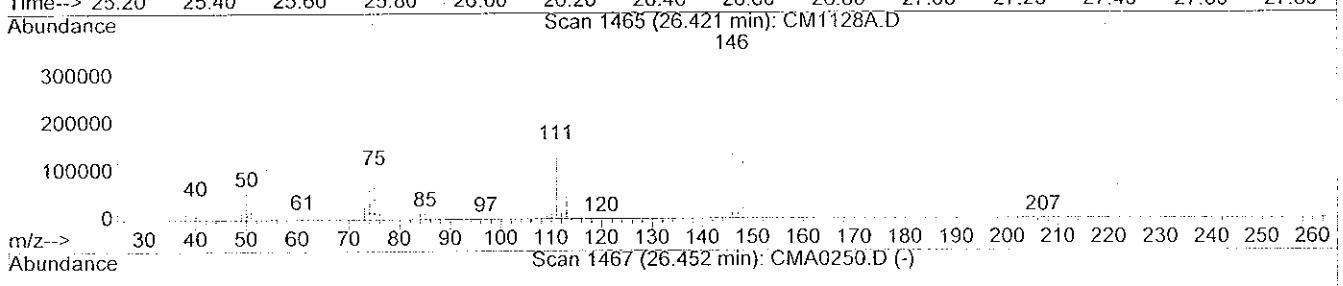
CM1128A.D TO14S.M Wed Nov 28 10:30:14 2001

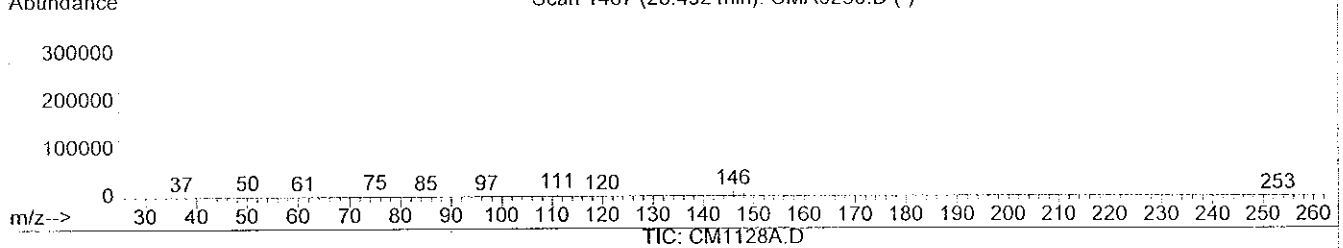
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D 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 10:30 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

26.42min 257.41ng m

response 1912389

Ion	Exp%	Act%
146.00	100	100
148.00	66.40	67.49
111.05	44.40	38.40
74.90	35.60	29.03

after
BDH 11/28/01

11-29-01

CM1128A.D TO14S.M Wed Nov 28 10:30:19 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D 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

(#) = 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

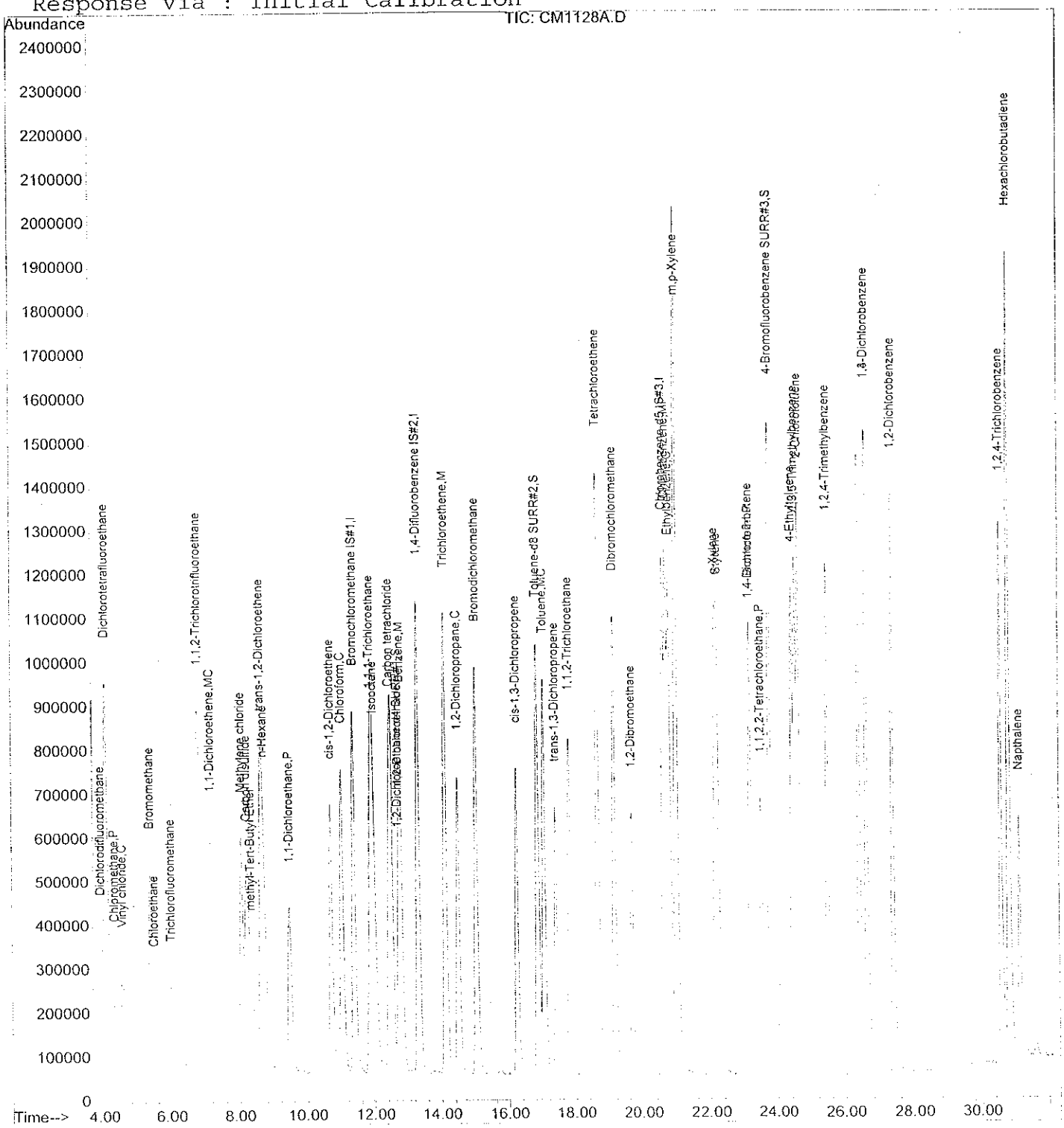
(#) = qualifier out of range (m) = manual integration

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

ng report

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

(#) = 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

CRL/NR/NSF

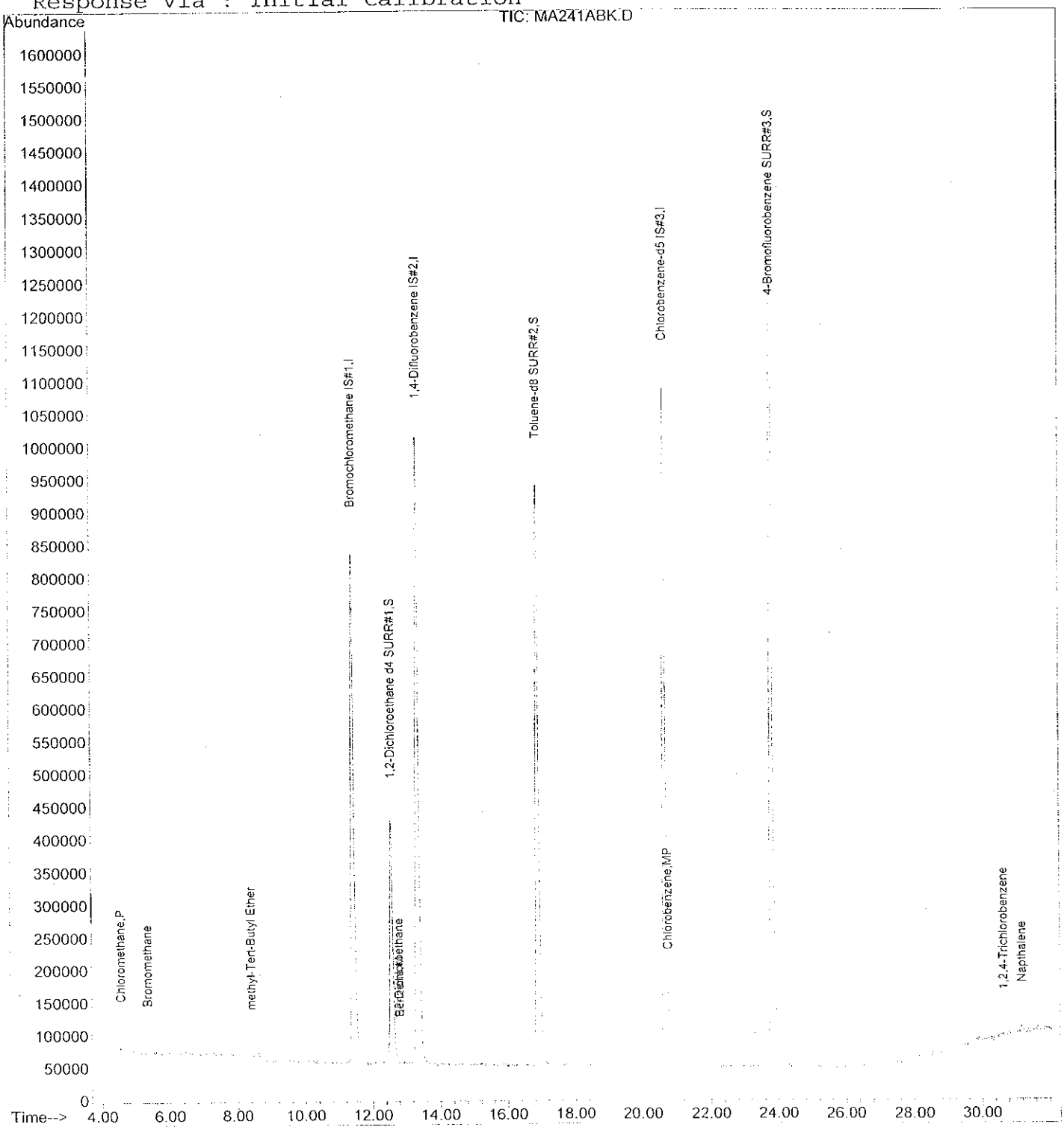
(#) = qualifier out of range (m) = manual integration
MA241ABK.D TO14S.M Wed Nov 28 11:31:22 2001

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
MSTrmkegratiWATERrams: rteint.p

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

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

* = out of control limits
Thu Nov 29 09:22:01 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D Vial: 16
Acq On : 28 Nov 2001 11:36 Operator: BDH
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 13:27 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1128A\CM1128A.D (28 Nov 2001 9:31)

BH 11/28/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	786922	250.00 ng	0.02 101.89%
26) 1,4-Difluorobenzene IS#2	13.35	114	3161841	250.00 ng	0.04 101.59%
36) Chlorobenzene-d5 IS#3	20.67	117	2399134	250.00 ng	0.04 101.06%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.55	65	842947	251.25 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.50%					
32) Toluene-d8 SURR#2	16.89	98	2429101	248.14 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.26%					
46) 4-Bromofluorobenzene SURR#	23.82	95	2085726	246.08 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.43%					

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.19	96	816654	231.01 ng	86
27) Benzene	12.83	78	2347061	260.31 ng	98
28) Trichloroethene	14.14	130	1347269	266.13 ng	93
33) Toluene	17.09	92	1528943	264.23 ng	98
39) Chlorobenzene	20.76	112	2277420	269.75 ng #	85

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D 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
Acq On : 28 Nov 2001 11:36
Sample : VLCSMA\BATCH #241 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA241ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Nov 28 12:08 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 28 10:32:19 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

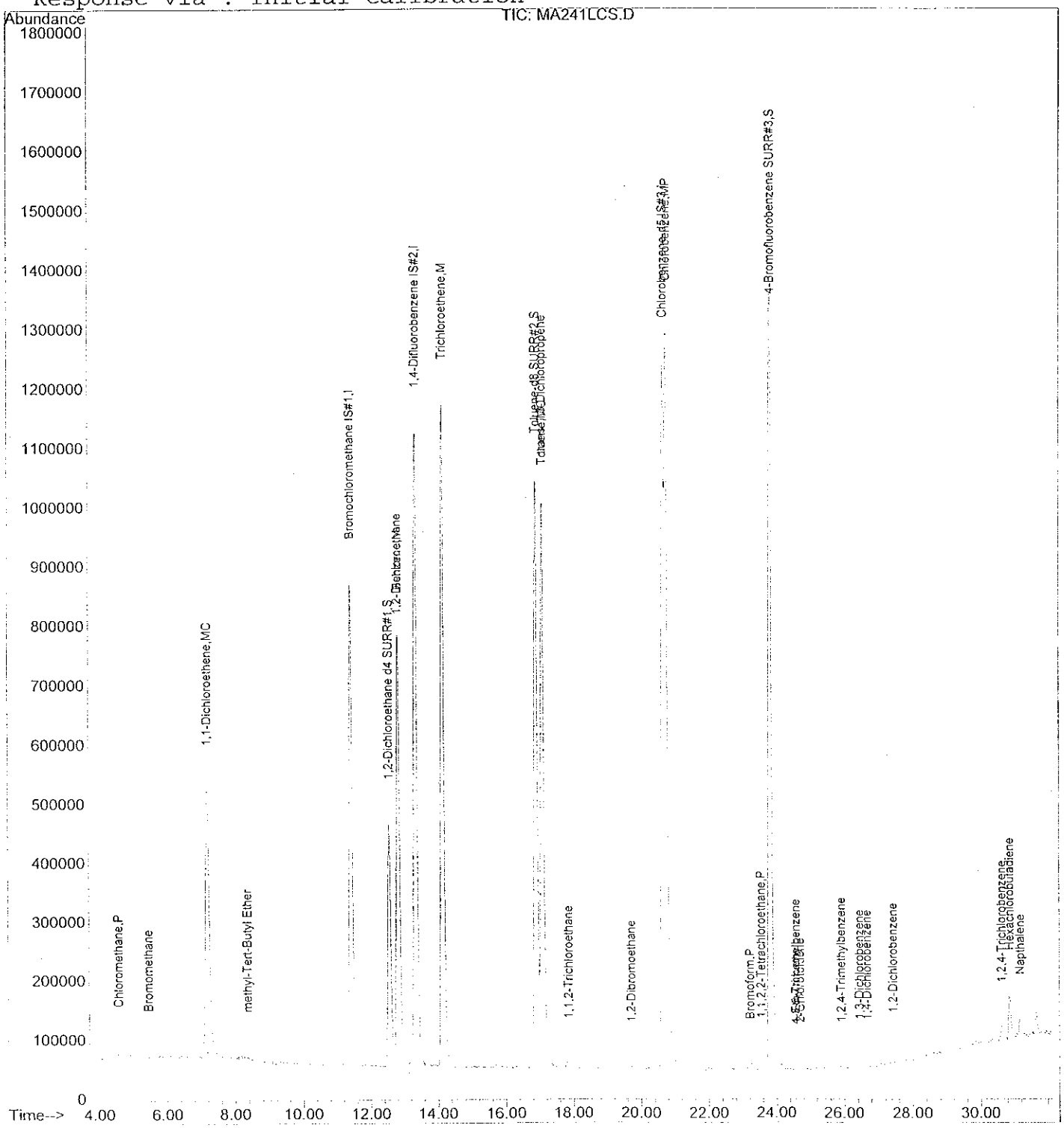
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
57) Hexachlorobutadiene	30.87	225	52072	12.53 ng	96

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\MA241LCS.D 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



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed 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

mg/m3 report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	673905	250.00	ng	0.03 87.25%
26) 1,4-Difluorobenzene IS#2	13.35	114	2376530	250.00	ng	0.03 76.36%
36) Chlorobenzene-d5 IS#3	20.63	117	1900275	250.00	ng	0.00 80.05%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	694933	241.87	ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 96.75%			
32) Toluene-d8 SURR#2	16.87	98	1885861	256.31	ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.52%			
46) 4-Bromofluorobenzene SURR#	23.77	95	1702245	253.56	ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.42%			

Target Compounds

						Qvalue
16) n-Hexane	8.77	57	111295	0.14	ng ✓ #	1
27) Benzene	12.84	78	23553	0.01	ng <MDL	59
33) Toluene	17.06	92	28646	0.03	ng <MDL	85
40) Ethylbenzene	20.82	106	15117	0.02	ng <MDL	79
41) m,p-Xylene	21.02	106	73903	0.09	ng ✓ F	99
42) o-Xylene	22.15	106	47626	0.06	ng ✓	89
48) 4-Ethyltoluene	24.40	105	117218	0.05	ng ✓ F	89
49) 1,3,5-Trimethylbenzene	24.54	105	357217	0.21	ng ✓	94
51) 1,2,4-Trimethylbenzene	25.49	105	72347	0.04	ng ✓ F	94

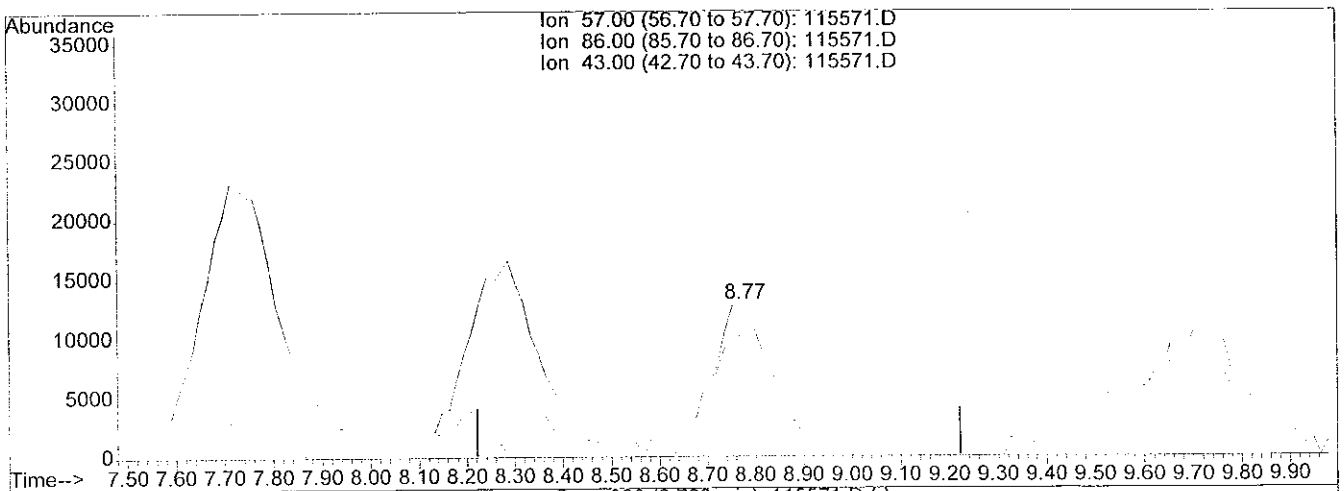
(#) = qualifier out of range (m) = manual integration

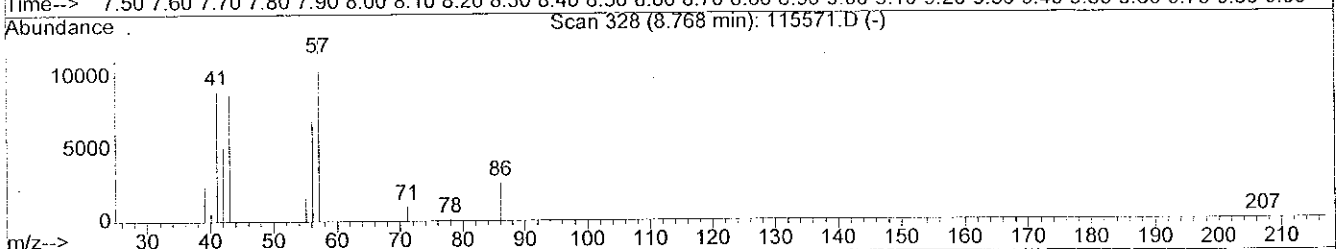
Quantitation Report (Qedit)

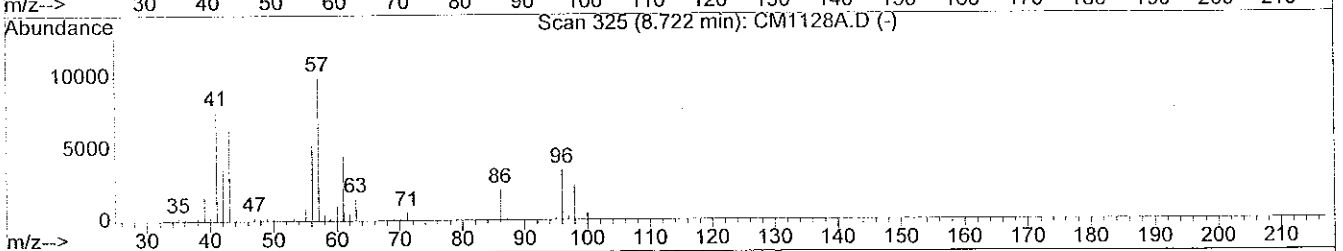
Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:34 2001

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: 115571.D

(16) n-Hexane

8.77min 35.85ng

response 111295

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	18.43#
43.00	325.00	95.19#
0.00	0.00	0.00

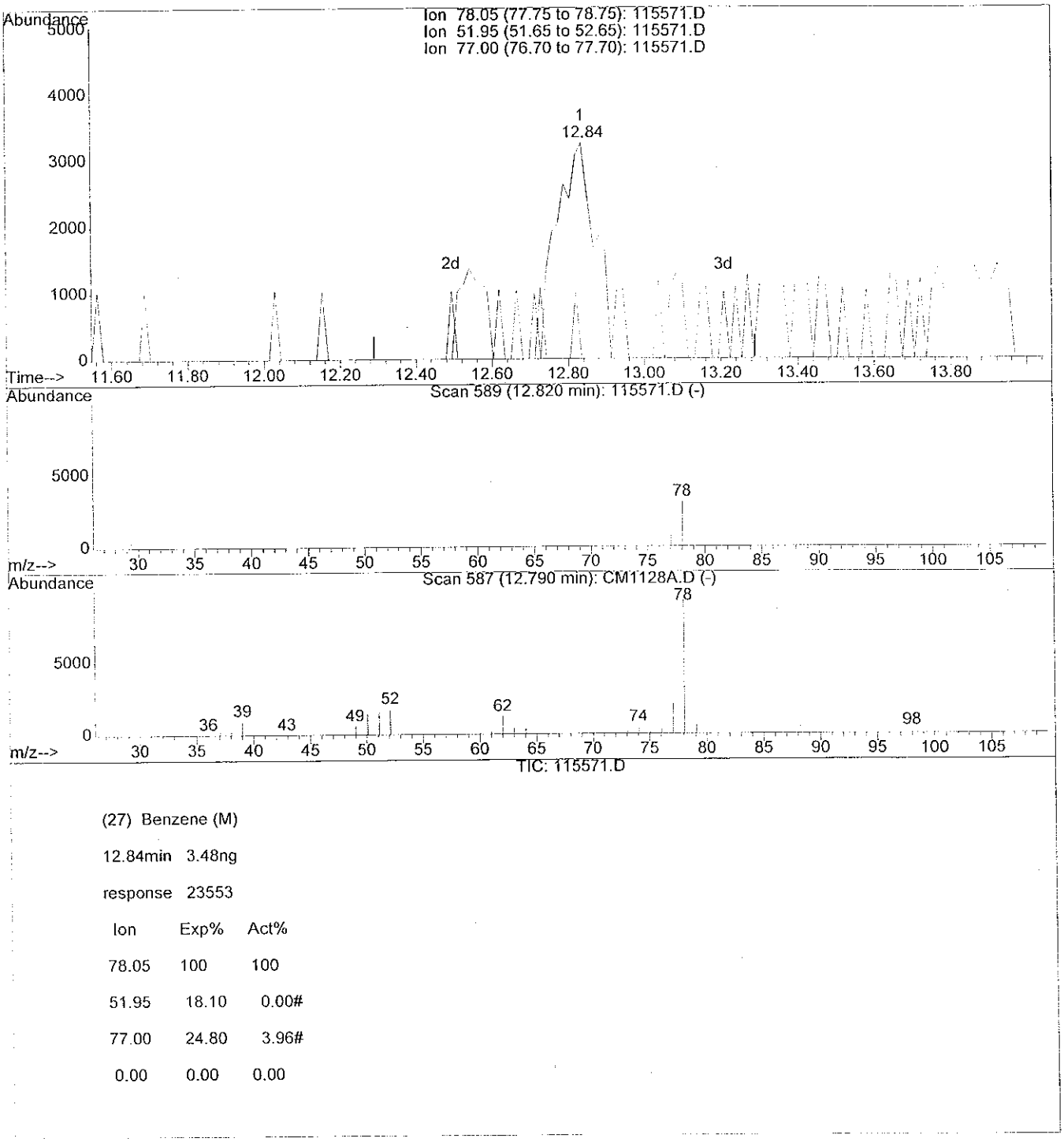
115571.D TO14S.M Wed Nov 28 16:35:25 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 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 : Wed Nov 28 10:32:19 2001
Response via : Multiple Level Calibration



(27) Benzene (M)

12.84min 3.48ng

response 23553

Ion	Exp%	Act%
78.05	100	100
51.95	18.10	0.00#
77.00	24.80	3.96#
0.00	0.00	0.00

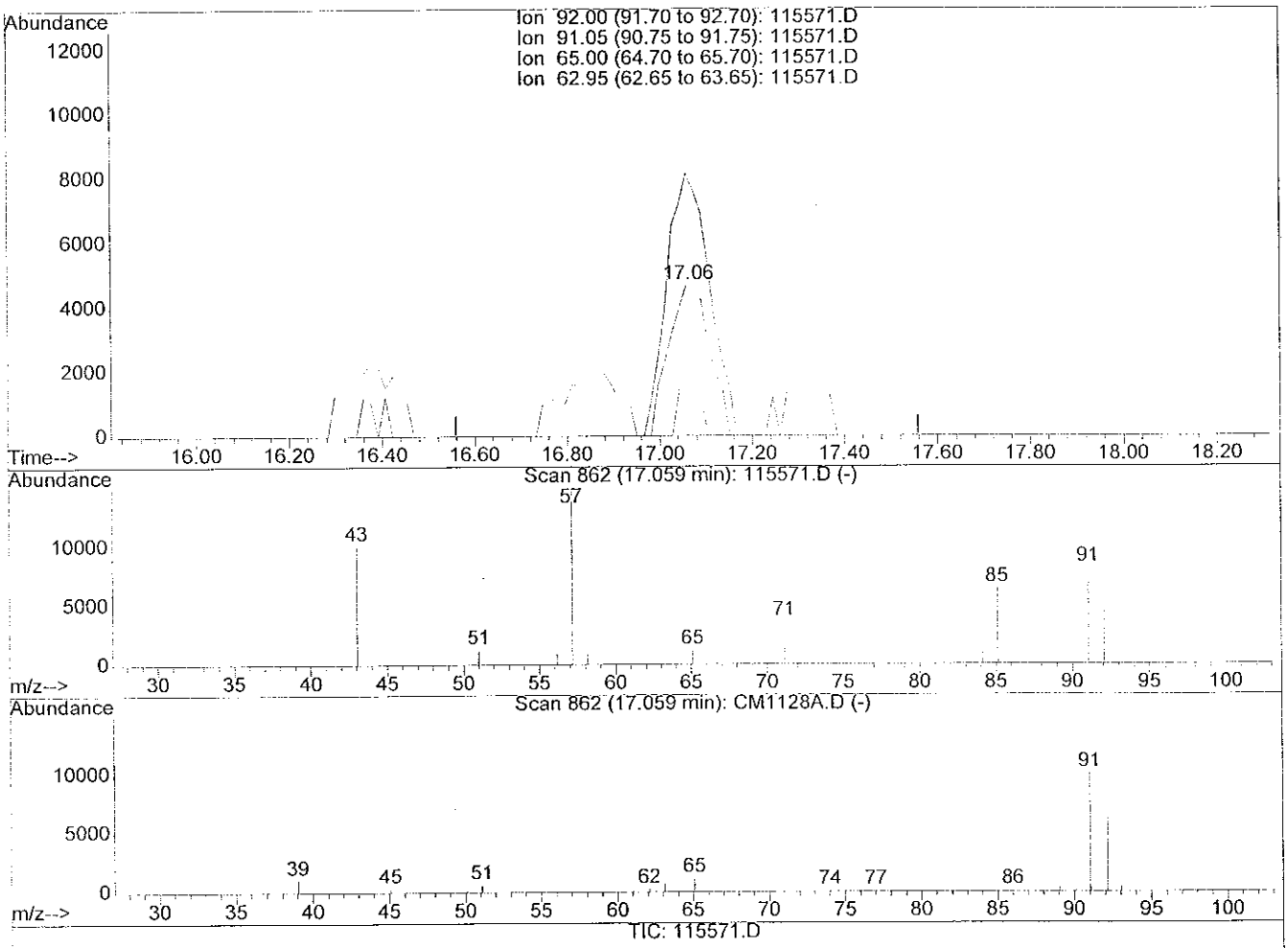
115571.D TO14S.M Wed Nov 28 16:36:02 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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 6.59ng

response 28646

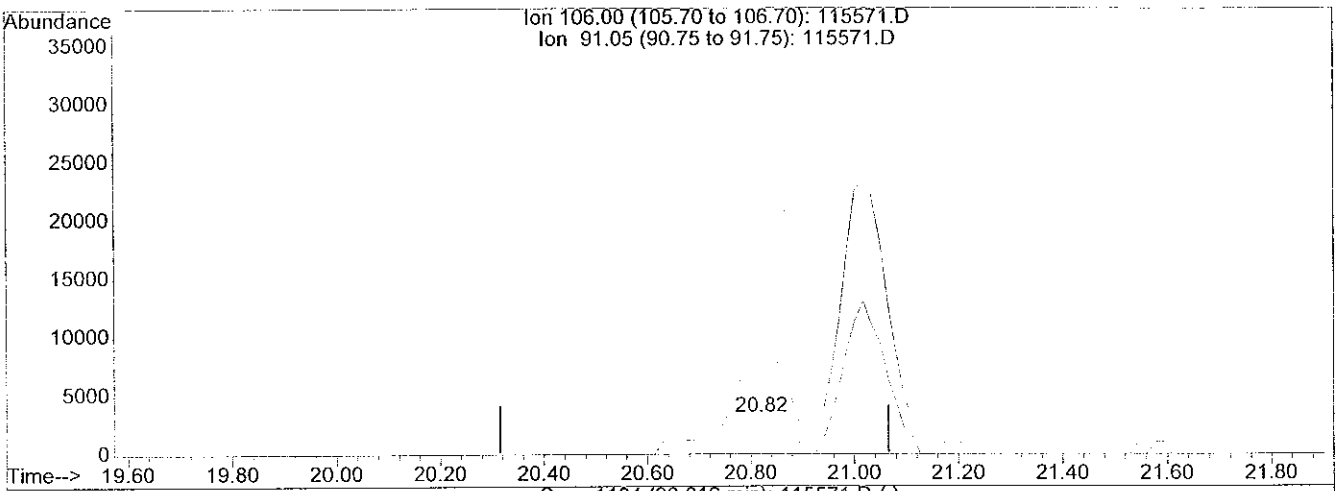
Ion	Exp%	Act%
92.00	100	100
91.05	165.10	183.54
65.00	20.80	16.97
62.95	14.20	0.00#

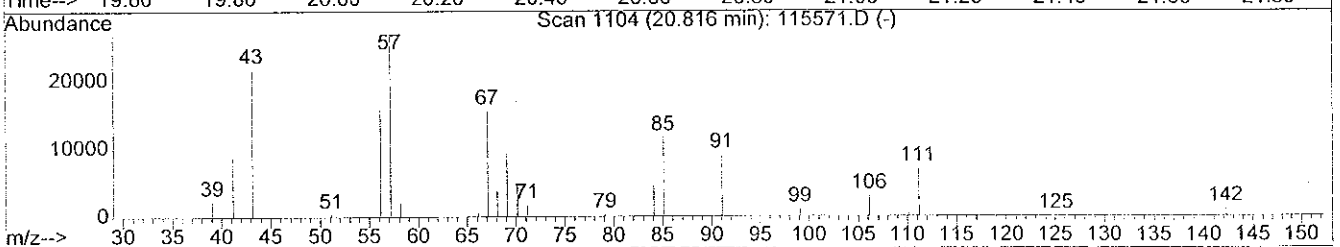
115571.D TO14S.M Wed Nov 28 16:36:23 2001

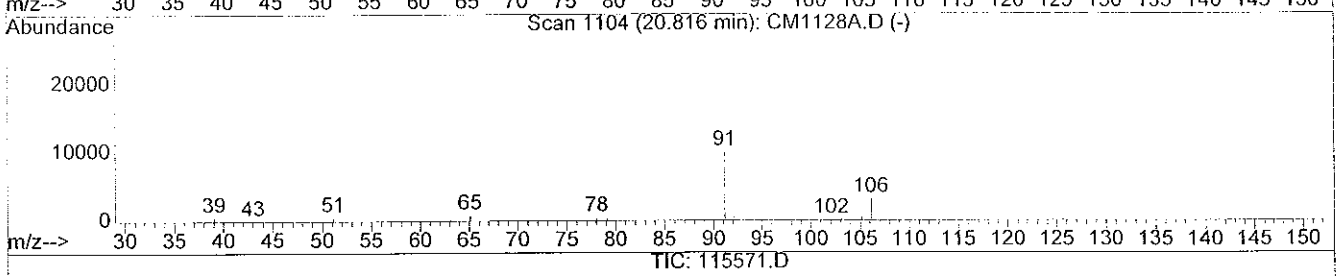
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D Vial: 1
Acq On : 28 Nov 2001 15:59 Operator: BDH
Sample : 062SVEEA11200122\11557-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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: 115571.D

(40) Ethylbenzene (C)

20.82min 5.63ng

response 15117

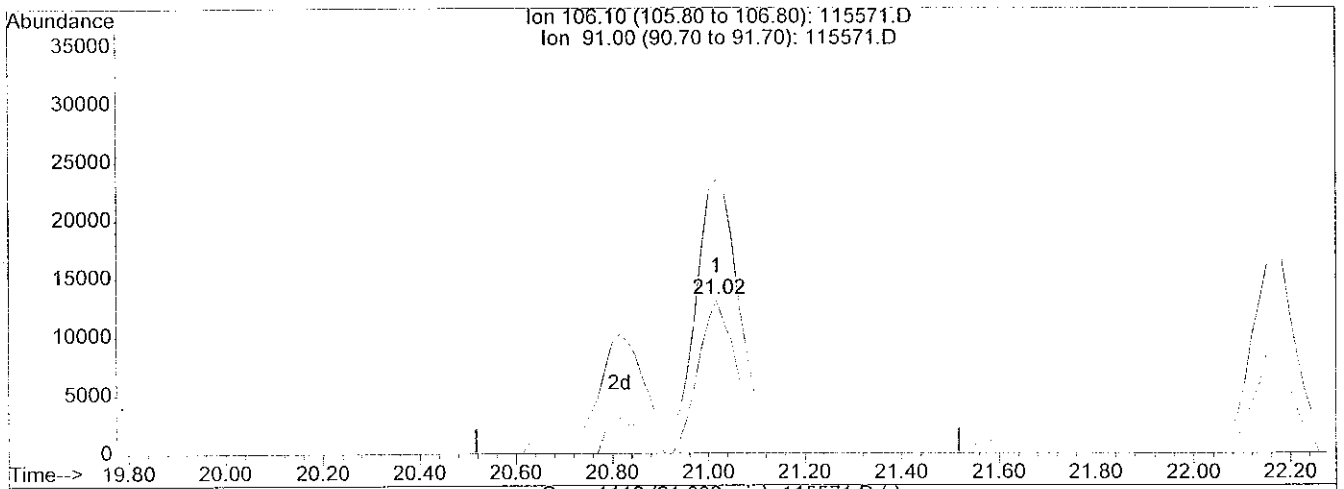
Ion	Exp%	Act%
106.00	100	100
91.05	332.50	376.06
0.00	0.00	0.00
0.00	0.00	0.00

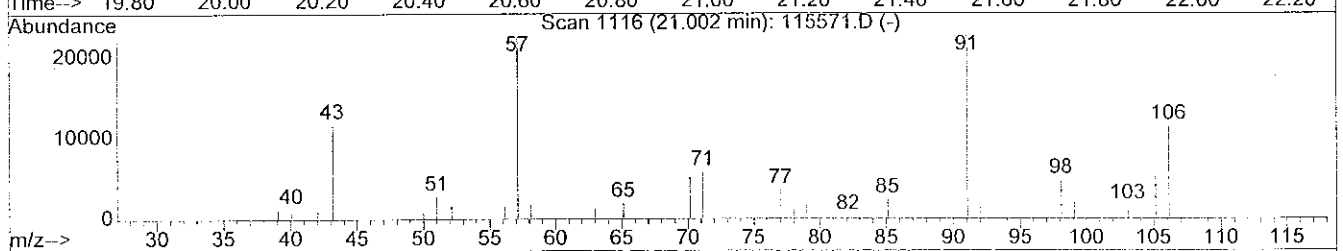
115571.D TO14S.M Wed Nov 28 16:36:42 2001

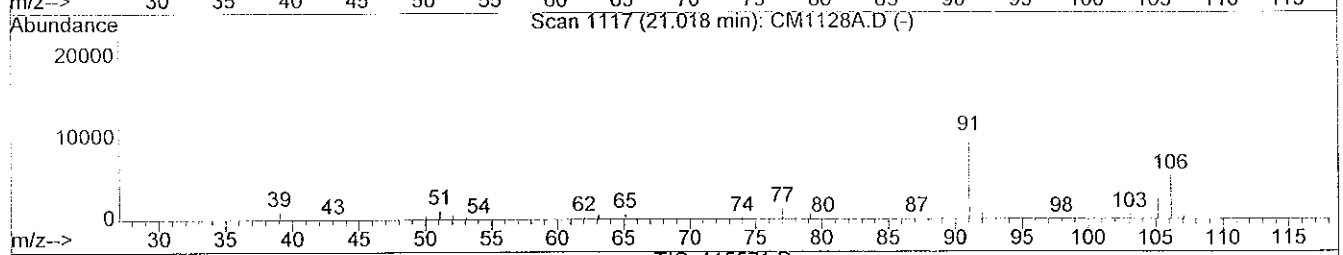
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D Vial: 1
Acq On : 28 Nov 2001 15:59 Operator: BDH
Sample : 062SVEEA11200122\11557-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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: 115571.D

(41) m,p-Xylene

21.02min 21.40ng

response 73903

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	207.56
0.00	0.00	0.00
0.00	0.00	0.00

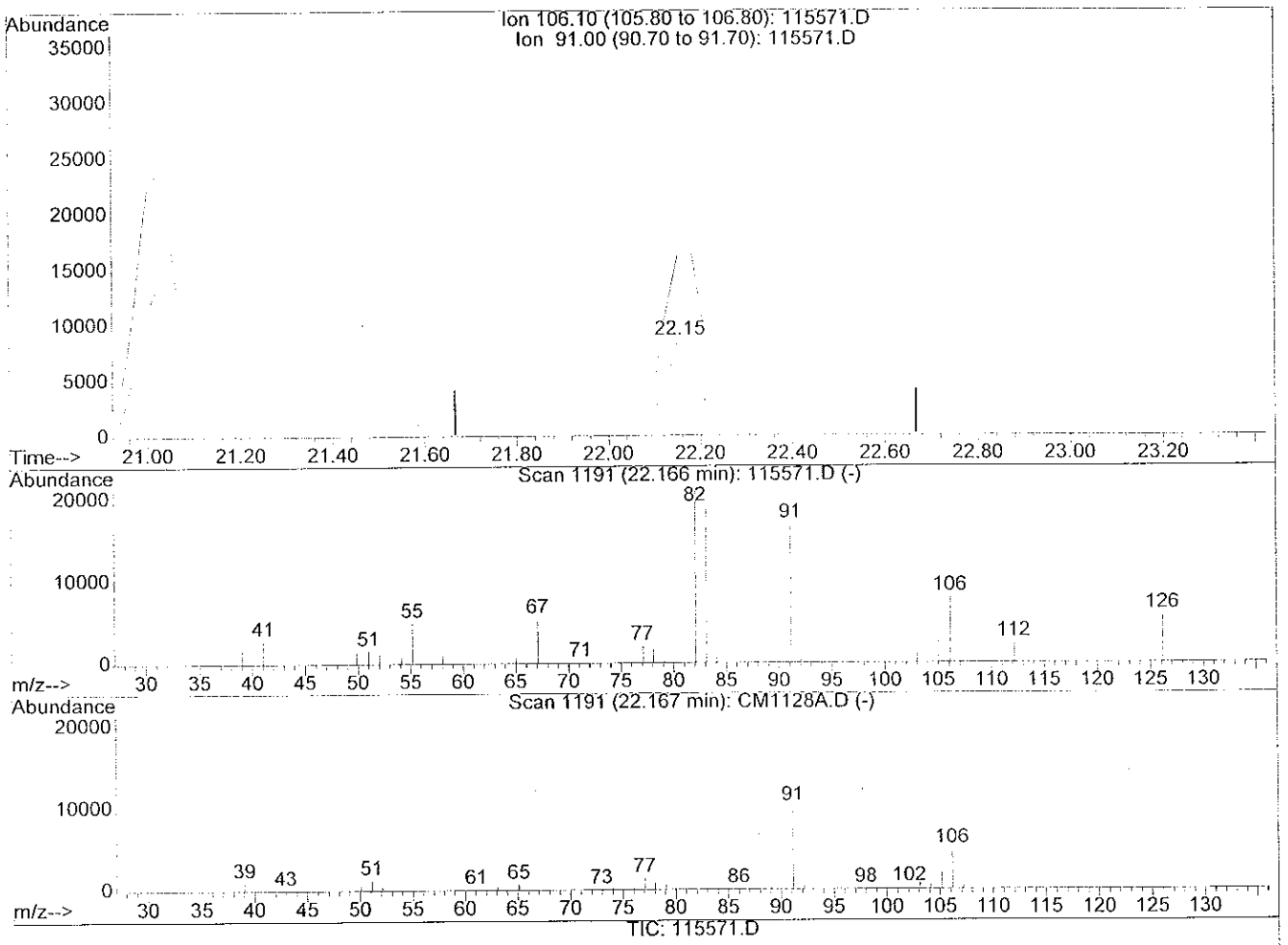
115571.D TO14S.M Wed Nov 28 16:36:55 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:36 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

22.15min 14.19ng

response 47626

Ion	Exp%	Act%
106.10	100	100
91.00	215.80	233.85
0.00	0.00	0.00
0.00	0.00	0.00

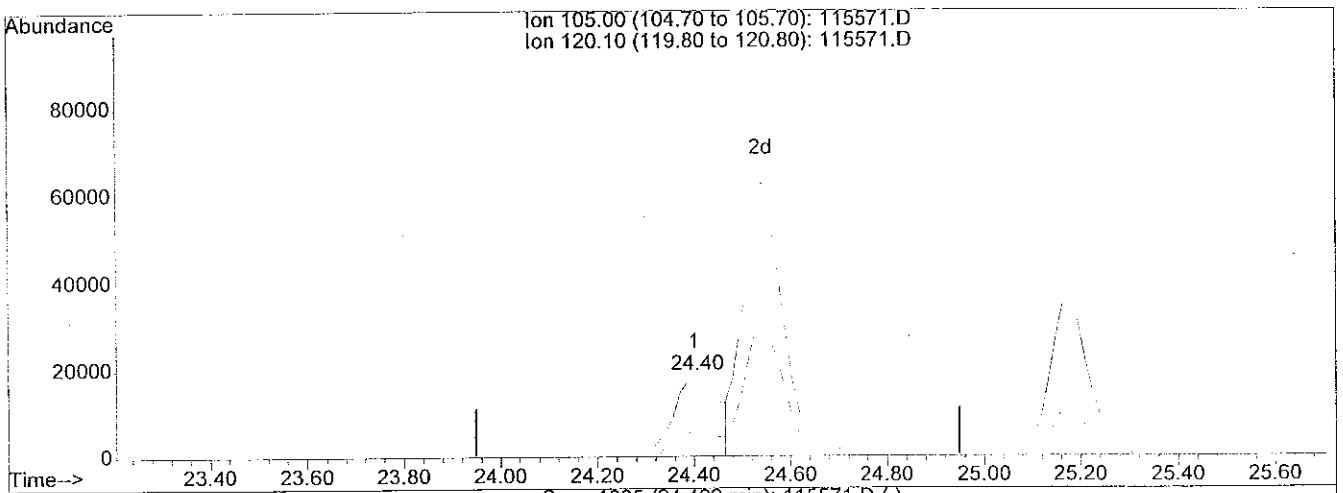
115571.D TO14S.M Wed Nov 28 16:37:13 2001

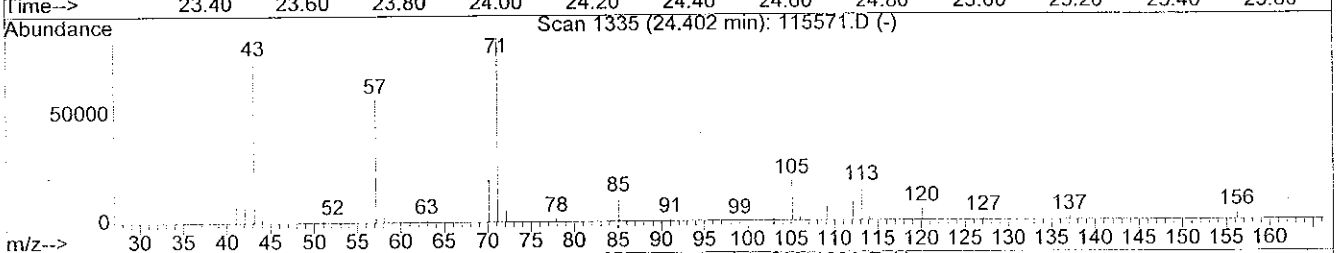
Quantitation Report (Qedit)

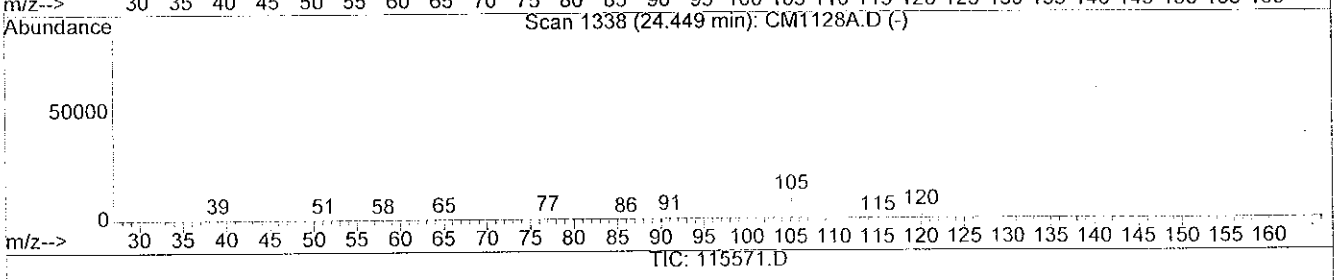
Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

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: 115571.D

(48) 4-Ethyltoluene

24.40min 13.06ng

response 117218

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	23.10
0.00	0.00	0.00
0.00	0.00	0.00

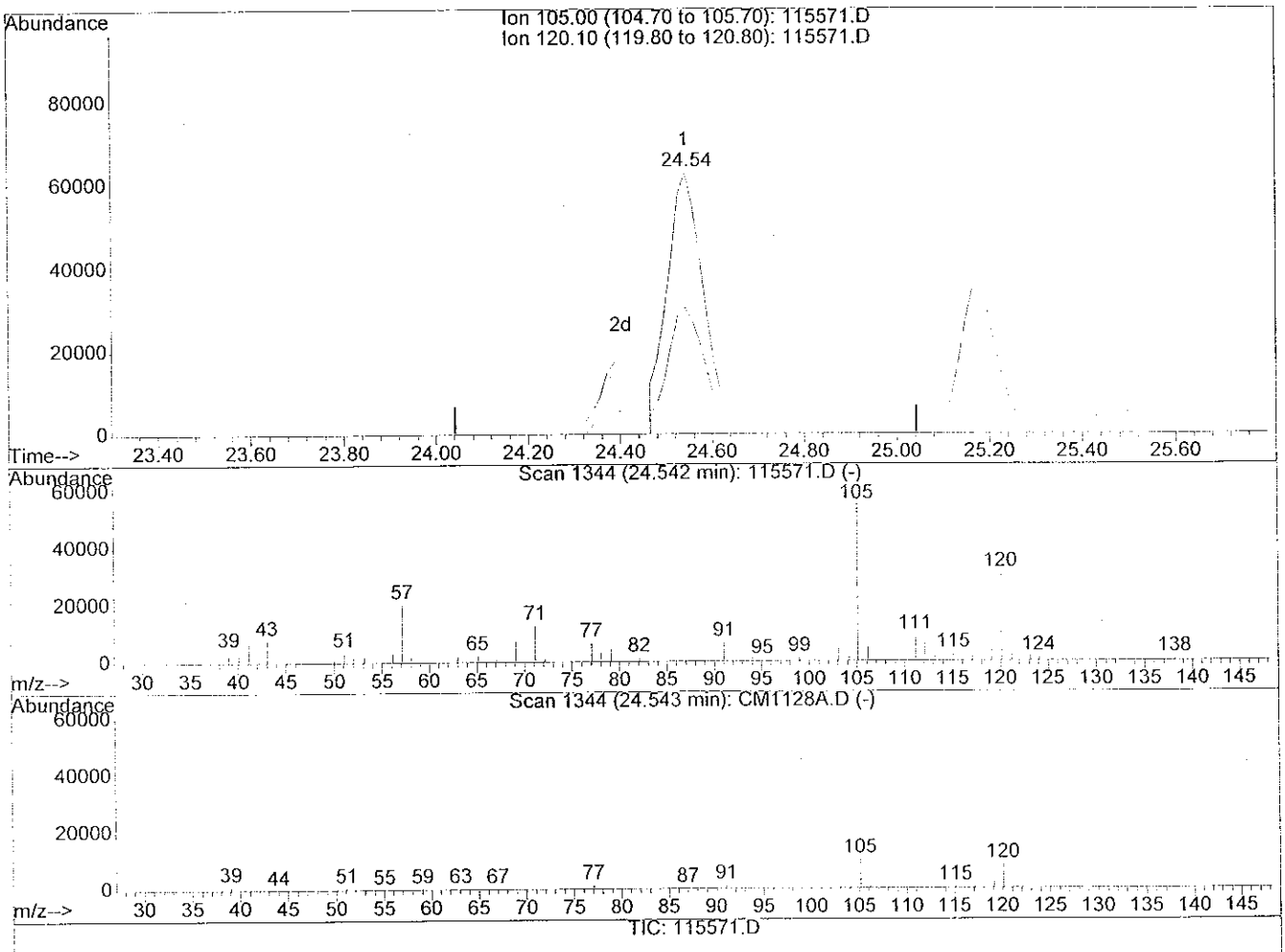
115571.D TO14S.M Wed Nov 28 16:37:30 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 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 51.70ng

response 357217

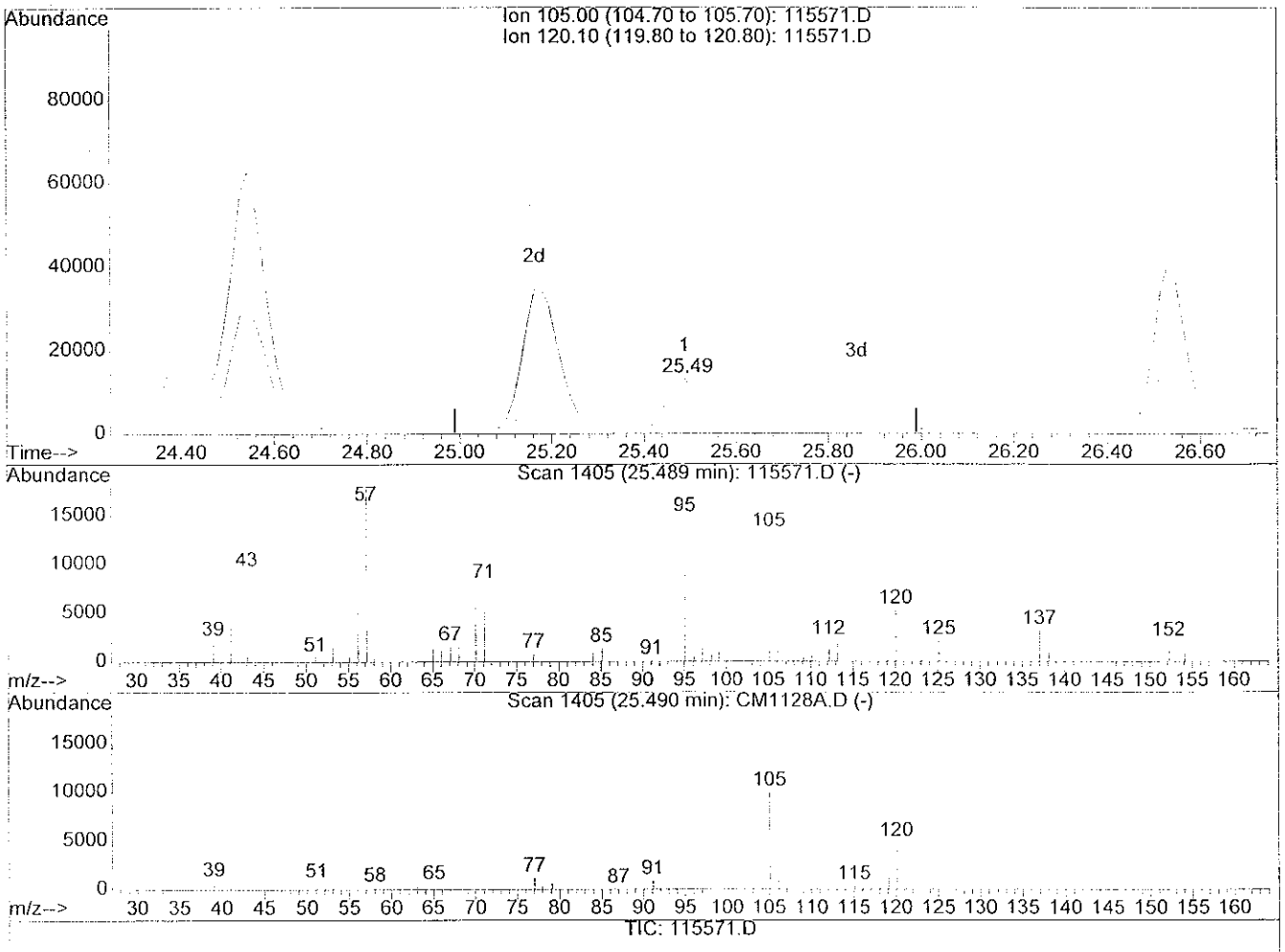
Ion	Exp%	Act%
105.00	100	100
120.10	46.70	50.57
0.00	0.00	0.00
0.00	0.00	0.00

115571.D TO14S.M Wed Nov 28 16:37:40 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D Vial: 1
Acq On : 28 Nov 2001 15:59 Operator: BDH
Sample : 062SVEEA11200122\11557-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA241ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 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



(51) 1,2,4-Trimethylbenzene

25.49min 10.03ng

response 72347

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	41.19
0.00	0.00	0.00
0.00	0.00	0.00

115571.D TO14S.M Wed Nov 28 16:37:54 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:31 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	11.42	128	673905	250.00 ng	0.03 87.25%
26) 1,4-Difluorobenzene IS#2	13.35	114	2376530	250.00 ng	0.03 76.36%
36) Chlorobenzene-d5 IS#3	20.63	117	1900275	250.00 ng	0.00 80.05%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.54	65	694933	241.87 ng	0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 96.75%		
32) Toluene-d8 SURR#2	16.87	98	1885861	256.31 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.52%		
46) 4-Bromofluorobenzene SURR#	23.77	95	1702245	253.56 ng	-0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.42%		

Target Compounds						Qvalue
4) Chloromethane	4.67	50	948	0.40 ng	#	46
6) Bromomethane	5.46	94	1044	0.28 ng	#	9
15) trans-1,2-Dichloroethene	9.03	96	941	0.29 ng	#	1
16) n-Hexane	8.77	57	111295	35.85 ng	#	1
20) Isooctane	12.03	57	94067	9.00 ng	#	1
27) Benzene	12.84	78	23553	3.48 ng	#	59
29) 1,2-Dichloropropane	14.31	63	5651	1.99 ng	#	1
30) Bromodichloromethane	14.84	83	34174	5.22 ng	#	25
33) Toluene	17.06	92	28646	6.59 ng	#	85
35) 1,1,2-Trichloroethane	18.01	97	34757	13.15 ng	#	14
38) Dibromochloromethane	19.26	127	14237	2.93 ng	#	82
39) Chlorobenzene	20.66	112	20868	3.12 ng	#	77
40) Ethylbenzene	20.82	106	15117	5.63 ng		79
41) m,p-Xylene	21.02	106	73903	21.40 ng		99
42) o-Xylene	22.15	106	47626	14.19 ng		89
45) 1,1,2,2-Tetrachloroethane	23.56	83	151665	38.35 ng	#	48
48) 4-Ethyltoluene	24.40	105	117218	13.06 ng		89
49) 1,3,5-Trimethylbenzene	24.54	105	357217	51.70 ng		94
50) 2-Chlorotoluene	24.54	91	46847	5.30 ng	#	47
51) 1,2,4-Trimethylbenzene	25.49	105	72347	10.03 ng		94

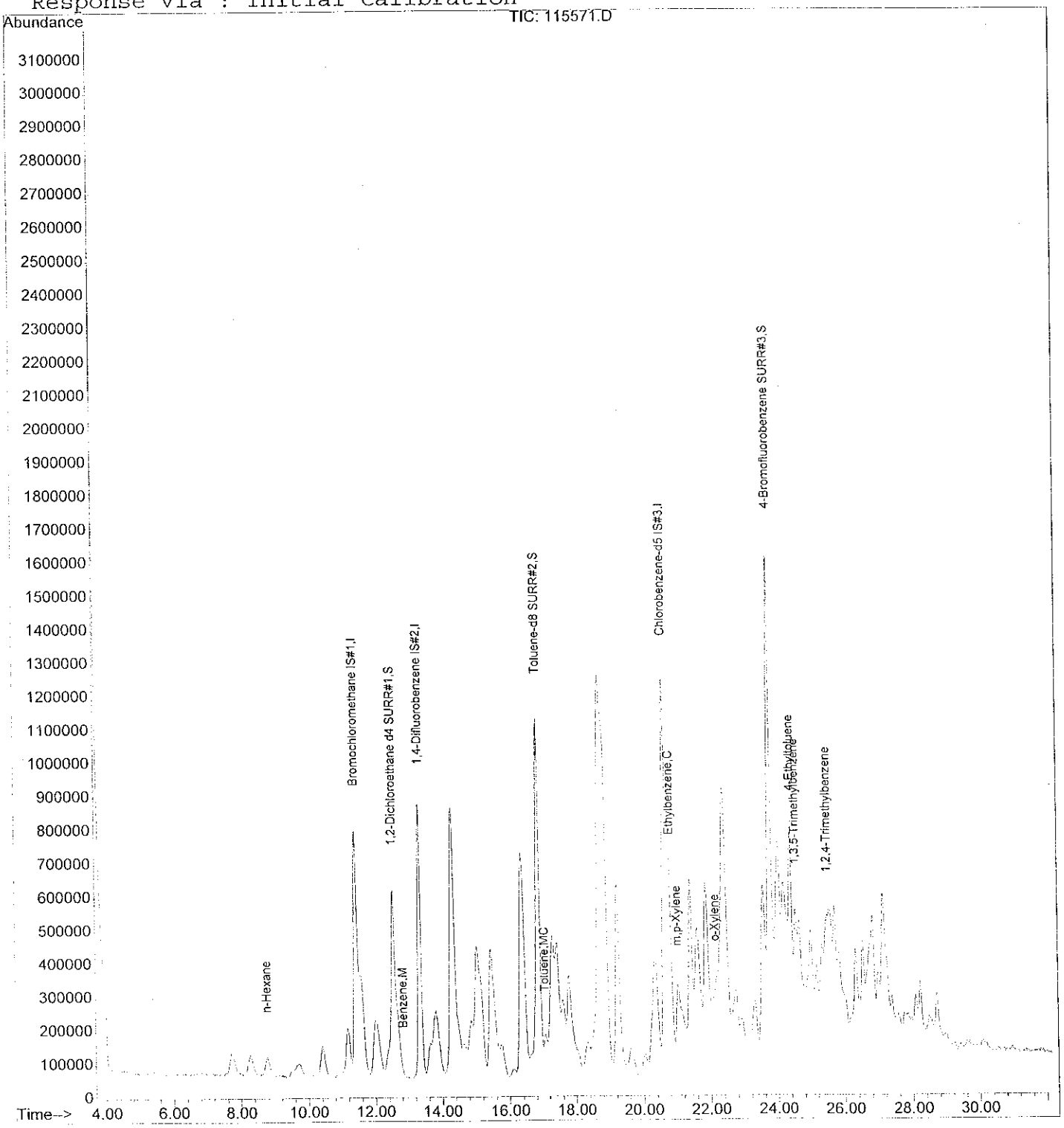
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1128A\115571.D
Acq On : 28 Nov 2001 15:59
Sample : 062SVEEA11200122\11557-1 ST. 500mls
Misc : Pi/Pf=2 MA241ABK
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.00
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



STL Pensacola / GCMS Volatiles Run Log

Date 11-28-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD

Batch MA241 1 2 3 | Batch ____ 1 2 3 | Batch ____ 1 2 3 | Maint. ___

S# 8 -MSW- 26 - 3 | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 23 - 3 | Sequence cont.

FB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- - | on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:31	14	TO14S.im	CM 1128A	50ppb		Y N	W	YES	BOH	Daily Cal Check/bfb tune/95 ion area = 2,063,000
10:59	15		MA241A BK	ST		Y N				Daily Method Blank
11:36	16		MA241 LCS	50ppb		Y N				Batch# 241 LCS
:	1		QC228	ST.		Y N	A (TO14)			500mls QC CAN check # 228
12:31	2		11586-1	X500		Y N		YES		1.0ml
13:08	3		11552-1	X500		Y N				1.0ml
13:42	4		-2			Y N				re-run X50
14:16	5		-3			Y N				
15:23	1		11556-1	ST		Y N				500mls
:	1		11557-1	ST.		Y N				
:	1		QC228	ST.		Y N				
14:50	6		11552-2R	X50		Y N				10mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

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

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

STL Pensacola / GCMS Volatiles Run Log

Date 11-22-01 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD

Batch MAB2351 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
12:47		BFBSTL	BFM11220	50ppb			W		BAH	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 - BAH
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				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.

** IS 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	~~DATE OPENED~~ Analyst/Date Rep.	LOG I.D.
502C	A804036	Acc STD	2000 µg/ml	7/1999	DKM 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKM 5/18/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	CAD 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKM 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LAD~~ ~~BH~~ 7/29/98	7-VN 2-9
8260 SURR	A11714	Restek	2500 µg/ml	8/2001	DKM 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKM 10/6/98	7-VN 2-11
Matrix Spike	LA76820	Supelco	25 µg/ml	8/2000	DKM 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DKM 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKM 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090342-OB	Accustandard	200.1 µg/ml	9/99	BDH 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKM 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKM 3/9/99	7-VN 2-19
Custom Keytones Mix	A011115	Restek	2000 µg/ml	3/2000	DKM 3/10/99	7-VN 2-20
8260 Volatile Kit	Varian	Restek	Varies	6/2001	DKM 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKM 5/10/99	7-VN 2-22
VOC Mix 6	LA80482	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-24
Equity 8260 Cal Mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKM 5/14/99	7-VN 2-25
Custom TO14 VOC Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~
Equity Keytones	LA83458	Supelco	2000 µg/ml	9/2000	DKM 6/9/99	7-VN 2-27
Tolamethane	LA81867	Supelco	2000	4/2000	DKM 6/29/99	7-VN 2-28

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

dispose 6/14

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	Dwj 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	Dwj 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014022	Restek	2000 µg/ml	7/2000	Dwj 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	Dwj 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	Dwj 7/13/99	7 -VN 3 - 5	3
To14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/4/99	7 -VN 3 - 6	5
F001 & F002	A7100150	Accustandard	2000 µg/ml	8/2000	AWB 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	AWB 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	AWB 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 (Most Likely)	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SUPR	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	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 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	LA8560S	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90443	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016359	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	DH 6/13/04 ~~5~~ 4	8-VN 1-26
VOA Short list Matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Run TS 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	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016543	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810028 A810028	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	2 each	8-VN 2-9
n-Hexane	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	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 st	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various 4/6/01	4/6/01 ~~2003~~	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD Mix-To14	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90477	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95926	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

ug/ml = ppm
ug/l = ppb

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

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/SurT
Date: 10-12-01
Analyst: SAH

Standard I.D.: 8 -MSW26-3
Location: Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A012265	11/01	2500ug/ml	500uls	50uls	25ppm
7-VN-2-16	A012264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

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

Comments: 12/20/01 - exp. date

Sol. Name: To14 Calibration Std with Iso-octane added
Date: 6/29/01
Analyst: BDH

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (To14 Custom)	LA90724	7-1-01	2500 µg/ml	250 µl	25 mls	25 µg/ml
8-VN2-11 (Iso-octane)	B0110234	12-1-01	2000 µg/ml	312.5 µl	25 mls	25 µg/ml

Comments: expires 12/28/01

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C112435
Project: CH2M Hill Constructors
CTO-0062, Cecil Field Day Tank 1

Client Sample ID	STL Sample ID
062-SVE-E-A-1212-01-23	C112435-1

The above-referenced sample was received in good condition at STL Pensacola on December 17, 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

1/3/02

CCI NAVY RAC PMO
JAN - 7 2002

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12435-1	062-SVE-E-A-1212-01-23	12-12-01/16:15

PARAMETER	12435-1
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: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, AIR SAMPLES	DATE/ TIME SAMPLED
12435-1	062-SVE-E-A-1212-01-23	12-12-01/16:15

PARAMETER	12435-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.15
4-Ethyltoluene, mg/m3	0.07
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	0.06
1,3,5-Trimethylbenzene, mg/m3	0.30
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.08J
Surrogate - 1,2-Dichloroethane-d4	109 %
Surrogate - Toluene-d8	104 %
Surrogate - 4-Bromofluorobenzene	97 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
12435-1	062-SVE-E-A-1212-01-23	12-12-01/16:15

PARAMETER	12435-1
Dilution Factor	1
Prep Date	12.21.01
Prep Time	13:26
Analysis Date	12.21.01
Analysis Time	13:39
Batch ID	MAB256
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12435-2	Method Blank	
12435-3	Lab Control Standard True Value	
12435-4	Lab Control Standard Result	
12435-5	Lab Control Standard % Recovery	
12435-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12435-2	12435-3	12435-4	12435-5	12435-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5359	107 %	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	0.5411	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12435-2	Method Blank	
12435-3	Lab Control Standard True Value	
12435-4	Lab Control Standard Result	
12435-5	Lab Control Standard % Recovery	
12435-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12435-2	12435-3	12435-4	12435-5	12435-6
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	0.4499	90 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5401	108 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12435-2	Method Blank	
12435-3	Lab Control Standard True Value	
12435-4	Lab Control Standard Result	
12435-5	Lab Control Standard % Recovery	
12435-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12435-2	12435-3	12435-4	12435-5	12435-6
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	0.5276	106 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	109 %	0.5000	0.5258	105 %	61-140
Surrogate - Toluene-d8	100 %	0.5000	0.5033	101 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4964	99 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	12.21.01	---	12.21.01	---	---
Prep Time	13:26	---	13:26	---	---
Analysis Date	12.21.01	---	12.21.01	---	---
Analysis Time	13:39	---	13:39	---	---
Batch ID	MAB256	MAB256	MAB256	MAB256	MAB256
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-12435
Received: 17 DEC 01
Reported: 28 DEC 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, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 123311228

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
12435-2	Method Blank	
12435-3	Lab Control Standard True Value	
12435-4	Lab Control Standard Result	
12435-5	Lab Control Standard % Recovery	
12435-6	LCS Accuracy Control Limit (%R)	

PARAMETER	12435-2	12435-3	12435-4	12435-5	12435-6

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 #: C112 435 Date Received: 12/17/01

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

Airbill Number(s): 7917 3031 7180

Shipped By: FedEx

Cooler Number(s): Box Can #249

Shipping Charges: N/A

Cooler Weight(s): 8#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 12/17/01 Logged By: PLC Date: 12/17/01

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

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

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

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

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

C112435

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-022

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	STL - Pensacola Rick Hayes	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.):
Day Tank 1 Monthly Air	0062	2916	Christelle Newsome / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (850) 474-1001 Fax: (850) 4782671		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-1212-01-23	SVE Effluent	AIR	12/12/01	16:15	III/C	14 Day	1										Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK #791730317180.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	12/13/01	11:00	Printed Name and Signature: Federal Express	12/13/01	11:00
Printed Name and Signature:			Printed Name and Signature: Mark Swafford Mark Swafford	12/17/01	0945
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

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: 13DEC01
WEIGHT: 8 LBS

C112435

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

MON
AA

TRK # 7917 3031 7180 FORM 0201

BFM

32514-FL-US

F3 PNSA

Deliver by:
17DEC01

Please fold this line around [illegible] and place it in the way bill pouch affixed to your shipment so that the barcode portion [illegible] WARNING: Do not [illegible] original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with [illegible] cancellation of your FedEx account number.

Shipping Label

Schedule Courier | Find a Dropoff Location | Shipping History

Shipment Complete | Cancel Shipment

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read an
4. To print a receipt of your shipment, please click on "Shipping History."

Ship a New Package

Ship Inside U.S. | Ship Outside U.S. | Ship to Same Recipient

Use of this system constitutes your agreement to the service conditions in the current FedEx service Guide, available upon request.

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, nondelivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Attach one file Label here

CH2M-CONST-GA C112435
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: JAE
Labeled by:
Delivered by:

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											

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.

Revised: 06/19/01

STL PENSACOLA
State Certifications

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

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

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

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

*State of **Connecticut**, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03*

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

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

***Florida** DEP/DOH CompQAP # 980156*

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

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

***Kansas** Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*State of **Washington**, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02*

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

*American Industrial Hygiene Association (**AIHA**) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04*
\word\certlist\condcert.lst revised 12/12/01

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 112435
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Dec. 17, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-1212-01-23	112435-1	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 2, 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): CM1221A.D Date Analyzed : 21 Dec 2001
Instrument ID : GC/MS Ins Time Analyzed : 9:59
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
124351R	062SVEEA1212012	109	104	97	0	0	0	0
MA256ABK	VBLKMA\ DAILY M	109	100	99	0	0	0	0
MA256LCS	VLCSMA\BATCH #2	105	101	99	0	0	0	0

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

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

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1221A\MA256LCS.D Vial: 16
Acq On : 21 Dec 2001 11:14 Operator: BDH
Sample : VLCSMA\BATCH #256 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK 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 : Wed Jan 02 13:21:52 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	224.93	250.00	89.97	58 to 138%	[ ]
27)	M	Benzene	267.95	250.00	107.18	87 to 116%	[ ]
28)	M	Trichloroethene	263.80	250.00	105.52	85 to 116%	[ ]
33)	MC	Toluene	270.07	250.00	108.03	86 to 113%	[ ]
39)	MP	Chlorobenzene	270.57	250.00	108.23	88 to 111%	[ ]

* = out of control limits
Wed Jan 02 13:56:26 2002

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	112435					
Batch	MAB256	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		267.95	0.5000	0.5359	107%	87-116%
Chlorobenzene		270.57	0.5000	0.5411	108%	88-111%
1,1-Dichloroethene		224.93	0.5000	0.4499	90%	58-138%
Toluene		270.07	0.5000	0.5401	108%	86-113%
Trichloroethene		263.8	0.5000	0.5276	106%	85-116%
1,2-Dichloroethane-d4		262.89	0.5000	0.5258	105%	61-140%
Toluene-d8		251.67	0.5000	0.5033	101%	90-109%
4-Bromofluorobenzene		248.22	0.5000	0.4964	99%	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.: C112435

Lab File ID: MA256ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 12/21/01 Time Analyzed: 10:36

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 #256 L	MA256LCS.D	11:14
02	SCEEA	062SVEEA12120123\124	124351R.D	13:39

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.: C112435

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: STL PN Case No.: N/A SAS No.: N/A SDG No.: C112435

Lab File ID: BFM1221A.D BFB Injection Date: 12/21/01

Instrument ID: MARILYN BFB Injection Time: 9:37

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	21.1
75	30.0 - 66.0% of mass 95	44.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	64.5
175	4.0 - 9.0% of mass 174	4.7 (7.3)1
176	93.0 - 101.0% of mass 174	64.1 (99.4)1
177	5.0 - 9.0% of mass 176	4.4 (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	VSTD0250MA	VSTD050\DAILY CALIB.	CM1221A.D	12/21/01	9:59
02	VBLKMA	VBLKMA\ DAILY METHO	MA256ABK.D	12/21/01	10:36
03	LCS AND 2ND	VLCSMA\BATCH #256 L	MA256LCS.D	12/21/01	11:14
04	SCEEA	062SVEEA12120123\124	124351R.D	12/21/01	13:39

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 ###

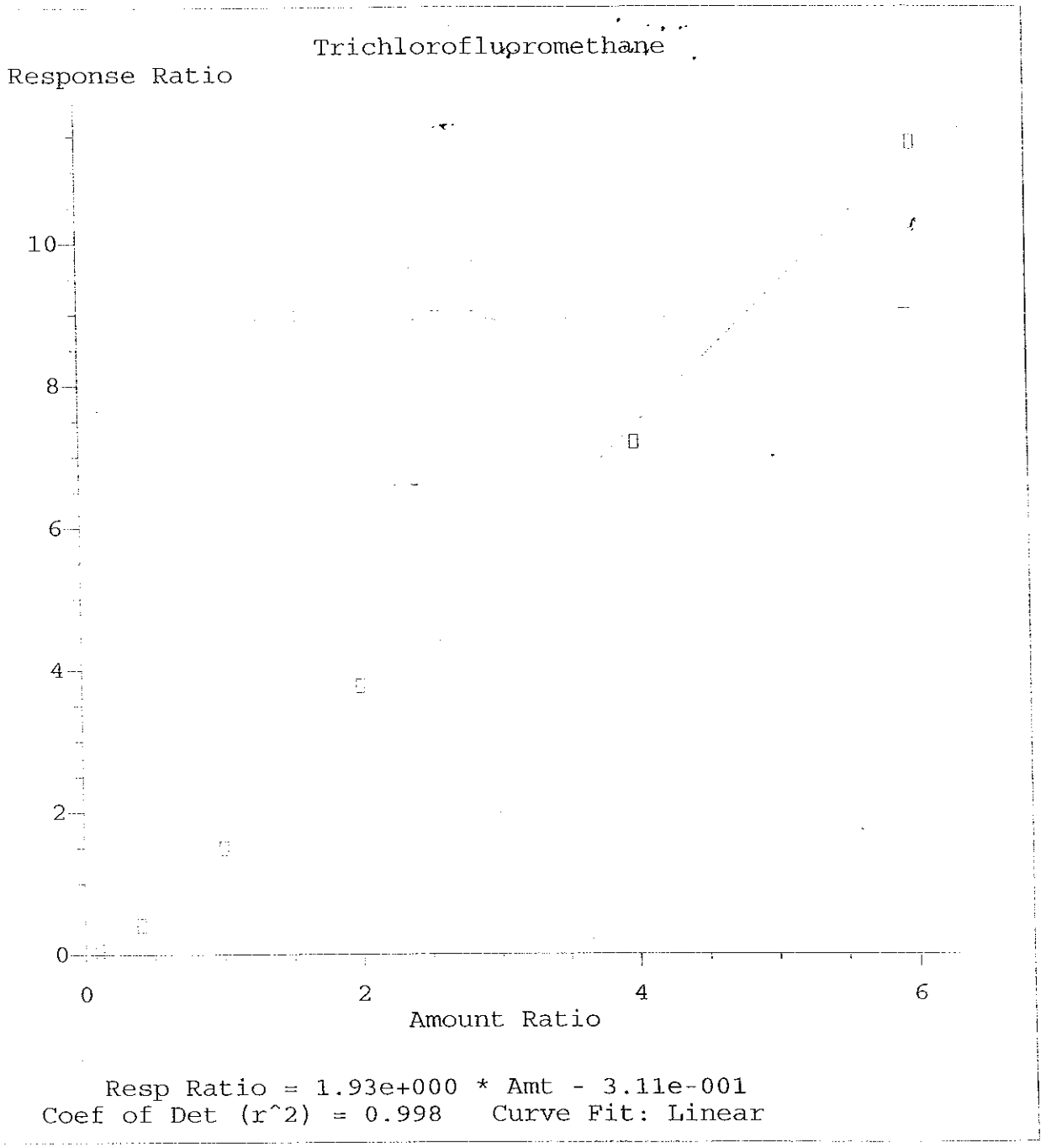
Response Factor Report GC/MS Ins

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

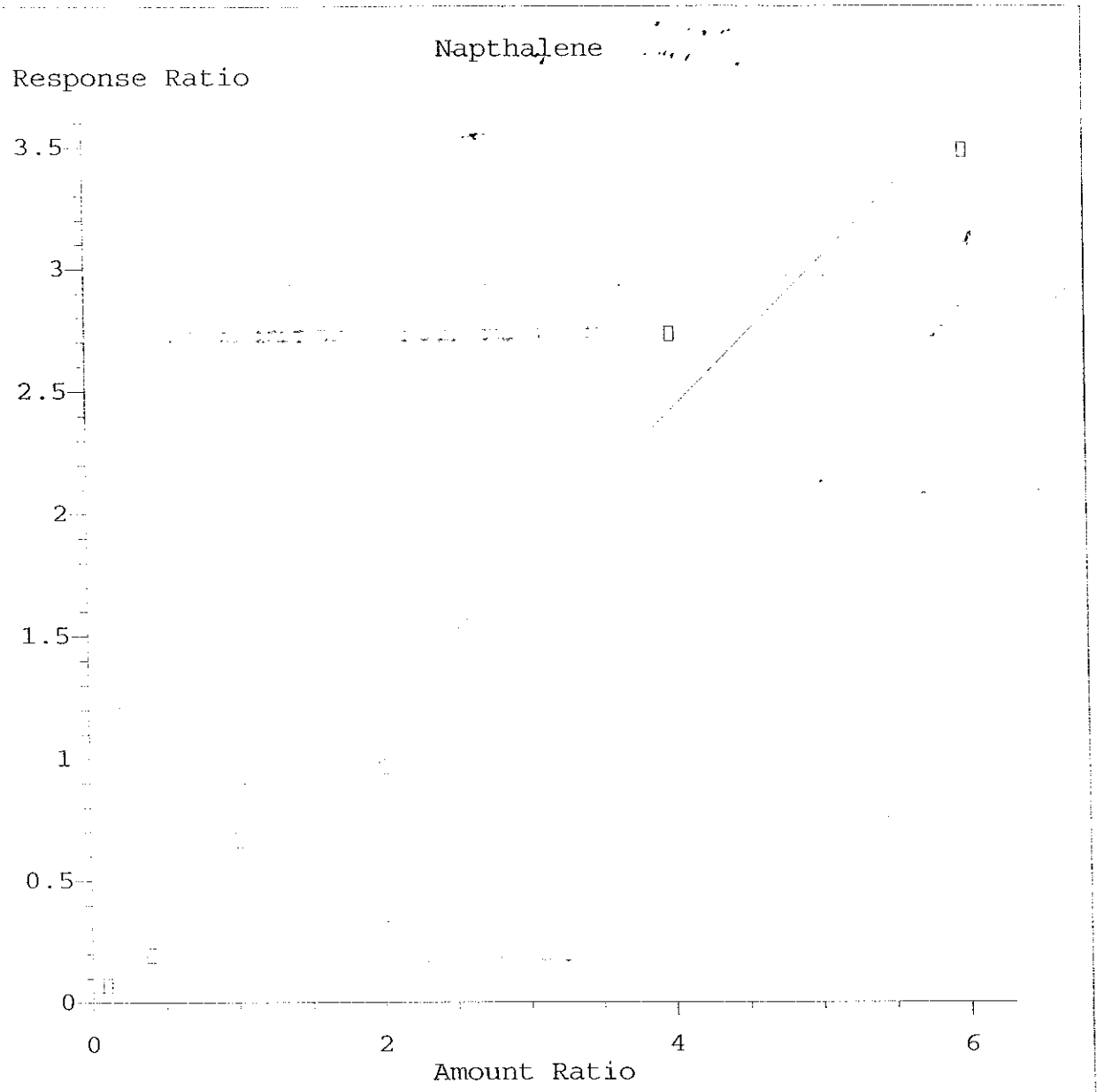
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		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



Resp Ratio = 6.05e-001 * Amt + 1.57e-003
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M
Calibration Table Last Updated: Wed Jan 02 13:16:02 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Intec
Title : TO14
Last Update : Wed Jan 02 13:21:52 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	98	0.00
2		Dichlorodifluoromethane	1.212	1.143	5.7#	101	0.00
3		Dichlorotetrafluoroethane	1.827	1.748	4.3#	92	0.00
4	P	Chloromethane	0.869	0.934	-7.5#	102	0.00
5	C	Vinyl chloride	0.833	0.968	-16.2#	106	0.00
6		Bromomethane	1.404	1.439	-2.5#	100	0.00
7		Chloroethane	0.562	0.612	-8.9#	101	0.00
8		Trichlorofluoromethane	1.456	1.415	2.8#	93	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.176	-5.0#	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.219	-8.5#	102	0.00
11		Iodomethane	0.000	0.000	0.0	188#	0.00
12		Methylene chloride	1.450	1.670	-15.2#	104	0.00
13		Carbon disulfide	3.024	3.420	-13.1#	106	0.00
14		methyl-Tert-Butyl Ether	1.340	1.504	-12.2#	101	0.00
15		trans-1,2-Dichloroethene	1.202	1.288	-7.2#	98	0.00
16		n-Hexane	1.152	1.144	0.7	93	0.00
17	P	1,1-Dichloroethane	1.981	2.148	-8.4#	100	0.00
18		cis-1,2-Dichloroethene	1.581	1.739	-10.0#	101	0.00
19	C	Chloroform	2.506	2.788	-11.3#	102	0.00
20		Isooctane	3.877	3.662	5.5#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.323	-10.9#	102	0.00
22		Carbon tetrachloride	2.252	2.503	-11.1#	102	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.103	-3.5#	99	0.00
24		1,2-Dichloroethane	1.186	1.302	-9.8#	96	0.00
25		1,2-Dibromoethane	1.854	1.985	-7.1#	91	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	101	0.00
27	M	Benzene	0.713	0.769	-7.9#	100	0.00
28	M	Trichloroethene	0.400	0.427	-6.7#	99	0.00
29	C	1,2-Dichloropropane	0.299	0.317	-6.0#	98	0.00
30		Bromodichloromethane	0.688	0.758	-10.2#	99	0.00
31		cis-1,3-Dichloropropene	0.434	0.466	-7.4#	97	0.00
32	S	Toluene-d8 SURR#2	0.774	0.775	-0.1	100	0.00
33	MC	Toluene	0.458	0.491	-7.2#	99	0.00
34		trans-1,3-Dichloropropene	0.335	0.365	-9.0#	96	0.00
35		1,1,2-Trichloroethane	0.278	0.293	-5.4#	91	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	100	0.00
37		Tetrachloroethene	0.489	0.513	-4.9#	98	0.00
38		Dibromochloromethane	0.639	0.673	-5.3#	93	0.00
39	MP	Chlorobenzene	0.880	0.947	-7.6#	99	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed Jan 02 13:21:52 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	0.375	-6.2#	98	0.00
41		m,p-Xylene	0.454	0.487	-7.3#	99	0.00
42		o-Xylene	0.442	0.473	-7.0#	98	0.00
43		Styrene	0.686	0.726	-5.8#	96	0.00
44	P	Bromoform	0.581	0.596	-2.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.548	-5.4#	88	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.878	0.6	97	0.00
47		1,4-Dichloro-2-butene	0.099	0.107	-8.1#	90	0.00
48		4-Ethyltoluene	1.181	1.161	1.7	95	0.00
49		1,3,5-Trimethylbenzene	0.909	0.978	-7.6#	105	0.00
50		2-Chlorotoluene	1.162	1.262	-8.6#	99	0.00
51		1,2,4-Trimethylbenzene	0.949	1.012	-6.6#	98	0.00
52		1,3-Dichlorobenzene	0.782	0.842	-7.7#	98	0.00
53		1,4-Dichlorobenzene	0.824	0.869	-5.5#	96	0.00
54		1,2-Dichlorobenzene	0.715	0.758	-6.0#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.560	-11.6#	103	0.00
56		Napthalene	0.601	0.687	-14.3#	103	0.00
57		Hexachlorobutadiene	0.433	0.459	-6.0#	99	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed Jan 02 13:21:52 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	98	0:00
2		Dichlorodifluoromethane	250.000	235.842	5.7#	101	0.00
3		Dichlorotetrafluoroethane	250.000	239.231	4.3#	92	0.00
4	P	Chloromethane	250.000	268.557	-7.4#	102	0.00
5	C	Vinyl chloride	250.000	290.357	-16.1#	106	0.00
6		Bromomethane	250.000	256.166	-2.5#	100	0.00
7		Chloroethane	250.000	272.099	-8.8#	101	0.00
8		Trichlorofluoromethane	250.000	219.473	12.2#	93	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	262.446	-5.0#	99	0.00
10	MC	1,1-Dichloroethene	250.000	271.327	-8.5#	102	0.00
11		Iodomethane	-1.000	0.000	0.0	188	0.00
12		Methylene chloride	250.000	287.760	-15.1#	104	0.00
13		Carbon disulfide	250.000	282.708	-13.1#	106	0.00
14		methyl-Tert-Butyl Ether	250.000	280.661	-12.3#	101	0.00
15		trans-1,2-Dichloroethene	250.000	267.951	-7.2#	98	0.00
16		n-Hexane	250.000	248.340	0.7	93	0.00
17	P	1,1-Dichloroethane	250.000	271.058	-8.4#	100	0.00
18		cis-1,2-Dichloroethene	250.000	275.006	-10.0#	101	0.00
19	C	Chloroform	250.000	278.192	-11.3#	102	0.00
20		Isooctane	250.000	236.118	5.6#	92	0.00
21		1,1,1-Trichloroethane	250.000	277.181	-10.9#	102	0.00
22		Carbon tetrachloride	250.000	277.877	-11.2#	102	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	258.785	-3.5#	99	0.00
24		1,2-Dichloroethane	250.000	274.406	-9.8#	96	0.00
25		1,2-Dibromoethane	250.000	267.597	-7.0#	91	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	101	0.00
27	M	Benzene	250.000	269.602	-7.8#	100	0.00
28	M	Trichloroethene	250.000	266.618	-6.6#	99	0.00
29	C	1,2-Dichloropropane	250.000	264.900	-6.0#	98	0.00
30		Bromodichloromethane	250.000	275.441	-10.2#	99	0.00
31		cis-1,3-Dichloropropene	250.000	268.387	-7.4#	97	0.00
32	S	Toluene-d8 SURR#2	250.000	250.307	-0.1	100	0.00
33	MC	Toluene	250.000	268.275	-7.3#	99	0.00
34		trans-1,3-Dichloropropene	250.000	272.723	-9.1#	96	0.00
35		1,1,2-Trichloroethane	250.000	263.296	-5.3#	91	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	100	0.00
37		Tetrachloroethene	250.000	262.434	-5.0#	98	0.00
38		Dibromochloromethane	250.000	263.256	-5.3#	93	0.00
39	MP	Chlorobenzene	250.000	269.174	-7.7#	99	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV112201 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed Jan 02 13:21:52 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	265.569	-6.2#	98	0.00
41		m,p-Xylene	500.000	535.851	-7.2#	99	0.00
42		o-Xylene	250.000	267.987	-7.2#	98	0.00
43		Styrene	250.000	264.328	-5.7#	96	0.00
44	P	Bromoform	250.000	256.385	-2.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	263.561	-5.4#	88	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	248.649	0.5	97	0.00
47		1,4-Dichloro-2-butene	250.000	270.211	-8.1#	90	0.00
48		4-Ethyltoluene	250.000	245.665	1.7	95	0.00
49		1,3,5-Trimethylbenzene	250.000	268.883	-7.6#	105	0.00
50		2-Chlorotoluene	250.000	271.416	-8.6#	99	0.00
51		1,2,4-Trimethylbenzene	250.000	266.698	-6.7#	98	0.00
52		1,3-Dichlorobenzene	250.000	268.992	-7.6#	98	0.00
53		1,4-Dichlorobenzene	250.000	263.403	-5.4#	96	0.00
54		1,2-Dichlorobenzene	250.000	264.951	-6.0#	96	0.00
55		1,2,4-Trichlorobenzene	250.000	278.920	-11.6#	103	0.00
56		Napthalene	250.000	288.592	-15.4#	103	0.00
57		Hexachlorobutadiene	250.000	265.110	-6.0#	99	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.: C112435

Lab File ID (Standard): CM1221A.D Date Analyzed: 12/21/01

Instrument ID: MARILYN Time Analyzed: 9:59

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	732582	11.35	2997183	13.29	2303941	20.61
	UPPER LIMIT	1465164	11.85	5994366	13.79	4607882	21.11
	LOWER LIMIT	366291	10.85	1498592	12.79	1151971	20.11
	EPA SAMPLE NO.						
01	VBLKMA	713440	11.38	2883980	13.30	2204362	20.61
02	LCS AND 2ND	740491	11.38	2922935	13.30	2257938	20.60
03	SCEEA	942803	11.36	3709096	13.29	2901111	20.57

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

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

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	BFM11220	50ppb			W	933	BOH	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				250ng
16:03	1		CMA0500	100ppb		Y N				500ng
16:36	2	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
16:58	3	TO14.m	CMA1000	200ppb		Y N	W			1000ng ICAL
17:31	4	BFBSTL	BLKTUBE	—		Y N	—			MPM Carry over cleanup
17:53	5	TO14.m	CMA1500	300ppb		Y N	W			300ng 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
20:07	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				BH 11/22/01
:						Y N				

[illegible] name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis

QC REPORTING SHEET AIR TO14 / Marilyn 8260 (QUICK QC)

BATCH: MAB 235

ANALYSIS DATE	11-22-01			
ANALYSIS TIME	13:34			
BLANK ID				
----------mg/m3----------				
Acetone <0.03	NR			
Mek <0.03	<RL			
Hexachlorobutadiene <0.03				
Mecl2 <0.07				
Naphthalene <0.03				
Toluene <0.03				
1,2,3-Trichlorobenzene <0.03				
1,2,4-Trichlorobenzene <0.03				
B, E, T, Xylenes				
MTBE				
SURR---------- TO14 / 8260	--------	--------	--------	--------
1,2-Dichloroethane-d4 (61-140) / (--------)	107			
DBFM (--------) / (69-130)	—			
Toluene-d8 (90-109) / (86-116)	100			
Bromofluorobenzene (87-112) / (83-126)	100			

ALL OTHER COMPOUNDS OF INTEREST <0.03 mg/m3 * PROBABLE LAB CONTAMINATION

LCS (A / B) Analysis date 11-22-01 Time 18:48 Analysis date _____ Time _____

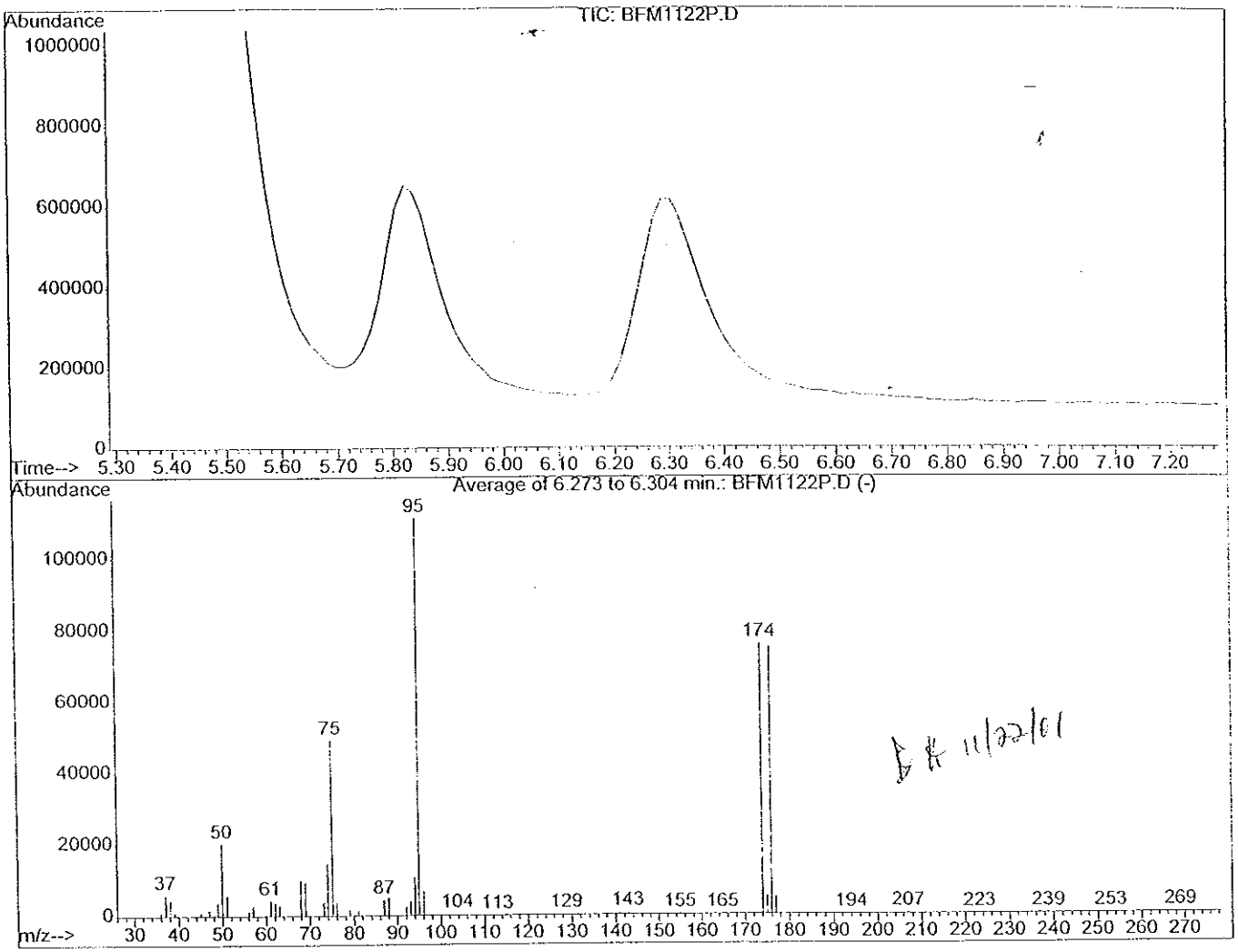
Compound	Spike Amt	LCS A Conc.	Rec.	T / 6 Qc limits	LCS B Conc.	Rec.
1,1-Dichloroethene	250	243	97	58-138 / 82-113		
Benzene	250	260	104	87-116 / 83-110		
Trichloroethene	250	266	106	85-116 / 77-116		
Toluene	250	264	106	86-113 / 82-117		
Chlorobenzene	250	271	108	88-111 / 79-122		

Surrogates	LCS A	T / 6 Rec. limits	LCS B
1,2-Dichloroethane-d4	94	61-140 / --------	
DBFM	—	-------- / 69-130	
Toluene-d8	99	90-109 / 86-116	
Bromofluorobenzene	96	87-112 / 83-126	

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 I1
Multiplr: 1.00



11/22/01

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

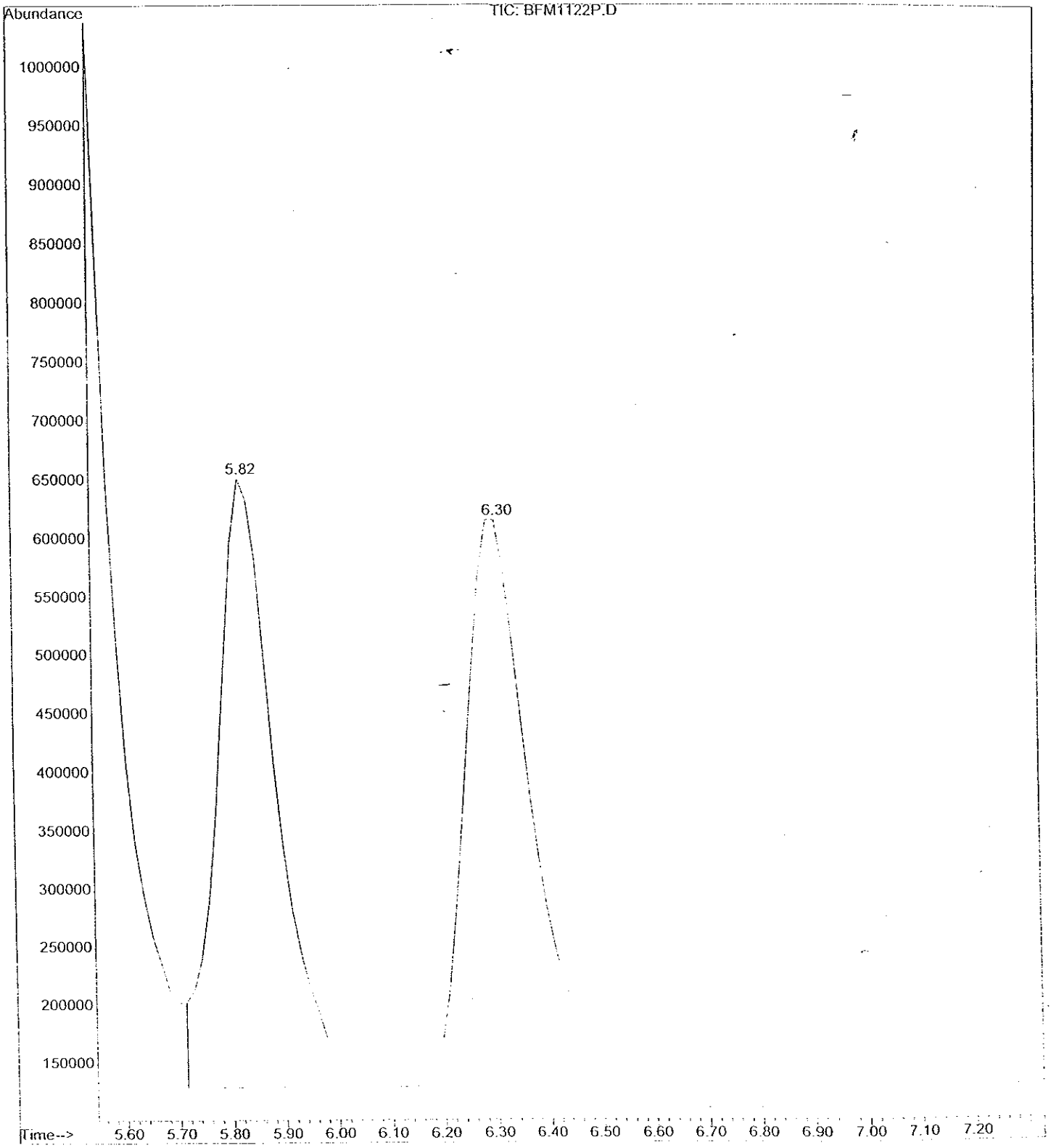
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.822	12	19	39	rVB	522210	4035610	83.44%	45.487%
2	6.304	40	50	82	rVB	504971	4836456	100.00%	54.513%

Sum of corrected areas: 8872066

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

Area Percent Report

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 MultiplIr: 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\MA235ABK.D Vial: 15
Acq On : 22 Nov 2001 13:34 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	773270	250.00	ng	-0.03 103.47%
26) 1,4-Difluorobenzene IS#2	13.34	114	3113676	250.00	ng	-0.03 104.90%
36) Chlorobenzene-d5 IS#3	20.66	117	2356238	250.00	ng	-0.01 102.31%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	880393	267.04	ng	-0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 106.82%			
32) Toluene-d8 SURR#2	16.89	98	2408443	249.84	ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.94%			
46) 4-Bromofluorobenzene SURR#	23.80	95	2077690	249.59	ng	-0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.84%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA235ABK.D TO14S.M Thu Nov 22 21:19:55 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235ABK.D Vial: 15
Acq On : 22 Nov 2001 13:34 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

original after curve generation

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.39	128	773270	250.00	ng	-0.03 103.47%
26) 1,4-Difluorobenzene IS#2	13.34	114	3113676	250.00	ng	-0.03 104.90%
36) Chlorobenzene-d5 IS#3	20.66	117	2356238	250.00	ng	-0.01 102.31%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	880393	267.04	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 106.82%						
32) Toluene-d8 SURR#2	16.89	98	2408443	249.84	ng	-0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.94%						
46) 4-Bromofluorobenzene SURR#	23.80	95	2077690	249.59	ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.84%						

Target Compounds

						Qvalue
4) Chloromethane	4.49	50	2894	1.08	ng	# 46
6) Bromomethane	5.31	94	2040	0.47	ng	# 9
24) 1,2-Dichloroethane	12.71	62	1156	0.32	ng	# 49
27) Benzene	12.81	78	3172	0.36	ng	# 54
39) Chlorobenzene	20.74	112	2047	0.25	ng	# 1
41) m,p-Xylene	21.05	106	3699	0.86	ng	# 1
42) o-Xylene	22.08	106	119826	28.79	ng NSF	# 1
43) Styrene	22.26	104	2029	0.31	ng	# 1
47) 1,4-Dichloro-2-butene	22.85	75	53501	57.47	ng NSF	# 9
48) 4-Ethyltoluene	24.47	105	10755	0.97	ng	# 46
49) 1,3,5-Trimethylbenzene	24.54	105	6724	0.78	ng	# 30
50) 2-Chlorotoluene	24.65	91	8547	0.78	ng	# 47
51) 1,2,4-Trimethylbenzene	25.49	105	6760	0.76	ng	# 31
52) 1,3-Dichlorobenzene	26.42	146	8148	1.10	ng	# 62
53) 1,4-Dichlorobenzene	26.64	146	11753	1.51	ng	# 73
54) 1,2-Dichlorobenzene	27.39	146	8021	1.19	ng	# 67
55) 1,2,4-Trichlorobenzene	30.58	180	19649	4.15	ng	# 89
56) Napthalene	31.11	128	35244	12.10	ng	# 68
57) Hexachlorobutadiene	30.80	225	9329	2.28	ng	# 58

(#) = qualifier out of range (m) = manual integration
MA235ABK.D TO14S.M Thu Nov 22 21:16:52 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235ABK.D Vial: 15
Acq On : 22 Nov 2001 13:34 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:27 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 N-cale post-curve generation
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	11.39	128	773270	250.00	ng	-0.06 354.04%
26) 1,4-Difluorobenzene IS#2	13.34	114	3113676	250.00	ng	-0.06 328.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2356238	250.00	ng	-0.05 328.32%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.53	65	880393	153.23	ng	-0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 61.29%			
32) Toluene-d8 SURR#2	16.89	98	2408443	233.84	ng	-0.06
Spiked Amount 250.000	Range 90 - 109		Recovery = 93.54%			
46) 4-Bromofluorobenzene SURR#	23.80	95	2077690	226.05	ng	-0.08
Spiked Amount 250.000	Range 87 - 112		Recovery = 90.42%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA235ABK.D TO14S.M Thu Nov 22 14:27:29 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235ABK.D Vial: 15
Acq On : 22 Nov 2001 13:34 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:06 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	11.39	128	773270	250.00	ng	-0.06 354.04%
26) 1,4-Difluorobenzene IS#2	13.34	114	3113676	250.00	ng	-0.06 328.52%
36) Chlorobenzene-d5 IS#3	20.66	117	2356238	250.00	ng	-0.05 328.32%

System Monitoring Compounds

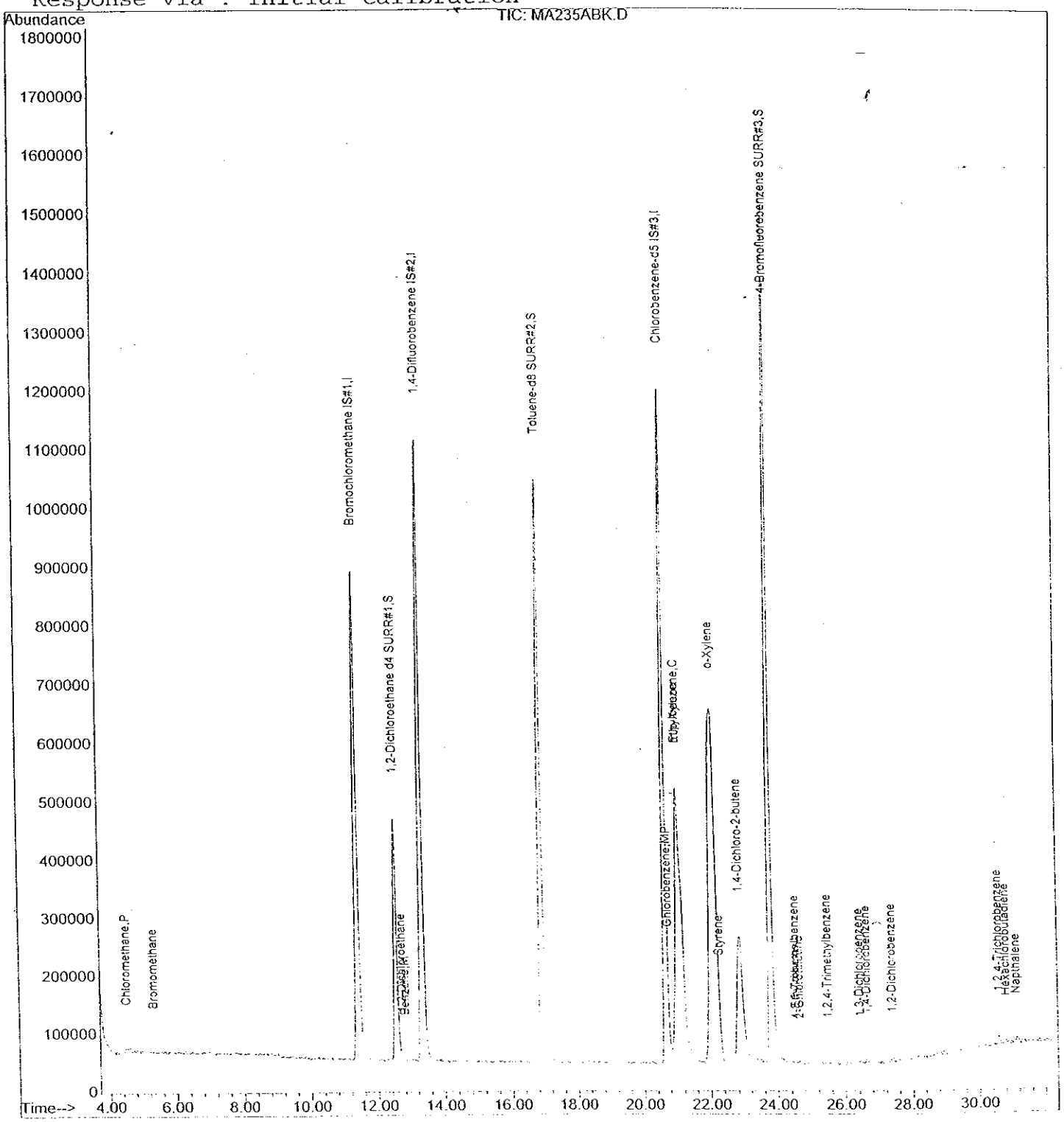
23) 1,2-Dichloroethane d4 SURR	12.53	65	880393	153.23	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.29%						
32) Toluene-d8 SURR#2	16.89	98	2408443	233.84	ng	-0.06
Spiked Amount 250.000 Range 90 - 109 Recovery = 93.54%						
46) 4-Bromofluorobenzene SURR#	23.80	95	2077690	226.05	ng	-0.08
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.42%						

Target Compounds						Qvalue	
4) Chloromethane	4.49	50	2894	0.74	ng	#	46
6) Bromomethane	5.31	94	2040	0.43	ng	#	9
24) 1,2-Dichloroethane	12.71	62	1156	0.18	ng	#	49
27) Benzene	12.81	78	3172	0.32	ng	#	54
39) Chlorobenzene	20.74	112	2047	0.24	ng	#	1
40) Ethylbenzene	21.05	106	3699	1.07	ng	#	1
41) m,p-Xylene	21.05	106	3699	0.82	ng	#	1
42) o-Xylene	22.08	106	119826	27.89	ng NSF	#	1
43) Styrene	22.26	104	2029	0.30	ng	#	1
47) 1,4-Dichloro-2-butene	22.85	75	45305	40.18	ng NSF	#	9
48) 4-Ethyltoluene	24.54	105	6724	0.56	ng	#	46
49) 1,3,5-Trimethylbenzene	24.54	105	6724	0.69	ng	#	30
50) 2-Chlorotoluene	24.65	91	8547	0.65	ng	#	47
51) 1,2,4-Trimethylbenzene	25.49	105	6760	0.66	ng	#	31
52) 1,3-Dichlorobenzene	26.42	146	8148	1.11	ng	#	62
53) 1,4-Dichlorobenzene	26.64	146	11753	1.52	ng	#	73
54) 1,2-Dichlorobenzene	27.39	146	8021	1.17	ng	#	67
55) 1,2,4-Trichlorobenzene	30.58	180	19649	4.08	ng	#	89
56) Napthalene	31.11	128	35244	5.01	ng	#	68
57) Hexachlorobutadiene	30.80	225	9329	2.27	ng	#	58

(#) = qualifier out of range (m) = manual integration
MA235ABK.D TO14S.M Thu Nov 22 14:06:29 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235ABK.D Vial: 15
Acq On : 22 Nov 2001 13:34 Operator: BDH
Sample : DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 14:06 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\MA235LCS.D Vial: 7
Acq On : 22 Nov 2001 18:48 Operator: BDH
Sample : BATCH #235 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:16 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CMA0250.D (22 Nov 2001 15:25)

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	615913	250.00	ng	0.03 82.42%
26) 1,4-Difluorobenzene IS#2	13.38	114	2548480	250.00	ng	0.02 85.86%
36) Chlorobenzene-d5 IS#3	20.71	117	1933982	250.00	ng	0.03 83.98%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	620180	236.17	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 94.47%						
32) Toluene-d8 SURR#2	16.94	98	1957200	248.06	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%						
46) 4-Bromofluorobenzene SURR#	23.86	95	1646171	240.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.37%						

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.20	96	672266	242.97	ng	86
27) Benzene	12.87	78	1892106	260.36	ng	97
28) Trichloroethene	14.17	130	1087263	266.46	ng	93
33) Toluene	17.12	92	1232523	264.27	ng	98
39) Chlorobenzene	20.80	112	1843835	270.92	ng #	85

(#) = qualifier out of range (m) = manual integration
MA235LCS.D TO14S.M Thu Nov 22 21:16:12 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235LCS.D Vial: 7
Acq On : 22 Nov 2001 18:48 Operator: BDH
Sample : BATCH #235 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:11 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 21:05:36 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	11.46	128	615913	250.00	ng	0.03 82.42%
26) 1,4-Difluorobenzene IS#2	13.38	114	2548480	250.00	ng	0.02 85.86%
36) Chlorobenzene-d5 IS#3	20.71	117	1933982	250.00	ng	0.03 83.98%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	620180	236.17	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 94.47%						
32) Toluene-d8 SURR#2	16.94	98	1957200	248.06	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%						
46) 4-Bromofluorobenzene SURR#	23.86	95	1646171	240.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.37%						

Target Compounds						Qvalue
6) Bromomethane	5.40	94	3121	0.90	ng	# 9
10) 1,1-Dichloroethene	7.20	96	672266	242.97	ng	86
24) 1,2-Dichloroethane	12.82	62	14705	5.03	ng	# 49
27) Benzene	12.87	78	1892106	260.36	ng	97
28) Trichloroethene	14.17	130	1087263	266.46	ng	93
33) Toluene	17.12	92	1232523	264.27	ng	98
34) trans-1,3-Dichloropropene	17.12	75	9277	2.72	ng	# 1
39) Chlorobenzene	20.80	112	1843835	270.92	ng	# 85
48) 4-Ethyltoluene	24.51	105	952	0.10	ng	# 46
49) 1,3,5-Trimethylbenzene	24.51	105	952	0.14	ng	# 30
51) 1,2,4-Trimethylbenzene	25.57	105	1003	0.14	ng	# 31
52) 1,3-Dichlorobenzene	26.50	146	3526	0.58	ng	# 42
53) 1,4-Dichlorobenzene	26.72	146	4122	0.65	ng	# 57
54) 1,2-Dichlorobenzene	27.48	146	4608	0.83	ng	# 38
55) 1,2,4-Trichlorobenzene	30.69	180	22795	5.87	ng	# 84
56) Napthalene	31.23	128	47712	16.10	ng	# 72
57) Hexachlorobutadiene	30.92	225	12552	3.75	ng	# 82

(#) = qualifier out of range (m) = manual integration
MA235LCS.D TO14S.M Thu Nov 22 21:11:21 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235LCS.D Vial: 7
Acq On : 22 Nov 2001 18:48 Operator: BDH
Sample : BATCH #235 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 19:20 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 u-calc. post curve gener

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	615913	250.00	ng	0.00 281.99%
26) 1,4-Difluorobenzene IS#2	13.38	114	2548480	250.00	ng	-0.02 268.88%
36) Chlorobenzene-d5 IS#3	20.71	117	1933982	250.00	ng	0.00 269.48%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	620180	135.52	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 54.21%#						
32) Toluene-d8 SURR#2	16.94	98	1957200	232.18	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.87%						
46) 4-Bromofluorobenzene SURR#	23.86	95	1649477	218.65	ng	-0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 87.46%						

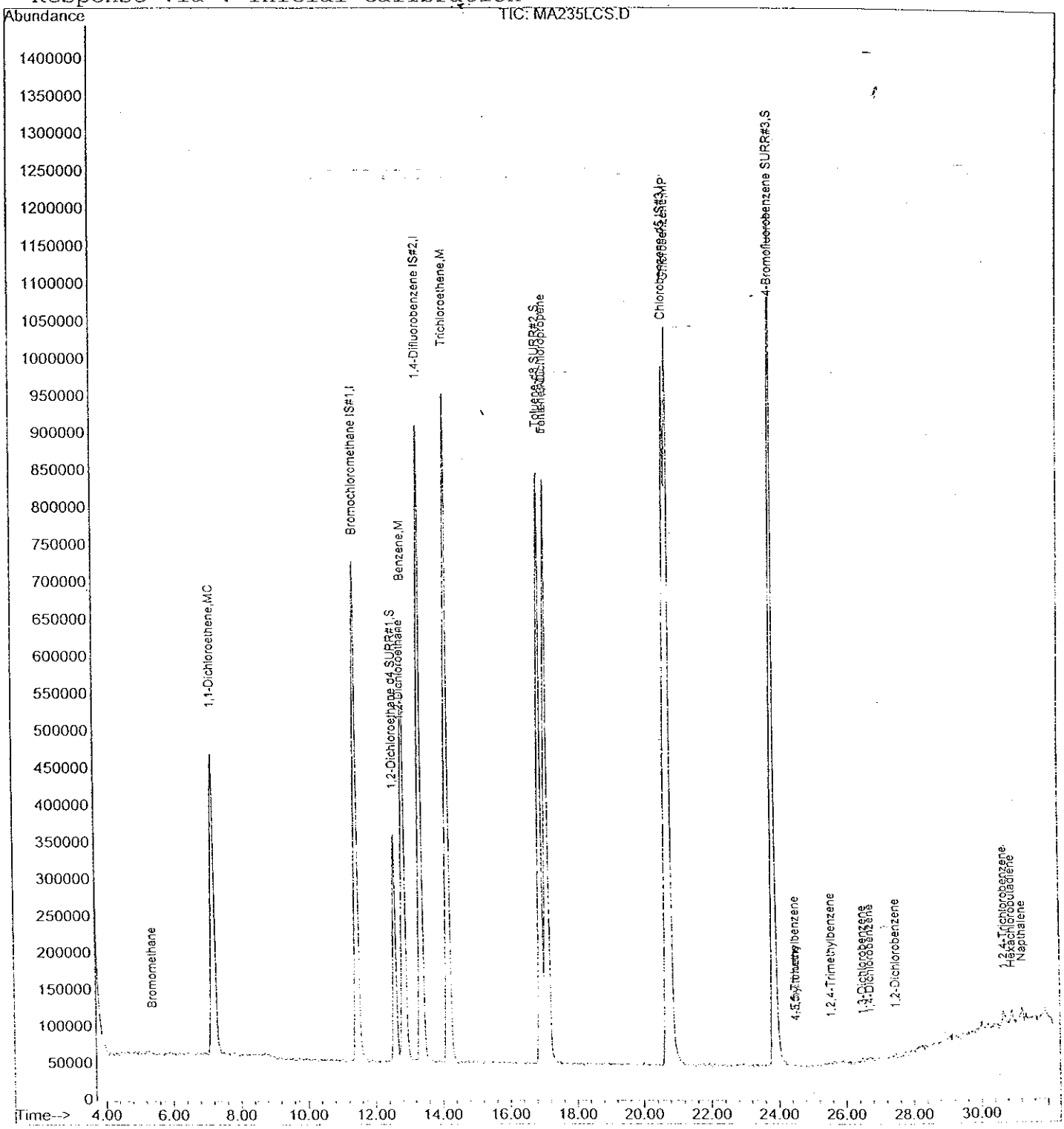
Target Compounds

						Qvalue
6) Bromomethane	5.40	94	3121	0.82	ng	# 9
10) 1,1-Dichloroethene	7.20	96	672266	237.37	ng	86
24) 1,2-Dichloroethane	12.82	62	14705	2.84	ng	# 49
27) Benzene	12.87	78	1892106	231.92	ng	97
28) Trichloroethene	14.17	130	1087263	274.94	ng	93
33) Toluene	17.12	92	1232523	247.89	ng	98
34) trans-1,3-Dichloropropene	17.12	75	9277	2.01	ng	# 1
39) Chlorobenzene	20.80	112	1843861	262.64	ng	# 85
48) 4-Ethyltoluene	24.51	105	952	0.10	ng	# 46
49) 1,3,5-Trimethylbenzene	24.51	105	952	0.12	ng	# 30
51) 1,2,4-Trimethylbenzene	25.57	105	1003	0.12	ng	# 31
52) 1,3-Dichlorobenzene	26.50	146	3526	0.58	ng	# 42
53) 1,4-Dichlorobenzene	26.72	146	4122	0.65	ng	# 57
54) 1,2-Dichlorobenzene	27.48	146	4608	0.82	ng	# 38
55) 1,2,4-Trichlorobenzene	30.69	180	22795	5.77	ng	# 84
56) Napthalene	31.23	128	47712	8.26	ng	# 72
57) Hexachlorobutadiene	30.92	225	12552	3.72	ng	# 82

(#) = qualifier out of range (m) = manual integration
MA235LCS.D TO14S.M Thu Nov 22 19:20:37 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\MA235LCS.D Vial: 7
Acq On : 22 Nov 2001 18:48 Operator: BDH
Sample : BATCH #235 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK (2nd SOURCE ALSO) Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 19:20 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



MA235LCS.D TO14S.M Thu Nov 22 19:20:38 2001 Page 2

CECIL FIELD CTO-0062

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

passes B th 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
Acq On : 22 Nov 2001 15:25
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Nov 23 07:45:03 2001
Response via : Multiple Level Calibration

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

Response Factor Report GC/MS TMS

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

11/24/01

		Compound	25	250	1500	1000	100	500	Avg	%RS
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=0.99	
								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

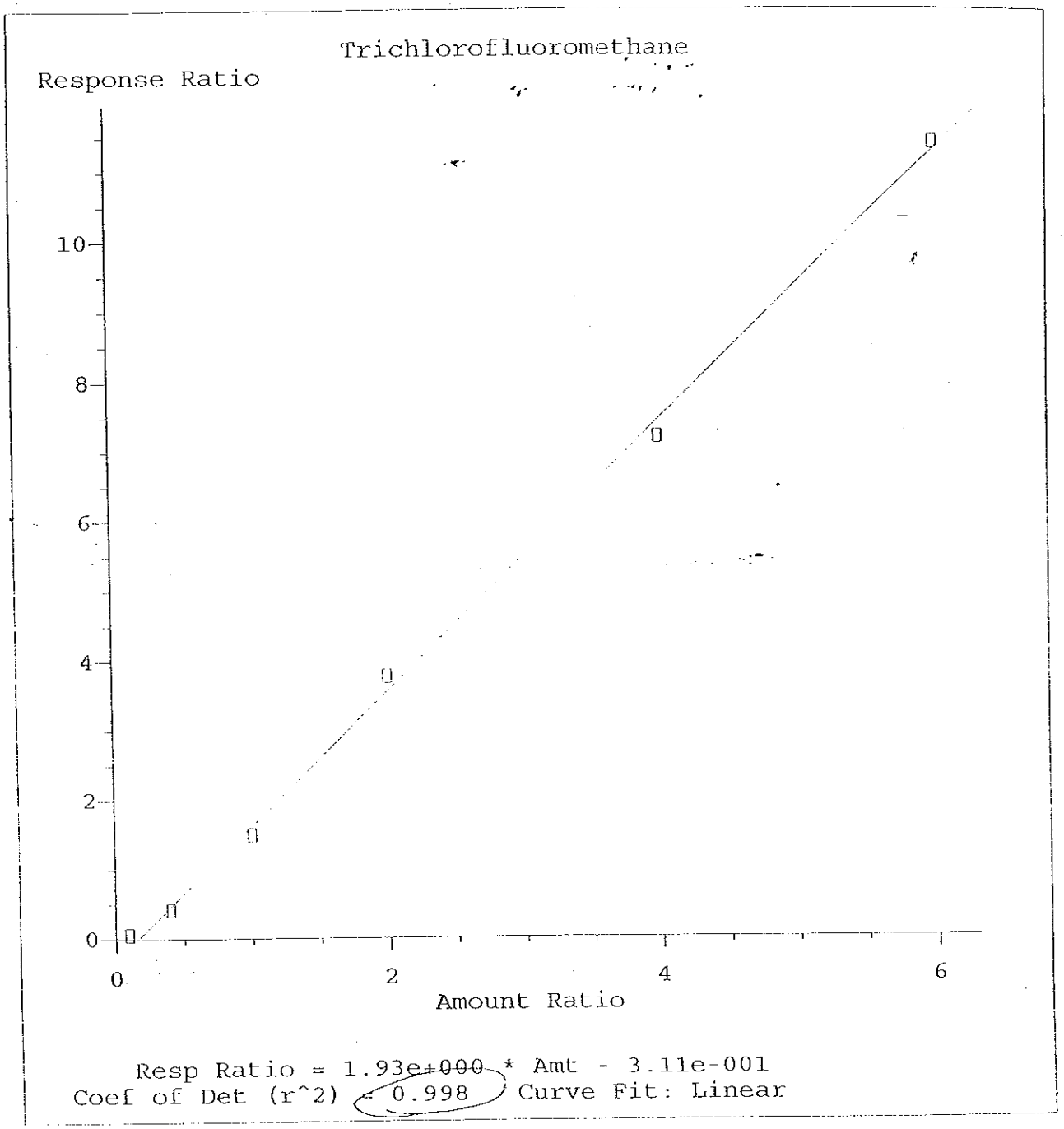
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : D:\HPCHEM\1\METHODS\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

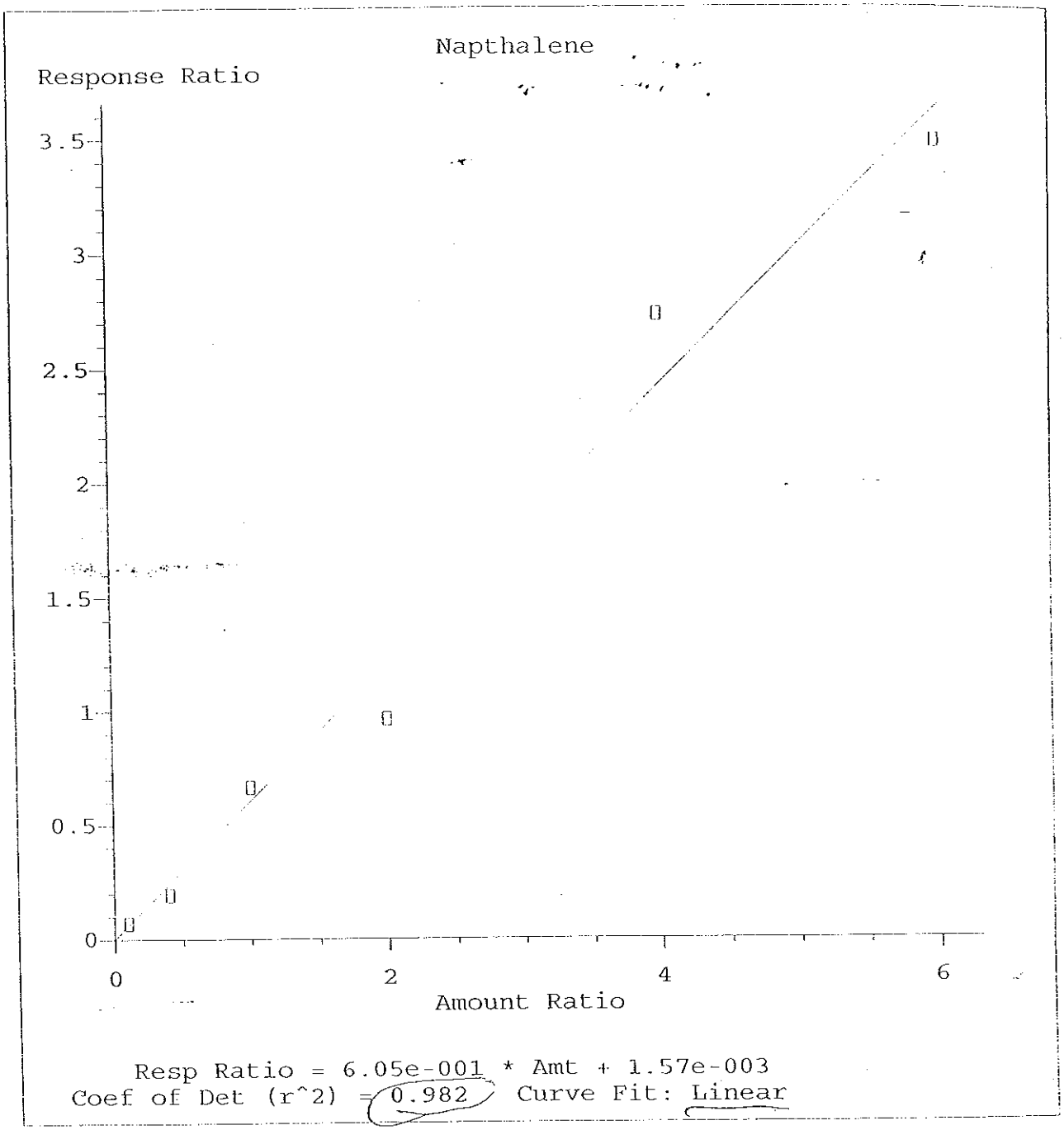
		Compound	25	250	1500	1000	100	500	Avg	%RS
40)	C	Ethylbenzene	0.325	0.382	0.374	0.368	0.295	0.376	0.353	9.87
41)		m,p-Xylene	0.408	0.491	0.471	0.478	0.392	0.486	0.454	9.48
42)		o-Xylene	0.388	0.481	0.466	0.473	0.368	0.474	0.442	11.36
43)		Styrene	0.591	0.752	0.739	0.743	0.566	0.727	0.686	12.28
44)	P	Bromoform	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

BH 11-22-01



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Nov 22 21:04:25 2001

BH 11/22/01

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
CMA0025.D TO14S.M Thu Nov 22 14:43:44 2001

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

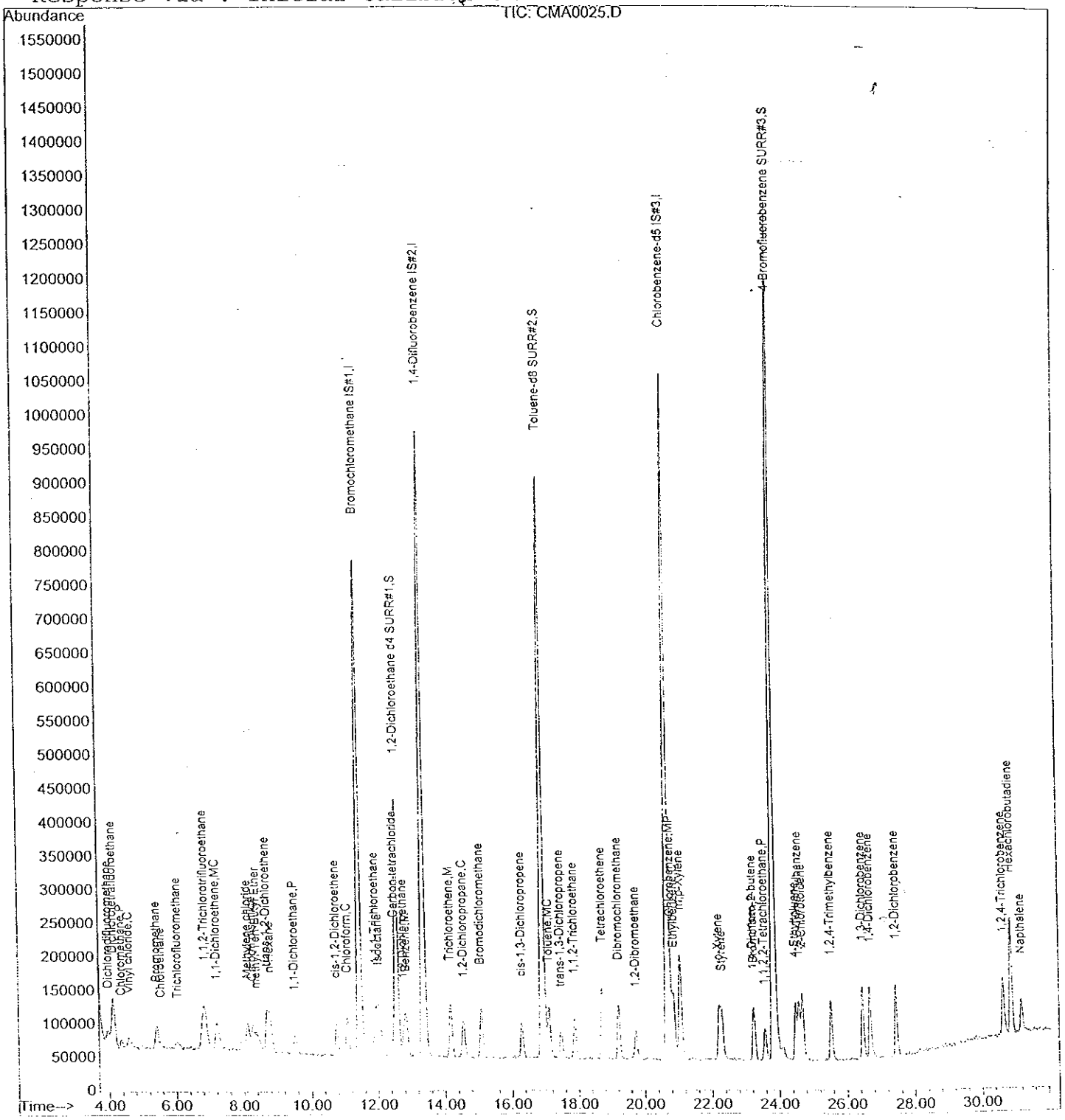
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

Data File : D:\HPCHEM\1\DATA01\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 11/22/01

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 Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 2001 Quant Results File: TO14S.RES

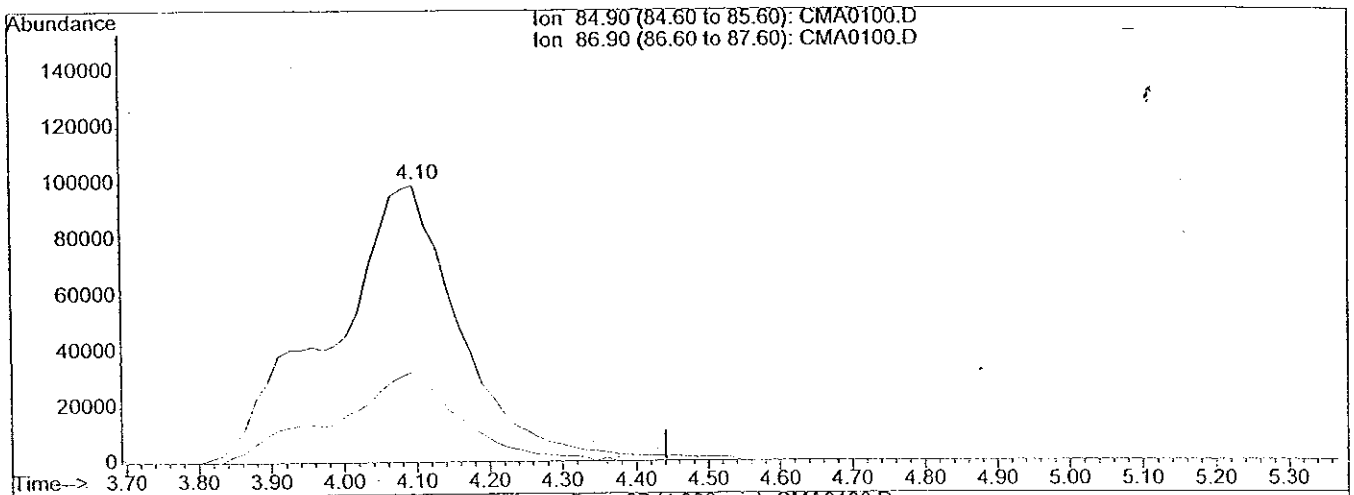
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

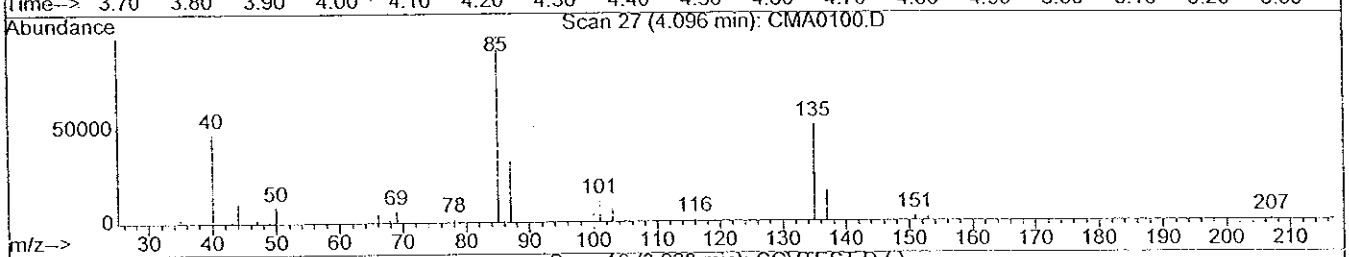
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.16	130	408278	89.01 ng		95
29)	1,2-Dichloropropane	14.53	63	312287	73.51 ng		99
30)	Bromodichloromethane	15.07	83	723015	65.75 ng		99
31)	cis-1,3-Dichloropropene	16.28	75	440556	69.78 ng		98
33)	Toluene	17.11	92	471365	81.74 ng		99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

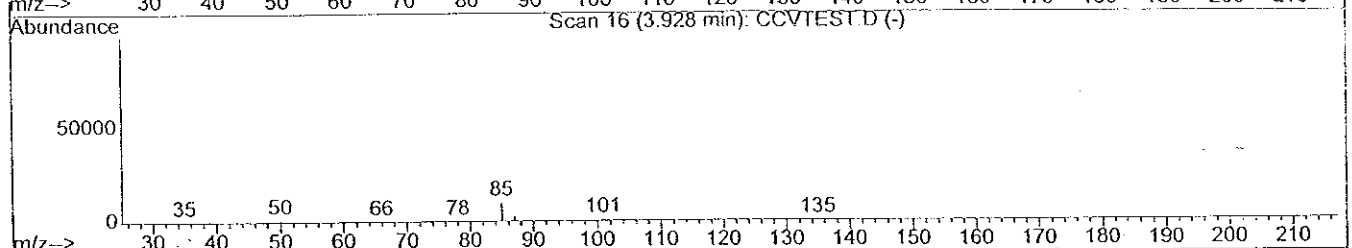
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D 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.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

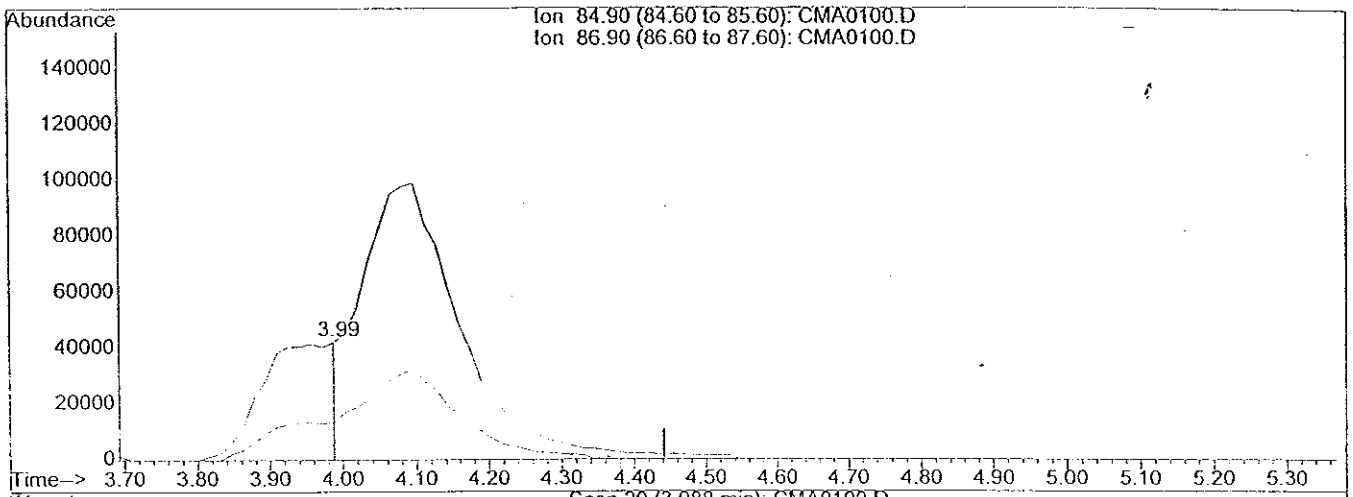
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

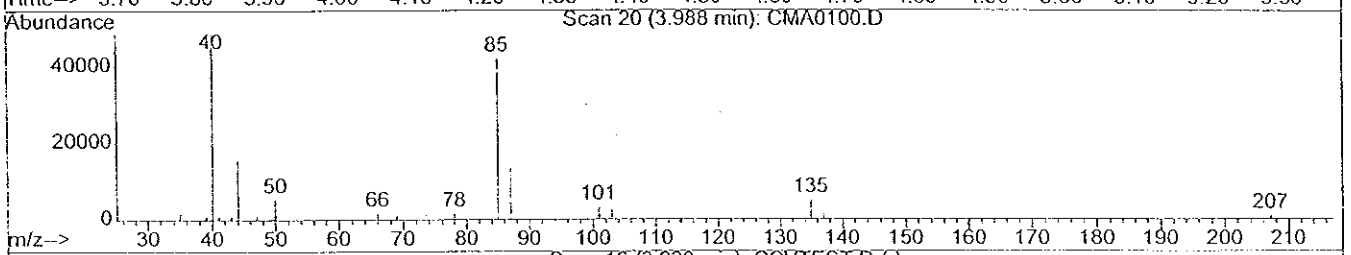
before (mis-integrated coelution)

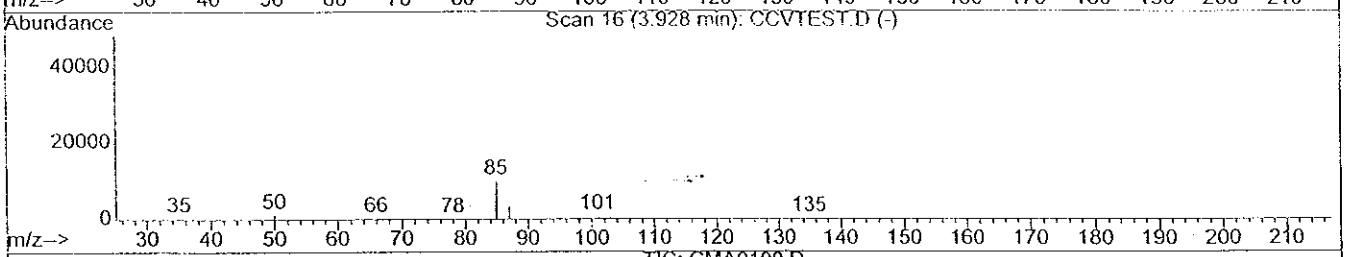
CMA0100.D TO14S.M Thu Nov 22 20:44:13 2001

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 Ir
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 20:44 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

3.99min 47.28ng m

response 296446

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

after
11-22-01

CMA0100.D TO14S.M Thu Nov 22 20:44:27 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0100.D Vial: 15
Acq On : 22 Nov 2001 14:48 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 15:20 2001 Quant Results File: TO14S.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	753514	250.00	ng	-0.03 344.99%
26) 1,4-Difluorobenzene IS#2	13.37	114	2955832	250.00	ng	-0.03 311.86%
36) Chlorobenzene-d5 IS#3	20.68	117	2282611	250.00	ng	-0.03 318.06%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.56	65	856387	152.96	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 61.18%						
32) Toluene-d8 SURR#2	16.90	98	2316916	236.97	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 94.79%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2030616	228.06	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.22%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.10	85	1218746	194.40	ng	97
3) Dichlorotetrafluoroethane	4.10	135	441785	72.38	ng	# 26
4) Chloromethane	4.34	50	234313	61.77	ng	# 95
5) Vinyl chloride	4.58	62	216303	63.39	ng	96
6) Bromomethane	5.40	94	354015	75.93	ng	# 93
7) Chloroethane	5.51	64	139656	69.94	ng	99
8) Trichlorofluoromethane	6.02	101	315067	45.35	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.80	151	509596	87.07	ng	82
10) 1,1-Dichloroethene	7.20	96	278552	80.39	ng	87
12) Methylene chloride	8.09	49	356949	53.74	ng	97
13) Carbon disulfide	8.27	76	759303	68.61	ng	97
14) methyl-Tert-Butyl Ether	8.38	73	332641	59.76	ng	97
15) trans-1,2-Dichloroethene	8.68	96	307896	79.25	ng	92
16) n-Hexane	8.75	57	281184	62.93	ng	# 1
17) 1,1-Dichloroethane	9.51	63	504895	62.92	ng	99
18) cis-1,2-Dichloroethene	10.74	61	404136	60.71	ng	91
19) Chloroform	11.07	83	642388	63.47	ng	99
20) Isooctane	12.03	57	896151	54.14	ng	98
21) 1,1,1-Trichloroethane	11.92	97	546983	61.11	ng	92
22) Carbon tetrachloride	12.50	117	576813	62.69	ng	97
24) 1,2-Dichloroethane	12.76	62	306106	48.25	ng	98
25) 1,2-Dibromoethane	19.73	107	469753	73.76	ng	99
27) Benzene	12.84	78	744820	78.71	ng	99

(#) = qualifier out of range (m) = manual integration
CMA0100.D TO14S.M Thu Nov 22 15:20:39 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

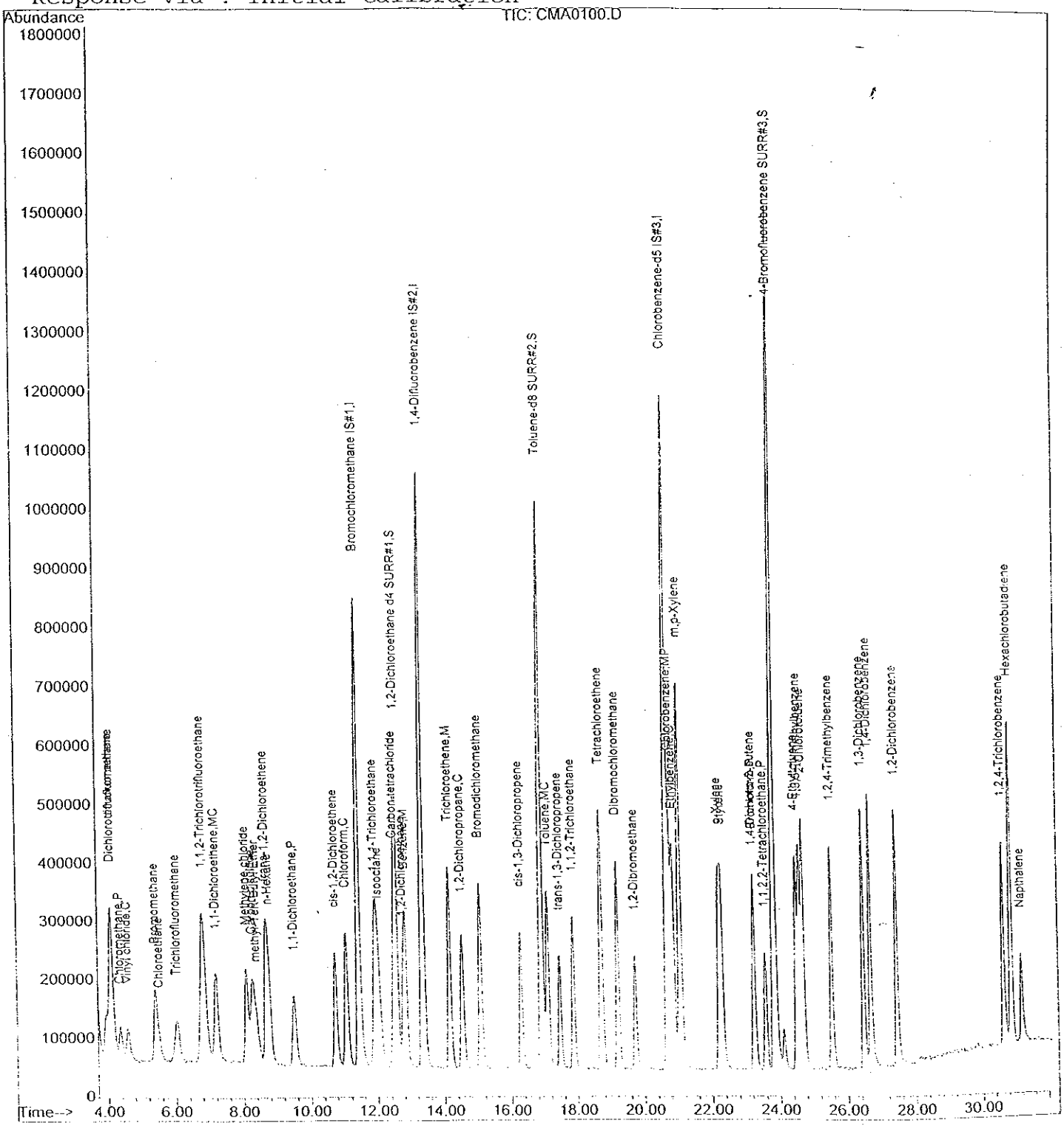
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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

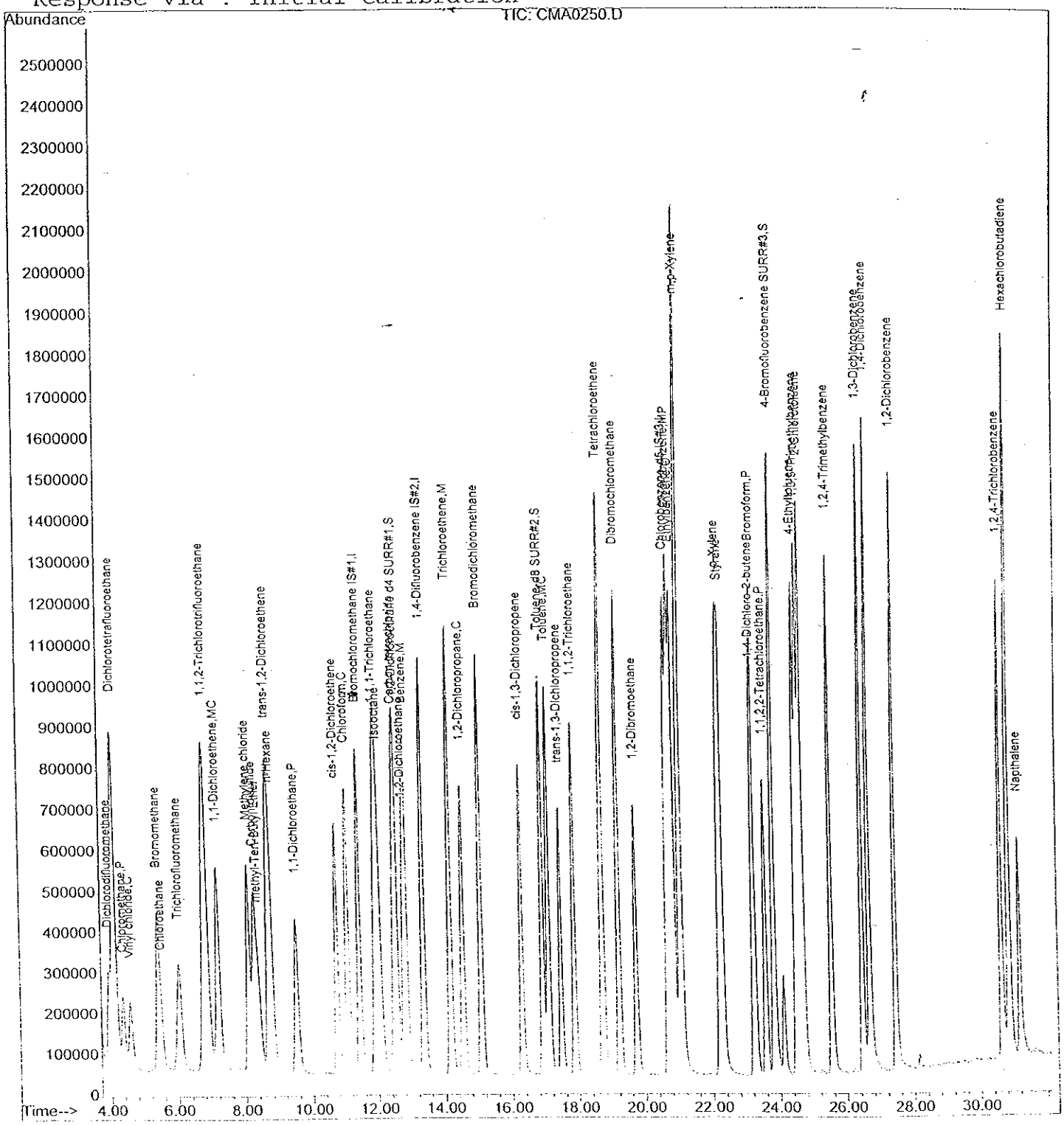
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	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
CMA0500.D TO14S.M Thu Nov 22 20:48:41 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: TO14S.RES

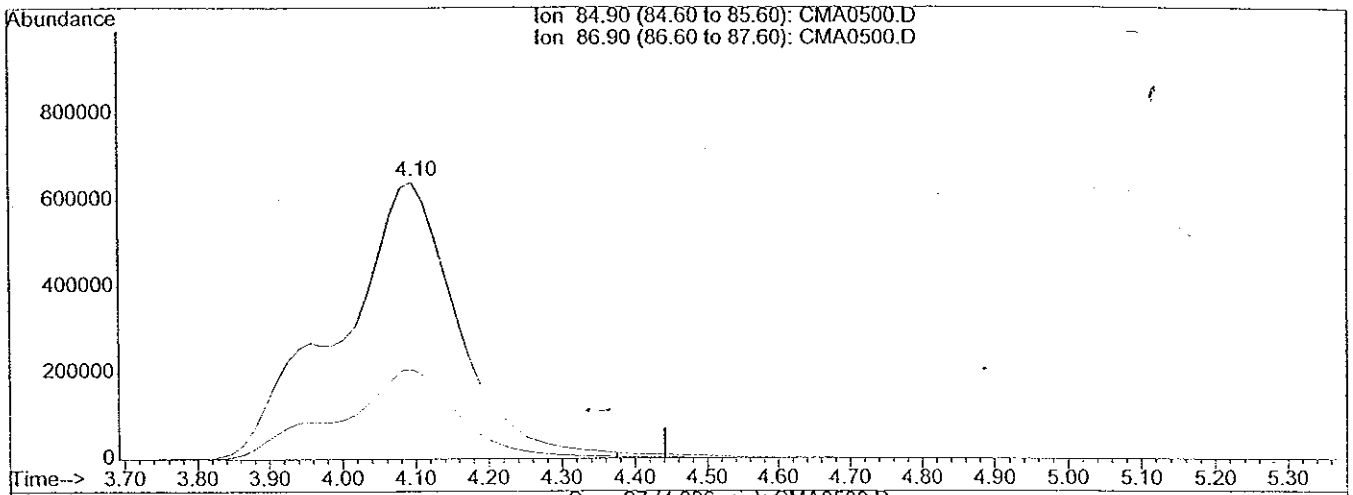
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

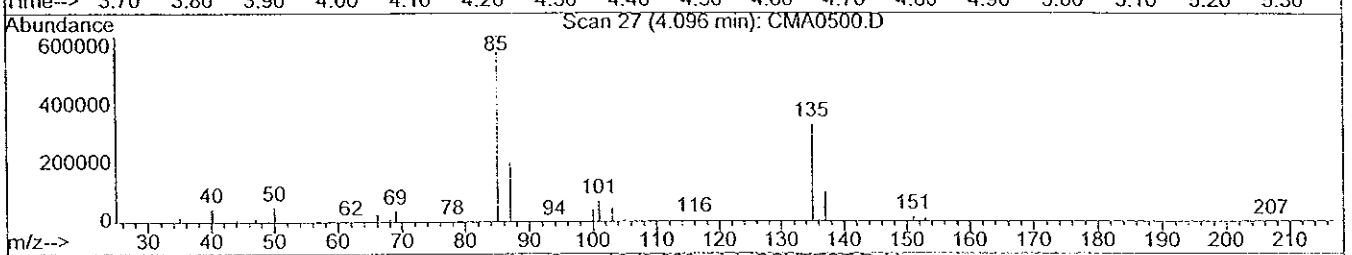
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	2494877	537.70 ng		95
29) 1,2-Dichloropropane	14.54	63	1843291	428.93 ng		97
30) Bromodichloromethane	15.07	83	4195948	377.19 ng		99
31) cis-1,3-Dichloropropene	16.28	75	2638143	413.09 ng		98
33) Toluene	17.11	92	2870951	492.12 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

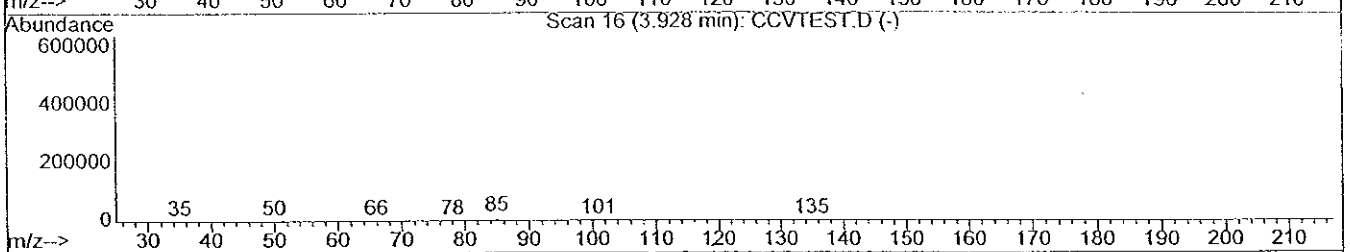
(#) = qualifier out of range (m) = manual integration

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 In
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

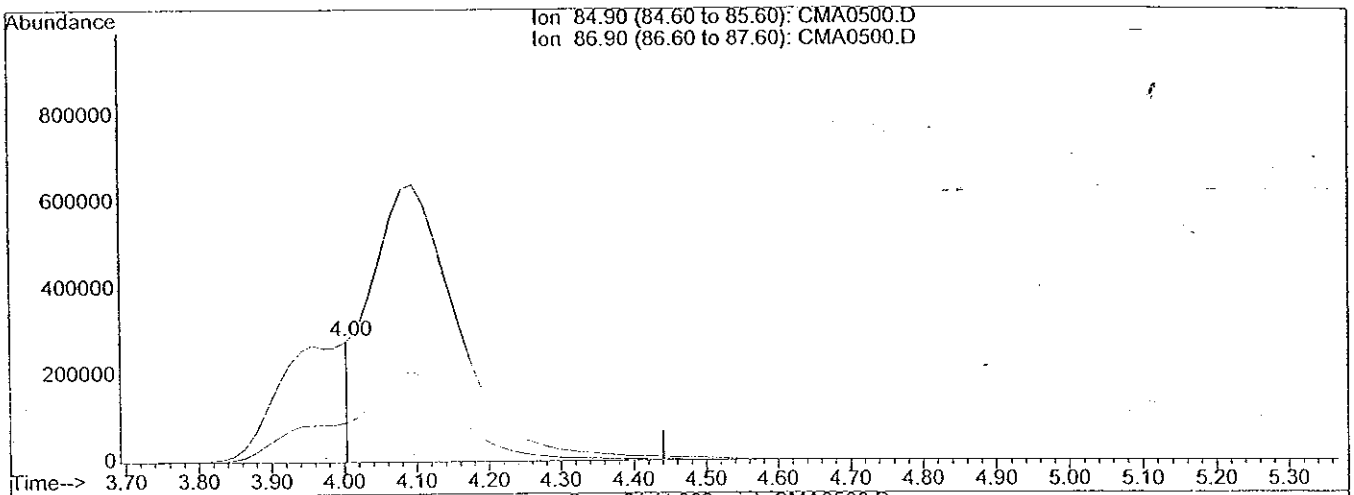
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.43
0.00	0.00	0.00
0.00	0.00	0.00

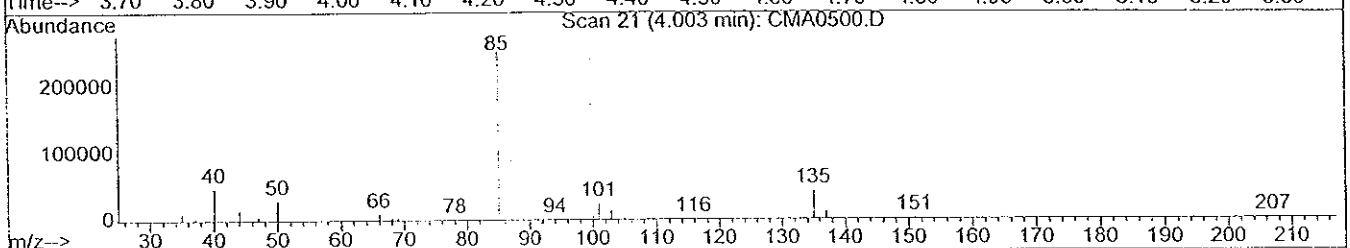
Defont (misintg | co-eluted)

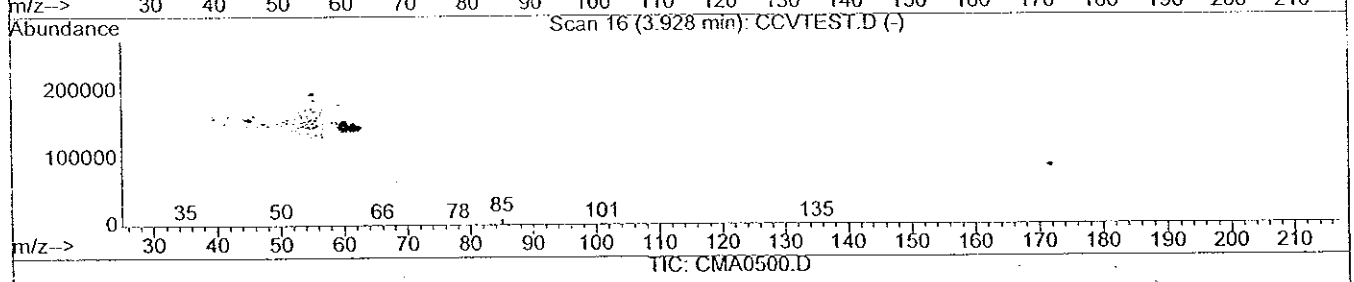
CMA0500.D TO14S.M Thu Nov 22 20:48:01 2001

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 In
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

11-29-01

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
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1122P\CCVTEST.D (22 Nov 2001 13:06)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	690703	250.00 ng	-0.02 316.23%
26) 1,4-Difluorobenzene IS#2	13.36	114	2990121	250.00 ng	-0.03 315.48%
36) Chlorobenzene-d5 IS#3	20.68	117	2254642	250.00 ng	-0.03 314.16%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.57	65	732271	142.68 ng	-0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 57.07%#					
32) Toluene-d8 SURR#2	16.90	98	2321242	234.69 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 93.88%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1946584	221.33 ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 88.53%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.10	85	7237453	1259.40 ng		98
3) Dichlorotetrafluoroethane	4.10	135	2700621	482.68 ng	#	26
4) Chloromethane	4.36	50	1284225	369.32 ng		95
5) Vinyl chloride	4.58	62	1256220	401.61 ng		97
6) Bromomethane	5.42	94	2007486	469.75 ng	#	97
7) Chloroethane	5.51	64	856510	467.97 ng		97
8) Trichlorofluoromethane	6.04	101	2609553	409.74 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	3124319	582.39 ng		82
10) 1,1-Dichloroethene	7.20	96	1677869	528.28 ng		88
12) Methylene chloride	8.10	49	2159716	354.74 ng		99
13) Carbon disulfide	8.27	76	4502881	443.88 ng		98
14) methyl-Tert-Butyl Ether	8.38	73	1752708	343.53 ng		98
15) trans-1,2-Dichloroethene	8.69	96	1859267	522.08 ng		92
16) n-Hexane	8.77	57	1747631	426.72 ng	#	1
17) 1,1-Dichloroethane	9.51	63	3022096	410.84 ng		98
18) cis-1,2-Dichloroethene	10.74	61	2422387	396.99 ng		91
19) Chloroform	11.07	83	3825367	412.36 ng		98
20) Isooctane	12.03	57	5483567	361.41 ng		96
21) 1,1,1-Trichloroethane	11.94	97	3208845	391.12 ng		91
22) Carbon tetrachloride	12.51	117	3445813	408.53 ng		97
24) 1,2-Dichloroethane	12.76	62	1715106	294.94 ng	#	97
25) 1,2-Dibromoethane	19.73	107	2534957	434.21 ng		97
27) Benzene	12.84	78	4427183	462.51 ng		98

(#) = qualifier out of range (m) = manual integration
CMA0500.D TO14S.M Thu Nov 22 16:35:21 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

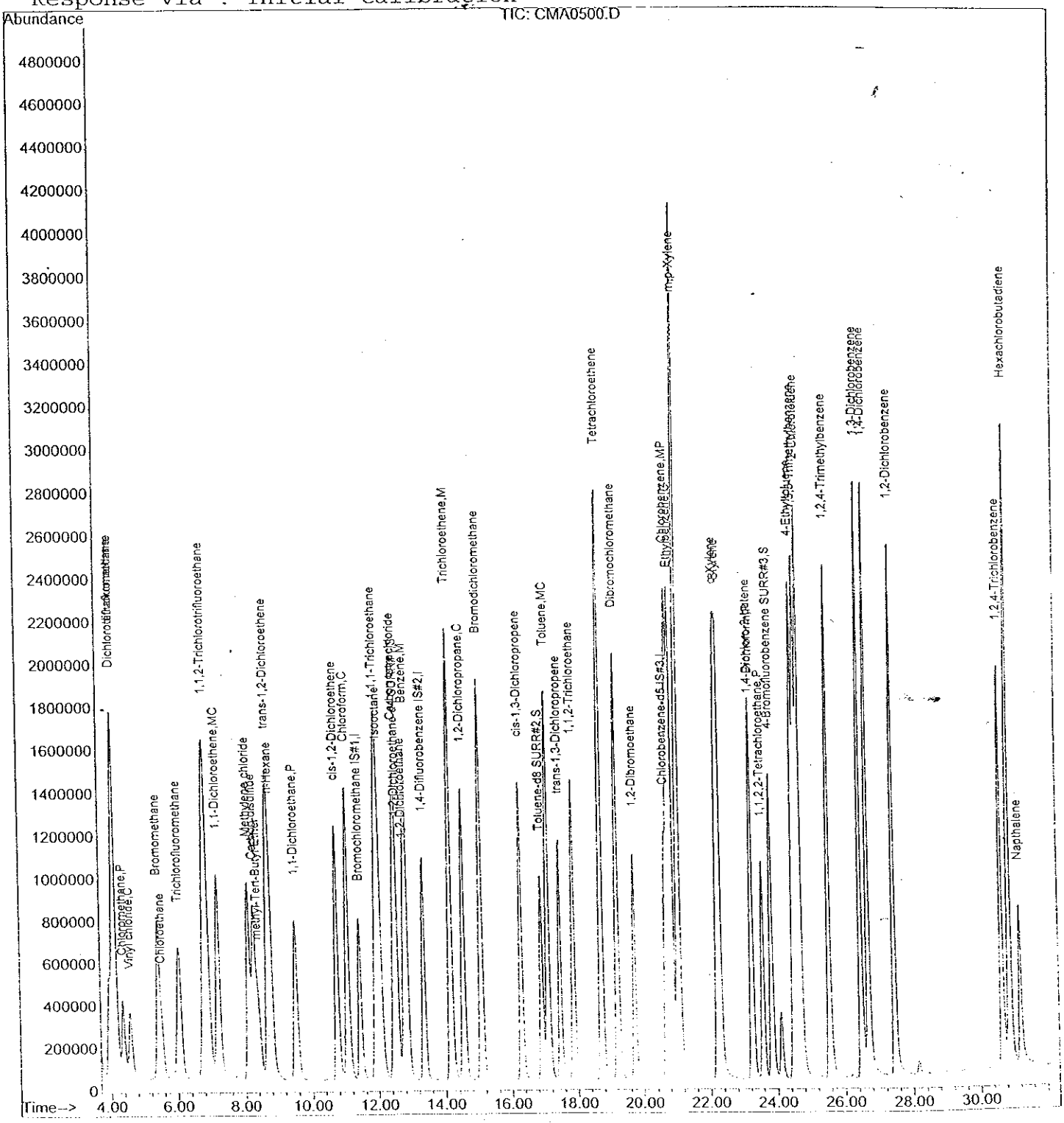
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA0500.D Vial: 1
Acq On : 22 Nov 2001 16:03 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 16:35 2001 Quant Results File: TO14S.RES

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



Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

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

BH 11/22/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	627073	250.00	ng	-0.03 287.10%
26) 1,4-Difluorobenzene IS#2	13.36	114	2510311	250.00	ng	-0.03 264.86%
36) Chlorobenzene-d5 IS#3	20.68	117	1933700	250.00	ng	-0.03 269.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	627209	134.61	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 53.84%#						
32) Toluene-d8 SURR#2	16.90	98	1927093	232.08	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 92.83%						
46) 4-Bromofluorobenzene SURR#	23.83	95	1704865	226.02	ng	-0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.41%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.93	85	3541069	678.71	ng	99
3) Dichlorotetrafluoroethane	4.10	135	4961584	976.77	ng #	43
4) Chloromethane	4.34	50	2269279	718.82	ng #	96
5) Vinyl chloride	4.56	62	2177757	766.87	ng	96
6) Bromomethane	5.40	94	3658163	942.87	ng #	97
7) Chloroethane	5.49	64	1503351	904.74	ng	96
8) Trichlorofluoromethane	6.04	101	4512254	780.39	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.83	151	5584483	1146.61	ng	82
10) 1,1-Dichloroethene	7.20	96	3042058	1054.99	ng	86
12) Methylene chloride	8.10	49	3782190	684.28	ng	97
13) Carbon disulfide	8.26	76	8103282	879.86	ng	100
14) methyl-Tert-Butyl Ether	8.38	73	3566136	769.88	ng	98
15) trans-1,2-Dichloroethene	8.68	96	3089787	955.65	ng	90
16) n-Hexane	8.77	57	2872334	772.51	ng #	1
17) 1,1-Dichloroethane	9.51	63	5141779	769.92	ng	98
18) cis-1,2-Dichloroethene	10.74	61	4087290	737.82	ng	89
19) Chloroform	11.07	83	6416217	761.83	ng	98
20) Isooctane	12.03	57	9902255	718.87	ng	95
21) 1,1,1-Trichloroethane	11.94	97	5271651	707.75	ng	89
22) Carbon tetrachloride	12.50	117	5775008	754.16	ng	97
24) 1,2-Dichloroethane	12.76	62	2992872	566.89	ng #	97
25) 1,2-Dibromoethane	19.71	107	5016979	946.56	ng	98
27) Benzene	12.84	78	7380435	918.40	ng	98

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 21:03 2001 Quant Results File: TO14S.RES

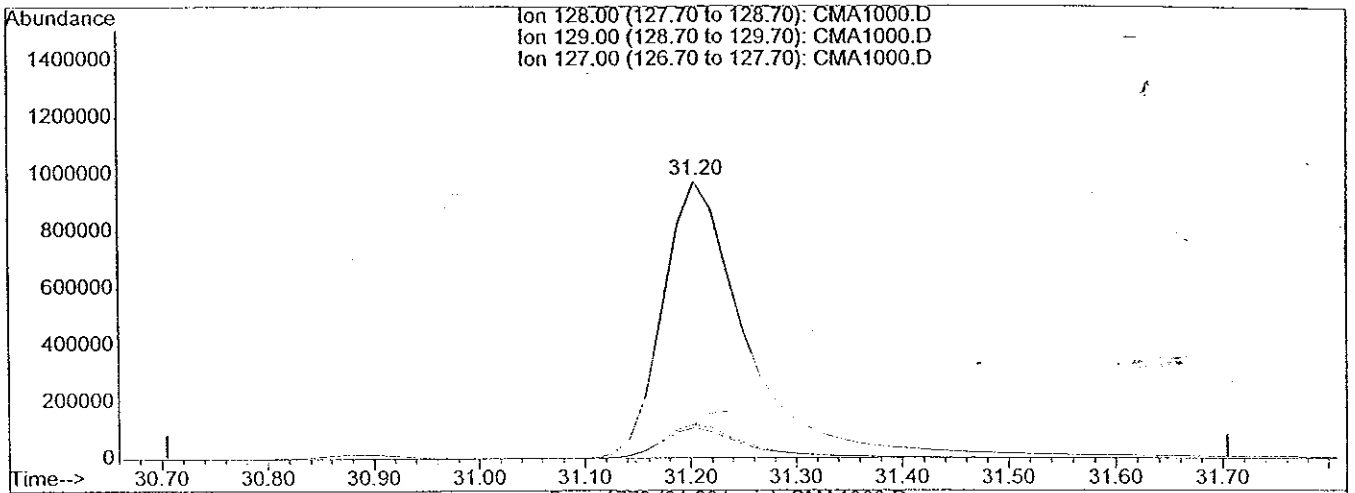
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

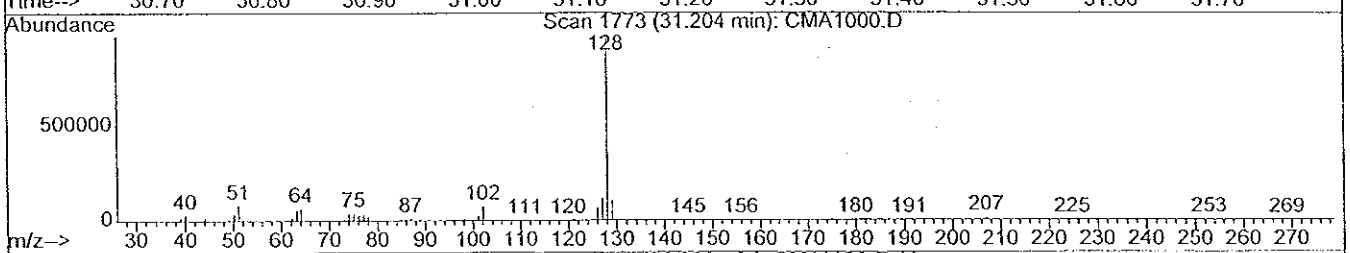
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20 ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63 ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80 ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16 ng		96
33) Toluene	17.09	92	4788893	977.79 ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26 ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79 ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58 ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13 ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70 ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60 ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72 ng		93
42) o-Xylene	22.21	106	3660995	1038.48 ng		94
43) Styrene	22.29	104	5744605	1028.38 ng		96
44) Bromoform	23.25	173	4989717	1094.16 ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60 ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11 ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78 ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29 ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07 ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14 ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69 ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88 ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68 ng		99
56) Napthalene	31.20	128	5286344m	915.23 ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71 ng		99

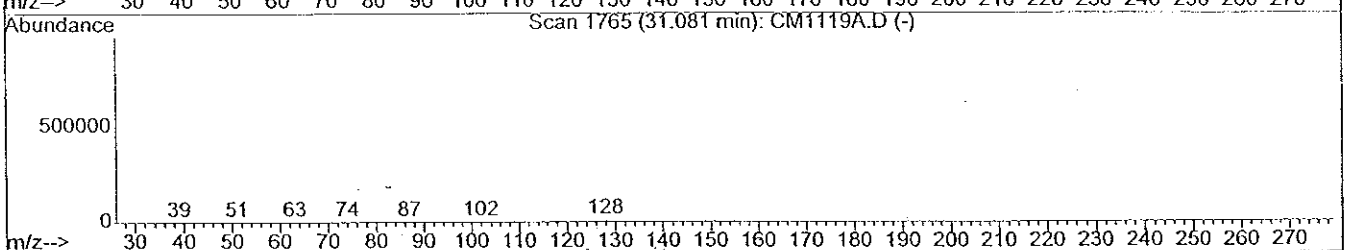
(#) = qualifier out of range (m) = manual integration
CMA1000.D TO14S.M Thu Nov 22 21:09:46 2001

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 Ir
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Nov 22 20:53:45 2001
Response via : Multiple Level Calibration







TIC: CMA1000.D

(56) Napthalene

31.20min 951.28ng

response 5494553

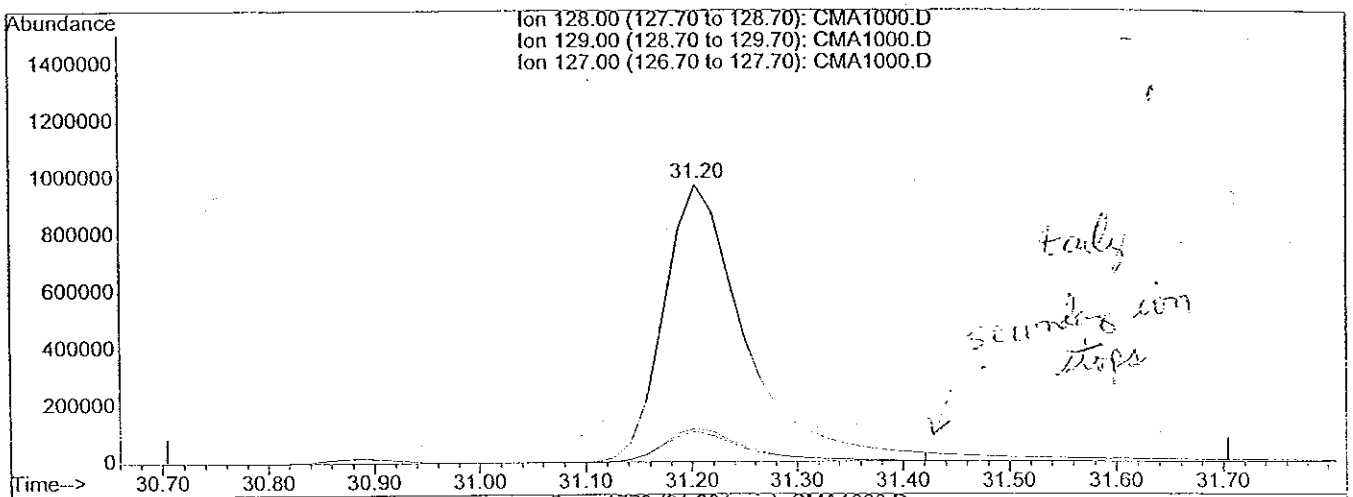
Ion	Exp%	Act%
128.00	100	100
129.00	14.20	10.82#
127.00	15.10	12.19
0.00	0.00	0.00

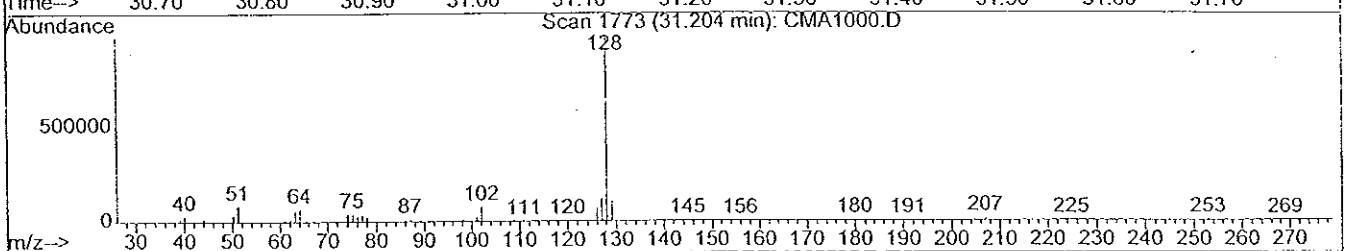
Before (tailing)

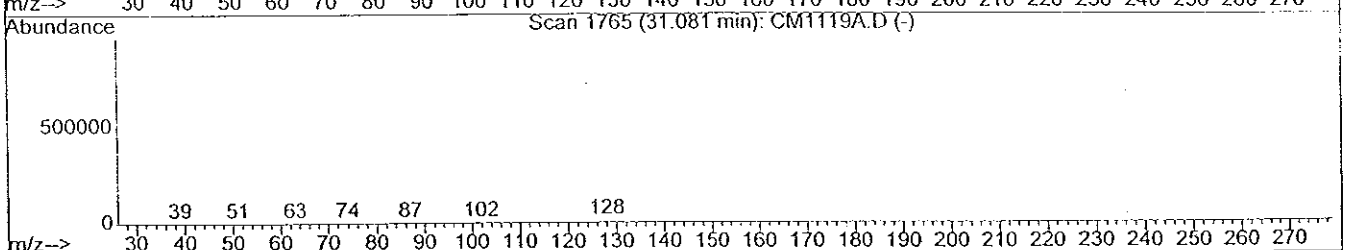
CMA1000.D TO14S.M Thu Nov 22 21:01:27 2001

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 Ir
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







TIC: CMA1000.D

(56) Napthalene

31.20min 915.23ng m

response 5286344

Ion	Exp%	Act%
128.00	100	100
129.00	14.20	11.25#
127.00	15.10	12.67
0.00	0.00	0.00

after
11/22/01

11-29-01

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

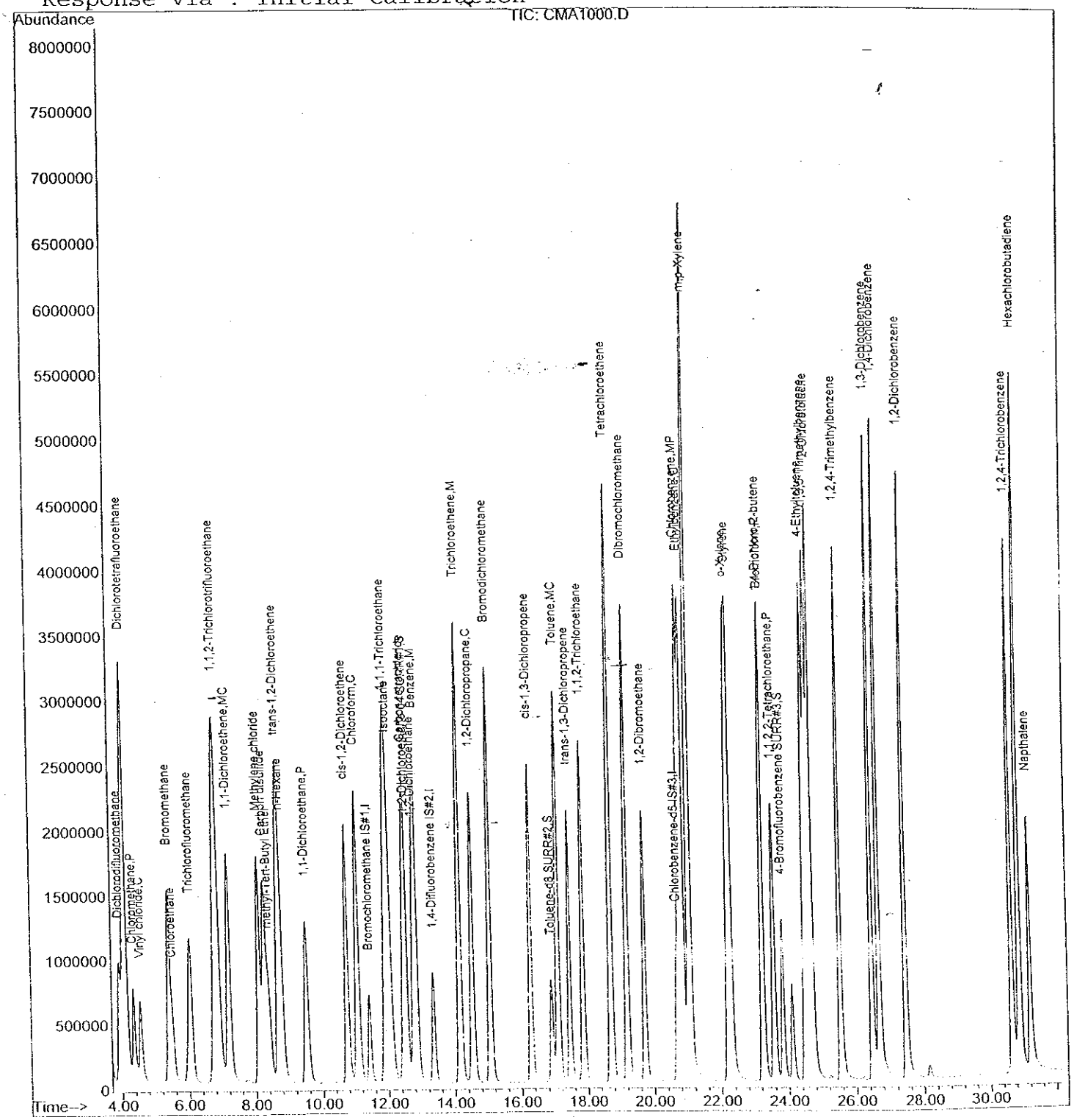
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	4254495	1092.20	ng		93
29) 1,2-Dichloropropane	14.53	63	3137462	869.63	ng		95
30) Bromodichloromethane	15.07	83	7161191	766.80	ng		100
31) cis-1,3-Dichloropropene	16.28	75	4622574	862.16	ng		96
33) Toluene	17.09	92	4788893	977.79	ng		98
34) trans-1,3-Dichloropropene	17.45	75	3641504	801.26	ng		99
35) 1,1,2-Trichloroethane	17.87	97	2987120	971.79	ng		97
37) Tetrachloroethene	18.71	164	4017560	1140.58	ng		94
38) Dibromochloromethane	19.20	127	5253498	952.13	ng		97
39) Chlorobenzene	20.77	112	7185799	1023.70	ng		92
40) Ethylbenzene	20.86	106	2850047	1005.60	ng		99
41) m,p-Xylene	21.07	106	7392219	1994.72	ng		93
42) o-Xylene	22.21	106	3660995	1038.48	ng		94
43) Styrene	22.29	104	5744605	1028.38	ng		96
44) Bromoform	23.25	173	4989717	1094.16	ng		99
45) 1,1,2,2-Tetrachloroethane	23.57	83	4348692	866.03	ng		99
47) 1,4-Dichloro-2-butene	23.22	75	889767	961.60	ng		89
48) 4-Ethyltoluene	24.50	105	9838320	1004.11	ng		96
49) 1,3,5-Trimethylbenzene	24.61	105	7505974	933.78	ng		88
50) 2-Chlorotoluene	24.70	91	9379260	866.29	ng		94
51) 1,2,4-Trimethylbenzene	25.54	105	7838457	938.07	ng		97
52) 1,3-Dichlorobenzene	26.47	146	6497173	1074.14	ng	#	94
53) 1,4-Dichlorobenzene	26.69	146	6904103	1090.69	ng	#	94
54) 1,2-Dichlorobenzene	27.45	146	6056662	1079.88	ng	#	94
55) 1,2,4-Trichlorobenzene	30.64	180	4491199	1137.68	ng		99
56) Napthalene	31.20	128	5494553	951.28	ng	#	92
57) Hexachlorobutadiene	30.89	225	3428403	1016.71	ng		99

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

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1000.D Vial: 3
Acq On : 22 Nov 2001 16:58 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 17:30 2001 Quant Results File: TO14S.RES

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



CMA1000.D TO14S.M Thu Nov 22 17:30:24 2001 Page 3

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D Vial: 5
Acq On : 22 Nov 2001 17:53 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA235ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001 Quant Results File: TO14S.RES

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

original BH 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
CMA1500.D TO14S.M Thu Nov 22 18:25:29 2001

Data File : D:\HPCHEM\1\DATA01\M1122P\CMA1500.D
Acq On : 22 Nov 2001 17:53
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA235ABK
MS Integration Params: rteint.p
Quant Time: Nov 22 18:25 2001

Vial: 5
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: TO14S.RES

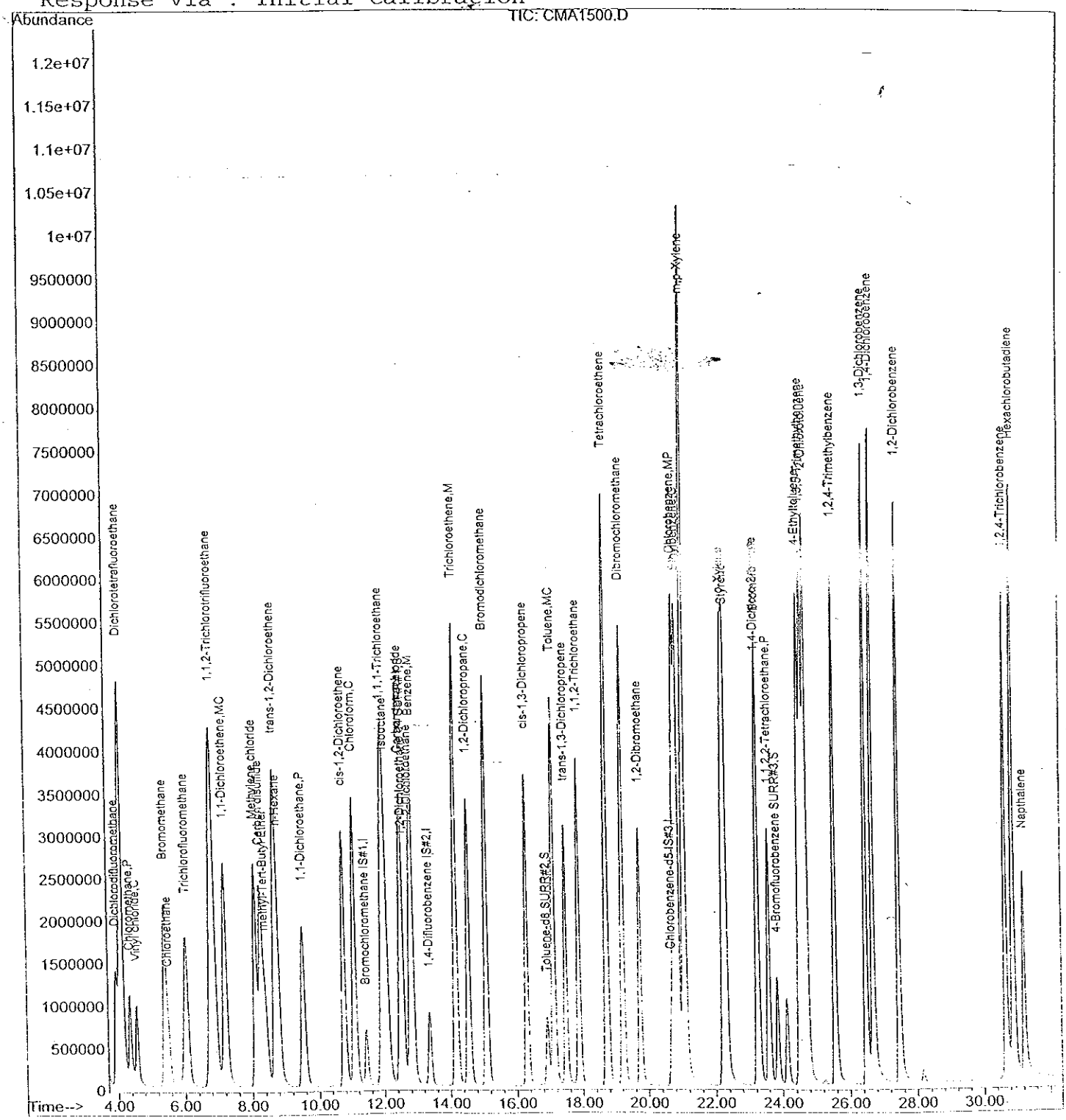
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Nov 21 14:33:21 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.17	130	6549557	1622.88	ng		93
29) 1,2-Dichloropropane	14.54	63	4781807	1279.29	ng		95
30) Bromodichloromethane	15.09	83	10793730	1115.55	ng		99
31) cis-1,3-Dichloropropene	16.30	75	6994188	1259.10	ng		96
33) Toluene	17.10	92	7379692	1454.35	ng		99
34) trans-1,3-Dichloropropene	17.48	75	5370462	1140.58	ng		99
35) 1,1,2-Trichloroethane	17.88	97	4367064	1371.29	ng		97
37) Tetrachloroethene	18.74	164	6162913	1707.63	ng		94
38) Dibromochloromethane	19.22	127	7764192	1373.36	ng		97
39) Chlorobenzene	20.78	112	10928272	1519.47	ng		93
40) Ethylbenzene	20.89	106	4440163	1529.02	ng		94
41) m,p-Xylene	21.08	106	11196466	2948.70	ng		95
42) o-Xylene	22.23	106	5544185	1534.89	ng		94
43) Styrene	22.32	104	8782292	1534.41	ng		96
44) Bromoform	23.27	173	7134144	1526.83	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	6039581	1173.88	ng		99
47) 1,4-Dichloro-2-butene	23.24	75	1245128	1313.33	ng		89
48) 4-Ethyltoluene	24.51	105	14628903	1457.18	ng		96
49) 1,3,5-Trimethylbenzene	24.62	105	11777[illegible]	14[illegible]	ng		[illegible]
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\M1221A\
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	BFM1221A	BFBSTL	BFB050\DAILY 12 HR. BFB TUNE.
2	Sample	14	CM1221A	TO14S	VSTD050\DAILY CALIB. CHECK 50
3	Sample	15	MA256ABK	TO14S	VBLKMA\ DAILY METHOD BLANK
4	Sample	16	MA256LCS	TO14S	VLCSMA\BATCH #256 LCS 50ppb/
5	Sample	1	QC110	TO14S	QC CAN CHECK #110 ST. 500mls
6	Sample	1	124351	TO14S	062SVEEA12120123\12435-1 ST.
7	Sample	1	124001	TO14S	12400-1 ST. 500mls
8	Sample	1	124002	TO14S	12400-2 ST. 500mls
9	Sample	1	124003	TO14S	12400-3 ST. 500mls
10	Sample	1	124004	TO14S	12400-4 ST. 500mls
11	Sample	1	122981	TO14S	12298-1 ST. 500mls
12	Sample	1	122982	TO14S	12298-2 ST. 500mls
13	Sample	1	122983	TO14S	12298-3 ST. 500mls
14	Sample	1	123001	TO14S	12300-1 ST. 500mls
15	Sample	14	BLKTUBE	BFBSTL	MPM CLEANUP/PREP
16	Sample	15	BLKTUBE	BFBSTL	MPM CLEANUP/PREP
17	Sample	16	BLKTUBE	BFBSTL	MPM CLEANUP/PREP

Marilyn

QC REPORTING SHEET - AIR TO14 / 8260 (QUICK QC)

BATCH: MAB256

ANALYSIS DATE	12-21-01			
ANALYSIS TIME	10:36			
BLANK ID				
----------mg/m3----------				
Acetone <0.03	<RL			
Mek <0.03				
Hexachlorobutadiene <0.03				
Mecl2 <0.07				
Naphthalene <0.03				
Toluene <0.03				
1,2,3-Trichlorobenzene <0.03				
1,2,4-Trichlorobenzene <0.03				
B, E, T, Xylenes				
MTBE				
SURR---------- TO14 / 8260	--------	--------	--------	--------
1,2-Dichloroethane-d4 (61-140) / (--------)	109			
DBFM (--------) / (69-130)	—			
Toluene-d8 (90-109) / (86-116)	100			
Bromofluorobenzene (87-112) / (83-126)	99			

ALL OTHER COMPOUNDS OF INTEREST <0.03 mg/m3 * PROBABLE LAB CONTAMINATION

LCS (A / B) Analysis date 12-21-01 Time 11:51 Analysis date _____ Time _____

Compound	Spike Amt	LCS A Conc.	Rec.	T / 6 Qc limits	LCS B Conc.	Rec.
1,1-Dichloroethene	250	225	90	58-138 / 82-113		
Benzene	250	268	107	87-116 / 83-110		
Trichloroethene	250	264	106	85-116 / 77-116		
Toluene	250	270	108	86-113 / 82-117		
Chlorobenzene	250	271	108	88-111 / 79-122		

Surrogates	LCS A	T / 6 Rec. limits	LCS B
1,2-Dichloroethane-d4	105	61-140 / --------	
DBFM	—	-------- / 69-130	
Toluene-d8	101	90-109 / 86-116	
Bromofluorobenzene	99	87-112 / 83-126	

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1221A\BFM1221A.D
Acq On : 21 Dec 2001 9:37
Sample : BFB050\DAILY 12 HR. BFB TUNE.
Misc : Pi/Pf=1 MA256ABK
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	5.806	12	18	39	rVB	488278	3423929	79.57%	44.313%
2	6.271	41	48	83	rVB	478627	4302798	100.00%	55.687%

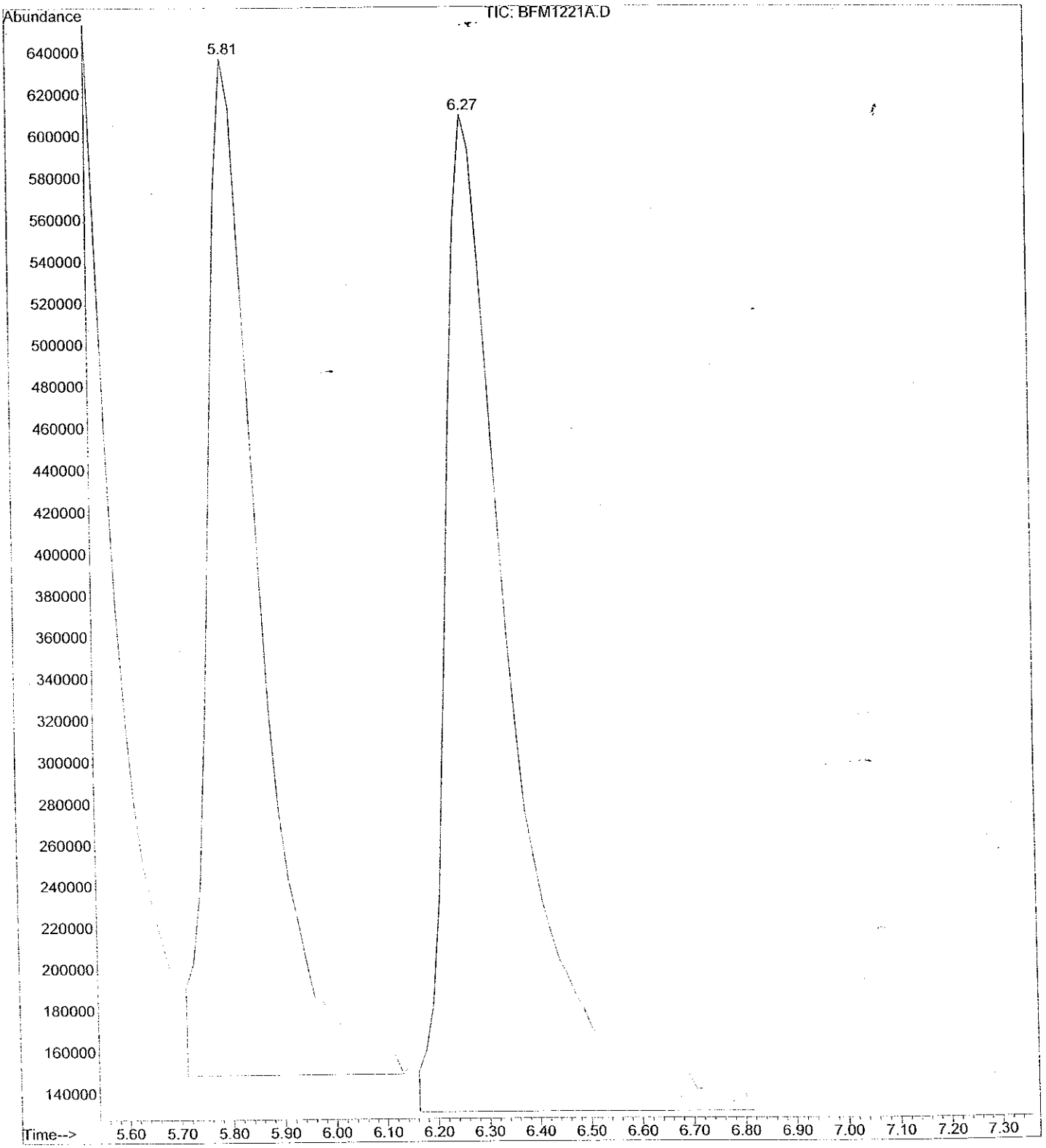
Sum of corrected areas: 7726727

BFM1221A.D BFBSTL.M Fri Dec 21 09:45:11 2001

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1221A\BFM1221A.D
Acq On : 21 Dec 2001 9:37
Sample : BFB050\DAILY 12 HR. BFB TUNE.
Misc : Pi/Pf=1 MA256ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

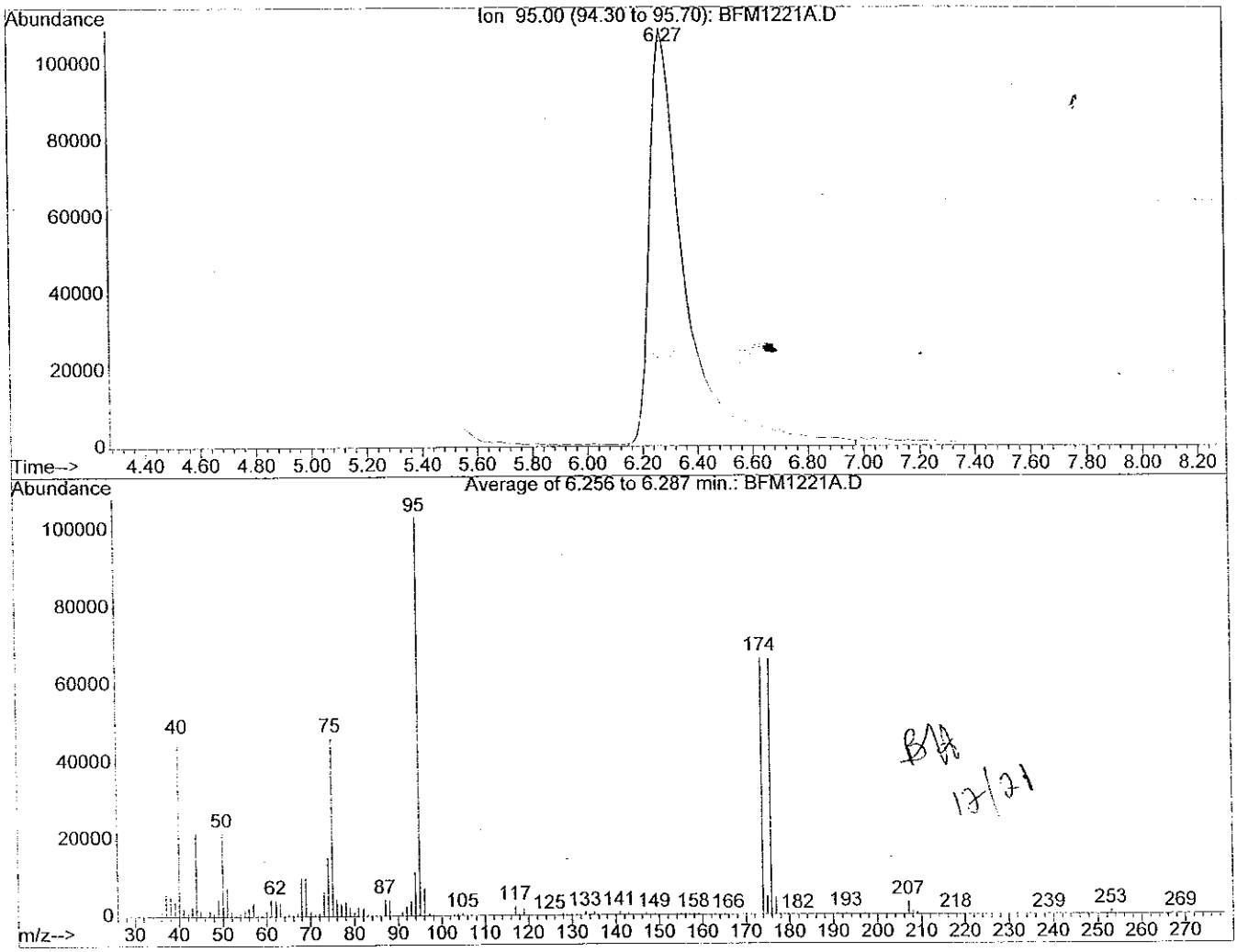
Vial: 13
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00



BFM1221A.D BFBSTL.M Fri Dec 21 09:45:11 2001

BFB

Data File : D:\HPCHEM\1\DATA01\M1221A\BFM1221A.D Vial: 13
Acq On : 21 Dec 2001 9:37 Operator: BDH
Sample : BFB050\DAILY 12 HR. BFB TUNE. Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\8260W50.M (RTE Integrator)
Title : 8260



BFB 12/21

Spectrum Information: Average of 6.256 to 6.287 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.1	21827	PASS
75	95	30	60	44.9	46397	PASS
95	95	100	100	100.0	103347	PASS
96	95	5	9	7.0	7196	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	64.5	66640	PASS
175	174	5	9	7.3	4862	PASS
176	174	95	101	99.4	66253	PASS
177	176	5	9	6.9	4576	PASS

BFM1221A.D 8260W50.M Fri Dec 21 10:10:56 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:42 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1212A\CM1212A.D (12 Dec 2001 9:10)

BDH 12/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	732582	250.00 ng	-0.06 94.68%
26) 1,4-Difluorobenzene IS#2	13.29	114	2997183	250.00 ng	-0.04 94.17%
36) Chlorobenzene-d5 IS#3	20.61	117	2303941	250.00 ng	-0.04 94.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	808279m	258.78 ng	-0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.51%					
32) Toluene-d8 SURR#2	16.83	98	2322665	250.31 ng	-0.06
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.12%					
46) 4-Bromofluorobenzene SURR#	23.76	95	2023875	248.65 ng	-0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.46%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	837668	235.84 ng		99
3) Dichlorotetrafluoroethane	4.07	135	1280668	239.23 ng	#	41
4) Chloromethane	4.32	50	684140	268.56 ng		98
5) Vinyl chloride	4.54	62	709046	290.36 ng		97
6) Bromomethane	5.36	94	1053927	256.17 ng	#	99
7) Chloroethane	5.47	64	448038	272.10 ng		99
8) Trichlorofluoromethane	6.00	101	1036418	219.47 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.77	151	1594230	262.45 ng		86
10) 1,1-Dichloroethene	7.14	96	892932	271.33 ng		91
12) Methylene chloride	8.05	49	1223075	287.76 ng		97
13) Carbon disulfide	8.20	76	2505495	282.71 ng		99
14) methyl-Tert-Butyl Ether	8.32	73	1102021	280.66 ng		98
15) trans-1,2-Dichloroethene	8.62	96	943718	267.95 ng		92
16) n-Hexane	8.71	57	838176	248.34 ng	#	1
17) 1,1-Dichloroethane	9.46	63	1573589	271.06 ng		99
18) cis-1,2-Dichloroethene	10.67	61	1274145	275.01 ng		92
19) Chloroform	11.00	83	2042474	278.19 ng		99
20) Isooctane	11.94	57	2682438	236.12 ng		98
21) 1,1,1-Trichloroethane	11.86	97	1701474	277.18 ng		92
22) Carbon tetrachloride	12.44	117	1833762	277.88 ng		97
24) 1,2-Dichloroethane	12.69	62	954000	274.41 ng		98
25) 1,2-Dibromoethane	19.64	107	1453976	267.60 ng		99
27) Benzene	12.77	78	2304213	269.60 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:42 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.08	130	1279455	266.62	ng		96
29)	1,2-Dichloropropane	14.47	63	949389	264.90	ng		98
30)	Bromodichloromethane	15.00	83	2272276	275.44	ng		99
31)	cis-1,3-Dichloropropene	16.21	75	1397392	268.39	ng		98
33)	Toluene	17.03	92	1471516	268.27	ng		99
34)	trans-1,3-Dichloropropene	17.39	75	1094107	272.72	ng		96
35)	1,1,2-Trichloroethane	17.80	97	877900	263.30	ng		97
37)	Tetrachloroethene	18.63	164	1181913	262.43	ng		96
38)	Dibromochloromethane	19.13	127	1549771	263.26	ng		99
39)	Chlorobenzene	20.70	112	2182412	269.17	ng		95
40)	Ethylbenzene	20.79	106	864576	265.57	ng		98
41)	m,p-Xylene	20.99	106	2243678	535.85	ng		98
42)	o-Xylene	22.14	106	1090563	267.99	ng		98
43)	Styrene	22.22	104	1671654	264.33	ng		99
44)	Bromoform	23.17	173	1372461	256.38	ng		100
45)	1,1,2,2-Tetrachloroethane	23.49	83	1263638	263.56	ng		99
47)	1,4-Dichloro-2-butene	23.15	75	245983	270.21	ng		94
48)	4-Ethyltoluene	24.42	105	2674263	245.67	ng		99
49)	1,3,5-Trimethylbenzene	24.52	105	2252623	268.88	ng		89
50)	2-Chlorotoluene	24.63	91	2906678	271.42	ng		96
51)	1,2,4-Trimethylbenzene	25.46	105	2331298	266.70	ng		96
52)	1,3-Dichlorobenzene	26.40	146	1939503	268.99	ng		95
53)	1,4-Dichlorobenzene	26.61	146	2001254	263.40	ng		95
54)	1,2-Dichlorobenzene	27.37	146	1746933	264.95	ng		96
55)	1,2,4-Trichlorobenzene	30.57	180	1290455	278.92	ng		99
56)	Napthalene	31.12	128	1582970	288.59	ng	#	92
57)	Hexachlorobutadiene	30.82	225	1058432	265.11	ng		99

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:34 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	98	0.00
2		Dichlorodifluoromethane	1.212	1.143	5.7#	101	0.00
3		Dichlorotetrafluoroethane	1.827	1.748	4.3#	92	0.00
4	P	Chloromethane	0.869	0.934	-7.5#	102	0.00
5	C	Vinyl chloride	0.833	0.968	-16.2#	106	0.00
6		Bromomethane	1.404	1.439	-2.5#	100	0.00
7		Chloroethane	0.562	0.612	-8.9#	101	0.00
8		Trichlorofluoromethane	1.456	1.415	2.8#	93	0.00
9		1,1,2-Trichlorotrifluoroeth	2.073	2.176	-5.0#	99	0.00
10	MC	1,1-Dichloroethene	1.123	1.219	-8.5#	102	0.00
11		Iodomethane	0.000	0.000	0.0	188#	0.00
12		Methylene chloride	1.450	1.670	-15.2#	104	0.00
13		Carbon disulfide	3.024	3.420	-13.1#	106	0.00
14		methyl-Tert-Butyl Ether	1.340	1.504	-12.2#	101	0.00
15		trans-1,2-Dichloroethene	1.202	1.288	-7.2#	98	0.00
16		n-Hexane	1.152	1.144	0.7	93	0.00
17	P	1,1-Dichloroethane	1.981	2.148	-8.4#	100	0.00
18		cis-1,2-Dichloroethene	1.581	1.739	-10.0#	101	0.00
19	C	Chloroform	2.506	2.788	-11.3#	102	0.00
20		Isooctane	3.877	3.662	5.5#	92	0.00
21		1,1,1-Trichloroethane	2.095	2.323	-10.9#	102	0.00
22		Carbon tetrachloride	2.252	2.503	-11.1#	102	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.066	1.103	-3.5#	99	0.00
24		1,2-Dichloroethane	1.186	1.302	-9.8#	96	0.00
25		1,2-Dibromoethane	1.854	1.985	-7.1#	91	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	101	0.00
27	M	Benzene	0.713	0.769	-7.9#	100	0.00
28	M	Trichloroethene	0.400	0.427	-6.7#	99	0.00
29	C	1,2-Dichloropropane	0.299	0.317	-6.0#	98	0.00
30		Bromodichloromethane	0.688	0.758	-10.2#	99	0.00
31		cis-1,3-Dichloropropene	0.434	0.466	-7.4#	97	0.00
32	S	Toluene-d8 SURR#2	0.774	0.775	-0.1	100	0.00
33	MC	Toluene	0.458	0.491	-7.2#	99	0.00
34		trans-1,3-Dichloropropene	0.335	0.365	-9.0#	96	0.00
35		1,1,2-Trichloroethane	0.278	0.293	-5.4#	91	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	100	0.00
37		Tetrachloroethene	0.489	0.513	-4.9#	98	0.00
38		Dibromochloromethane	0.639	0.673	-5.3#	93	0.00
39	MP	Chlorobenzene	0.880	0.947	-7.6#	99	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:34 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%

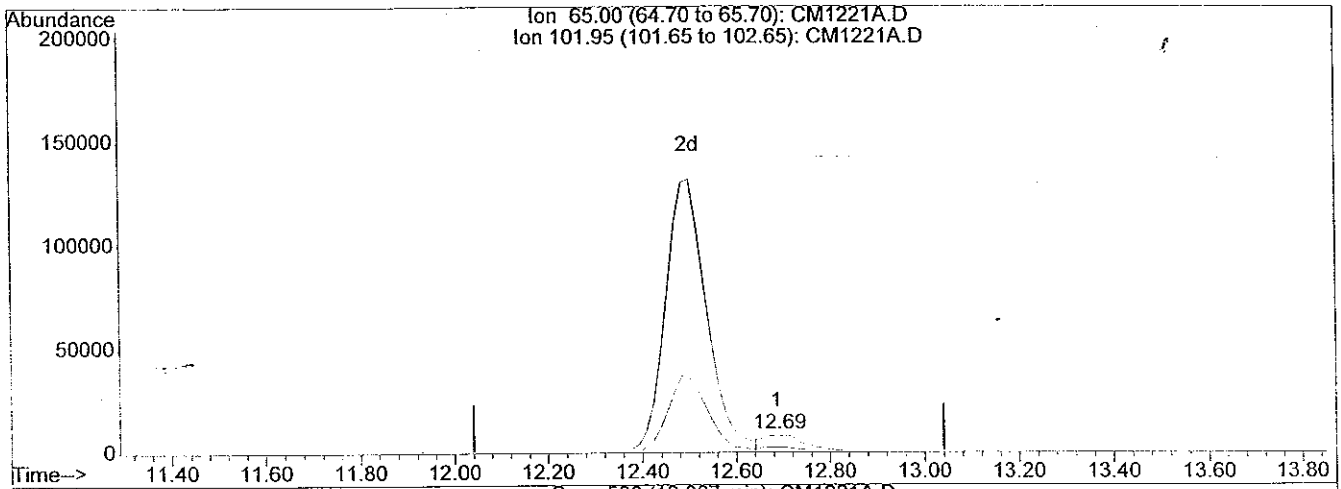
		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.353	0.375	6.2#	98	0.00
41		m,p-Xylene	0.454	0.487	-7.3#	99	0.00
42		o-Xylene	0.442	0.473	-7.0#	98	0.00
43		Styrene	0.686	0.726	-5.8#	96	0.00
44	P	Bromoform	0.581	0.596	-2.6#	88	0.00
45	P	1,1,2,2-Tetrachloroethane	0.520	0.548	-5.4#	88	0.00
46	S	4-Bromofluorobenzene SURR#3	0.883	0.878	0.6	97	0.00
47		1,4-Dichloro-2-butene	0.099	0.107	-8.1#	90	0.00
48		4-Ethyltoluene	1.181	1.161	1.7	95	0.00
49		1,3,5-Trimethylbenzene	0.909	0.978	-7.6#	105	0.00
50		2-Chlorotoluene	1.162	1.262	-8.6#	99	0.00
51		1,2,4-Trimethylbenzene	0.949	1.012	-6.6#	98	0.00
52		1,3-Dichlorobenzene	0.782	0.842	-7.7#	98	0.00
53		1,4-Dichlorobenzene	0.824	0.869	-5.5#	96	0.00
54		1,2-Dichlorobenzene	0.715	0.758	-6.0#	96	0.00
55		1,2,4-Trichlorobenzene	0.502	0.560	-11.6#	103	0.00
56		Napthalene	0.601	0.687	-14.3#	103	0.00
57		Hexachlorobutadiene	0.433	0.459	-6.0#	99	0.00

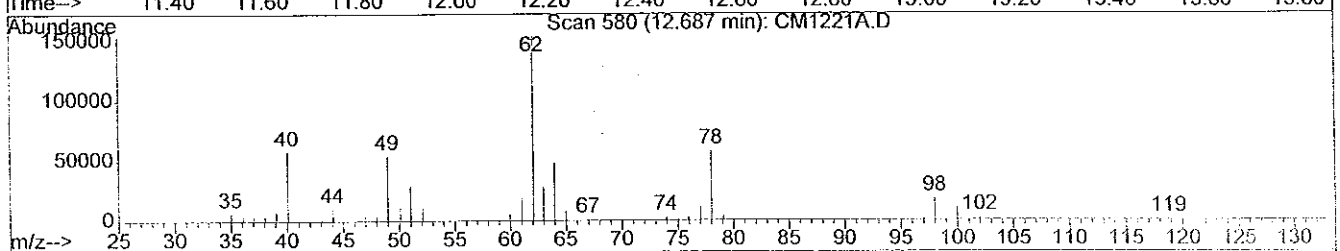
(#) = Out of Range SPCC's out = 0 CCC's out = 6

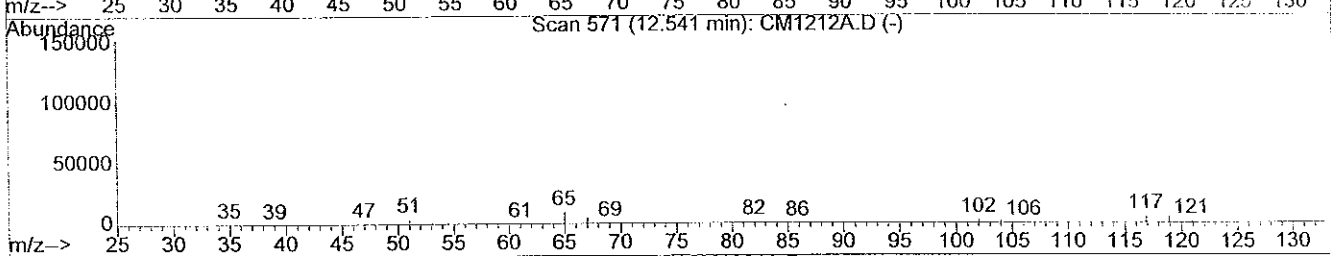
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:32 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Multiple Level Calibration







TIC: CM1221A.D

(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.69min 16.46ng

response 51423

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	24.86
0.00	0.00	0.00
0.00	0.00	0.00

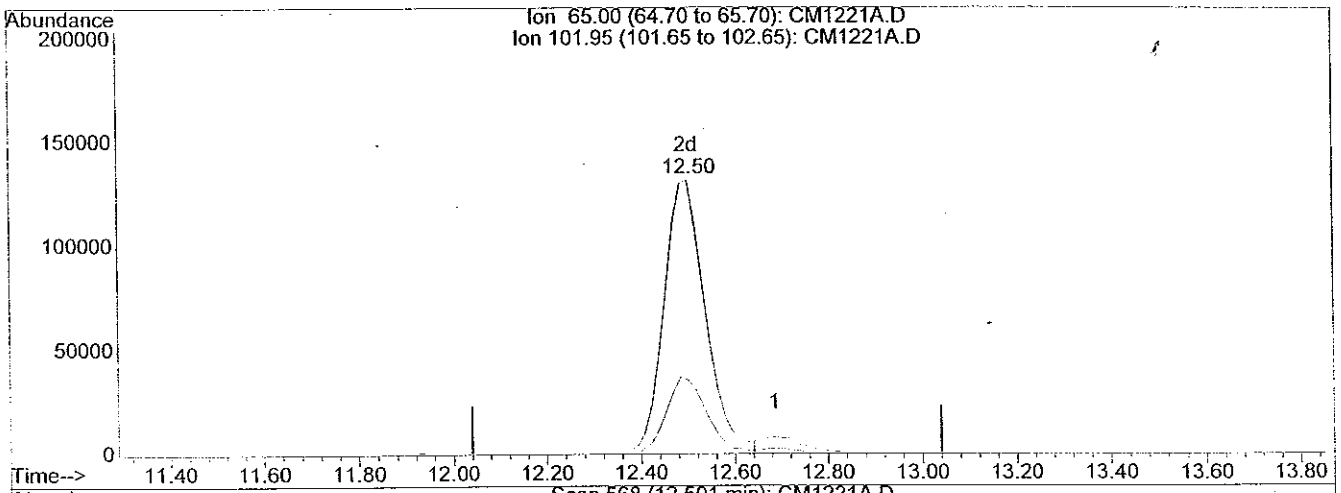
before (missed peak)

CM1221A.D TO14S.M Fri Dec 21 10:42:07 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:42 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.50min 258.78ng m

response 808279

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	1.58#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH
12-21-01

CM1221A.D TO14S.M Fri Dec 21 10:42:15 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:32 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1212A\CM1212A.D (12 Dec 2001 9:10)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	732582	250.00	ng	-0.06 94.68%
26) 1,4-Difluorobenzene IS#2	13.29	114	2997183	250.00	ng	-0.04 94.17%
36) Chlorobenzene-d5 IS#3	20.61	117	2303941	250.00	ng	-0.04 94.44%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.69	65	51423	16.46	ng	0.15
Spiked Amount 250.000	Range 61 - 140		Recovery = 6.58%#			
32) Toluene-d8 SURR#2	16.83	98	2322665	250.31	ng	-0.06
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.12%			
46) 4-Bromofluorobenzene SURR#	23.76	95	2023875	248.65	ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.46%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.92	85	837668	235.84	ng	99
3) Dichlorotetrafluoroethane	4.07	135	1280668	239.23	ng #	41
4) Chloromethane	4.32	50	684140	268.56	ng	98
5) Vinyl chloride	4.54	62	709046	290.36	ng	97
6) Bromomethane	5.36	94	1053927	256.17	ng #	99
7) Chloroethane	5.47	64	448038	272.10	ng	99
8) Trichlorofluoromethane	6.00	101	1036418	219.47	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.77	151	1594230	262.45	ng	86
10) 1,1-Dichloroethene	7.14	96	892932	271.33	ng	91
12) Methylene chloride	8.05	49	1223075	287.76	ng	97
13) Carbon disulfide	8.20	76	2505495	282.71	ng	99
14) methyl-Tert-Butyl Ether	8.32	73	1102021	280.66	ng	98
15) trans-1,2-Dichloroethene	8.62	96	943718	267.95	ng	92
16) n-Hexane	8.71	57	838176	248.34	ng #	1
17) 1,1-Dichloroethane	9.46	63	1573589	271.06	ng	99
18) cis-1,2-Dichloroethene	10.67	61	1274145	275.01	ng	92
19) Chloroform	11.00	83	2042474	278.19	ng	99
20) Isooctane	11.94	57	2682438	236.12	ng	98
21) 1,1,1-Trichloroethane	11.86	97	1701474	277.18	ng	92
22) Carbon tetrachloride	12.44	117	1833762	277.88	ng	97
24) 1,2-Dichloroethane	12.69	62	954000	274.41	ng	98
25) 1,2-Dibromoethane	19.64	107	1453976	267.60	ng	99
27) Benzene	12.77	78	2304213	269.60	ng	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:32 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

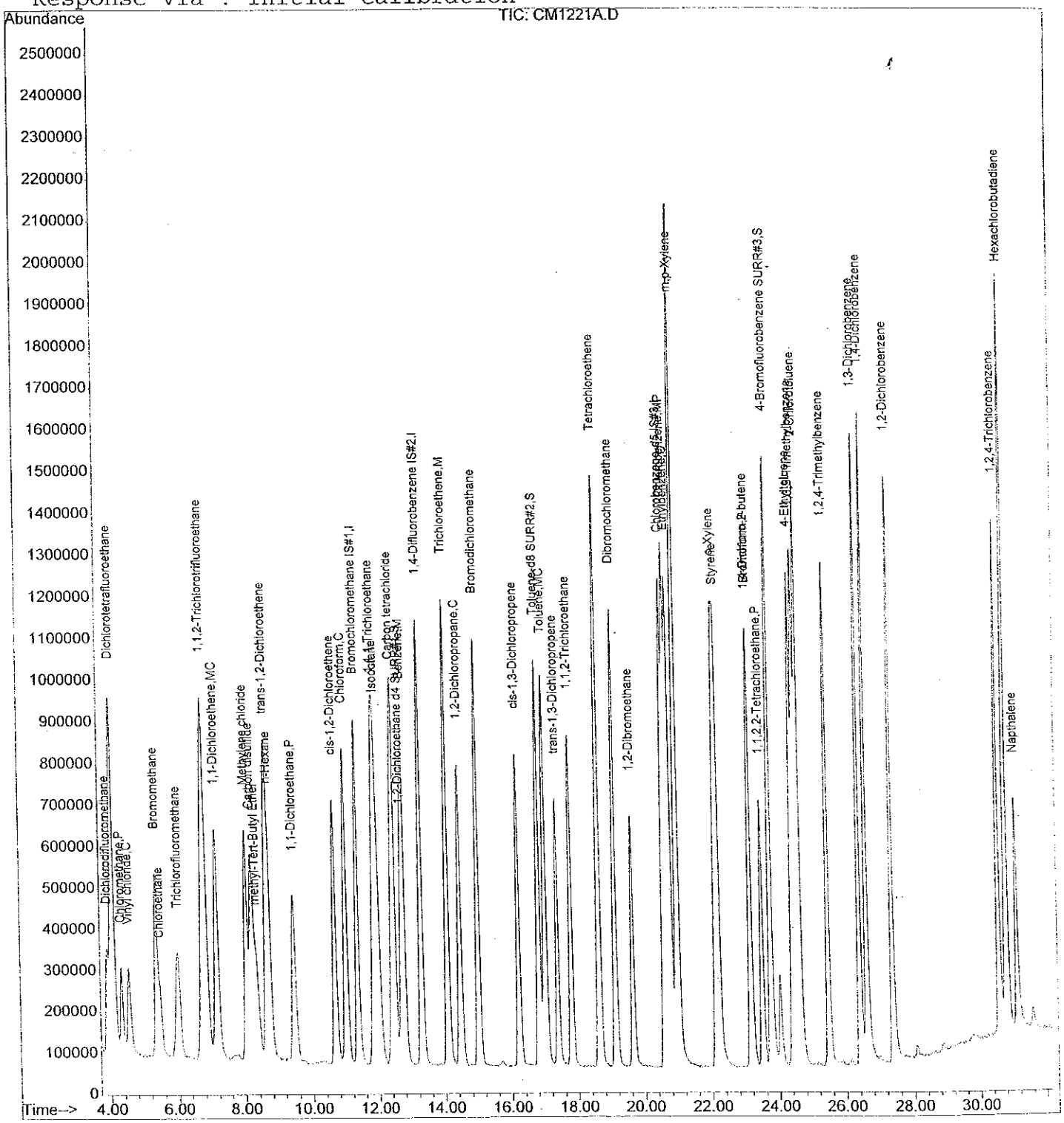
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.08	130	1279455	266.62	ng		96
29) 1,2-Dichloropropane	14.47	63	949389	264.90	ng		98
30) Bromodichloromethane	15.00	83	2272276	275.44	ng		99
31) cis-1,3-Dichloropropene	16.21	75	1397392	268.39	ng		98
33) Toluene	17.03	92	1471516	268.27	ng		99
34) trans-1,3-Dichloropropene	17.39	75	1094107	272.72	ng		96
35) 1,1,2-Trichloroethane	17.80	97	877900	263.30	ng		97
37) Tetrachloroethene	18.63	164	1181913	262.43	ng		96
38) Dibromochloromethane	19.13	127	1549771	263.26	ng		99
39) Chlorobenzene	20.70	112	2182412	269.17	ng		95
40) Ethylbenzene	20.79	106	864576	265.57	ng		98
41) m,p-Xylene	20.99	106	2243678	535.85	ng		98
42) o-Xylene	22.14	106	1090563	267.99	ng		98
43) Styrene	22.22	104	1671654	264.33	ng		99
44) Bromoform	23.17	173	1372461	256.38	ng		100
45) 1,1,2,2-Tetrachloroethane	23.49	83	1263638	263.56	ng		99
47) 1,4-Dichloro-2-butene	23.15	75	245983	270.21	ng		94
48) 4-Ethyltoluene	24.42	105	2674263	245.67	ng		99
49) 1,3,5-Trimethylbenzene	24.52	105	2252623	268.88	ng		89
50) 2-Chlorotoluene	24.63	91	2906678	271.42	ng		96
51) 1,2,4-Trimethylbenzene	25.46	105	2331298	266.70	ng		96
52) 1,3-Dichlorobenzene	26.40	146	1939503	268.99	ng		95
53) 1,4-Dichlorobenzene	26.61	146	2001254	263.40	ng		95
54) 1,2-Dichlorobenzene	27.37	146	1746933	264.95	ng		96
55) 1,2,4-Trichlorobenzene	30.57	180	1290455	278.92	ng		99
56) Napthalene	31.12	128	1582970	288.59	ng	#	92
57) Hexachlorobutadiene	30.82	225	1058432	265.11	ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D Vial: 14
Acq On : 21 Dec 2001 9:59 Operator: BDH
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 10:32 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Dec 12 09:46:40 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256ABK.D
Acq On : 21 Dec 2001 10:36
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 11:14 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 : 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)

BA 12/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	713440	250.00 ng	0.02 97.39%
26) 1,4-Difluorobenzene IS#2	13.30	114	2883980	250.00 ng	0.00 96.22%
36) Chlorobenzene-d5 IS#3	20.61	117	2204362	250.00 ng	0.00 95.68%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	828329	272.32 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 108.93%		
32) Toluene-d8 SURR#2	16.84	98	2235800	250.40 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.16%		
46) 4-Bromofluorobenzene SURR#	23.77	95	1926476	247.37 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.95%		

Target Compounds

					Qvalue
56) Napthalene Non-requested analyte	31.13	128	53309	15.90 ng	# 81

(#) = qualifier out of range (m) = manual integration
MA256ABK.D TO14S.M Fri Dec 21 11:15:21 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256ABK.D Vial: 15
Acq On : 21 Dec 2001 10:36 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 11:09 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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	713440	250.00	ng	0.02 97.39%
26) 1,4-Difluorobenzene IS#2	13.30	114	2883980	250.00	ng	0.00 96.22%
36) Chlorobenzene-d5 IS#3	20.61	117	2204362	250.00	ng	0.00 95.68%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	828329	272.32	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.93%						
32) Toluene-d8 SURR#2	16.84	98	2235800	250.40	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.16%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1926476	247.37	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.95%						

Target Compounds

						Qvalue
4) Chloromethane	4.47	50	1036	0.42	ng	# 4
6) Bromomethane	5.43	94	1070	0.27	ng	# 9
13) Carbon disulfide	8.01	76	960	0.11	ng	# 1
20) Isooctane	11.94	57	2997	0.27	ng	# 66
24) 1,2-Dichloroethane	12.71	62	1078	0.32	ng	# 49
25) 1,2-Dibromoethane	19.65	107	4476	0.35	ng	83
27) Benzene	12.76	78	11238	1.37	ng	# 54
30) Bromodichloromethane	14.99	83	1214	0.15	ng	# 25
33) Toluene	17.04	92	3317	0.63	ng	# 1
38) Dibromochloromethane	19.16	127	3305	0.59	ng	# 82
39) Chlorobenzene	20.71	112	9518	1.23	ng	# 1
41) m,p-Xylene	21.02	106	10337	2.58	ng	# 66
43) Styrene	22.23	104	6624	1.09	ng	# 12
44) Bromoform	23.18	173	3855	0.75	ng	# 32
45) 1,1,2,2-Tetrachloroethane	23.52	83	5603	1.22	ng	# 30
48) 4-Ethyltoluene	24.43	105	20912	2.01	ng	# 46
49) 1,3,5-Trimethylbenzene	24.43	105	20912	2.61	ng	# 30
50) 2-Chlorotoluene	24.64	91	21849	2.13	ng	# 47
51) 1,2,4-Trimethylbenzene	25.47	105	20536	2.46	ng	# 83
52) 1,3-Dichlorobenzene	26.42	146	18462	2.68	ng	# 93
53) 1,4-Dichlorobenzene	26.62	146	21385	2.94	ng	# 81
54) 1,2-Dichlorobenzene	27.38	146	17456	2.77	ng	# 91
55) 1,2,4-Trichlorobenzene	30.58	180	30073	6.79	ng	# 92

(#) = qualifier out of range (m) = manual integration
MA256ABK.D TO14S.M Fri Dec 21 11:09:14 2001

LRL/NR/NSF

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256ABK.D
Acq On : 21 Dec 2001 10:36
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 11:09 2001

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

Quant Results File: TO14S.RES

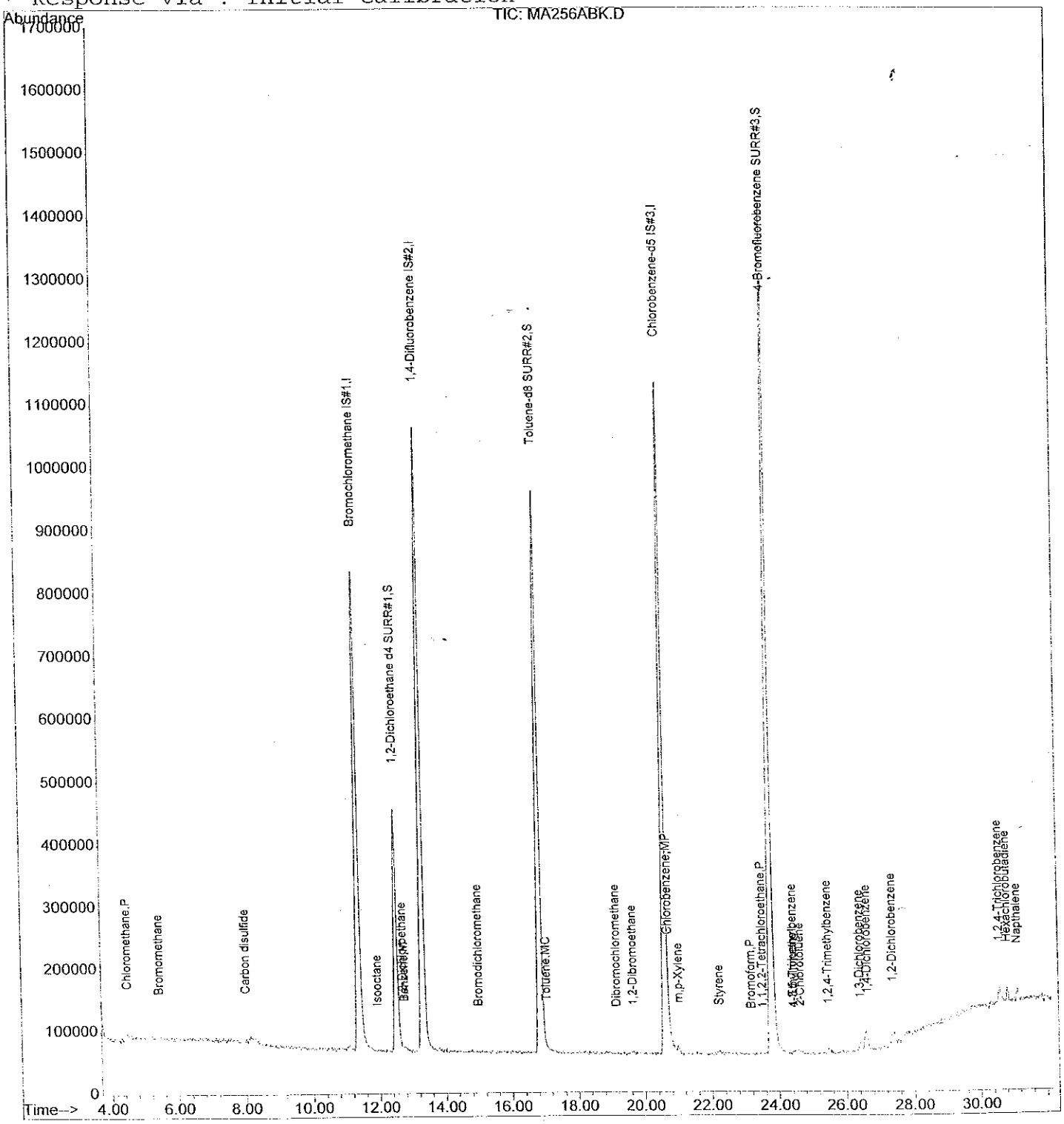
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
56) Napthalene	31.13	128	53309	15.90 ng-NR#	81
57) Hexachlorobutadiene	30.81	225	16570	4.34 ng<RL	91

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

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256ABK.D Vial: 15
Acq On : 21 Dec 2001 10:36 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 11:09 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



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256LCS.D Vial: 16
Acq On : 21 Dec 2001 11:14 Operator: BDH
Sample : VLCSMA\BATCH #256 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 12:31 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)

BH 12/21/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	740491	250.00	ng	0.03 101.08%
26) 1,4-Difluorobenzene IS#2	13.30	114	2922935	250.00	ng	0.00 97.52%
36) Chlorobenzene-d5 IS#3	20.60	117	2257938	250.00	ng	0.00 98.00%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	829959	262.89	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.16%			
32) Toluene-d8 SURR#2	16.84	98	2277450	251.67	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.67%			
46) 4-Bromofluorobenzene SURR#	23.75	95	1980074	248.22	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.29%			

Target Compounds

						Qvalue
10) 1,1-Dichloroethene	7.15	96	748234	224.93	ng	90
27) Benzene	12.79	78	2233346	267.95	ng	98
28) Trichloroethene	14.11	130	1234582	263.80	ng	96
33) Toluene	17.04	92	1444648	270.07	ng	98
39) Chlorobenzene	20.71	112	2149925	270.57	ng	87

(#) = qualifier out of range (m) = manual integration
MA256LCS.D TO14S.M Fri Dec 21 12:31:43 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256LCS.D Vial: 16
Acq On : 21 Dec 2001 11:14 Operator: BDH
Sample : VLCSMA\BATCH #256 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 11:46 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 original
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D (21 Dec 2001 9:59)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	740491	250.00	ng	0.03 101.08%
26) 1,4-Difluorobenzene IS#2	13.30	114	2922935	250.00	ng	0.00 97.52%
36) Chlorobenzene-d5 IS#3	20.60	117	2257938	250.00	ng	0.00 98.00%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	829959	262.89	ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.16%			
32) Toluene-d8 SURR#2	16.84	98	2277450	251.67	ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.67%			
46) 4-Bromofluorobenzene SURR#	23.75	95	1980074	248.22	ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 99.29%			

Target Compounds

						Qvalue
4) Chloromethane	4.45	50	1008	0.39	ng	# 14
6) Bromomethane	5.34	94	9111	2.19	ng	# 9
10) 1,1-Dichloroethene	7.15	96	748234	224.93	ng	90
13) Carbon disulfide	8.23	76	1029	0.11	ng	# 74
14) methyl-Tert-Butyl Ether	8.38	73	10633	2.68	ng	# 67
16) n-Hexane	8.72	57	6812	2.00	ng	# 82
24) 1,2-Dichloroethane	12.73	62	10955	3.12	ng	# 49
25) 1,2-Dibromoethane	19.65	107	16765	3.05	ng	90
27) Benzene	12.79	78	2233346	267.95	ng	98
28) Trichloroethene	14.11	130	1234582	263.80	ng	96
33) Toluene	17.04	92	1444648	270.07	ng	98
34) trans-1,3-Dichloropropene	17.04	75	13392	3.42	ng	# 1
35) 1,1,2-Trichloroethane	17.81	97	4362	1.34	ng	# 49
38) Dibromochloromethane	19.16	127	4597	0.80	ng	# 82
39) Chlorobenzene	20.71	112	2149925	270.57	ng	87
41) m,p-Xylene	20.99	106	5941	1.45	ng	# 48
43) Styrene	22.21	104	3449	0.56	ng	# 9
44) Bromoform	23.16	173	30083	5.73	ng	# 89
45) 1,1,2,2-Tetrachloroethane	23.49	83	63222	13.46	ng	# 93
48) 4-Ethyltoluene	24.51	105	14935	1.40	ng	93
49) 1,3,5-Trimethylbenzene	24.51	105	14935	1.82	ng	# 78
50) 2-Chlorotoluene	24.64	91	18079	1.72	ng	# 81
51) 1,2,4-Trimethylbenzene	25.46	105	16342	1.91	ng	# 81

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256LCS.D Vial: 16
Acq On : 21 Dec 2001 11:14 Operator: BDH
Sample : VLCSMA\BATCH #256 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 11:46 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

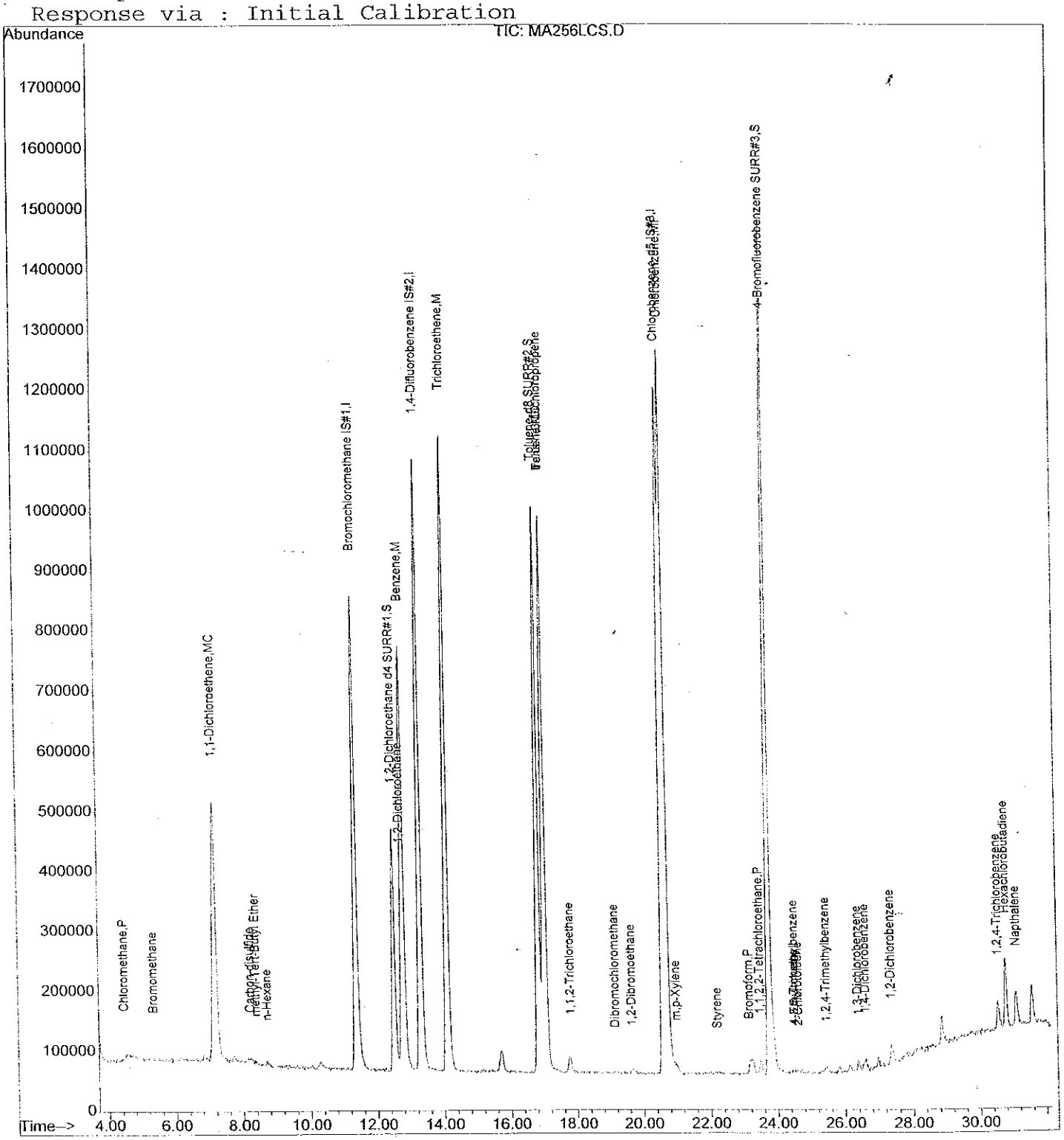
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52) 1,3-Dichlorobenzene	26.39	146	19793	2.80	ng	#	88
53) 1,4-Dichlorobenzene	26.61	146	21906	2.94	ng	#	92
54) 1,2-Dichlorobenzene	27.37	146	20567	3.18	ng		94
55) 1,2,4-Trichlorobenzene	30.55	180	51796	11.42	ng		98
56) Napthalene	31.11	128	176390	38.08	ng	#	89
57) Hexachlorobutadiene	30.80	225	69958	17.88	ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\MA256LCS.D Vial: 16
Acq On : 21 Dec 2001 11:14 Operator: BDH
Sample : VLCSMA\BATCH #256 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA256ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 11:46 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\M1221A\124351R.D
Acq On : 21 Dec 2001 13:39
Sample : 062SVEEA12120123\12435-1 ST. 500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 14:37 2001

Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : 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)

Matrix

BH 12/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	942803	250.00 ng	0.01 128.70%
26) 1,4-Difluorobenzene IS#2	13.29	114	3709096	250.00 ng	0.00 123.75%
36) Chlorobenzene-d5 IS#3	20.57	117	2901111	250.00 ng	-0.04 125.92%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.50	65	1092480	271.79 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.72%					
32) Toluene-d8 SURR#2	16.81	98	2978823	259.40 ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.76%					
46) 4-Bromofluorobenzene SURR#	23.72	95	2477149	241.69 ng	-0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.68%					

Target Compounds					Qvalue #
16) n-Hexane	8.71	57	167834	0.15 ng	1
37) Tetrachloroethene	18.63	164	15749	0.01 ng	97
40) Ethylbenzene	20.77	106	22066	0.02 ng	90
41) m,p-Xylene	20.97	106	105759	0.08 ng	97
42) o-Xylene	22.11	106	81115	0.06 ng	84
48) 4-Ethyltoluene	24.34	105	235057	0.07 ng	95
49) 1,3,5-Trimethylbenzene	24.50	105	803061	0.30 ng	96
51) 1,2,4-Trimethylbenzene	25.44	105	164740	0.06 ng	98

(#) = qualifier out of range (m) = manual integration
124351R.D TO14S.M Fri Dec 21 14:38:10 2001

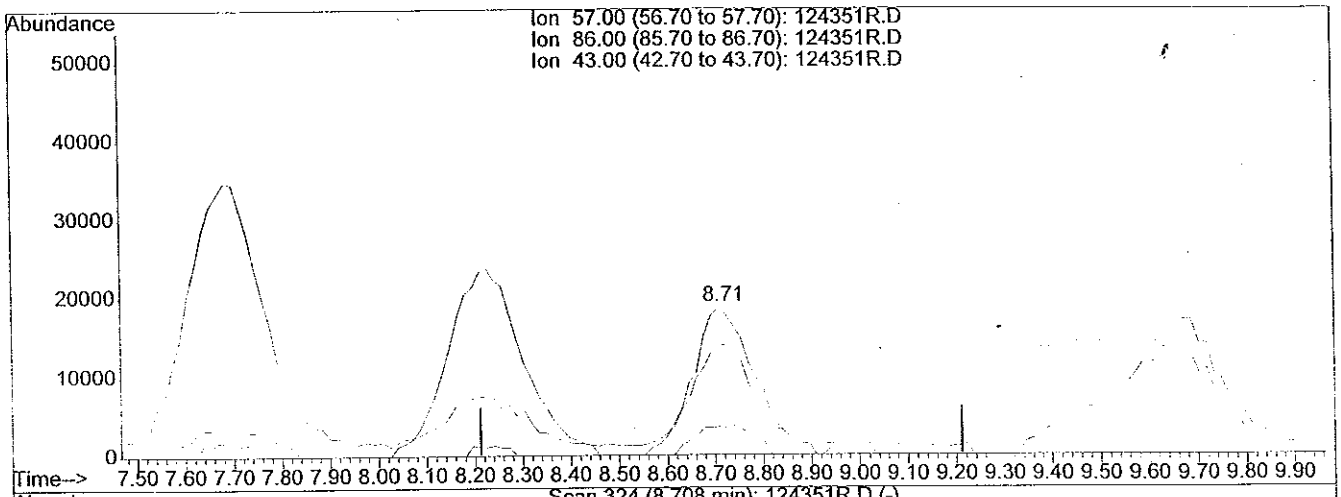
Quantitation Report (Qedit)

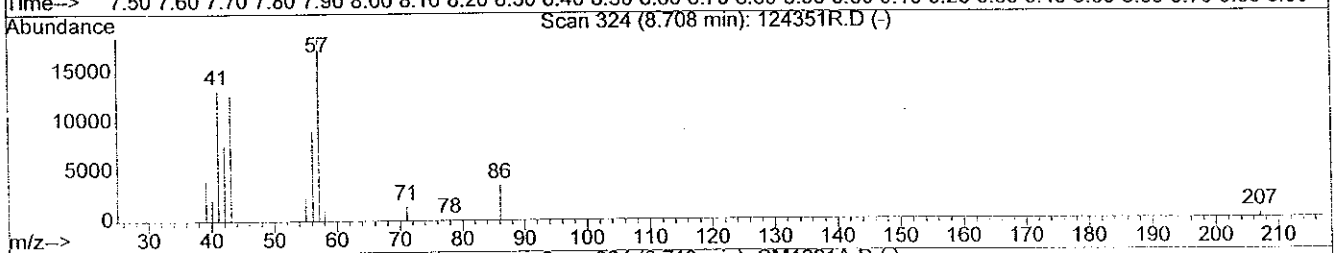
Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D
Acq On : 21 Dec 2001 13:39
Sample : 062SVEEA12120123\12435-1 ST. 500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 14:24 2001

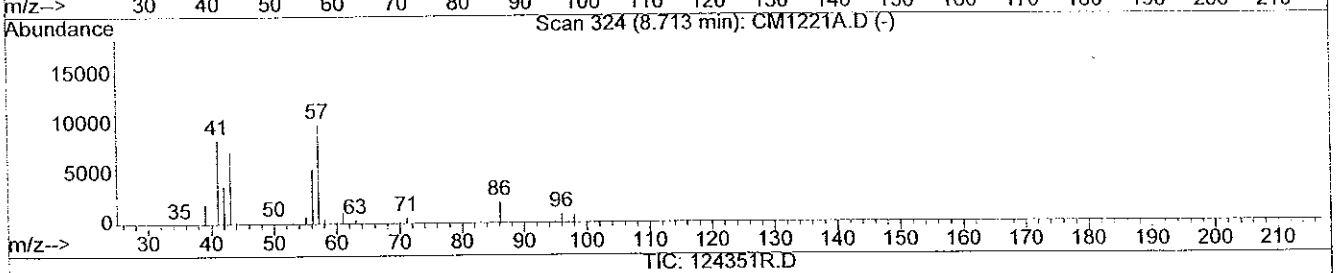
Vial: 1
Operator: BDH
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration







TIC: 124351R.D

(16) n-Hexane

8.71min 38.64ng

response 167834

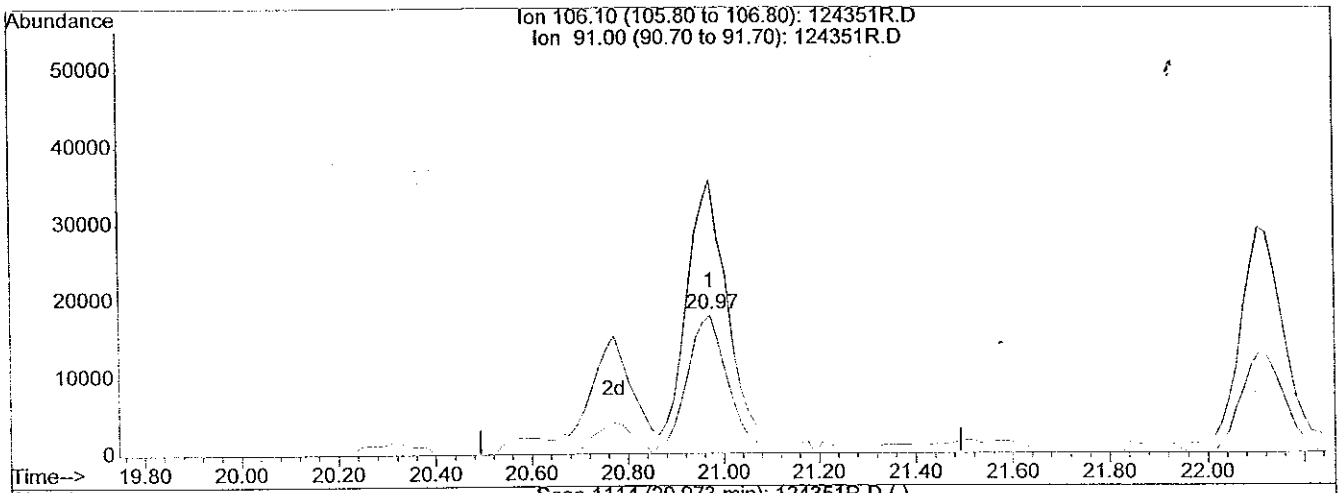
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	18.14#
43.00	325.00	75.54#
0.00	0.00	0.00

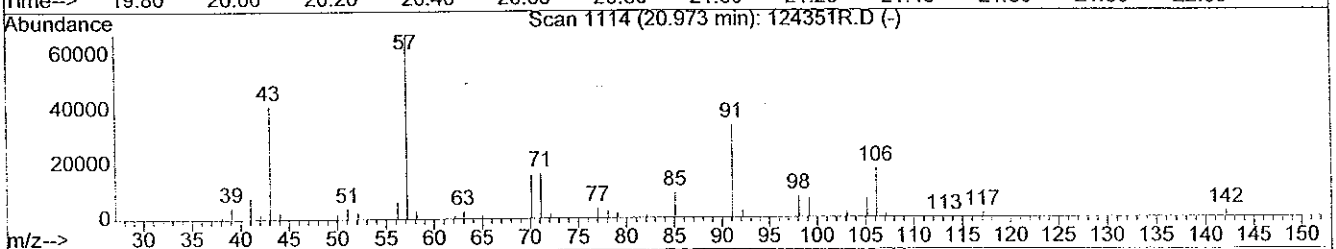
124351R.D TO14S.M Fri Dec 21 14:24:31 2001

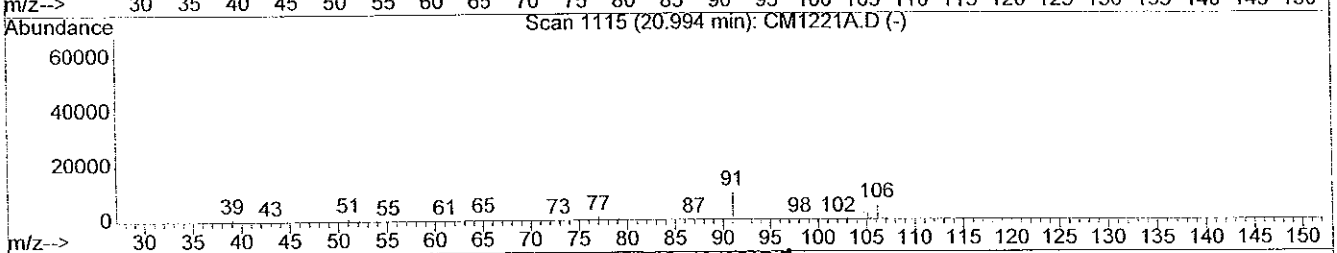
Quantitation Report (QedIt)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:29 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration







TIC: 124351R.D

(41) m,p-Xylene

20.97min 20.06ng

response 105759

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	209.69
0.00	0.00	0.00
0.00	0.00	0.00

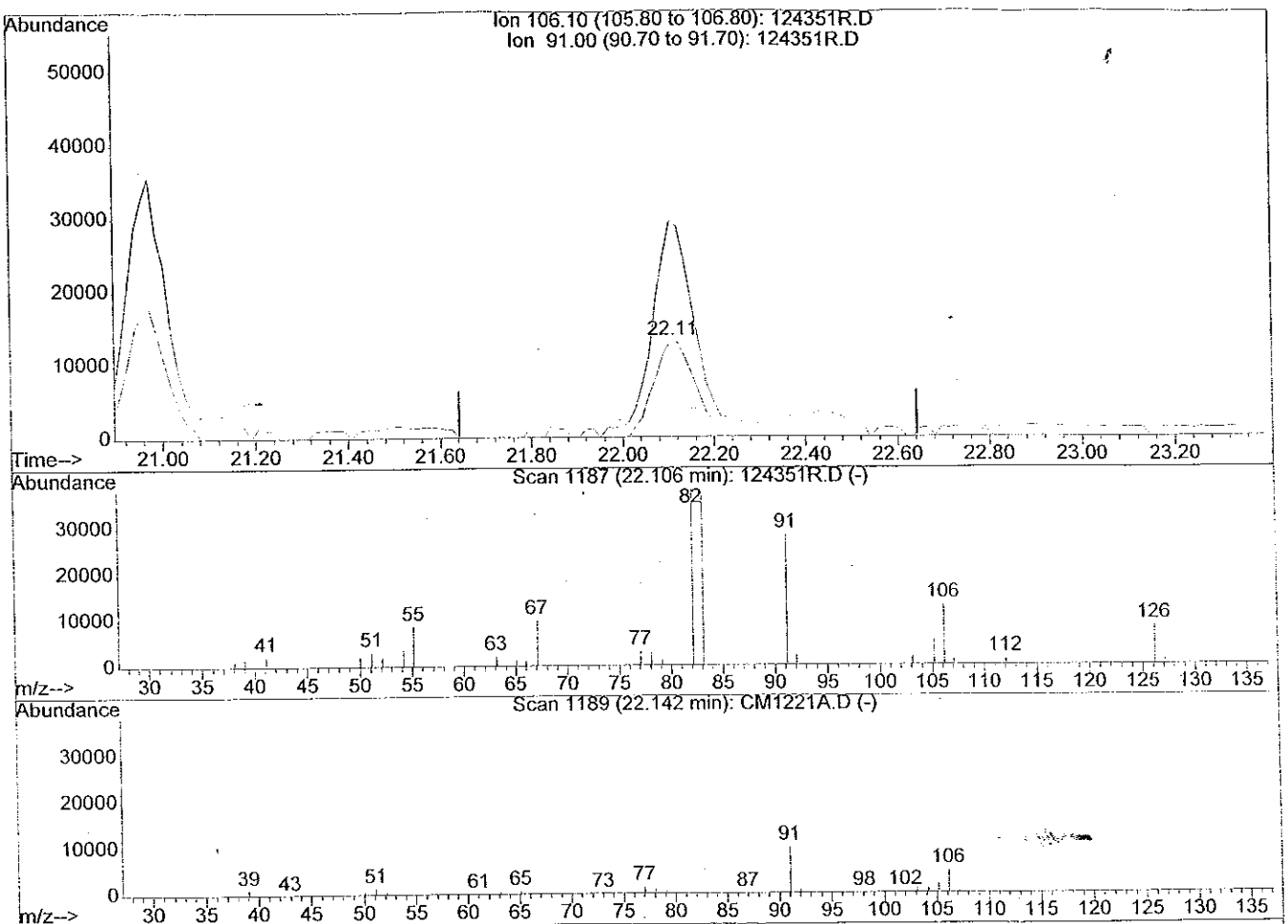
124351R.D TO14S.M Fri Dec 21 14:30:20 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D
Acq On : 21 Dec 2001 13:39
Sample : 062SVEEA12120123\12435-1 ST. 500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 14:29 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 : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.11min 15.83ng

response 81115

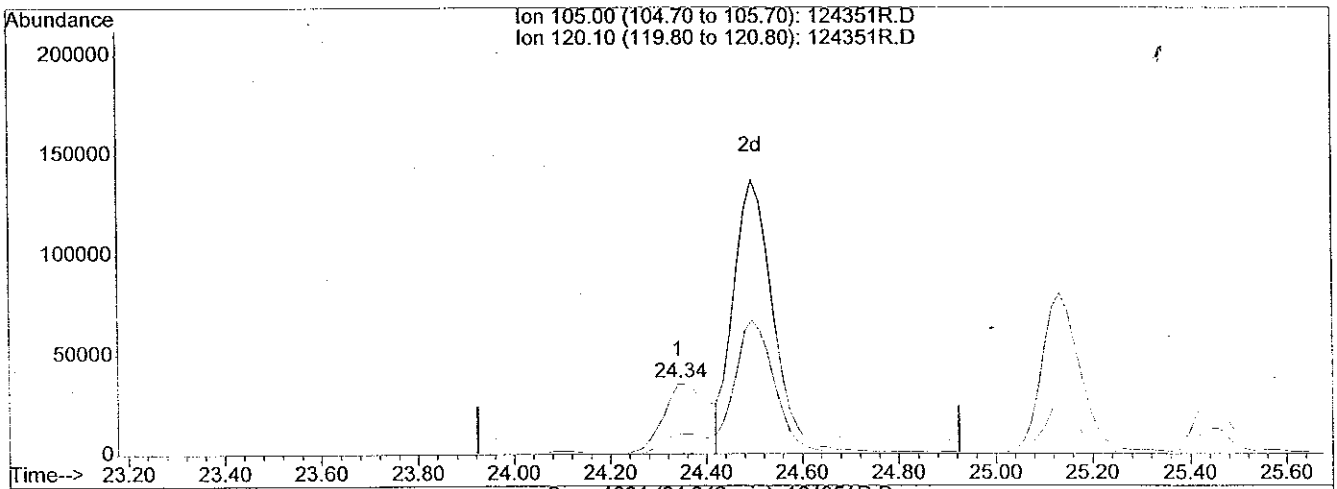
Ion	Exp%	Act%
106.10	100	100
91.00	215.80	241.09
0.00	0.00	0.00
0.00	0.00	0.00

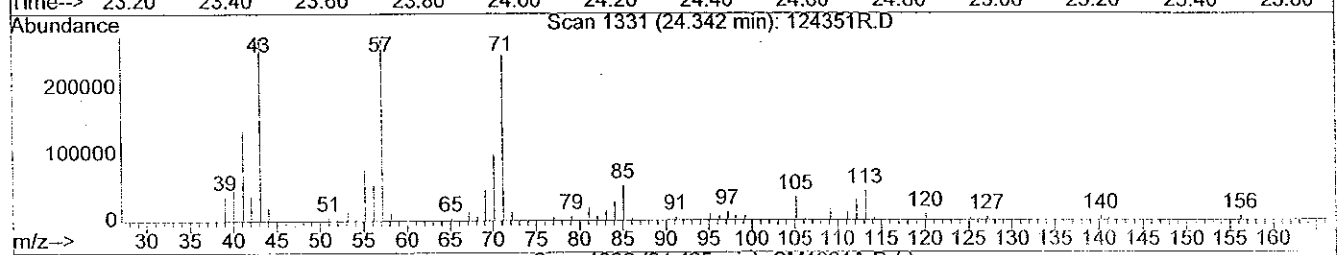
124351R.D TO14S.M Fri Dec 21 14:30:35 2001

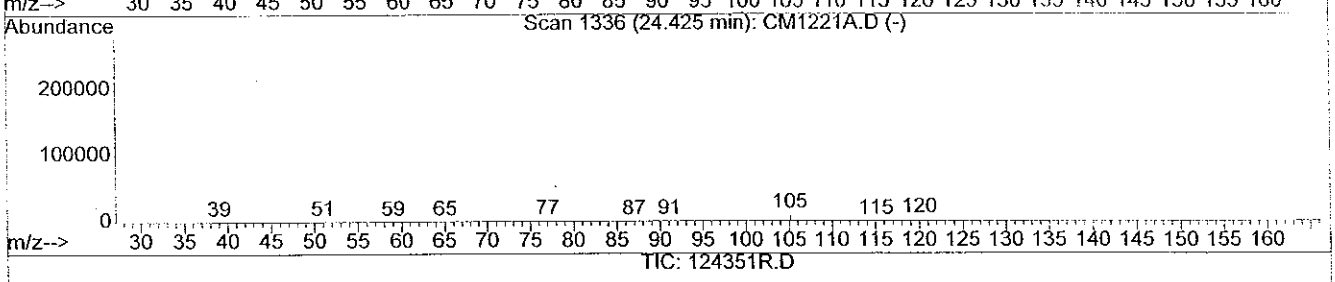
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration







TIC: 124351R.D

(48) 4-Ethyltoluene

24.34min 17.15ng

response 235057

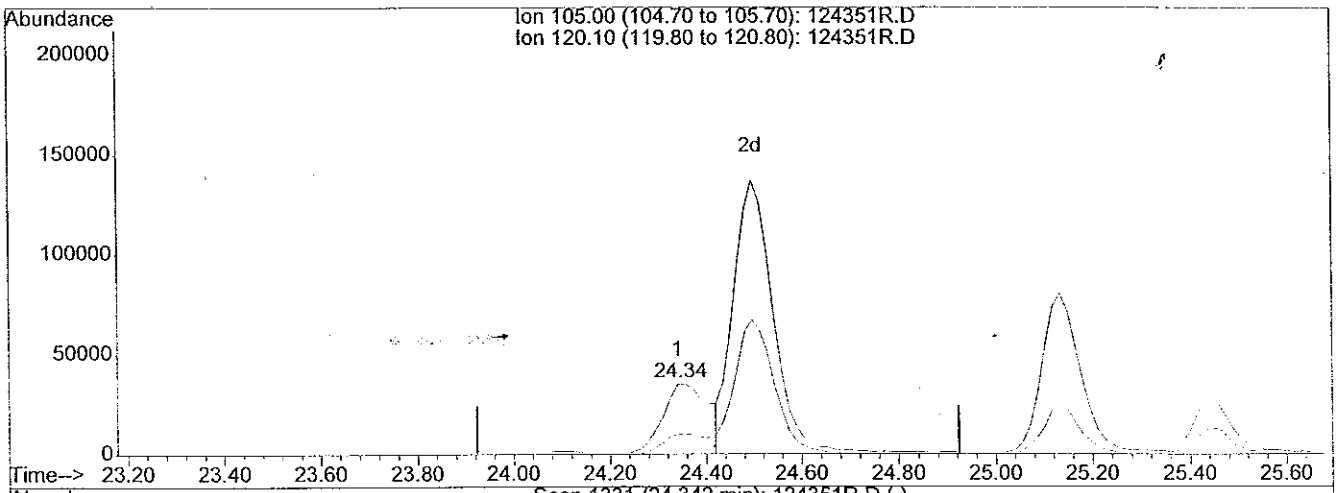
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	26.37
0.00	0.00	0.00
0.00	0.00	0.00

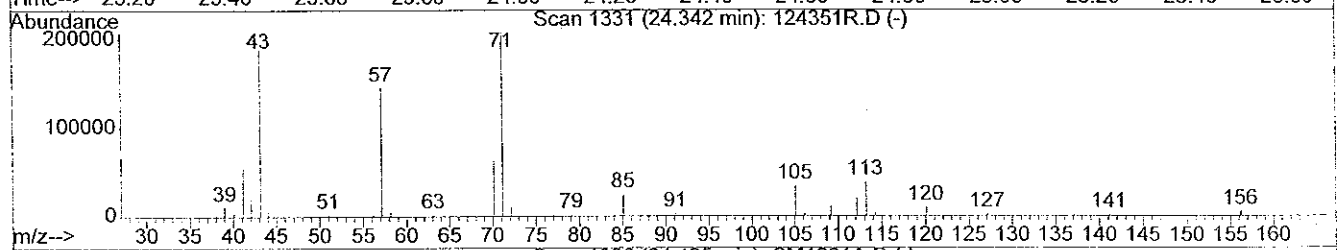
124351R.D TO14S.M Fri Dec 21 14:33:41 2001

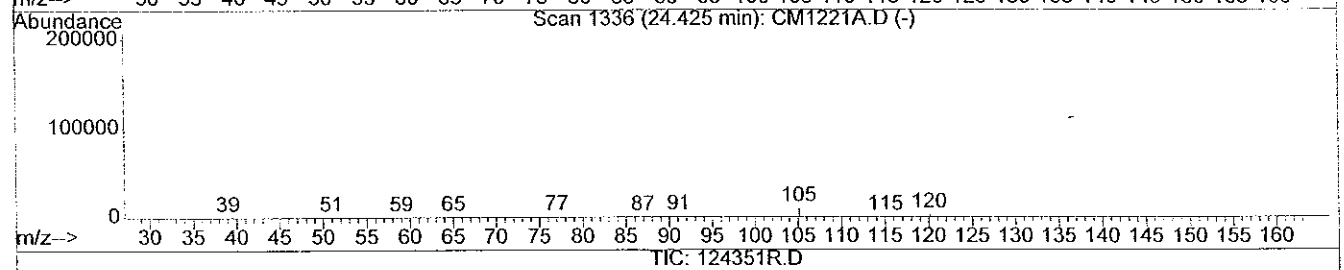
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:30 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration







TIC: 124351R.D

(48) 4-Ethyltoluene

24.34min 17.15ng

response 235057

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	26.37
0.00	0.00	0.00
0.00	0.00	0.00

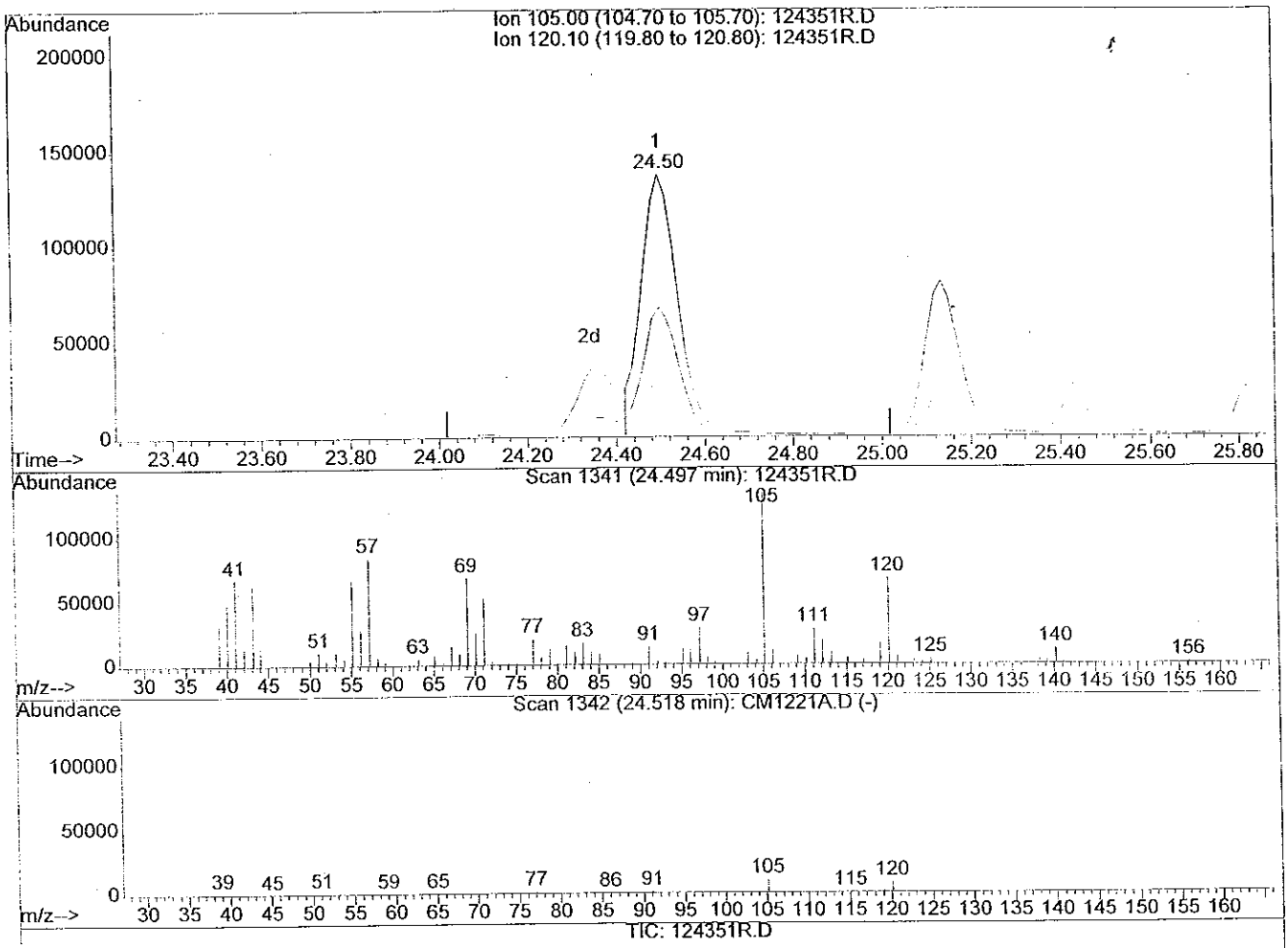
124351R.D TO14S.M Fri Dec 21 14:37:09 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D
Acq On : 21 Dec 2001 13:39
Sample : 062SVEEA12120123\12435-1 ST..500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 14:30 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 : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.50min 76.13ng

response 803061

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	49.04
0.00	0.00	0.00
0.00	0.00	0.00

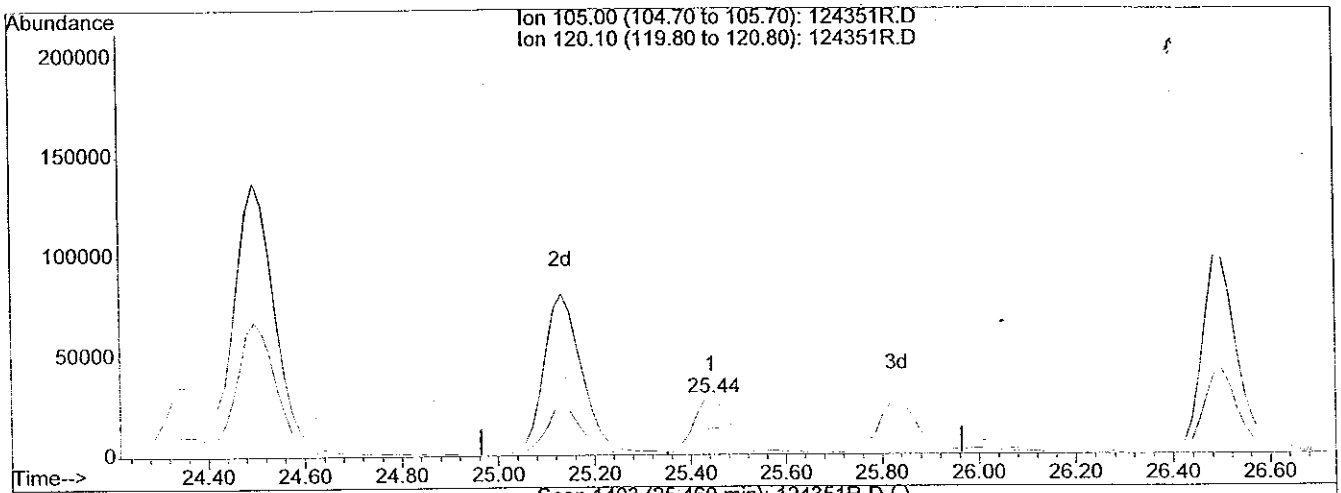
124351R.D TO14S.M Fri Dec 21 14:37:14 2001

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D
Acq On : 21 Dec 2001 13:39
Sample : 062SVEEA12120123\12435-1 ST. 500mls
Misc : Pi/Pf=2 MA256ABK
MS Integration Params: rteint.p
Quant Time: Dec 21 14:37 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 : Fri Dec 21 10:42:37 2001
Response via : Multiple Level Calibration



(51) 1,2,4-Trimethylbenzene

25.44min 14.97ng

response 164740

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	43.28
0.00	0.00	0.00
0.00	0.00	0.00

124351R.D TO14S.M Fri Dec 21 14:37:33 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:14 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 original
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1221A\CM1221A.D (21 Dec 2001 9:59)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	942803	250.00 ng	0.01 128.70%
26) 1,4-Difluorobenzene IS#2	13.29	114	3709096	250.00 ng	0.00 123.75%
36) Chlorobenzene-d5 IS#3	20.57	117	2901111	250.00 ng	-0.04 125.92%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	1092480	271.79 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 108.72%		
32) Toluene-d8 SURR#2	16.81	98	2978823	259.40 ng	-0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.76%		
46) 4-Bromofluorobenzene SURR#	23.72	95	2477149	241.69 ng	-0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 96.68%		

Target Compounds

					Qvalue	
4) Chloromethane	4.53	50	1001	0.31 ng	#	1
6) Bromomethane	5.39	94	3285	0.62 ng	#	9
16) n-Hexane	8.71	57	167834	38.64 ng	#	1
20) Isooctane	11.98	57	151205	10.34 ng	#	1
24) 1,2-Dichloroethane	12.68	62	3160	0.71 ng	#	1
27) Benzene	12.74	78	33927	3.21 ng	#	65
29) 1,2-Dichloropropane	14.28	63	16882	3.81 ng	#	1
30) Bromodichloromethane	14.84	83	67448	6.61 ng	#	25
33) Toluene	17.00	92	16174	2.38 ng	#	77
35) 1,1,2-Trichloroethane	17.96	97	61189	14.83 ng	#	17
37) Tetrachloroethene	18.63	164	15749	2.78 ng		97
38) Dibromochloromethane	19.20	127	29119	3.93 ng	#	82
39) Chlorobenzene	20.60	112	21977	2.15 ng	#	33
40) Ethylbenzene	20.77	106	22066	5.38 ng		90
41) m,p-Xylene	20.97	106	105759	20.06 ng		97
42) o-Xylene	22.11	106	81115	15.83 ng		84
45) 1,1,2,2-Tetrachloroethane	23.52	83	319916	52.99 ng	#	41
48) 4-Ethyltoluene	24.34	105	235057	17.15 ng		95
49) 1,3,5-Trimethylbenzene	24.50	105	803061	76.13 ng		96
50) 2-Chlorotoluene	24.50	91	80864	6.00 ng	#	47
51) 1,2,4-Trimethylbenzene	25.44	105	164740	14.97 ng		98
55) 1,2,4-Trichlorobenzene	30.52	180	1126	0.19 ng	#	12
56) Napthalene	31.10	128	8662	7.17 ng	#	64

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:14 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

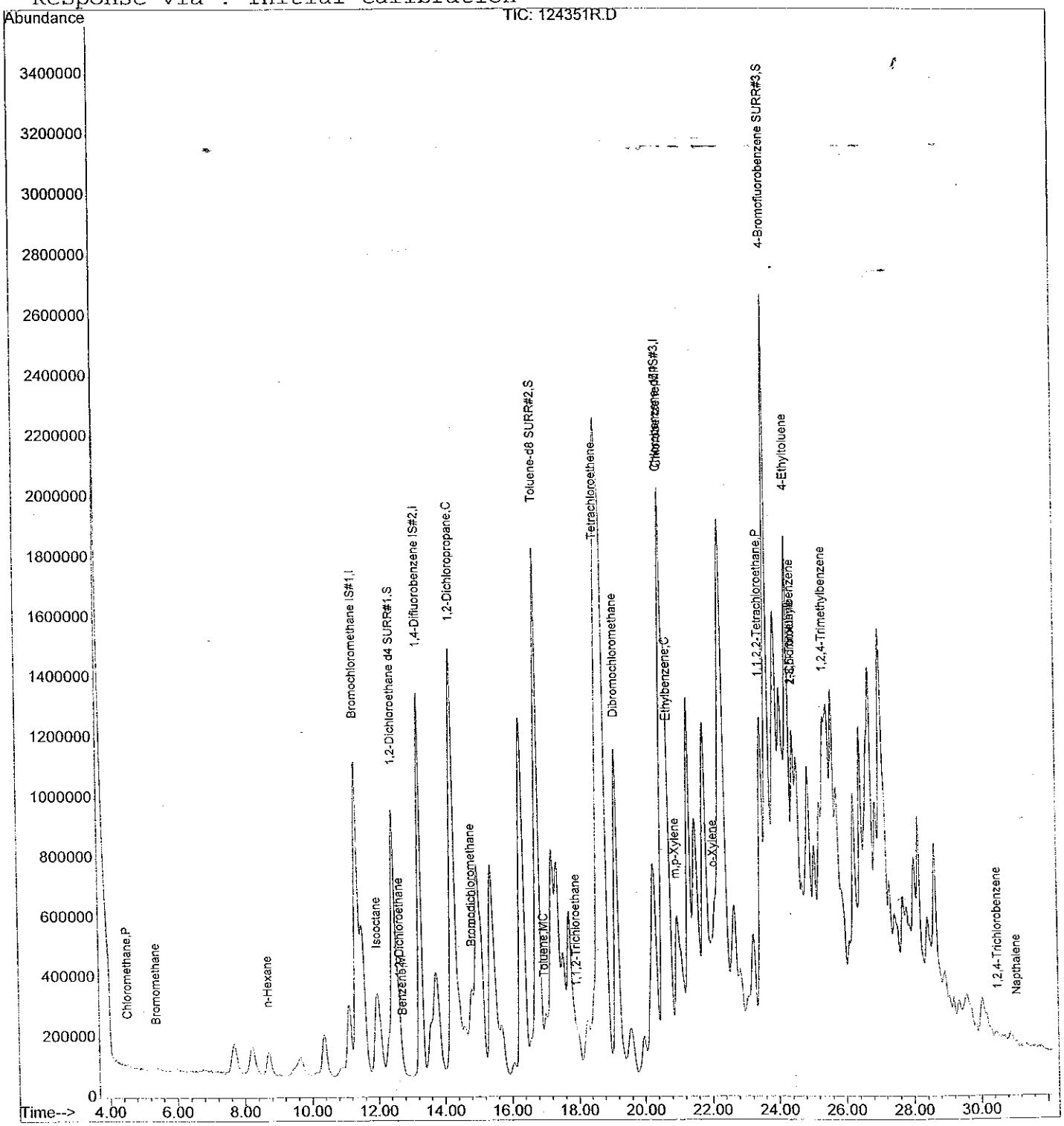
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue

(#) = qualifier out of range (m) = manual integration
124351R.D TO14S.M Fri Dec 21 14:14:07 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1221A\124351R.D Vial: 1
Acq On : 21 Dec 2001 13:39 Operator: BDH
Sample : 062SVEEA12120123\12435-1 ST. 500mls Inst : GC/MS Ins
Misc : Pi/Pf=2 MA256ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:14 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



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

Analyst/Date

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~	LOG I.D.
502C	A804036	Acc STD	2000 µg/ml	7/1999	DWS 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DWS 5/28/98	7-VN 2-2
8260 SURR	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWS 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWS 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~BH~~ 7/24/98	7-VN 2-9
8260 SURR	A1174	Restek	2500 µg/ml	8/2001	DWS 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWS 10/6/98	7-VN 2-11
Matrix Spike	LA76220	Supelco	25 µg/ml	8/2000	DWS 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DWS 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varian	6/2000	DWS 11/10	7-VN 2-14
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8050042-JB	Accustandard	200.1 µg/ml	9/99	BD 1/29/99	7-VN 2-17
VOC Calibration Kit	CA81055	Supelco	2000 µg/ml	4/2000	DWS 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWS 3/9/99	7-VN 2-19
Custom Keytone Mix	LA01111S	Restek	2000 µg/ml	3/2000	DWS 3/10/99	7-VN 2-20
8260 Volatile Kit	Varian	Restek	Varian	6/2001	DWS 3/10/99	7-VN 2-21
8260 Calib. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWS 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DWS 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DWS 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DWS 5/19/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83448	Supelco	2000 µg/ml	9/2000	DWS 6/9/99	7-VN 2-27
I do not know	LA81867	Supelco	2000	4/2000	DWS 6/9/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	MJ 6/19/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	MJ 6/19/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	MJ 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	MJ 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	MJ 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MJ 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short List Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 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	LA8560S	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90448	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016395	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/05 ~~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	LA89947	Supleco	2,000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89788	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016078	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	11/2004 11/1/2001	11/1/00	1 ench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/16/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Tabouethane	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: MCO

Standard I.D.: 8 -MSW 26-1
Location: Freezer MS018
Solvent: MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN 2-21 IS	A018631	6/2004	2500	500	50	25 ug/ml
8-VN 2-13 SURR	A017977	3/2004	2500	500	50	25 ug/ml

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

Standard I.D.: 8 -MSW 26-2
Location: MS018 Freezer
Solvent: MeOH V04E74

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

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: SAM

Standard I.D.: 8 -MSW 26-3
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	2500 ug/ml	500 uls	50 uls	25 ppm
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	4000	625	25 mls	25 ppm

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SUM	A017973	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Cylinder)	LA90724	7-1-01	2500 µg/ml	250 µl	25 mls	25 µg/ml
8-VN2-11 (Iso-octane)	B0110734	12-1-01	2000 µg/ml	312.5 µl	25 mls	25 µg/ml

Comments: expires 12/28/01

Appendix B

Laboratory Analytical Reports for Groundwater Samples

(provided on CD)

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	12-20-01; 10:40 AM
Date Reported:	1-2-02
PEL Submission Number:	2112009
Project:	NAS Cecil Field (103RD Street)

Samples: The submission consisted of 17 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
8021 and 8310

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

CGI NAVY RAC PMO
#1 - 3

Respectfully Submitted,

Brian Spann
Laboratory Manager
PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualitities of apparently identical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2112009-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2112009	062DUPQ40123	N	211200915	062-DUP-Q4-01-23
Cecil Field	2112009	062EQBQ40123	EB	211200916	062-EQB-Q4-01-23
Cecil Field	2112009	062MW13Q40123	N	211200903	062-MW13-Q4-01-23
Cecil Field	2112009	062MW20Q401	N	211200904	062-MW20-Q4-01-23
Cecil Field	2112009	062MW20Q401MS	MS	211200905	062-MW20-Q4-01-23
Cecil Field	2112009	062MW20Q401SD	SD	211200906	062-MW20-Q4-01-23
Cecil Field	2112009	062MW22Q40123	N	211200907	062-MW22-Q4-01-23
Cecil Field	2112009	062MW4Q40123	N	211200901	062-MW4-Q4-01-23
Cecil Field	2112009	062MW9Q40123	N	211200902	062-MW9-Q4-01-23
Cecil Field	2112009	062TBQ40123	TB	211200917	062-TB-Q4-01-23
Cecil Field	2112009	062VEW2Q40123	N	211200908	062-VEW2-Q4-01-23
Cecil Field	2112009	062VEW3Q40123	N	211200909	062-VEW3-Q4-01-23
Cecil Field	2112009	062VEW4Q40123	N	211200910	062-VEW4-Q4-01-23
Cecil Field	2112009	062VEW5Q40123	N	211200911	062-VEW5-Q4-01-23
Cecil Field	2112009	062VEW6Q40123	N	211200912	062-VEW6-Q4-01-23
Cecil Field	2112009	062VEW7Q40123	N	211200913	062-VEW7-Q4-01-23
Cecil Field	2112009	062VEW8Q40123	N	211200914	062-VEW8-Q4-01-23
Cecil Field	2112009	1221ABLK	MB	56388	1221ABLK
Cecil Field	2112009	1221ALCS	BS	56389	1221ALCS
Cecil Field	2112009	1226blk41	MB	1226blk41	1226blk41
Cecil Field	2112009	1226lcs41	BS	1226lcs41	1226lcs41
Cecil Field	2112009	1228blk41	MB	1228blk41	1228blk41
Cecil Field	2112009	1228lcs41	BS	1228lcs41	1228lcs41

Organics **1**
METHOD8021 GC VOLATILE ORGANICS 4
Sample Data 8
QC Summary 24
Standards Data 37
METHOD8310 HPLC PAH ORGANICS 48
Sample Data 52
QC Summary 67
Standards Data 77

Chain of Custody Documentation **87**

Addendum **92**

Organics

020102 1546

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.

020102 1546

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 VOLATILE ORGANICS

METHOD 8021

020102 1546

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2112009

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. **Sample Preparation:** All holding times were met.

B. **Sample Analysis:** All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8021 volatiles analysis.
All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. **Calibration:**

All acceptance criteria were met.

B. **Blanks:**

Blank 1226blk41 had o-Xylene above the MDL but below the RL. All associated samples received the appropriate qualifier. Blank 1228blk41 met the criteria.

C. **Surrogates:**

All surrogate criteria were met.

D. **Spikes:**

Laboratory Control Samples (LCS)

The LCSs met the criteria.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2112009

Spikes continued:

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, 062MW20Q401, was analyzed as an MS/SD where all criteria were met.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specific reporting limits were used. All analytes were quantitated off of the PID detector.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Pelo **DATE:** 12/28/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Method: 8021

EPA Sample No	Lab Sample ID
062MW4Q40123	211200901
062MW9Q40123	211200902
062MW13Q40123	211200903
062MW20Q401	211200904
062MW22Q40123	211200907
062VEW2Q40123	211200908
062VEW3Q40123	211200909
062VEW4Q40123	211200910
062VEW5Q40123	211200911
062VEW6Q40123	211200912
062VEW7Q40123	211200913
062VEW8Q40123	211200914
062DUPQ40123	211200915
062EQBQ40123	211200916
062TBQ40123	211200917

020102 1546

Sample Data

020102 1546

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW4Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200901 Lab File ID 9-1.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1434

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-293-4 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW9Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200902 Lab File ID 9-2.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1557

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-293-9 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.28	JB

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW13Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200903 Lab File ID 9-3.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1639

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-293-13 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.53	
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.25	JB

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW20Q401

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200904 Lab File ID 9-4.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1352

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-293-20 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.68	
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.52	
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.69	B

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062MW22Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200907 Lab File ID 9-7.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1721

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: CEF-293-22 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	8.7	
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	1.2	
511-39-00	p,m-Xylene	0.71	J
95-47-6	o-Xylene	0.86	B

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW2Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200908 Lab File ID 9-8.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/28/01 Time: 1209

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-2 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	22	
511-39-00	p,m-Xylene	3.8	
95-47-6	o-Xylene	8.8	

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW3Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200909 Lab File ID 9-9.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/27/01 Time: 0141

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-3 Method: 8021

GPC Cleanup: (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.29	JB

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW4Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200910 Lab File ID 9-10.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/27/01 Time: 0059

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-4 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW5Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200911 Lab File ID 9-11.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/27/01 Time: 0017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-5 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW6Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200912 Lab File ID 9-12.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2335

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-6 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW7Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200913 Lab File ID 9-13.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2254

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-7 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW8Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200914 Lab File ID 9-14.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2212

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-8 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	1.9	
511-39-00	p,m-Xylene	1.4	
95-47-6	o-Xylene	0.32	JB

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062DUPQ40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200915 Lab File ID 9-15.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2130

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Duplicate Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200916 Lab File ID 9-16.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2048

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equipment Blank Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062TBQ40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200917 Lab File ID 9-17.D

Sample wt/vol: 5 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2007

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

QC Summary

020102 1546

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1226blk41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 1226blk41 Lab File ID BLK41.D

Sample wt/vol: 5 Units: ML Date Received: 12/26/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1117

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.37	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1228blk41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 1228blk41 Lab File ID BLK41.D

Sample wt/vol: 5 Units: ML Date Received: 12/28/01

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 12/28/01 Time: 1044

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	0.5	U
1634-04-4	MTBE	0.76	U
108-88-3	Toluene	0.5	U
100-41-4	Ethylbenzene	0.5	U
511-39-00	p,m-Xylene	1	U
95-47-6	o-Xylene	0.5	U

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1226blk41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Lab File ID: BLK41.D Lab Sample ID: 1226blk41

Instrument ID: VGC4 Date Extracted:

Matrix: WATER Date Analyzed: 12/26/01

Level:(low/med) LOW Time Analyzed: 1117

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	1226lcs41	1226lcs41	LCS41.D	12/26/01	1035
2	062MW20Q401MS	211200905	9-5S.D	12/26/01	1228
3	062MW20Q401	211200904	9-4.D	12/26/01	1352
4	062MW4Q40123	211200901	9-1.D	12/26/01	1434
5	062MW20Q401SD	211200906	9-6D.D	12/26/01	1516
6	062MW9Q40123	211200902	9-2.D	12/26/01	1557
7	062MW13Q40123	211200903	9-3.D	12/26/01	1639
8	062MW22Q40123	211200907	9-7.D	12/26/01	1721
9	062TBQ40123	211200917	9-17.D	12/26/01	2007
10	062EQBQ40123	211200916	9-16.D	12/26/01	2048
11	062DUPQ40123	211200915	9-15.D	12/26/01	2130
12	062VEW8Q40123	211200914	9-14.D	12/26/01	2212
13	062VEW7Q40123	211200913	9-13.D	12/26/01	2254
14	062VEW6Q40123	211200912	9-12.D	12/26/01	2335
15	062VEW5Q40123	211200911	9-11.D	12/27/01	0017
16	062VEW4Q40123	211200910	9-10.D	12/27/01	0059
17	062VEW3Q40123	211200909	9-9.D	12/27/01	0141

COMMENTS:

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1228blk41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Lab File ID: BLK41.D Lab Sample ID: 1228blk41

Instrument ID: VGC4 Date Extracted:

Matrix: WATER Date Analyzed: 12/28/01

Level:(low/med) LOW Time Analyzed: 1044

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	1228lcs41	1228lcs41	LCS41.D	12/28/01	1126
2	062VEW2Q40123	211200908	9-8.D	12/28/01	1209

COMMENTS:

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2112009

Column(1): RTX-502.2 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40123	102.7						0
062EQBQ40123	109.7						0
062MW13Q40123	114.7						0
062MW20Q401	114.7						0
062MW20Q401MS	114.0						0
062MW20Q401SD	116.7						0
062MW22Q40123	113.0						0
062MW4Q40123	112.7						0
062MW9Q40123	111.7						0
062TBQ40123	108.3						0
062VEW2Q40123	113.3						0
062VEW3Q40123	106.3						0
062VEW4Q40123	109.0						0
062VEW5Q40123	106.7						0
062VEW6Q40123	110.3						0
062VEW7Q40123	110.3						0
062VEW8Q40123	109.0						0
1226blk41	116.7						0
1226lcs41	112.7						0
1228blk41	122.0						0
1228lcs41	114.0						0

Control Limits

S1 = 4-Bromofluorobenzene 71 - 124

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

020102 1546

8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Lab File ID (Standard): 30PPB.D Date Analyzed: 12/24/2001

Instrument ID: VGC4 Time Analyzed: 16:58

GC Column: RTX-502.2 ID: 0.53 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA #	RT	IS2 AREA #	RT	IS3 AREA #	RT
	MID CAL STD	607521	13.77				
	UPPER LIMIT	1215042	14.27				
	LOWER LIMIT	303760.5	13.27				
	EPA SAMPLE NO.						
1	1226lcs41	599665	13.77				
2	1226blk41	564569	13.77				
3	062MW20Q401MS	607397	13.76				
4	062MW20Q401	577972	13.78				
5	062MW4Q40123	576370	13.79				
6	062MW20Q401SD	599564	13.78				
7	062MW9Q40123	584761	13.77				
8	062MW13Q40123	565171	13.76				
9	062MW22Q40123	587138	13.76				
10	062TBQ40123	569436	13.75				
11	062EQBQ40123	560461	13.75				
12	062DUPQ40123	576437	13.77				
13	062VEW8Q40123	595014	13.76				
14	062VEW7Q40123	568510	13.75				
15	062VEW6Q40123	575895	13.75				
16	062VEW5Q40123	570491	13.76				
17	062VEW4Q40123	563242	13.78				
18	062VEW3Q40123	575282	13.76				
19	1228blk41	597458	13.73				
20	1228lcs41	646900	13.73				
21	062VEW2Q40123	654021	13.73				

IS1 = 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 ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 12/24/01

Instrument ID: VGC4

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.16 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD4442	500pptstd	12/24/01	1038	28.13	
2	STD4443	1ppbstd	12/24/01	1202	28.17	
3	STD4444	2ppbstd	12/24/01	1327	28.18	
4	STD4445	5ppbstd	12/24/01	1451	28.18	
5	STD4446	10ppbstd	12/24/01	1533	28.17	
6	STD4447	20ppbstd	12/24/01	1616	28.16	
7	STD4448	30ppbstd	12/24/01	1658	28.14	
8	STD4449	40ppbstd	12/24/01	1739	28.13	
9	STD4450	50ppbstd	12/24/01	1821	28.13	
10	STD4451	100ppbstd	12/24/01	1903	28.13	
11	CCV4452	1226ccv41	12/26/01	0830	28.07	
12	ZZZZZZ	ZZZZZZ	12/26/01	0912		
13	1226lcs41	1226lcs41	12/26/01	1035	28.13	
14	1226blk41	1226blk41	12/26/01	1117	28.15	
15	062MW20Q401MS	211200905	12/26/01	1228	28.13	
16	062MW20Q401	211200904	12/26/01	1352	28.15	
17	062MW4Q40123	211200901	12/26/01	1434	28.16	
18	062MW20Q401SD	211200906	12/26/01	1516	28.15	
19	062MW9Q40123	211200902	12/26/01	1557	28.13	
20	062MW13Q40123	211200903	12/26/01	1639	28.13	
21	062MW22Q40123	211200907	12/26/01	1721	28.13	
22	ZZZZZZ	ZZZZZZ	12/26/01	1802		
23	CCV4464	1226ccv44	12/26/01	1844	28.13	
24	ZZZZZZ	ZZZZZZ	12/26/01	1926		
25	062TBQ40123	211200917	12/26/01	2007	28.11	
26	062EQBQ40123	211200916	12/26/01	2048	28.13	

S1 = 4-Bromofluorobenzene QC LIMITS (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

Page 1 of 2

020102 1546

FORM VIII

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 12/24/01

Instrument ID: VGC4

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.16 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	062DUPQ40123	211200915	12/26/01	2130	28.13	
28	062VEW8Q40123	211200914	12/26/01	2212	28.13	
29	062VEW7Q40123	211200913	12/26/01	2254	28.11	
30	062VEW6Q40123	211200912	12/26/01	2335	28.13	
31	062VEW5Q40123	211200911	12/27/01	0017	28.14	
32	062VEW4Q40123	211200910	12/27/01	0059	28.14	
33	062VEW3Q40123	211200909	12/27/01	0141	28.12	
34	ZZZZZZ	ZZZZZZ	12/27/01	0223		
35	ZZZZZZ	ZZZZZZ	12/27/01	0304		
36	CCV4477	1226ccv46	12/27/01	0346	28.15	
37	ZZZZZZ	ZZZZZZ	12/28/01	0839		
38	CCV4479	1228ccv42	12/28/01	0920	28.05	
39	ZZZZZZ	ZZZZZZ	12/28/01	1002		
40	1228blk41	1228blk41	12/28/01	1044	28.1	
41	1228lcs41	1228lcs41	12/28/01	1126	28.1	
42	062VEW2Q40123	211200908	12/28/01	1209	28.1	
43	CCV4484	1228ccv43	12/28/01	1251	28.18	

QC LIMITS
S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

1226lcs41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	10.8	108.0	86 - 117
MTBE	10	11.2	112.0	61 - 138
Toluene	10	11	110.0	87 - 118
Ethylbenzene	10	11.1	111.0	84 - 119
p,m-Xylene	20	22.1	110.5	86 - 119
o-Xylene	10	11.4	114.0	87 - 119

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

020102 1546

Form III

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1228lcs41

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	10.4	104.0	86 - 117
MTBE	10	12.5	125.0	61 - 138
Toluene	10	10.7	107.0	87 - 118
Ethylbenzene	10	10.8	108.0	84 - 119
p,m-Xylene	20	21.5	107.5	86 - 119
o-Xylene	10	11.2	112.0	87 - 119

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

020102 1546

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW20Q401MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Benzene	10	0.68	11.3	106.2	82 - 122
MTBE	10	0	9.9	99.0	67 - 137
Toluene	10	0.52	11.4	108.8	80 - 124
Ethylbenzene	10	0	11.4	114.0	79 - 123
p,m-Xylene	20	0	22.4	112.0	82 - 122
o-Xylene	10	0.69	11.9	112.1	81 - 124

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

020102 1546

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW20Q401SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	11.2	105.2	1.0	12	82 - 122
MTBE	10	10.9	109.0	9.6	15	67 - 137
Toluene	10	11.4	108.8	0.3	14	80 - 124
Ethylbenzene	10	11.2	112.0	1.5	18	79 - 123
p,m-Xylene	20	22.1	110.5	1.5	19	82 - 122
o-Xylene	10	11.8	111.1	0.7	16	81 - 124

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

020102 1546

Standards Data

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 Calibration Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1903

LAB FILE ID: RRF0.5 =500PPT.D RRF1 =1PPB.D
RRF2 =2PPB.D RRF10 =5PPB.D RRF10 =10PPB.D

COMPOUND	RRF0.5	RRF1	RRF2	RRF10	RRF10
Benzene	2.463	2.169	2.095	1.949	1.960
MTBE	0.908	1.259	0.867	1.075	0.984
Toluene	2.169	2.090	1.924	1.725	1.725
Ethylbenzene	1.911	1.692	1.557	1.487	1.503
p,m-Xylene	2.292	1.908	1.800	1.696	1.735
o-Xylene	1.700	1.509	1.581	1.401	1.479
4-Bromofluorobenzene(SURR)	1.865	1.654	1.620	1.341	0.990

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 Calibration Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1903

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D
RRF40 =40PPB.D RRF100 =50PPB.D RRF100 =100PPB.D

COMPOUND	RRF20	RRF30	RRF40	RRF100	RRF100
Benzene	1.858	1.819	1.793	1.763	1.543
MTBE	0.916	0.870	0.864	0.850	0.886
Toluene	1.629	1.601	1.581	1.550	1.493
Ethylbenzene	1.437	1.411	1.397	1.370	1.317
p,m-Xylene	1.656	1.621	1.610	1.570	1.495
o-Xylene	1.419	1.391	1.379	1.348	1.254
4-Bromofluorobenzene(SURR)	1.665	1.537	1.599	1.516	1.436

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 Calibration Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1903

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Benzene	AVRG		1.941278234	13.1
MTBE	AVRG		0.947929042	13.6
Toluene	AVRG		1.748589542	13.4
Ethylbenzene	AVRG		1.508107154	11.7
p,m-Xylene	AVRG		1.738341347	13.1
o-Xylene	AVRG		1.446118084	8.8
4-Bromofluorobenzene(SURR)	AVRG		1.522355715	15.4

020102 1546

FORM VI

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 Calibration Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1903

LAB FILE ID: RT1: 500PPT.D RT2: 1PPB.D
RT3: 2PPB.D RT4: 5PPB.D RT5: 10PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Benzene	13.327	13.367	13.373	13.370	13.370			
MTBE	8.913	8.957	8.963	8.920	8.903			
Toluene	17.997	18.033	18.053	18.050	18.047			
Ethylbenzene	24.077	24.107	24.133	24.127	24.123			
p,m-Xylene	24.383	24.427	24.447	24.443	24.430			
o-Xylene	26.033	26.067	26.087	26.080	26.077			
4-Bromofluorobenzene(SURR)	28.130	28.170	28.177	28.177	28.167			

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 Calibration Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1903

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D
RT8: 40PPB.D RT9: 50PPB.D RT10: 100PPB.D

COMPOUND	RT6	RT7	RT8	RT9	RT10	MEAN RT	RT WINDOW FROM	TO
Benzene	13.360	13.340	13.330	13.330	13.330	13.350	13.130	13.530
MTBE	8.900	8.887	8.870	8.873	8.883	8.907	8.673	9.073
Toluene	18.030	18.007	17.993	17.993	17.997	18.020	17.793	18.193
Ethylbenzene	24.103	24.077	24.063	24.067	24.073	24.095	23.867	24.267
p,m-Xylene	24.417	24.400	24.380	24.383	24.390	24.410	24.183	24.583
o-Xylene	26.060	26.043	26.030	26.033	26.033	26.054	25.833	26.233
4-Bromofluorobenzene(SURR)	28.160	28.140	28.133	28.133	28.133	28.152	27.960	28.360

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 CalibrationDate: 12/26/01 Time: 0830

Lab File ID: CCV41.D Init. Calib. Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.94128	1.814	6.6
MTBE	0.94793	0.9544	0.7
Toluene	1.74859	1.623	7.2
Ethylbenzene	1.50811	1.459	3.3
p,m-Xylene	1.73834	1.687	3.0
o-Xylene	1.44612	1.407	2.7
==========	==========	==========	==========
4-Bromofluorobenzene	1.52235	1.607	5.6

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 CalibrationDate: 12/26/01 Time: 1844

Lab File ID: CCV44.D Init. Calib. Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.94128	1.811	6.7
MTBE	0.94793	0.8623	9.0
Toluene	1.74859	1.613	7.8
Ethylbenzene	1.50811	1.44	4.5
p,m-Xylene	1.73834	1.654	4.9
o-Xylene	1.44612	1.408	2.6
4-Bromofluorobenzene	1.52235	1.633	7.3

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 CalibrationDate: 12/27/01 Time: 0346

Lab File ID: CCV46.D Init. Calib. Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.94128	1.759	9.4
MTBE	0.94793	0.8636	8.9
Toluene	1.74859	1.552	11.2
Ethylbenzene	1.50811	1.375	8.8
p,m-Xylene	1.73834	1.587	8.7
o-Xylene	1.44612	1.385	4.2
==========			
4-Bromofluorobenzene	1.52235	1.636	7.5

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 CalibrationDate: 12/28/01 Time: 0920

Lab File ID: CCV42.D Init. Calib. Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.94128	1.834	5.5
MTBE	0.94793	1.009	6.4
Toluene	1.74859	1.645	5.9
Ethylbenzene	1.50811	1.482	1.7
p,m-Xylene	1.73834	1.717	1.2
o-Xylene	1.44612	1.448	0.1
==========	==========	==========	==========
4-Bromofluorobenzene	1.52235	1.698	11.5

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: VGC4 CalibrationDate: 12/28/01 Time: 1251

Lab File ID: CCV43.D Init. Calib. Date: 12/24/01

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.94128	1.977	1.8
MTBE	0.94793	1.009	6.4
Toluene	1.74859	1.745	0.2
Ethylbenzene	1.50811	1.572	4.2
p,m-Xylene	1.73834	1.794	3.2
o-Xylene	1.44612	1.427	1.3
==========	==========	==========	==========
4-Bromofluorobenzene	1.52235	1.568	3.0

HPLC PAH ORGANICS

METHOD 8310

020102 1547

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2112009

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: 2112009

F. Samples:

Sample analysis proceeded normally.

The following analytes were quantified by the VWD detector: Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methyl Naphthalene, 2 -Methyl Naphthalene, Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Acenaphthene and Anthracene.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: _____ **DATE:** 01-22-02
Jesse Leonard

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Method: 8310

EPA Sample No	Lab Sample ID
062MW4Q40123	211200901
062MW9Q40123	211200902
062MW13Q40123	211200903
062MW20Q401	211200904
062MW22Q40123	211200907
062VEW2Q40123	211200908
062VEW3Q40123	211200909
062VEW4Q40123	211200910
062VEW5Q40123	211200911
062VEW6Q40123	211200912
062VEW7Q40123	211200913
062VEW8Q40123	211200914
062DUPQ40123	211200915
062EQBQ40123	211200916

020102 1547

Sample Data

020102 1547

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062MW4Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200901 Lab File ID 09-01.D

Sample wt/vol: 875 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1311

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-293-4 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	0.23	U
208-96-8	Acenaphthylene	0.23	U
90-12-0	1-Methylnaphthalene	0.23	U
91-57-6	2-Methylnaphthalene	0.23	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.23	U
85-01-8	Phenanthrene	0.23	U
120-12-7	Anthracene	0.23	U
206-44-0	Fluoranthene	0.23	U
129-00-0	Pyrene	0.23	U
56-55-3	Benzo(a)anthracene	0.23	U
218-01-9	Chrysene	0.23	U
205-99-2	Benzo(b)fluoranthene	0.23	U
207-08-9	Benzo(k)fluoranthene	0.23	U
50-32-8	Benzo(a)pyrene	0.23	U
53-70-3	Dibenz(a,h)anthracene	0.23	U
191-24-2	Benzo(g,h,i)perylene	0.23	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.23	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062MW9Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200902 Lab File ID 09-02.D

Sample wt/vol: 965 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1346

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-293-9 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.: 062MW13Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200903 Lab File ID 09-03.D

Sample wt/vol: 960 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1420

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-293-13 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	0.38	
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.97	
91-57-6	2-Methylnaphthalene	1.8	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.3	
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.: 062MW20Q401

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200904 Lab File ID 09-04.D

Sample wt/vol: 890 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1455

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: CEF-293-20 Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.24	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW22Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200907 Lab File ID 09-07.D

Sample wt/vol: 920 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1748

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: CEF-293-22 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	34.2	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	13.4	
91-57-6	2-Methylnaphthalene	17	
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.57	
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW2Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200908 Lab File ID 09-08.D

Sample wt/vol: 960 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1822

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-2 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	8.9	
90-12-0	1-Methylnaphthalene	19.3	
91-57-6	2-Methylnaphthalene	18.7	
83-32-9	Acenaphthene	2.2	
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	7.5	
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	11.6	
129-00-0	Pyrene	18.2	
56-55-3	Benzo(a)anthracene	1.2	
218-01-9	Chrysene	1.3	
205-99-2	Benzo(b)fluoranthene	0.93	
207-08-9	Benzo(k)fluoranthene	0.86	
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	0.34	
193-39-5	Indeno(1,2,3-cd)pyrene	0.38	

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062VEW3Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200909 Lab File ID 09-09.D

Sample wt/vol: 1000 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1857

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-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	0.2	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.
062VEW4Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200910 Lab File ID 09-10.D

Sample wt/vol: 940 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1931

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-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	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW5Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200911 Lab File ID 09-11.D

Sample wt/vol: 990 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2006

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-5 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW6Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200912 Lab File ID 09-12.D

Sample wt/vol: 940 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2041

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-6 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW7Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200913 Lab File ID 09-13.D

Sample wt/vol: 970 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2115

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-7 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW8Q40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200914 Lab File ID 09-14.D

Sample wt/vol: 905 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2150

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: VEW-8 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	0.84	
91-57-6	2-Methylnaphthalene	0.67	
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.: 062DUPQ40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200915 Lab File ID 09-15.D

Sample wt/vol: 960 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2224

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Duplicate Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062EQBQ40123

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 211200916 Lab File ID 09-16.D

Sample wt/vol: 990 Units: ML Date Received: 12/20/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 2259

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	0.2	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

QC Summary

020102 1547

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 1221ABLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Matrix: WATER Lab Sample ID: 56388 Lab File ID 1221AB.D

Sample wt/vol: 1000 Units: ML Date Received: 12/21/01

Concentrated Extract Volume: 1 Date Extracted: 12/21/01

Level:(low/med) LOW Date Analyzed: 12/26/01 Time: 1053

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8310

GPC Cleanup: (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	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.: 1221ABLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

Lab File ID 1221AB.D Lab Sample ID: 56388

Instrument ID: SLC02 Date Extracted: 12/21/01

Matrix: WATER Date Analyzed: 12/26/01

Level:(low/med) LOW Time Analyzed: 1053

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	1221ALCS	56389	1221ALCS.D	12/26/01	1127
2	062MW4Q40123	211200901	09-01.D	12/26/01	1311
3	062MW9Q40123	211200902	09-02.D	12/26/01	1346
4	062MW13Q40123	211200903	09-03.D	12/26/01	1420
5	062MW20Q401	211200904	09-04.D	12/26/01	1455
6	062MW20Q401MS	211200905	09-04MS.D	12/26/01	1529
7	062MW20Q401SD	211200906	09-04SD.D	12/26/01	1604
8	062MW22Q40123	211200907	09-07.D	12/26/01	1748
9	062VEW2Q40123	211200908	09-08.D	12/26/01	1822
10	062VEW3Q40123	211200909	09-09.D	12/26/01	1857
11	062VEW4Q40123	211200910	09-10.D	12/26/01	1931
12	062VEW5Q40123	211200911	09-11.D	12/26/01	2006
13	062VEW6Q40123	211200912	09-12.D	12/26/01	2041
14	062VEW7Q40123	211200913	09-13.D	12/26/01	2115
15	062VEW8Q40123	211200914	09-14.D	12/26/01	2150
16	062DUPQ40123	211200915	09-15.D	12/26/01	2224
17	062EQBQ40123	211200916	09-16.D	12/26/01	2259

COMMENTS:

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2112009

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ40123	91.8						0
062EQBQ40123	84.2						0
062MW13Q40123	74.0						0
062MW20Q401	84.9						0
062MW20Q401MS	80.0						0
062MW20Q401SD	69.7						0
062MW22Q40123	70.0						0
062MW4Q40123	85.1						0
062MW9Q40123	87.4						0
062VEW2Q40123	90.9						0
062VEW3Q40123	85.5						0
062VEW4Q40123	87.3						0
062VEW5Q40123	79.7						0
062VEW6Q40123	86.9						0
062VEW7Q40123	90.8						0
062VEW8Q40123	82.8						0
1221ABLK	84.5						0
1221ALCS	84.5						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

020102 1547

8A

PAH ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Lab File ID (Standard): 10STD.D Date Analyzed: 12/17/2001

Instrument ID: SLC02 Time Analyzed: 17:12

GC Column: Vydac 201TP5 ID: 4.6 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	5659036		11.94						
	UPPER LIMIT	11318072		12.44						
	LOWER LIMIT	2829518		11.44						
	EPA SAMPLE NO.									
1	1221ABLK	5035676		11.85						
2	1221ALCS	4953276		11.90						
3	062MW4Q40123	4912743		11.89						
4	062MW9Q40123	4908321		11.89						
5	062MW13Q40123	5263697		11.86						
6	062MW20Q401	4998099		11.86						
7	062MW20Q401MS	4877348		11.89						
8	062MW20Q401SD	5844342		11.89						
9	062MW22Q40123	6086192		11.85						
10	062VEW2Q40123	7368859		11.82						
11	062VEW3Q40123	4852419		11.82						
12	062VEW4Q40123	4725501		11.82						
13	062VEW5Q40123	4832081		11.80						
14	062VEW6Q40123	4784776		11.79						
15	062VEW7Q40123	4737623		11.79						
16	062VEW8Q40123	4717542		11.80						
17	062DUPQ40123	4645719		11.82						
18	062EQBQ40123	4698185		11.81						

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

020102 1547

FORM VIII

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/17/01

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.93 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD4109	30STD	12/17/01	1528	18.94	
2	STD4110	20STD	12/17/01	1603	18.92	
3	STD4111	15STD	12/17/01	1637	18.91	
4	STD4112	10STD	12/17/01	1712	18.93	
5	STD4113	5STD	12/17/01	1746	18.94	
6	STD4114	1STD	12/17/01	1821	18.93	
7	STD4115	.2STD	12/17/01	1930	18.95	
8	CCV4116	SECSTD1	12/17/01	2005	18.93	
9	ZZZZZZ	ZZZZZZ	12/26/01	0944		
10	CCV4392	CCV1B	12/26/01	1018	18.84	
11	1221ABLK	56388	12/26/01	1053	18.91	
12	1221ALCS	56389	12/26/01	1127	18.92	
13	ZZZZZZ	ZZZZZZ	12/26/01	1202		
14	ZZZZZZ	ZZZZZZ	12/26/01	1236		
15	062MW4Q40123	211200901	12/26/01	1311	18.92	
16	062MW9Q40123	211200902	12/26/01	1346	18.93	
17	062MW13Q40123	211200903	12/26/01	1420	18.93	
18	062MW20Q401	211200904	12/26/01	1455	18.92	
19	062MW20Q401MS	211200905	12/26/01	1529	18.93	
20	062MW20Q401SD	211200906	12/26/01	1604	18.92	
21	ZZZZZZ	ZZZZZZ	12/26/01	1639		
22	CCV4404	CCV2B	12/26/01	1713	18.92	
23	062MW22Q40123	211200907	12/26/01	1748	18.94	
24	062VEW2Q40123	211200908	12/26/01	1822	18.91	
25	062VEW3Q40123	211200909	12/26/01	1857	18.92	
26	062VEW4Q40123	211200910	12/26/01	1931	18.93	

S1 = p-Terphenyl-d14

QC LIMITS
(+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 12/17/01

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.93 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
27	062VEW5Q40123	211200911	12/26/01	2006	18.93			
28	062VEW6Q40123	211200912	12/26/01	2041	18.93			
29	062VEW7Q40123	211200913	12/26/01	2115	18.94			
30	062VEW8Q40123	211200914	12/26/01	2150	18.94			
31	062DUPQ40123	211200915	12/26/01	2224	18.93			
32	062EQBQ40123	211200916	12/26/01	2259	18.94			
33	ZZZZZZ	ZZZZZZ	12/26/01	2334				
34	CCV4416	CCV3B	12/27/01	0008	18.92			
35	ZZZZZZ	ZZZZZZ	12/27/01	0900				
36	ZZZZZZ	ZZZZZZ	12/27/01	0934				
37	ZZZZZZ	ZZZZZZ	12/27/01	1048				
38	ZZZZZZ	ZZZZZZ	12/27/01	1123				

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

020102 1547 FORM VIII

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 1221ALCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.2	62.0	11 - 85
Acenaphthylene	10	7.4	74.0	22 - 89
1-Methylnaphthalene	10	7.4	74.0	0 - 98
2-Methylnaphthalene	10	7.3	73.0	21 - 89
Acenaphthene	10	6.8	68.0	21 - 91
Fluorene	10	7.2	72.0	16 - 96
Phenanthrene	10	7.4	74.0	18 - 101
Anthracene	10	7.7	77.0	20 - 97
Fluoranthene	10	7.7	77.0	27 - 104
Pyrene	10	7.5	75.0	42 - 94
Benzo(a)anthracene	10	7.9	79.0	40 - 103
Chrysene	10	8.1	81.0	32 - 108
Benzo(b)fluoranthene	10	7.3	73.0	30 - 102
Benzo(k)fluoranthene	10	7.2	72.0	27 - 100
Benzo(a)pyrene	10	7.4	74.0	34 - 96
Dibenz(a,h)anthracene	10	6.1	61.0	27 - 99
Benzo(g,h,i)perylene	10	6	60.0	21 - 95
Indeno(1,2,3-cd)pyrene	10	6	60.0	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:

020102 1547

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW20Q401MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	11	0	6.6	60.0	0 - 100
Acenaphthylene	11	0	6.4	58.2	0 - 111
1-Methylnaphthalene	11	0	7	63.6	0 - 135
2-Methylnaphthalene	11	0	6.6	60.0	6 - 94
Acenaphthene	11	0	6.4	58.2	9 - 96
Fluorene	11	0	6.6	60.0	5 - 101
Phenanthrene	11	0	7	63.6	7 - 110
Anthracene	11	0	6.8	61.8	0 - 111
Fluoranthene	11	0	7.9	71.8	20 - 113
Pyrene	11	0	8.1	73.6	22 - 118
Benzo(a)anthracene	11	0	8.4	76.4	26 - 113
Chrysene	11	0	8.6	78.2	27 - 113
Benzo(b)fluoranthene	11	0	8	72.7	26 - 107
Benzo(k)fluoranthene	11	0	8.2	74.5	24 - 107
Benzo(a)pyrene	11	0	8.4	76.4	23 - 107
Dibenz(a,h)anthracene	11	0	7.8	70.9	9 - 105
Benzo(g,h,i)perylene	11	0	7.6	69.1	21 - 99
Indeno(1,2,3-cd)pyrene	11	0	7.2	65.5	20 - 100

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

020102 1547

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW20Q401SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	11	5.1	46.4	26.4	65	0 - 100
Acenaphthylene	11	5.1	46.4	23.5	54	0 - 111
1-Methylnaphthalene	11	5.7	51.8	20.8	54	0 - 135
2-Methylnaphthalene	11	5.4	49.1	20.7	65	6 - 94
Acenaphthene	11	5.3	48.2	19.3	41	9 - 96
Fluorene	11	5.5	50.0	18.7	48	5 - 101
Phenanthrene	11	6.3	57.3	11.1	41	7 - 110
Anthracene	11	6	54.5	12.9	41	0 - 111
Fluoranthene	11	7.5	68.2	5.1	31	20 - 113
Pyrene	11	7.2	65.5	12.8	33	22 - 118
Benzo(a)anthracene	11	7.5	68.2	11.6	26	26 - 113
Chrysene	11	7.5	68.2	13.8	17	27 - 113
Benzo(b)fluoranthene	11	7.1	64.5	12.5	27	26 - 107
Benzo(k)fluoranthene	11	7.6	69.1	8.5	29	24 - 107
Benzo(a)pyrene	11	7.6	69.1	10.6	27	23 - 107
Dibenz(a,h)anthracene	11	7.5	68.2	4.7	31	9 - 105
Benzo(g,h,i)perylene	11	6.9	62.7	9.2	31	21 - 99
Indeno(1,2,3-cd)pyrene	11	6.9	62.7	5.6	43	20 - 100

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

020102 1547

Standards Data

020102 1547

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 Calibration Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1930

LAB FILE ID: RRF0.2 =PT2STD.D RRF1 =1STD.D
RRF5 =5STD.D RRF10 =10STD.D RRF15 =15STD.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	0.010	0.010	0.010	0.010	0.010
Acenaphthylene	0.009	0.009	0.009	0.008	0.007
1-Methylnaphthalene	0.006	0.006	0.006	0.006	0.006
2-Methylnaphthalene	0.008	0.010	0.009	0.008	0.008
Acenaphthene	0.107	0.118	0.123	0.129	0.127
Fluorene	0.048	0.056	0.047	0.046	0.044
Phenanthrene	0.152	0.154	0.130	0.130	0.125
Anthracene	0.032	0.033	0.027	0.029	0.029
Fluoranthene	0.033	0.035	0.031	0.031	0.031
Pyrene	0.027	0.028	0.023	0.028	0.023
Benzo(a)anthracene	0.083	0.082	0.073	0.072	0.069
Chrysene	0.115	0.120	0.105	0.103	0.098
Benzo(b)fluoranthene	0.095	0.094	0.083	0.081	0.078
Benzo(k)fluoranthene	0.069	0.071	0.062	0.060	0.059
Benzo(a)pyrene	0.076	0.074	0.069	0.070	0.069
Dibenz(a,h)anthracene	0.017	0.019	0.017	0.017	0.016
Benzo(g,h,i)perylene	0.032	0.033	0.029	0.029	0.028
Indeno(1,2,3-cd)pyrene	0.079	0.086	0.075	0.076	0.074
p-Terphenyl-d14(SURR)	0.027	0.034	0.028	0.028	0.027

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 Calibration Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1930

LAB FILE ID: RRF20 =20STD.D RRF30 =30STD.D

COMPOUND	RRF20	RRF30			
Naphthalene	0.010	0.010			
Acenaphthylene	0.007	0.008			
1-Methylnaphthalene	0.006	0.006			
2-Methylnaphthalene	0.008	0.008			
Acenaphthene	0.128	0.131			
Fluorene	0.044	0.045			
Phenanthrene	0.124	0.125			
Anthracene	0.029	0.029			
Fluoranthene	0.030	0.032			
Pyrene	0.023	0.024			
Benzo(a)anthracene	0.069	0.072			
Chrysene	0.098	0.100			
Benzo(b)fluoranthene	0.077	0.079			
Benzo(k)fluoranthene	0.058	0.059			
Benzo(a)pyrene	0.068	0.070			
Dibenz(a,h)anthracene	0.016	0.016			
Benzo(g,h,i)perylene	0.028	0.029			
Indeno(1,2,3-cd)pyrene	0.073	0.074			
p-Terphenyl-d14(SURR)	0.026	0.026			

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 Calibration Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1930

COMPOUND	CURVE	COEFFICIENTS AO	A1	%RSD OR R^2
Naphthalene	AVRG		0.010046958	2.3
Acenaphthylene	AVRG		0.008038902	9.7
1-Methylnaphthalene	AVRG		0.005930193	4.9
2-Methylnaphthalene	AVRG		0.008540129	7
Acenaphthene	AVRG		0.123001970	6.8
Fluorene	AVRG		0.047264577	8.7
Phenanthrene	AVRG		0.134286548	9.6
Anthracene	AVRG		0.029768536	6.1
Fluoranthene	AVRG		0.031878360	4.9
Pyrene	AVRG		0.025061984	8.9
Benzo(a)anthracene	AVRG		0.074112462	7.6
Chrysene	AVRG		0.105402254	8.2
Benzo(b)fluoranthene	AVRG		0.083994125	9
Benzo(k)fluoranthene	AVRG		0.062621474	8.5
Benzo(a)pyrene	AVRG		0.070956099	4.1
Dibenz(a,h)anthracene	AVRG		0.017048535	4.6
Benzo(g,h,i)perylene	AVRG		0.029671665	6.4
Indeno(1,2,3-cd)pyrene	AVRG		0.076944351	6.1
p-Terphenyl-d14(SURR)	AVRG		0.027762163	10

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 Calibration Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1930

LAB FILE ID: RT1: PT2STD.D RT2: 1STD.D
RT3: 5STD.D RT4: 10STD.D RT5: 15STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Naphthalene	12.783	12.787	12.790	12.787	12.793			
Acenaphthylene	13.853	13.857	13.857	13.857	13.853			
1-Methylnaphthalene	14.420	14.407	14.413	14.413	14.407			
2-Methylnaphthalene	14.727	14.710	14.717	14.713	14.703			
Acenaphthene	15.115	15.110	15.112	15.107	15.104			
Fluorene	15.347	15.333	15.340	15.333	15.327			
Phenanthrene	16.087	16.073	16.083	16.073	16.063			
Anthracene	16.864	16.844	16.852	16.840	16.829			
Fluoranthene	17.520	17.507	17.527	17.510	17.497			
Pyrene	18.040	18.023	18.040	18.027	18.013			
Benzo(a)anthracene	19.707	19.690	19.707	19.687	19.670			
Chrysene	20.090	20.070	20.083	20.063	20.050			
Benzo(b)fluoranthene	21.420	21.403	21.417	21.400	21.387			
Benzo(k)fluoranthene	22.020	22.007	22.017	22.000	21.987			
Benzo(a)pyrene	22.593	22.587	22.600	22.583	22.570			
Dibenz(a,h)anthracene	23.580	23.590	23.583	23.560	23.547			
Benzo(g,h,i)perylene	24.313	24.310	24.307	24.287	24.277			
Indeno(1,2,3-cd)pyrene	24.783	24.780	24.773	24.750	24.737			
p-Terphenyl-d14(SURR)	18.953	18.927	18.943	18.927	18.907			

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 Calibration Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1930

LAB FILE ID: RT6: 20STD.D RT7: 30STD.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	12.800	12.833				12.793	12.540	13.000
Acenaphthylene	13.860	13.893				13.860	13.613	14.073
1-Methylnaphthalene	14.413	14.443				14.416	14.173	14.633
2-Methylnaphthalene	14.710	14.743				14.718	14.473	14.933
Acenaphthene	15.107	15.139				15.113	14.783	15.243
Fluorene	15.333	15.363				15.340	15.100	15.560
Phenanthrene	16.073	16.103				16.081	15.843	16.303
Anthracene	16.837	16.867				16.849	16.517	16.977
Fluoranthene	17.513	17.537				17.519	17.287	17.747
Pyrene	18.027	18.050				18.034	17.800	18.260
Benzo(a)anthracene	19.687	19.710				19.697	19.463	19.923
Chrysene	20.063	20.087				20.076	19.843	20.303
Benzo(b)fluoranthene	21.403	21.423				21.410	21.177	21.637
Benzo(k)fluoranthene	22.000	22.017				22.009	21.773	22.233
Benzo(a)pyrene	22.580	22.600				22.590	22.357	22.817
Dibenz(a,h)anthracene	23.560	23.577				23.573	23.330	23.790
Benzo(g,h,i)perylene	24.287	24.307				24.300	24.060	24.520
Indeno(1,2,3-cd)pyrene	24.750	24.763				24.765	24.523	24.983
p-Terphenyl-d14(SURR)	18.923	18.940				18.935	18.703	19.163

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 CalibrationDate: 12/17/01 Time: 2005

Lab File ID: SECSTD1.D Init. Calib. Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01004	0.0107	6.6
Acenaphthylene	0.00804	0.0072	10.4
1-Methylnaphthalene	0.00593	0.0061	2.9
2-Methylnaphthalene	0.00854	0.0088	3.0
Acenaphthene	0.123	0.13	5.7
Fluorene	0.04726	0.0459	2.9
Phenanthrene	0.13428	0.1292	3.8
Anthracene	0.02977	0.0293	1.6
Fluoranthene	0.03188	0.0315	1.2
Pyrene	0.02506	0.0236	5.8
Benzo(a)anthracene	0.07411	0.0718	3.1
Chrysene	0.1054	0.099	6.1
Benzo(b)fluoranthene	0.084	0.0816	2.9
Benzo(k)fluoranthene	0.06262	0.0608	2.9
Benzo(a)pyrene	0.07095	0.0717	1.1
Dibenz(a,h)anthracene	0.01705	0.0169	0.9
Benzo(g,h,i)perylene	0.02967	0.0289	2.6
Indeno(1,2,3-cd)pyrene	0.07694	0.076	1.2
==========			
p-Terphenyl-d14	0.02776	0.027	2.7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 CalibrationDate: 12/26/01 Time: 1018

Lab File ID: CCV1B.D Init. Calib. Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01004	0.0105	4.6
Acenaphthylene	0.00804	0.0072	10.4
1-Methylnaphthalene	0.00593	0.006	1.2
2-Methylnaphthalene	0.00854	0.0087	1.9
Acenaphthene	0.123	0.129	4.9
Fluorene	0.04726	0.0454	3.9
Phenanthrene	0.13428	0.1279	4.8
Anthracene	0.02977	0.0318	6.8
Fluoranthene	0.03188	0.0302	5.3
Pyrene	0.02506	0.0237	5.4
Benzo(a)anthracene	0.07411	0.0712	3.9
Chrysene	0.1054	0.0997	5.4
Benzo(b)fluoranthene	0.084	0.0797	5.1
Benzo(k)fluoranthene	0.06262	0.0599	4.3
Benzo(a)pyrene	0.07095	0.0716	0.9
Dibenz(a,h)anthracene	0.01705	0.0171	0.3
Benzo(g,h,i)perylene	0.02967	0.0285	3.9
Indeno(1,2,3-cd)pyrene	0.07694	0.0749	2.7
==========			
p-Terphenyl-d14	0.02776	0.0267	3.8

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 CalibrationDate: 12/26/01 Time: 1713

Lab File ID: CCV2B.D Init. Calib. Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01004	0.0105	4.6
Acenaphthylene	0.00804	0.0072	10.4
1-Methylnaphthalene	0.00593	0.0062	4.6
2-Methylnaphthalene	0.00854	0.0089	4.2
Acenaphthene	0.123	0.1275	3.7
Fluorene	0.04726	0.0468	1.0
Phenanthrene	0.13428	0.1315	2.1
Anthracene	0.02977	0.0302	1.4
Fluoranthene	0.03188	0.0307	3.7
Pyrene	0.02506	0.0243	3.0
Benzo(a)anthracene	0.07411	0.0733	1.1
Chrysene	0.1054	0.1053	0.1
Benzo(b)fluoranthene	0.084	0.0825	1.8
Benzo(k)fluoranthene	0.06262	0.0619	1.1
Benzo(a)pyrene	0.07095	0.073	2.9
Dibenz(a,h)anthracene	0.01705	0.0172	0.9
Benzo(g,h,i)perylene	0.02967	0.0293	1.2
Indeno(1,2,3-cd)pyrene	0.07694	0.0757	1.6
p-Terphenyl-d14	0.02776	0.0276	0.6

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2112009

Instrument ID: SLC02 CalibrationDate: 12/27/01 Time: 0008

Lab File ID: CCV3B.D Init. Calib. Date: 12/17/01

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	$\overline{RRF}$	RRF15	%D
Naphthalene	0.01004	0.0113	12.5
Acenaphthylene	0.00804	0.0078	3.0
1-Methylnaphthalene	0.00593	0.0066	11.3
2-Methylnaphthalene	0.00854	0.0095	11.2
Acenaphthene	0.123	0.1357	10.3
Fluorene	0.04726	0.0493	4.3
Phenanthrene	0.13428	0.1386	3.2
Anthracene	0.02977	0.0306	2.8
Fluoranthene	0.03188	0.0323	1.3
Pyrene	0.02506	0.0247	1.4
Benzo(a)anthracene	0.07411	0.077	3.9
Chrysene	0.1054	0.1105	4.8
Benzo(b)fluoranthene	0.084	0.0871	3.7
Benzo(k)fluoranthene	0.06262	0.0651	4.0
Benzo(a)pyrene	0.07095	0.0758	6.8
Dibenz(a,h)anthracene	0.01705	0.0181	6.2
Benzo(g,h,i)perylene	0.02967	0.0307	3.5
Indeno(1,2,3-cd)pyrene	0.07694	0.0792	2.9
p-Terphenyl-d14	0.02776	0.0291	4.8

020102 1547

FORM VII

Chain of Custody Documentation

020102 1547

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 : Fax No (770) 604-9262

CHAIN-OF-CUSTODY RECORD 2112-009 m.n.

COC NUMBER
163151-023 Page 1 of 1

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Building 1 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.):
Day Tank 1 4th Quarter GW Sampling	0062	2712	Christelle Newsome / CH2M Hill Constructors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9187 Ext 561 FAX:604-9287
PROJECT CONTACT:	PROJECT TEL. NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL	TAT (calendar days)	Volatiles by 8021	Alls&1,1-Napthalene&1,2-Napthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q4-01-23	CEF-293-4	W	12/19/01	13:50	III/C	14	3	1					Grab		01
2	062-MW9-Q4-01-23	CEF-293-9	W	12/19/01	13:25	III/C	14	3	1					Grab	Turbid	02
3	062-MW13-Q4-01-23	CEF-293-13	W	12/19/01	15:00	III/C	14	3	1					Grab	Turbid	03
4	062-MW20-Q4-01-23	CEF-293-20	W	12/19/01	9:45	III/C	14	6	3					Grab	MS / MSD	04,05,06
5	062-MW22-Q4-01-23	CEF-293-22	W	12/19/01	10:55	III/C	14	3	1					Grab	Turbid	07
6	062-VEW2-Q4-01-23	VEW-2	W	12/19/01	15:30	III/C	14	3	1					Grab	Free product in sample. Turbid	08
7	062-VEW3-Q4-01-23	VEW-3	W	12/19/01	14:10	III/C	14	3	1					Grab	Turbid	09
8	062-VEW4-Q4-01-23	VEW-4	W	12/19/01	10:40	III/C	14	3	1					Grab	Turbid	10
9	062-VEW5-Q4-01-23	VEW-5	W	12/19/01	14:25	III/C	14	3	1					Grab	Turbid	11
10	062-VEW6-Q4-01-23	VEW-6	W	12/19/01	14:45	III/C	14	3	1					Grab	Turbid	12
11	062-VEW7-Q4-01-23	VEW-7	W	12/19/01	12:55	III/C	14	3	1					Grab	Turbid	13
12	062-VEW8-Q4-01-23	VEW-8	W	12/19/01	13:10	III/C	14	3	1					Grab	Turbid	14
13	062-DUP-Q4-01-23	Duplicate	W	12/19/01	NA	III/C	14	3	1					Grab	Turbid	15
14	NA	Temperature Blank	W	NA	NA	III/C	14			2					Prepared by Lab	
15	062-EQB-Q4-01-23	Equipment Blank	W	12/19/01	12:35	III/C	14	3	1					Grab		16
16	062-TB-Q4-01-23	Trip Blank	W	NA	NA	III/C	14	3							Prepared by Lab	17

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK #790252876978, 790252877047.(2 Coolers)	Temp upon rec't 4°C pH<2(8021)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop	12/19/01	18:00	Federal Express	12/19/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
				12/20/01	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 # 2112-009

Client: CH2M Hill	Date Recd: 12/20/01
Project: Cecil Field	Due Date:
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 (SO2)	✓		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 Subcontract 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# 2112-009

By Noll

Client/Project CH2MHill / Cecil Field

Date 12/20/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other pH
2112-009-01					3 pH<2	
02					3 pH<2	
03					3 pH<2	
04					3 pH<2	
05					3 pH<2	
06					3 pH<2	
07					3 pH<2	
08					3 pH<2	
09					3 pH<2	
10					3 pH<2	
11					3 pH<2	
12					3 pH<2	
13					3 pH<2	
14					3 pH<2	
15					3 pH<2	
16					3 pH<2	
17					3 pH<2	

122

CH2M HILL 2112-009 OBCZZ F.W CTO-002

Sample #	Parameter	Rel'd	Rec'd	DATE	TIME	Sam
01-17	8021 (w)	KMB	KM	12/26/01	1000	
01-17	8021 (w)	KM	KMB	12/26/01	1351	
01-16	8310 (w)	KMB	AS	12-21-01	1400	
01-16	8310 (w)	Consumed				
(3,4,5,6,8,9,14,17)	8021	KMB	KM	12/27/01	0902	
(3,4,5,6,8,9,14,17)	8021	KM	KMB	12/27/01	1525	
8	8021	KMB	KM	12/28/01	1031	
8	8021	KM	KMB	12/28/01	1313	

Addendum

020102 1547

FAX MESSAGE

PEL Laboratories, Inc.

4420 Pendola Point Road
Tampa, Florida 33619
Phone: (813) 247-2805
Fax: (813) 248-1537

Date: 12/21/01

To: Bonnie Hogue

Company: CCI

Number: 678-579-8106

From: Darcy Weisman

This transmittal consists of ____ page(s), exclusive of the cover sheet.

Notes: Sample Acceptance letter
SDG 2112-002 (Cecil Field)

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	12-20-01; 10:40 AM
Date to be Reported:	1-14-02
Laboratory Submission Number/SDG:	2112009
Project:	NAS Cecil Field (103rd Street)

Samples: The submission consisted of 17 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods: 8021, 8310.

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.

Report/SDG #: 2112009

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW6Q40123	211200912	VEW-6	W	12/19/01 2:45:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW7Q40123	211200913	VEW-7	W	12/19/01 12:55:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW8Q40123	211200914	VEW-8	W	12/19/01 1:10:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062DUPQ40123	211200915	Duplicate	W	12/19/01	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062EQBQ40123	211200916	Equipment	W	12/19/01 12:35:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062TBQ40123	211200917	Trip Blank	W	12/20/01	12/20/01 10:40:00
Method					
8021	VOH			8021	

Report/SDG #: 2112009

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW20Q401SD	211200906	CEF-293-20	W	12/19/01 9:45:00 AM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW22Q40123	211200907	CEF-293-22	W	12/19/01 10:55:00 AM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW2Q40123	211200908	VEW-2	W	12/19/01 3:30:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW3Q40123	211200909	VEW-3	W	12/19/01 2:10:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW4Q40123	211200910	VEW-4	W	12/19/01 10:40:00 AM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW5Q40123	211200911	VEW-5	W	12/19/01 2:25:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

Log-in Report

Total of: 33 analyses on 17 samples (including QC) *20-Dec-01*

Report/SDG #: 2112009

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW4Q40123	211200901	CEF-293-4	W	12/19/01 1:50:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW9Q40123	211200902	CEF-293-9	W	12/19/01 1:25:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW13Q40123	211200903	CEF-293-13	W	12/19/01 3:00:00 PM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW20Q401	211200904	CEF-293-20	W	12/19/01 9:45:00 AM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW20Q401MS	211200905	CEF-293-20	W	12/19/01 9:45:00 AM	12/20/01 10:40:00
Method					
8021	VOH			8021	
8310	PAH			8310	

:H2M Hill Constructors, Inc.
15 Perimeter Center Place, Suite 700
lanta, GA 30346-1278
el No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD 2112-009 m.n.

COC NUMBER
163151-023 Page 1 of 1

ROJECT 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 ay Tank 1	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904) 7774262
ROJECT 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.):
ay Tank 1 th Quarter GW Sampling	0062	2712	Christelle Newsome / CH2M Hill Constructors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 561 FAX:604-9282
ROJECT 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.):
ill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX	DATE COLLECTED	TIME COLLECTED	DATA LEVEL	PKG	TAT (calendar days)	Volatiles by 8021	Alk&1,1-Naphthalene&1,2-Naphthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q4-01-23	CEF-293-4	W	12/19/01	13:50	III/C		14	3	1					Grab		01
2	062-MW9-Q4-01-23	CEF-293-9	W	12/19/01	13:25	III/C		14	3	1					Grab	Turbid	02
3	062-MW13-Q4-01-23	CEF-293-13	W	12/19/01	15:00	III/C		14	3	1					Grab	Turbid	03
4	062-MW20-Q4-01-23	CEF-293-20	W	12/19/01	9:45	III/C		14	6	3					Grab	MS / MSD	04,05,06
5	062-MW22-Q4-01-23	CEF-293-22	W	12/19/01	10:55	III/C		14	3	1					Grab	Turbid	07
6	062-VEW2-Q4-01-23	VEW-2	W	12/19/01	15:30	III/C		14	3	1					Grab	Free product in sample. Turbid	08
7	062-VEW3-Q4-01-23	VEW-3	W	12/19/01	14:10	III/C		14	3	1					Grab	Turbid	09
8	062-VEW4-Q4-01-23	VEW-4	W	12/19/01	10:40	III/C		14	3	1					Grab	Turbid	10
9	062-VEW5-Q4-01-23	VEW-5	W	12/19/01	14:25	III/C		14	3	1					Grab	Turbid	11
10	062-VEW6-Q4-01-23	VEW-6	W	12/19/01	14:45	III/C		14	3	1					Grab	Turbid	12
11	062-VEW7-Q4-01-23	VEW-7	W	12/19/01	12:55	III/C		14	3	1					Grab	Turbid	13
12	062-VEW8-Q4-01-23	VEW-8	W	12/19/01	13:10	III/C		14	3	1					Grab	Turbid	14
13	062-DUP-Q4-01-23	Duplicate	W	12/19/01	NA	III/C		14	3	1					Grab	Turbid	15
14	NA	Temperature Blank	W	NA	NA	III/C		14			2					Prepared by Lab	
15	062-EQB-Q4-01-23	Equipment Blank	W	12/19/01	12:35	III/C		14	3	1					Grab		16
16	062-TB-Q4-01-23	Trip Blank	W	NA	NA	III/C		14	3							Prepared by Lab	17

AMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:			
andy Dumaop / Sean Smith A. Jones Environmental Services	Federal Express TRK #790252876978, 790252877047.(2 Coolers)	Temp upon rec'd 4°C pH<2(8021)			
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
inted Name and Signature: Dumaop	12/19/01	18:00	Printed Name and Signature: Federal Express	12/19/01	18:00
inted Name and Signature:			Printed Name and Signature: Brenner / PEL	12/20/01	10:40
inted 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 # 2112-009

Client: CH2M Hill	Date Recd: 12/20/01
Project: Cecil Field	Due Date:
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 (8021)	✓		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 Complete 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 #:

Darcy Weisman 2112-009

From: Hogue, Bonnie/ATL [bhogue@CH2M.com]
Sent: Thursday, December 20, 2001 2:33 PM
To: Darcy Weisman
Subject: FW: Cecil Field Profile

Darcy,
Yes the PAH list should include 1-,2- Methylnapthalene.
Bonnie

-----Original Message-----
From: Newsome, Christelle/ATL
Sent: December 20, 2001 1:44 PM
To: Hogue, Bonnie/ATL
Subject: FW: Cecil Field Profile

could you handle this for me...thanks

-----Original Message-----
From: Darcy Weisman [mailto:dweisman@PELAB.COM]
Sent: Thursday, December 20, 2001 1:43 PM
To: Newsome, Christelle/ATL
Subject: FW: Cecil Field Profile

Christelle,
Can you please verify what you would like us to report? I believe that there was just a typo on the COC. Should it be PAH's & 1-methylnaptalene and 2-methylnapthalene?

> -----Original Message-----
> From: Michael Kuley
> Sent: Thursday, December 20, 2001 12:25 PM
> To: Project Managers
> Subject: Cecil Field Profile
>
> Darcy,
>
> I just wanted to make sure that the Cecil Field profile is correct. I'm
> not sure if you noticed that the 8310(w) analysis is requesting "AH's &
> 1,1-Napthalene & 1,2-Napthalene by 8310".
>
> I looked at an old Cecil(2111-102) and it just has Napthalene without
> specific 1,1- and 1,2-!
>
> I don't recall seeing it requested like this, so I just wanted to re-check
> with you on the profile.
>
> Let me know!
>
> Thanks!
>
> Michael A. Kuley
> 4420 Pendola Point Road
> Tampa, Fl 33619
> (813) 247-2805 ext. 231
> mkuley@pelab.com
>