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

1/1/2002

CH2MHILL CONSTRUCTORS INC

Third Quarter 2001
Operation and Maintenance Status Report

Biosparging and Soil Vapor Extraction System
Day Tank 1 Site
July 1, 2001 – September 30, 2001

Naval Air Station Cecil Field
Jacksonville, Florida

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

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A Laboratory Analytical Reports for Air Samples (CD only)
B Laboratory Analytical Reports for Groundwater Samples (CD only)

Acronym List

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
GCTLs	groundwater cleanup target levels
LNAPL	light non-aqueous phase liquids
NADSC	Natural Attenuation Default Source Concentration
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
O&M	operation and maintenance
psi	pounds per square inch
scfm	standard cubic feet per minute
SVOAs	semi-volatile organic aromatics
USEPA	U.S. Environmental Protection Agency
VCS	vapor collection system
VOCs	volatile organic compounds
VEW	vapor extraction well

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 Third Quarter 2001 O&M Report is to provide a summary of activities performed at the site during the period of July 1 to September 30, 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 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 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 has been 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 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.

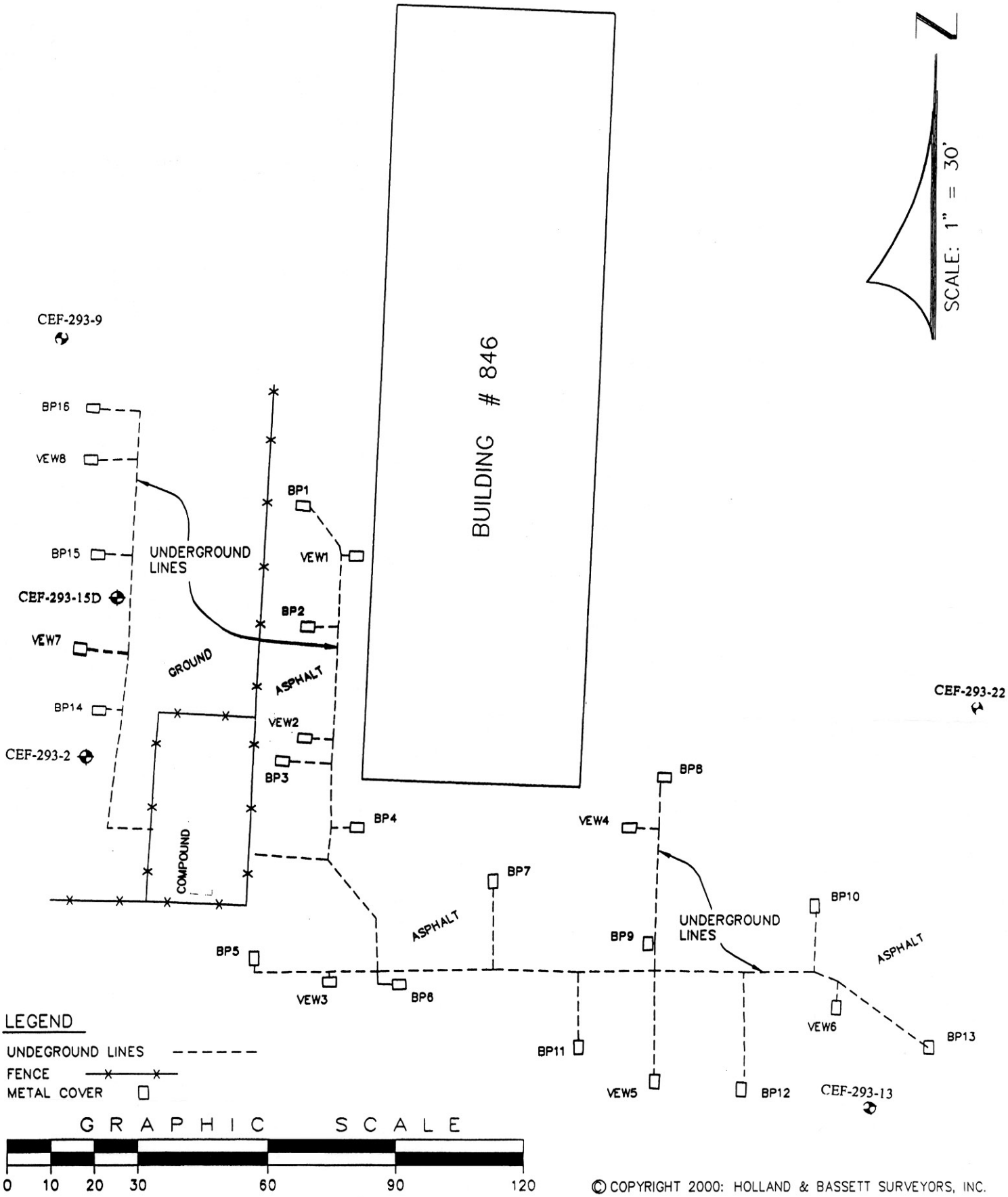

Figure 1-1
Site Map
DayTank 1 Site
NAS Cecil Field

CH2MHILL

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2.0 System Performance Monitoring

O&M checks of the system were performed weekly during the monitoring period. During an O&M check, a preventative maintenance checklist (based upon manufacturer's recommendations) is completed, and any required maintenance activity is performed.

System checks were performed weekly during the monitoring period. 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

Biosparging System

	Period	To Date
Hours of Possible Operation	2,208	13,919
Hours of Actual Operation	2,064	12,006
Percent Hours of Operation	93.5	86.3

Vapor Collection System

	Period	To Date
Hours of Possible Operation	2,208	13,919
Hours of Actual Operation	2,199	12,878
Percent Hours of Operation	99.6	92.5

2.2 Summary of Maintenance and System Downtime

Maintenance was performed during the period in accordance with manufacturer(s)' specifications. No significant repairs were required during the operating period.

The biosparge system was shut down for a total of 6 days during the monitoring period as described below:

- The system shut down for a total of 5.6 days as a result of an automatic shutdown of the biosparge air compressor for either over temperature and/or over amperage.
- The system was manually shut down for 0.4 days while quarterly groundwater sampling was performed.

The vapor collection system was shut down for a total of 0.4 days during the monitoring period as described below:

- The system was manually shut down for 0.4 days while quarterly groundwater sampling was 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 10.4 psi, compared to the design pressure of 18 psi. The air injection rate averaged 52.3 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 19.8 inches of water, compared to the design vacuum pressure of 23 inches of water. The airflow rates averaged 5.8 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 on Table 2-3.

LNAPL was noted only in vapor extraction well (VEW) VEW-1 during the monitoring period. No LNAPL was recovered from VEW-1 during the monitoring period and 14.5 gallons to date. This is the first quarter since startup that LNAPL was not noted in VEW-2.

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
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
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
BP-03	7/3/2001	NM	10
	7/30/2001	NM	10
	8/29/2001	NM	10
	9/18/2001	NM	10
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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-04 continued	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
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
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
BP-06	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
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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-07	5/21/2001	65	10
continued	7/3/2001	60	10
	7/30/2001	60	10
	8/29/2001	60	10
	9/18/2001	55	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
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
BP-09	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
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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
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
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
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
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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-14 continued	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
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
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

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
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
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
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

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

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-4 continued	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
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
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
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

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

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-7	2/26/2001	10	5
continued	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
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

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
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
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
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
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
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
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
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

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
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
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
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
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
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
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
VEW-01	06/13/00	76.32	8.60	10.89	2.29	65.43
	09/14/00		4.85	7.70	2.85	68.62
	10/12/00		6.26	7.39	1.13	68.93
	10/18/00		6.39	7.29	0.90	69.03
	10/24/00		6.55	7.56	1.01	68.76
	10/30/00		6.80	7.70	0.90	68.62
	11/07/00		6.95	7.20	0.25	69.12

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 continued	11/13/00		7.05	8.13	1.08	68.19
	11/20/00		7.10	8.30	1.20	68.02
	11/27/00		7.05	9.05	2.00	67.27
	12/06/01		7.25	10.15	2.90	66.17
	12/11/00		7.35	10.10	2.75	66.22
	12/18/00		7.32	10.80	3.48	65.52
	12/21/00		7.80	9.61	1.81	66.71
	01/03/01		7.45	11.85	4.40	64.47
	01/17/01		8.16	9.36	1.20	66.96
	01/29/01		7.68	11.11	3.43	65.21
	02/13/01		7.57	11.48	3.91	64.84
	02/19/01		7.61	11.45	3.84	64.87
	02/26/01		7.70	11.68	3.98	64.64
	03/06/01		7.55	11.10	3.55	65.22
	03/12/01		7.59	11.31	3.72	65.01
	03/15/01		8.34	10.50	2.16	65.82
	04/09/01		7.29	8.08	0.79	68.24
	04/16/01		7.31	8.29	0.98	68.03
	05/03/01		7.20	11.00	3.80	65.32
	05/08/01		7.35	11.10	3.75	65.22
	05/14/01		7.52	11.58	4.06	64.74
	05/21/01		7.59	11.50	3.91	64.82
	06/25/01		7.70	10.55	2.85	65.77
	07/03/01		6.55	10.67	4.12	65.65
	08/06/01		5.60	8.49	2.89	67.83
	09/19/01		5.21	6.15	0.94	70.17
	10/03/01		NM	NM	NM	NM
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
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
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
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

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
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
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

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 United States Environmental Protection Agency (USEPA) 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 VOC removal rate of 0.0053 pounds per day and an on-stream time of 91.6 days, a total of 0.5 pounds of volatile organic compounds (VOCs) were removed from the subsurface during the monitoring period via volatilization and 22.1 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 locations (five monitoring wells and seven vapor extraction wells) at the site were sampled on September 19, 2001, for VOCs and semi-volatile organic aromatics (SVOAs) by USEPA Methods 8021 and 8310, respectively. The 12 wells were re-sampled for SVOAs by USEPA Method 8310 on October 3, 2001, due to a laboratory problem. All sampling points located within the treatment zone of the biosparge system exhibited decreases in contaminant concentrations from the baseline groundwater sampling event performed on January 25, 2000. Downgradient monitoring well CEF-293-22 exhibited a decrease in benzene, naphthalene and 1- and 2-methylnaphthalene concentrations during the past two quarters and currently only benzene remains above the groundwater cleanup target levels (GCTLs) per Chapter 62-777 FAC. Vapor extraction well VEW-1 was not sampled during the third quarter due to the presence of LNAPL. Vapor extraction well VEW-2, which contained minimal LNAPL during the three previous quarters, did not contain LNAPL during the third quarter. Consequently, VEW-2 was included in the groundwater sampling for the third quarter. The results of the VEW-2 groundwater sample analysis showed that only benzo(b)fluoranthene and benzo(a)pyrene were above the GCTL. The contaminant concentrations in the other four monitoring wells and the other six vapor extraction wells are below the GCTLs, unchanged from the previous quarters.

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 September 19, 2001. The results, summarized in Table 3-5, indicate that the DO concentrations in the monitoring/vapor extraction wells within the treatment zone were elevated as a result of remediation system operation on September 19, 2001.

TABLE 3-1

Pre-Treatment Vapor Analytical Results

Compound	2/28/00	3/7/00	3/16/00	3/23/00	5/30/00	6/19/00	7/24/00	8/15/00	09/18/00	10/18/00	11/13/00	12/11/00	1/17/01	2/13/01	3/12/01	4/16/01	5/3/01	5/29/01	6/15/01	7/17/01	8/14/01	9/27/01
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
2-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	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
Alpha-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	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
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	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
Carbon Tetrachloride	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
Chloroethane	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
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
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
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
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	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
Dichlorotetrafluroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	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
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
Freon 114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
Hexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	840	380	410	ND	ND
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
m-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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
o-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
p-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
Tetrachloroethene	ND	ND	43	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
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
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
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
Trichloroethene	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
Trichlorotrifluoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
Xylenes (total)	3230	8280	1570	12300	6940	11200	11200	3170	233	443	1570	971	880	1050	1370	607	720	980	430	ND	ND	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	1764.91	3047.86	4810	2050	2140	550	0

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 z
3. All samples were analyzed by EPA Method 18, TO-14.
4. All concentrations are in micrograms per cubic meter. (ug/m^3)

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
Dichlorotetrafluoroethane	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.
4. All concentrations are in micrograms per cubic meter.
5. 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
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	Ethylbenzene	Toluene	Xylenes (total)	Acenapthylene	Fluoranthene	Pyrene	Chrysene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Naphthalene	1-Methylnapthalene	2-Methylnapthalene	Phenanthrene
CEF-293-04	01/25/00	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
	09/14/00	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
	03/15/01	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
	09/19/01	0.18	ND	ND	ND	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
CEF 293-09	01/25/00	43.1	602	826	2150	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
CEF 293-13	01/25/00	57.6	43	2.3	70.7	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	157	64.2	82.2	ND
	09/14/00	112	106	2.2	161	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	40.7	29.6	39.2	ND
	03/15/01	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	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
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	1.9	ND
CEF 293-20	01/25/00	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
	09/14/00	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
	03/15/01	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	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
	10/03/01	NA	NA	NA	NA	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	142	59.6	67	ND
	06/13/00	43.2	60.6	5.5	218	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	38.7	22	25.1	ND
	12/21/00	19.7	9.7	<1	11.9	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	148	49.7	71.3	ND
	06/25/01	25	12	ND	18.9	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
CEF 293-22	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	9.9	4.8	6.8	ND
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															
VEW-02	01/25/00	91.6	149	29.2	573	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
	12/21/00	FREE PRODUCT															
	03/15/01	FREE PRODUCT															
	06/25/01	FREE PRODUCT															
	09/19/01	ND	14	ND	7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	2.1	5.9	0.28	0.69	0.76	0.49	0.51	1.8	ND	4.6	2.2	2.1

TABLE 3-4
Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethylbenzene	Toluene	Xylenes (total)	Acenapthylene	Fluoranthene	Pyrene	Chrysene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Naphthalene	1-Methylnapthalene	2-Methylnapthalene	Phenanthrene
VEW-03	01/25/00	24.4	85.6	11.5	128	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
VEW-04	01/25/00	81	138	7.8	288	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
VEW-05	01/25/00	118	72.5	11.3	110	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
VEW-06	01/25/00	31.1	97.9	12.7	283	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
VEW-07	01/25/00	48	213	97.8	459	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
	09/14/00	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
	03/15/01	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
	09/19/01	ND	ND	ND	ND	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
VEW-08	01/25/00	53.4	242	4.5	451	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	86.6	44.9	39.6	ND
	09/14/00	ND	4.8	ND	5.5	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	15.7	16	17.1	ND
	03/15/01	ND	6.4	ND	5.4	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	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
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	0.5	ND
Cleanup Goal - RAP		1	NA	NA	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GCTL		1	30	40	20	210	280	210	4.8	0.2	0.5	0.2	210	20	20	20	210
NADSC		100	300	400	200	2100	2800	2100	480	20	50	20	2100	200	200	200	2100

Notes:
All concentrations are in mg/L.
ND= Not Detected, please see Appendix C for detection limits
NS = Not Sampled

= above GCTL
= 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
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
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
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
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
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
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
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

TABLE 3-5
Groundwater Field Analytical Results

	Date	ph (s. u.)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (^oC)
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
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
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
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
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

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 third quarter, only 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 Default Source 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 14.5 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. 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
(CD only)

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C107402
Project: CTO-0062, CECIL FIELD DAY – TANK 1

STL SAMPLE ID	CLIENT SAMPLE ID
C107402-1	062-SVE-E-A-0717-01-18

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

Volatiles by 8021B

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

Rick Hayes
Senior Project Manager

8/1/01

CCI NAVY RAC PMO
AUG - 3 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-07402
Received: 19 JUL 01
Reported: 31 JUL 01

Client PO. No.: 2916

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07402-1	062-SVE-E-A-0717-01-18	07-17-01/16:00

PARAMETER	07402-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

002

SEVERN TRENT SERVICES

STL Pensacola

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Sampled By: Client
Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07402-1	062-SVE-E-A-0717-01-18	07-17-01/16:00

PARAMETER	07402-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.12
Hexane, mg/m3	0.41
4-Ethyltoluene, mg/m3	0.24
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	0.28
1,3,5-Trimethylbenzene, mg/m3	0.53
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.17
m&p-Xylene, mg/m3	0.39
Surrogate - 1,2-Dichloroethane-d4	102 %
Surrogate - Toluene-d8	106 %
Surrogate - 4-Bromofluorobenzene	102 %

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Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
07402-1	062-SVE-E-A-0717-01-18	07-17-01/16:00

PARAMETER	07402-1
Dilution Factor	1
Prep Date	07.25.01
Prep Time	13:53
Analysis Date	07.25.01
Analysis Time	14:05
Batch ID	MAB153
Prep Method	MOD-TO14
Analyst	BDH

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Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07402-2	Method Blank	
07402-3	Lab Control Standard True Value	
07402-4	Lab Control Standard Result	
07402-5	Lab Control Standard % Recovery	
07402-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	250	252	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	250	254	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07402-2	Method Blank	
07402-3	Lab Control Standard True Value	
07402-4	Lab Control Standard Result	
07402-5	Lab Control Standard % Recovery	
07402-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
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	250	226	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	250	252	101 %	86-113

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Code: 13281081

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
07402-2	Method Blank	
07402-3	Lab Control Standard True Value	
07402-4	Lab Control Standard Result	
07402-5	Lab Control Standard % Recovery	
07402-6	LCS Accuracy Control Limit (%R)	

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
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	250	252	101 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	99 %	250	246	98 %	61-140
Surrogate - Toluene-d8	100 %	250	248	99 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	250	237	95 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	07.25.01	---	07.25.01	---	---
Prep Time	09:01	---	15:50	---	---
Analysis Date	07.25.01	---	07.25.01	---	---
Analysis Time	09:13	---	09:39	---	---
Batch ID	MAB153	MAB153	MAB153	MAB153	MAB153
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

007

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C107402 Date Received: 7/19/01

1. Was there a Chain of Custody? (Yes) No♣
2. Was Chain of Custody properly filled out and relinquished? (Yes) No♣
3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) Yes No♣ (N/A)
4. Were all samples properly labeled and identified? (Yes) No♣
5. Did samples require splitting or compositing♦? Yes♣ (No)
   Req By: PM Client Other♦
6. Were samples received in proper containers for analysis requested? (Yes) No♣
7. Were all sample containers received intact? (Yes) No♣
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+ Yes No♣ (N/A)
9. Is there sufficient volume for analysis requested? Yes No♣ (N/A) (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): 7926 7609 9658

Shipped By: FedEx

Cooler Number(s): Box CAN # 086

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

CCK9

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS **Date:** 7/19/01 **Logged By:** PAR **Date:** 7/19/01

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

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

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

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

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

C107402

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-005

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0717-01-18	SVE Effluent	AIR	07/17/01	16:00	III/C	14 Day	1								086		Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

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

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	7/18/01	11:00	Federal Express	7/18/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	7/19/01	105
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

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

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

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

Pensacola, FL 32514-7045

SHIP DATE: 18JUL01
MAN-WGT: 16 LBS

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 **STANDARD OVERNIGHT** **THU**
AA

TRK # **7926 7609 9658** FORM 0201 **BFM** Deliver By: 19JUL01

32514-FL-US **XB PNSA**

C107 402

010

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 06/30/01*

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

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

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

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

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

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

Florida *DEP/DOH CompQAP # 980156*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Attach one file Label here

CH2M-CONST-GA C107402
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: MLE
Labeled by: MHS
Delivered by: MHS

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
Encore Sampler											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MHS	7/19/01	1450
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

014

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

VOLATILES (MOD. TO14)

VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 107402
PROJECT NAME: N.A.S. CECIL FIELD, DAY TANK 1

RECEIVED: July 19, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0717-01-18	107402-1	062SVEA071701

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

Larry Dilmore
GC/MS SUPERVISOR
July 31, 2001

2A
AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Project : 107402 Site : NA
Lab File ID (Standard): CM0725A.D
Instrument ID : GC/MS Ins
GC Column : CAP ID : 0.53
Level :

Contract : NA
Location : NA Group : NA
Date Analyzed : 25 Jul 2001
Time Analyzed : 8:36
Heated Purge (Y:N) : N

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
74021	062-SVE-E-A-071	102	106	102	0	0	0	0
MA153ABK	VBLKMA/ DAILY M	99	100	95	0	0	0	0
MA153LCS	LCS/BATCH #153	98	99	95	0	0	0	0

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

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

LCS Blank Summary Report

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

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

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

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107402

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

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

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS	LCS/BATCH #153 LCS 5	MA153LCS.D	9:51
02	062SVEEA071701	062-SVE-E-A-0717-01-18	74021.D	14:05

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.: C107402

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

Instrument ID: MARILYN BFB Injection Time: 8:27

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C107402

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

Instrument ID: MARILYN BFB Injection Time: 8:36

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	49.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	62.7
175	4.0 - 9.0% of mass 174	4.6 (7.3)1
176	93.0 - 101.0% of mass 174	62.1 (99.0)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM0725A.D	7/25/01	8:36
02	VBLKMA	VBLKMA/ DAILY METHO	MA153ABK.D	7/25/01	9:13
03	LCS	LCS/BATCH #153 LCS 5	MA153LCS.D	7/25/01	9:51
04	062SVEEA071701	062-SVE-E-A-0717-01-18	74021.D	7/25/01	14:05

Response Factor Report GC/MS Ins

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

BH 6/19

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

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

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

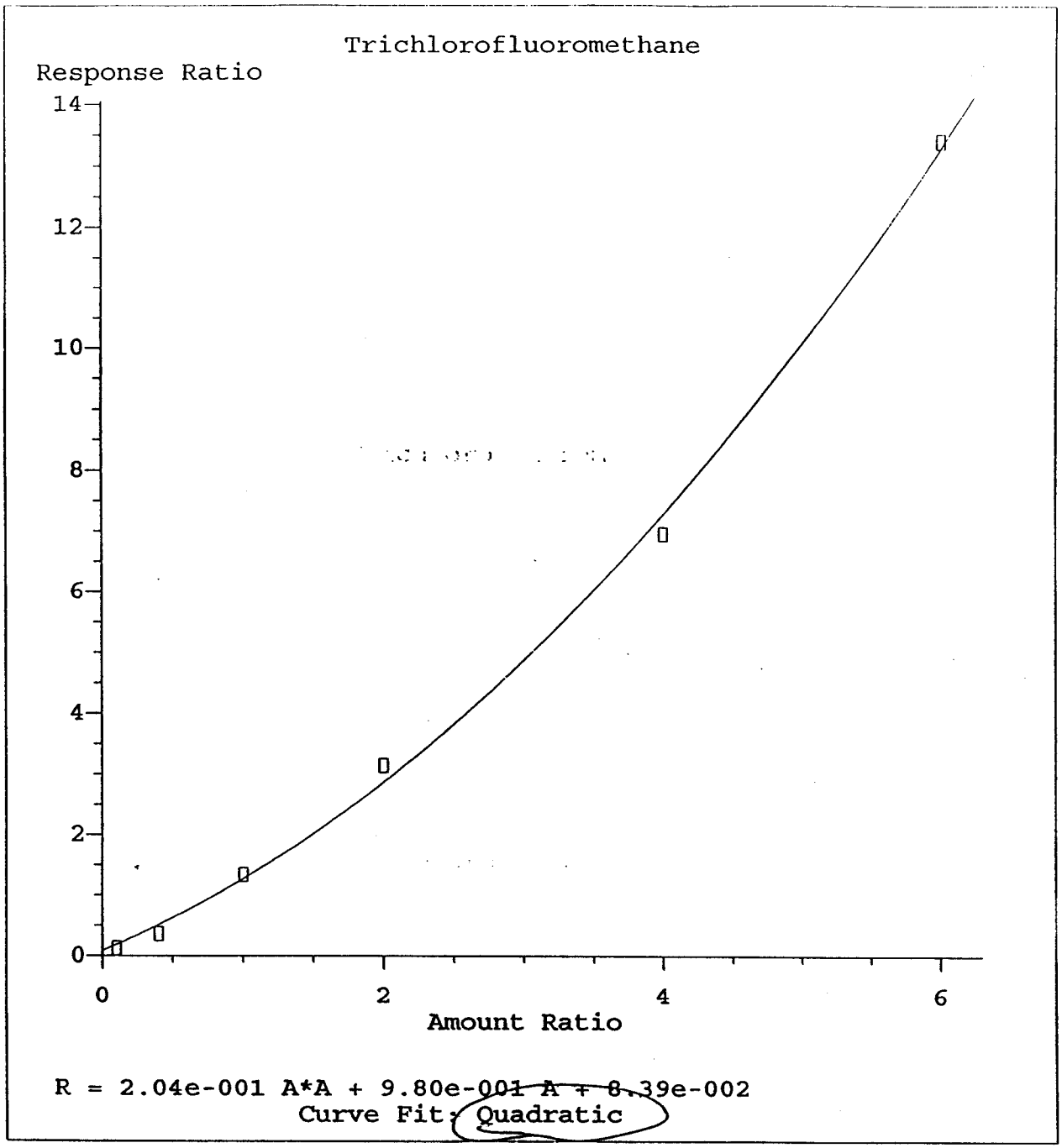
Response Factor Report GC/MS Ins

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

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

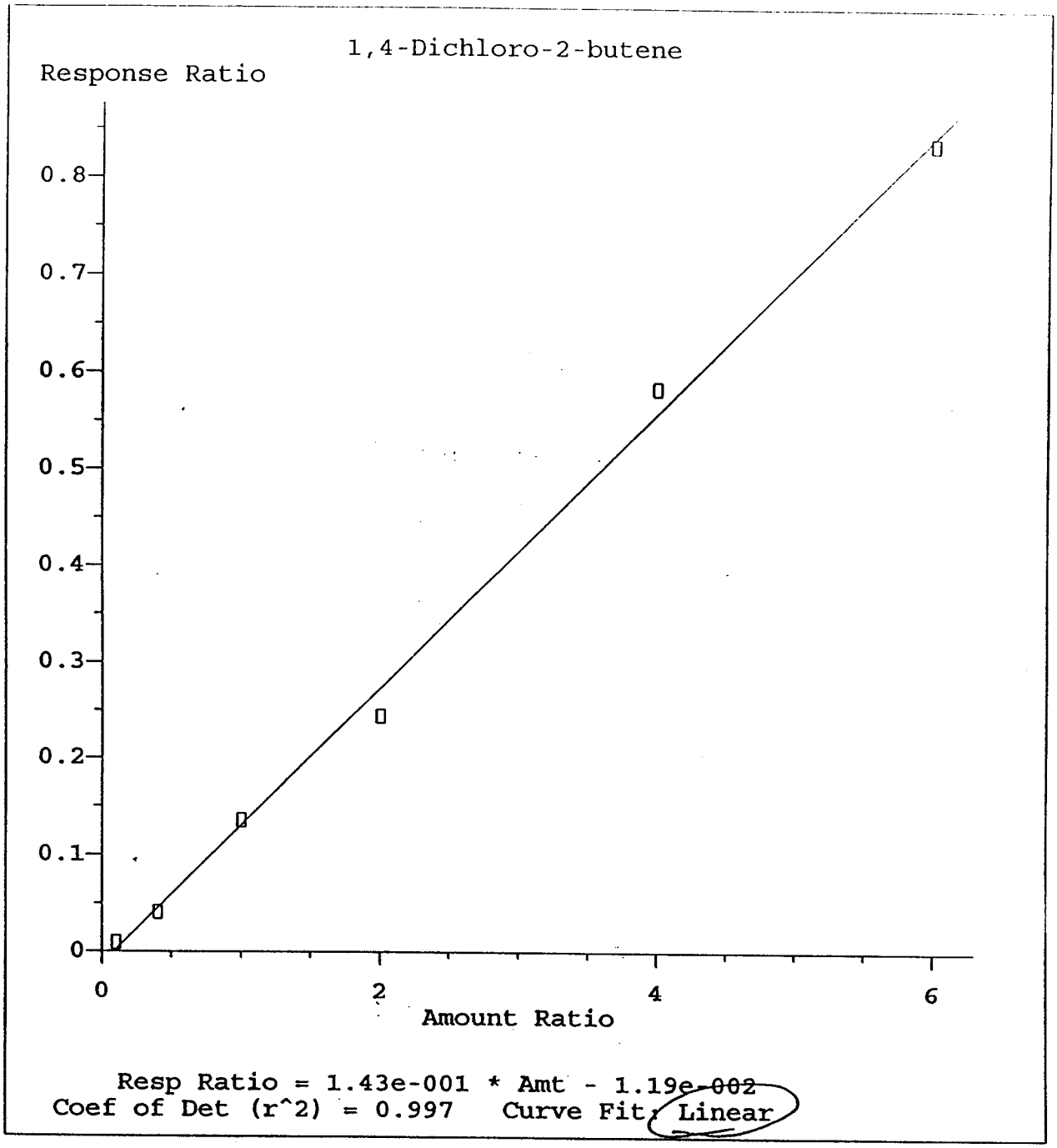
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41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

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



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

.998
BH 6/19



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

JH 6/19

Evaluate Continuing Calibration Report

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

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

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

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

(#) = Out of Range

Evaluate Continuing Calibration Report

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

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

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

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

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

Evaluate Continuing Calibration Report

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

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

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

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

(#) = Out of Range

Evaluate Continuing Calibration Report

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

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

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

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

(#) = 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.: C107402

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

Instrument ID: MARILYN Time Analyzed: 8:36

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	302570	11.26	1249639	13.21	941721	20.50
	UPPER LIMIT	605140	11.76	2499278	13.71	1883442	21.00
	LOWER LIMIT	151285	10.76	624820	12.71	470861	20.00
	EPA SAMPLE NO.						
01	VBLKMA	313917	11.28	1298246	13.22	967114	20.52
02	LCS	302773	11.28	1224969	13.24	924812	20.53
03	062SVEEA07170	260535	11.30	970082	13.24	773048	20.53

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL - Pensacola / GCMS Volatiles Run Log

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

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

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

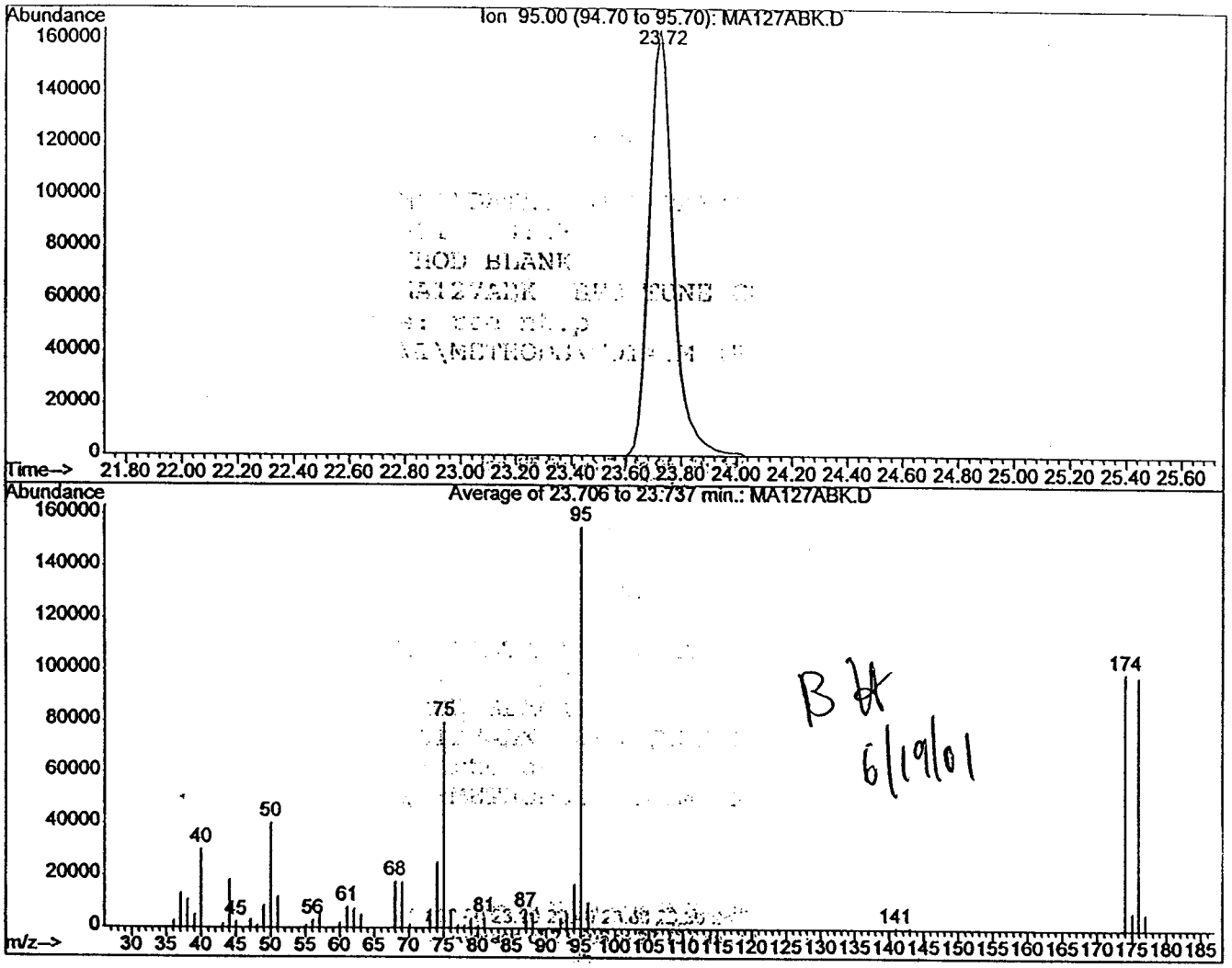
BFB 8 -MSW- 19 - 3 | 8260 -MSW- - | WATER-SPK -MSW- - | SURR# 8 -MSW- 19 - 3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	TO14.m	BFM ———	50ng		N	Methanol	95 Ion Area = 988,000 (From ~~CCV~~ Blank)	BH	—	—	—	—
~~08:27~~ 10:20	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 315	~~1357~~ 1279	973	
08:27	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
13:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0075	5ppb		Y N	A(TO14)	5ppb ICAL		319	1323	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
10:20	14		CMA0250	50ppb		Y N		50ppb ccv, too		315	1279	973	—
10:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
11:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
12:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
14:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
14:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		-5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	X1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH 6/19/01 Shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

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

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

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



Spectrum Information: Average of 23.706 to 23.737 min.

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

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

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

BH 6/19

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

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

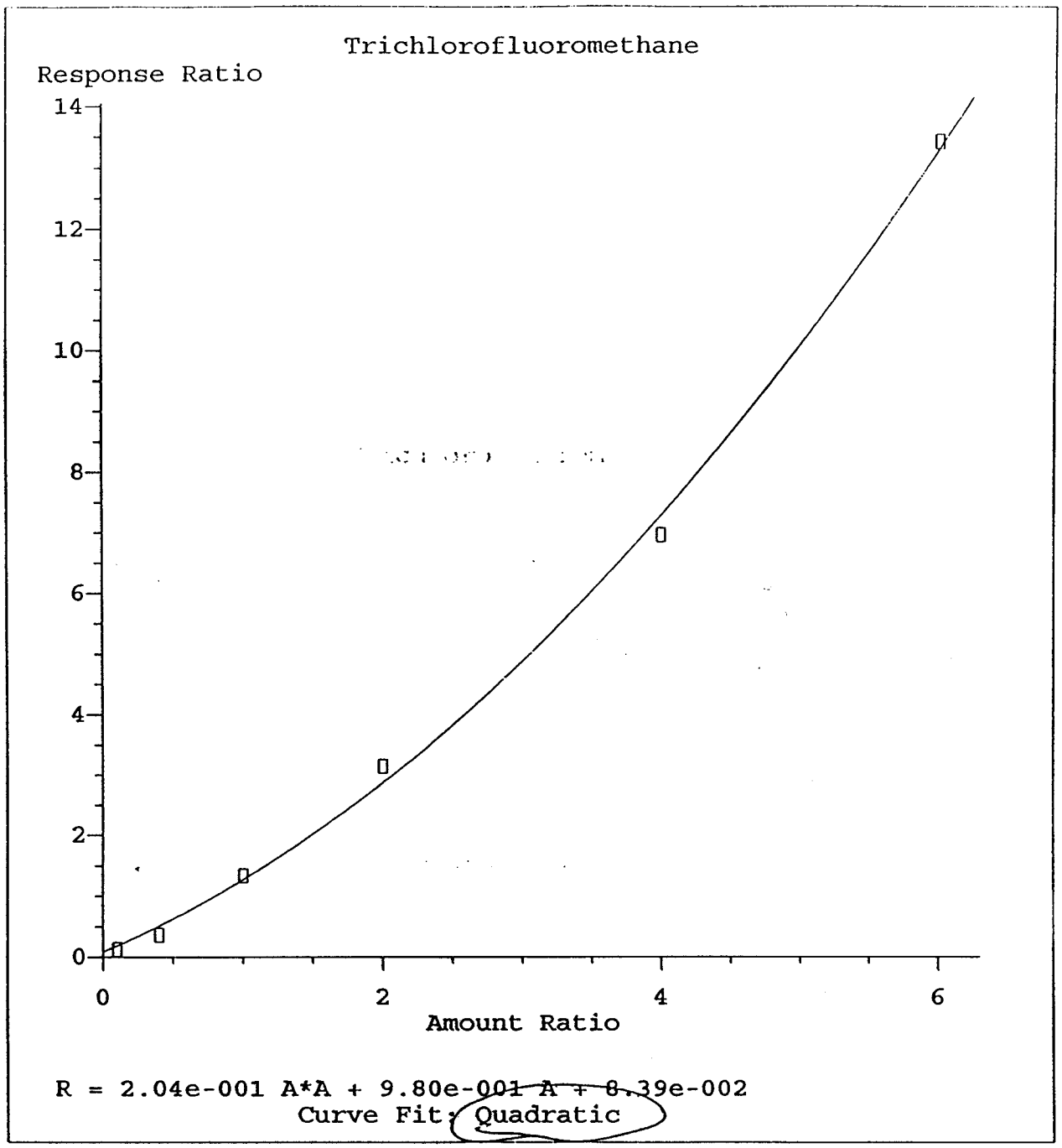
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

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

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

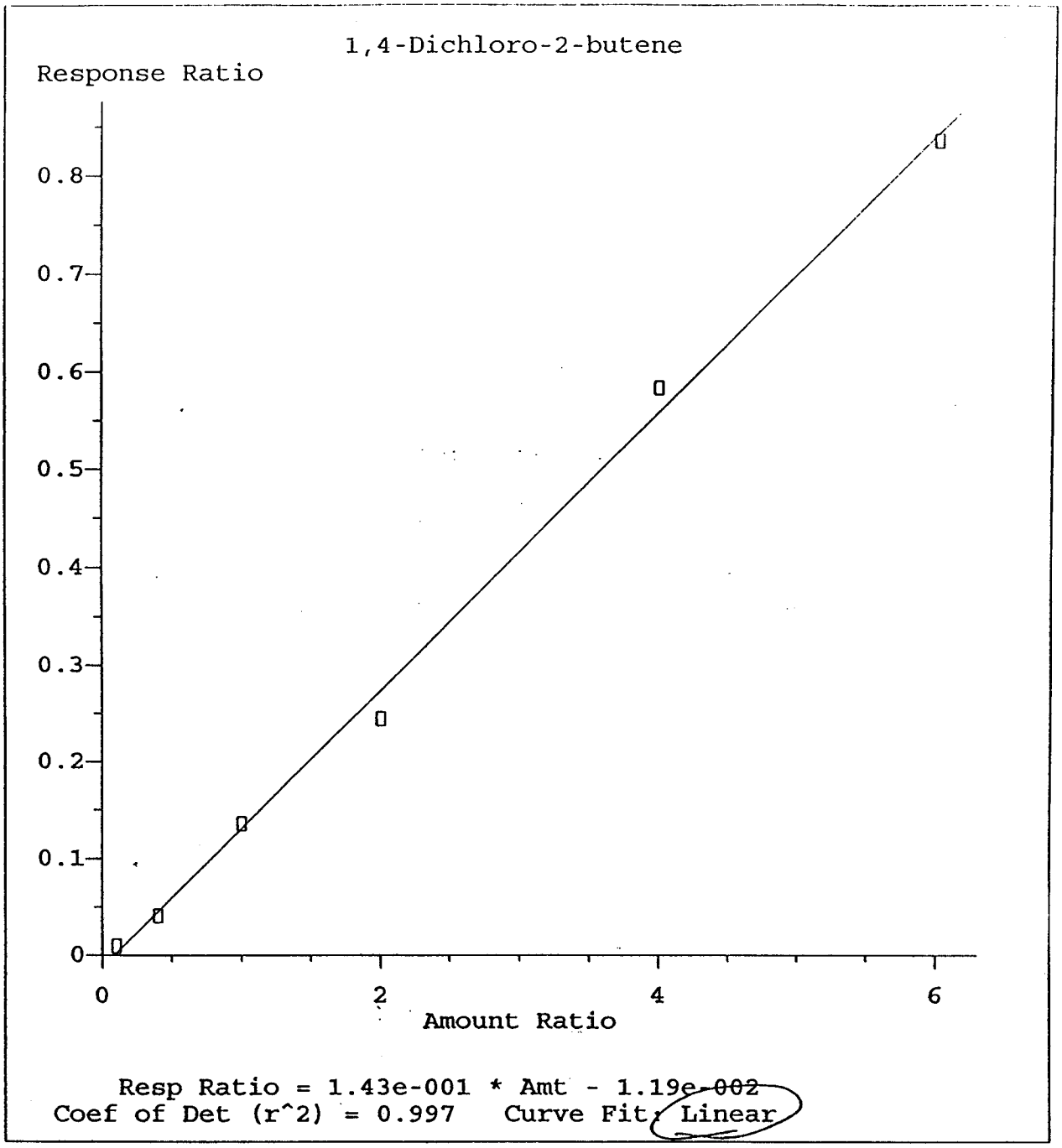
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41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

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



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

.998
BH 6/19



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

JH 6/19

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

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

BH 6/19

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

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

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

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

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

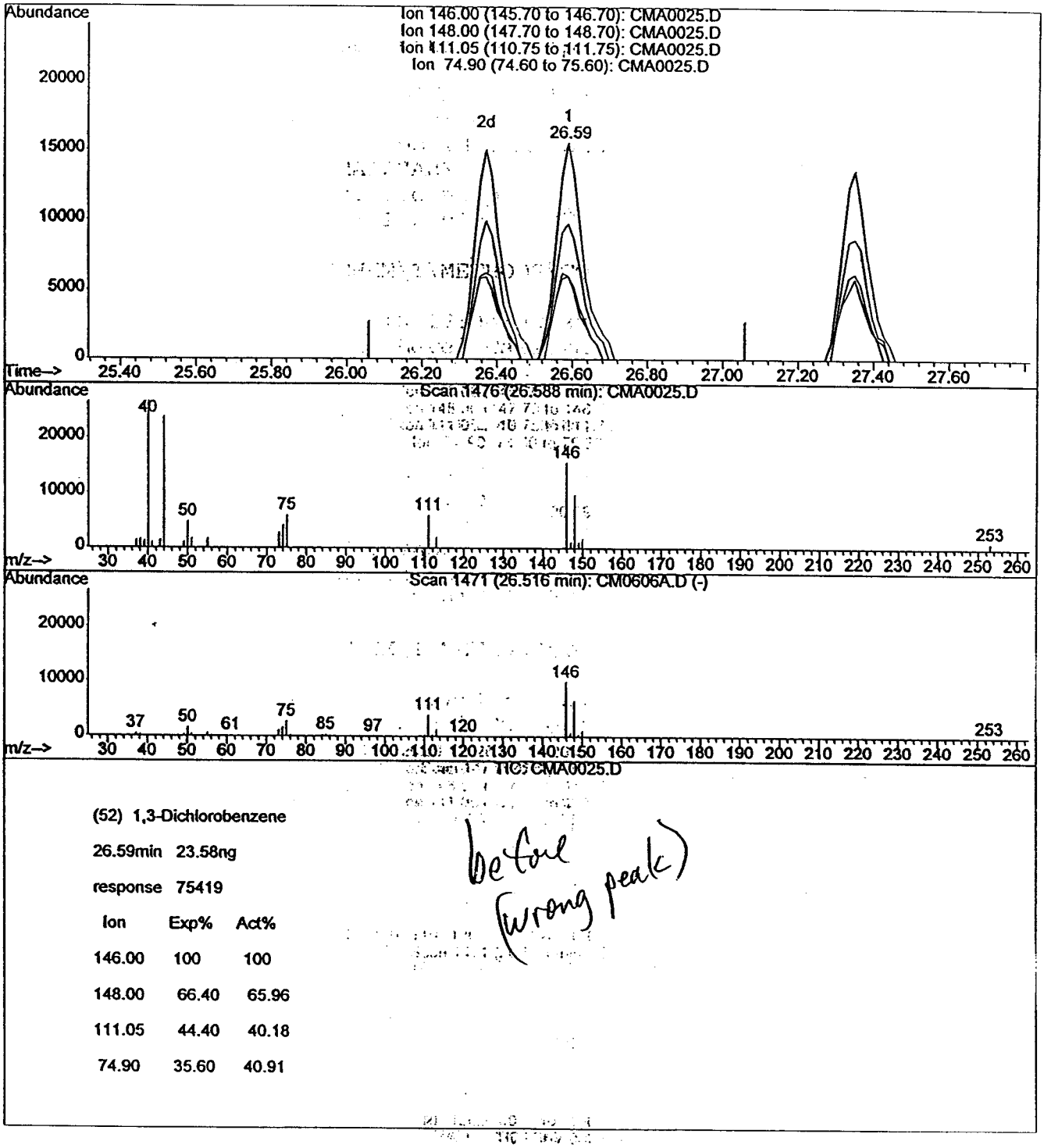
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97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

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

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

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

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



(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

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

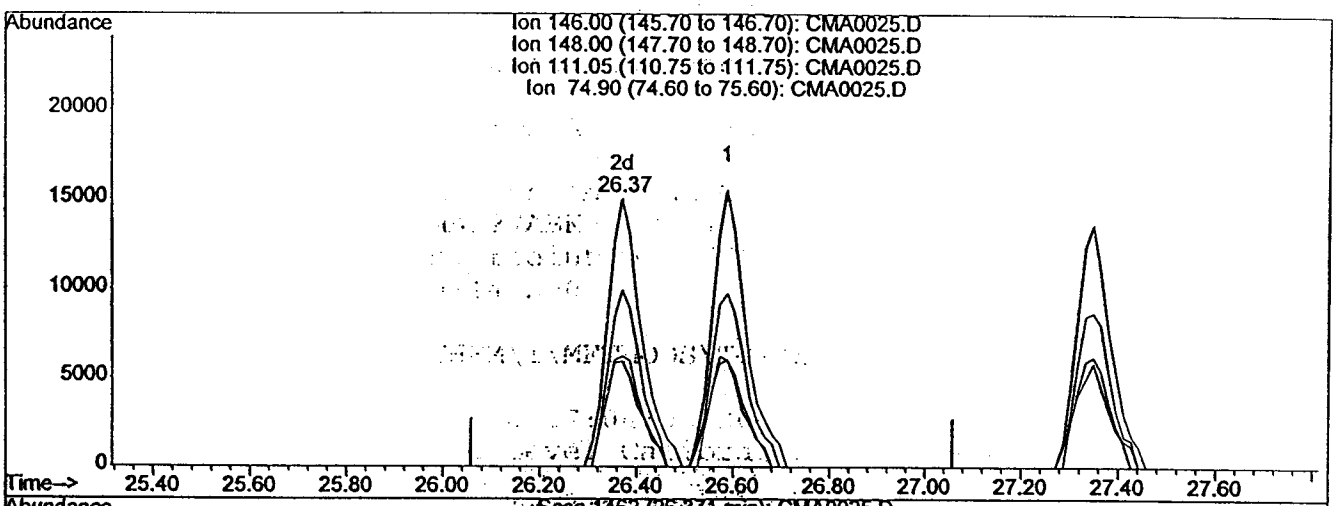
before (wrong peak)

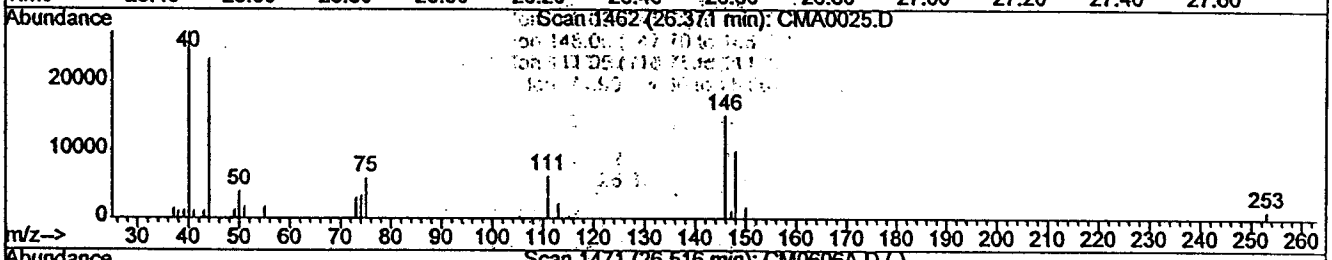
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

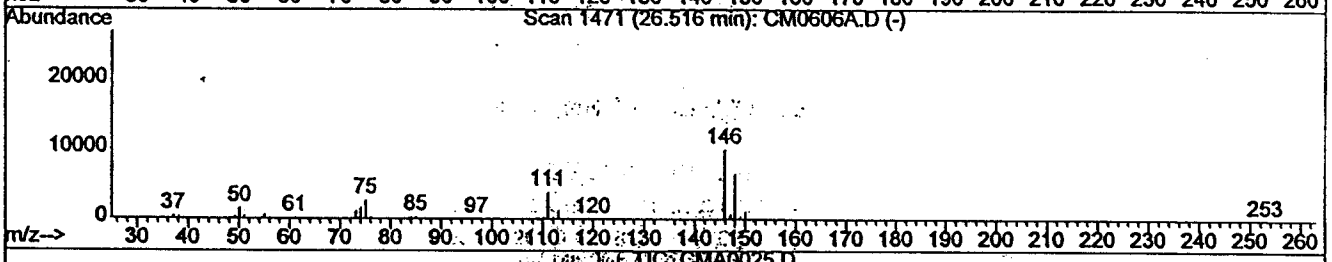
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:14 2001

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

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







(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

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

after
BDH 6/19

Thy
7-31-01

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

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

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

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

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

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

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

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

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

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

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

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

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

BA 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng		0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.28%							
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.49%							
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.58%							
Target Compounds					ng		Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng	#	96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

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

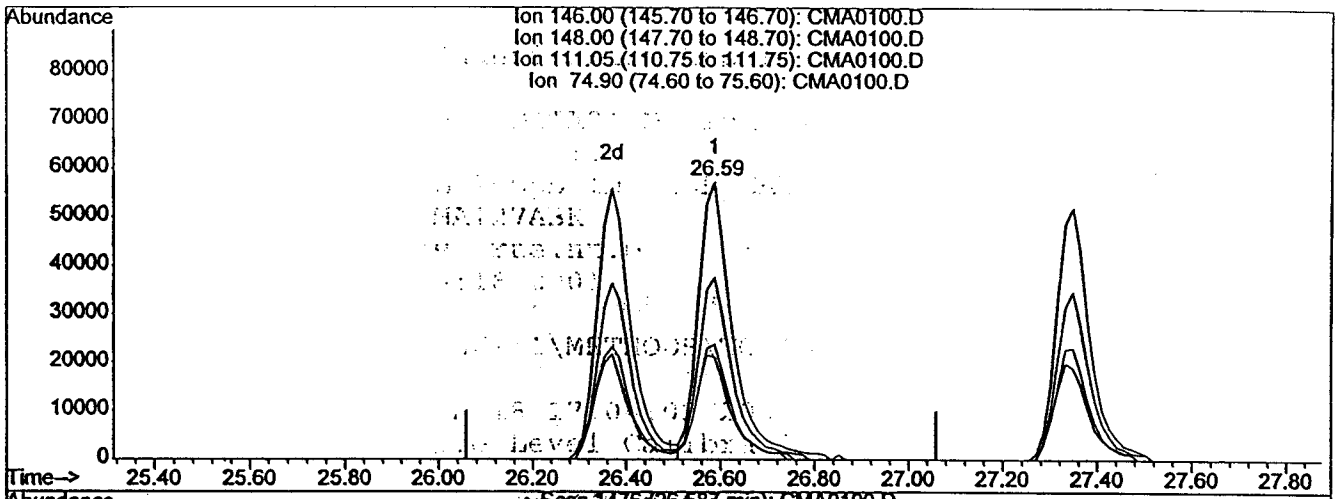
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

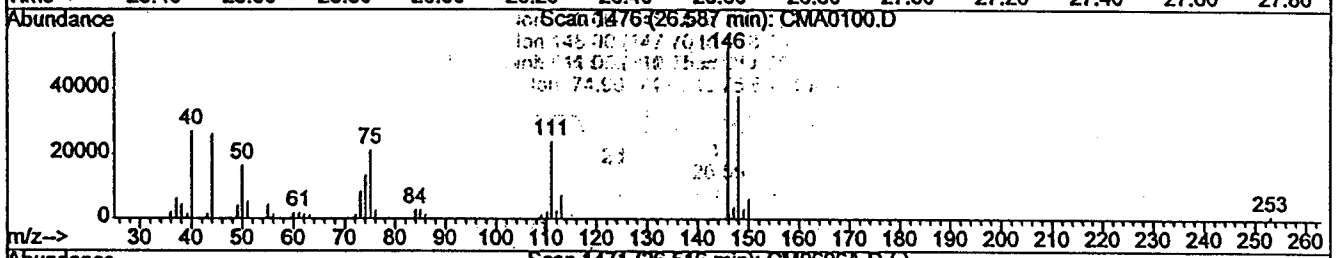
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95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

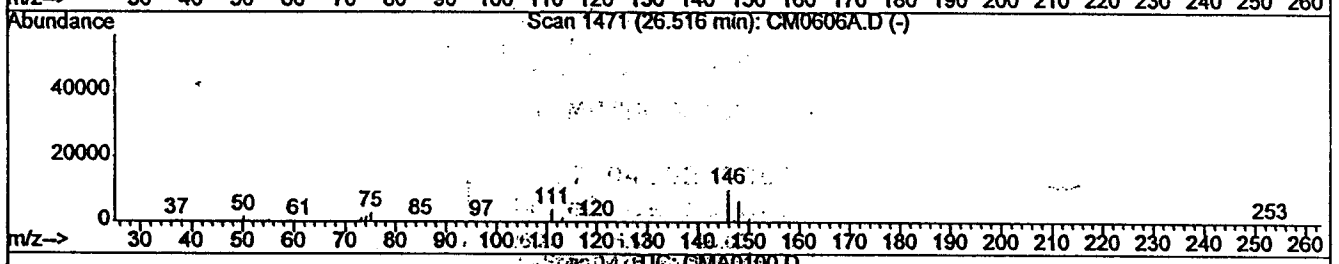
(#) = qualifier out of range (m) = manual integration

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

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







(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

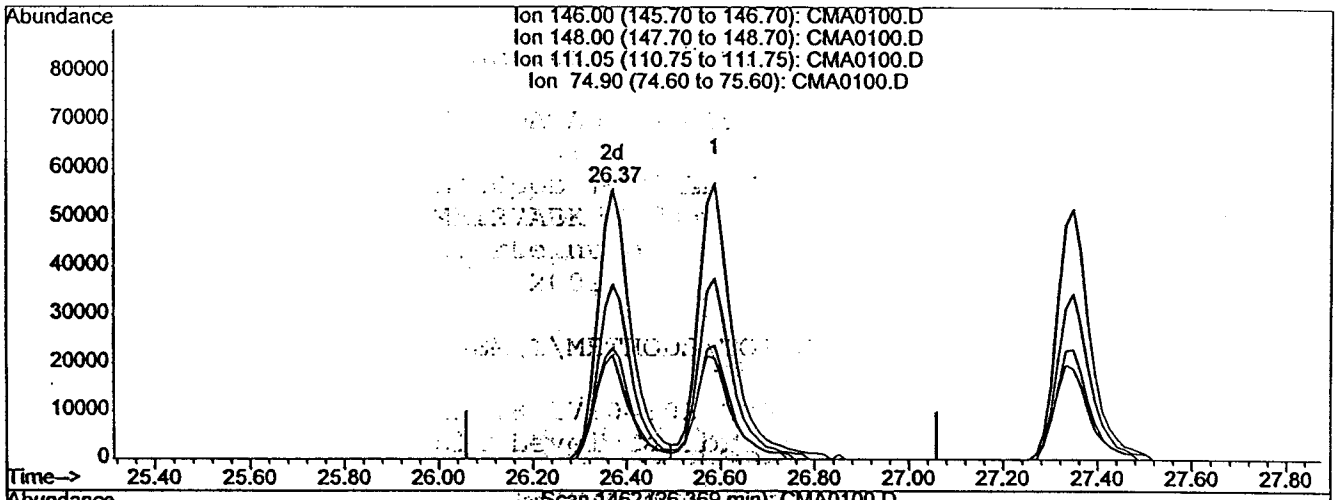
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

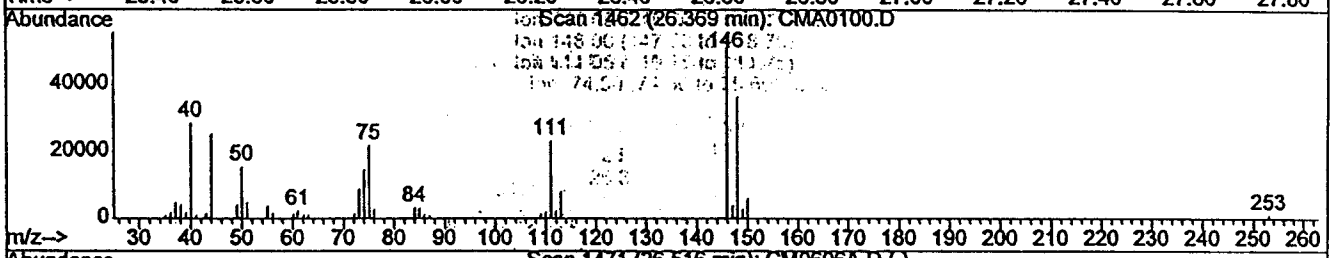
Defaul (wrong peak)

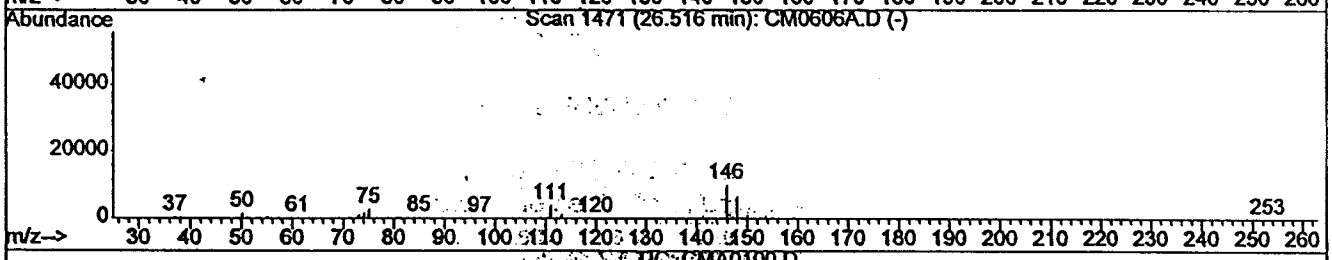
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

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

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







HC5CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

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

after
6/19

7-31-01

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

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

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

original

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

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

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

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

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

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

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

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

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

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

B H 6/19

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

System Monitoring Compounds

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

Target Compounds

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

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

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

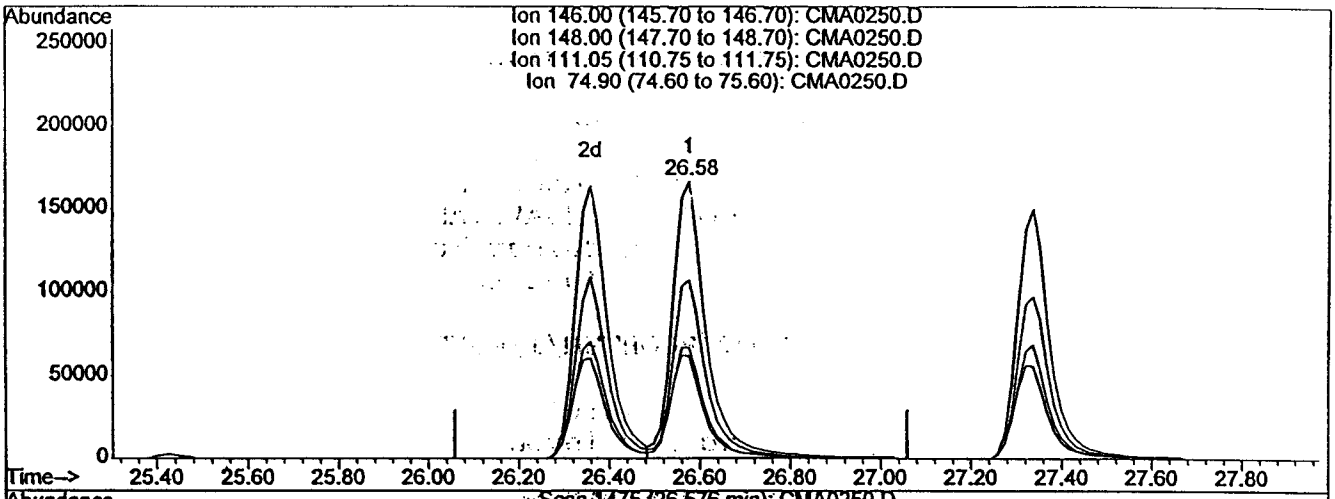
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

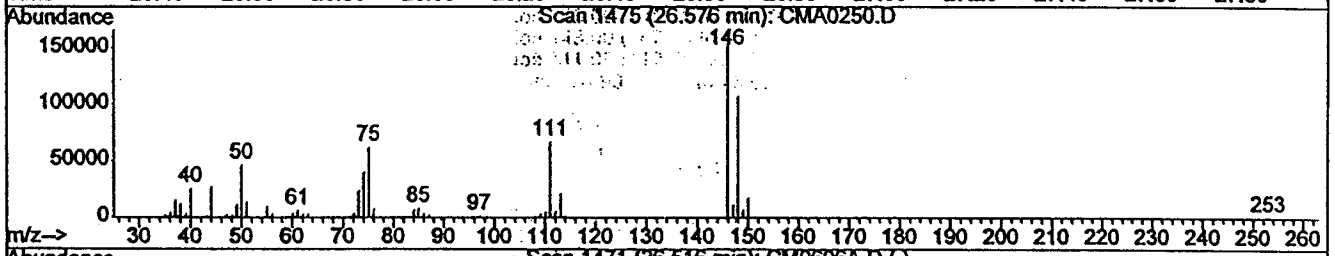
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95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

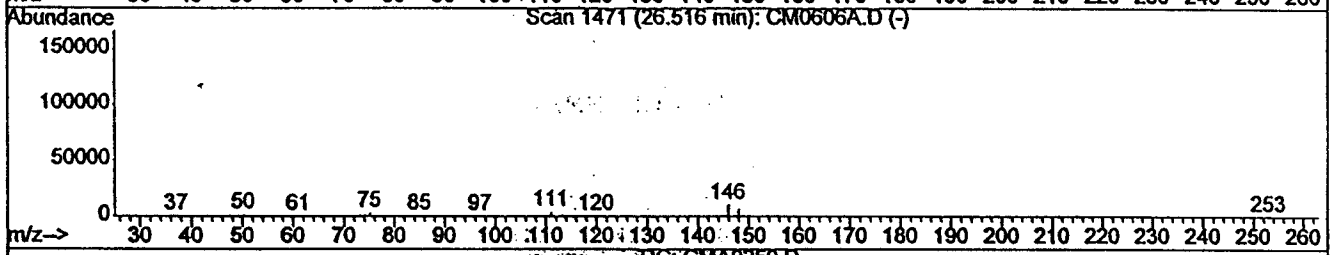
(#) = qualifier out of range (m) = manual integration

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

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







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

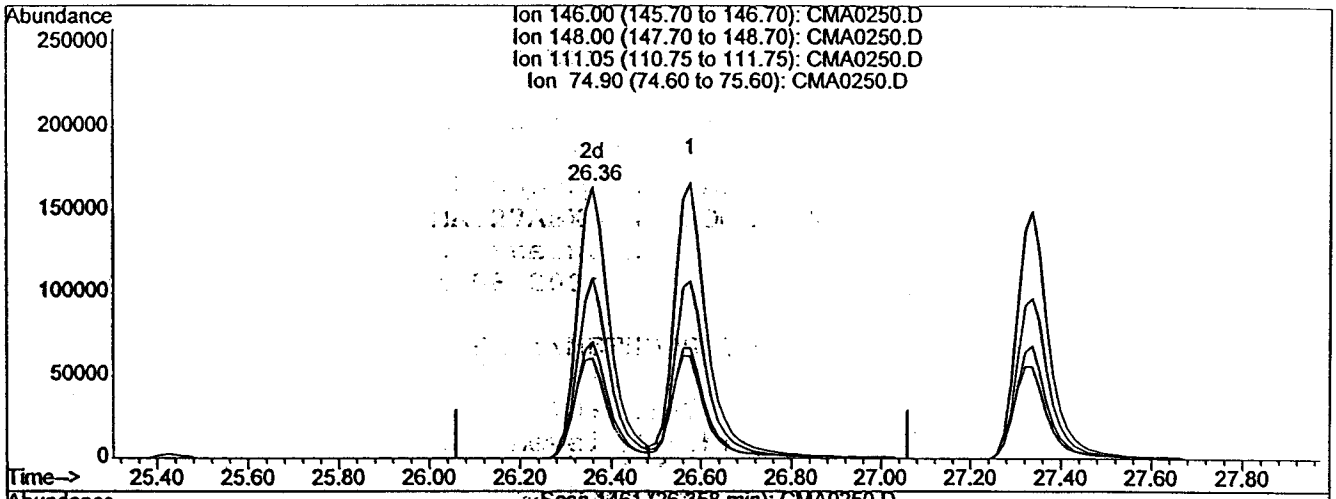
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

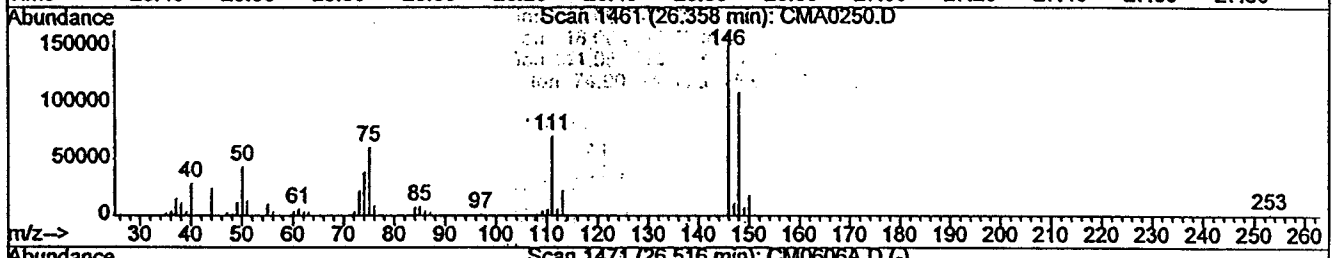
before (wrong peak)

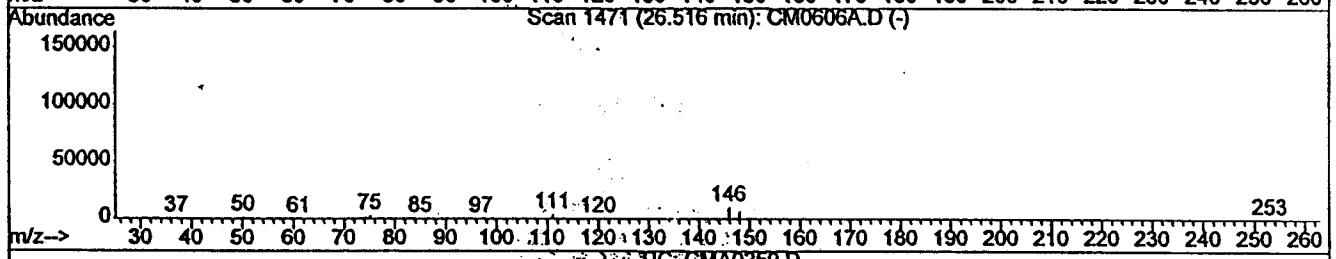
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

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

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







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

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

after
BH
6/19

7-31-01

CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

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

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

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

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

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

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

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

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

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

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

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001 original BH 6/19/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00 ng	0.00 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%					
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%					
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%					

Target Compounds

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

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

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

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

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

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

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

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

original BH 6/19

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

System Monitoring Compounds

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

Target Compounds

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

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

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

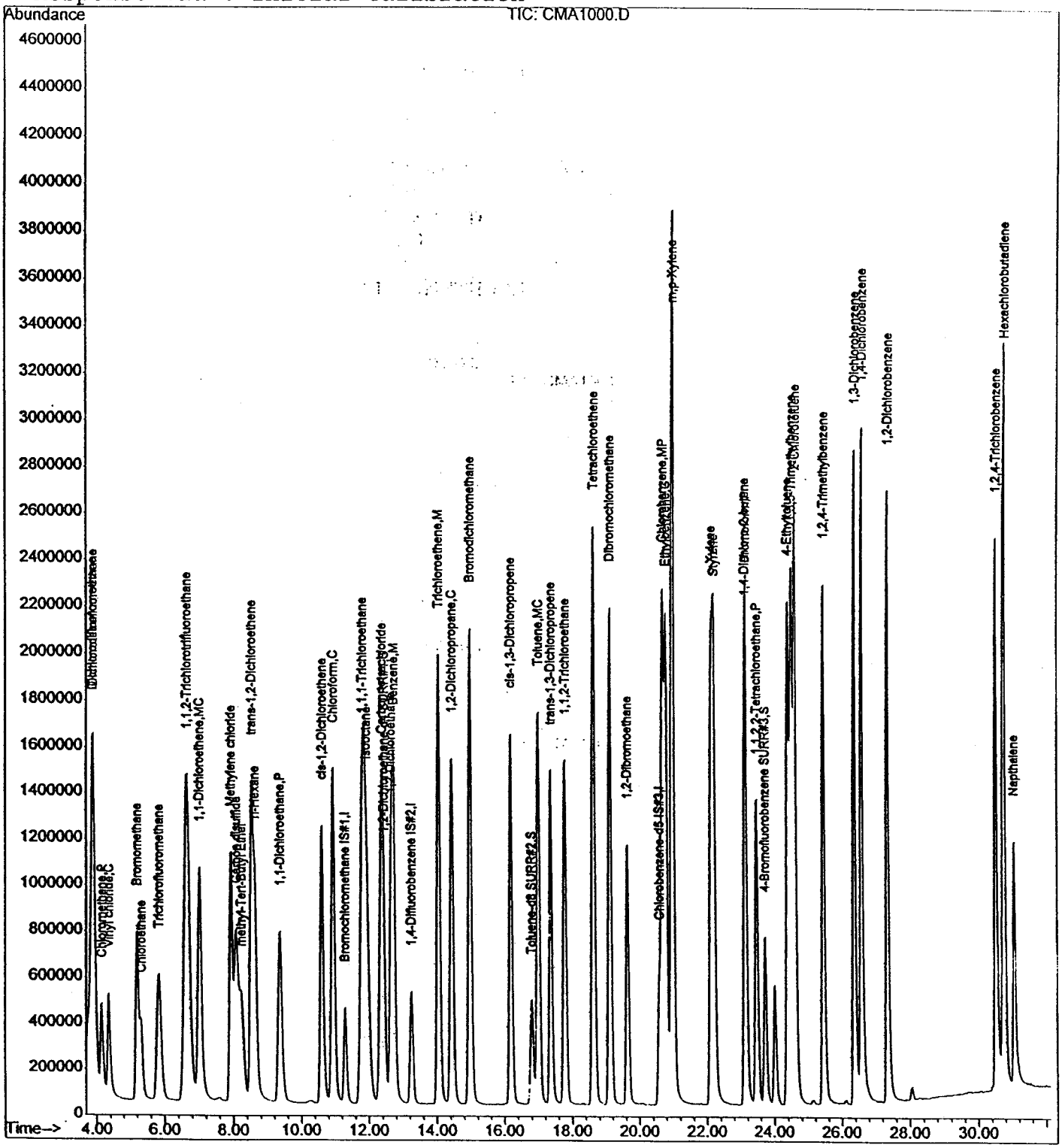
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

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

original BH 6/19

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

System Monitoring Compounds

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

Target Compounds

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

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

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

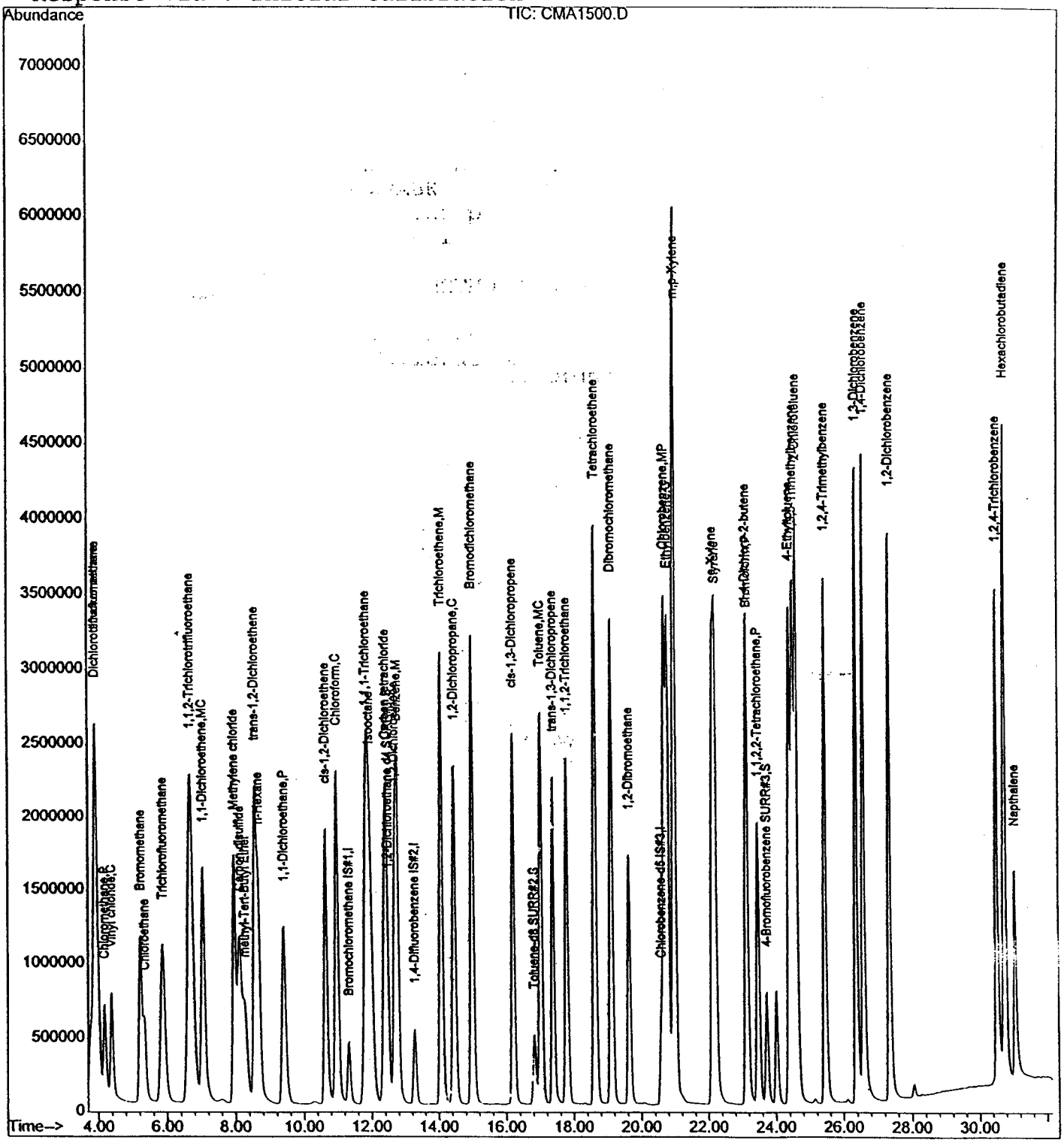
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

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

BH 6/19/01

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

System Monitoring Compounds

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

Target Compounds mg/m3 Qvalue

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:03:53 2001 Page 1

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

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

original

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

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

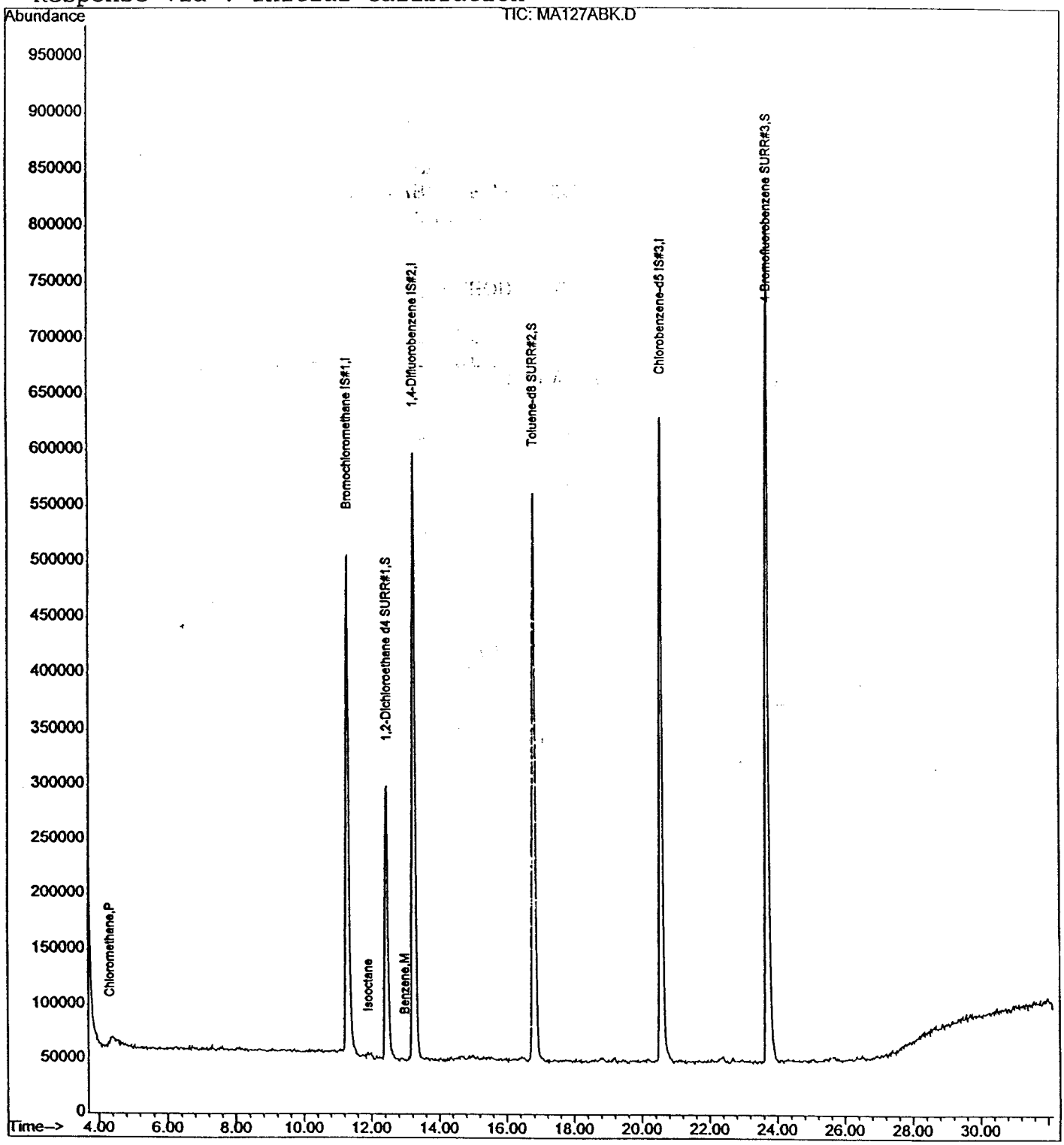
Target Compounds					Qvalue
4) Chloromethane	4.33	50	2018	1.50 ng	# 46
20) Isooctane	11.92	57	16392	2.73 ng	# 7
27) Benzene	12.99	78	967	0.23 ng	# 54

<RL/NR/NSF

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

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

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



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

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

BA 6/19/01

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

System Monitoring Compounds

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

Target Compounds

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

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

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

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

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

System Monitoring Compounds

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

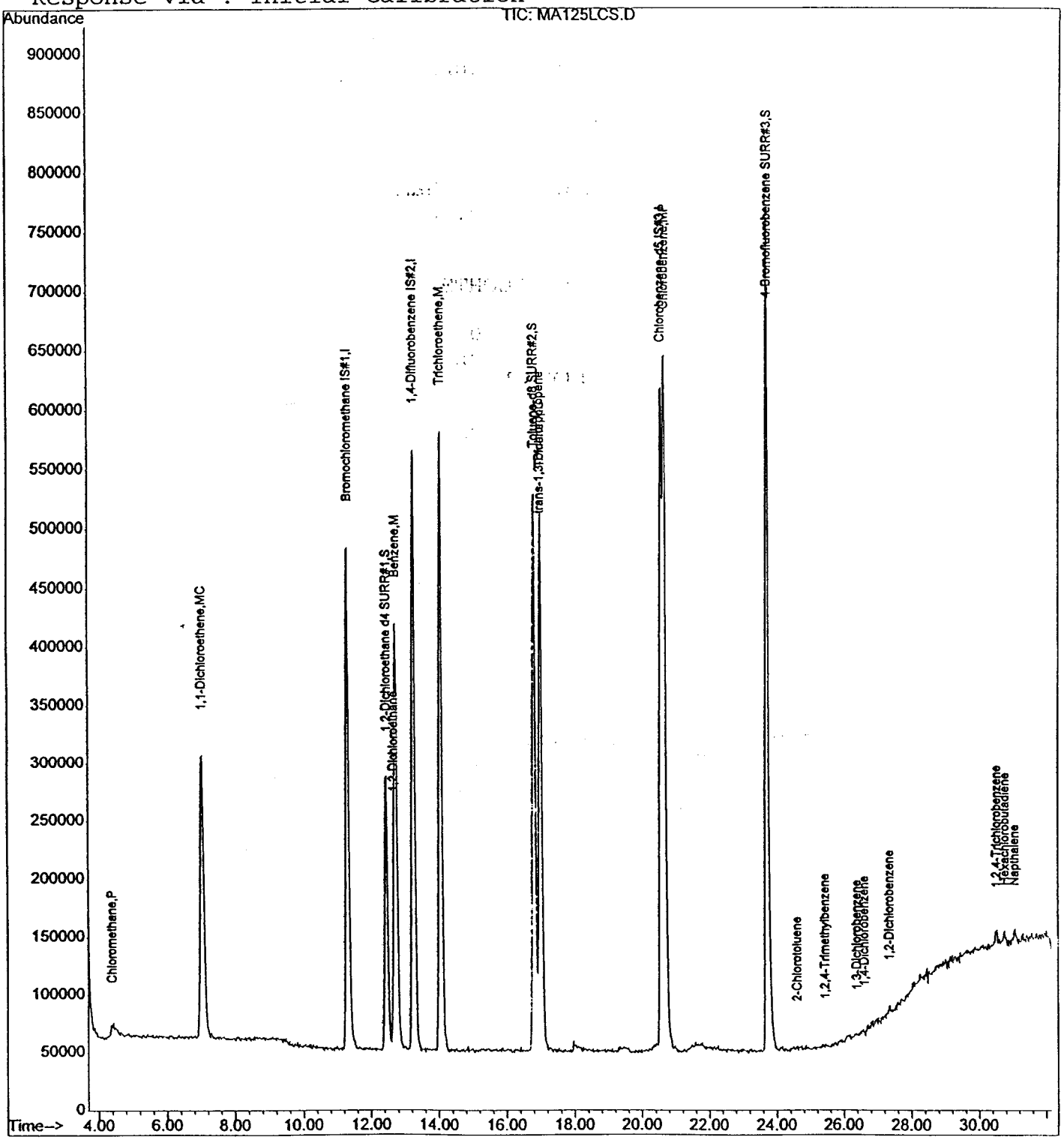
Target Compounds

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

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

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

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



STL - Pensacola / GCMS Volatiles Run Log

Date 07-25-01 BH 7/30
Batch MAB153 ① 2 3
IS# 8 -MSW- ~~22~~ 19 3
BFB 8 -MSW- ~~22~~ 19 3

Instrument ID : Marilyn
Batch _____ 1 2 3
TO14 ____ -MSW- ____ - ____
8260 8 -MSW- ~~23~~ - ~~23~~ BH 7/30

Method : TO14.m/8260A.m/8260W.m
AIR-SPK ____ -MSW- ____ - ____
WATER-SPK 8 -MSW- ~~20~~ - 2

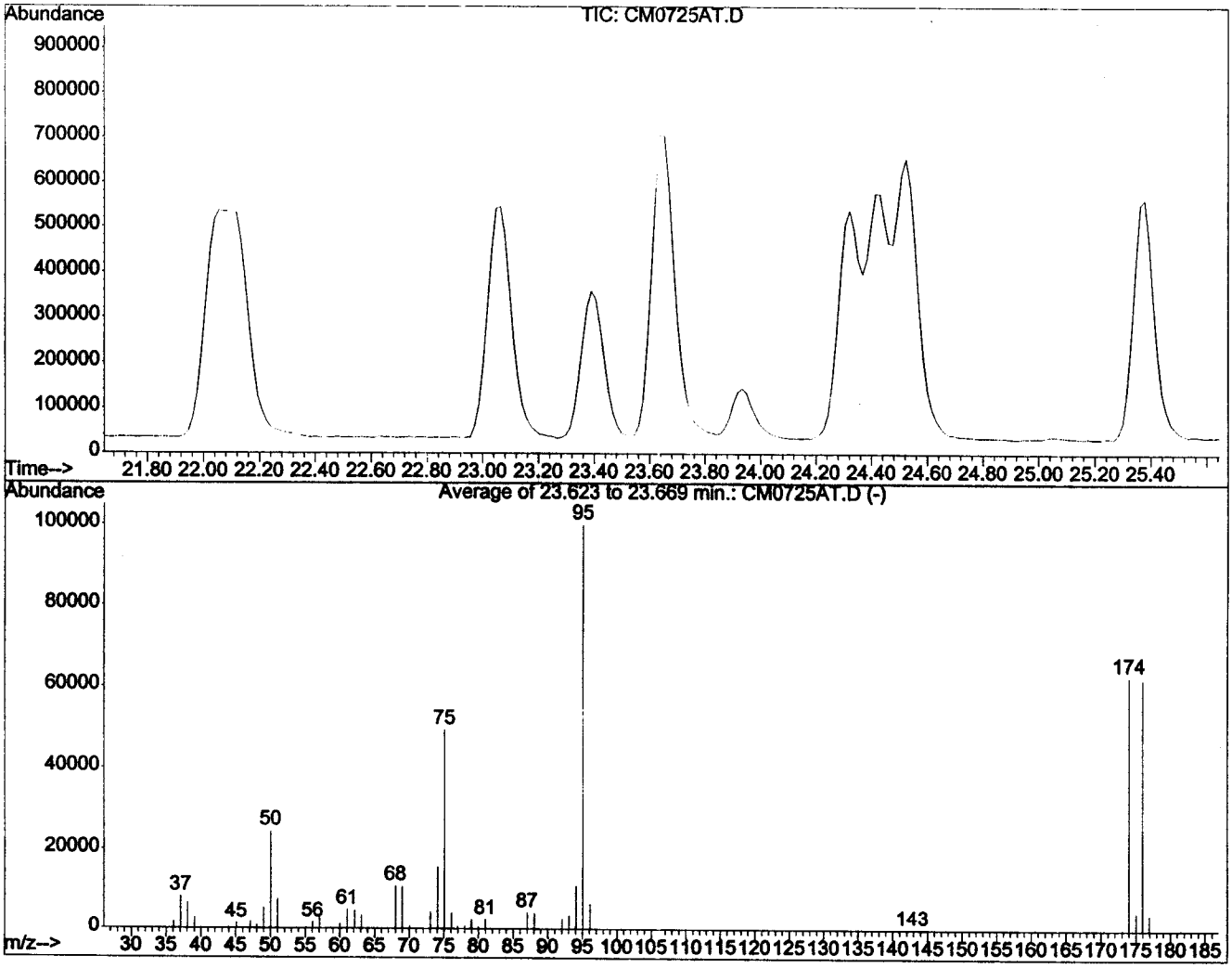
Other: _____
Daily maint. ~~23~~ 1
LCS# 8 -MSW- ~~20~~ - 2 BH
SURR# 8 -MSW- ~~22~~ - 2 7/30

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:36	14	TO14	BFM	50ng		N	Methanol	95 Ion Area = 994,000 (From CCV)	BH	—	—	—	—
08:36	14		CM 0725A	50ppb		N	W	Daily Calib. Check		303	1250	941	—
09:13	15		MA153A BK	ST.		N	W	Daily Method Blank		314	1298	967	—
09:51	16		MA153 LCS	50ppb		N	W	Batch # 153 LCS		303	1225	925	—
10:28	16		MA153 LCD	↓		Y N	W	↓ (if needed) ↓ ↓ Duplicate		291	1203	905	—
11:06	1		7253-5	X20		Y N	A (TO14)	25 mls CAN		260	1009	779	—
12:53	1		↓ -6	ST		Y N		500 mls ↓		278	1056	820	—
13:27	2		7461-3R	X10		Y N		50 mls BAG		249	943	750	—
14:05	1		7402-1	ST		Y N		500 mls CAN		261	970	773	—
16:07	1	↓	7405-1	ST.		Y N	↓	↓ ↓		258	852	679	—
—	15-4	BFBSTL	BLKTUBE	—		Y N	—	MPM prep/clean-up	↓	—	—	—	—
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N		BH 7/25/01					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

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

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725AT.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14



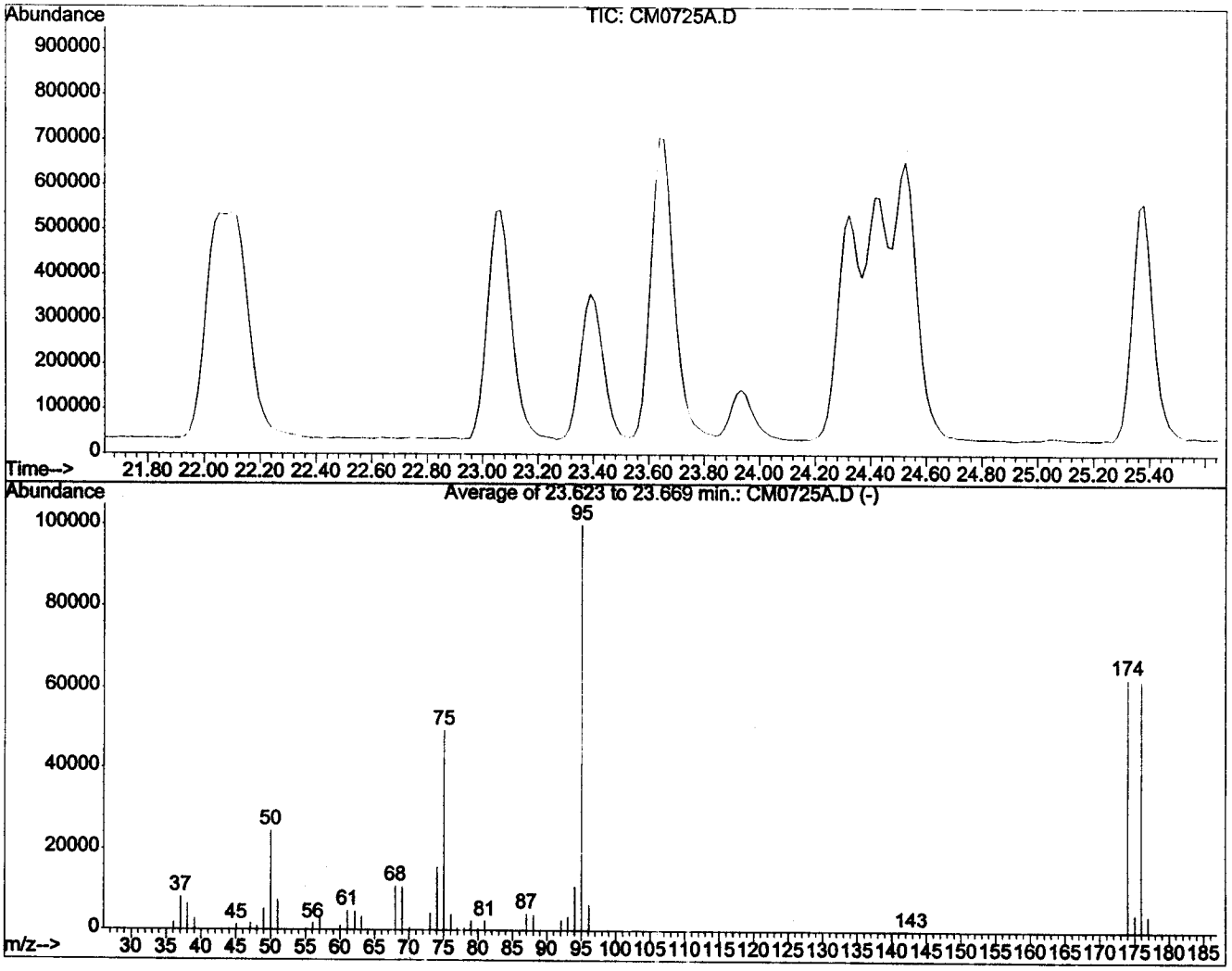
Spectrum Information: Average of 23.623 to 23.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24487	PASS
75	95	30	60	49.4	49411	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6568	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.7	62676	PASS
175	174	5	9	7.3	4585	PASS
176	174	95	101	99.0	62077	PASS
177	176	5	9	6.6	4080	PASS

CM0725AT.D TO14S.M Tue Jul 31 15:21:16 2001

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14



Spectrum Information: Average of 23.623 to 23.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24487	PASS
75	95	30	60	49.4	49411	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6568	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.7	62676	PASS
175	174	5	9	7.3	4585	PASS
176	174	95	101	99.0	62077	PASS
177	176	5	9	6.6	4080	PASS

CM0725A.D TO14S.M Tue Jul 31 14:59:03 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D
Acq On : 25 Jul 2001 8:36
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:46:27 2001
Response via : Multiple Level Calibration

passed BH 7/25/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	96	0.00
2		Dichlorodifluoromethane	5.221	4.845	7.2#	86	0.00
3		Dichlorotetrafluoroethane	1.746	1.660	4.9#	86	0.00
4	P	Chloromethane	1.056	1.086	-2.8#	103	0.00
5	C	Vinyl chloride	0.990	0.989	0.1#	90	0.00
6		Bromomethane	1.432	1.437	-0.3	95	0.00
7		Chloroethane	0.635	0.653	-2.8#	97	0.00
8		Trichlorofluoromethane	1.509	2.239	-48.4#	161#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.982	-1.1	93	0.00
10	MC	1,1-Dichloroethene	1.112	1.153	-3.7#	97	0.00
11		Iodomethane	0.000	0.000	0.0	146	0.00
12		Methylene chloride	1.996	1.991	0.3	92	0.00
13		Carbon disulfide	3.278	3.502	-6.8#	99	0.00
14		methyl-Tert-Butyl Ether	1.416	1.504	-6.2#	97	0.00
15		trans-1,2-Dichloroethene	1.191	1.237	-3.9#	97	0.00
16		n-Hexane	1.373	1.335	2.8#	88	0.00
17	P	1,1-Dichloroethane	2.420	2.371	2.0#	89	0.00
18		cis-1,2-Dichloroethene	2.017	2.009	0.4	91	0.00
19	C	Chloroform	2.996	2.982	0.5#	91	0.00
20		Isooctane	4.286	4.398	2.6#	168#	0.00
21		1,1,1-Trichloroethane	2.533	2.540	-0.3	92	0.00
22		Carbon tetrachloride	2.682	2.669	0.5	91	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.529	2.4#	93	0.00
24		1,2-Dichloroethane	1.735	1.713	1.3	90	0.00
25		1,2-Dibromoethane	2.008	2.074	-3.3#	92	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	98	0.00
27	M	Benzene	0.782	0.786	-0.5	93	0.00
28	M	Trichloroethene	0.392	0.396	-1.0	93	0.00
29	C	1,2-Dichloropropane	0.356	0.348	2.2#	90	0.00
30		Bromodichloromethane	0.847	0.825	2.6#	89	0.00
31		cis-1,3-Dichloropropene	0.511	0.502	1.8	91	0.00
32	S	Toluene-d8 SURR#2	0.808	0.812	0.5	97	0.00
33	MC	Toluene	0.475	0.479	-0.8#	93	0.00
34		trans-1,3-Dichloropropene	0.411	0.409	0.5	90	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	97	0.00
37		Tetrachloroethene	0.495	0.488	1.4	91	0.00
38		Dibromochloromethane	0.696	0.693	0.4	90	0.00
39	MP	Chlorobenzene	0.897	0.901	-0.4	92	0.00

(#) = Out of Range

as added 2X BH 7/25/01

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:46:27 2001
Response via : Multiple Level Calibration

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

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

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 13:29:55 2001
Response via : Multiple Level Calibration

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

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

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Tue Jul 31 13:29:55 2001
Response via : Multiple Level Calibration

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

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

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

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

original & Final Input BH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.26	128	302570	250.00 ng	0.00 100.00%
26) 1,4-Difluorobenzene IS#2	13.21	114	1249639	250.00 ng	0.00 100.00%
36) Chlorobenzene-d5 IS#3	20.50	117	941721	250.00 ng	0.00 100.00%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.40	65	462690	243.99 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.60%					
32) Toluene-d8 SURR#2	16.75	98	1014211	251.08 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.43%					
46) 4-Bromofluorobenzene SURR#	23.65	95	895187	239.08 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.63%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.86	85	1465872	231.98 ng		99
3) Dichlorotetrafluoroethane	3.87	135	502176	237.62 ng	#	19
4) Chloromethane	4.14	50	328658	257.15 ng		98
5) Vinyl chloride	4.36	62	299278	249.82 ng		99
6) Bromomethane	5.19	94	434900	250.99 ng		96
7) Chloroethane	5.30	64	197626	257.06 ng		97
8) Trichlorofluoromethane	5.82	101	677331	412.51 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.62	151	599828	252.85 ng		91
10) 1,1-Dichloroethene	6.98	96	348748	259.20 ng		92
12) Methylene chloride	7.90	49	602313	249.35 ng	#	85
13) Carbon disulfide	8.04	76	1059509	267.03 ng		100
14) methyl-Tert-Butyl Ether	8.19	73	455110	265.52 ng	#	91
15) trans-1,2-Dichloroethene	8.49	96	374299	259.62 ng		93
16) n-Hexane	8.59	57	403879	243.02 ng	#	1
17) 1,1-Dichloroethane	9.32	63	717345	244.93 ng		99
18) cis-1,2-Dichloroethene	10.57	61	607912	249.09 ng		94
19) Chloroform	10.89	83	902335	248.81 ng	#	95
20) Isooctane accidently added twice BH 7/25	11.87	57	2661164	512.96 ng		96
21) 1,1,1-Trichloroethane	11.76	97	768441	250.65 ng	#	84
22) Carbon tetrachloride	12.34	117	807529	248.73 ng		98
24) 1,2-Dichloroethane	12.60	62	518290	246.89 ng		99
25) 1,2-Dibromoethane	19.57	107	627634	258.22 ng		99
27) Benzene	12.68	78	982326	251.27 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

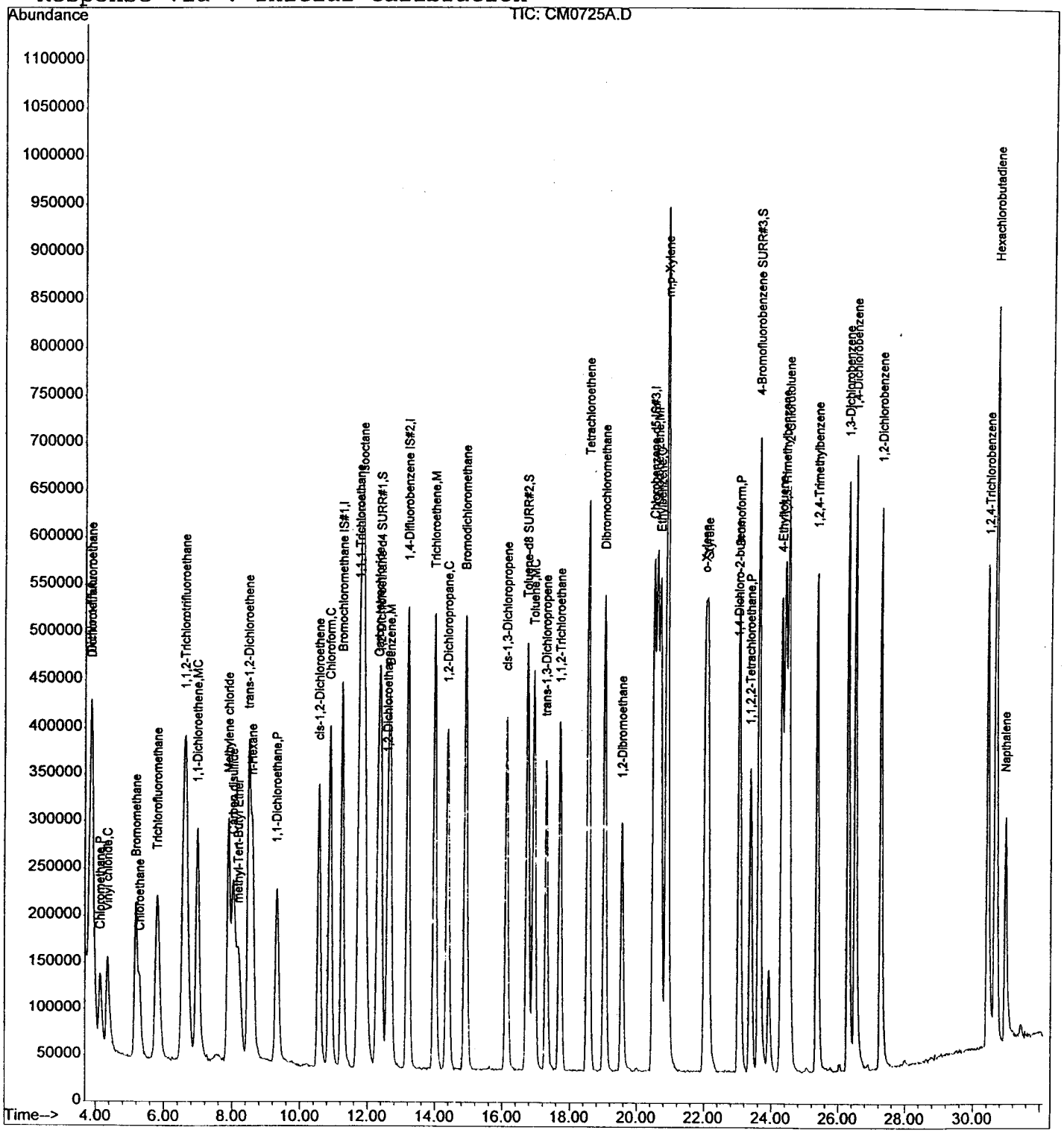
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.00	130	495296	252.59 ng		99
29)	1,2-Dichloropropane	14.39	63	435196	244.79 ng	#	88
30)	Bromodichloromethane	14.91	83	1031122	243.65 ng		99
31)	cis-1,3-Dichloropropene	16.14	75	627296	245.76 ng	#	81
33)	Toluene	16.95	92	598979	252.24 ng		97
34)	trans-1,3-Dichloropropene	17.30	75	511270	248.88 ng	#	79
35)	1,1,2-Trichloroethane	17.72	97	377746	254.45 ng		98
37)	Tetrachloroethene	18.56	164	459962	246.75 ng		97
38)	Dibromochloromethane	19.04	127	652560	248.83 ng		99
39)	Chlorobenzene	20.61	112	848358	250.95 ng		96
40)	Ethylbenzene	20.70	106	343229	247.36 ng		91
41)	m,p-Xylene	20.91	106	882799	501.58 ng		92
42)	o-Xylene	22.04	106	425892	248.98 ng		92
43)	Styrene	22.12	104	673880	239.62 ng		96
44)	Bromoform	23.06	173	585748	249.26 ng		99
45)	1,1,2,2-Tetrachloroethane	23.39	83	599427	261.06 ng		98
47)	1,4-Dichloro-2-butene	23.03	75	121403	248.97 ng		93
48)	4-Ethyltoluene	24.32	105	1095839	230.51 ng		92
49)	1,3,5-Trimethylbenzene	24.41	105	909797	243.22 ng		92
50)	2-Chlorotoluene	24.52	91	1242953	248.19 ng		98
51)	1,2,4-Trimethylbenzene	25.38	105	960519	244.55 ng		99
52)	1,3-Dichlorobenzene	26.29	146	729974	245.83 ng		97
53)	1,4-Dichlorobenzene	26.51	146	781544	251.14 ng		98
54)	1,2-Dichlorobenzene	27.27	146	674252	248.93 ng		98
55)	1,2,4-Trichlorobenzene	30.44	180	484052	235.67 ng		99
56)	Napthalene	30.97	128	626218	266.02 ng	#	91
57)	Hexachlorobutadiene	30.67	225	414772	228.83 ng		100

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

Data File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D Vial: 14
Acq On : 25 Jul 2001 8:36 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:45 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:54 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

BDH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	313917	250.00 ng	0.02 103.75%
26) 1,4-Difluorobenzene IS#2	13.22	114	1298246	250.00 ng	0.02 103.89%
36) Chlorobenzene-d5 IS#3	20.52	117	967114	250.00 ng	0.02 102.70%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.41	65	484784	246.40 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.56%		
32) Toluene-d8 SURR#2	16.76	98	1045513	249.14 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.66%		
46) 4-Bromofluorobenzene SURR#	23.65	95	913619	237.60 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.04%		

mg/m3

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA153ABK.D TO14S.M Wed Jul 25 09:54:56 2001 Page 1

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:46 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	313917	250.00 ng	0.02 103.75%
26) 1,4-Difluorobenzene IS#2	13.22	114	1298246	250.00 ng	0.02 103.89%
36) Chlorobenzene-d5 IS#3	20.52	117	967114	250.00 ng	0.02 102.70%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.41	65	484784	246.40 ng	0.02
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.56%		
32) Toluene-d8 SURR#2	16.76	98	1045513	249.14 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.66%		
46) 4-Bromofluorobenzene SURR#	23.65	95	913619	237.60 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.04%		

Target Compounds

						Qvalue
55) 1,2,4-Trichlorobenzene	30.45	180	3841	1.82 ng	#	86
56) Napthalene	30.98	128	12202	5.05 ng	#	64

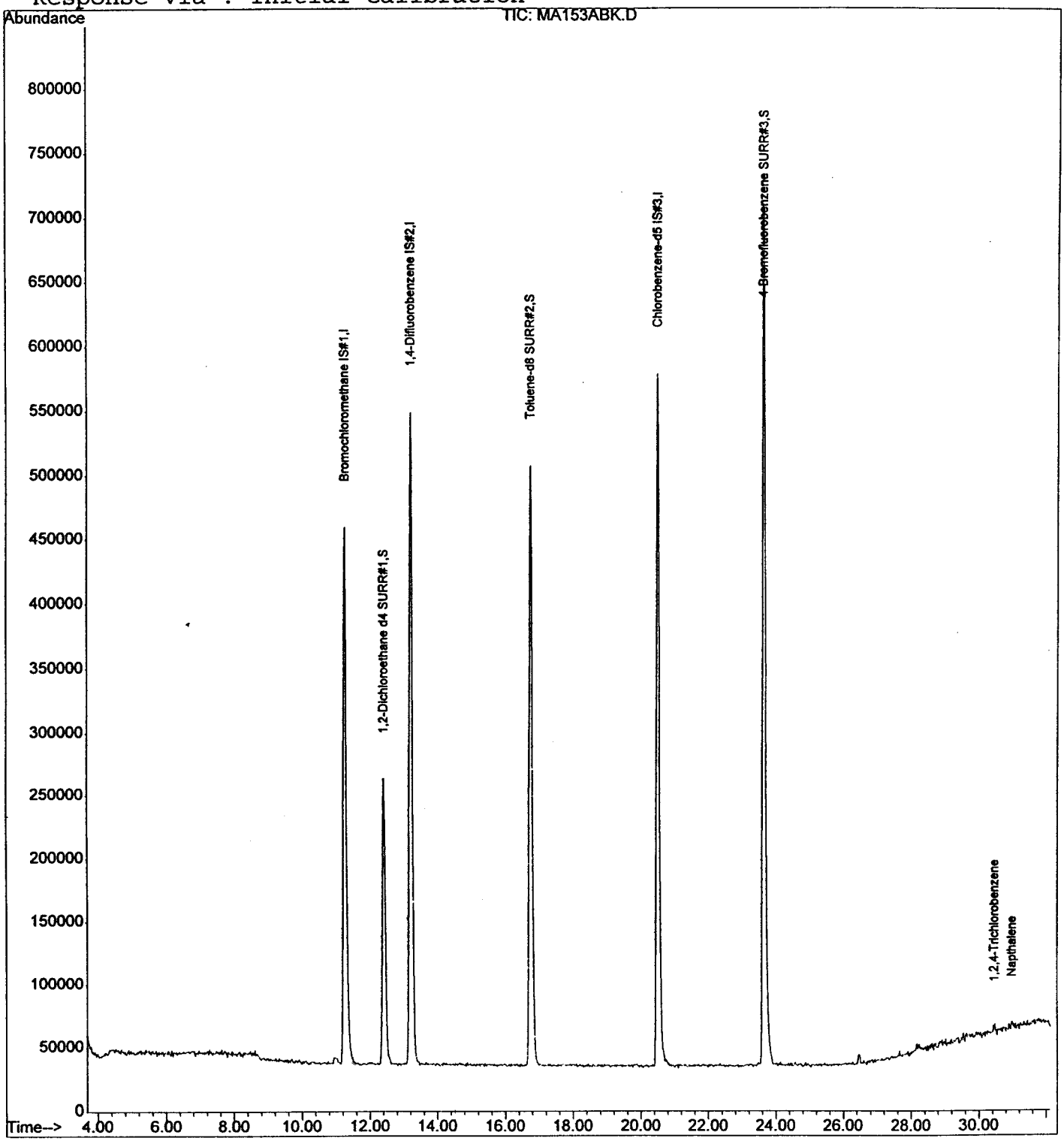
ng

<RL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA153ABK.D TO14S.M Wed Jul 25 09:46:13 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153ABK.D Vial: 15
Acq On : 25 Jul 2001 9:13 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 9:46 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:45:39 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00	ng	0.01 NA%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00	ng	0.03 NA%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00	ng	0.03 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%						
32) Toluene-d8 SURR#2	16.78	98	982773	248.20	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%						
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%						

mg/m3 report

Target Compounds

						Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	0.45	ng	93
27) Benzene	12.69	78	965079	0.50	ng	97
28) Trichloroethene	14.03	130	484089	0.50	ng	99
33) Toluene	16.96	92	587034	0.50	ng	96
39) Chlorobenzene	20.64	112	842610	0.51	ng	92

(#) = qualifier out of range (m) = manual integration
MA153LCS.D TO14S.M Tue Jul 31 10:35:17 2001

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:30 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

BH 7/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00	ng	0.01 100.07%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00	ng	0.03 98.03%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00	ng	0.03 98.20%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%						
32) Toluene-d8 SURR#2	16.78	98	982773	248.20	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%						
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%						

ng report

Target Compounds

						Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	225.90	ng	93
27) Benzene	12.69	78	965079	251.83	ng	97
28) Trichloroethene	14.03	130	484089	251.85	ng	99
33) Toluene	16.96	92	587034	252.19	ng	96
39) Chlorobenzene	20.64	112	842610	253.81	ng	92

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

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001 orig.
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.28	128	302773	250.00 ng	0.01 100.07%
26) 1,4-Difluorobenzene IS#2	13.24	114	1224969	250.00 ng	0.03 98.03%
36) Chlorobenzene-d5 IS#3	20.53	117	924812	250.00 ng	0.03 98.20%

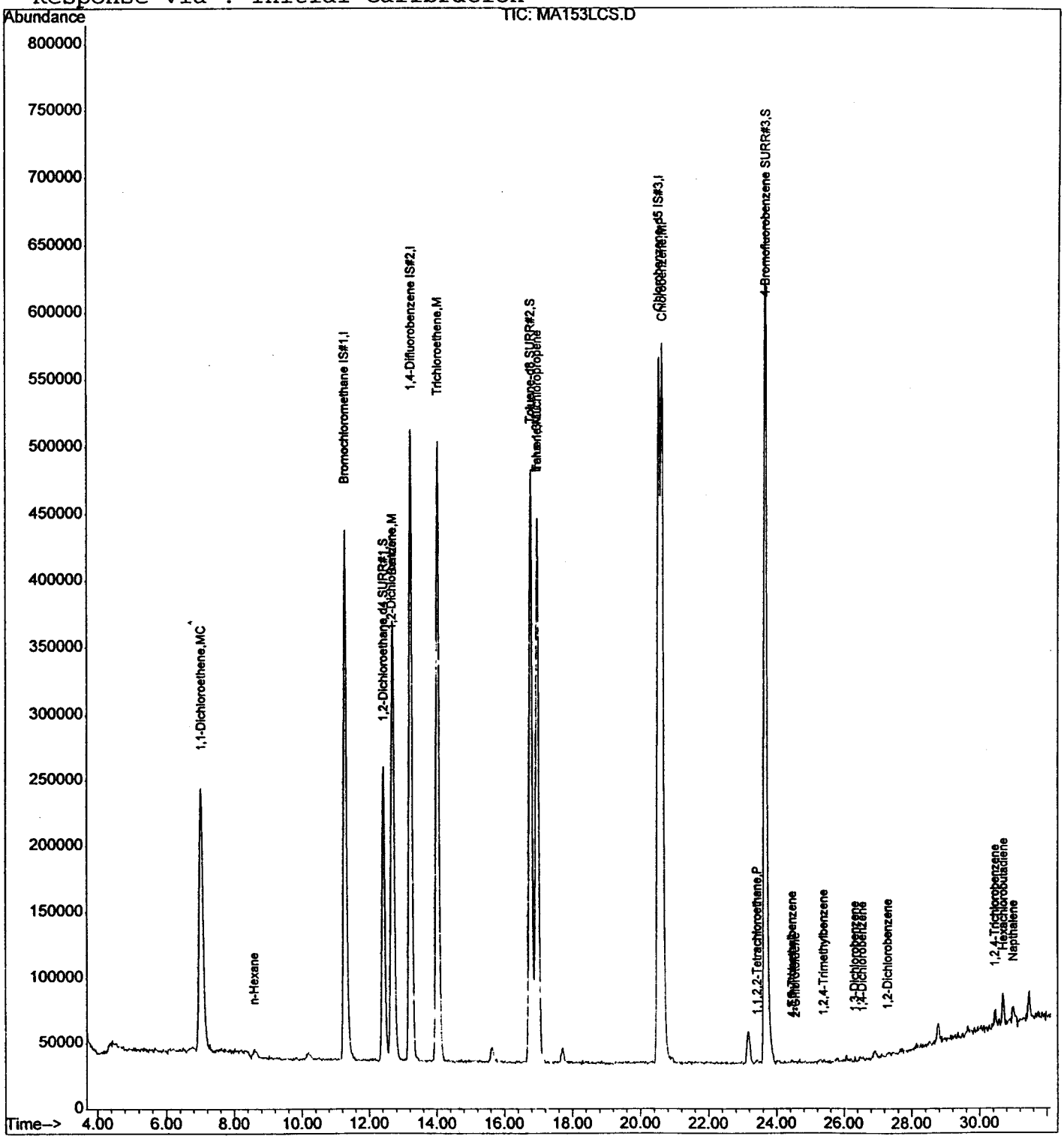
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.43	65	466578	245.88 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.35%					
32) Toluene-d8 SURR#2	16.78	98	982773	248.20 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.28%					
46) 4-Bromofluorobenzene SURR#	23.68	95	871202	236.93 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.77%					

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	304141	225.90 ng		93
16) n-Hexane	8.59	57	7860	4.73 ng	#	52
24) 1,2-Dichloroethane	12.68	62	8376	3.99 ng	#	49
27) Benzene	12.69	78	965079	251.83 ng		97
28) Trichloroethene	14.03	130	484089	251.85 ng		99
33) Toluene	16.96	92	587034	252.19 ng		96
34) trans-1,3-Dichloropropene	16.96	75	992	0.49 ng	#	1
39) Chlorobenzene	20.64	112	842610	253.81 ng		92
45) 1,1,2,2-Tetrachloroethane	23.44	83	7527	3.34 ng	#	58
48) 4-Ethyltoluene	24.46	105	4235	0.91 ng	#	46
49) 1,3,5-Trimethylbenzene	24.46	105	4235	1.15 ng	#	30
50) 2-Chlorotoluene	24.55	91	6083	1.24 ng	#	47
51) 1,2,4-Trimethylbenzene	25.39	105	4829	1.25 ng	#	31
52) 1,3-Dichlorobenzene	26.32	146	2122	0.73 ng	#	27
53) 1,4-Dichlorobenzene	26.54	146	3549	1.16 ng	#	27
54) 1,2-Dichlorobenzene	27.30	146	4466	1.68 ng	#	26
55) 1,2,4-Trichlorobenzene	30.45	180	12714	6.30 ng	#	81
56) Napthalene	31.00	128	33528	14.50 ng	#	64
57) Hexachlorobutadiene	30.70	225	15662	8.80 ng		89

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

Data File : D:\HPCHEM\1\DATA01\M0725A\MA153LCS.D Vial: 16
Acq On : 25 Jul 2001 9:51 Operator: BDH
Sample : LCS/BATCH #153 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA153ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 10:23 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration



AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.	# of samples
502C	A304036	Acc STD	2000 µg/ml	7/1999	DWM 5/15/98	7-VN 2-1	3
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DWM 5/28/98	7-VN 2-2	4
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3	10
8260 IS	A9457	Restek	2500 µg/ml	9/2000	AM 5/29/98	7-VN 2-4	10
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	10
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	AM 6/16/98	7-VN 2-6	5
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7	10
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	15
VOC 8260 Mixture (2nd source)	M0219	Ultra	2000 ug/ml	3/2000	~~BH~~ 7/28/98	7-VN 2-9	
8260 Surr	A11795	Restek	2500 µg/ml	8/2001	AM 10/6/98	7-VN 2-10	10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	AM 10/6/98	7-VN 2-11	10
Matrix Spike	LA76920	Supelco	25 µg/ml	8/2000	AM 10/7/98	7-VN 2-12	10
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	AM 10/9/98	7-VN 2-13	1
8260 Kit	1570	Restek	Varies	6/2000	DWM 11/10	7-VN 2-14	1
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	10
2-Chloroethyl vinyl ether	A8090942-JB	Accustandard	200.1 µg/ml	9/99	WB 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-19	1
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	AM 3/10/99	7-VN 2-20	5
8260 Volatile Kit	Varies	Restek	Varies	6/2001	AM 3/10/99	7-VN 2-21	1
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DWM 5/10/99	7-VN 2-22	2
VOC Mix 6	LA80482	Supelco	2000 µg/ml	4/2000	AM 5/12/99	7-VN 2-23	9
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	AM 5/12/99	7-VN 2-24	0
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	AM 5/14/99	7-VN 2-25	3
Custom To14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~	4
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	AM 6/9/99	7-VN 2-27	2
Idromethane	LA81867	Supelco	2000	4/2000	DWM 6/29/99	7-VN 2-28	0

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

DBOA 6/14/00

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/9/99	7 -VN 3- 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/9/99	7 -VN 3- 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3- 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3- 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3- 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3- 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3- 7	
F003	A8090310	↓	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3- 8	
F005	055-142	↓	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3- 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	DWS 11/2/99	7 -VN 3- 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ # Ampules	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA85600	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 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	A014205	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 Ketone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	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 Ketone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/1000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500 µg/ml	7/1/2001	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

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

Revised 7/0 4/13/04

088

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89188	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	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	1/2004 11/1/2001	11/1/00	drench	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/16/01 ~~2/2003~~	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	LA95936	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

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

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

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

Comments: exp. 9/1/01

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

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

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

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BDH

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

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

Comments: expires 10/2/01

090

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

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

Comments: 12/20/01 - exp. date

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 Cylinder)	LA90724	7-1-01	2500ug/ml	250ul	25 mls	25ug/ml
8-VN2-11 (Iso-octane)	B0110734	12-1-01	2000ug/ml	312.5ul	25 mls	25ug/ml

Comments: expires 12/28/01

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Jul 25 14:59 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

BA 7/25/01

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	260535	250.00	ng	0.03 86.11%
26) 1,4-Difluorobenzene IS#2	13.24	114	970082	250.00	ng	0.03 77.63%
36) Chlorobenzene-d5 IS#3	20.53	117	773048	250.00	ng	0.03 82.09%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	416928	255.33	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.13%						
32) Toluene-d8 SURR#2	16.78	98	827106	263.77	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 105.51%						
46) 4-Bromofluorobenzene SURR#	23.67	95	785394	255.53	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.21%						

ng/m3 report

Target Compounds

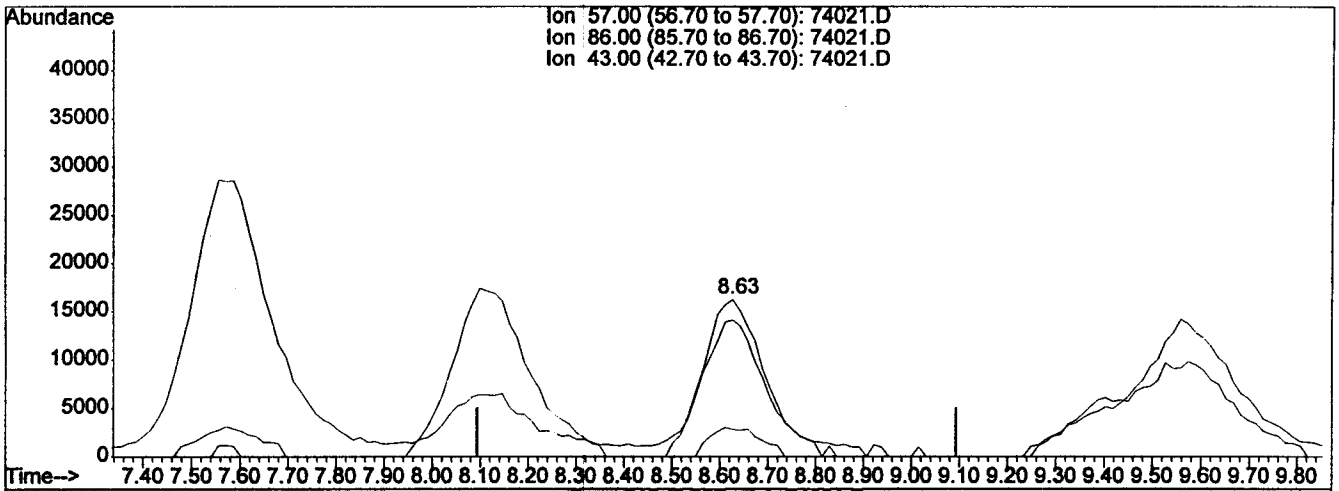
						Qvalue
16) n-Hexane	8.63	57	145771	0.41	ng	# 1
33) Toluene	16.96	92	20028	0.04	ng <RL	# 82
40) Ethylbenzene	20.74	106	33734	0.12	ng	69
41) m,p-Xylene	20.92	106	142048	0.39	ng	93
42) o-Xylene	22.07	106	58786	0.17	ng	77
48) 4-Ethyltoluene	24.31	105	238728	0.24	ng	95
49) 1,3,5-Trimethylbenzene	24.45	105	404438	0.53	ng	98
51) 1,2,4-Trimethylbenzene	25.39	105	223029	0.28	ng	95
56) Napthalene	31.00	128	23841	0.05	ng <RL	# 64

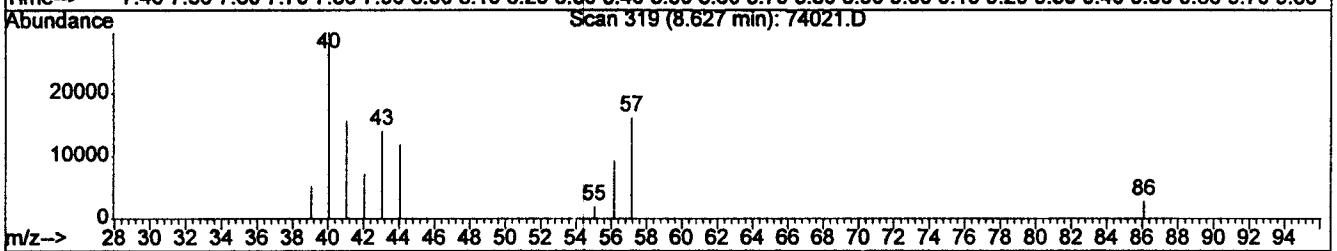
(#) = qualifier out of range (m) = manual integration

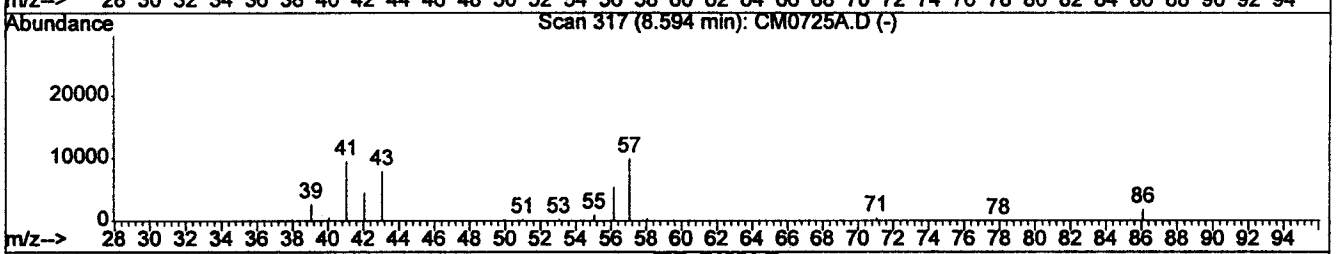
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:37 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







TIC: 74021.D

(16) n-Hexane

8.63min 101.87ng

response 145771

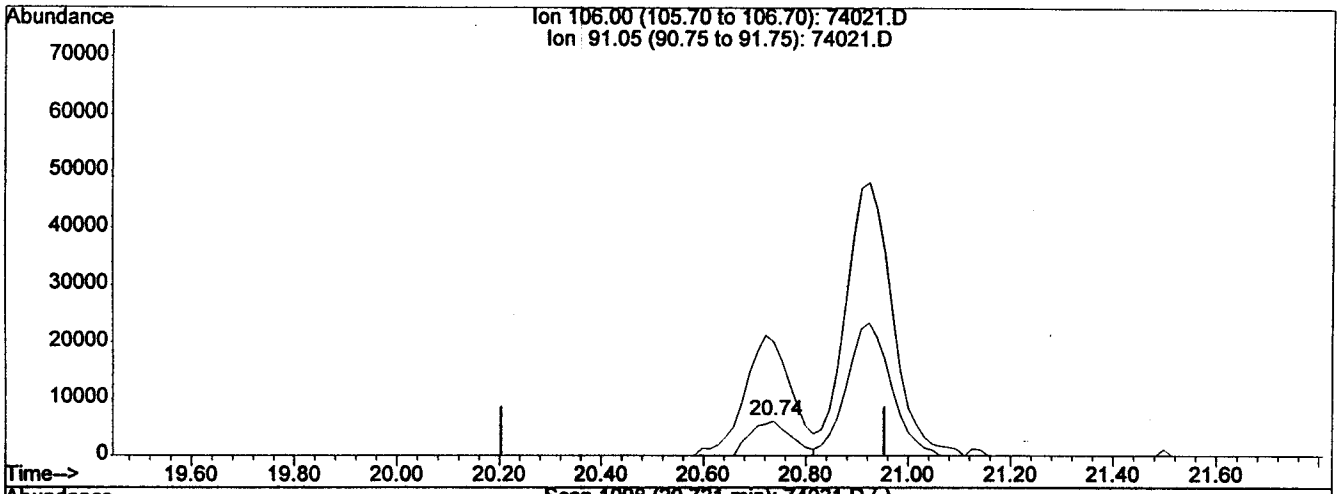
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	15.24#
43.00	325.00	95.93#
0.00	0.00	0.00

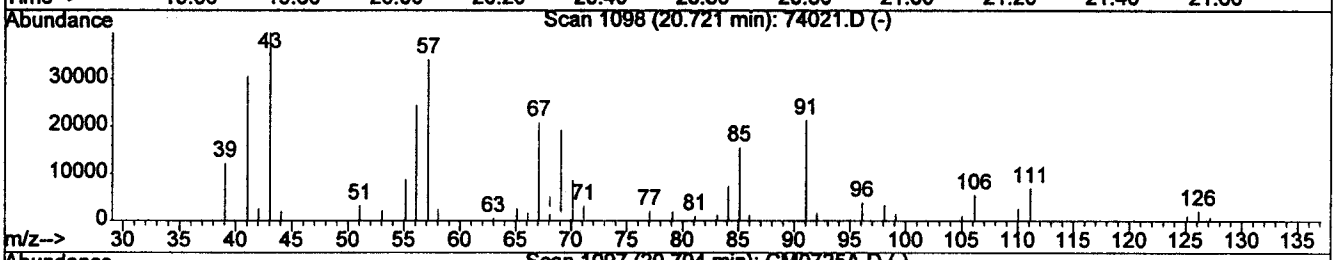
Quantification Report (Qedit)

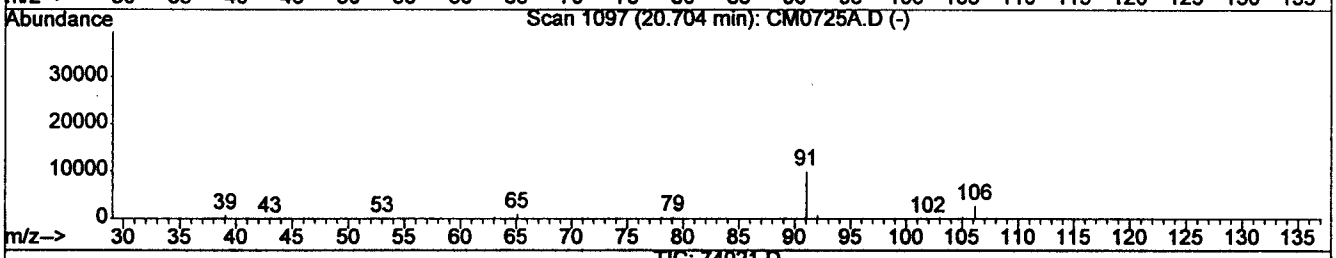
Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D
Acq On : 25 Jul 2001 14:05
Sample : 062-SVE-E-A-0717-01-18\7402-1
Misc : Pf/Pi=1 MA153ABK
MS Integration Params: rteint.p
Quant Time: Jul 25 14:58 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







TIC: 74021.D

(40) Ethylbenzene (C)

20.74min 29.62ng

response 33734

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	398.19
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:58 2001 Quant Results File: temp.res

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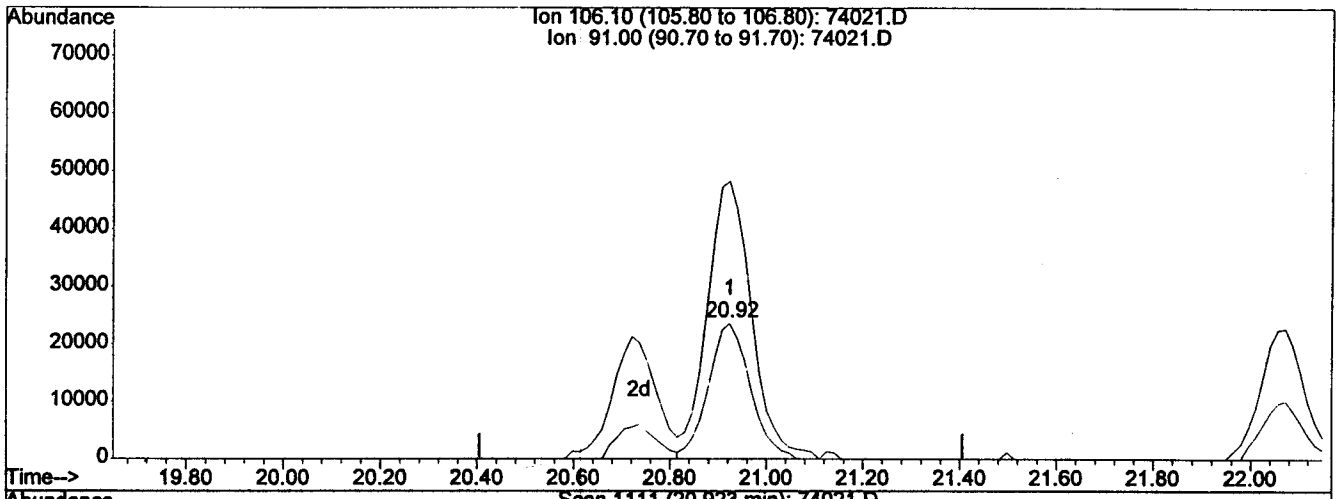

(41) m,p-Xylene

20.92min 98.32ng

response 142048

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	216.05
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
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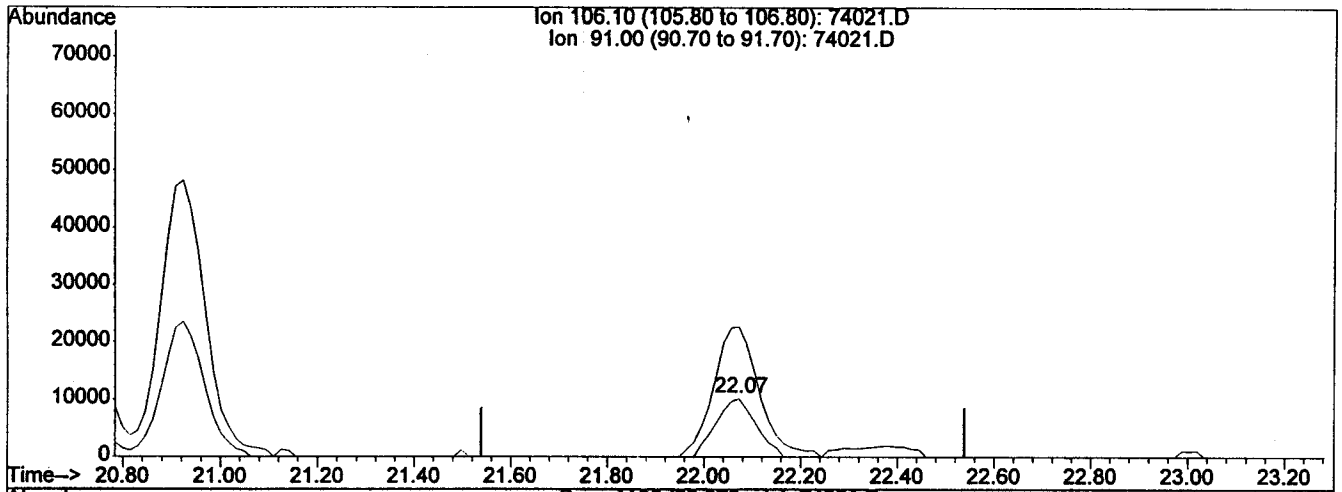
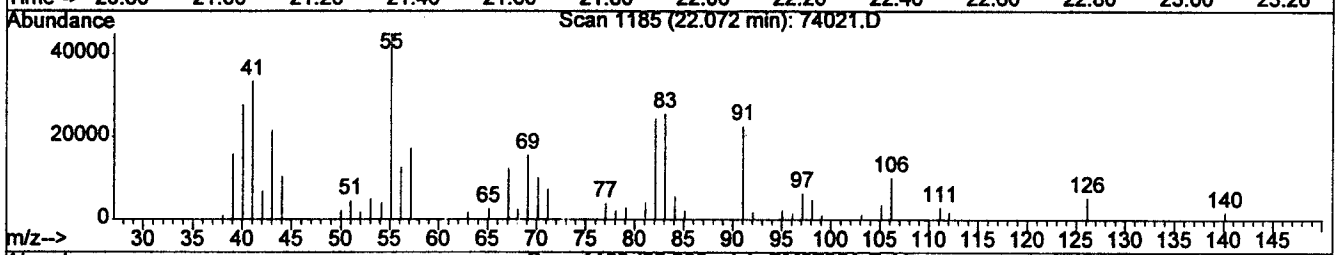
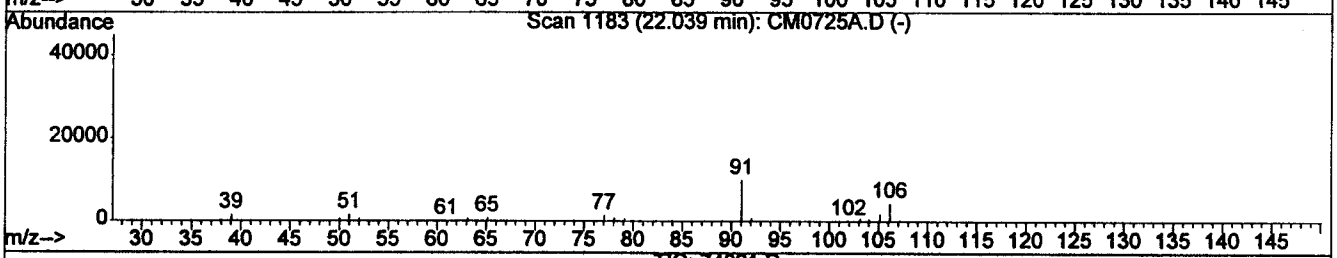
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:58 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







TIC: 74021.D

(42) o-Xylene

22.07min 41.87ng

response 58786

Ion	Exp%	Act%
106.10	100	100
91.00	215.80	252.50
0.00	0.00	0.00
0.00	0.00	0.00

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Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:59 2001 Quant Results File: temp.res

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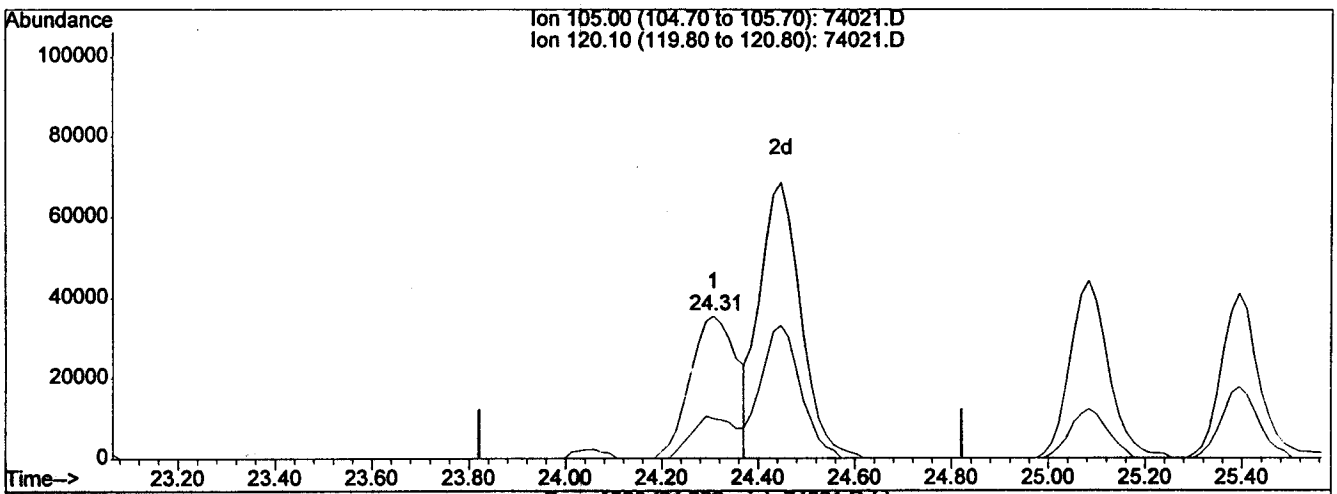

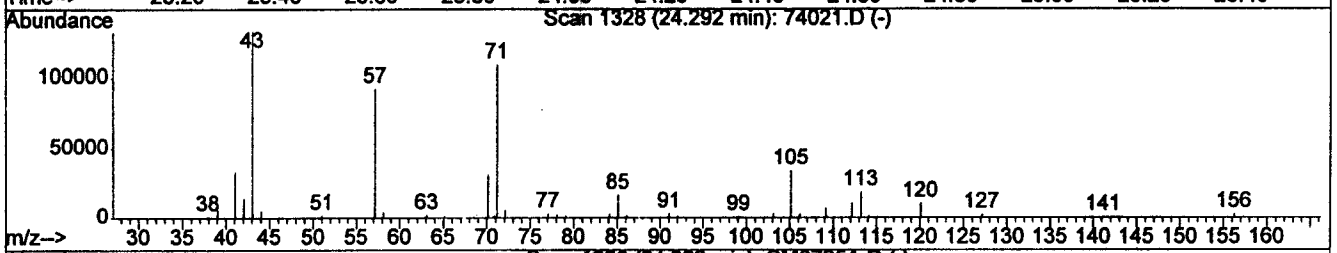

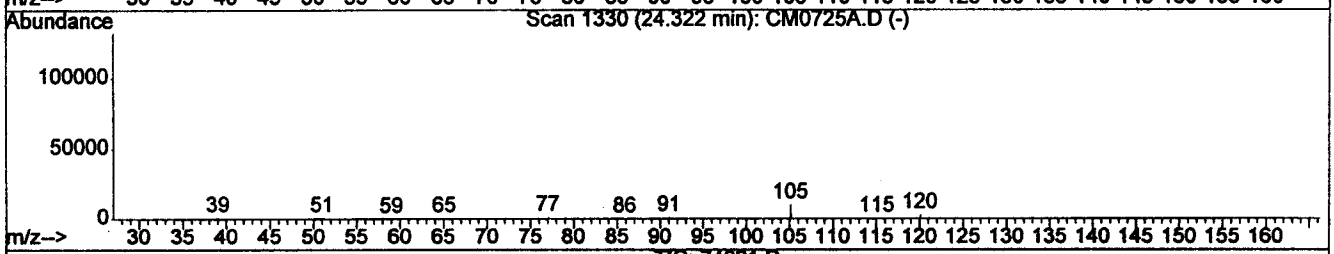

(48) 4-Ethyltoluene

24.31min 61.17ng

response 238728

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	25.95
0.00	0.00	0.00
0.00	0.00	0.00

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Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:59 2001 Quant Results File: temp.res

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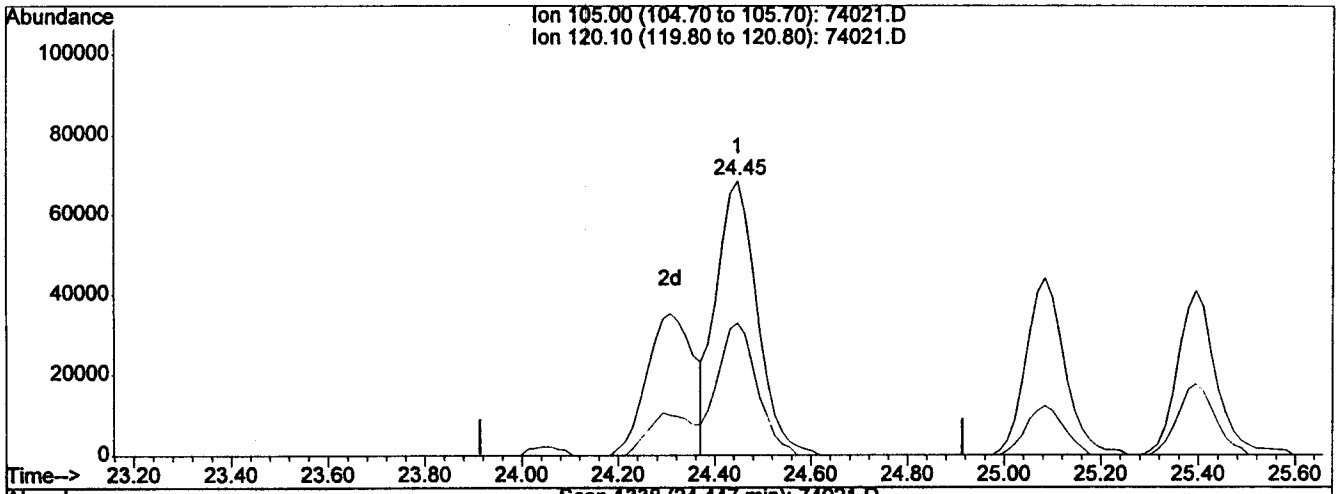
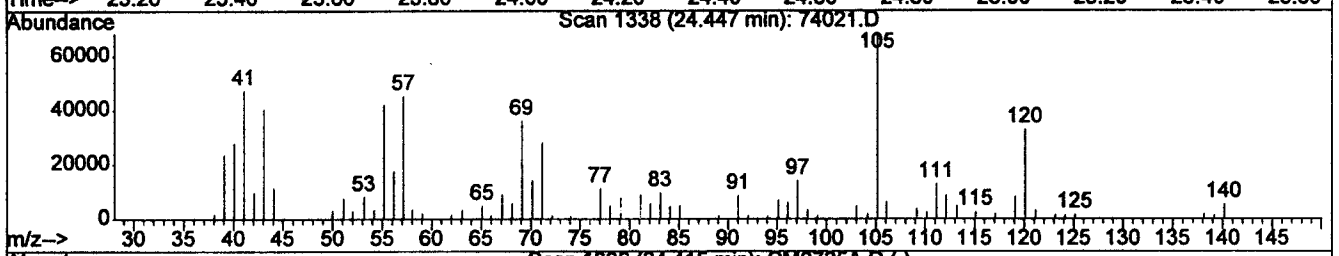
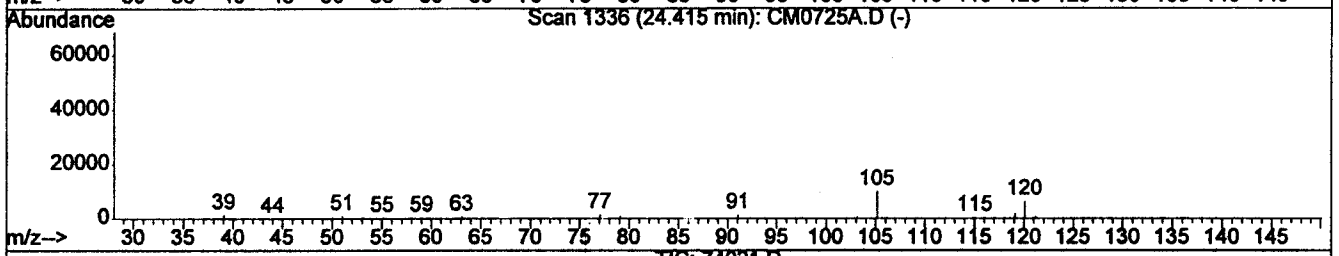






TIC: 74021.D

(49) 1,3,5-Trimethylbenzene

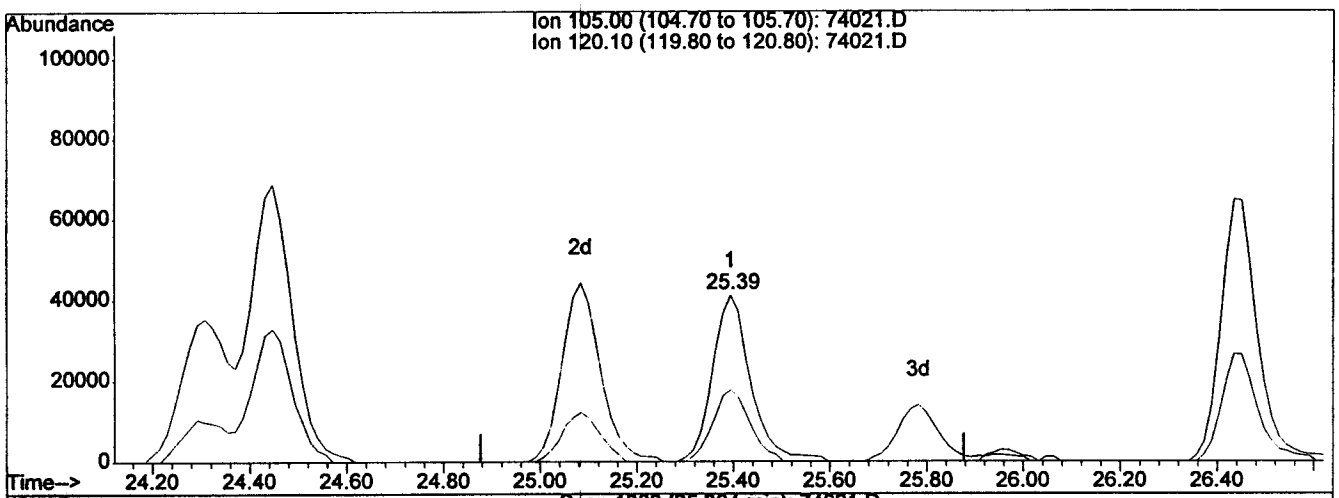
24.45min 131.71ng

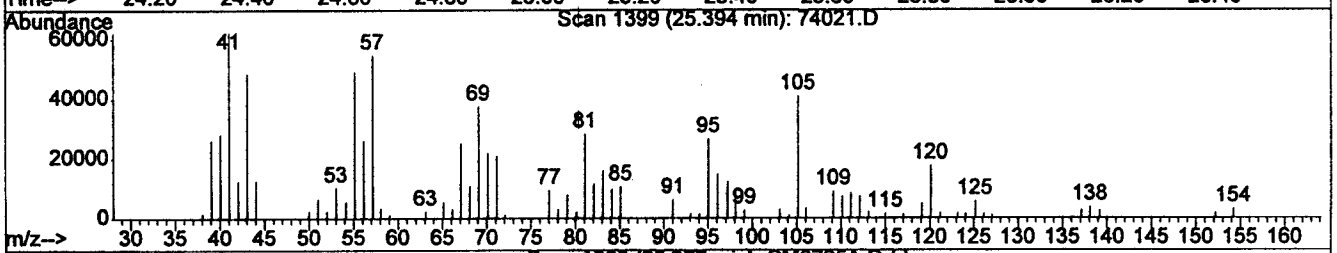
response 404438

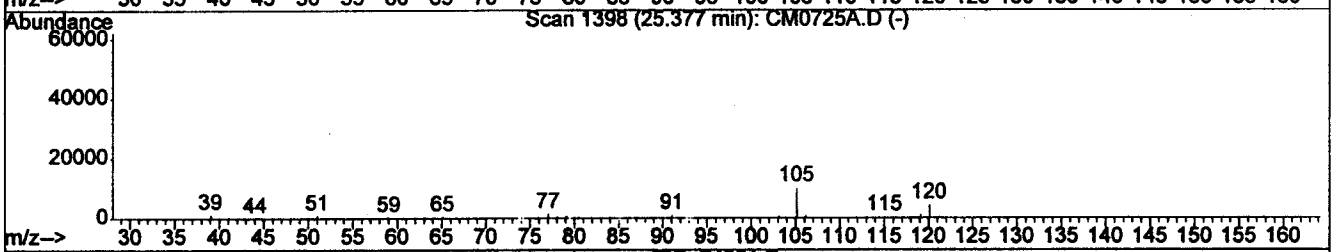
Ion	Exp%	Act%
105.00	100	100
120.10	46.70	48.27
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:59 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Multiple Level Calibration







(51) 1,2,4-Trimethylbenzene

25.39min 69.17ng

response 223029

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	41.79
0.00	0.00	0.00
0.00	0.00	0.00

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Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:37 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration orig.
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0725A\CM0725A.D (25 Jul 2001 8:36)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	260535	250.00 ng	0.03 86.11%
26) 1,4-Difluorobenzene IS#2	13.24	114	970082	250.00 ng	0.03 77.63%
36) Chlorobenzene-d5 IS#3	20.53	117	773048	250.00 ng	0.03 82.09%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.43	65	416928	255.33 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.13%					
32) Toluene-d8 SURR#2	16.78	98	827106	263.77 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 105.51%					
46) 4-Bromofluorobenzene SURR#	23.67	95	785394	255.53 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.21%					

ng report

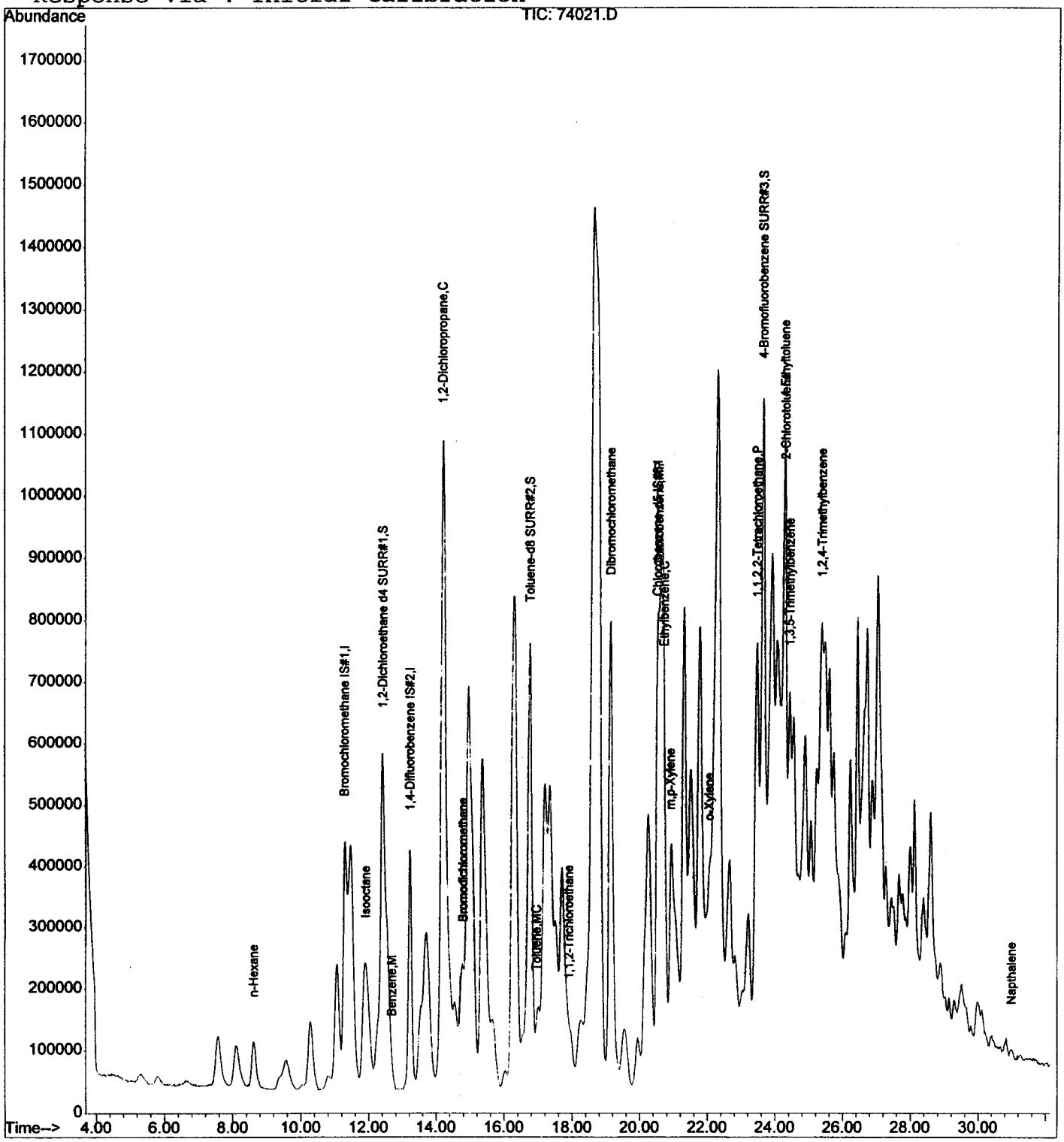
Target Compounds					Qvalue
16) n-Hexane	8.63	57	145771	101.87 ng	# 1
20) Isooctane	11.92	57	97836	19.96 ng	# 1
27) Benzene	12.69	78	16506	5.44 ng	# 54
29) 1,2-Dichloropropane	14.20	63	12357	8.95 ng	# 1
30) Bromodichloromethane	14.81	83	37261	11.34 ng	# 25
33) Toluene	16.96	92	20028	10.86 ng	# 82
35) 1,1,2-Trichloroethane	17.91	97	34070	29.56 ng	# 16
38) Dibromochloromethane	19.15	127	12332	5.73 ng	# 82
39) Chlorobenzene	20.58	112	18553	6.69 ng	# 20
40) Ethylbenzene	20.74	106	33734	29.62 ng	69
41) m,p-Xylene	20.92	106	142048	98.32 ng	93
42) o-Xylene	22.07	106	58786	41.87 ng	77
45) 1,1,2,2-Tetrachloroethane	23.48	83	250196	132.74 ng	# 30
48) 4-Ethyltoluene	24.31	105	238728	61.17 ng	95
49) 1,3,5-Trimethylbenzene	24.45	105	404438	131.71 ng	98
50) 2-Chlorotoluene	24.32	91	25548	6.21 ng	90
51) 1,2,4-Trimethylbenzene	25.39	105	223029	69.17 ng	95
56) Napthalene	31.00	128	23841	12.34 ng	# 64

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0725A\74021.D Vial: 1
Acq On : 25 Jul 2001 14:05 Operator: BDH
Sample : 062-SVE-E-A-0717-01-18\7402-1 Inst : GC/MS Ins
Misc : Pf/Pi=1 MA153ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jul 25 14:37 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Jul 25 09:47:29 2001
Response via : Initial Calibration



SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-07402
Received: 19 JUL 01
Reported: 31 JUL 01

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07402-1	062-SVE-E-A-0717-01-18	07-17-01/16:00	C107402

PARAMETER	07402-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07402-1	062-SVE-E-A-0717-01-18	07-17-01/16:00	C107402

PARAMETER	07402-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.12
Hexane, mg/m3	0.41
4-Ethyltoluene, mg/m3	0.24
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	0.28
1,3,5-Trimethylbenzene, mg/m3	0.53
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.17
m&p-Xylene, mg/m3	0.39
Surrogate - 1,2-Dichloroethane-d4	102 %
Surrogate - Toluene-d8	106 %
Surrogate - 4-Bromofluorobenzene	102 %
Dilution Factor	1
Analysis Date	07.25.01
Analysis Time	14:05
Batch ID	MAB153
Analyst	BDH

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Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07402-2	Method Blank		C107402
07402-3	Lab Control Standard True Value		C107402
07402-4	Lab Control Standard Result		C107402
07402-5	Lab Control Standard % Recovery		C107402
07402-6	LCS Accuracy Control Limit (%R)		C107402

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	250	252	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	250	254	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07402-2	Method Blank		C107402
07402-3	Lab Control Standard True Value		C107402
07402-4	Lab Control Standard Result		C107402
07402-5	Lab Control Standard % Recovery		C107402
07402-6	LCS Accuracy Control Limit (%R)		C107402

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
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	250	226	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	250	252	101 %	86-113

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Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07402-2	Method Blank		C107402
07402-3	Lab Control Standard True Value		C107402
07402-4	Lab Control Standard Result		C107402
07402-5	Lab Control Standard % Recovery		C107402
07402-6	LCS Accuracy Control Limit (%R)		C107402

PARAMETER	07402-2	07402-3	07402-4	07402-5	07402-6
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	250	252	101 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	99 %	250	246	98 %	61-140
Surrogate - Toluene-d8	100 %	250	248	99 %	90-109
Surrogate - 4-Bromofluorobenzene	95 %	250	237	95 %	87-112
Dilution Factor	1	---	1	---	---
Analysis Date	07.25.01	---	07.25.01	---	---
Analysis Time	09:13	---	09:39	---	---
Batch ID	MAB153	MAB153	MAB153	MAB153	MAB153
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

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SEVERN TRENT SERVICES

STL Pensacola

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

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07405-1	062-SVE-E-A-0717-01-14	07-17-01/15:20	C107405

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

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07405-1	062-SVE-E-A-0717-01-14	07-17-01/15:20	C107405

PARAMETER	07405-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.10
1,3,5-Trimethylbenzene, mg/m3	0.12
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	93 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	111 %
Dilution Factor	1
Analysis Date	07.25.01
Analysis Time	16:02
Batch ID	MAB153
Analyst	BDH

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07405-2	Method Blank		C107405
07405-3	Lab Control Standard True Value		C107405
07405-4	Lab Control Standard Result		C107405
07405-5	Lab Control Standard % Recovery		C107405
07405-6	LCS Accuracy Control Limit (%R)		C107405

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

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07405-5	Lab Control Standard % Recovery		C107405
07405-6	LCS Accuracy Control Limit (%R)		C107405

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

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SEVERN TRENT SERVICES

STL Pensacola

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

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
07405-2	Method Blank		C107405
07405-3	Lab Control Standard True Value		C107405
07405-4	Lab Control Standard Result		C107405
07405-5	Lab Control Standard % Recovery		C107405
07405-6	LCS Accuracy Control Limit (%R)		C107405

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

Rick Hayes, Project Manager

Final Page Of Report

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SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C108414
Project: CH2M Hill
NAS CECIL FIELD; CTO-0062

Client Sample ID	STL Sample ID
062-SVE-E-A-0814-01-15	C108414-1

The above samples were received at STL Pensacola on August 16, 2001.

Rick Hayes
Senior Project Manager

8/28/01

CCI NAVY P
AUG 29 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08414-1	062-SVE-E-A-0814-01-15	08-14-01/09:30

PARAMETER	08414-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08414-1	062-SVE-E-A-0814-01-15	08-14-01/09:30

PARAMETER	08414-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.16
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	0.14
1,3,5-Trimethylbenzene, mg/m3	0.06
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.13
Surrogate - 1,2-Dichloroethane-d4	94 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	101 %

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
08414-1	062-SVE-E-A-0814-01-15	08-14-01/09:30

PARAMETER	08414-1
Dilution Factor	1
Prep Date	08.21.01
Prep Time	09:53
Analysis Date	08.21.01
Analysis Time	10:05
Batch ID	MAB174
Prep Method	MOD-TO14
Analyst	BDH

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08414-2	Method Blank	
08414-3	Lab Control Standard True Value	
08414-4	Lab Control Standard Result	
08414-5	Lab Control Standard % Recovery	
08414-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4968	99 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.4977	100 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08414-2	Method Blank	
08414-3	Lab Control Standard True Value	
08414-4	Lab Control Standard Result	
08414-5	Lab Control Standard % Recovery	
08414-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4532	91 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5019	100 %	86-113

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STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 135110828

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
08414-2	Method Blank	
08414-3	Lab Control Standard True Value	
08414-4	Lab Control Standard Result	
08414-5	Lab Control Standard % Recovery	
08414-6	LCS Accuracy Control Limit (%R)	

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4922	98 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	95 %	0.5000	0.4927	99 %	61-140
Surrogate - Toluene-d8	101 %	0.5000	0.5012	100 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4875	98 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	08.21.01	---	08.21.01	---	---
Prep Time	09:53	---	09:53	---	---
Analysis Date	08.21.01	---	08.21.01	---	---
Analysis Time	08:19	---	08:54	---	---
Batch ID	MAB174	MAB174	MAB174	MAB174	MAB174
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

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STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C10 8414 Date Received: 8-16-01

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

Airbill Number(s): 7924 3489 3366

Shipped By: Fed Ex

Cooler Number(s): 144, 133

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: DMH **Date:** 8-16-01 **Logged By:** PRE **Date:** 8/16/01

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

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

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

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

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

C108 414

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-007

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0814-01-15	SVE Effluent	AIR	08/14/01	9:30	III/C	14 Day	1										Grab	Summa Canister	144
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK #792434293366.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop R. Dumaop	8/14/01	11:00	Federal Express	8/14/01	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Davette Howard / Davette Howard	8-16-01	0950
Printed Name and Signature:			Printed Name and Signature:		

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

Form CCI001, Rev 02/00

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

SEVERN TRENT SERVICES

STL Pensacola

Data Qualifiers for Final Report

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

Revised 06/19/01

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

STL Pensacola is a part of Severn Trent Laboratories, Inc.

STL PENSACOLA
State Certifications

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

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

Foreign Soil Permit, Permit No. S-37599

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C108414

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

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

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

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

Pensacola, FL 32514-7045

SHIP DATE: 14AUG01
MAN-WGT: 13 LBS

REF: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 ** 2DAY **

THU
AA

TRK # 7924 3429 3366 FORM 0201

BFM

Deliver By:
16AUG01

32514-FL-US

F3 PNSA

000014

VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 108414
PROJECT NAME: N.A.S. CECIL FIELD, 103rd STREET

RECEIVED Aug 16, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0814-01-15	108414-1	0115

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

Larry Dilmore
GC/MS SUPERVISOR
Aug 24, 2001

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 106512 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0821A.D Date Analyzed : 21 Aug 2001
Instrument ID : GC/MS Ins Time Analyzed : 7:46
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
84141	062SVEEA-0814-0	94	100	101	0	0	0	0
MA174ABK	VBLKMA/ DAILY M	95	101	97	0	0	0	0
MA174LCS	LCS/BATCH #174	99	100	98	0	0	0	0

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

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

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	108414					
Batch	MAB174	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		248.39	0.5000	0.4968	99%	87-116%
Chlorobenzene		248.84	0.5000	0.4977	100%	88-111%
1,1-Dichloroethene		226.6	0.5000	0.4532	91%	58-138%
Toluene		250.97	0.5000	0.5019	100%	86-113%
Trichloroethene		246.08	0.5000	0.4922	98%	85-116%
1,2-Dichloroethane-d4		246.35	0.5000	0.4927	99%	61-140%
Toluene-d8		250.62	0.5000	0.5012	100%	90-109%
4-Bromofluorobenzene		243.76	0.5000	0.4875	98%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	226.60	250.00	90.64	58 to 138%	[ ]
27)	M	Benzene	248.39	250.00	99.36	87 to 116%	[ ]
28)	M	Trichloroethene	246.08	250.00	98.43	85 to 116%	[ ]
33)	MC	Toluene	250.97	250.00	100.39	86 to 113%	[ ]
39)	MP	Chlorobenzene	248.84	250.00	99.54	88 to 111%	[ ]

* = out of control limits

4A

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.: C108414

Lab File ID: MA174ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 8/21/01 Time Analyzed: 8:19

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	LCS/BATCH #174 LCS 5	MA174LCS.D	8:54
02	0115	062SVEEA-0814-01-15\ 8	84141.D	10:05

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.: C108414

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

Instrument ID: MARILYN BFB Injection Time: 8:27

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108414

Lab File ID: CM0821AT.D BFB Injection Date: 8/21/01

Instrument ID: MARILYN BFB Injection Time: 7:46

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	49.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	61.6
175	4.0 - 9.0% of mass 174	4.5 (7.3)1
176	93.0 - 101.0% of mass 174	61.4 (99.6)1
177	5.0 - 9.0% of mass 176	3.9 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM0821A.D	8/21/01	7:46
02	VBLKMA	VBLKMA/ DAILY METHO	MA174ABK.D	8/21/01	8:19
03	LCS AND 2ND	LCS/BATCH #174 LCS 5	MA174LCS.D	8/21/01	8:54
04	0115	062SVEEA-0814-01-15\ 8	84141.D	8/21/01	10:05

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:22:32 2001
Response via : Initial Calibration

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

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

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

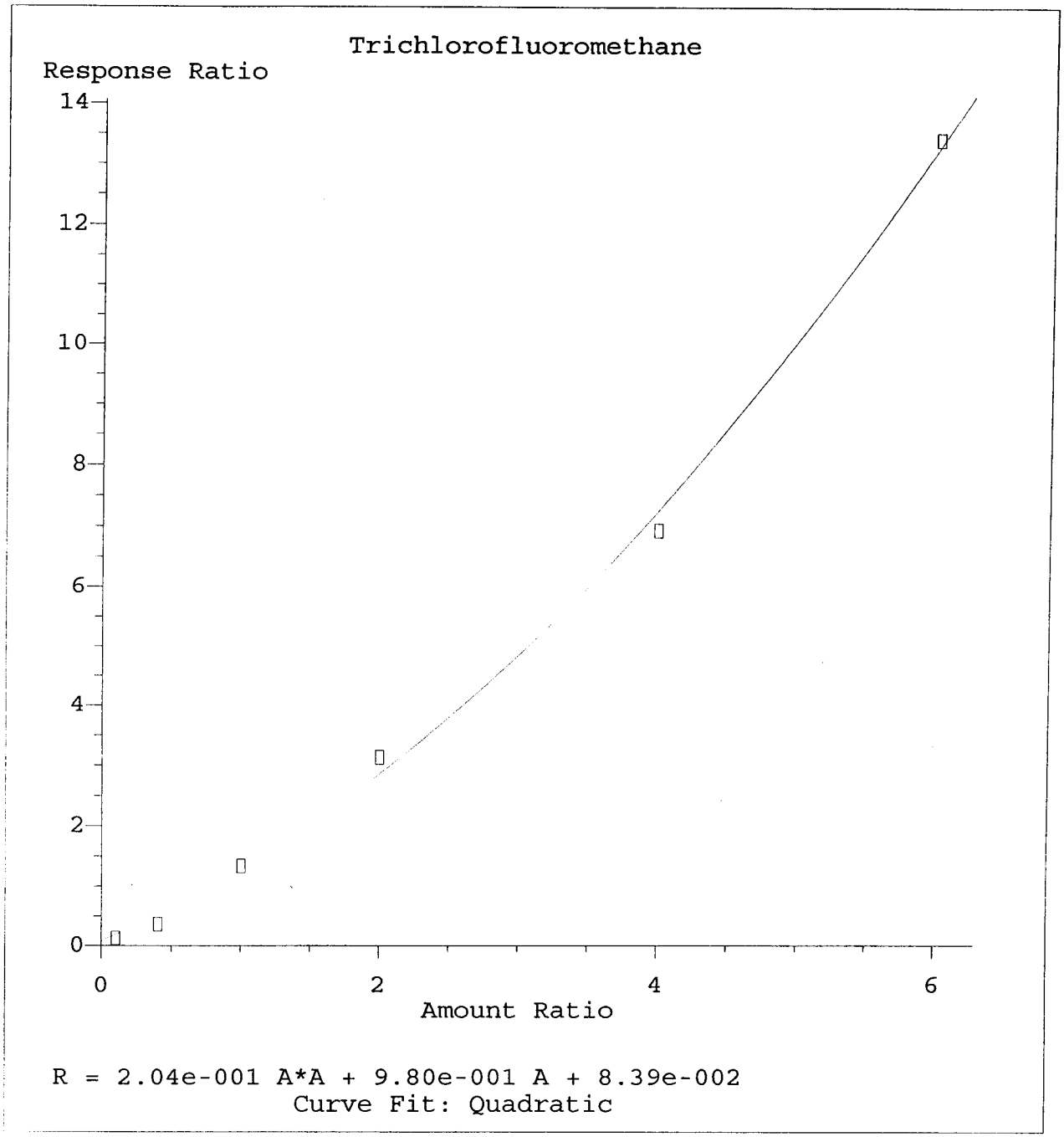
Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrato
Title : TO14
Last Update : Fri Aug 24 15:22:32 2001
Response via : Initial Calibration

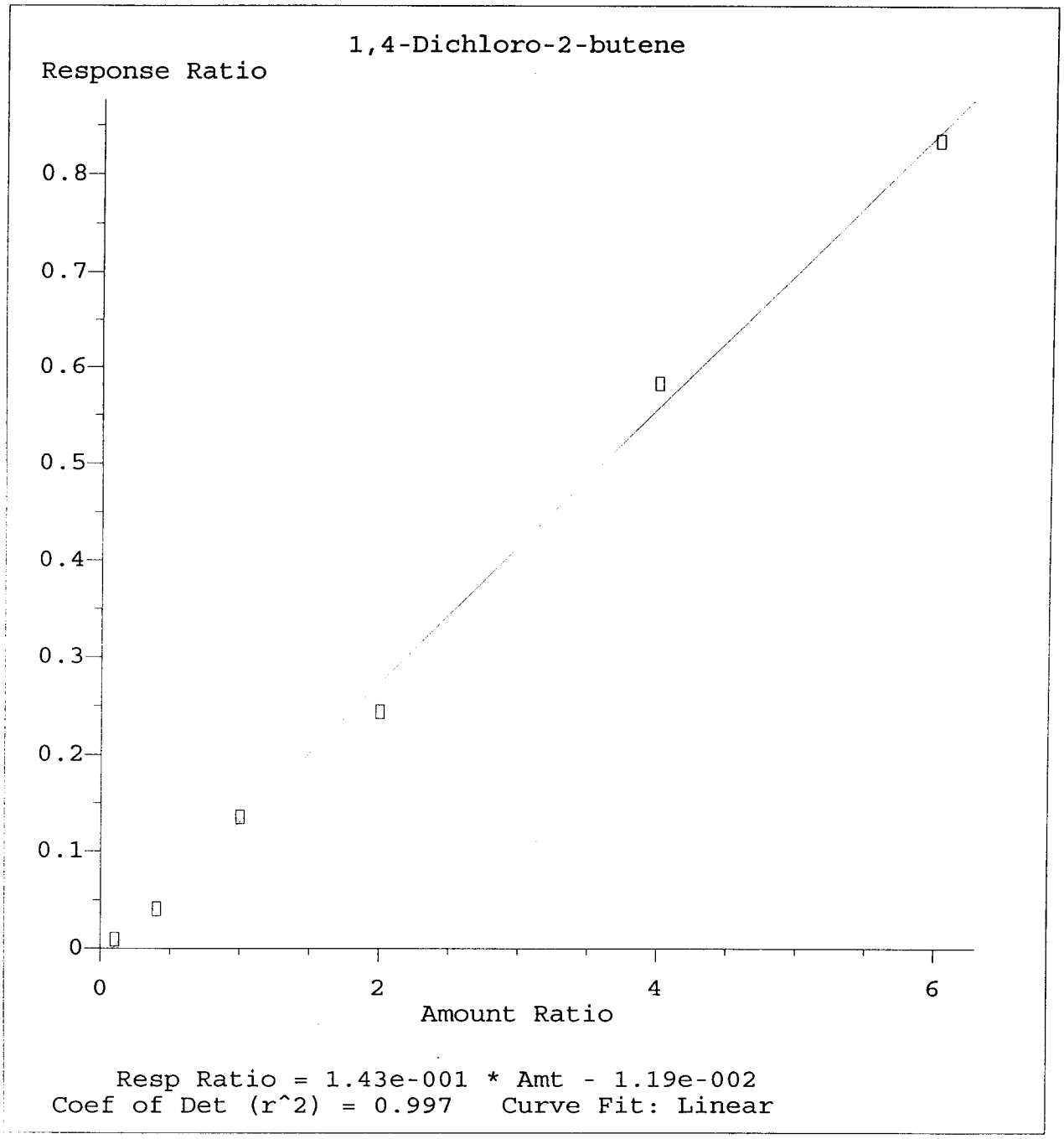
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

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

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



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Fri Aug 24 15:22:34 2001



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M
Calibration Table Last Updated: Fri Aug 24 15:22:34 2001

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	83	0.00
2		Dichlorodifluoromethane	5.221	3.659	29.9#	56	0.00
3		Dichlorotetrafluoroethane	1.746	1.566	10.3#	70	0.00
4	P	Chloromethane	1.056	0.964	8.7#	79	0.00
5	C	Vinyl chloride	0.990	0.992	-0.2#	79	0.00
6		Bromomethane	1.432	1.425	0.5	81	0.00
7		Chloroethane	0.635	0.598	5.8#	77	0.00
8		Trichlorofluoromethane	1.509	1.135	24.8#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.885	3.8#	76	0.00
10	MC	1,1-Dichloroethene	1.112	1.095	1.5#	80	0.00
11		Iodomethane	0.000	0.000	0.0	137	0.00
12		Methylene chloride	1.996	1.964	1.6	79	0.00
13		Carbon disulfide	3.278	3.475	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	1.416	1.462	-3.2#	82	0.00
15		trans-1,2-Dichloroethene	1.191	1.158	2.8#	79	0.00
16		n-Hexane	1.373	1.197	12.8#	68	0.00
17	P	1,1-Dichloroethane	2.420	2.253	6.9#	73	0.00
18		cis-1,2-Dichloroethene	2.017	1.884	6.6#	74	0.00
19	C	Chloroform	2.996	2.822	5.8#	75	0.00
20		Isooctane	4.704	4.221	10.3#	70	0.00
21		1,1,1-Trichloroethane	2.533	2.345	7.4#	73	0.00
22		Carbon tetrachloride	2.682	2.476	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.512	3.5#	80	0.00
24		1,2-Dichloroethane	1.735	1.647	5.1#	75	0.00
25		1,2-Dibromoethane	2.008	2.012	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	83	0.00
27	M	Benzene	0.782	0.750	4.1#	76	0.00
28	M	Trichloroethene	0.392	0.371	5.4#	74	0.00
29	C	1,2-Dichloropropane	0.356	0.339	4.8#	74	0.00
30		Bromodichloromethane	0.847	0.814	3.9#	75	0.00
31		cis-1,3-Dichloropropene	0.511	0.498	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	0.808	0.811	-0.4	83	0.00
33	MC	Toluene	0.475	0.451	5.1#	75	0.00
34		trans-1,3-Dichloropropene	0.411	0.410	0.2	77	0.00
35		1,1,2-Trichloroethane	0.297	0.298	-0.3	78	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	84	0.00
37		Tetrachloroethene	0.495	0.442	10.7#	72	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	76	0.00
39	MP	Chlorobenzene	0.897	0.849	5.4#	75	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.303	17.7#	66	0.00
41		m,p-Xylene	0.467	0.428	8.4#	73	0.00
42		o-Xylene	0.454	0.416	8.4#	73	0.00
43		Styrene	0.747	0.676	9.5#	72	0.00
44	P	Bromoform	0.624	0.602	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.603	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.971	2.3#	82	0.00
47		1,4-Dichloro-2-butene	0.123	0.123	0.0	77	0.00
48		4-Ethyltoluene	1.262	1.098	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	0.993	0.869	12.5#	72	0.00
50		2-Chlorotoluene	1.329	1.232	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	1.043	0.952	8.7#	73	0.00
52		1,3-Dichlorobenzene	0.788	0.749	4.9#	76	0.00
53		1,4-Dichlorobenzene	0.826	0.749	9.3#	72	0.00
54		1,2-Dichlorobenzene	0.719	0.697	3.1#	76	0.00
55		1,2,4-Trichlorobenzene	0.545	0.529	2.9#	77	0.00
56		Napthalene	0.625	0.684	-9.4#	84	0.00
57		Hexachlorobutadiene	0.481	0.431	10.4#	71	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	83	0.00
2		Dichlorodifluoromethane	250.000	175.206	29.9#	56	0.00
3		Dichlorotetrafluoroethane	250.000	224.142	10.3#	70	0.00
4	P	Chloromethane	250.000	228.120	8.8#	79	0.00
5	C	Vinyl chloride	250.000	250.511	-0.2#	79	0.00
6		Bromomethane	250.000	248.916	0.4	81	0.00
7		Chloroethane	250.000	235.293	5.9#	77	0.00
8		Trichlorofluoromethane	250.000	228.731	8.5#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	240.416	3.8#	76	0.00
10	MC	1,1-Dichloroethene	250.000	246.249	1.5#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	137	0.00
12		Methylene chloride	250.000	246.051	1.6	79	0.00
13		Carbon disulfide	250.000	264.962	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	250.000	258.167	-3.3#	82	0.00
15		trans-1,2-Dichloroethene	250.000	243.118	2.8#	79	0.00
16		n-Hexane	250.000	218.002	12.8#	68	0.00
17	P	1,1-Dichloroethane	250.000	232.767	6.9#	73	0.00
18		cis-1,2-Dichloroethene	250.000	233.562	6.6#	74	0.00
19	C	Chloroform	250.000	235.462	5.8#	75	0.00
20		Isooctane	250.000	224.301	10.3#	70	0.00
21		1,1,1-Trichloroethane	250.000	231.412	7.4#	73	0.00
22		Carbon tetrachloride	250.000	230.769	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	241.271	3.5#	80	0.00
24		1,2-Dichloroethane	250.000	237.399	5.0#	75	0.00
25		1,2-Dibromoethane	250.000	250.427	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	83	0.00
27	M	Benzene	250.000	239.653	4.1#	76	0.00
28	M	Trichloroethene	250.000	236.674	5.3#	74	0.00
29	C	1,2-Dichloropropane	250.000	238.027	4.8#	74	0.00
30		Bromodichloromethane	250.000	240.276	3.9#	75	0.00
31		cis-1,3-Dichloropropene	250.000	243.825	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	250.000	250.899	-0.4	83	0.00
33	MC	Toluene	250.000	237.428	5.0#	75	0.00
34		trans-1,3-Dichloropropene	250.000	249.355	0.3	77	0.00
35		1,1,2-Trichloroethane	250.000	250.938	-0.4	78	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	84	0.00
37		Tetrachloroethene	250.000	223.156	10.7#	72	0.00
38		Dibromochloromethane	250.000	242.439	3.0#	76	0.00
39	MP	Chlorobenzene	250.000	236.389	5.4#	75	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	205.337	17.9#	66	0.00
41		m,p-Xylene	500.000	457.708	8.5#	73	0.00
42		o-Xylene	250.000	229.296	8.3#	73	0.00
43		Styrene	250.000	226.329	9.5#	72	0.00
44	P	Bromoform	250.000	241.150	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	247.342	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.267	2.3#	82	0.00
47		1,4-Dichloro-2-butene	250.000	239.055	4.4#	77	0.00
48		4-Ethyltoluene	250.000	217.527	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	250.000	218.777	12.5#	72	0.00
50		2-Chlorotoluene	250.000	231.701	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	250.000	228.289	8.7#	73	0.00
52		1,3-Dichlorobenzene	250.000	237.385	5.0#	76	0.00
53		1,4-Dichlorobenzene	250.000	226.511	9.4#	72	0.00
54		1,2-Dichlorobenzene	250.000	242.422	3.0#	76	0.00
55		1,2,4-Trichlorobenzene	250.000	242.642	2.9#	77	0.00
56		Napthalene	250.000	273.494	-9.4#	84	0.00
57		Hexachlorobutadiene	250.000	223.806	10.5#	71	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C108414

Lab File ID (Standard): CM0821A.D Date Analyzed: 8/21/01

Instrument ID: MARILYN Time Analyzed: 7:46

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	262730	11.40	1061352	13.33	819287	20.64
	UPPER LIMIT	525460	11.90	2122704	13.83	1638574	21.14
	LOWER LIMIT	131365	10.90	530676	12.83	409644	20.14
	EPA SAMPLE NO.						
01	VBLKMA	267177	11.44	1015521	13.36	813975	20.66
02	LCS AND 2ND	263252	11.45	1052871	13.39	812221	20.69
03	0115	256517	11.48	871235	13.39	692098	20.69

IS1 BCM = Bromochloromethane IS#
IS2 DFB = 1,4-Difluorobenzene IS#2
IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

Date 6-19-01
Batch MAB127 (1) 2 3
S# 8 -MSW- 19 -3
FB 8 -MSW- 19 -3

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

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

Other: New 1014 curve
Daily maint. _____
LCS# 8 -MSW- 23 - 1
SURR# 8 -MSW- 19 - 3

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	To14.m	BFM	50ng		N	Methanol	From ~~600~~ Blank 95 Ion Area = 988,000	BH				
~~08:29~~ 08:20	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 315	~~1357~~ 1279	973	
08:29	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
3:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0075	5ppb		Y N	A(TO14)	5ppb ICAL		319	1373	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
0:20	14		CMA0250	50ppb		Y N		50ppb ccv too		315	1279	973	—
0:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
1:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
2:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
4:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
4:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
6:12	10		-5	x10		Y N		50mls		330	1325	988	—
6:50	11		6364-1	X1000		Y N		0.5ml		313	1279	964	—
7:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH 6/19/01 Shift #1					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

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

000030

Comment: TO14 INITIAL CALIBRATION SEQUENCE
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M0619A\
Pre-Seq Cmd:
Post-Seq Cmd:

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

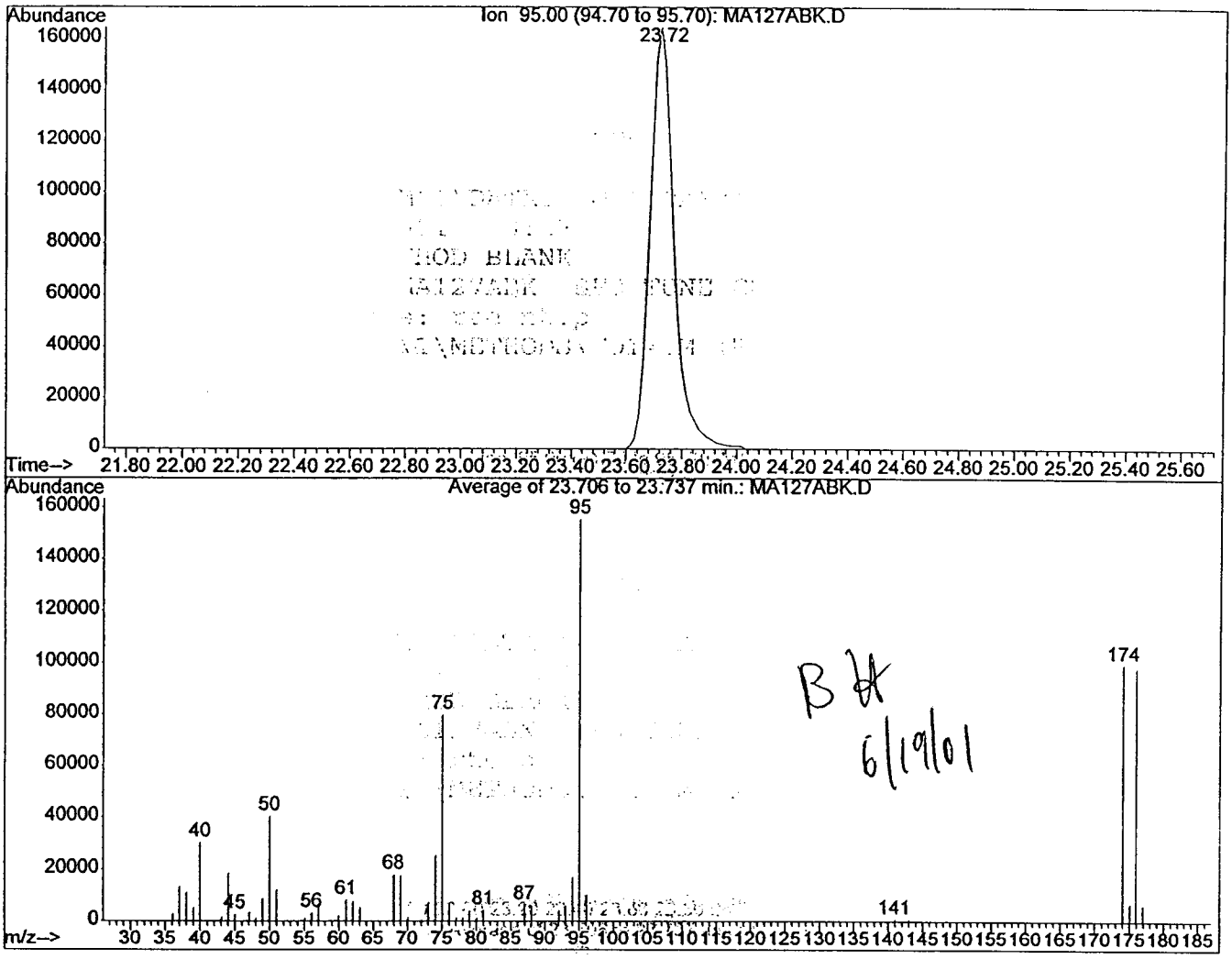
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	MA127ABK	TO14S	DAILY METHOD BLANK
2	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
3	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
4	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
5	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
6	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
7	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
8	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	16	MA125LCS	TO14S	BATCH #127 LCS 50ppb/250ng
10	Sample	1	62401	TO14S	6240-1 ST. 500mls
11	Sample	1	62402	TO14S	6240-2 ST. 500mls
12	Sample	9	61564	TO14S	6156-4 X20 25mls
13	Sample	10	61565	TO14S	6156-5 X10 50mls
14	Sample	11	63641	TO14S	6364-1 X1000 0.5ml
15	Sample	12	64421	TO14S	6442-1 X20 25mls
16	Sample	13	BLKTUBE	BFBSTL	

BFB

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

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



BH
6/19/01

Spectrum Information: Average of 23.706 to 23.737 min.

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

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

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

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

SH 6/19/01

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

System Monitoring Compounds

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

Target Compounds Qvalue

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

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

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

original

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

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

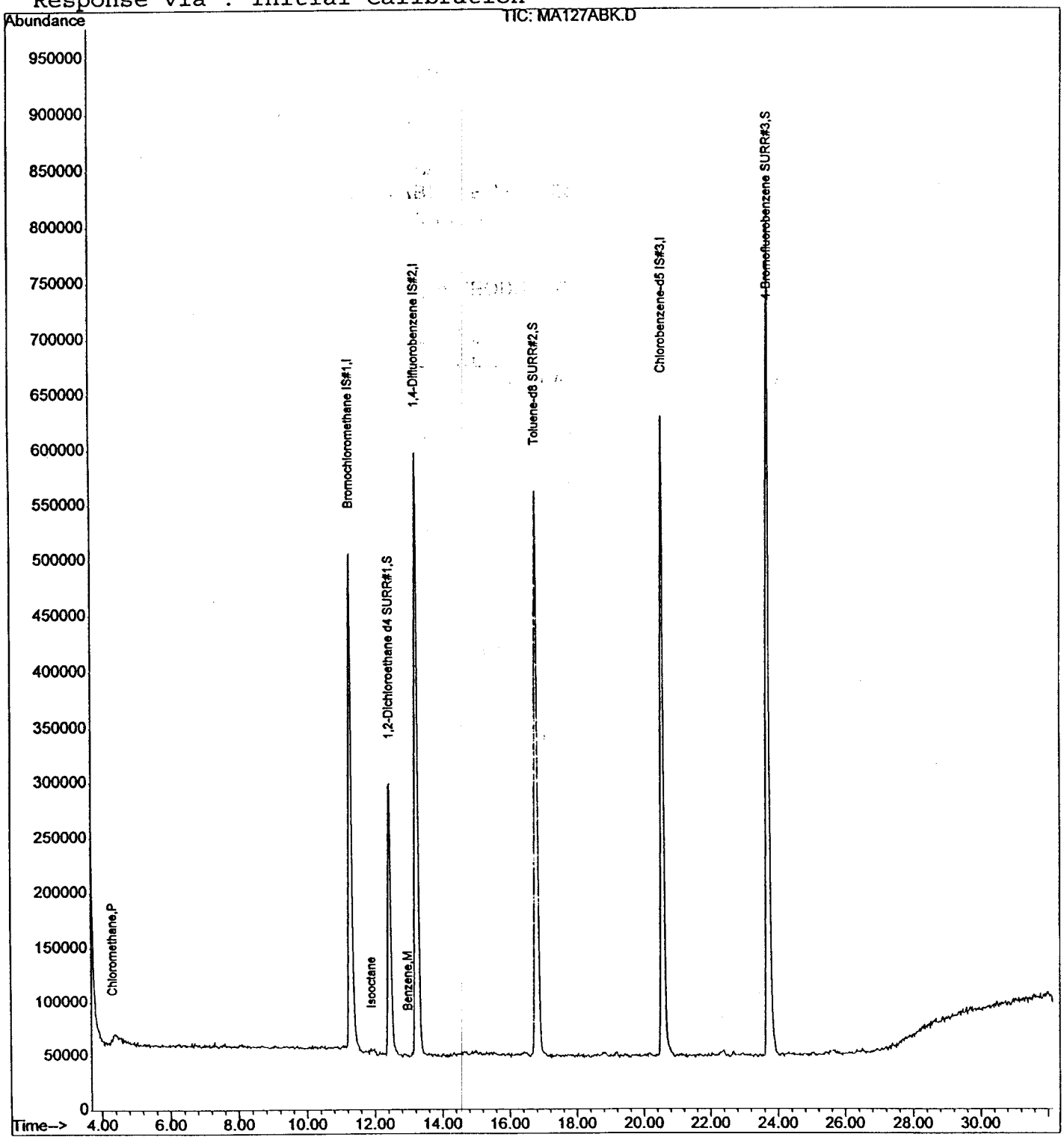
Target Compounds						Qvalue
4) Chloromethane	4.33	50	2018	1.50	ng	# 46
20) Isooctane	11.92	57	16392	2.73	ng	# 7
27) Benzene	12.99	78	967	0.23	ng	# 54

<RL/NR/NSF

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

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

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



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

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

BA 6/19/01

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

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

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

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

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

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

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

System Monitoring Compounds

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

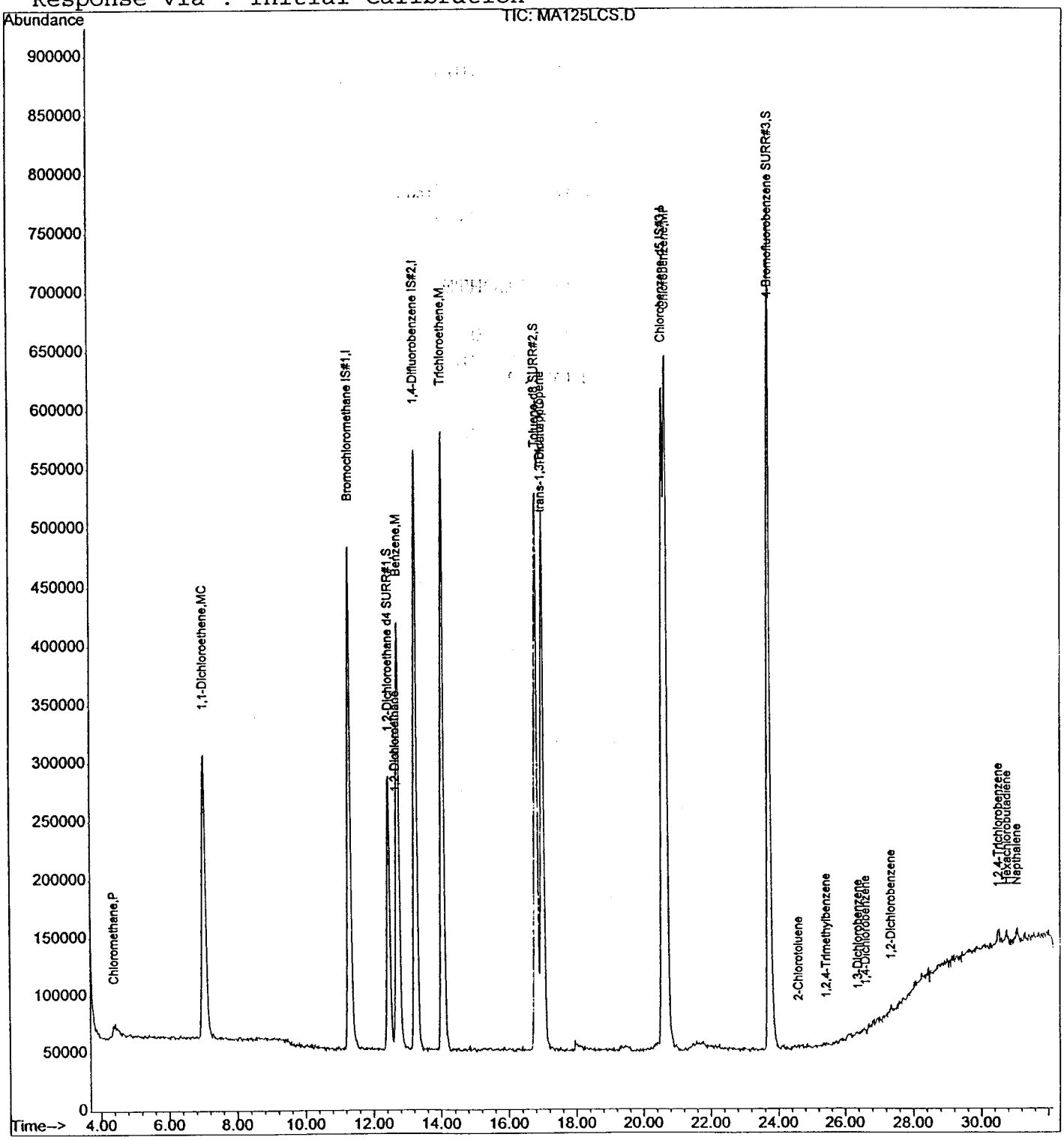
Target Compounds

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

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

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

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



Response Factor Report GC/MS Ins

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

BH 6/19

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

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

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

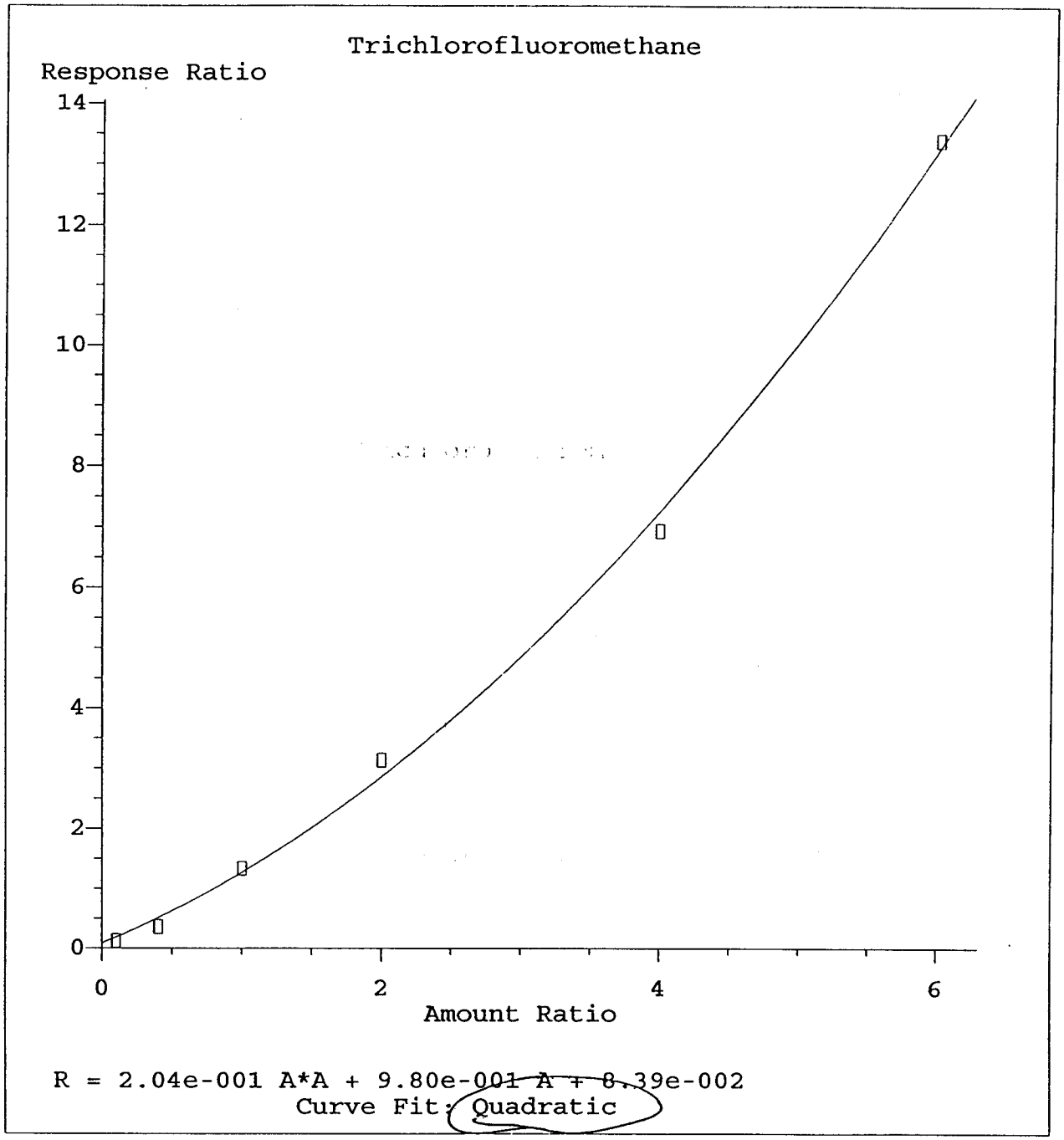
Response Factor Report GC/MS Ins

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

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

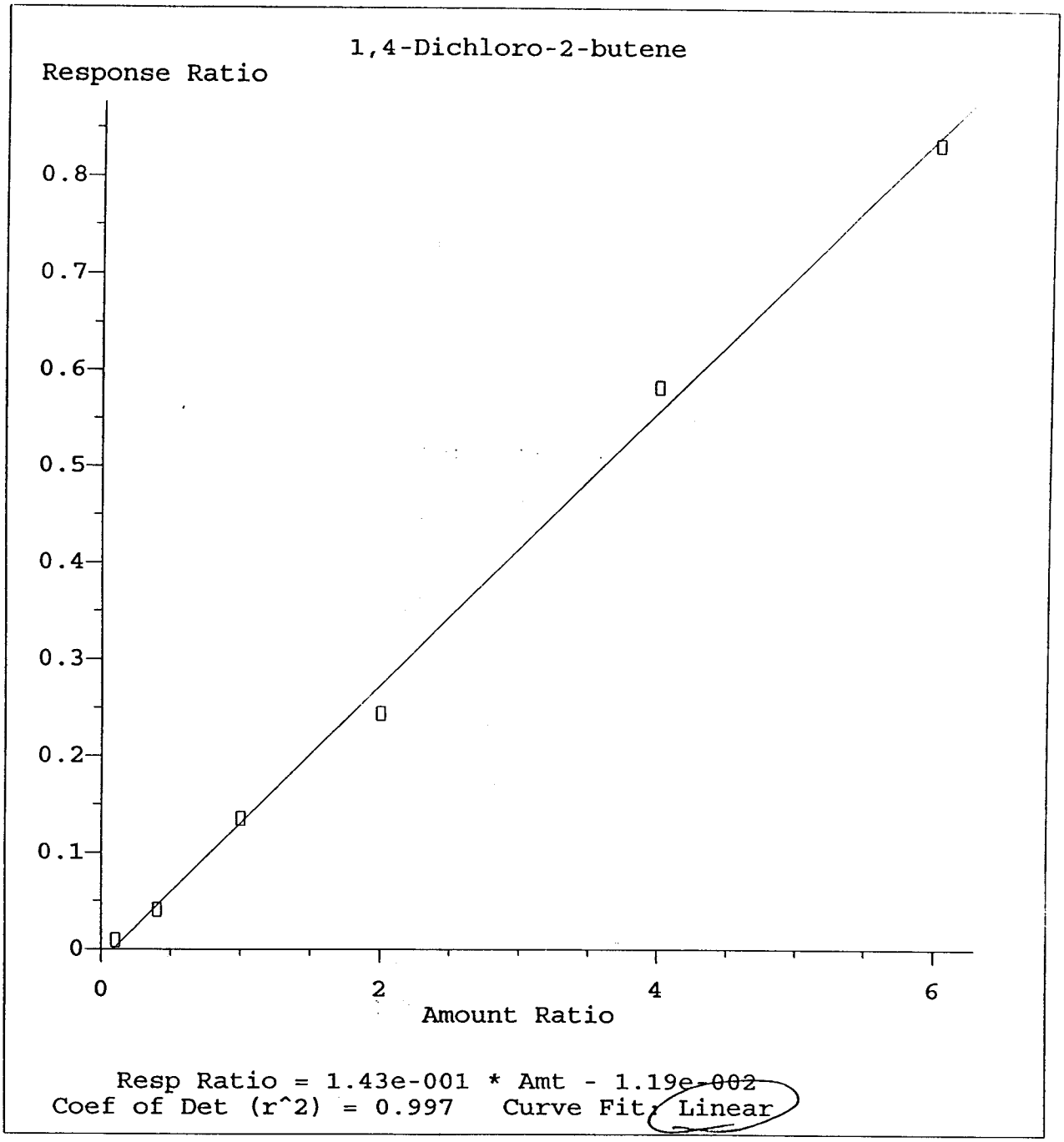
		Compound	25	250	1500	1000	100	500	Avg	%RSD
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80#
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41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

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



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

.998
DH 6/19



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

JH 6/19

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

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

BH 6/19

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

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

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

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

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

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

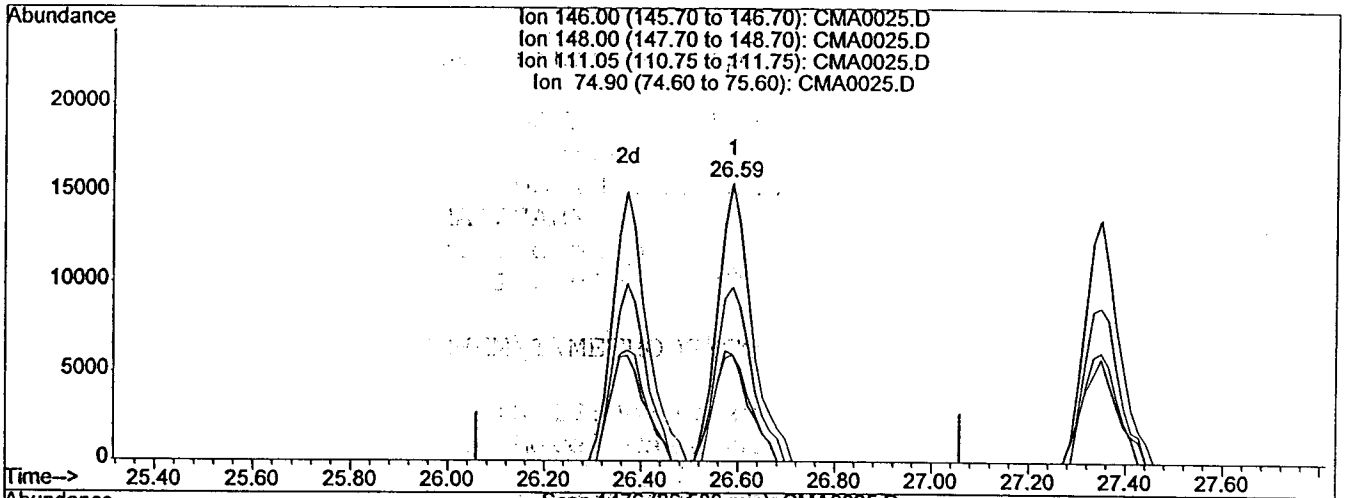
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74 ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07 ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29 ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23 ng	#	56
33)	Toluene	17.04	92	61687	25.32 ng	#	97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

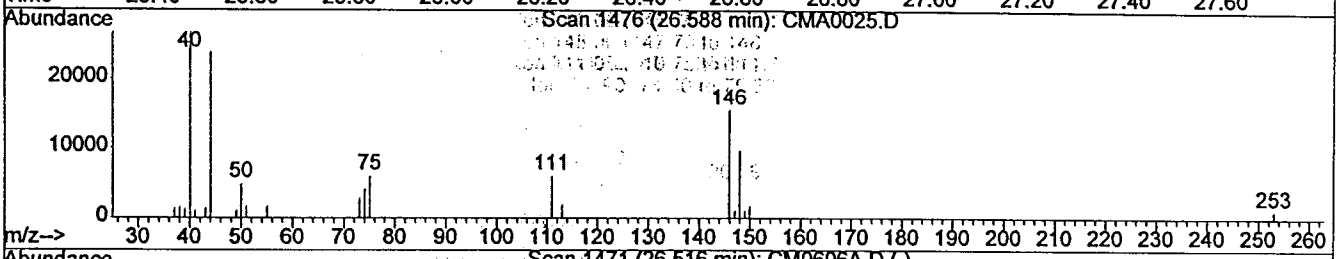
(#) = qualifier out of range (m) = manual integration

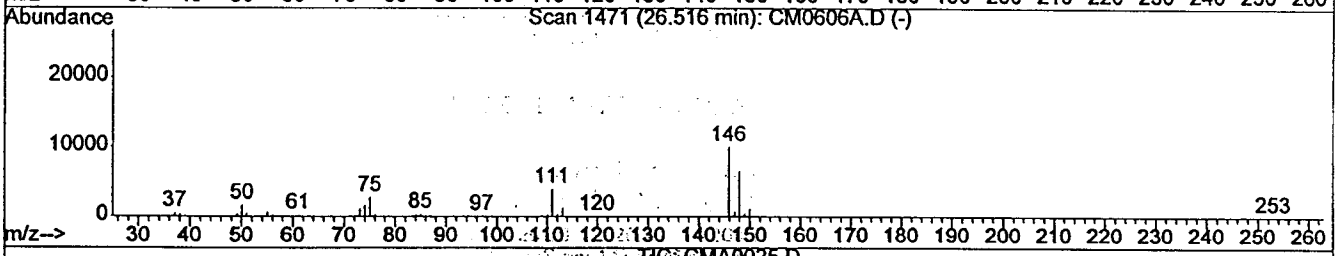
Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0025.D
Acq On : 19 Jun 2001 9:04
Sample : 25ng/1uL/5ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 10:11 2001

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

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







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

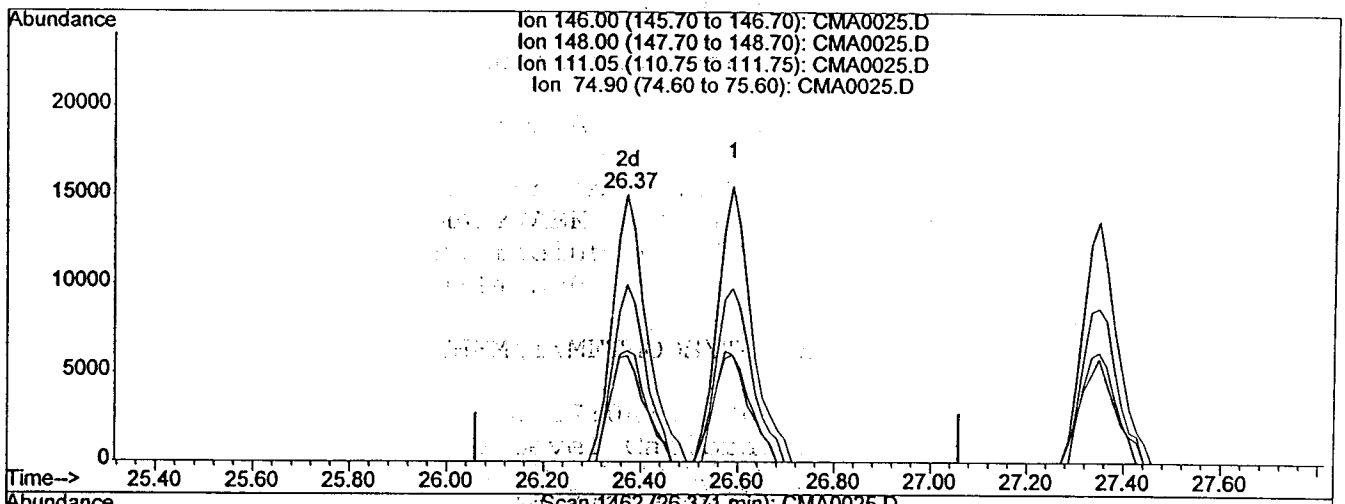
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

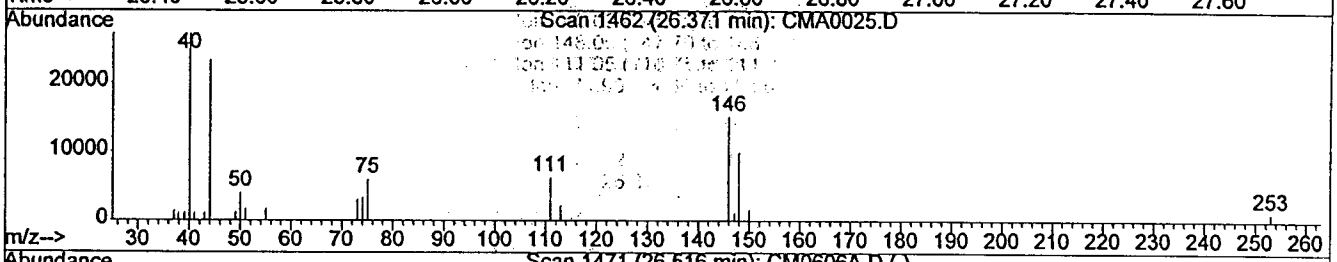
before (wrong peak)

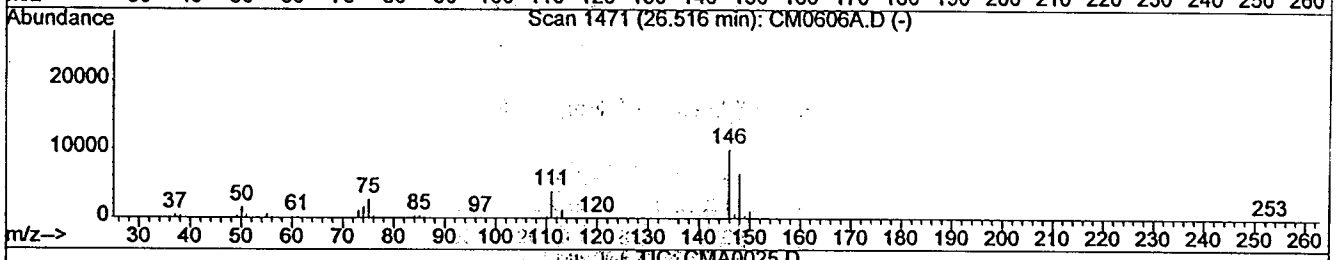
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

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

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







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

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

after BH 6/19

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

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

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

Original

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

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

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

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

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

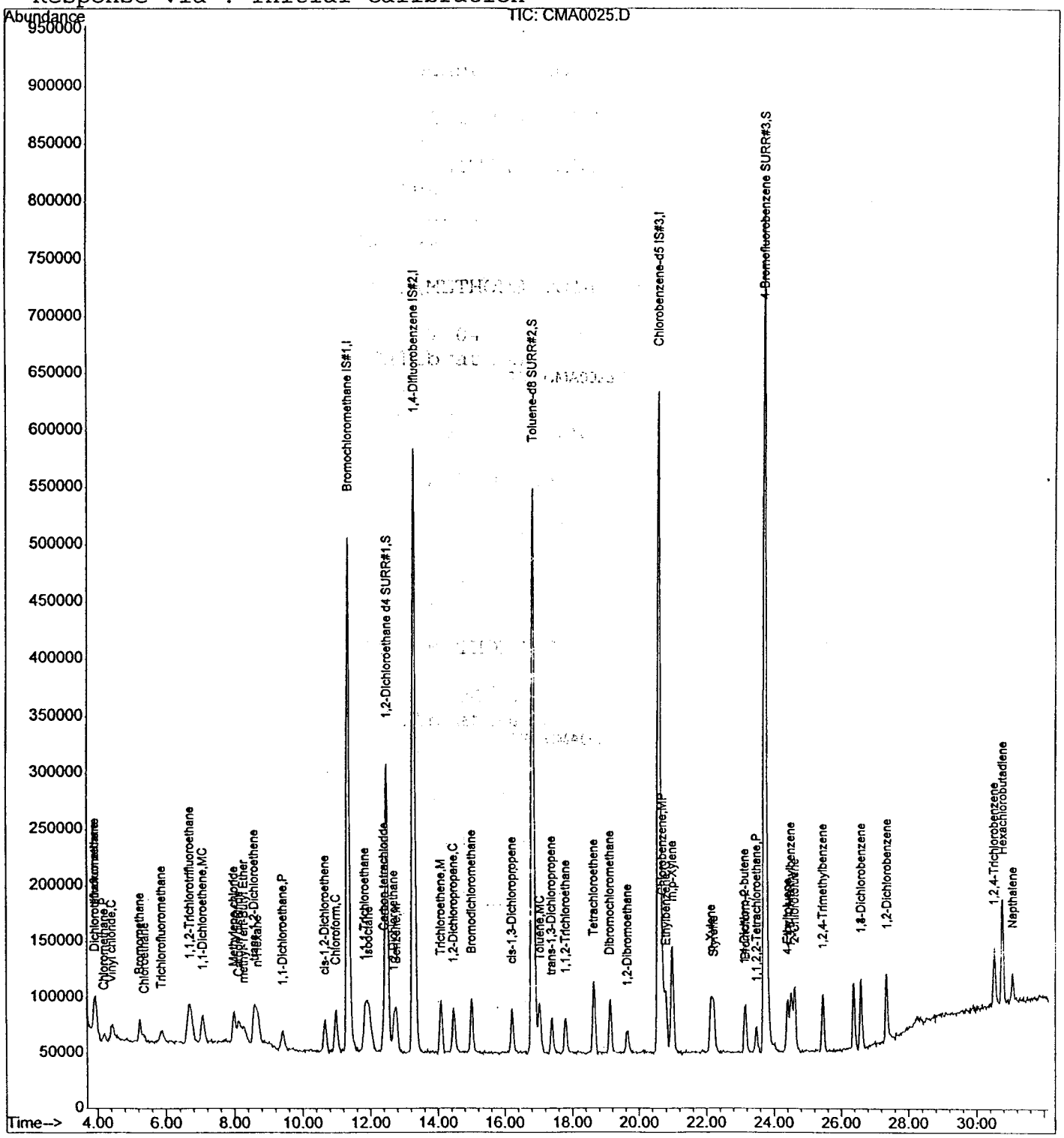
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

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

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

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

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



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

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

BA 6/19

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng		0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.28%							
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.49%							
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.58%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng		96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

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

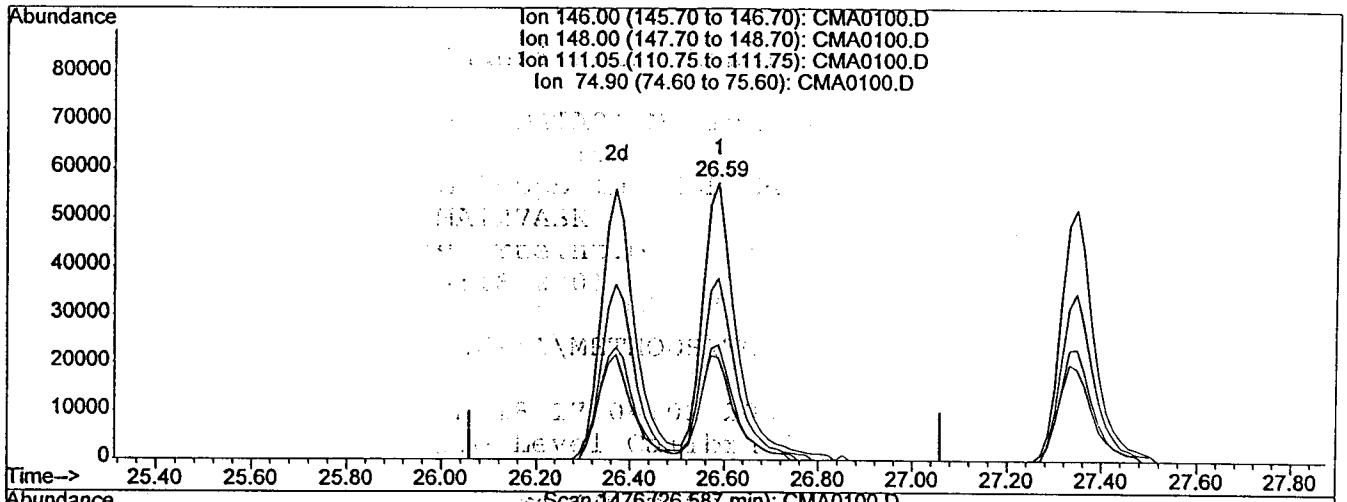
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

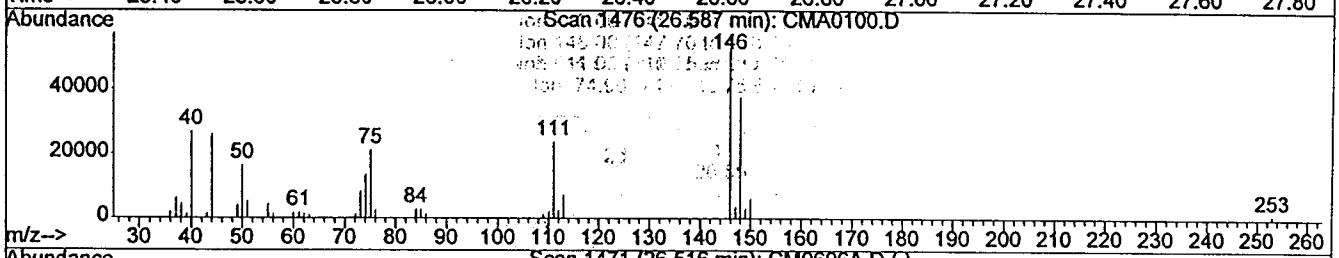
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95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

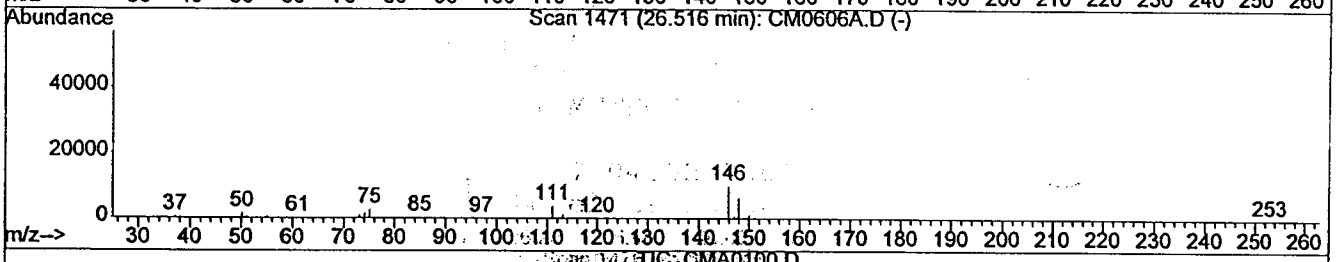
(#) = qualifier out of range (m) = manual integration

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

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







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

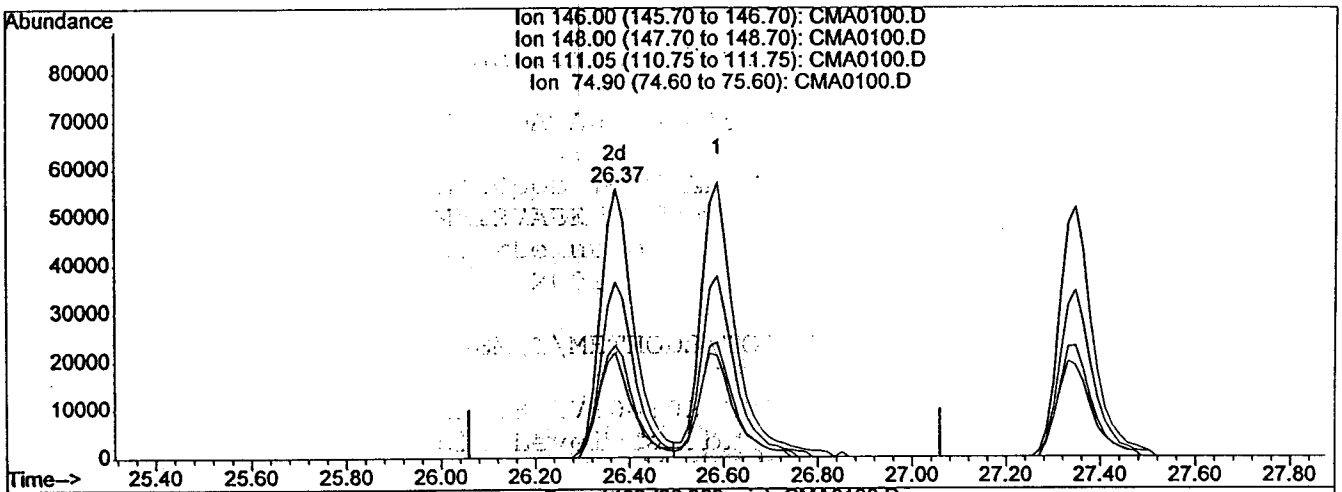
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

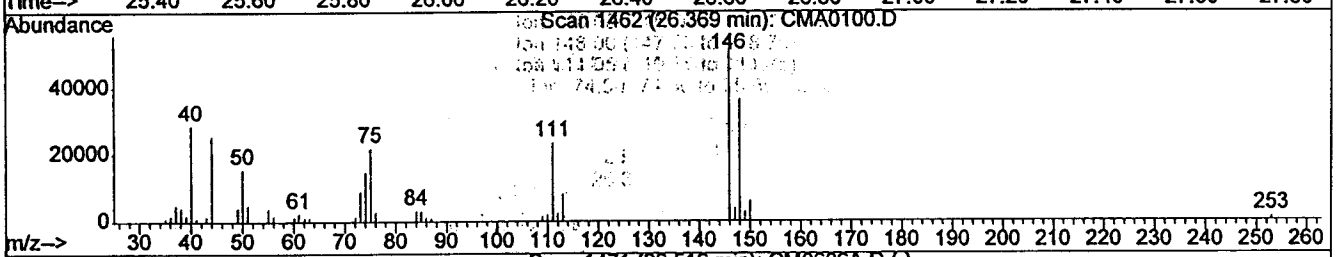
Defaul (wrong peak)

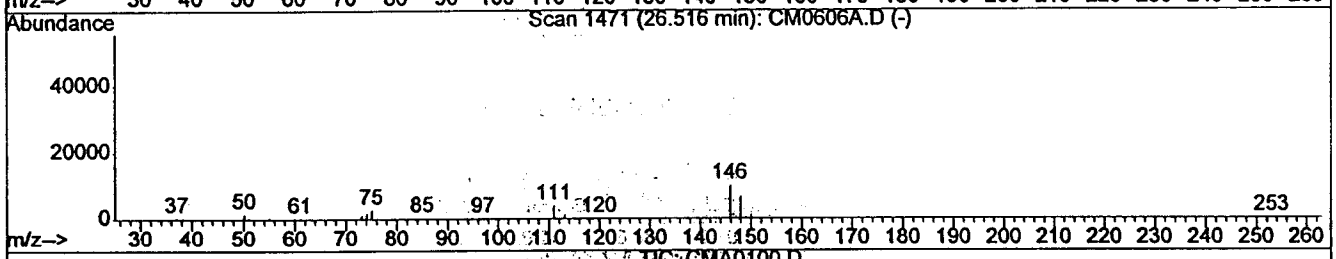
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

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

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







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

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

after
BA 6/19

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

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

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

original

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

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

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

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

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

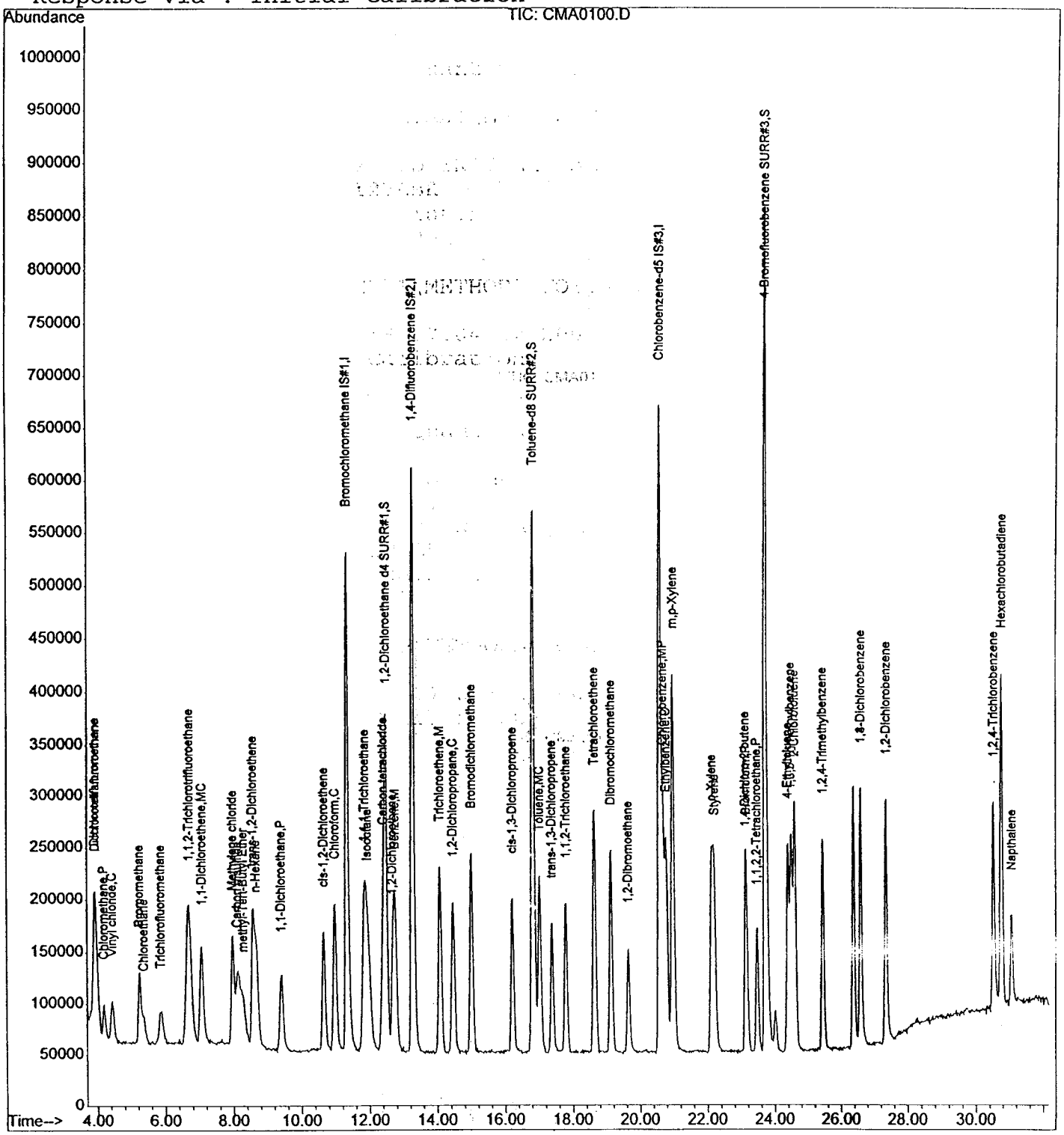
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

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

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

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

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



000056

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

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

B 6/19

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

System Monitoring Compounds

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

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

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

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

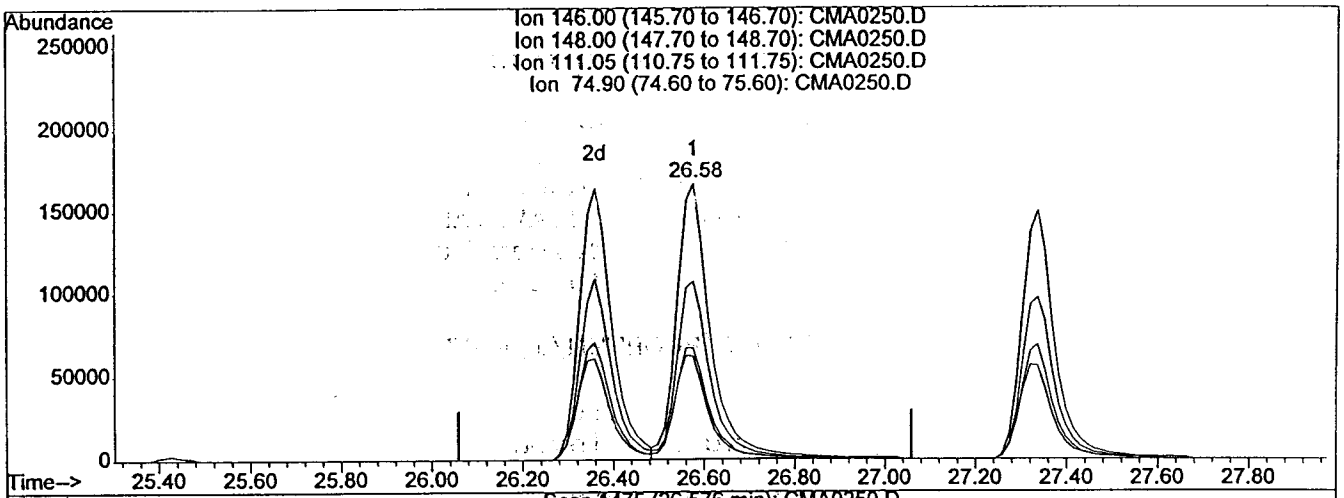
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

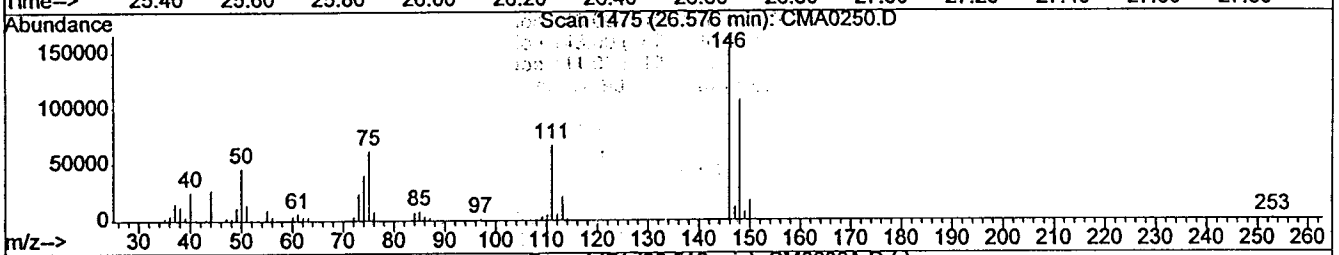
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.06	130	533368	267.45 ng		99
29)	1,2-Dichloropropane	14.45	63	484100	269.92 ng	#	87
30)	Bromodichloromethane	14.99	83	1153568	271.47 ng		99
31)	cis-1,3-Dichloropropene	16.20	75	691530	267.25 ng	#	78
33)	Toluene	17.01	92	642718	264.95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

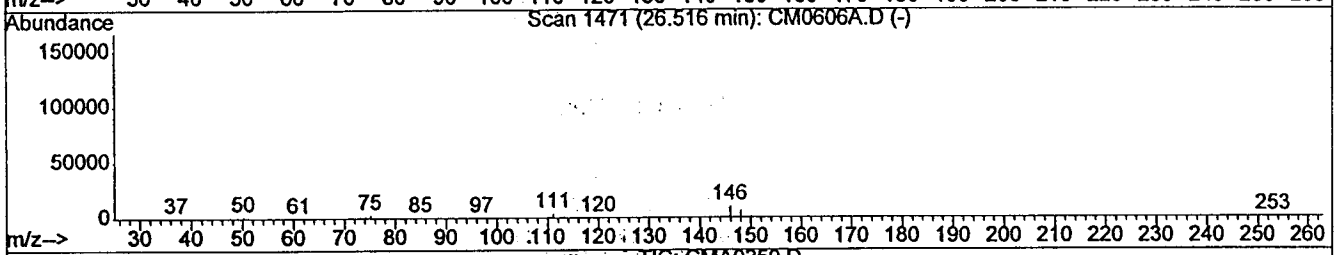
(#) = qualifier out of range (m) = manual integration

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

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







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

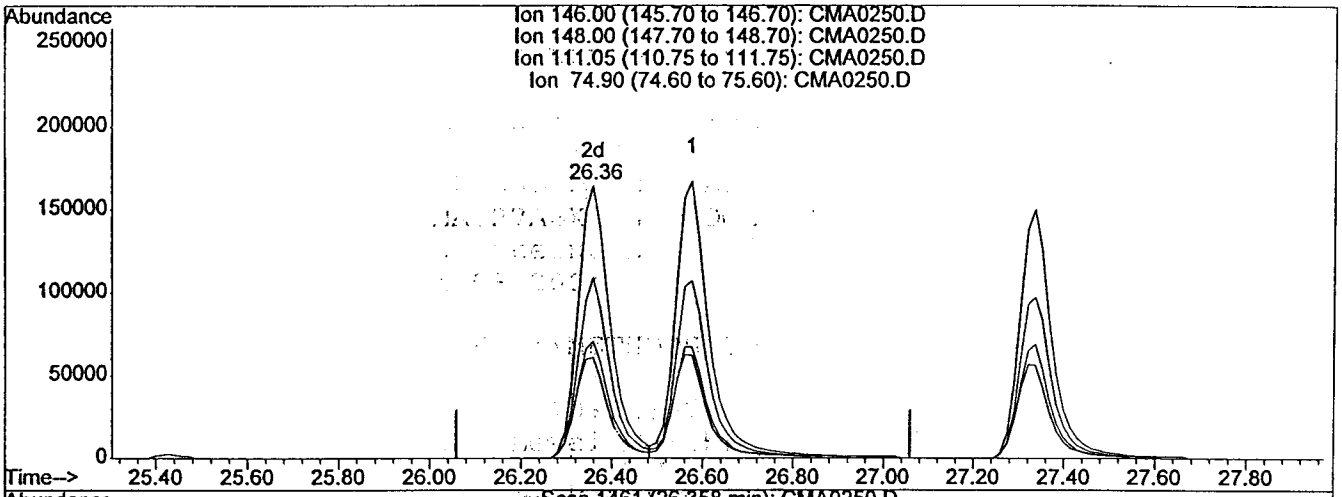
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

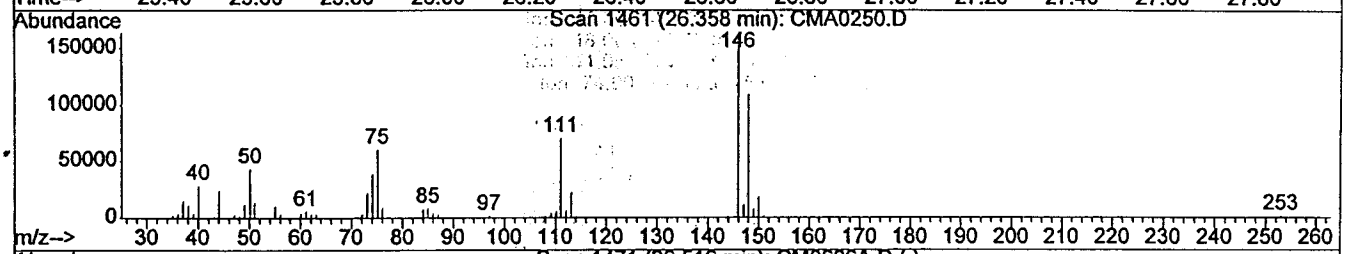
before (wrong peak)

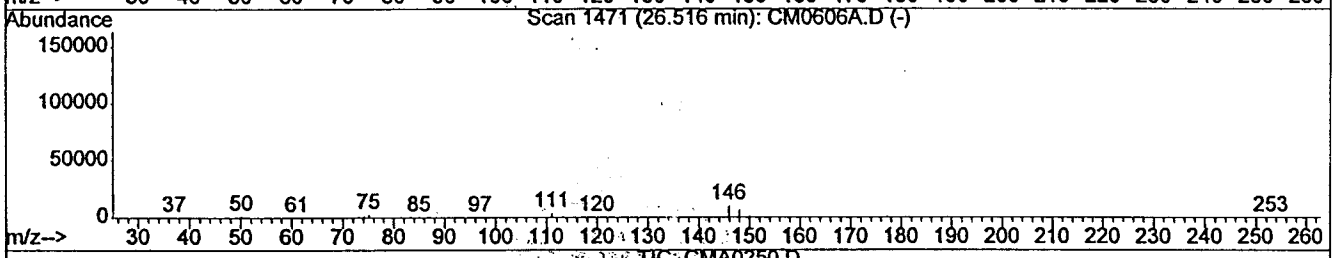
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

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

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







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

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

after
BH
6/19

CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

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

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

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

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) 1,2-Dichloroethane d4 SURR	12.48	65	497629	250.29	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 100.12%						
32) Toluene-d8 SURR#2	16.83	98	1042436	251.92	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.77%						
46) 4-Bromofluorobenzene SURR#	23.72	95	970697	249.54	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.82%						

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

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

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

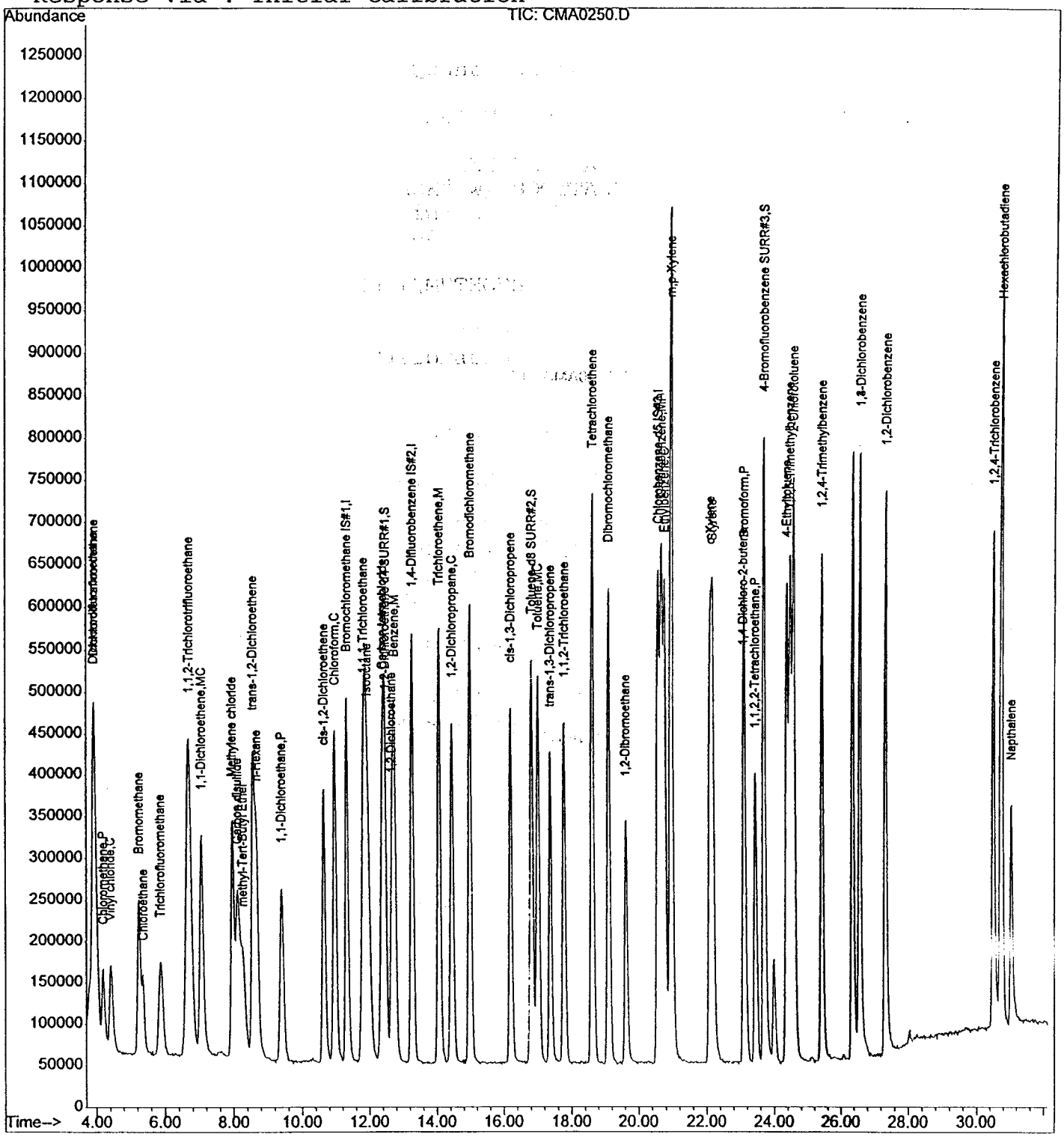
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

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

original B/H 6/19/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%					
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%					
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%					

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

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

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

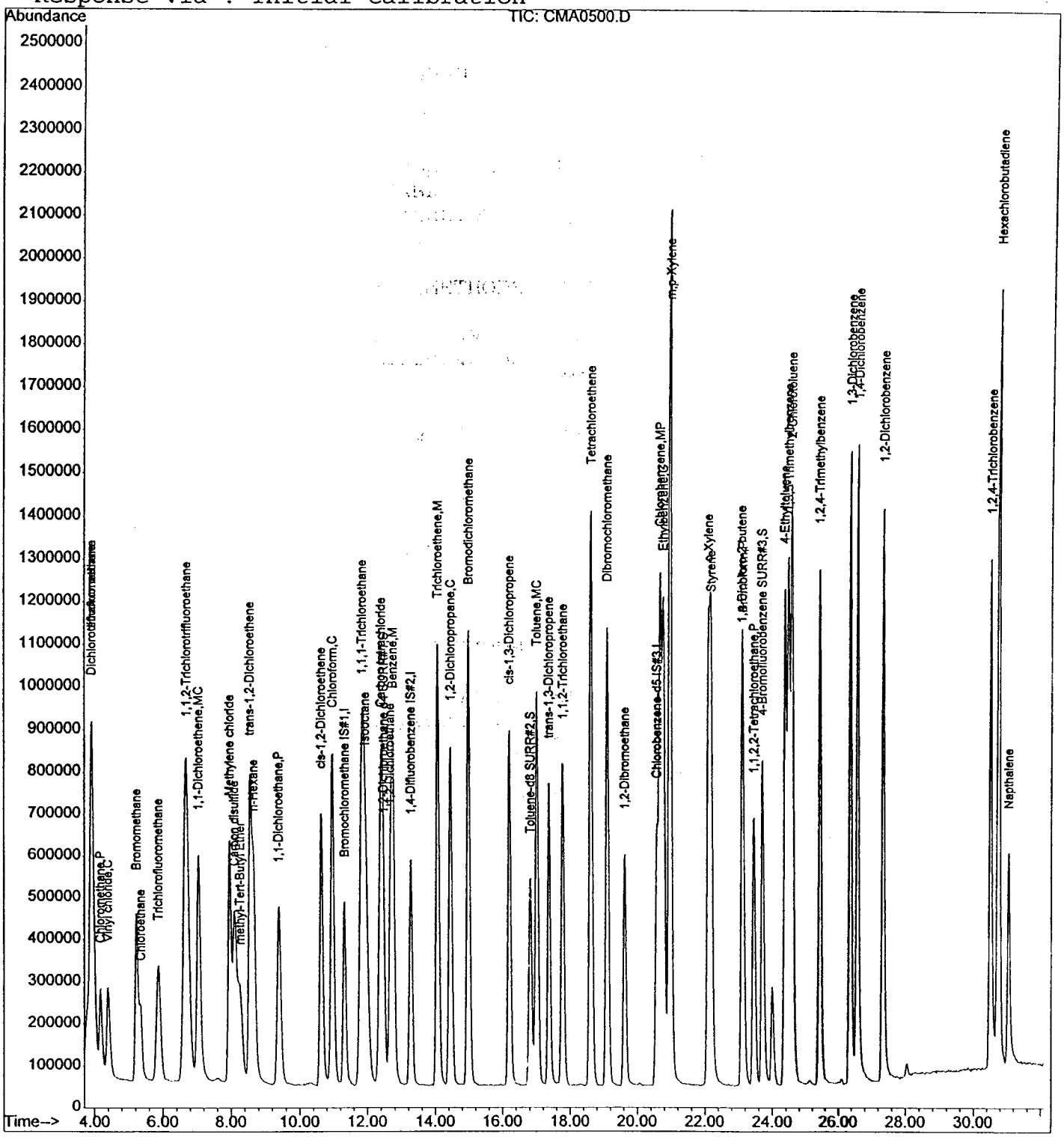
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



000066

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

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

original BH 6/19

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

System Monitoring Compounds

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

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

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

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

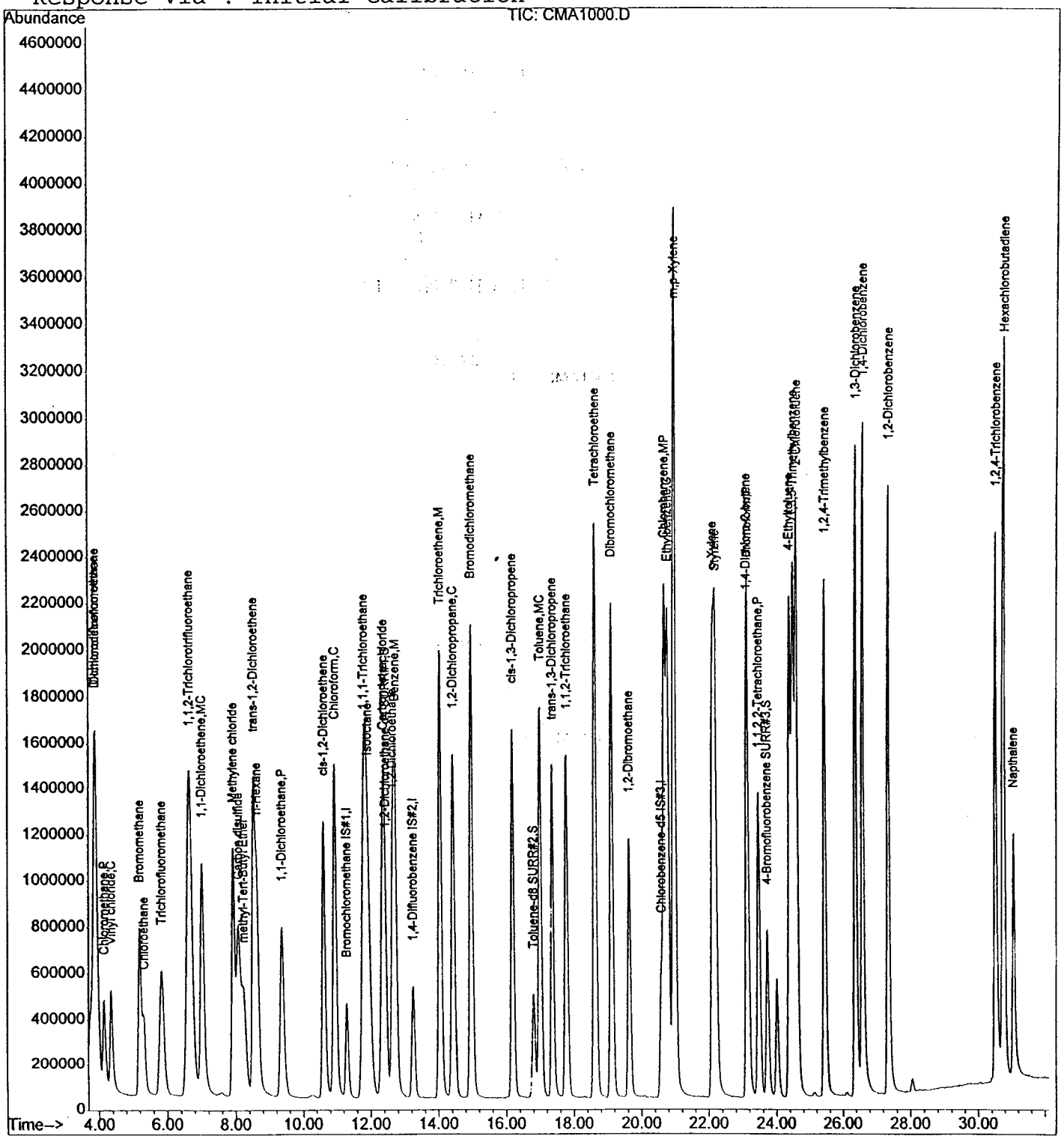
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001 original BH 6/19
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

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

System Monitoring Compounds

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

Target Compounds

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

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

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

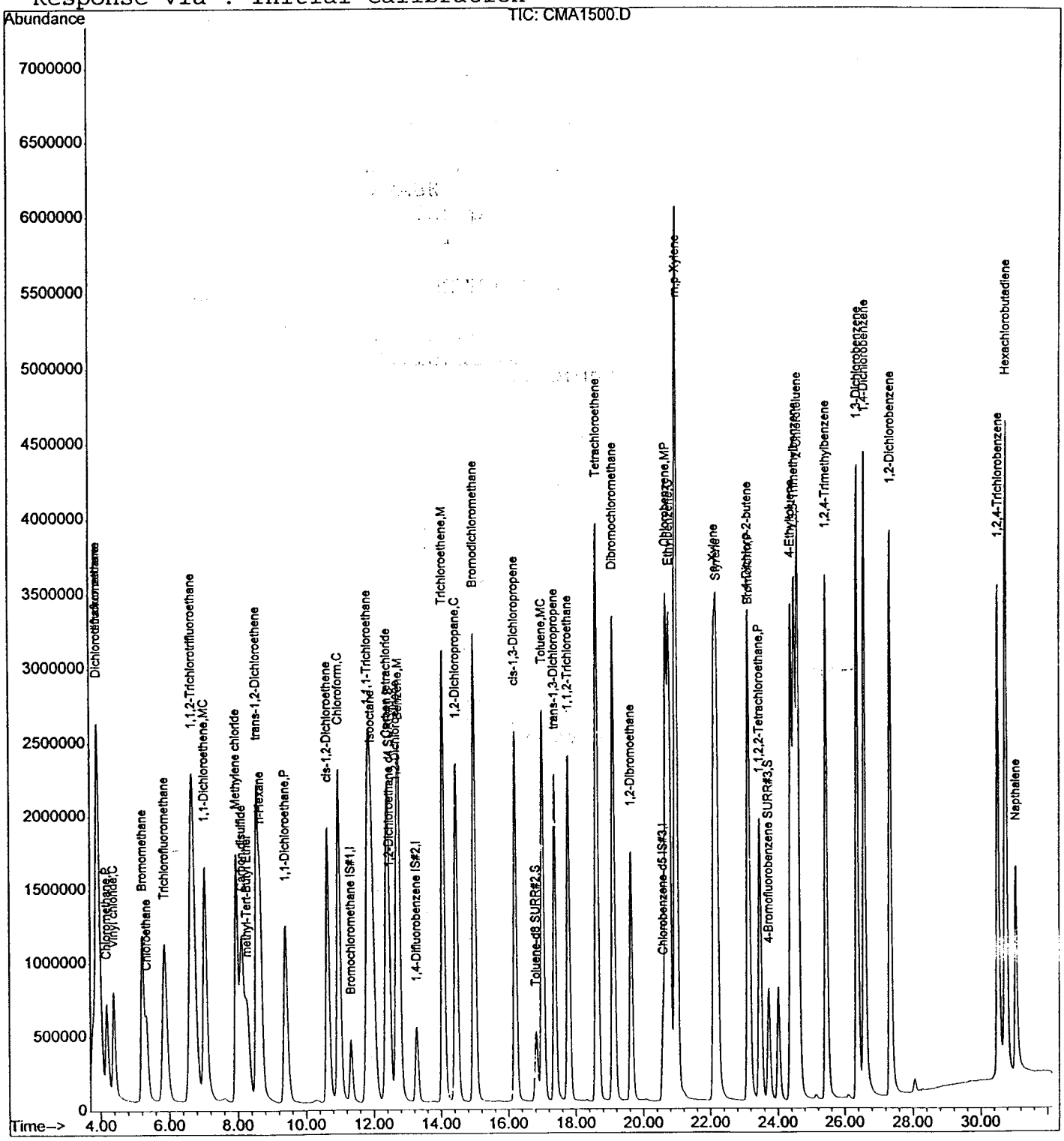
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:24:25 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



STL - Pensacola / GCMS Volatiles Run Log

ate 8-21-01
atch MAB174 1 2 3
S# 8 -MSW- 19 - 3
FB 8 -MSW- 19 - 3

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

Method : TO14.m/8260A.m/8260W.m
AIR-SPK 8 -MSW- 21 - 1
WATER-SPK -MSW- -

Other: _____
Daily maint. _____
LCS# 8 -MSW- 23 - 1
SURR# 8 -MSW- 19 - 3

000073

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
7:46	14	To14.m	BFM —	50ng		N	Methanol	95 Ion Area = 797,000 (From cal)	BH	—			—
7:46	14		CM 0821A	50ppb		N	W	Daily Calib. Check		263	1061	819	—
8:19	15		MA174A BK	ST.		N	W	Daily Method Blank		267	1016	814	—
8:54	16		MA174 LCS	50ppb		N	W	Batch # 174 LCS		263	1053	812	—
9:31	1		MA174LCD	↓		Y N	A(To14)	↓ ↓ ↓ Duplicate		262	1040	795	—
0:05	1		8414-1	ST.		Y N		500mls - CAN		257	871	692	—
10:39	1		8415-1	ST.		Y N		↓ - ↓ Matrix		255	909	719	—
1:16	2		8484-1	X100		Y N		5mls - BAG		250	1013	777	—
1:53	3		-2	X70		Y N		25mls re-run X10		254	1012	771	—
2:31	4		-3	↓		Y N		↓		229	926	712	—
3:08	5		-4	X10		Y N		50mls		240	940	726	—
3:45	6		-2R	X10		Y N		↓		254	1008	770	—
—	14-13	BFBSTL	BLKTUBE	—		Y N	—	MPM clean-up/Prep		—			—
:						Y N							
:						Y N							
:						Y N							
:						Y N		BH 8/21/01					
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							
:						Y N							

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

Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M0821A\
Pre-Seq Cmd:
Post-Seq Cmd:

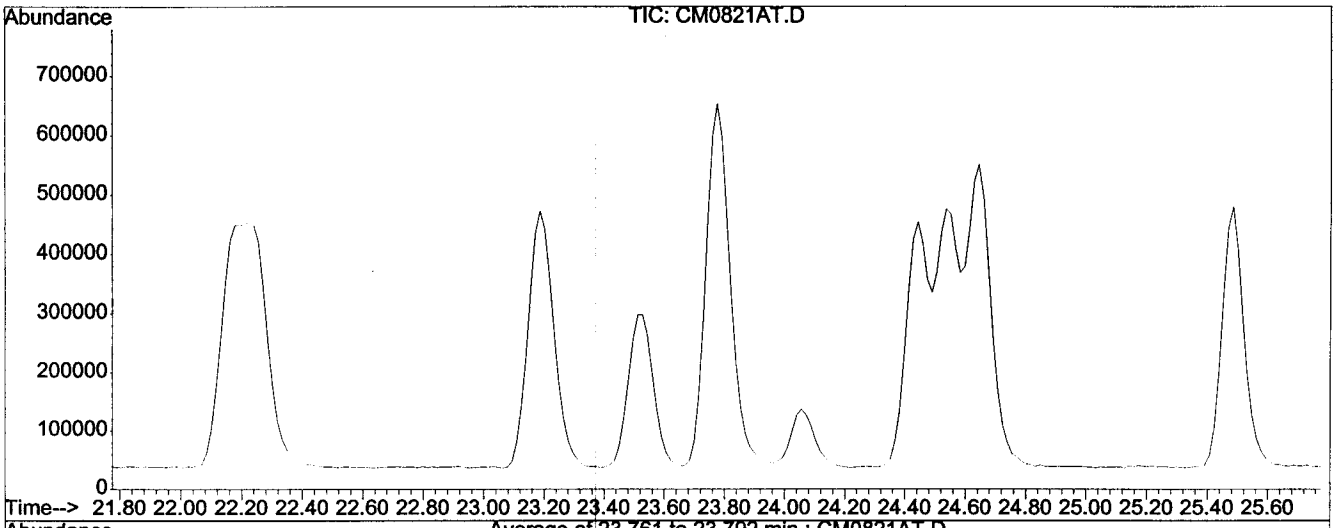
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

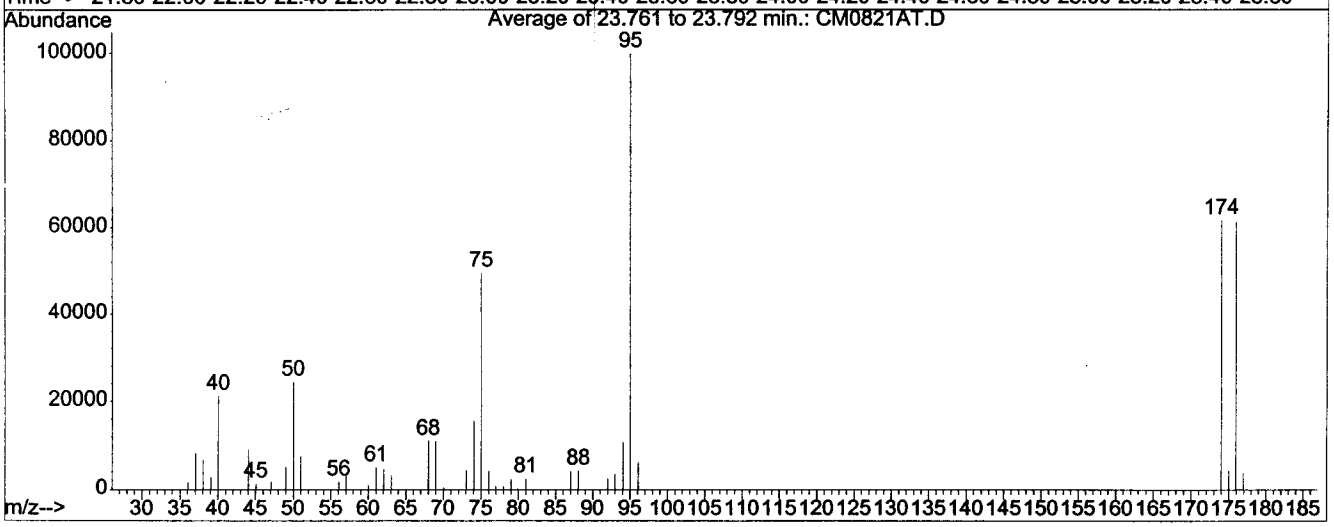
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	14	CM0821A	TO14S	VSTDMA/ DAILY CALIB.CHECK 50p
2	Sample	15	MA174ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
3	Sample	16	MA174LCS	TO14S	LCS/BATCH #174 LCS 50ppb/250
4	Sample	16	MA174LCD	TO14S	LCS/BATCH #174 LCD 50ppb/250
5	Sample	1	84141	TO14S	062SVEEA-0814-01-15\ 8414-1 S
6	Sample	1	84151	TO14S	062SVEEA-0814-01-19\ 8415-1 S
7	Sample	2	84841	TO14S	8484-1 X100 5mls BAG
8	Sample	3	84842	TO14S	8484-2 X20 25mls BAG
9	Sample	4	84843	TO14S	8484-3 X20 25mls BAG
10	Sample	5	84844	TO14S	8484-4 X10 50mls BAG
11	Sample	14	BLKTUBE	BFBSTL	

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821AT.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14





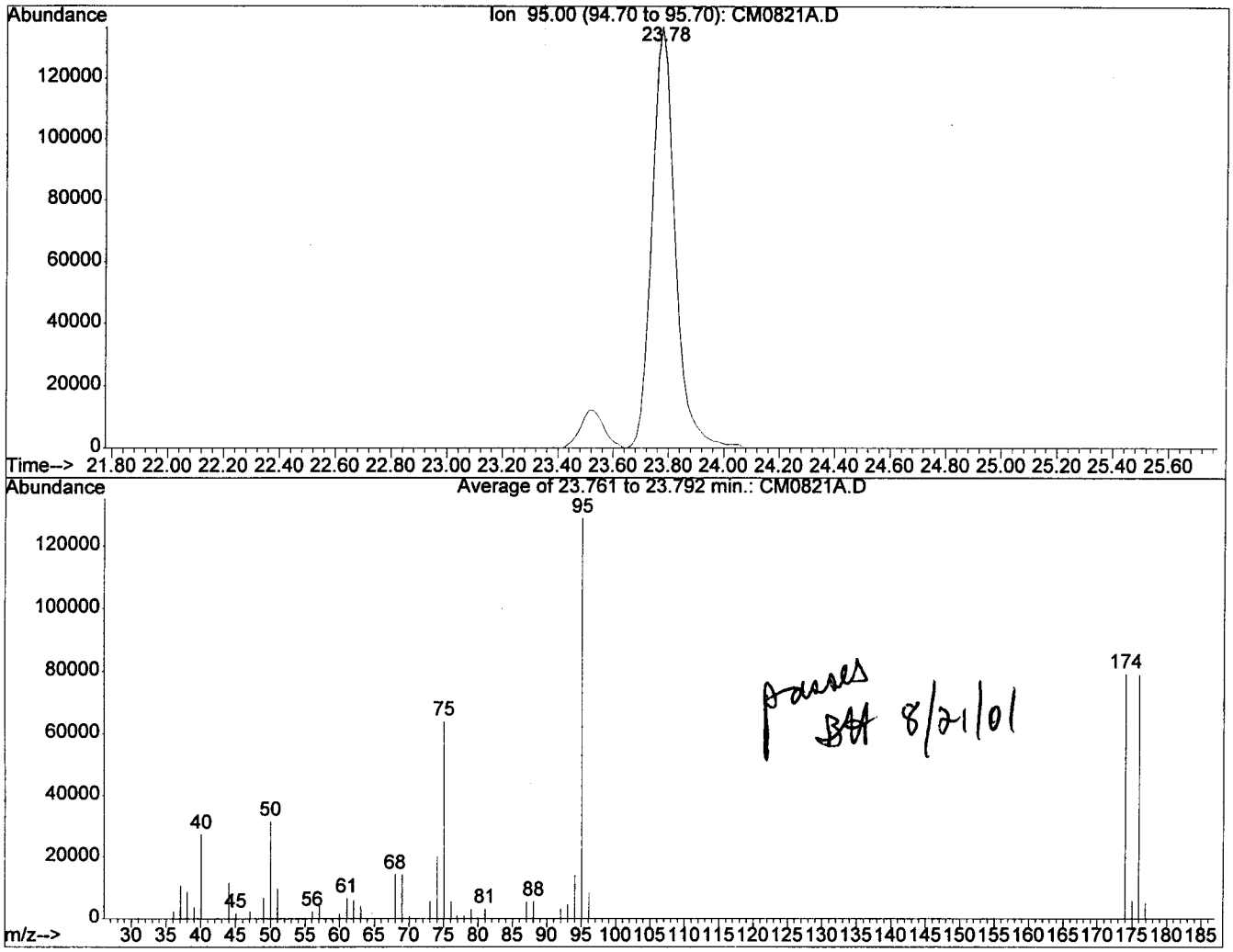
Spectrum Information: Average of 23.761 to 23.792 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	24502	PASS
75	95	30	60	49.6	49571	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.5	6481	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.6	61633	PASS
175	174	5	9	7.3	4488	PASS
176	174	95	101	99.6	61368	PASS
177	176	5	9	6.4	3925	PASS

CM0821AT.D TO14S.M Fri Aug 24 15:47:57 2001

BFB

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14



Spectrum Information: Average of 23.761 to 23.792 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	31621	PASS
75	95	30	60	49.6	63973	PASS
95	95	100	100	100.0	129053	PASS
96	95	5	9	6.5	8364	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.6	79539	PASS
175	174	5	9	7.3	5792	PASS
176	174	95	101	99.6	79197	PASS
177	176	5	9	6.4	5065	PASS

CM0821A.D TO14S.M Tue Aug 21 08:38:02 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:05 2001
Response via : Multiple Level Calibration

Passes BH 8-21-01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	83	0.00
2		Dichlorodifluoromethane	5.221	3.659	29.9#	56	0.00
3		Dichlorotetrafluoroethane	1.746	1.566	10.3#	70	0.00
4	P	Chloromethane	1.056	0.964	8.7#	79	0.00
5	C	Vinyl chloride	0.990	0.992	-0.2#	79	0.00
6		Bromomethane	1.432	1.425	0.5	81	0.00
7		Chloroethane	0.635	0.598	5.8#	77	0.00
8		Trichlorofluoromethane	1.509	1.135	24.8#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.885	3.8#	76	0.00
10	MC	1,1-Dichloroethene	1.112	1.095	1.5#	80	0.00
11		Iodomethane	0.000	0.000	0.0	137	0.00
12		Methylene chloride	1.996	1.964	1.6	79	0.00
13		Carbon disulfide	3.278	3.475	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	1.416	1.462	-3.2#	82	0.00
15		trans-1,2-Dichloroethene	1.191	1.158	2.8#	79	0.00
16		n-Hexane	1.373	1.197	12.8#	68	0.00
17	P	1,1-Dichloroethane	2.420	2.253	6.9#	73	0.00
18		cis-1,2-Dichloroethene	2.017	1.884	6.6#	74	0.00
19	C	Chloroform	2.996	2.822	5.8#	75	0.00
20		Isooctane	4.704	4.221	10.3#	70	0.00
21		1,1,1-Trichloroethane	2.533	2.345	7.4#	73	0.00
22		Carbon tetrachloride	2.682	2.476	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.512	3.5#	80	0.00
24		1,2-Dichloroethane	1.735	1.647	5.1#	75	0.00
25		1,2-Dibromoethane	2.008	2.012	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	83	0.00
27	M	Benzene	0.782	0.750	4.1#	76	0.00
28	M	Trichloroethene	0.392	0.371	5.4#	74	0.00
29	C	1,2-Dichloropropane	0.356	0.339	4.8#	74	0.00
30		Bromodichloromethane	0.847	0.814	3.9#	75	0.00
31		cis-1,3-Dichloropropene	0.511	0.498	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	0.808	0.811	-0.4	83	0.00
33	MC	Toluene	0.475	0.451	5.1#	75	0.00
34		trans-1,3-Dichloropropene	0.411	0.410	0.2	77	0.00
35		1,1,2-Trichloroethane	0.297	0.298	-0.3	78	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	84	0.00
37		Tetrachloroethene	0.495	0.442	10.7#	72	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	76	0.00
39	MP	Chlorobenzene	0.897	0.849	5.4#	75	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:05 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.303	17.7#	66	0.00
41		m,p-Xylene	0.467	0.428	8.4#	73	0.00
42		o-Xylene	0.454	0.416	8.4#	73	0.00
43		Styrene	0.747	0.676	9.5#	72	0.00
44	P	Bromoform	0.624	0.602	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.603	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.971	2.3#	82	0.00
47		1,4-Dichloro-2-butene	0.123	0.123	0.0	77	0.00
48		4-Ethyltoluene	1.262	1.098	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	0.993	0.869	12.5#	72	0.00
50		2-Chlorotoluene	1.329	1.232	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	1.043	0.952	8.7#	73	0.00
52		1,3-Dichlorobenzene	0.788	0.749	4.9#	76	0.00
53		1,4-Dichlorobenzene	0.826	0.749	9.3#	72	0.00
54		1,2-Dichlorobenzene	0.719	0.697	3.1#	76	0.00
55		1,2,4-Trichlorobenzene	0.545	0.529	2.9#	77	0.00
56		Napthalene	0.625	0.684	-9.4#	84	0.00
57		Hexachlorobutadiene	0.481	0.431	10.4#	71	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	83	0.00
2		Dichlorodifluoromethane	250.000	175.206	29.9#	56	0.00
3		Dichlorotetrafluoroethane	250.000	224.142	10.3#	70	0.00
4	P	Chloromethane	250.000	228.120	8.8#	79	0.00
5	C	Vinyl chloride	250.000	250.511	-0.2#	79	0.00
6		Bromomethane	250.000	248.916	0.4	81	0.00
7		Chloroethane	250.000	235.293	5.9#	77	0.00
8		Trichlorofluoromethane	250.000	228.731	8.5#	71	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	240.416	3.8#	76	0.00
10	MC	1,1-Dichloroethene	250.000	246.249	1.5#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	137	0.00
12		Methylene chloride	250.000	246.051	1.6	79	0.00
13		Carbon disulfide	250.000	264.962	-6.0#	85	0.00
14		methyl-Tert-Butyl Ether	250.000	258.167	-3.3#	82	0.00
15		trans-1,2-Dichloroethene	250.000	243.118	2.8#	79	0.00
16		n-Hexane	250.000	218.002	12.8#	68	0.00
17	P	1,1-Dichloroethane	250.000	232.767	6.9#	73	0.00
18		cis-1,2-Dichloroethene	250.000	233.562	6.6#	74	0.00
19	C	Chloroform	250.000	235.462	5.8#	75	0.00
20		Isooctane	250.000	224.301	10.3#	70	0.00
21		1,1,1-Trichloroethane	250.000	231.412	7.4#	73	0.00
22		Carbon tetrachloride	250.000	230.769	7.7#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	241.271	3.5#	80	0.00
24		1,2-Dichloroethane	250.000	237.399	5.0#	75	0.00
25		1,2-Dibromoethane	250.000	250.427	-0.2	78	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	83	0.00
27	M	Benzene	250.000	239.653	4.1#	76	0.00
28	M	Trichloroethene	250.000	236.674	5.3#	74	0.00
29	C	1,2-Dichloropropane	250.000	238.027	4.8#	74	0.00
30		Bromodichloromethane	250.000	240.276	3.9#	75	0.00
31		cis-1,3-Dichloropropene	250.000	243.825	2.5#	76	0.00
32	S	Toluene-d8 SURR#2	250.000	250.899	-0.4	83	0.00
33	MC	Toluene	250.000	237.428	5.0#	75	0.00
34		trans-1,3-Dichloropropene	250.000	249.355	0.3	77	0.00
35		1,1,2-Trichloroethane	250.000	250.938	-0.4	78	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	84	0.00
37		Tetrachloroethene	250.000	223.156	10.7#	72	0.00
38		Dibromochloromethane	250.000	242.439	3.0#	76	0.00
39	MP	Chlorobenzene	250.000	236.389	5.4#	75	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Fri Aug 24 15:15:16 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	205.337	17.9#	66	0.00
41		m,p-Xylene	500.000	457.708	8.5#	73	0.00
42		o-Xylene	250.000	229.296	8.3#	73	0.00
43		Styrene	250.000	226.329	9.5#	72	0.00
44	P	Bromoform	250.000	241.150	3.5#	75	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	247.342	1.1	77	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	244.267	2.3#	82	0.00
47		1,4-Dichloro-2-butene	250.000	239.055	4.4#	77	0.00
48		4-Ethyltoluene	250.000	217.527	13.0#	73	0.00
49		1,3,5-Trimethylbenzene	250.000	218.777	12.5#	72	0.00
50		2-Chlorotoluene	250.000	231.701	7.3#	75	0.00
51		1,2,4-Trimethylbenzene	250.000	228.289	8.7#	73	0.00
52		1,3-Dichlorobenzene	250.000	237.385	5.0#	76	0.00
53		1,4-Dichlorobenzene	250.000	226.511	9.4#	72	0.00
54		1,2-Dichlorobenzene	250.000	242.422	3.0#	76	0.00
55		1,2,4-Trichlorobenzene	250.000	242.642	2.9#	77	0.00
56		Napthalene	250.000	273.494	-9.4#	84	0.00
57		Hexachlorobutadiene	250.000	223.806	10.5#	71	0.00

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D Vial: 14
Acq On : 21 Aug 2001 7:46 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0820P\CM0820P.D (20 Aug 2001 20:26)

orig. passes B/H 8/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	262730	250.00 ng	0.11 92.32%
26) 1,4-Difluorobenzene IS#2	13.33	114	1061352	250.00 ng	0.11 91.27%
36) Chlorobenzene-d5 IS#3	20.64	117	819287	250.00 ng	0.15 91.84%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	397284	241.27 ng	0.11
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.51%					
32) Toluene-d8 SURR#2	16.88	98	860776	250.90 ng	0.14
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.36%					
46) 4-Bromofluorobenzene SURR#	23.78	95	795691	244.27 ng	0.15
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.71%					

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.04	85	961321	175.21 ng		98
3) Dichlorotetrafluoroethane	4.04	135	411312	224.14 ng	#	34
4) Chloromethane	4.31	50	253170	228.12 ng		96
5) Vinyl chloride	4.53	62	260587	250.51 ng		98
6) Bromomethane	5.36	94	374517	248.92 ng		94
7) Chloroethane	5.47	64	157074	235.29 ng		97
8) Trichlorofluoromethane	5.98	101	298152	228.73 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.79	151	495238	240.42 ng		92
10) 1,1-Dichloroethene	7.16	96	287695	246.25 ng		91
12) Methylene chloride	8.07	49	516092	246.05 ng	#	85
13) Carbon disulfide	8.22	76	912891	264.96 ng		100
14) methyl-Tert-Butyl Ether	8.36	73	384241	258.17 ng	#	86
15) trans-1,2-Dichloroethene	8.66	96	304353	243.12 ng		93
16) n-Hexane	8.75	57	314594	218.00 ng	#	1
17) 1,1-Dichloroethane	9.48	63	591952	232.77 ng		99
18) cis-1,2-Dichloroethene	10.72	61	494969	233.56 ng		94
19) Chloroform	11.05	83	741478	235.46 ng	#	95
20) Isooctane	12.01	57	1108940	224.30 ng		95
21) 1,1,1-Trichloroethane	11.90	97	616044	231.41 ng		93
22) Carbon tetrachloride	12.47	117	650555	230.77 ng		98
24) 1,2-Dichloroethane	12.74	62	432738	237.40 ng		99
25) 1,2-Dibromoethane	19.69	107	528541	250.43 ng		99
27) Benzene	12.82	78	795758	239.65 ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.14	130	394159	236.67 ng		99
29) 1,2-Dichloropropane	14.51	63	359412	238.03 ng	#	87
30) Bromodichloromethane	15.05	83	863623	240.28 ng		98
31) cis-1,3-Dichloropropene	16.26	75	528593	243.83 ng	#	81
33) Toluene	17.07	92	478860	237.43 ng		97
34) trans-1,3-Dichloropropene	17.43	75	435060	249.35 ng	#	79
35) 1,1,2-Trichloroethane	17.83	97	316405	250.94 ng		98
37) Tetrachloroethene	18.68	164	361895	223.16 ng		97
38) Dibromochloromethane	19.18	127	553146	242.44 ng		99
39) Chlorobenzene	20.73	112	695225	236.39 ng		96
40) Ethylbenzene	20.83	106	247874	205.34 ng		91
41) m,p-Xylene	21.03	106	700850	457.71 ng		94
42) o-Xylene	22.16	106	341227	229.30 ng		91
43) Styrene	22.26	104	553750	226.33 ng		96
44) Bromoform	23.19	173	493013	241.15 ng		99
45) 1,1,2,2-Tetrachloroethane	23.53	83	494101	247.34 ng		99
47) 1,4-Dichloro-2-butene	23.17	75	100981	239.06 ng		90
48) 4-Ethyltoluene	24.44	105	899659	217.53 ng		92
49) 1,3,5-Trimethylbenzene	24.54	105	711970	218.78 ng		92
50) 2-Chlorotoluene	24.65	91	1009502	231.70 ng		98
51) 1,2,4-Trimethylbenzene	25.48	105	780088	228.29 ng		99
52) 1,3-Dichlorobenzene	26.40	146	613249	237.39 ng		98
53) 1,4-Dichlorobenzene	26.40	146	613249	226.51 ng		99
54) 1,2-Dichlorobenzene	27.38	146	571259	242.42 ng		98
55) 1,2,4-Trichlorobenzene	30.56	180	433573	242.64 ng		99
56) Napthalene	31.10	128	560104	273.49 ng	#	91
57) Hexachlorobutadiene	30.79	225	352925	223.81 ng		99

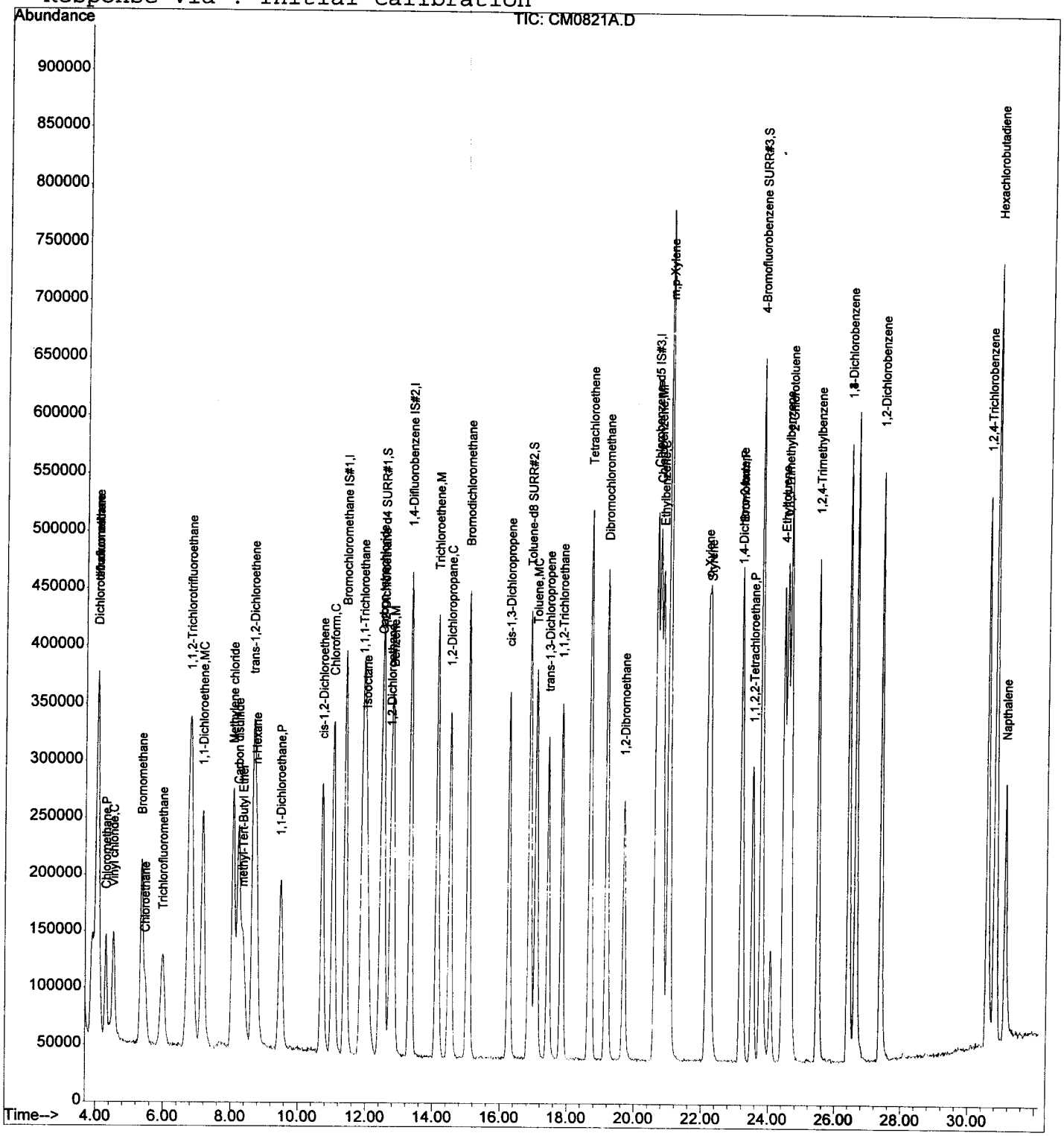
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D
Acq On : 21 Aug 2001 7:46
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA174ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Aug 21 8:18 2001

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Aug 20 21:41:00 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D Vial: 15
Acq On : 21 Aug 2001 8:19 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:56 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001 BAK 8/21/01
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	267177	250.00 ng	0.03 101.69%
26) 1,4-Difluorobenzene IS#2	13.36	114	1015521	250.00 ng	0.03 95.68%
36) Chlorobenzene-d5 IS#3	20.66	117	813975	250.00 ng	0.02 99.35%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	396245	236.63 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.65%		
32) Toluene-d8 SURR#2	16.90	98	829589	252.72 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.09%		
46) 4-Bromofluorobenzene SURR#	23.80	95	785268	242.64 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.06%		

Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D Vial: 15
Acq On : 21 Aug 2001 8:19 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:52 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

orig

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.44	128	267177	250.00 ng	0.03 101.69%
26) 1,4-Difluorobenzene IS#2	13.36	114	1015521	250.00 ng	0.03 95.68%
36) Chlorobenzene-d5 IS#3	20.66	117	813975	250.00 ng	0.02 99.35%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.57	65	396245	236.63 ng	0.03
Spiked Amount 250.000	Range 61 - 140		Recovery = 94.65%		
32) Toluene-d8 SURR#2	16.90	98	829589	252.72 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.09%		
46) 4-Bromofluorobenzene SURR#	23.80	95	785268	242.64 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.06%		

Target Compounds					Qvalue
55) 1,2,4-Trichlorobenzene	30.58	180	1995	1.12 ng	# 86
56) Napthalene	31.11	128	8605	4.23 ng	# 64

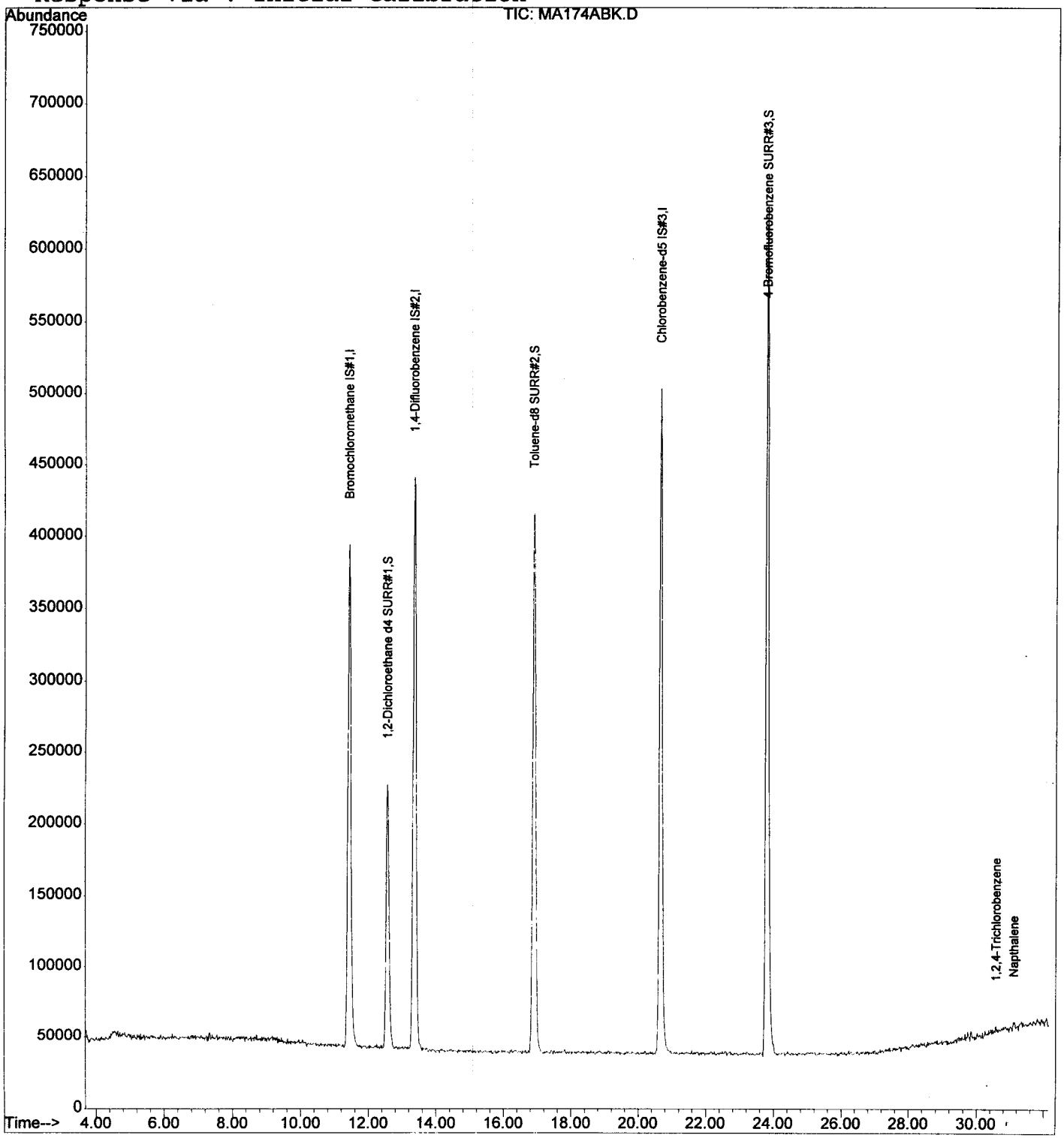
<RL/NR/NSF

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174ABK.D Vial: 15
Acq On : 21 Aug 2001 8:19 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 8:52 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 9:37 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	263252	250.00 ng	0.05 100.20%
26) 1,4-Difluorobenzene IS#2	13.39	114	1052871	250.00 ng	0.06 99.20%
36) Chlorobenzene-d5 IS#3	20.69	117	812221	250.00 ng	0.05 99.14%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.58	65	406461	246.35 ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.54%		
32) Toluene-d8 SURR#2	16.93	98	852932	250.62 ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.25%		
46) 4-Bromofluorobenzene SURR#	23.81	95	787191	243.76 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.50%		

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.21	96	265267	226.60 ng	93
27) Benzene	12.86	78	818172	248.39 ng	97
28) Trichloroethene	14.18	130	406548	246.08 ng	99
33) Toluene	17.12	92	502137	250.97 ng	97
39) Chlorobenzene	20.78	112	725530	248.84 ng	93

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 9:26 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.45	128	263252	250.00 ng	0.05 100.20%
26) 1,4-Difluorobenzene IS#2	13.39	114	1052871	250.00 ng	0.06 99.20%
36) Chlorobenzene-d5 IS#3	20.69	117	812221	250.00 ng	0.05 99.14%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.58	65	406461	246.35 ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 98.54%					
32) Toluene-d8 SURR#2	16.93	98	852932	250.62 ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.25%					
46) 4-Bromofluorobenzene SURR#	23.81	95	787191	243.76 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.50%					

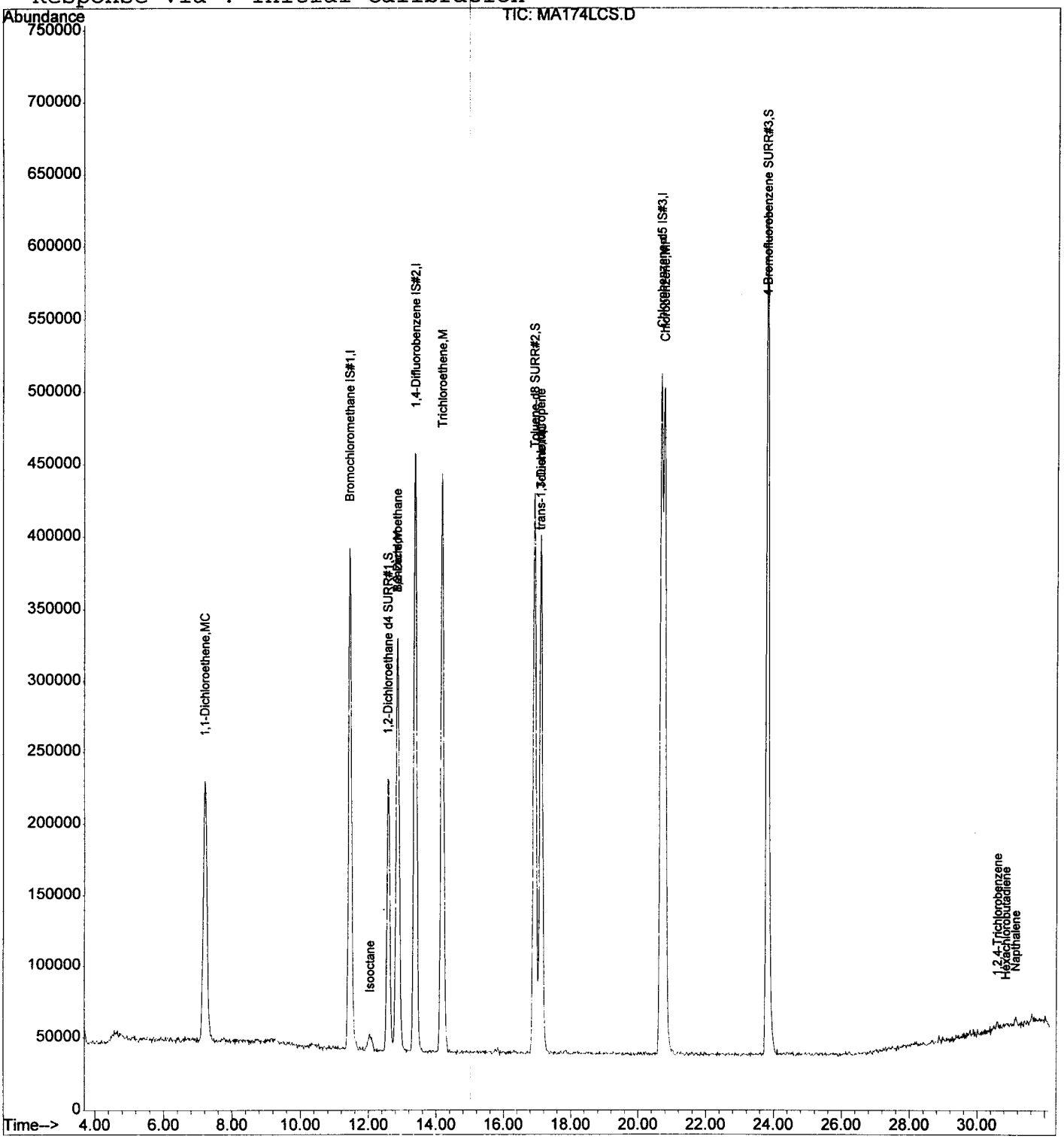
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.21	96	265267	226.60 ng		93
20) Isooctane	12.06	57	38123	7.70 ng		82
24) 1,2-Dichloroethane	12.86	62	5504	3.01 ng	#	49
27) Benzene	12.86	78	818172	248.39 ng		97
28) Trichloroethene	14.18	130	406548	246.08 ng		99
33) Toluene	17.12	92	502137	250.97 ng		97
34) trans-1,3-Dichloropropene	17.10	75	1933	1.12 ng	#	1
39) Chlorobenzene	20.78	112	725530	248.84 ng		93
55) 1,2,4-Trichlorobenzene	30.59	180	3359	1.90 ng	#	64
56) Napthalene	31.14	128	14858	7.32 ng	#	64
57) Hexachlorobutadiene	30.84	225	4547	2.91 ng	#	19

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M0821A\MA174LCS.D Vial: 16
Acq On : 21 Aug 2001 8:54 Operator: BDH
Sample : LCS/BATCH #174 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA174ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 9:26 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D
Acq On : 21 Aug 2001 10:05
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls
Misc : Pf/Pi=2 MA174ABK
MS Integration Params: rteint.p
Quant Time: Aug 21 10:47 2001

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

BH 8/21/01

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	256517	250.00 ng	0.08 97.64%
26) 1,4-Difluorobenzene IS#2	13.39	114	871235	250.00 ng	0.06 82.09%
36) Chlorobenzene-d5 IS#3	20.69	117	692098	250.00 ng	0.05 84.48%

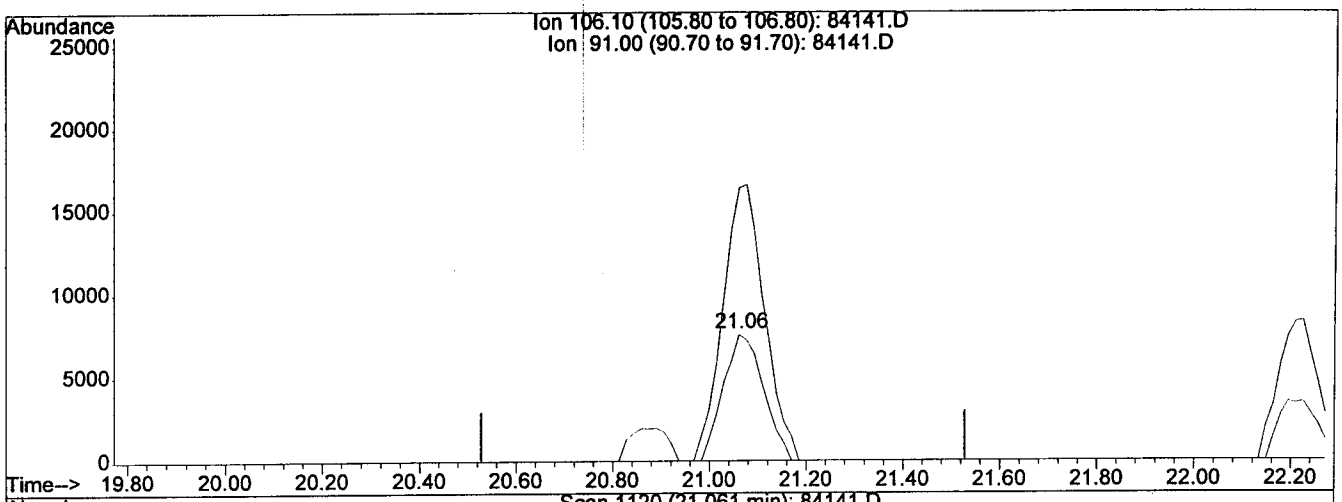
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.60	65	376089	233.93 ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 93.57%					
32) Toluene-d8 SURR#2	16.93	98	705564	250.54 ng	0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.22%					
46) 4-Bromofluorobenzene SURR#	23.81	95	694739	252.47 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.99%					

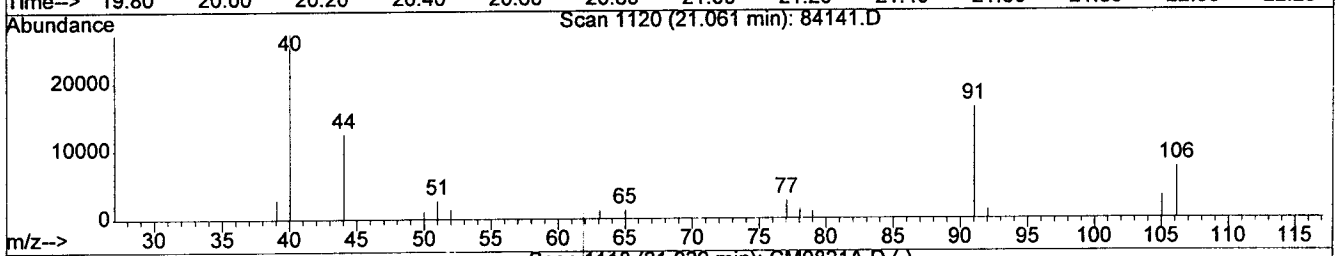
Target Compounds					Qvalue
33) Toluene	17.12	92	17626	0.04 ng <RL #	89
41) m,p-Xylene	21.06	106	43396	0.13 ng	86
42) o-Xylene	22.19	106	19243	0.06 ng	78
48) 4-Ethyltoluene	24.45	105	143232	0.16 ng	100
49) 1,3,5-Trimethylbenzene	24.59	105	42771m	0.06 ng #	73
51) 1,2,4-Trimethylbenzene	25.50	105	104485	0.14 ng	95

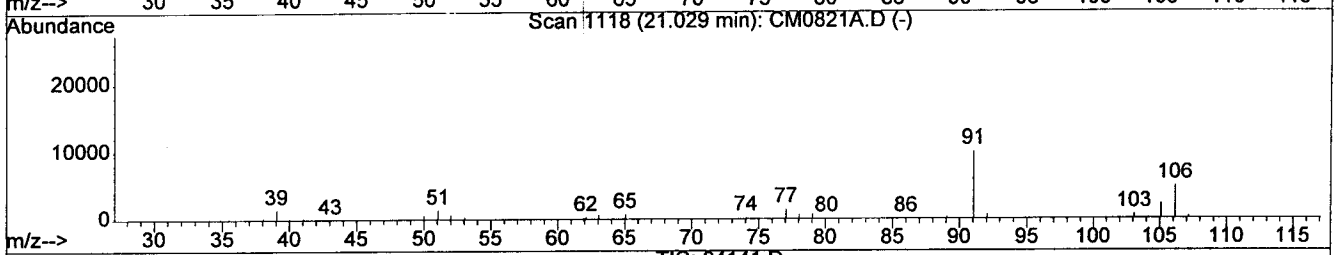
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:46 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84141.D

(41) m,p-Xylene

21.06min 33.55ng

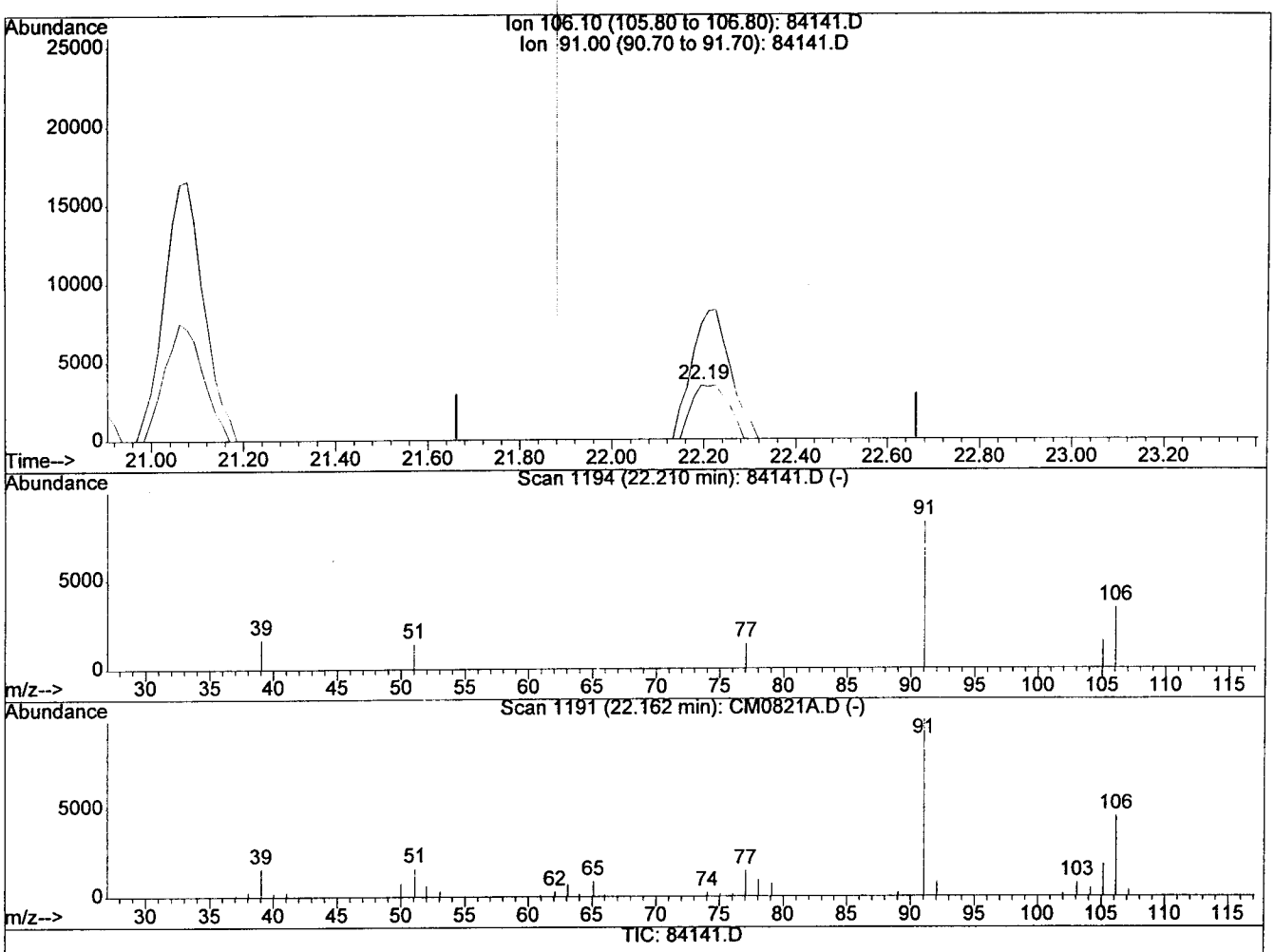
response 43396

Ion	Exp%	Act%
106.10	100	100
91.00	205.30	226.88
0.00	0.00	0.00
0.00	0.00	0.00

84141.D TO14S.M Tue Aug 21 10:46:59 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:46 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration



(42) o-Xylene

22.19min 15.31ng

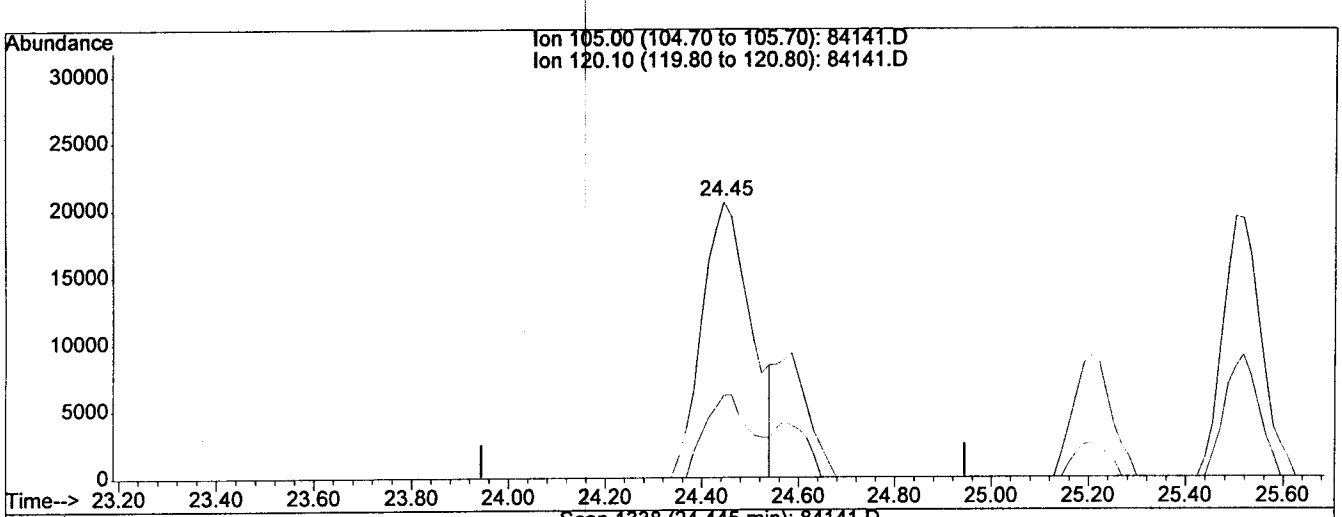
response 19243

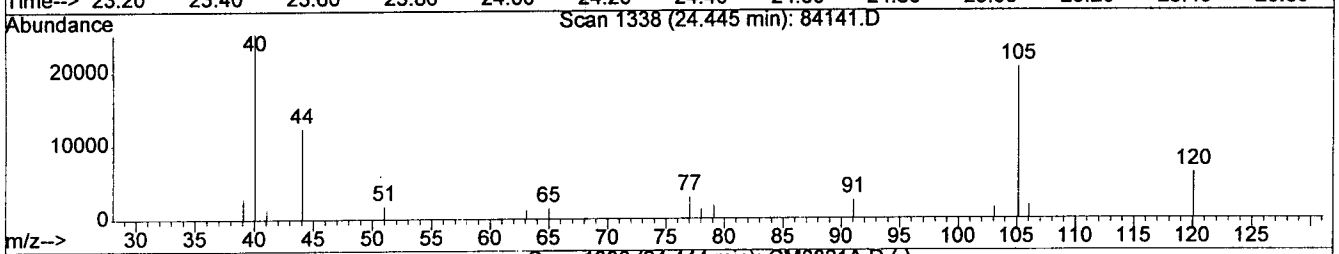
Ion	Exp%	Act%
106.10	100	100
91.00	215.80	250.72
0.00	0.00	0.00
0.00	0.00	0.00

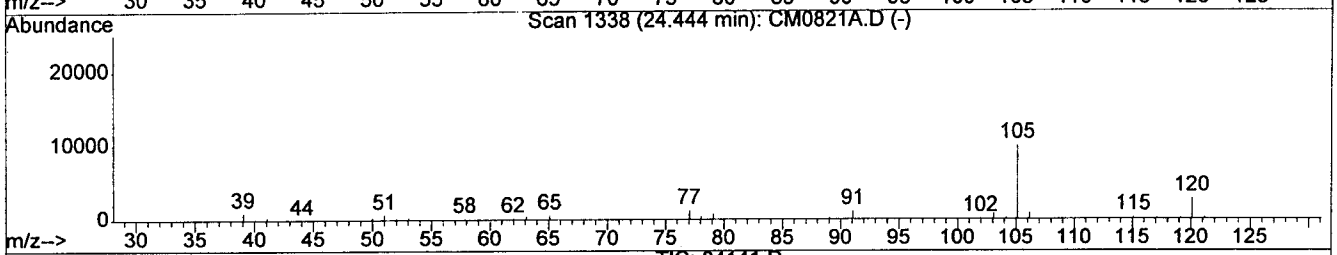
84141.D TO14S.M Tue Aug 21 10:47:09 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:46 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84141.D

(48) 4-Ethyltoluene

24.45min 41.00ng

response 143232

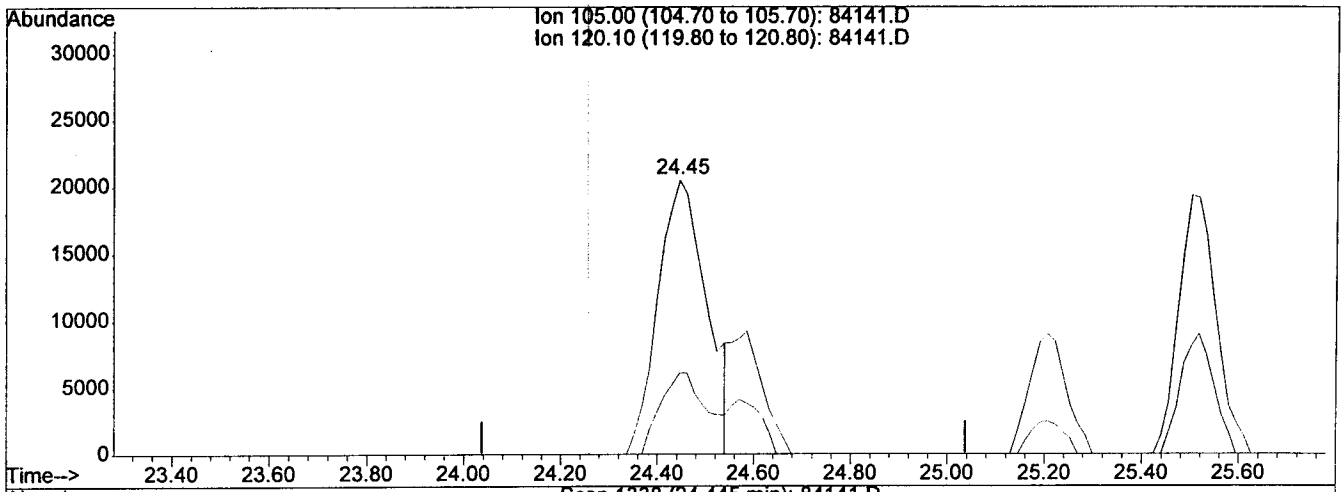
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	29.02
0.00	0.00	0.00
0.00	0.00	0.00

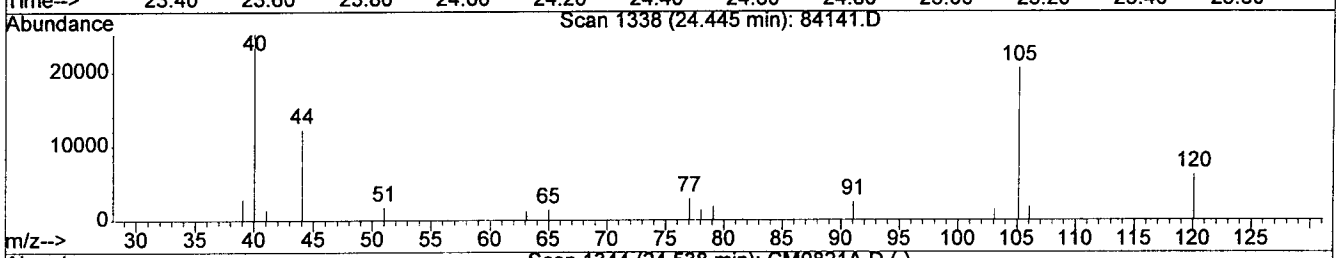
~~Det~~ (wrong peak) BH 8/21/01

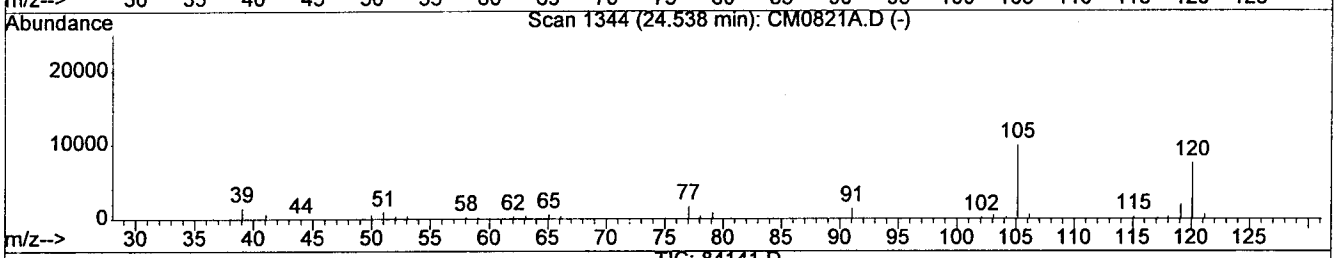
84141.D TO14S.M Tue Aug 21 10:47:16 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:46 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84141.D

(49) 1,3,5-Trimethylbenzene

24.45min 52.10ng

response 143232

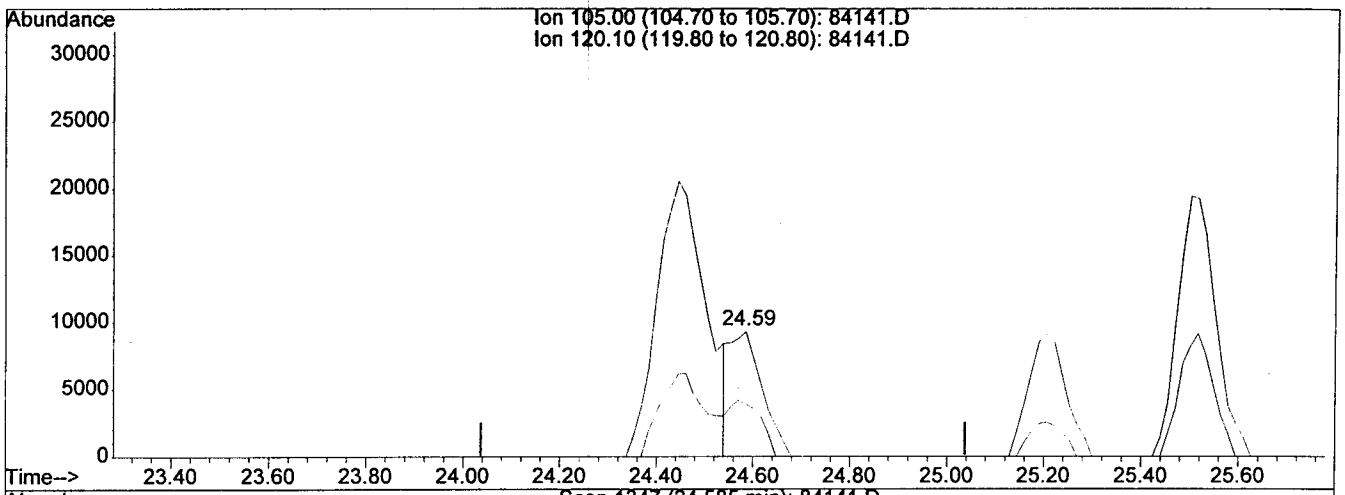
Ion	Exp%	Act%
105.00	100	100
120.10	46.70	29.02#
0.00	0.00	0.00
0.00	0.00	0.00

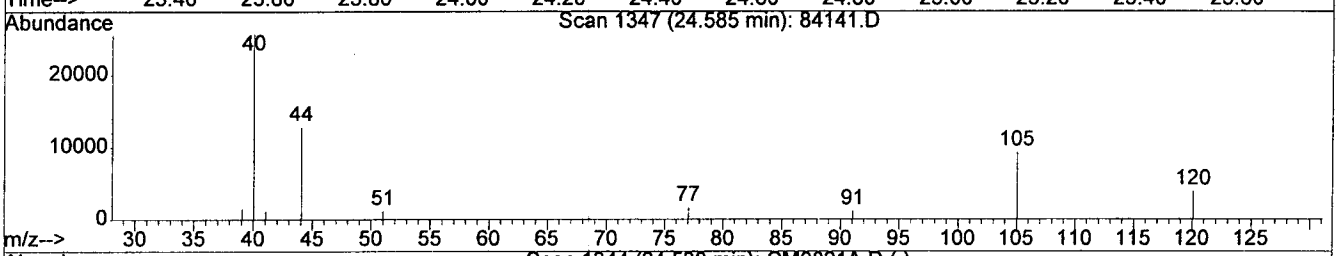
before (wrong peak)

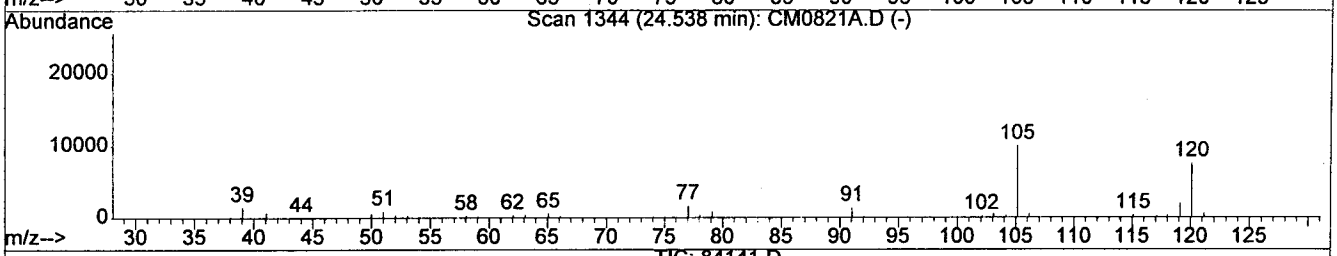
84141.D TO14S.M Tue Aug 21 10:47:19 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:47 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration







TIC: 84141.D

(49) 1,3,5-Trimethylbenzene

24.59min 15.56ng m

response 42771

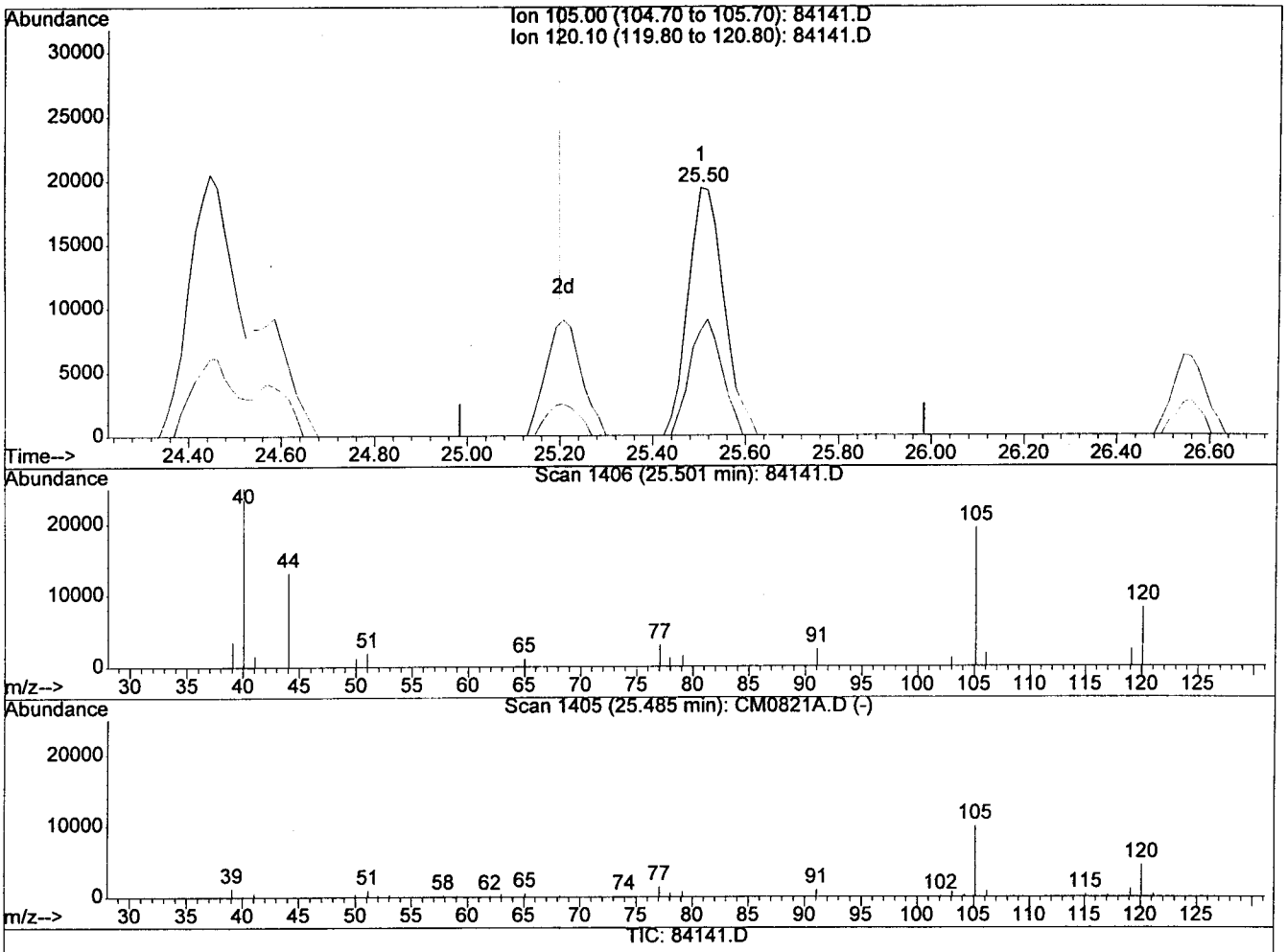
Ion	Exp%	Act%
105.00	100	100
120.10	46.70	97.18#
0.00	0.00	0.00
0.00	0.00	0.00

after
BA 8/21/01

84141.D TO14S.M Tue Aug 21 10:47:30 2001

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:47 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Multiple Level Calibration



(51) 1,2,4-Trimethylbenzene

25.50min 36.20ng

response 104485

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	41.88
0.00	0.00	0.00
0.00	0.00	0.00

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:37 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001 orig.
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M0821A\CM0821A.D (21 Aug 2001 7:46)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.48	128	256517	250.00 ng	0.08 97.64%
26) 1,4-Difluorobenzene IS#2	13.39	114	871235	250.00 ng	0.06 82.09%
36) Chlorobenzene-d5 IS#3	20.69	117	692098	250.00 ng	0.05 84.48%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.60	65	376089	233.93 ng	0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 93.57%		
32) Toluene-d8 SURR#2	16.93	98	705564	250.54 ng	0.05
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.22%		
46) 4-Bromofluorobenzene SURR#	23.81	95	694739	252.47 ng	0.03
Spiked Amount 250.000	Range 87 - 112		Recovery = 100.99%		

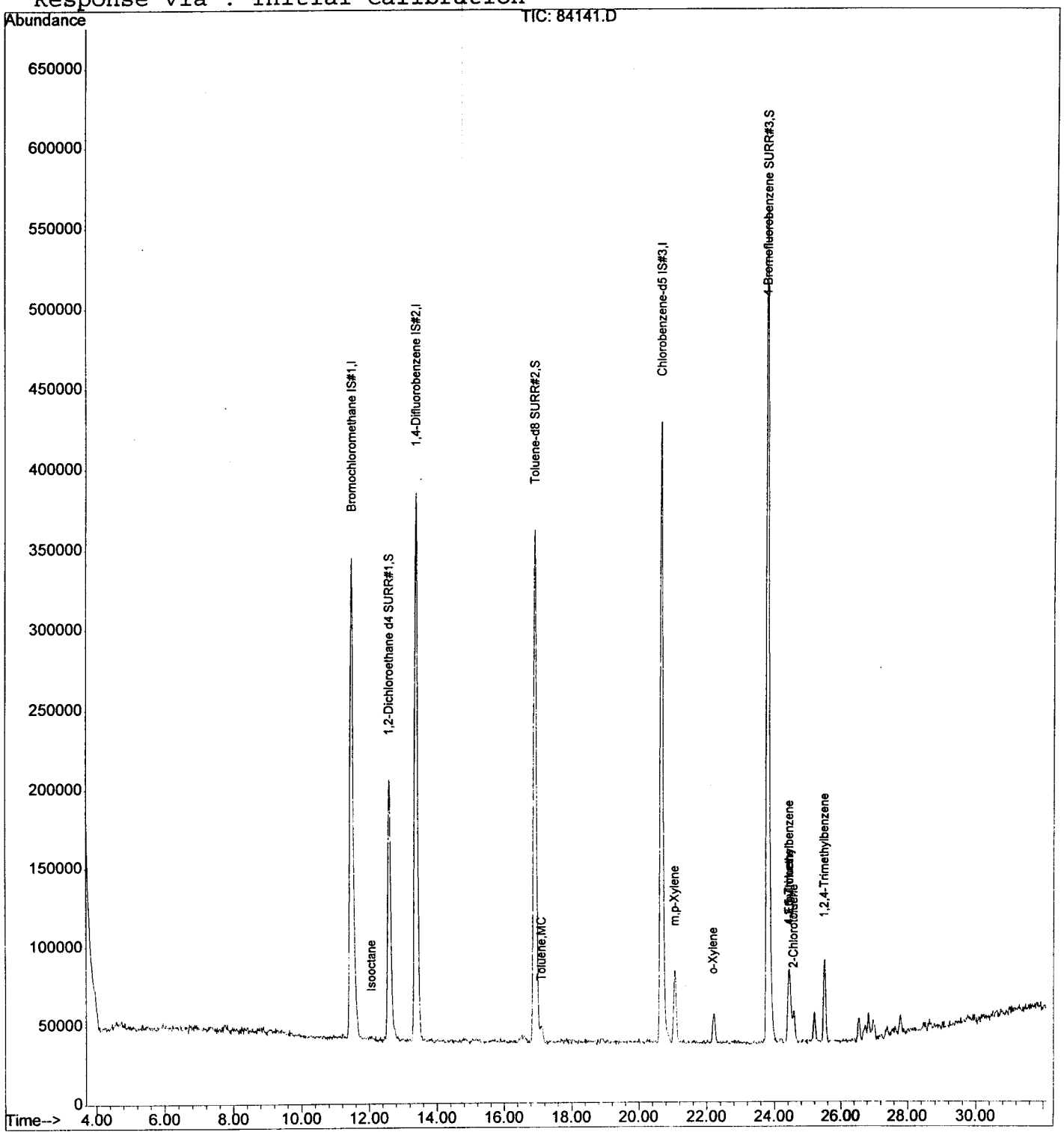
Target Compounds

						Qvalue
20) Isooctane	12.07	57	3076	0.64 ng	#	65
33) Toluene	17.12	92	17626	10.65 ng	#	89
41) m,p-Xylene	21.06	106	43396	33.55 ng		86
42) o-Xylene	22.19	106	19243	15.31 ng		78
48) 4-Ethyltoluene	24.45	105	143232	41.00 ng		100
49) 1,3,5-Trimethylbenzene	24.45	105	143232	52.10 ng	#	73
50) 2-Chlorotoluene	24.57	91	3100	0.84 ng	#	47
51) 1,2,4-Trimethylbenzene	25.50	105	104485	36.20 ng		95

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

Data File : D:\HPCHEM\1\DATA01\M0821A\84141.D Vial: 1
Acq On : 21 Aug 2001 10:05 Operator: BDH
Sample : 062SVEEA-0814-01-15\ 8414-1 ST. 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA174ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 21 10:37 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Aug 21 08:38:07 2001
Response via : Initial Calibration



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~* DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A804036	Acc STD	2000 µg/ml	7/1999	DKM 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKM 5/28/98	7-VN 2-2
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DKM 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DKM 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 Mixture (2nd Source)	M0219	Ultra	2000 ug/ml	3/2000	~~LAD~~ 7/28/98	7-VN 2-9
8260 Surr	A117K	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	A8090942-JB	Accustandard	200.1 µg/ml	9/99	KB 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	EA011115	Restek	2000 µg/ml	3/2000	DKM 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DKM 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKM 5/10/99	7-VN 2-22
VOC Mix 6	LA80488	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKM 5/10/99	7-VN 2-24
Equity 8260 Cal Mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKM 5/18/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	~~7-VN 2-26~~
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DKM 6/9/99	7-VN 2-27
Iodomethane	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.

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	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	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	WO 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short list Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002 Rest. Date 2	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 Super	A014205	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 Keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	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	LA8505	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	A016399	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	DH 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

Rev to 4-13

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89847	Supleco	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	A810018	Acc STD	2000µg/ml	10/20/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit:	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	drench	8-VN 2-9
n-Hexane	80110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	80110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various	4/16/01	4/2003	5	8-VN 2-17
Vinyl Acetate	A019218	Restek	4000µg/ml	4/6/01	4/2003	5	8-VN 2-18
Isopropyl Ether	A019194	Restek	2000µg/ml	4/9/01	4/2004	3	8-VN 2-19
Int. STD. Mix-Tol4	A018018	Restek	2500µg/ml	4/9/01	3/2005	5	8-VN 2-20
IS-8260	A018631	Restek	2500µg/ml	4/13/01	6/2004	10	8-VN 2-21
Custom Mix	LA97340	Supelco	2000/4000µg/ml	4/16/01	4/16/02	4	8-VN 2-22
Supleco Mix 6	LA95901	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-23
Equity Keytone Mix	LA90479	Supleco	4000µg/ml	4/17	11/01	4	8-VN 2-24
Freon 113	LA91143	Supleco	2000µg/ml	4/17	6/03	2	8-VN 2-25
Equity Iodomethane	LA95986	Supleco	2000µg/ml	4/17	5/02	2	8-VN 2-26
502/524 Mix	LA96091	Supleco	2000µg/ml	4/17	4/03	2	8-VN 2-27

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

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

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

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

Comments: exp. 9/1/01

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

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

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

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BDH

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A012765	11/01	2500 µg/ml	500 µls	50 mls	25 ppm
7-VN-2-16 (Surr)	A012764	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/2/01

GC/MS WORKING STANDARDS LOG

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

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

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

Comments: expires 12/12/01

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VW2-13 SUM	A017473	3/04	"	"	"	"

Comments: 12/20/01 - exp. date

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-26 (TO14 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: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08414-1	062-SVE-E-A-0814-01-15	08-14-01/09:30	C108414

PARAMETER	08414-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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LOG NO: C1-08414
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Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08414-1	062-SVE-E-A-0814-01-15	08-14-01/09:30	C108414

PARAMETER	08414-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.16
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	0.14
1,3,5-Trimethylbenzene, mg/m3	0.06
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.06
m&p-Xylene, mg/m3	0.13
Surrogate - 1,2-Dichloroethane-d4	94 %
Surrogate - Toluene-d8	100 %
Surrogate - 4-Bromofluorobenzene	101 %
Dilution Factor	1
Analysis Date	08.21.01
Analysis Time	10:05
Batch ID	MAB174
Analyst	BDH

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Atlanta, GA 30346

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Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08414-2	Method Blank		C108414
08414-3	Lab Control Standard True Value		C108414
08414-4	Lab Control Standard Result		C108414
08414-5	Lab Control Standard % Recovery		C108414
08414-6	LCS Accuracy Control Limit (%R)		C108414

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4968	99 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.4977	100 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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Atlanta, GA 30346

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08414-2	Method Blank		C108414
08414-3	Lab Control Standard True Value		C108414
08414-4	Lab Control Standard Result		C108414
08414-5	Lab Control Standard % Recovery		C108414
08414-6	LCS Accuracy Control Limit (%R)		C108414

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4532	91 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5019	100 %	86-113

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08414
Received: 16 AUG 01
Reported: 28 AUG 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, 103RD STREET MONTHLY AIR
Sampled By: Client
Code: 162810914

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED	SDG#
08414-2	Method Blank		C108414
08414-3	Lab Control Standard True Value		C108414
08414-4	Lab Control Standard Result		C108414
08414-5	Lab Control Standard % Recovery		C108414
08414-6	LCS Accuracy Control Limit (%R)		C108414

PARAMETER	08414-2	08414-3	08414-4	08414-5	08414-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4922	98 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	95 %	0.5000	0.4927	99 %	61-140
Surrogate - Toluene-d8	101 %	0.5000	0.5012	100 %	90-109
Surrogate - 4-Bromofluorobenzene	97 %	0.5000	0.4875	98 %	87-112
Dilution Factor	1	---	1	---	---
Analysis Date	08.21.01	---	08.21.01	---	---
Analysis Time	08:19	---	08:54	---	---
Batch ID	MAB174	MAB174	MAB174	MAB174	MAB174
Analyst	BDH	---	BDH	---	---

Rick Hayes, Project Manager

Final Page Of Report

000006

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 109719
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Sept. 28, 2001

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0927-01-20	109719-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Oct. 8, 2001

CCI NAVY RAC PMO
OCT 12 2001

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-09719
Received: 28 SEP 01
Reported: 09 OCT 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 17371109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09719-1	062-SVE-E-A-0927-01-20	09-27-01/10:00

PARAMETER	09719-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

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STL Pensacola

LOG NO: C1-09719
Received: 28 SEP 01
Reported: 09 OCT 01

Ms. Tatiana Romanova
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115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 17371109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09719-1	062-SVE-E-A-0927-01-20	09-27-01/10:00

PARAMETER	09719-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	120 %
Surrogate - Toluene-d8	104 %
Surrogate - 4-Bromofluorobenzene	95 %

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Reported: 09 OCT 01

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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: 17371109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
09719-1	062-SVE-E-A-0927-01-20	09-27-01/10:00

PARAMETER	09719-1
Dilution Factor	1
Prep Date	10.07.01
Prep Time	20:54
Analysis Date	10.07.01
Analysis Time	21:07
Batch ID	MAB209
Prep Method	MOD-TO14
Analyst	BDH

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 17371109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
09719-2	Method Blank	
09719-3	Lab Control Standard True Value	
09719-4	Lab Control Standard Result	
09719-5	Lab Control Standard % Recovery	
09719-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09719-2	09719-3	09719-4	09719-5	09719-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4868	97 5	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	0.4948	99 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

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SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-09719
Received: 28 SEP 01
Reported: 09 OCT 01

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 17371109

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
09719-2	Method Blank	
09719-3	Lab Control Standard True Value	
09719-4	Lab Control Standard Result	
09719-5	Lab Control Standard % Recovery	
09719-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09719-2	09719-3	09719-4	09719-5	09719-6
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	0.4370	87 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.4992	100 %	86-113

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09719-2	Method Blank	
09719-3	Lab Control Standard True Value	
09719-4	Lab Control Standard Result	
09719-5	Lab Control Standard % Recovery	
09719-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09719-2	09719-3	09719-4	09719-5	09719-6
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	0.4803	96 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	115 %	0.5000	0.5558	111 %	61-140
Surrogate - Toluene-d8	105 %	0.5000	0.5171	103 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.4773	95 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	10.07.01	---	10.07.01	---	---
Prep Time	12:38	---	13:15	---	---
Analysis Date	10.07.01	---	10.07.01	---	---
Analysis Time	12:51	---	13:28	---	---
Batch ID	MAB209	MAB209	MAB209	MAB209	MAB209
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

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STL Pensacola

LOG NO: C1-09719
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REPORT OF RESULTS

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09719-4	Lab Control Standard Result	
09719-5	Lab Control Standard % Recovery	
09719-6	LCS Accuracy Control Limit (%R)	

PARAMETER	09719-2	09719-3	09719-4	09719-5	09719-6

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

Rick Hayes

Rick Hayes, Project Manager CDK

Final Page Of Report

008

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C109719 Date Received: 9/28/01

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

Airbill Number(s): 7901 7057 8730
7901 7057 8730.

Shipped By: FedEx

Cooler Number(s): Box CAN# 273 248 278 250
249 245 082 068

Shipping Charges: N/A

Cooler Weight(s): 304

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

multiple project shipment

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS **Date:** 9/28/01 **Logged By:** [illegible] **Date:** 9/28/01

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

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

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

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

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

C109 719

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-012

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0927-01-20	SVE Effluent	AIR	09/27/01	10:00	III/C	14 Day	1									068	Grab	Summa Canister	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop J.A. Jones Environmental Services	Federal Express TRK # 7924 5055 5418	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop R. Dumaop	9/27/01	18:00	Federal Express	9/27/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	9/28/01	0907
Printed Name and Signature:			Printed Name and Signature:		

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

Form CCI001, Rev 02/00

010

C109719

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

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

Jacksonville, FL 32221

SHIPPER'S FEDEX ACCOUNT NUMBER

FedEx
Federal Express

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

Pensacola, FL 32514-7045

SHIP DATE: 27SEP01
MAN-WGT: 30 LBS

REF: 164548/99.22.01.01/30857

DELIVERY ADDRESS BARCODE (FEDEX-EDR)

CAD # 4653313 **PRIORITY OVERNIGHT** **FRI**
AA

TRK # **7901 7057 8730** FORM 0201 Deliver By: **BFM** 28SEP01

32514-FL-US
DROP OFF

XB PNSA

011

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

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

CH2M-CONST-GA C109719
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MHS	8/28/07	1750
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : 109719 Site : NA Location : NA Group : NA
Lab File ID (Standard): CM1009A.D Date Analyzed : 7 Oct 2001
Instrument ID : GC/MS Ins Time Analyzed : 11:27
GC Column : CAP ID : 0.53 Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
97191	062SVEEA0927012	120	104	95	0	0	0	0
MA209ABK	VBLKMA/ DAILY M	115	105	99	0	0	0	0
MA209LCS	LCS/BATCH #209	111	103	95	0	0	0	0

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

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

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Oct 08 10:56:36 2001
Response via : Multiple Level Calibration

		Compound Name	Conc(ng)	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	218.49	250.00	87.40	58 to 138%	[ ]
27)	M	Benzene	243.42	250.00	97.37	87 to 116%	[ ]
28)	M	Trichloroethene	240.17	250.00	96.07	85 to 116%	[ ]
33)	MC	Toluene	249.58	250.00	99.83	86 to 113%	[ ]
39)	MP	Chlorobenzene	247.42	250.00	98.97	88 to 111%	[ ]

GENERIC LCS FORM

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	109719					
Batch	MAB209	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		243.42	0.5000	0.4868	97%	87-116%
Chlorobenzene		247.42	0.5000	0.4948	99%	88-111%
1,1-Dichloroethene		218.49	0.5000	0.4370	87%	58-138%
Toluene		249.58	0.5000	0.4992	100%	86-113%
Trichloroethene		240.17	0.5000	0.4803	96%	85-116%
1,2-Dichloroethane-d4		277.9	0.5000	0.5558	111%	61-140%
Toluene-d8		258.54	0.5000	0.5171	103%	90-109%
4-Bromofluorobenzene		238.63	0.5000	0.4773	95%	87-112%

4A

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.: C109719

Lab File ID: MA209ABK.D Lab Sample ID: VBLKMA/ DAILY M

Date Analyzed: 10/7/01 Time Analyzed: 12:51

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS	LCS/BATCH #209 LCS 5	MA209LCS.D	13:28
02	SVEEA	062SVEEA09270120\971	97191.D	21:07

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.: C109719

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

Instrument ID: MARILYN BFB Injection Time: 8:27

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	26.0
75	30.0 - 66.0% of mass 95	51.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.8
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	63.0 (98.7)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	6/19/01	9:04
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	6/19/01	9:42
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	6/19/01	10:20
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	6/19/01	10:58
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	6/19/01	11:46
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	6/19/01	12:24

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109719

Lab File ID: BFM1007A.D BFB Injection Date: 10/7/01

Instrument ID: MARILYN BFB Injection Time: 11:07

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	28.5
75	30.0 - 66.0% of mass 95	56.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6 (0.9)1
174	50.0 - 120.0% of mass 95	62.7
175	4.0 - 9.0% of mass 174	4.4 (7.0)1
176	93.0 - 101.0% of mass 174	60.8 (97.1)1
177	5.0 - 9.0% of mass 176	3.7 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTDMA/ DAILY CALIB.	CM1009A.D	10/7/01	11:27
02	VBLKMA	VBLKMA/ DAILY METHO	MA209ABK.D	10/7/01	12:51
03	LCS	LCS/BATCH #209 LCS 5	MA209LCS.D	10/7/01	13:28
04	SVEEA	062SVEEA09270120\971	97191.D	10/7/01	21:07

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

BH 6/19

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

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

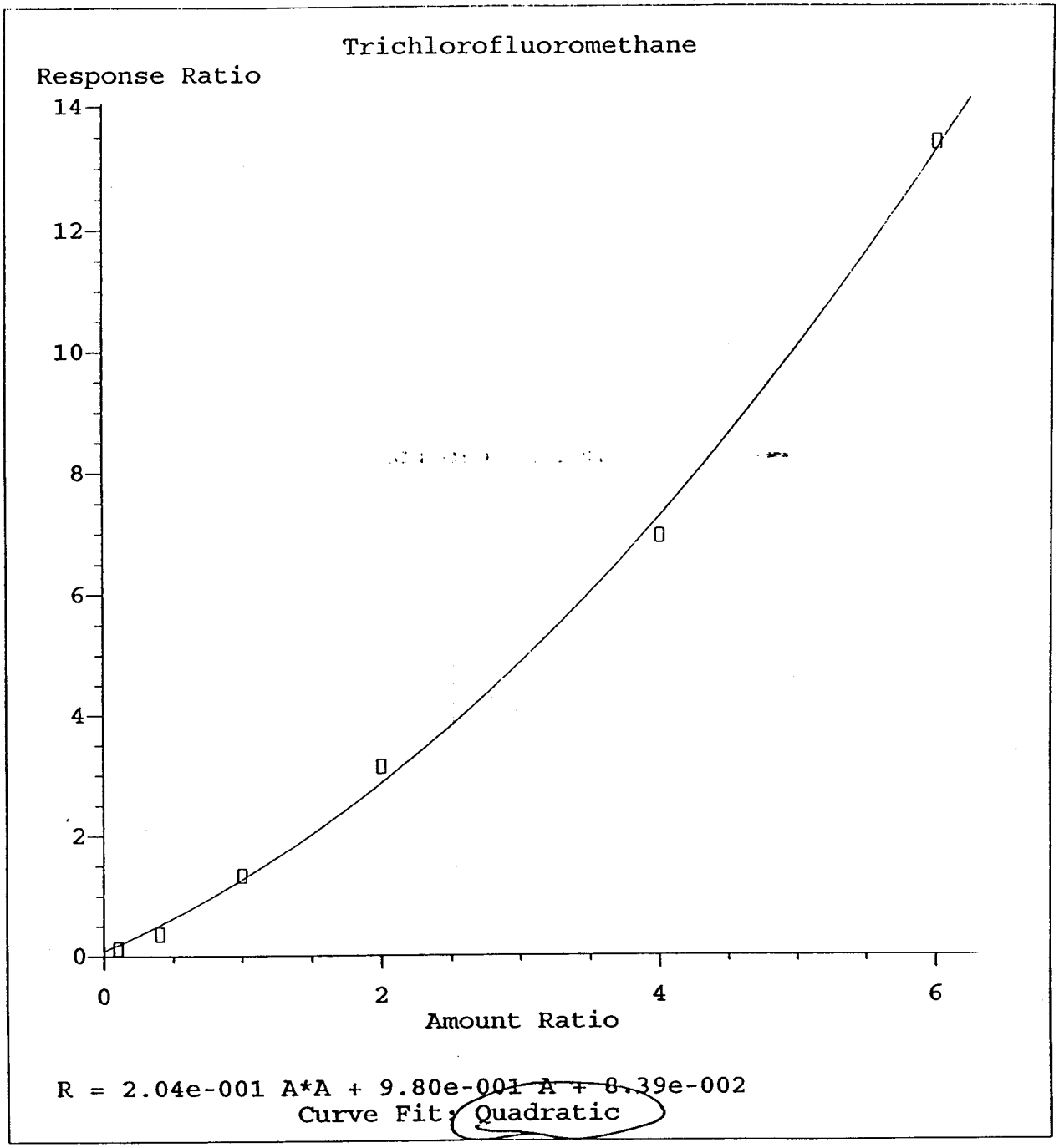
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

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

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

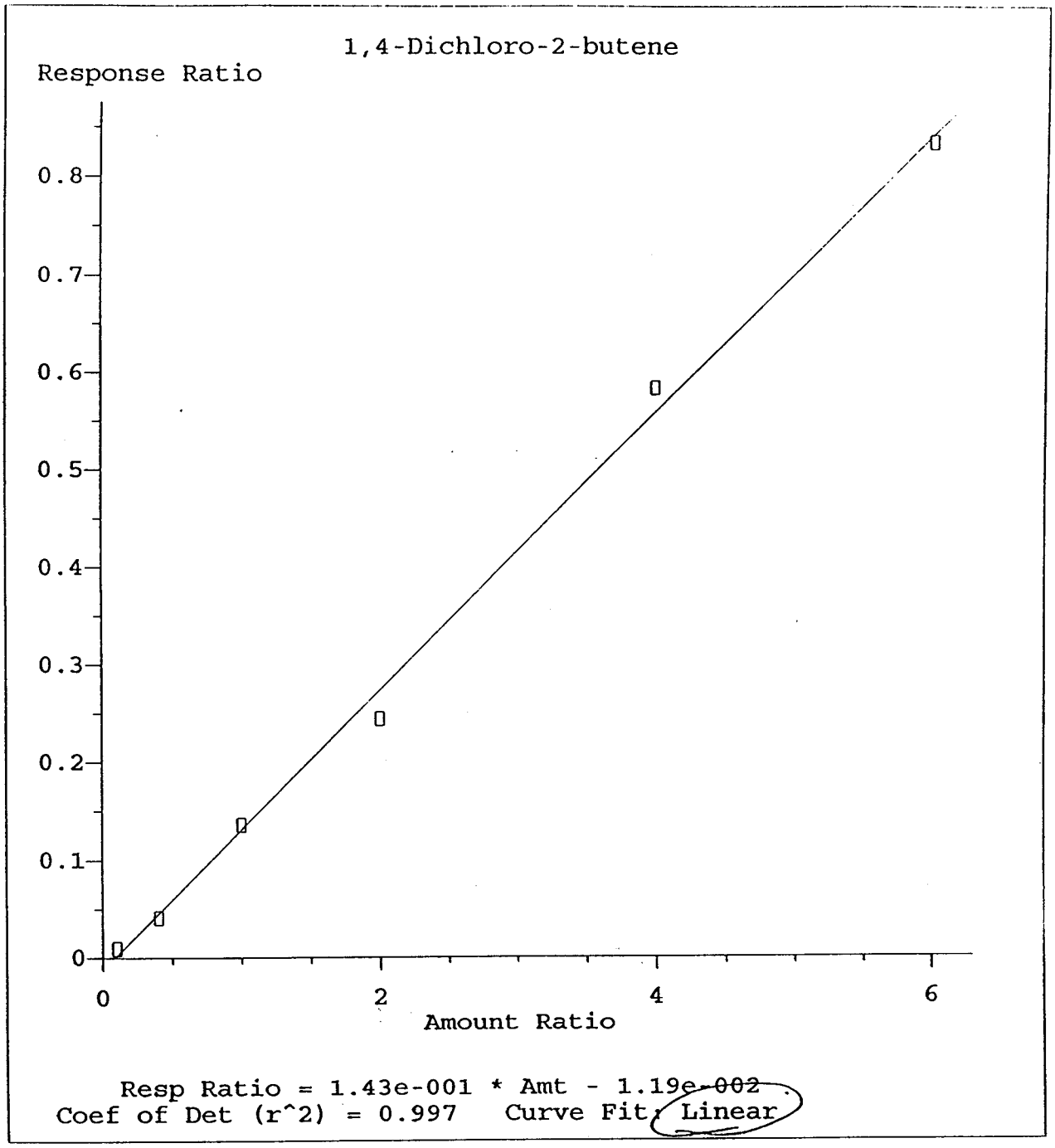
		Compound	25	250	1500	1000	100	500	Avg	%RS
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.99	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

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



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

.998
BH 6/19



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

JH 6/19

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

passes BH 10/7/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	128	0.00
2		Dichlorodifluoromethane	5.221	4.064	22.2#	96	0.00
3		Dichlorotetrafluoroethane	1.746	1.667	4.5#	115	0.00
4	P	Chloromethane	1.056	1.176	-11.4#	149	0.00
5	C	Vinyl chloride	0.990	1.059	-7.0#	129	0.00
6		Bromomethane	1.432	1.425	0.5	125	0.00
7		Chloroethane	0.635	0.637	-0.3	126	0.00
8		Trichlorofluoromethane	1.509	1.999	-32.5#	192#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.946	0.7	121	0.00
10	MC	1,1-Dichloroethene	1.112	1.123	-1.0#	127	0.00
11		Iodomethane	0.000	0.000	0.0	1895#	0.00
12		Methylene chloride	1.996	2.096	-5.0#	130	0.00
13		Carbon disulfide	3.278	3.528	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	1.416	1.695	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	1.191	1.270	-6.6#	133	0.00
16		n-Hexane	1.373	1.396	-1.7	123	0.00
17	P	1,1-Dichloroethane	2.420	2.596	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	2.017	2.153	-6.7#	130	0.00
19	C	Chloroform	2.996	3.204	-6.9#	130	0.00
20		Isooctane	4.704	4.160	11.6#	106	0.00
21		1,1,1-Trichloroethane	2.533	2.854	-12.7#	138	0.00
22		Carbon tetrachloride	2.682	2.915	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.800	-14.9#	146	0.00
24		1,2-Dichloroethane	1.735	1.989	-14.6#	139	0.00
25		1,2-Dibromoethane	2.008	2.153	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	132	0.00
27	M	Benzene	0.782	0.784	-0.3	126	0.00
28	M	Trichloroethene	0.392	0.380	3.1#	121	0.00
29	C	1,2-Dichloropropane	0.356	0.349	2.0#	122	0.00
30		Bromodichloromethane	0.847	0.878	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	0.511	0.512	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	0.808	0.831	-2.8#	135	0.00
33	MC	Toluene	0.475	0.474	0.2#	125	0.00
34		trans-1,3-Dichloropropene	0.411	0.434	-5.6#	130	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	136	0.00
37		Tetrachloroethene	0.495	0.455	8.1#	120	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	124	0.00
39	MP	Chlorobenzene	0.897	0.870	3.0#	125	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D
Acq On : 7 Oct 2001 11:27
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.351	4.6#	123	0.00
41		m,p-Xylene	0.467	0.445	4.7#	124	0.00
42		o-Xylene	0.454	0.434	4.4#	123	0.00
43		Styrene	0.747	0.676	9.5#	117	0.00
44	P	Bromoform	0.624	0.576	7.7#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.620	-1.6	128	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.991	0.3	136	0.00
47		1,4-Dichloro-2-butene	0.123	0.111	9.8#	111	0.00
48		4-Ethyltoluene	1.262	1.138	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	0.993	0.911	8.3#	122	0.00
50		2-Chlorotoluene	1.329	1.392	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	1.043	0.993	4.8#	123	0.00
52		1,3-Dichlorobenzene	0.788	0.762	3.3#	125	0.00
53		1,4-Dichlorobenzene	0.826	0.795	3.8#	124	0.00
54		1,2-Dichlorobenzene	0.719	0.720	-0.1	127	0.00
55		1,2,4-Trichlorobenzene	0.545	0.519	4.8#	123	0.00
56		Napthalene	0.625	0.701	-12.2#	139	0.00
57		Hexachlorobutadiene	0.481	0.438	8.9#	117	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	128	0.00
2		Dichlorodifluoromethane	250.000	194.617	22.2#	96	0.00
3		Dichlorotetrafluoroethane	250.000	238.622	4.6#	115	0.00
4	P	Chloromethane	250.000	278.352	-11.3#	149	0.00
5	C	Vinyl chloride	250.000	267.370	-6.9#	129	0.00
6		Bromomethane	250.000	248.907	0.4	125	0.00
7		Chloroethane	250.000	250.821	-0.3	126	0.00
8		Trichlorofluoromethane	250.000	375.643	-50.3#	192	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	248.140	0.7	121	0.00
10	MC	1,1-Dichloroethene	250.000	252.543	-1.0#	127	0.00
11		Iodomethane	-1.000	0.000	0.0	1895	0.00
12		Methylene chloride	250.000	262.587	-5.0#	130	0.00
13		Carbon disulfide	250.000	269.037	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	250.000	299.296	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	250.000	266.622	-6.6#	133	0.00
16		n-Hexane	250.000	254.174	-1.7	123	0.00
17	P	1,1-Dichloroethane	250.000	268.155	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	250.000	266.977	-6.8#	130	0.00
19	C	Chloroform	250.000	267.324	-6.9#	130	0.00
20		Isooctane	250.000	221.059	11.6#	106	0.00
21		1,1,1-Trichloroethane	250.000	281.677	-12.7#	138	0.00
22		Carbon tetrachloride	250.000	271.649	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	287.158	-14.9#	146	0.00
24		1,2-Dichloroethane	250.000	286.723	-14.7#	139	0.00
25		1,2-Dibromoethane	250.000	268.038	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	132	0.00
27	M	Benzene	250.000	250.713	-0.3	126	0.00
28	M	Trichloroethene	250.000	242.253	3.1#	121	0.00
29	C	1,2-Dichloropropane	250.000	245.360	1.9#	122	0.00
30		Bromodichloromethane	250.000	259.345	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	250.000	250.610	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	250.000	257.007	-2.8#	135	0.00
33	MC	Toluene	250.000	249.400	0.2#	125	0.00
34		trans-1,3-Dichloropropene	250.000	263.712	-5.5#	130	0.00
35		1,1,2-Trichloroethane	250.000	254.365	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	136	0.00
37		Tetrachloroethene	250.000	229.658	8.1#	120	0.00
38		Dibromochloromethane	250.000	242.367	3.1#	124	0.00
39	MP	Chlorobenzene	250.000	242.442	3.0#	125	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	237.906	4.8#	123	0.00
41		m,p-Xylene	500.000	476.187	4.8#	124	0.00
42		o-Xylene	250.000	238.860	4.5#	123	0.00
43		Styrene	250.000	226.520	9.4#	117	0.00
44	P	Bromoform	250.000	230.991	7.6#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	254.366	-1.7	128	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	249.206	0.3	136	0.00
47		1,4-Dichloro-2-butene	250.000	216.829	13.3#	111	0.00
48		4-Ethyltoluene	250.000	225.420	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	250.000	229.348	8.3#	122	0.00
50		2-Chlorotoluene	250.000	261.846	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	250.000	238.181	4.7#	123	0.00
52		1,3-Dichlorobenzene	250.000	241.589	3.4#	125	0.00
53		1,4-Dichlorobenzene	250.000	240.683	3.7#	124	0.00
54		1,2-Dichlorobenzene	250.000	250.424	-0.2	127	0.00
55		1,2,4-Trichlorobenzene	250.000	238.114	4.8#	123	0.00
56		Napthalene	250.000	280.245	-12.1#	139	0.00
57		Hexachlorobutadiene	250.000	227.518	9.0#	117	0.00

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C109719

Lab File ID (Standard): CM1009A.D Date Analyzed: 10/7/01

Instrument ID: MARILYN Time Analyzed: 11:27

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	404145	11.30	1693931	13.23	1327951	20.52
	UPPER LIMIT	808290	11.80	3387862	13.73	2655902	21.02
	LOWER LIMIT	202073	10.80	846966	12.73	663976	20.02
	EPA SAMPLE NO.						
01	VBLKMA	294258	11.38	1134732	13.32	894959	20.63
02	LCS	422646	11.41	1729116	13.33	1315459	20.65
03	SVEEA	365378	11.42	1497927	13.33	1146835	20.64

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\M0619A\
Pre-Seq Cmd:
Post-Seq Cmd:

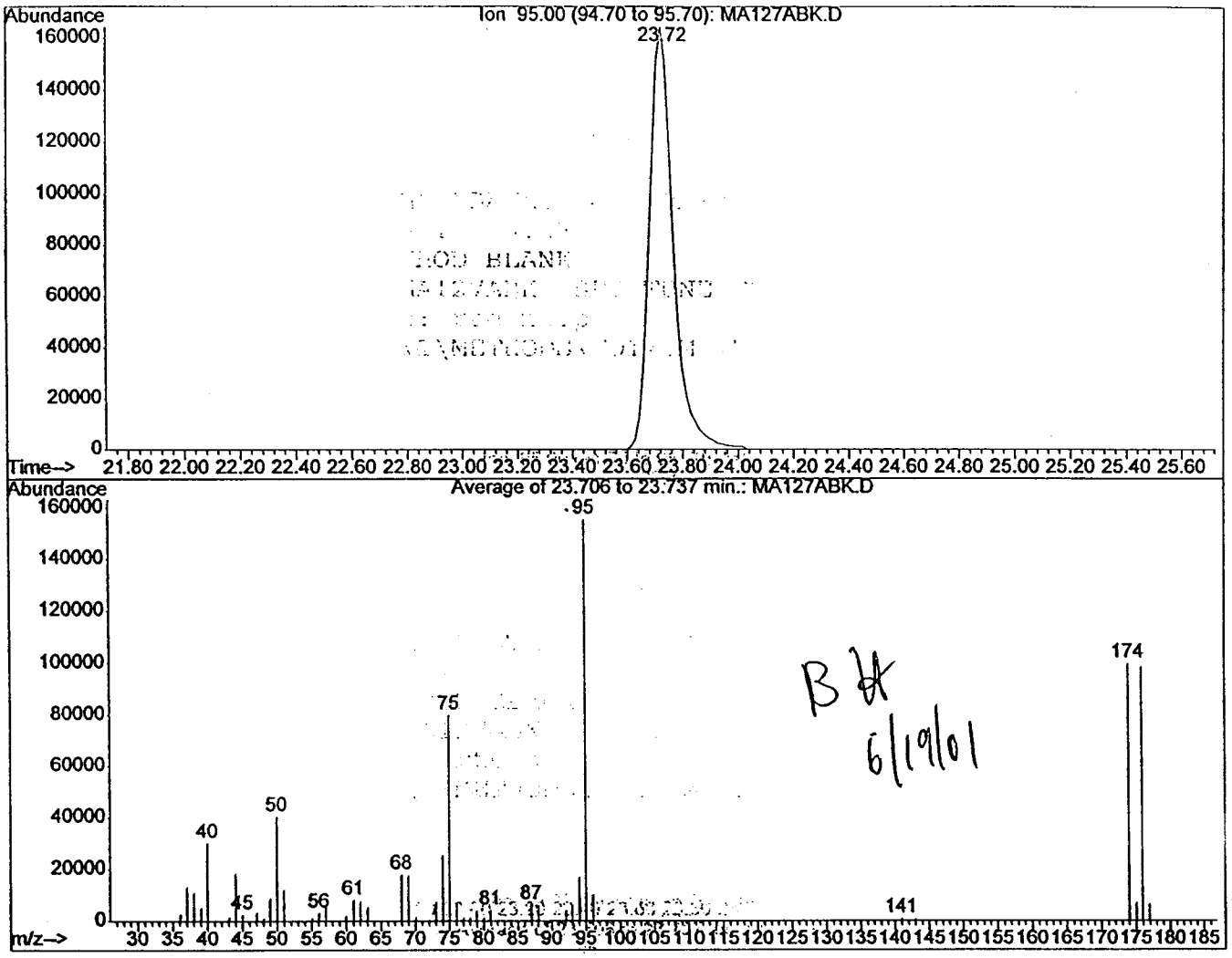
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

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

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	15	MA127ABK	TO14S	DAILY METHOD BLANK
2	Sample	14	CMA0025	TO14S	25ng/1uL/5ppb INITIAL CALIB.
3	Sample	14	CMA0100	TO14S	100ng/4uL/20ppb INITIAL CALIB
4	Sample	14	CMA0250	TO14S	250ng/10uL/50ppb INITIAL CALI
5	Sample	14	CMA0500	TO14S	500ng/20uL/100ppb INITIAL CAL
6	Sample	14	CMA1000	TO14S	1000ng/40uL/200ppb INITIAL CA
7	Sample	14	CMA1500	TO14S	1500ng/60uL/300ppb INITIAL CA
8	Sample	14	BLKTUBE	BFBSTL	MPM CARRY-OVER CLEANUP SHOT
9	Sample	16	MA125LCS	TO14S	BATCH #127 LCS 50ppb/250ng
10	Sample	1	62401	TO14S	6240-1 ST. 500mls
11	Sample	1	62402	TO14S	6240-2 ST. 500mls
12	Sample	9	61564	TO14S	6156-4 X20 25mls
13	Sample	10	61565	TO14S	6156-5 X10 50mls
14	Sample	11	63641	TO14S	6364-1 X1000 0.5ml
15	Sample	12	64421	TO14S	6442-1 X20 25mls
16	Sample	13	BLKTUBE	BFBSTL	

BFB

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



BH
6/19/01

Spectrum Information: Average of 23.706 to 23.737 min.

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

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

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

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

BH 6/19/01

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

System Monitoring Compounds

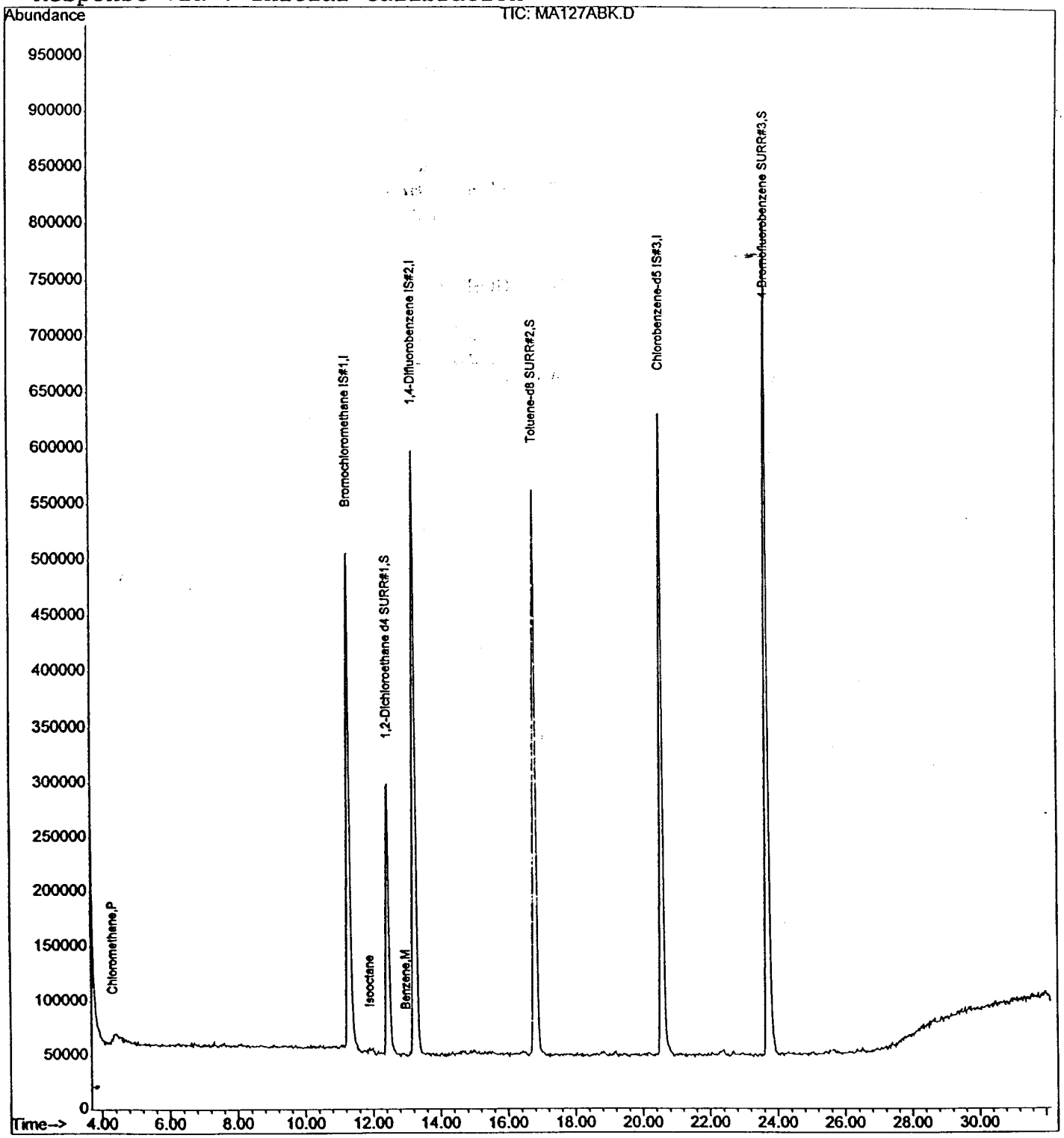
23) 1,2-Dichloroethane d4 SURR	12.47	65	536081	267.80 ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.12%		
32) Toluene-d8 SURR#2	16.81	98	1098052	250.36 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 100.14%		
46) 4-Bromofluorobenzene SURR#	23.72	95	988304	244.64 ng	0.00
Spiked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

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA127ABK.D TO14S.M Tue Jun 19 14:03:53 2001 Page 1

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

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



Response Factor Report GC/MS Ins

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

BH 6/19

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

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

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

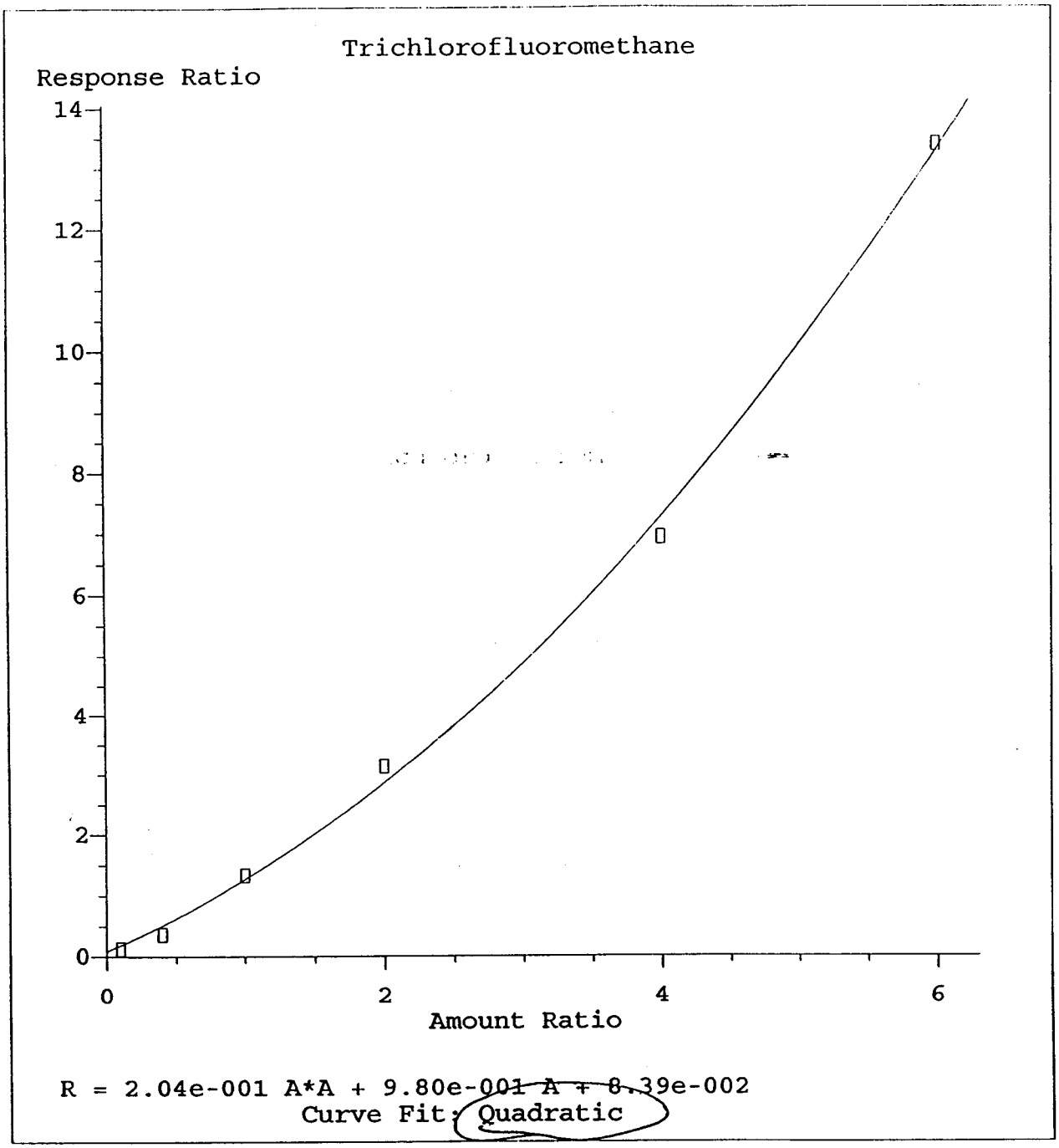
Response Factor Report GC/MS Ins

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

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

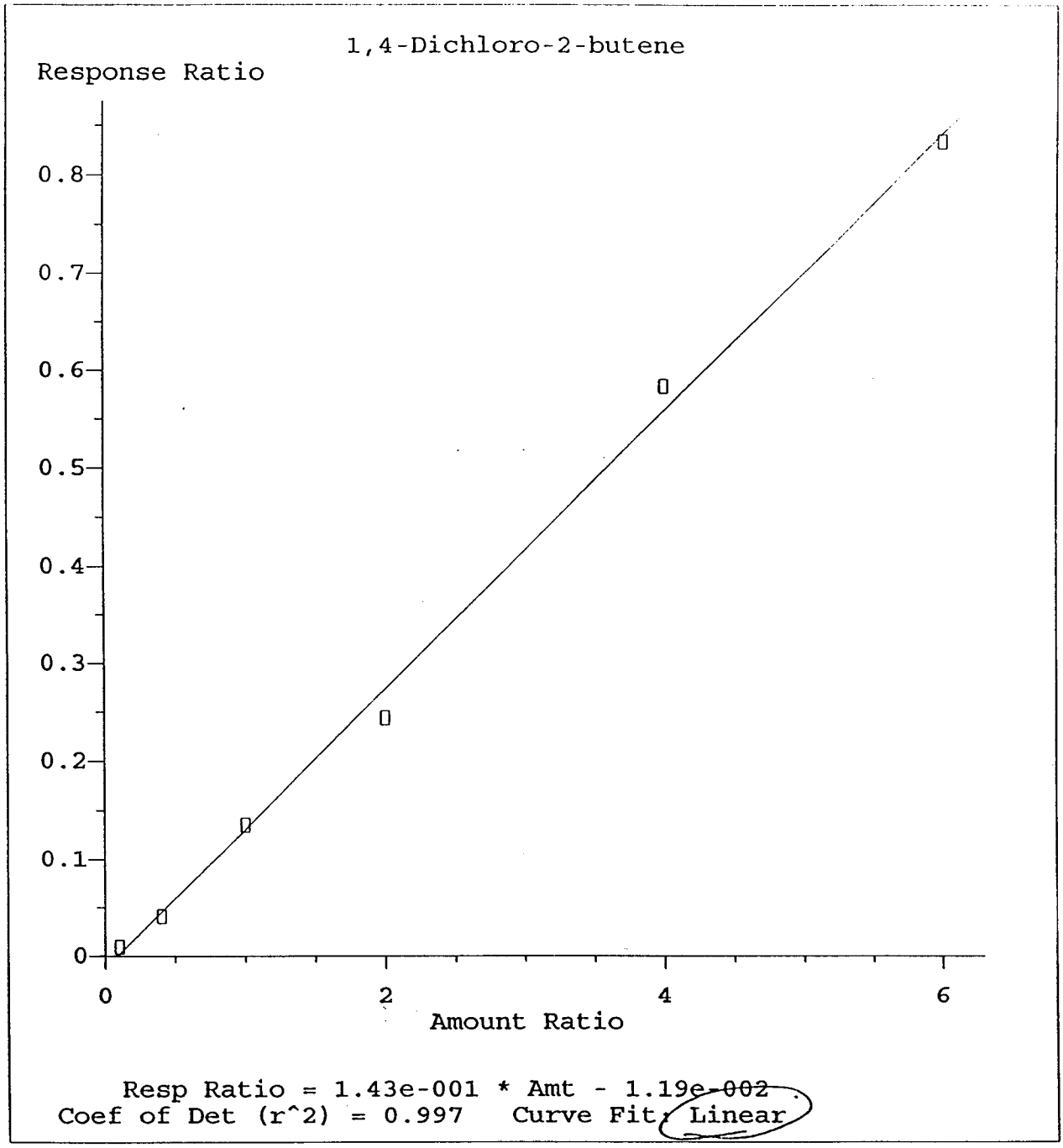
		Compound	25	250	1500	1000	100	500	Avg	%RS
39)	MP	Chlorobenzene	0.850	0.947	0.949	0.945	0.771	0.923	0.897	8.09
40)	C	Ethylbenzene	0.364	0.388	0.385	0.382	0.312	0.379	0.368	7.80
41)		m,p-Xylene	0.444	0.491	0.493	0.490	0.400	0.486	0.467	8.10
42)		o-Xylene	0.422	0.480	0.487	0.484	0.382	0.470	0.454	9.41
43)		Styrene	0.671	0.788	0.807	0.805	0.632	0.777	0.747	10.13
44)	P	Bromoform	0.558	0.677	0.661	0.694	0.541	0.613	0.624	10.24
45)	P	1,1,2,2-Tetrachloro	0.584	0.662	0.624	0.662	0.538	0.587	0.610	8.05
46)	S	4-Bromofluorobenzen	0.962	0.997	1.020	1.013	0.988	0.984	0.994	2.12
47)		1,4-Dichloro-2-bute	0.095	0.135	0.139	0.146	0.102	0.122	-----	
							L	M= 0.143	R^2=0.99	
								B= -0.012		
48)		4-Ethyltoluene	1.111	1.259	1.384	1.356	1.109	1.354	1.262	9.94
49)		1,3,5-Trimethylbenz	0.965	1.017	1.032	1.073	0.844	1.026	0.993	8.13
50)		2-Chlorotoluene	1.332	1.387	1.371	1.390	1.142	1.355	1.329	7.09
51)		1,2,4-Trimethylbenz	0.991	1.103	1.096	1.100	0.879	1.087	1.043	8.70
52)		1,3-Dichlorobenzene	0.734	0.829	0.838	0.855	0.661	0.814	0.788	9.57
53)		1,4-Dichlorobenzene	0.760	0.874	0.878	0.889	0.699	0.856	0.826	9.45
54)		1,2-Dichlorobenzene	0.656	0.773	0.748	0.773	0.614	0.750	0.719	9.35
55)		1,2,4-Trichlorobenz	0.547	0.577	0.544	0.599	0.458	0.547	0.545	8.82
56)		Napthalene	0.588	0.687	0.608	0.712	0.528	0.626	0.625	10.76
57)		Hexachlorobutadiene	0.564	0.510	0.425	0.482	0.416	0.491	0.481	11.41

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



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

.998
BH 6/19



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

JH 6/19

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001 BH 6/19
Response via : Initial Calibration ng report
DataAcq Meth : TO14
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

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

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

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

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

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

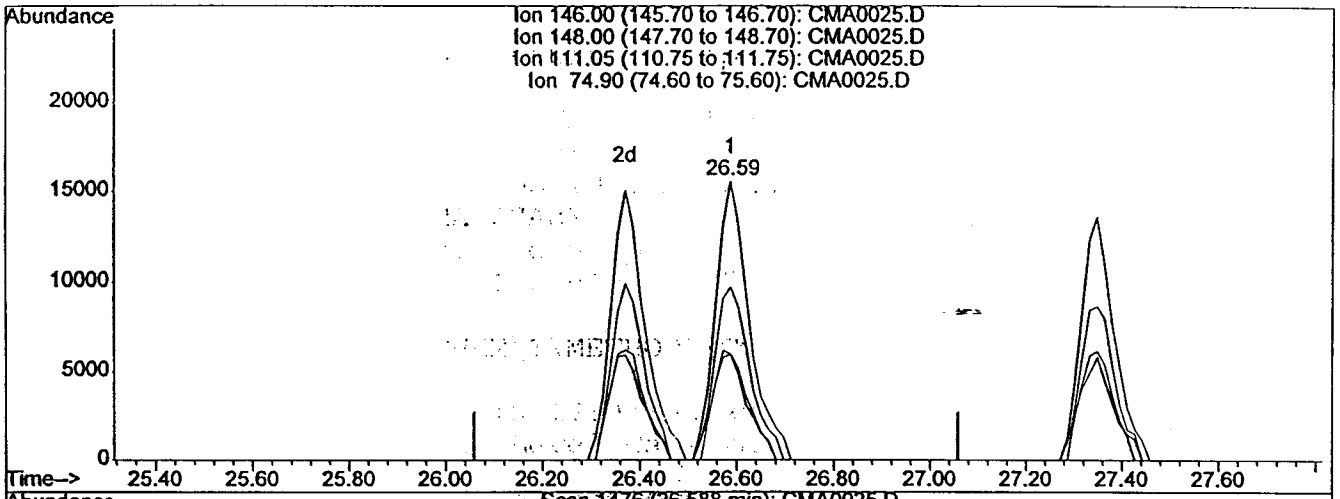
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

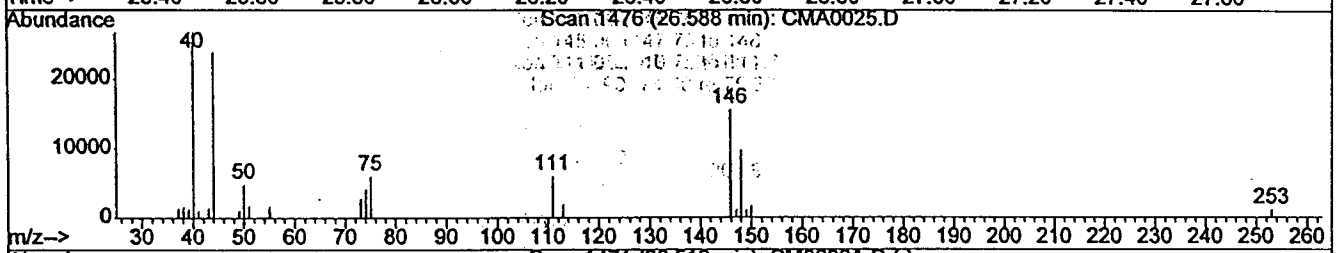
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.09	130	49682	24.74	ng		99
29)	1,2-Dichloropropane	14.46	63	46579	26.07	ng	#	67
30)	Bromodichloromethane	15.01	83	108357	25.29	ng	#	98
31)	cis-1,3-Dichloropropene	16.22	75	63277	24.23	ng	#	56
33)	Toluene	17.04	92	61687	25.32	ng	#	97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

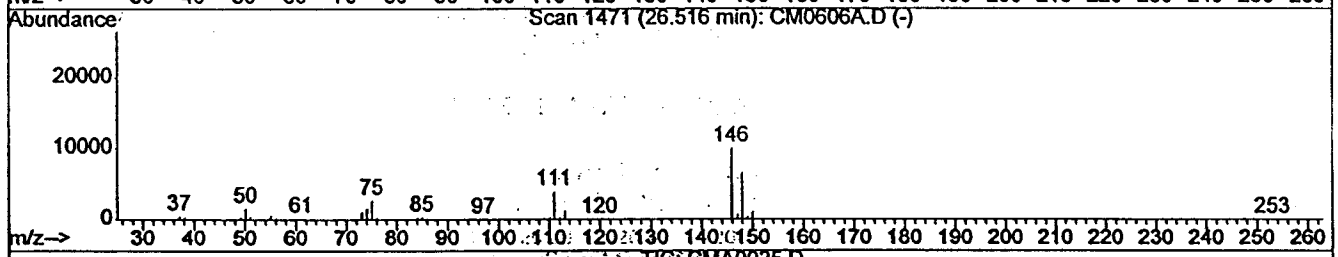
(#) = qualifier out of range (m) = manual integration

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

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







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.59min 23.58ng

response 75419

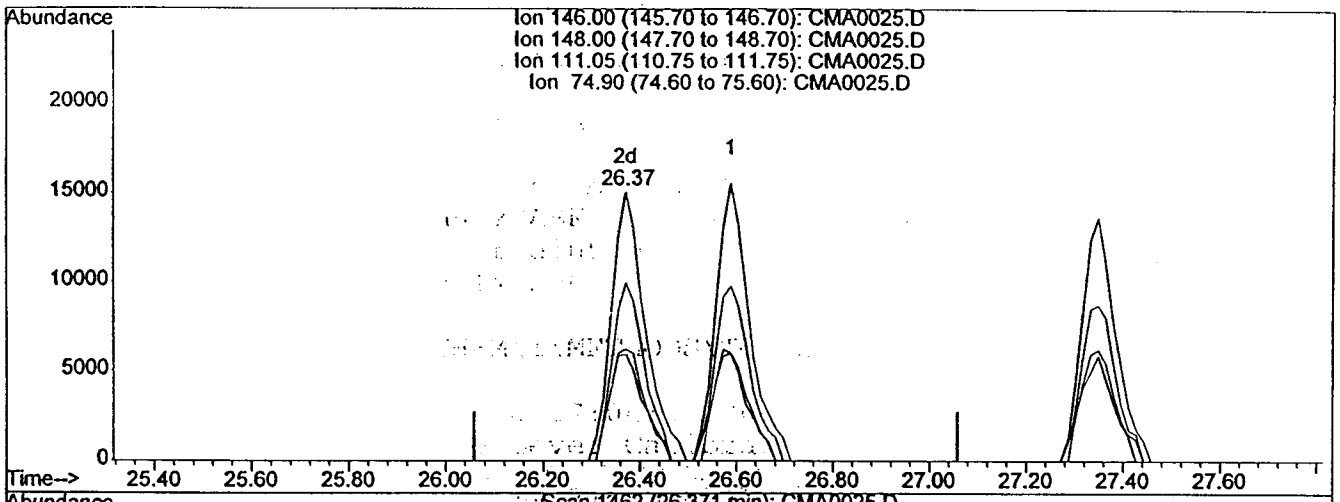
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.96
111.05	44.40	40.18
74.90	35.60	40.91

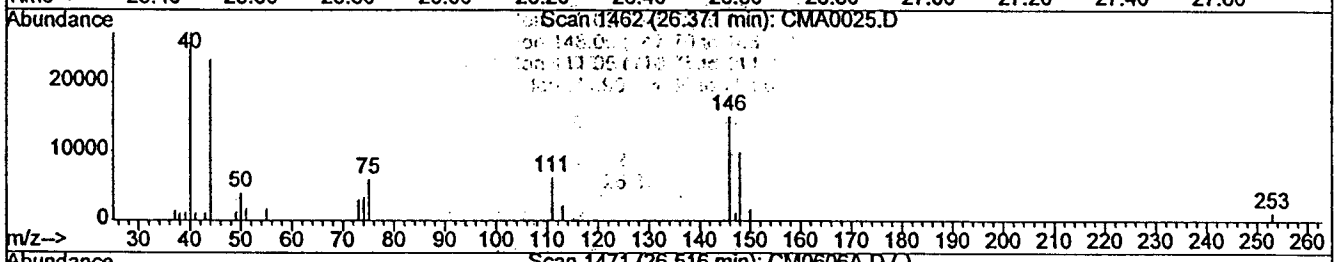
before (wrong peak)

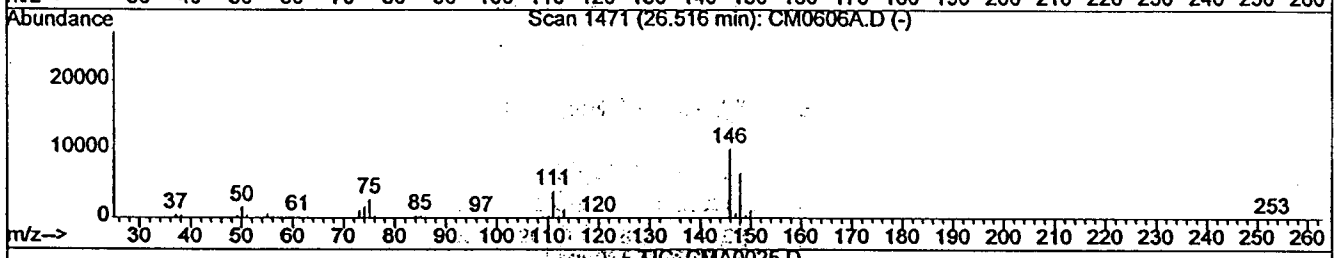
CMA0025.D TO14S.M Tue Jun 19 10:14:20 2001

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

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







TIC: CMA0025.D

(52) 1,3-Dichlorobenzene

26.37min 22.75ng m

response 72784

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

after BB 6/19

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

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

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

Original

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

System Monitoring Compounds

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

Target Compounds

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

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

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

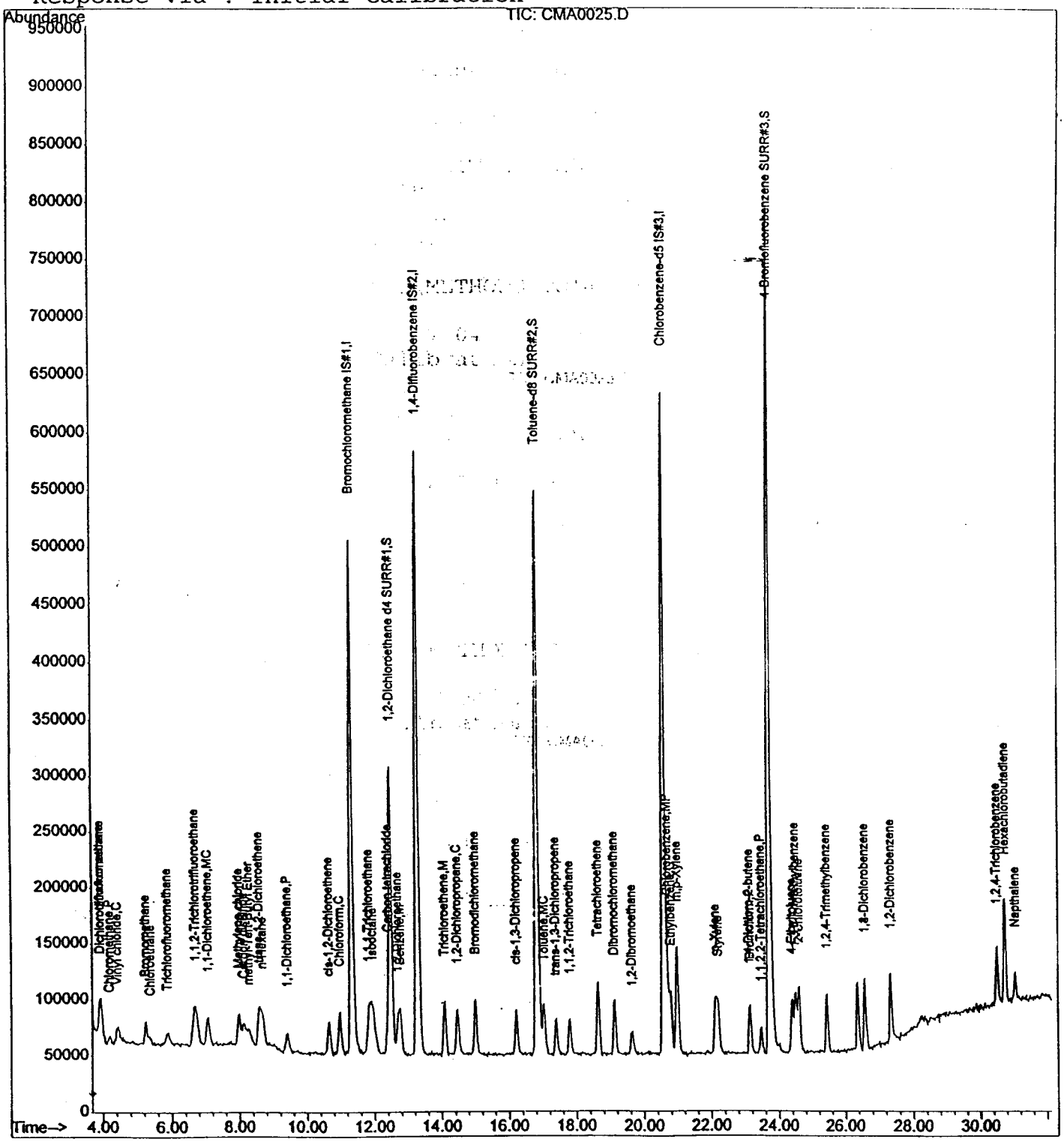
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

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

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

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

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



CMA0025.D TO14S.M Tue Jun 19 10:11:52 2001 Page 3

042

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

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

BA 6/19 ng repor

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.34	128	344439	250.00	ng		0.06 NA%
26) 1,4-Difluorobenzene IS#2	13.28	114	1383290	250.00	ng		0.04 NA%
36) Chlorobenzene-d5 IS#3	20.59	117	1044630	250.00	ng		0.04 NA%
System Monitoring Compounds							
23) 1,2-Dichloroethane d4 SURR	12.49	65	556052	258.20	ng		0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.28%							
32) Toluene-d8 SURR#2	16.84	98	1123215	251.23	ng		0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.49%							
46) 4-Bromofluorobenzene SURR#	23.73	95	1031605	246.46	ng		0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.58%							
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.92	85	599129	95.86	ng		99
3) Dichlorotetrafluoroethane	3.94	135	202593	73.50	ng	#	18
4) Chloromethane	4.18	50	116261	86.35	ng	#	92
5) Vinyl chloride	4.43	62	118046	94.66	ng	#	95
6) Bromomethane	5.24	94	162276	87.61	ng		96
7) Chloroethane	5.36	64	72541	86.21	ng		98
8) Trichlorofluoromethane	5.86	101	125035	60.36	ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	225137	84.45	ng		92
10) 1,1-Dichloroethene	7.07	96	130760	87.40	ng		91
12) Methylene chloride	7.97	49	236234	86.14	ng	#	81
13) Carbon disulfide	8.11	76	382610	87.90	ng		97
14) methyl-Tert-Butyl Ether	8.28	73	171816	84.01	ng	#	81
15) trans-1,2-Dichloroethene	8.56	96	138091	86.45	ng		90
16) n-Hexane	8.65	57	158895	85.31	ng	#	1
17) 1,1-Dichloroethane	9.40	63	285862	89.63	ng		99
18) cis-1,2-Dichloroethene	10.66	61	237390	87.86	ng		93
19) Chloroform	10.98	83	351659	87.81	ng	#	96
20) Isooctane	11.93	57	541485	70.67	ng		91
21) 1,1,1-Trichloroethane	11.85	97	301342	87.53	ng		93
22) Carbon tetrachloride	12.41	117	315796	86.53	ng		98
24) 1,2-Dichloroethane	12.68	62	206541	87.81	ng	#	98
25) 1,2-Dibromoethane	19.65	107	239505	86.67	ng		99
27) Benzene	12.75	78	382786	92.03	ng		97

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

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

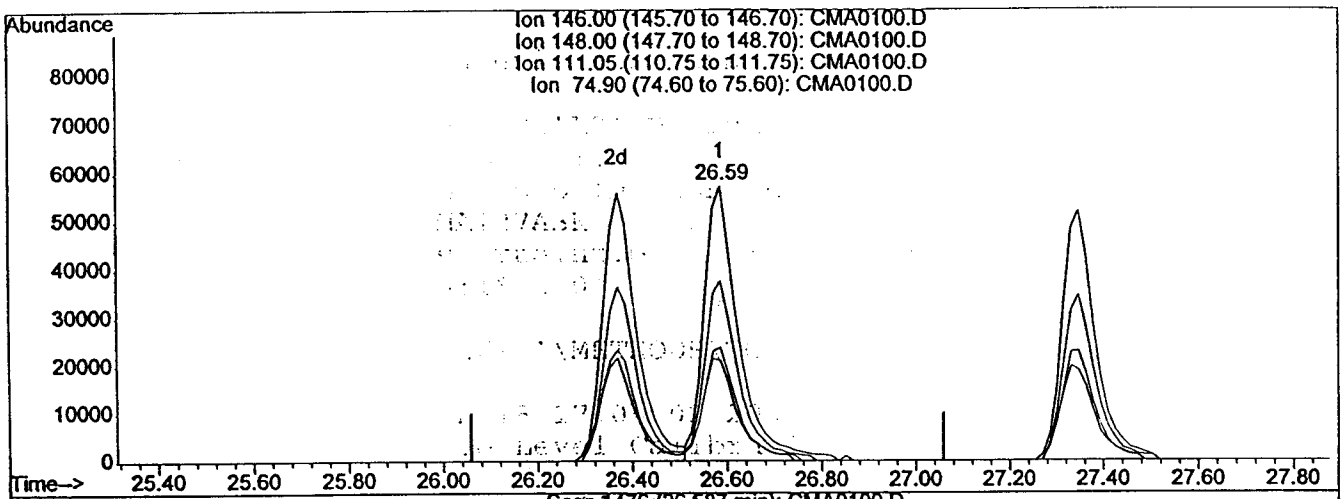
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

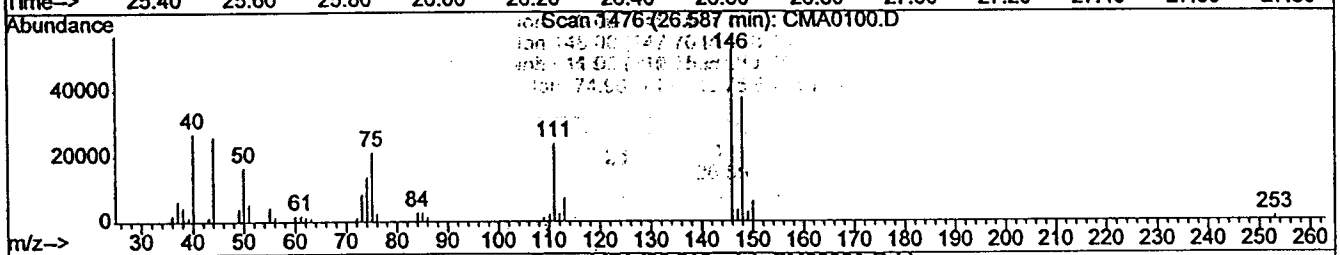
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.07	130	185396	88.32 ng		97
29)	1,2-Dichloropropane	14.46	63	169817	90.91 ng	#	80
30)	Bromodichloromethane	15.00	83	409621	91.44 ng		97
31)	cis-1,3-Dichloropropene	16.22	75	246438	90.27 ng	#	72
33)	Toluene	17.02	92	225119	88.39 ng		95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

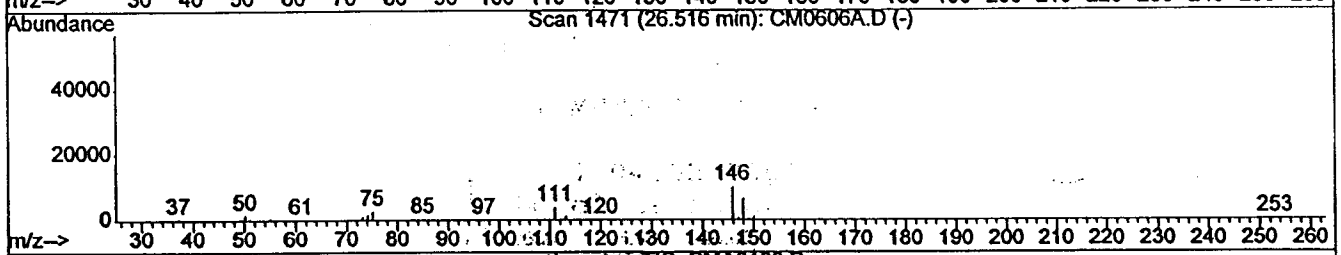
(#) = qualifier out of range (m) = manual integration

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

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







Scan 1471 TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.59min 86.72ng

response 292016

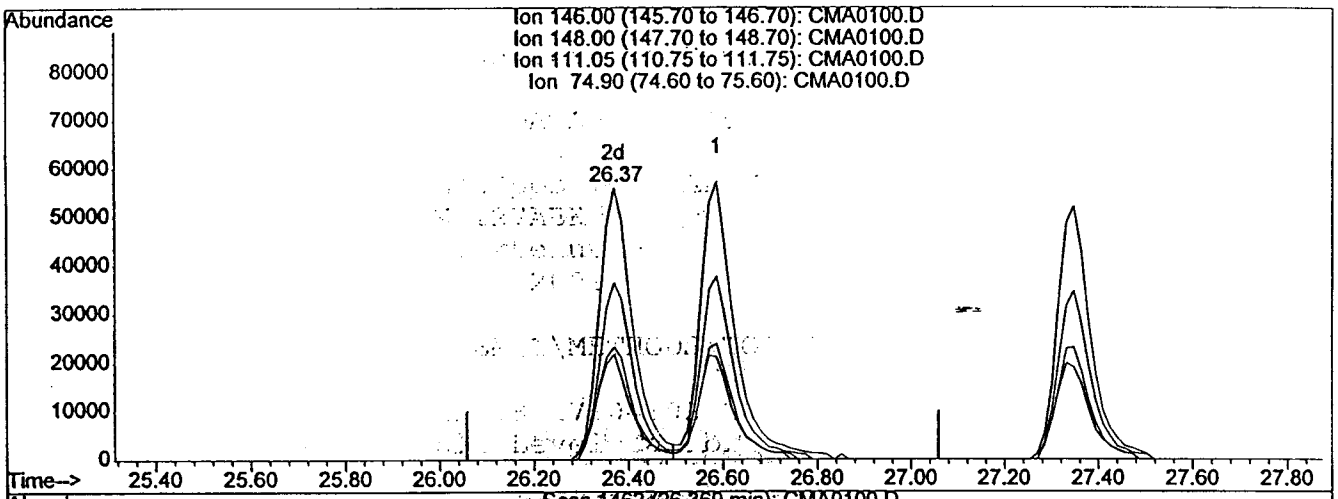
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	65.94
111.05	44.40	41.82
74.90	35.60	38.47

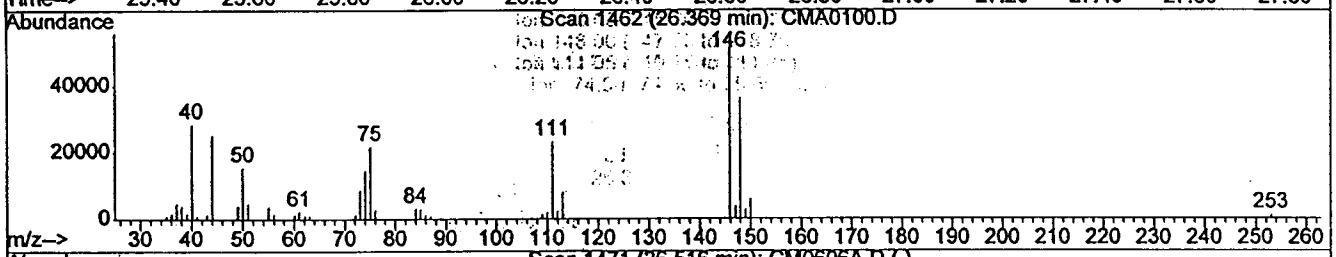
Defaul (wrong peak)

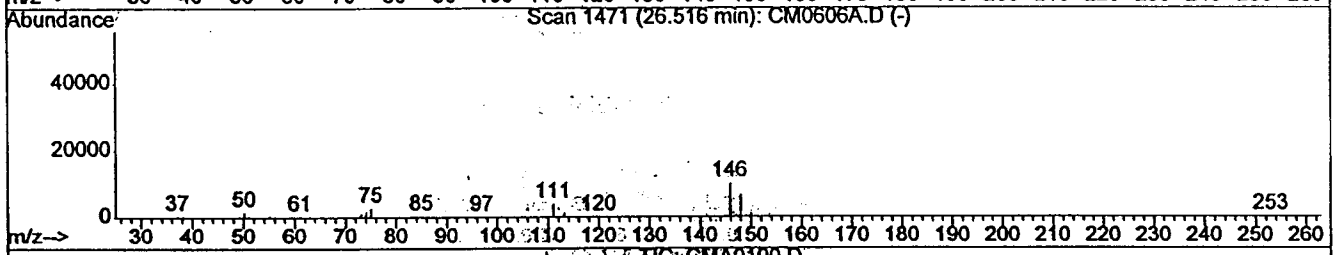
CMA0100.D TO14S.M Tue Jun 19 10:18:57 2001

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

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







TIC: CMA0100.D

(52) 1,3-Dichlorobenzene

26.37min 81.98ng m

response 276057

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

after
BA 6/19

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

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

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

Original

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

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

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

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

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

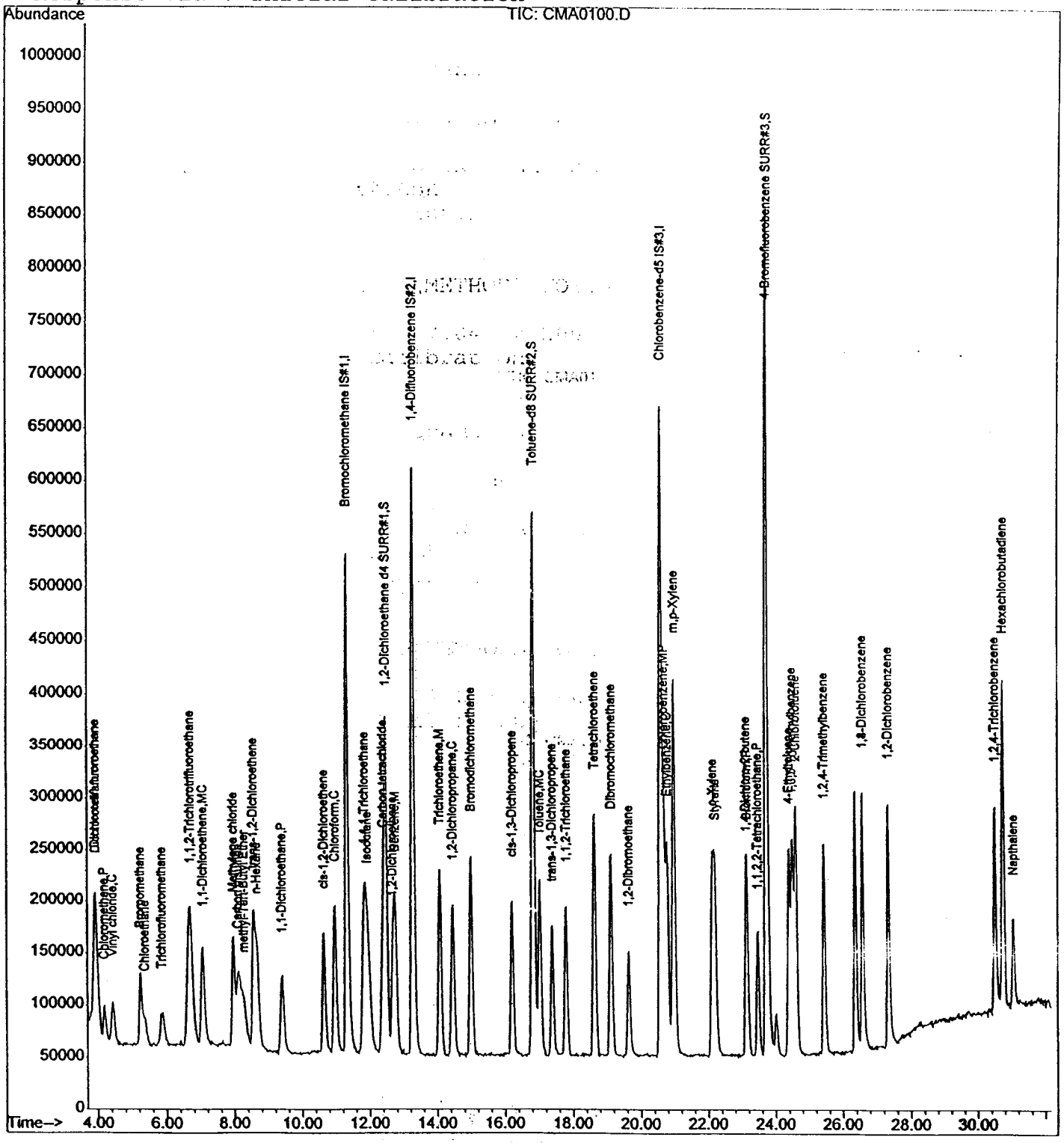
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 18 17:04:02 2001
Response via : Initial Calibration
DataAcq Meth : TO14

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

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

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

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



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

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

B H 6/19

ng report

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

System Monitoring Compounds

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

Target Compounds

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

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

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

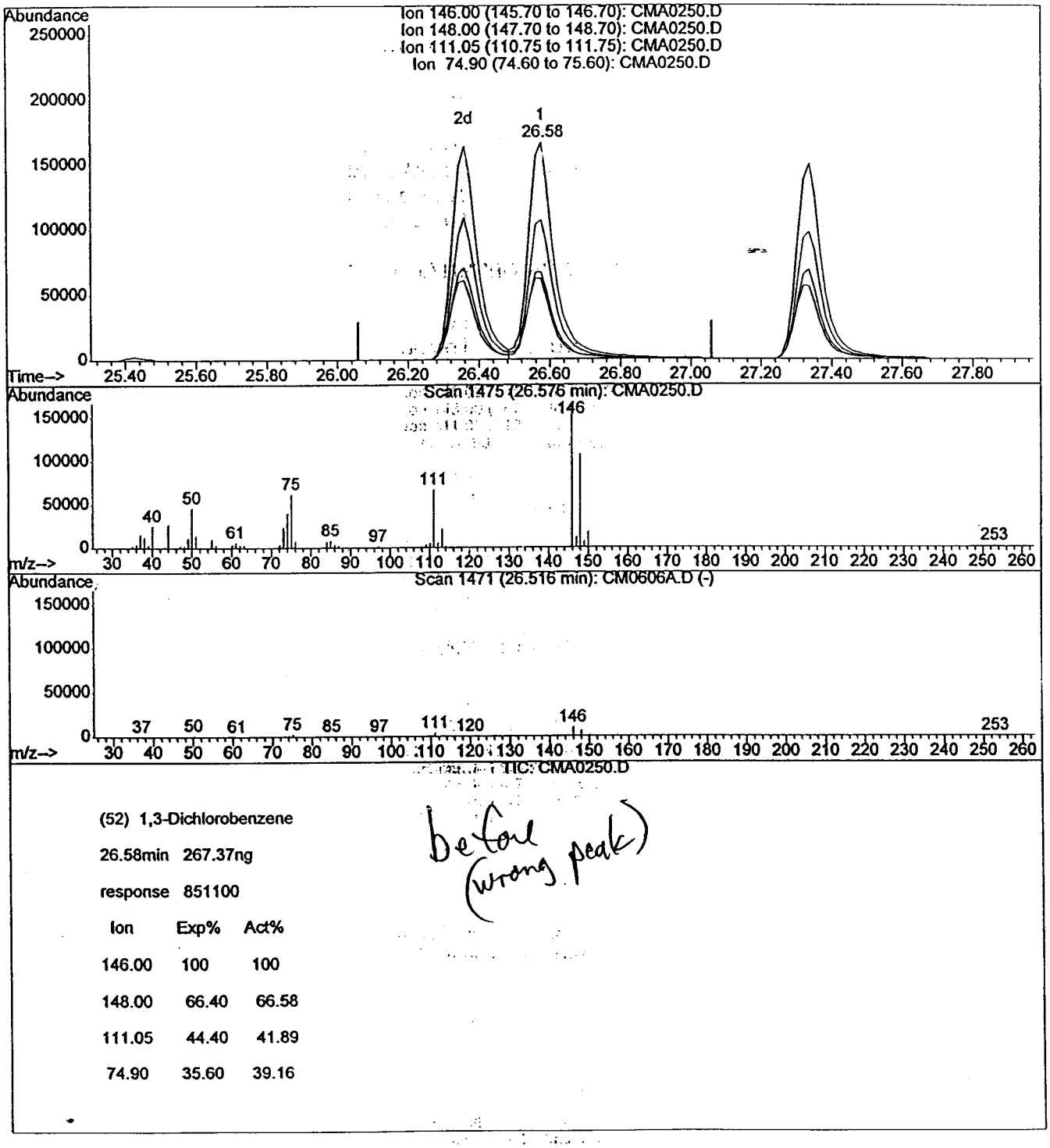
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



(52) 1,3-Dichlorobenzene

26.58min 267.37ng

response 851100

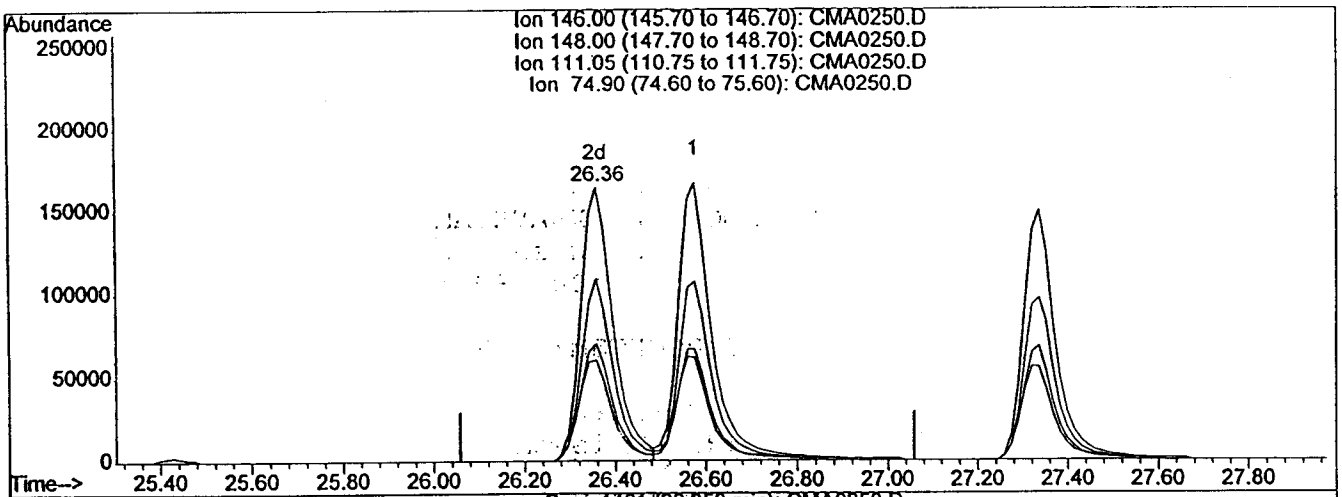
Ion	Exp%	Act%
146.00	100	100
148.00	66.40	66.58
111.05	44.40	41.89
74.90	35.60	39.16

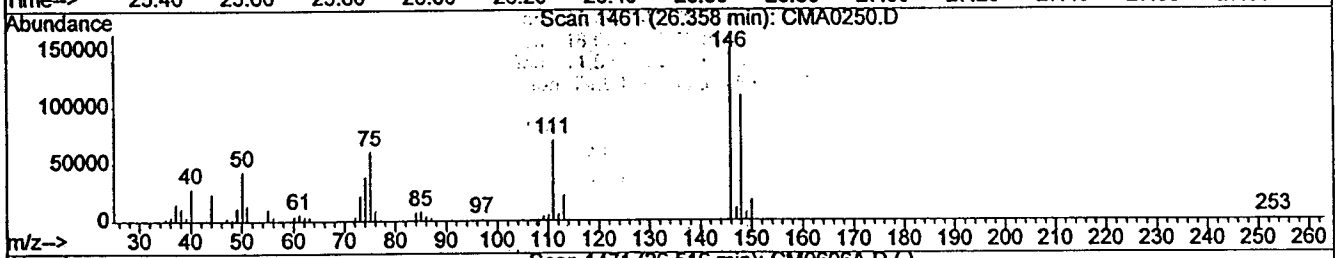
before (wrong peak)

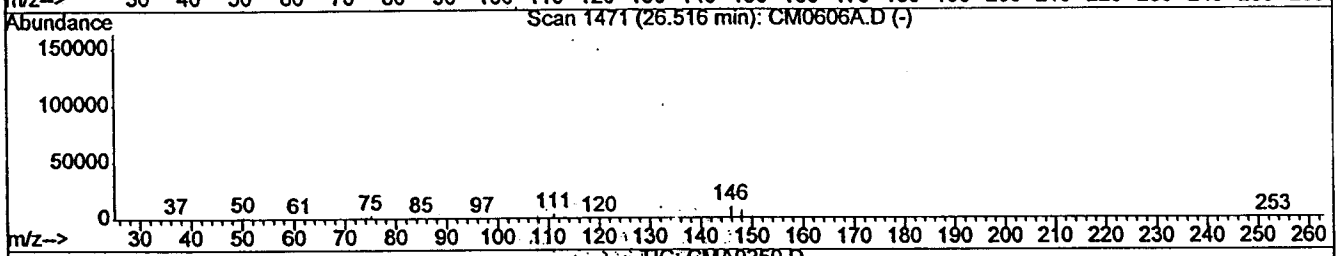
CMA0250.D TO14S.M Tue Jun 19 11:08:32 2001

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

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







TIC: CMA0250.D

(52) 1,3-Dichlorobenzene

26.36min 253.46ng m

response 806815

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

after
BDH
6/19

CMA0250.D TO14S.M Tue Jun 19 11:08:39 2001

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

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

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

System Monitoring Compounds

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

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

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

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

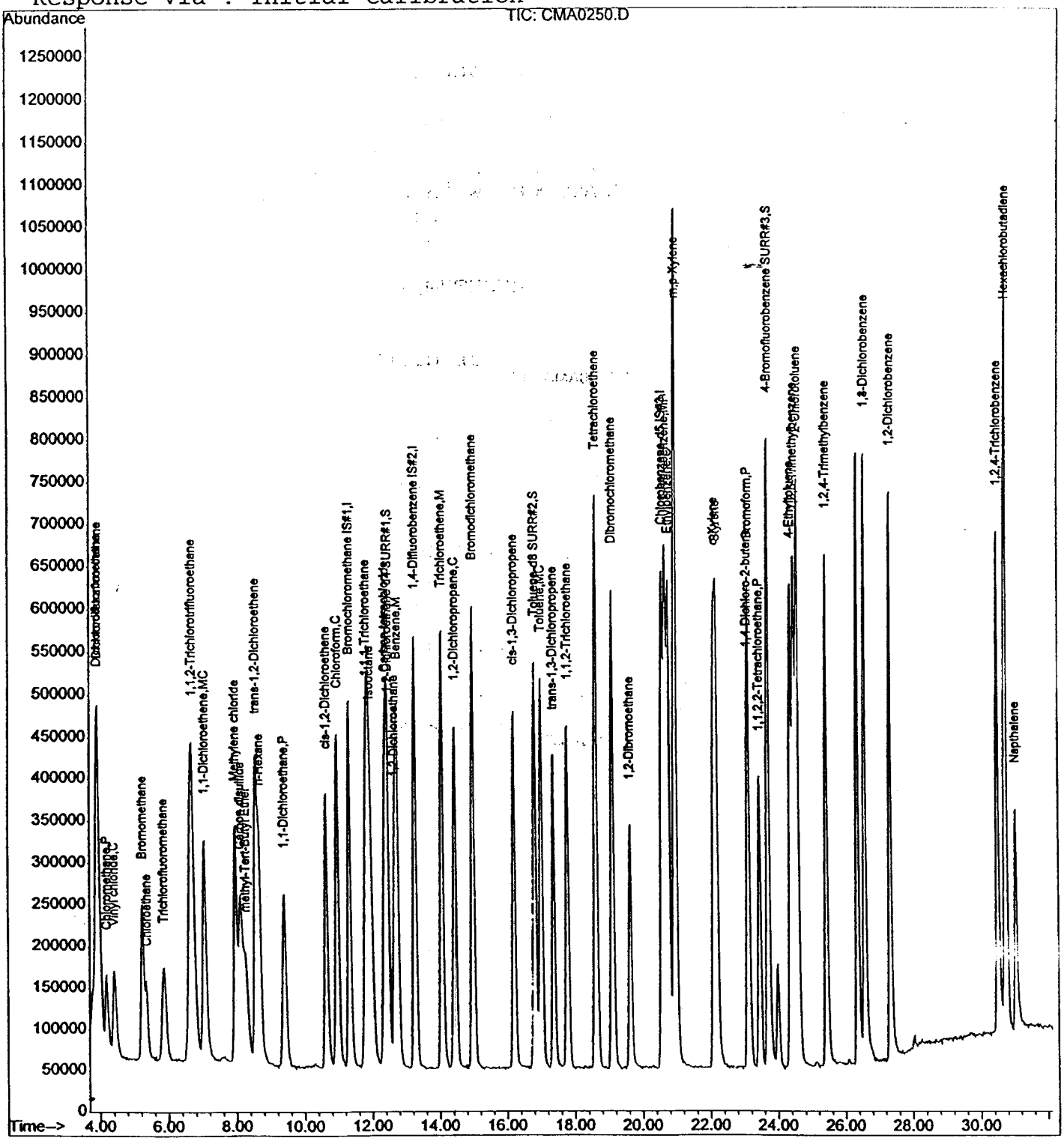
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 10:22:01 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

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

original BH 6/19/01
no report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	316055	250.00 ng	0.00 NA%
26) 1,4-Difluorobenzene IS#2	13.27	114	1331271	250.00 ng	0.00 NA%
36) Chlorobenzene-d5 IS#3	20.58	117	1006259	250.00 ng	0.00 NA%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.48	65	484451	242.00 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 96.80%					
32) Toluene-d8 SURR#2	16.83	98	1080940	250.42 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.17%					
46) 4-Bromofluorobenzene SURR#	23.72	95	990176	245.92 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.37%					

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

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA0500.D
Acq On : 19 Jun 2001 10:58
Sample : 500ng/20uL/100ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 11:30 2001

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

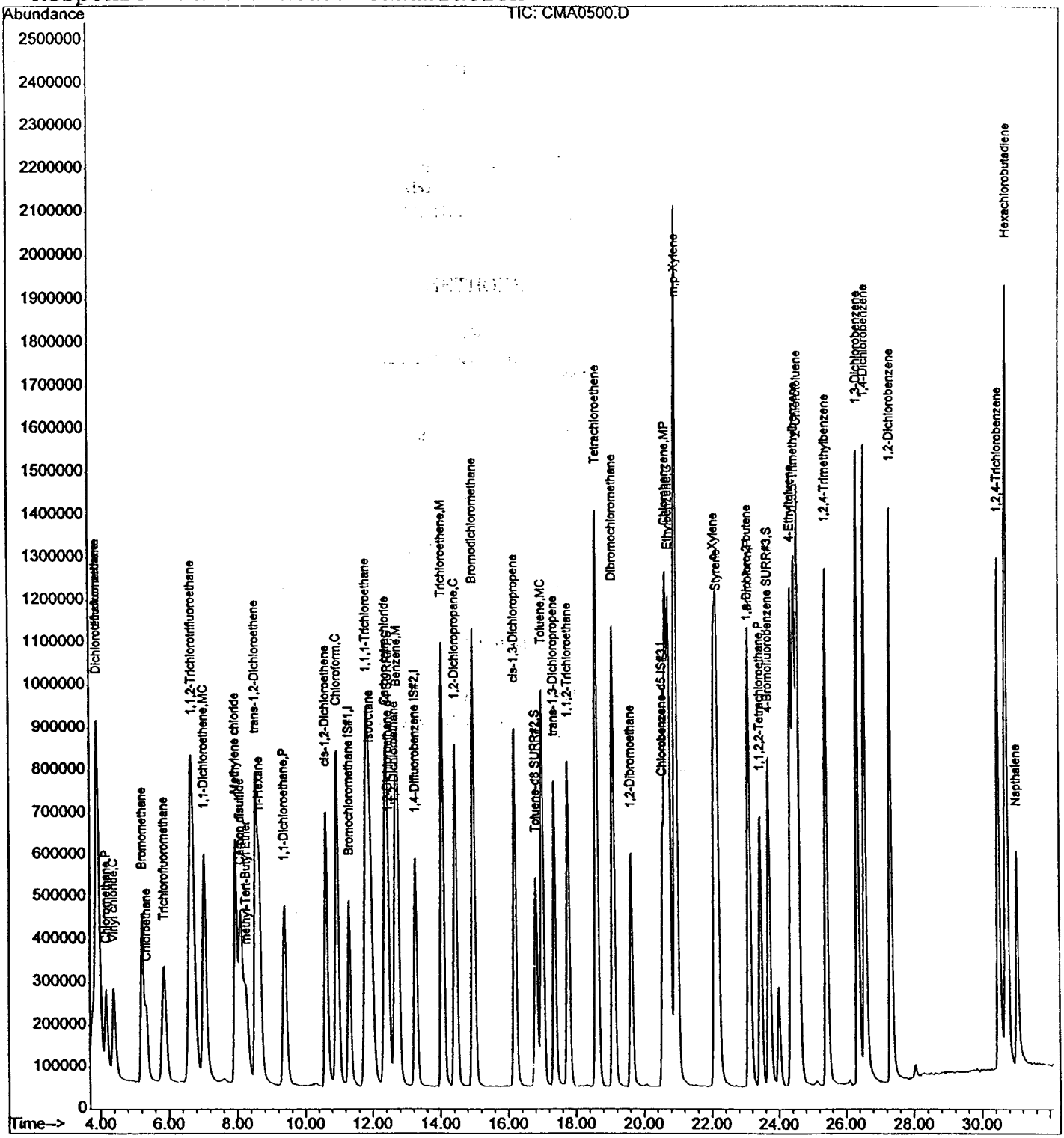
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 11:09:14 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1000.D
Acq On : 19 Jun 2001 11:46
Sample : 1000ng/40uL/200ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:18 2001

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

Quant Results File: TO14S.RES

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

original BH 6/19

ng report

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

System Monitoring Compounds

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

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

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

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

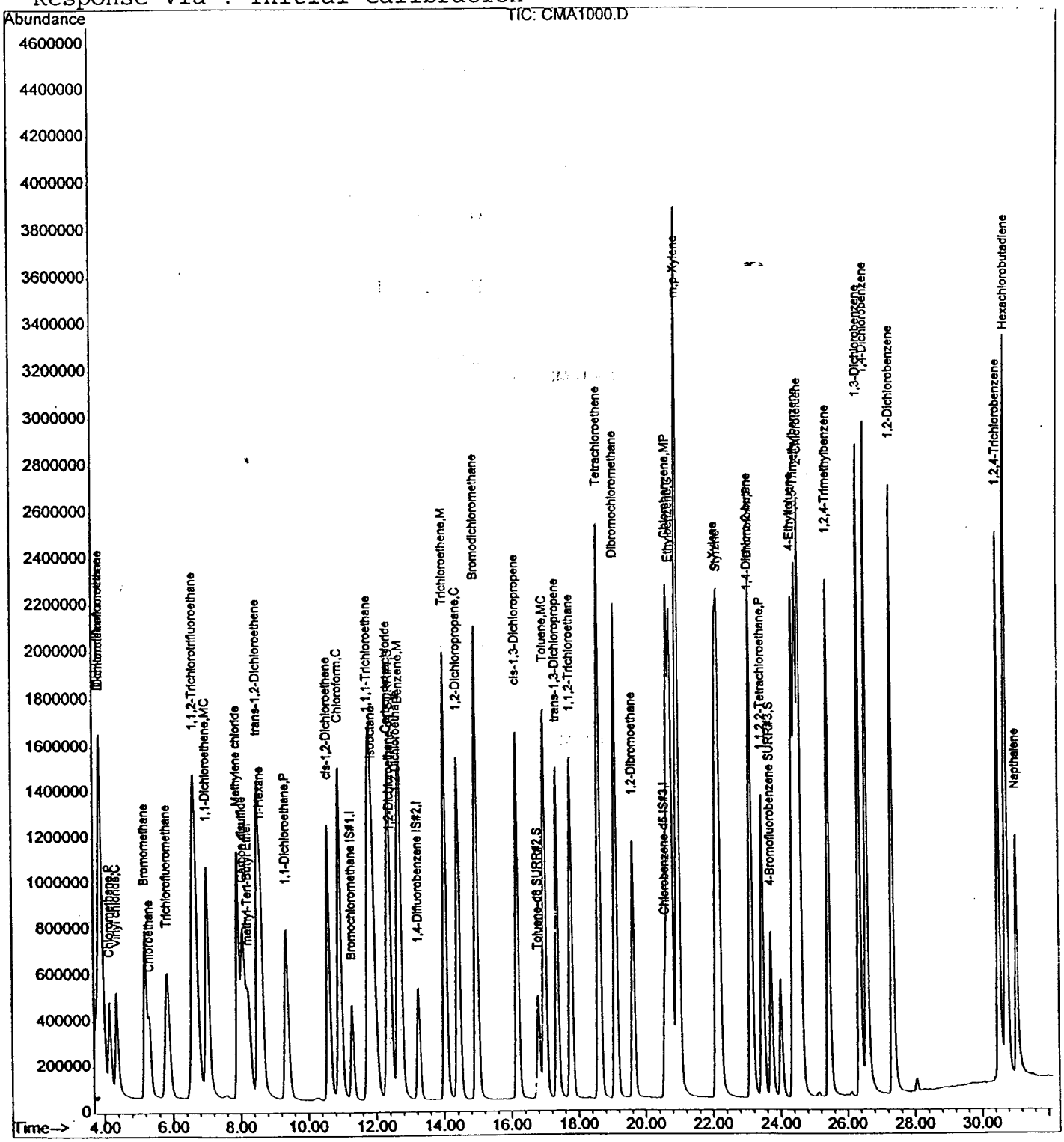
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue Jun 19 12:13:56 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

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

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



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

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

original BH 6/19

ng report

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

System Monitoring Compounds

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

Target Compounds

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

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

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

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

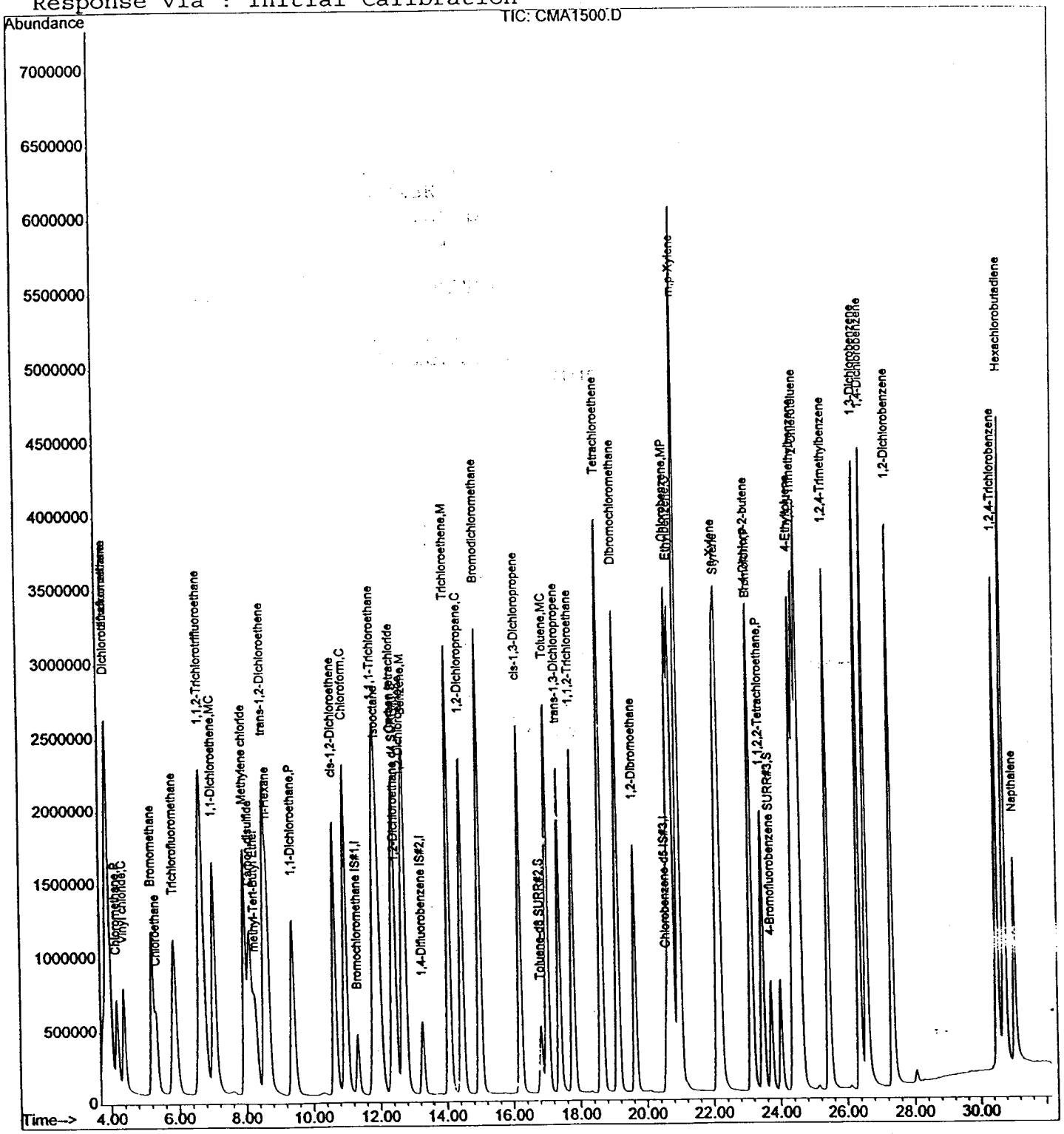
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.08	130	3131271	1590.70 ng		99
29)	1,2-Dichloropropane	14.47	63	2782579	1555.74 ng	#	88
30)	Bromodichloromethane	14.99	83	6626226	1559.37 ng		99
31)	cis-1,3-Dichloropropene	16.21	75	4101408	1597.82 ng	#	81
33)	Toluene	17.03	92	3759602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

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

Data File : D:\HPCHEM\1\DATA01\M0619A\CMA1500.D
Acq On : 19 Jun 2001 12:24
Sample : 1500ng/60uL/300ppb INITIAL CALIB.
Misc : Pi/Pf=1 MA127ABK
MS Integration Params: rteint.p
Quant Time: Jun 19 12:56 2001

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

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



Sequence Name: D:\HPCHEM\1\SEQUENCE\TO14.S
Comment: TO14
Operator: BDH
Data Path: D:\HPCHEM\1\DATA01\M1007A\
Pre-Seq Cmd:
Post-Seq Cmd:

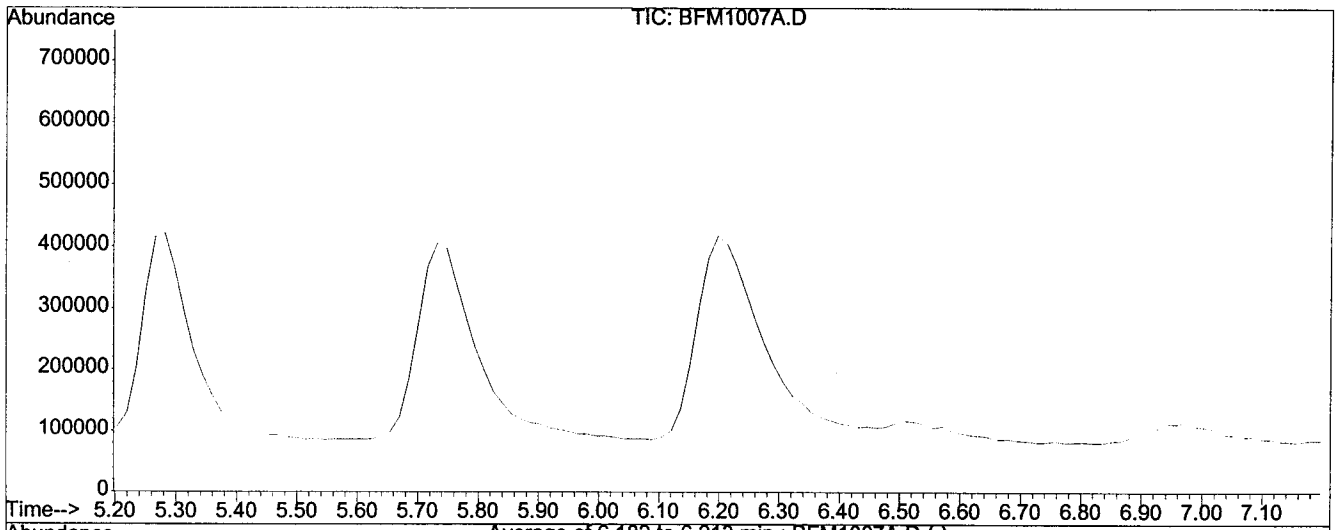
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

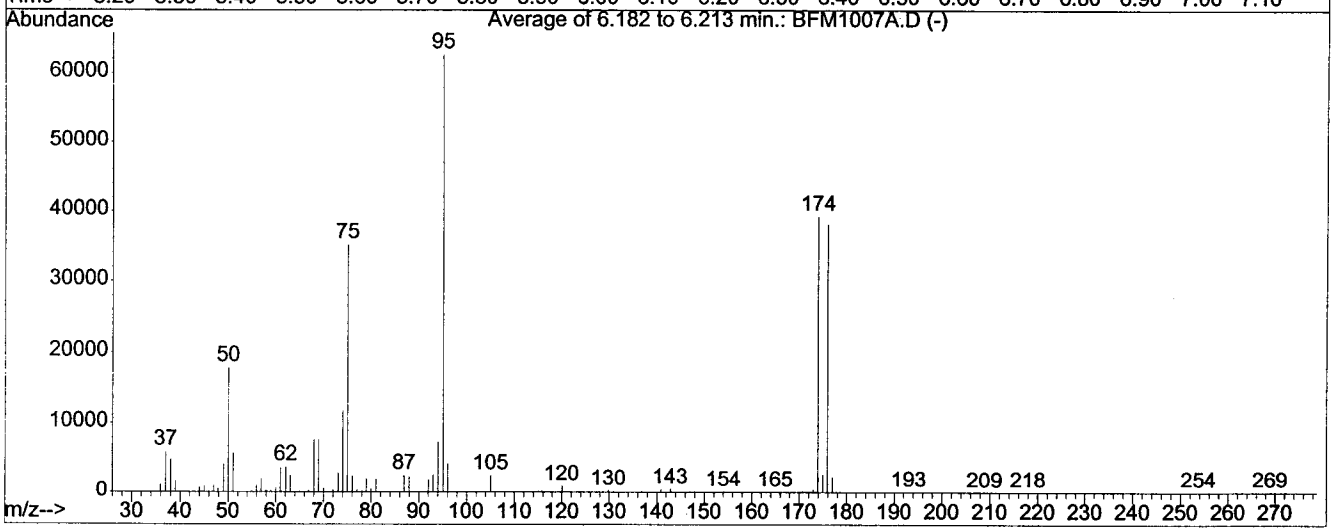
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	13	BFM1007A	BFBSTL	VSTDMA/ DAILY CALIB.CHECK 50p
2	Sample	14	CM1009A	TO14S	VSTDMA/ DAILY CALIB.CHECK 50p
3	Sample	15	MA209ABK	TO14S	VBLKMA/ DAILY METHOD BLANK
4	Sample	16	MA209LCS	TO14S	LCS/BATCH #209 LCS 50ppb/250
5	Sample	1	97162	TO14S	063SVE2-780-IA09270141\9716-2
6	Sample	2	97164	TO14S	063TMX1-780-EA09270141\9716-4
7	Sample	1	96641	TO14S	067SVEEA-0925-46\9664-1 ST 50
8	Sample	1	97161	TO14S	063SVE1-780-IA09270141\9716-1
9	Sample	1	97163	TO14S	063ASI-780-EA09270141\9716-3
10	Sample	1	97164R	TO14S	063TMX1-780-EA09270141\9716-4
11	Sample	1	97171	TO14S	063SVE1061IA09270142\9717-1 S
12	Sample	1	97172	TO14S	063SVE1062IA09270142\9717-2 S
13	Sample	1	97181	TO14S	062SVEEA09270116\9718-1 ST 50
14	Sample	1	97191	TO14S	062SVEEA09270120\9719-1 ST 50
15	Sample	1	QC212	TO14S	QC CAN CHECK #021 ST. 500mls
16	Sample	1	BLKTUBE	BFBSTL	

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\BFM1007A.D Vial: 13
Acq On : 7 Oct 2001 11:07 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 140 (6.20 min)
Average of 3 scans: 139,140,141 minus background scan 120 (5.89 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	28.5	17826	PASS
75	95	30	60	56.1	35132	PASS
95	95	100	100	100.0	62600	PASS
96	95	5	9	6.9	4302	PASS
173	174	0	2	0.9	371	PASS
174	95	50	100	62.7	39229	PASS
175	174	5	9	7.0	2734	PASS
176	174	95	101	97.1	38091	PASS
177	176	5	9	6.1	2310	PASS

BFM1007A.D TO14S.M Mon Oct 08 15:37:37 2001

Average of 6.182 to 6.213 min.: BFM1007A.D
VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Modified:subtracted

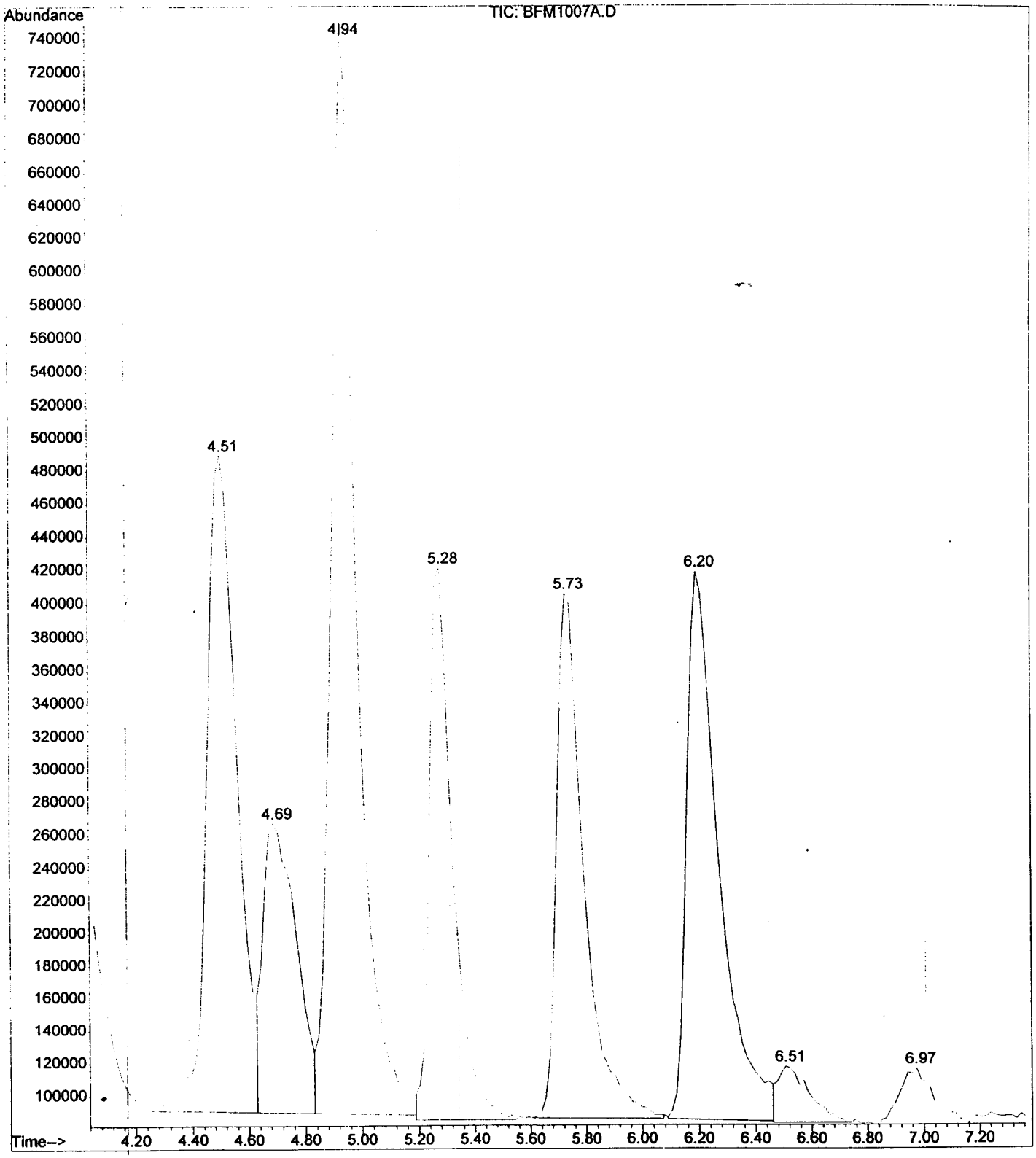
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1217	56.00	1046	73.05	2906	93.00	2675
37.00	5949	56.95	2079	74.00	11813	94.00	7406
38.00	4917	57.95	329	75.00	35132	95.05	62600
39.05	1816	60.00	631	76.00	2519	96.00	4302
43.95	755	60.95	3667	77.00	323	105.05	2519
45.00	911	62.05	3783	79.00	2149	120.05	961
47.00	1107	63.00	2618	79.95	497	140.90	469
47.90	553	68.00	7735	80.95	2096	142.90	473
49.00	4169	68.95	7707	86.90	2549	172.95	371
50.00	17826	70.05	548	87.95	2410	173.95	39229
51.00	5840	72.00	332	91.95	1904	174.95	2734

Average of 6.182 to 6.213 min.: BFM1007A.D
VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	38091						
176.95	2310						

Area Percent Report

Data File : D:\HPCHEM\1\DATA01\M1007A\BFM1007A.D Vial: 13
Acq On : 7 Oct 2001 11:07 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240



BFM1007A.D BFBSTL.M Sun Oct 07 11:15:04 2001

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

passes BH 10/7/01

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	128	0.00
2		Dichlorodifluoromethane	5.221	4.064	22.2#	96	0.00
3		Dichlorotetrafluoroethane	1.746	1.667	4.5#	115	0.00
4	P	Chloromethane	1.056	1.176	-11.4#	149	0.00
5	C	Vinyl chloride	0.990	1.059	7.0#	129	0.00
6		Bromomethane	1.432	1.425	0.5	125	0.00
7		Chloroethane	0.635	0.637	-0.3	126	0.00
8		Trichlorofluoromethane	1.509	1.999	-32.5#	192#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.960	1.946	0.7	121	0.00
10	MC	1,1-Dichloroethene	1.112	1.123	1.0#	127	0.00
11		Iodomethane	0.000	0.000	0.0	1895#	0.00
12		Methylene chloride	1.996	2.096	-5.0#	130	0.00
13		Carbon disulfide	3.278	3.528	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	1.416	1.695	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	1.191	1.270	-6.6#	133	0.00
16		n-Hexane	1.373	1.396	-1.7	123	0.00
17	P	1,1-Dichloroethane	2.420	2.596	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	2.017	2.153	-6.7#	130	0.00
19	C	Chloroform	2.996	3.204	-6.9#	130	0.00
20		Isooctane	4.704	4.160	11.6#	106	0.00
21		1,1,1-Trichloroethane	2.533	2.854	-12.7#	138	0.00
22		Carbon tetrachloride	2.682	2.915	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.567	1.800	-14.9#	146	0.00
24		1,2-Dichloroethane	1.735	1.989	-14.6#	139	0.00
25		1,2-Dibromoethane	2.008	2.153	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	132	0.00
27	M	Benzene	0.782	0.784	-0.3	126	0.00
28	M	Trichloroethene	0.392	0.380	3.1#	121	0.00
29	C	1,2-Dichloropropane	0.356	0.349	2.0#	122	0.00
30		Bromodichloromethane	0.847	0.878	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	0.511	0.512	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	0.808	0.831	-2.8#	135	0.00
33	MC	Toluene	0.475	0.474	0.2#	125	0.00
34		trans-1,3-Dichloropropene	0.411	0.434	-5.6#	130	0.00
35		1,1,2-Trichloroethane	0.297	0.302	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	136	0.00
37		Tetrachloroethene	0.495	0.455	8.1#	120	0.00
38		Dibromochloromethane	0.696	0.675	3.0#	124	0.00
39	MP	Chlorobenzene	0.897	0.870	3.0#	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:04 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.368	0.351	4.6#	123	0.00
41		m,p-Xylene	0.467	0.445	4.7#	124	0.00
42		o-Xylene	0.454	0.434	4.4#	123	0.00
43		Styrene	0.747	0.676	9.5#	117	0.00
44	P	Bromoform	0.624	0.576	7.7#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	0.610	0.620	-1.6	128	0.00
46	S	4-Bromofluorobenzene SURR#3	0.994	0.991	0.3	136	0.00
47		1,4-Dichloro-2-butene	0.123	0.111	9.8#	111	0.00
48		4-Ethyltoluene	1.262	1.138	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	0.993	0.911	8.3#	122	0.00
50		2-Chlorotoluene	1.329	1.392	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	1.043	0.993	4.8#	123	0.00
52		1,3-Dichlorobenzene	0.788	0.762	3.3#	125	0.00
53		1,4-Dichlorobenzene	0.826	0.795	3.8#	124	0.00
54		1,2-Dichlorobenzene	0.719	0.720	-0.1	127	0.00
55		1,2,4-Trichlorobenzene	0.545	0.519	4.8#	123	0.00
56		Napthalene	0.625	0.701	-12.2#	139	0.00
57		Hexachlorobutadiene	0.481	0.438	8.9#	117	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	128	0.00
2		Dichlorodifluoromethane	250.000	194.617	22.2#	96	0.00
3		Dichlorotetrafluoroethane	250.000	238.622	4.6#	115	0.00
4	P	Chloromethane	250.000	278.352	-11.3#	149	0.00
5	C	Vinyl chloride	250.000	267.370	-6.9#	129	0.00
6		Bromomethane	250.000	248.907	0.4	125	0.00
7		Chloroethane	250.000	250.821	-0.3	126	0.00
8		Trichlorofluoromethane	250.000	375.643	-50.3#	192	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	248.140	0.7	121	0.00
10	MC	1,1-Dichloroethene	250.000	252.543	-1.0#	127	0.00
11		Iodomethane	-1.000	0.000	0.0	1895	0.00
12		Methylene chloride	250.000	262.587	-5.0#	130	0.00
13		Carbon disulfide	250.000	269.037	-7.6#	133	0.00
14		methyl-Tert-Butyl Ether	250.000	299.296	-19.7#	146	0.00
15		trans-1,2-Dichloroethene	250.000	266.622	-6.6#	133	0.00
16		n-Hexane	250.000	254.174	-1.7	123	0.00
17	P	1,1-Dichloroethane	250.000	268.155	-7.3#	130	0.00
18		cis-1,2-Dichloroethene	250.000	266.977	-6.8#	130	0.00
19	C	Chloroform	250.000	267.324	-6.9#	130	0.00
20		Isooctane	250.000	221.059	11.6#	106	0.00
21		1,1,1-Trichloroethane	250.000	281.677	-12.7#	138	0.00
22		Carbon tetrachloride	250.000	271.649	-8.7#	133	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	287.158	-14.9#	146	0.00
24		1,2-Dichloroethane	250.000	286.723	-14.7#	139	0.00
25		1,2-Dibromoethane	250.000	268.038	-7.2#	128	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	132	0.00
27	M	Benzene	250.000	250.713	-0.3	126	0.00
28	M	Trichloroethene	250.000	242.253	3.1#	121	0.00
29	C	1,2-Dichloropropane	250.000	245.360	1.9#	122	0.00
30		Bromodichloromethane	250.000	259.345	-3.7#	129	0.00
31		cis-1,3-Dichloropropene	250.000	250.610	-0.2	125	0.00
32	S	Toluene-d8 SURR#2	250.000	257.007	-2.8#	135	0.00
33	MC	Toluene	250.000	249.400	0.2#	125	0.00
34		trans-1,3-Dichloropropene	250.000	263.712	-5.5#	130	0.00
35		1,1,2-Trichloroethane	250.000	254.365	-1.7	126	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	136	0.00
37		Tetrachloroethene	250.000	229.658	8.1#	120	0.00
38		Dibromochloromethane	250.000	242.367	3.1#	124	0.00
39	MP	Chlorobenzene	250.000	242.442	3.0#	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV061901\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Oct 08 14:52:57 2001
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	237.906	4.8#	123	0.00
41		m,p-Xylene	500.000	476.187	4.8#	124	0.00
42		o-Xylene	250.000	238.860	4.5#	123	0.00
43		Styrene	250.000	226.520	9.4#	117	0.00
44	P	Bromoform	250.000	230.991	7.6#	116	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	254.366	-1.7	128	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	249.206	0.3	136	0.00
47		1,4-Dichloro-2-butene	250.000	216.829	13.3#	111	0.00
48		4-Ethyltoluene	250.000	225.420	9.8#	123	0.00
49		1,3,5-Trimethylbenzene	250.000	229.348	8.3#	122	0.00
50		2-Chlorotoluene	250.000	261.846	-4.7#	137	0.00
51		1,2,4-Trimethylbenzene	250.000	238.181	4.7#	123	0.00
52		1,3-Dichlorobenzene	250.000	241.589	3.4#	125	0.00
53		1,4-Dichlorobenzene	250.000	240.683	3.7#	124	0.00
54		1,2-Dichlorobenzene	250.000	250.424	-0.2	127	0.00
55		1,2,4-Trichlorobenzene	250.000	238.114	4.8#	123	0.00
56		Napthalene	250.000	280.245	-12.1#	139	0.00
57		Hexachlorobutadiene	250.000	227.518	9.0#	117	0.00

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

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1002A\CM1004A.D (3 Oct 2001 10:24)

BJ 10/7/01 ng vapor

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	404145	250.00 ng	0.00 111.77%
26) 1,4-Difluorobenzene IS#2	13.23	114	1693931	250.00 ng	0.00 114.61%
36) Chlorobenzene-d5 IS#3	20.52	117	1327951	250.00 ng	0.00 116.97%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.43	65	727352	287.16 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 114.86%					
32) Toluene-d8 SURR#2	16.77	98	1407251	257.01 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.80%					
46) 4-Bromofluorobenzene SURR#	23.67	95	1315782	249.21 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.68%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.00	85	1642589	194.62 ng		98
3) Dichlorotetrafluoroethane	4.02	135	673575	238.62 ng	#	32
4) Chloromethane	4.27	50	475194	278.35 ng		99
5) Vinyl chloride	4.48	62	427824	267.37 ng		98
6) Bromomethane	5.31	94	576081	248.91 ng		96
7) Chloroethane	5.42	64	257565	250.82 ng	#	94
8) Trichlorofluoromethane	5.93	101	808059	375.64 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	786276	248.14 ng		95
10) 1,1-Dichloroethene	7.08	96	453859	252.54 ng		82
12) Methylene chloride	7.98	49	847232	262.59 ng	#	83
13) Carbon disulfide	8.13	76	1425854	269.04 ng		99
14) methyl-Tert-Butyl Ether	8.26	73	685222m	299.30 ng	#	88
15) trans-1,2-Dichloroethene	8.55	96	513433	266.62 ng		88
16) n-Hexane	8.65	57	564219	254.17 ng	#	1
17) 1,1-Dichloroethane	9.38	63	1049007	268.16 ng		98
18) cis-1,2-Dichloroethene	10.60	61	870318	266.98 ng		89
19) Chloroform	10.94	83	1294924	267.32 ng	#	93
20) Isooctane	11.89	57	1681179	221.06 ng		93
21) 1,1,1-Trichloroethane	11.80	97	1153466	281.68 ng		94
22) Carbon tetrachloride	12.36	117	1177991	271.65 ng		98
24) 1,2-Dichloroethane	12.62	62	803961	286.72 ng	#	97
25) 1,2-Dibromoethane	19.58	107	870203	268.04 ng		99
27) Benzene	12.70	78	1328650	250.71 ng		97

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

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

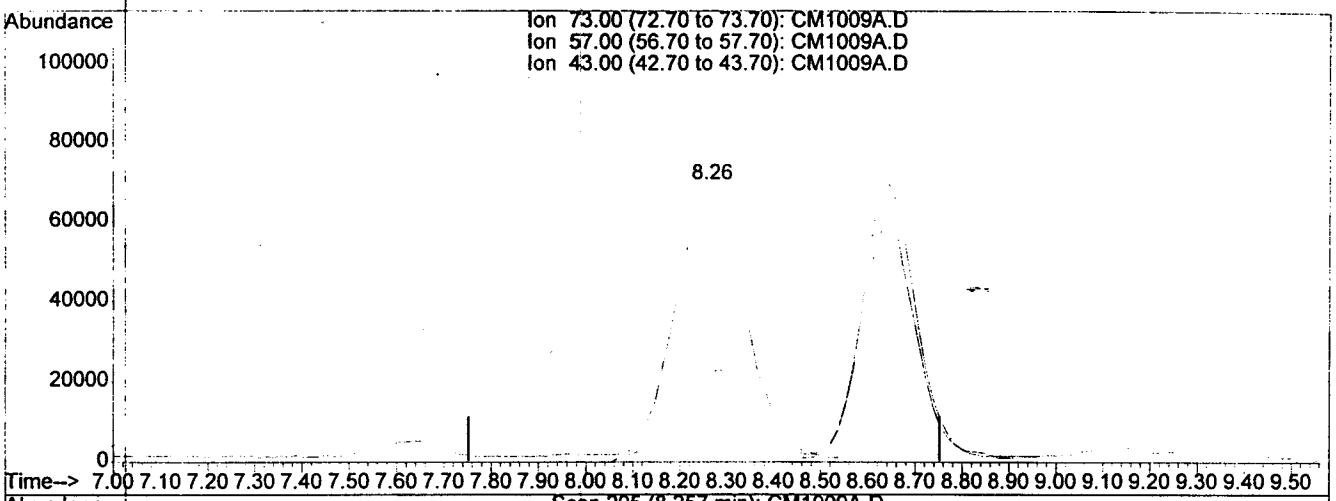
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	643911	242.25 ng		96
29)	1,2-Dichloropropane	14.41	63	591299	245.36 ng	#	81
30)	Bromodichloromethane	14.93	83	1487742	259.34 ng		98
31)	cis-1,3-Dichloropropene	16.14	75	867116	250.61 ng	#	70
33)	Toluene	16.95	92	802804	249.40 ng		95
34)	trans-1,3-Dichloropropene	17.31	75	734341	263.71 ng	#	71
35)	1,1,2-Trichloroethane	17.73	97	511882	254.37 ng		98
37)	Tetrachloroethene	18.57	164	603672	229.66 ng		99
38)	Dibromochloromethane	19.06	127	896307	242.37 ng		99
39)	Chlorobenzene	20.62	112	1155717	242.44 ng		93
40)	Ethylbenzene	20.72	106	465495	237.91 ng		87
41)	m,p-Xylene	20.91	106	1181844	476.19 ng		89
42)	o-Xylene	22.06	106	576151	238.86 ng		88
43)	Styrene	22.14	104	898311	226.52 ng		93
44)	Bromoform	23.08	173	765442	230.99 ng		98
45)	1,1,2,2-Tetrachloroethane	23.43	83	823612	254.37 ng		97
47)	1,4-Dichloro-2-butene	23.07	75	146823	216.83 ng	#	82
48)	4-Ethyltoluene	24.36	105	1511131	225.42 ng		92
49)	1,3,5-Trimethylbenzene	24.45	105	1209769	229.35 ng		86
50)	2-Chlorotoluene	24.56	91	1849141	261.85 ng		97
51)	1,2,4-Trimethylbenzene	25.41	105	1319202	238.18 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1011592	241.59 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1056182	240.68 ng		97
54)	1,2-Dichlorobenzene	27.32	146	956495	250.42 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	689646	238.11 ng		100
56)	Napthalene	31.05	128	930262	280.25 ng	#	91
57)	Hexachlorobutadiene	30.74	225	581529	227.52 ng		100

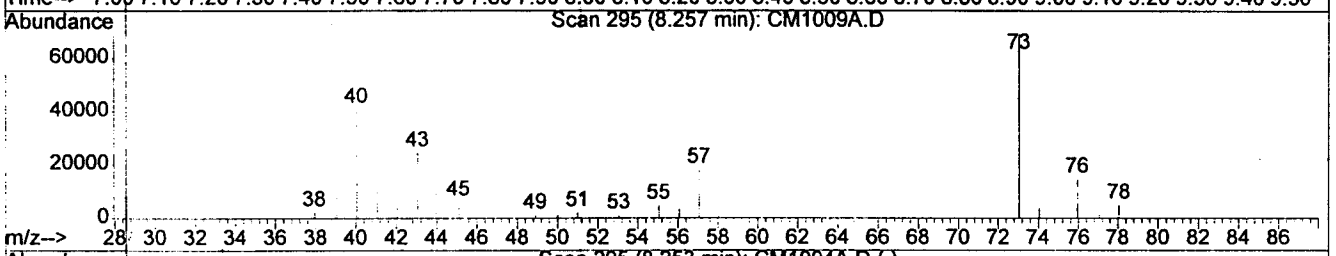
(#) = qualifier out of range (m) = manual integration

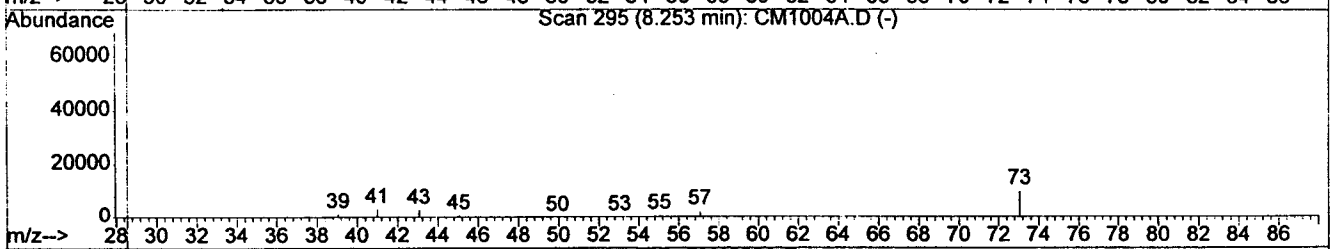
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Multiple Level Calibration







TIC: CM1009A.D

(14) methyl-Tert-Butyl Ether

before

8.26min 317.83ng

response 727647

Ion	Exp%	Act%
73.00	100	100
57.00	24.60	26.95
43.00	22.10	31.34#
0.00	0.00	0.00

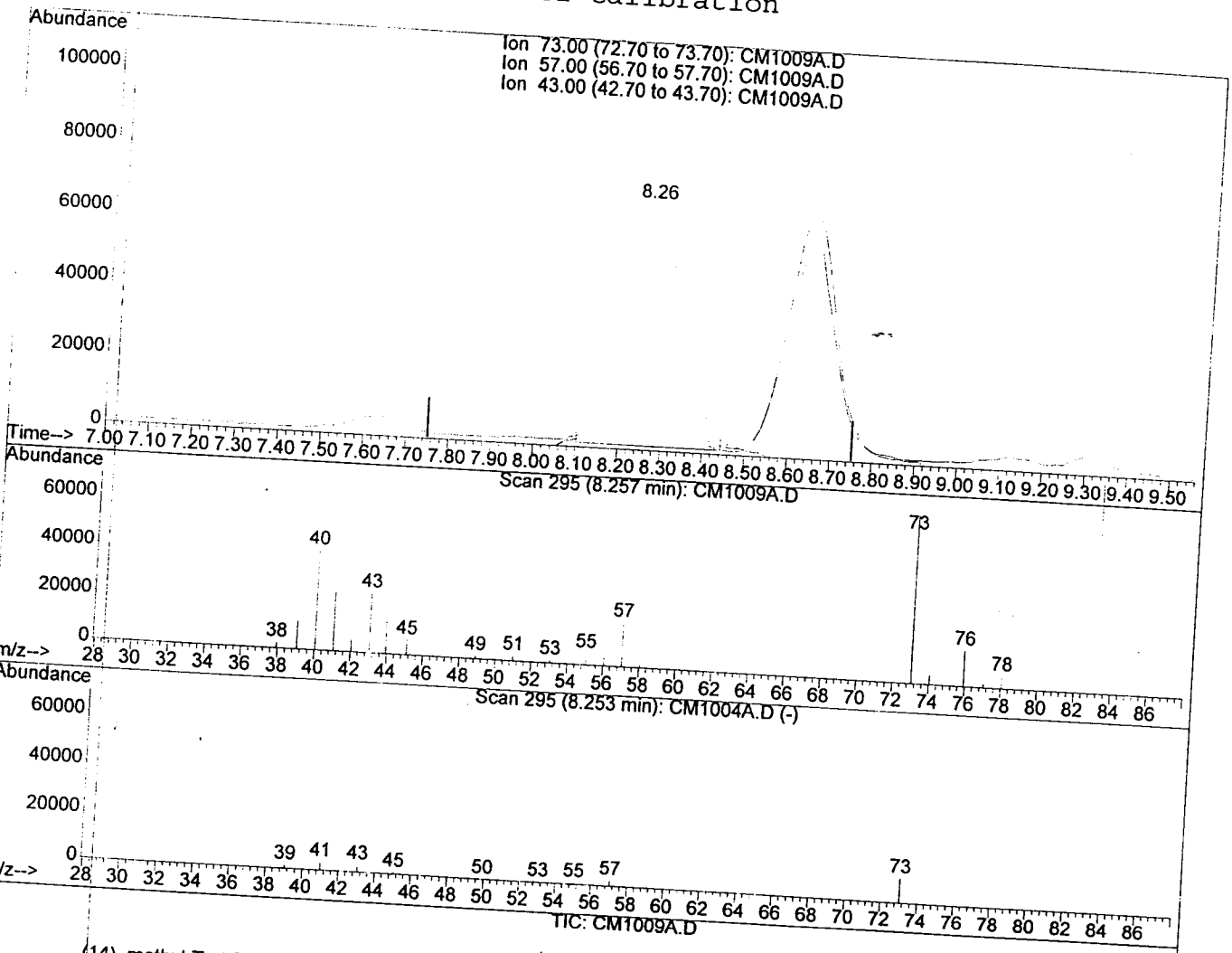
CM1009A.D TO14S.M Sun Oct 07 12:01:30 2001

Acq On : 7 Oct 2001 11:27
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO
MS Integration Params: rteint.p
Quant Time: Oct 7 12:02 2001

Vial: 14
Operator: BDH
Inst : GC/MS Ir
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Multiple Level Calibration



(14) methyl-Tert-Butyl Ether

8.26min 299.30ng m

response 685222

Ion	Exp%	Act%
73.00	100	100
57.00	24.60	28.62
43.00	22.10	33.28#
0.00	0.00	0.00

after
BM
10/7/01

CM1009A.D TO14S.M Sun Oct 07 12:02:24 2001

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1002A\CM1004A.D (3 Oct 2001 10:24)

orig.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	404145	250.00	ng	0.00 111.77%
26) 1,4-Difluorobenzene IS#2	13.23	114	1693931	250.00	ng	0.00 114.61%
36) Chlorobenzene-d5 IS#3	20.52	117	1327951	250.00	ng	0.00 116.97%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	727352	287.16	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 114.86%						
32) Toluene-d8 SURR#2	16.77	98	1407251	257.01	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.80%						
46) 4-Bromofluorobenzene SURR#	23.67	95	1315782	249.21	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.68%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.00	85	1642589	194.62	ng	98
3) Dichlorotetrafluoroethane	4.02	135	673575	238.62	ng #	32
4) Chloromethane	4.27	50	475194	278.35	ng	99
5) Vinyl chloride	4.48	62	427824	267.37	ng	98
6) Bromomethane	5.31	94	576081	248.91	ng	96
7) Chloroethane	5.42	64	257565	250.82	ng #	94
8) Trichlorofluoromethane	5.93	101	808059	375.64	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	786276	248.14	ng	95
10) 1,1-Dichloroethene	7.08	96	453859	252.54	ng	82
12) Methylene chloride	7.98	49	847232	262.59	ng #	83
13) Carbon disulfide	8.13	76	1425854	269.04	ng	99
14) methyl-Tert-Butyl Ether	8.26	73	727647	317.83	ng #	88
15) trans-1,2-Dichloroethene	8.55	96	513433	266.62	ng	88
16) n-Hexane	8.65	57	564219	254.17	ng #	1
17) 1,1-Dichloroethane	9.38	63	1049007	268.16	ng	98
18) cis-1,2-Dichloroethene	10.60	61	870318	266.98	ng	89
19) Chloroform	10.94	83	1294924	267.32	ng #	93
20) Isooctane	11.89	57	1681179	221.06	ng	93
21) 1,1,1-Trichloroethane	11.80	97	1153466	281.68	ng	94
22) Carbon tetrachloride	12.36	117	1177991	271.65	ng	98
24) 1,2-Dichloroethane	12.62	62	803961	286.72	ng #	97
25) 1,2-Dibromoethane	19.58	107	870203	268.04	ng	99
27) Benzene	12.70	78	1328650	250.71	ng	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

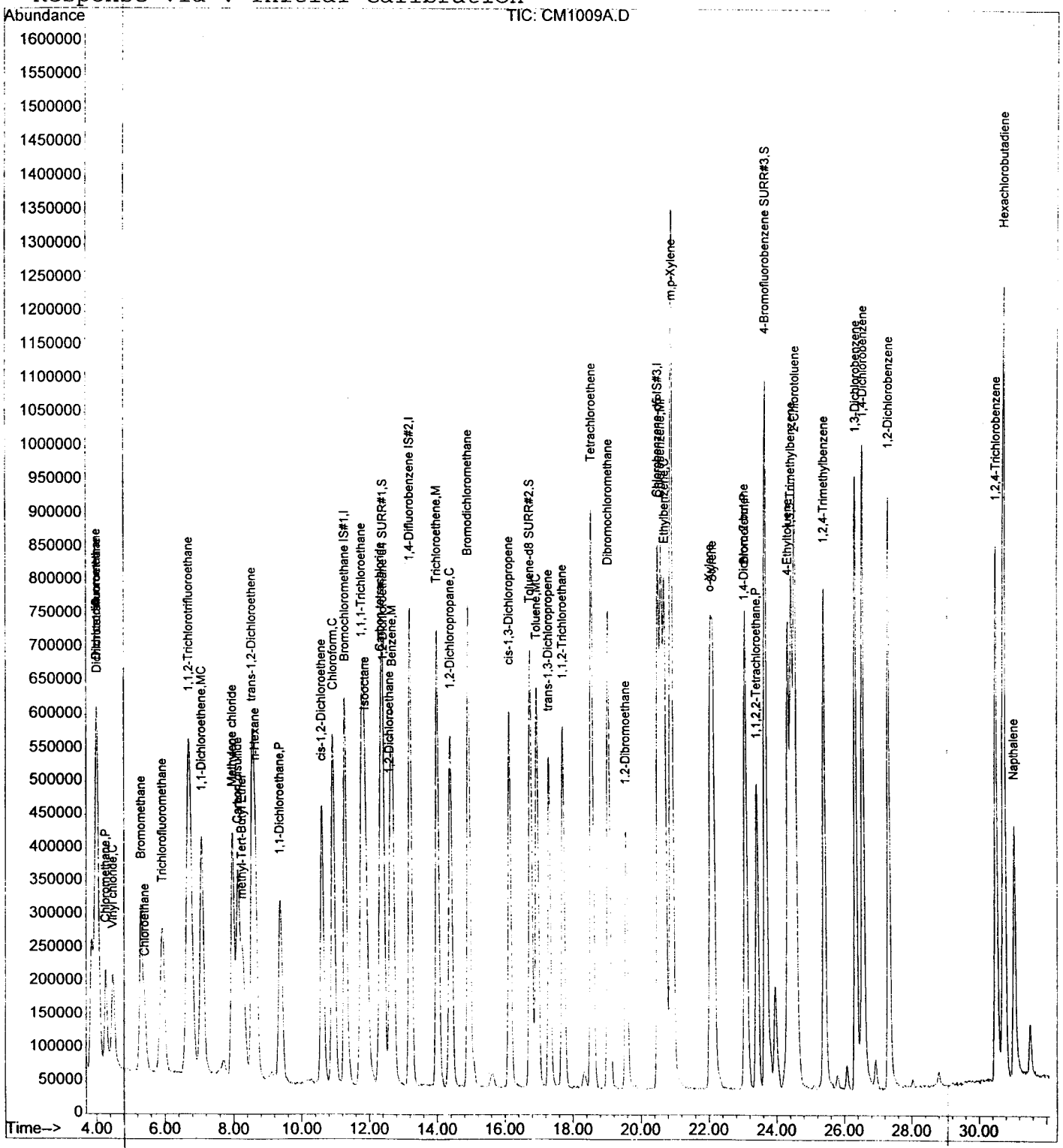
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	643911	242.25 ng		96
29)	1,2-Dichloropropane	14.41	63	591299	245.36 ng	#	81
30)	Bromodichloromethane	14.93	83	1487742	259.34 ng		98
31)	cis-1,3-Dichloropropene	16.14	75	867116	250.61 ng	#	70
33)	Toluene	16.95	92	802804	249.40 ng		95
34)	trans-1,3-Dichloropropene	17.31	75	734341	263.71 ng	#	71
35)	1,1,2-Trichloroethane	17.73	97	511882	254.37 ng		98
37)	Tetrachloroethene	18.57	164	603672	229.66 ng		99
38)	Dibromochloromethane	19.06	127	896307	242.37 ng		99
39)	Chlorobenzene	20.62	112	1155717	242.44 ng		93
40)	Ethylbenzene	20.72	106	465495	237.91 ng		87
41)	m,p-Xylene	20.91	106	1181844	476.19 ng		89
42)	o-Xylene	22.06	106	576151	238.86 ng		88
43)	Styrene	22.14	104	898311	226.52 ng		93
44)	Bromoform	23.08	173	765442	230.99 ng		98
45)	1,1,2,2-Tetrachloroethane	23.43	83	823612	254.37 ng		97
47)	1,4-Dichloro-2-butene	23.07	75	146823	216.83 ng	#	82
48)	4-Ethyltoluene	24.36	105	1511131	225.42 ng		92
49)	1,3,5-Trimethylbenzene	24.45	105	1209769	229.35 ng		86
50)	2-Chlorotoluene	24.56	91	1849141	261.85 ng		97
51)	1,2,4-Trimethylbenzene	25.41	105	1319202	238.18 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1011592	241.59 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1056182	240.68 ng		97
54)	1,2-Dichlorobenzene	27.32	146	956495	250.42 ng		97
55)	1,2,4-Trichlorobenzene	30.51	180	689646	238.11 ng		100
56)	Napthalene	31.05	128	930262	280.25 ng	#	91
57)	Hexachlorobutadiene	30.74	225	581529	227.52 ng		100

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D Vial: 14
Acq On : 7 Oct 2001 11:27 Operator: BDH
Sample : VSTDMA/ DAILY CALIB.CHECK 50ppb/250ng Inst : GC/MS Ins
Misc : Pf/Pi=1 MA209ABK BFB TUNE ALSO Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 12:00 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Oct 03 11:06:55 2001
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 0.002
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

mg/m^3 report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00	ng	0.07 NA%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00	ng	0.09 NA%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00	ng	0.11 NA%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54	ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%			
32) Toluene-d8 SURR#2	16.86	98	963040	262.55	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%			
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99	ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00	ng	0.07 72.81%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00	ng	0.09 66.99%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00	ng	0.11 67.39%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54	ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%			
32) Toluene-d8 SURR#2	16.86	98	963040	262.55	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%			
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99	ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 13:23 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

orig

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.38	128	294258	250.00	ng	0.07 72.81%
26) 1,4-Difluorobenzene IS#2	13.32	114	1134732	250.00	ng	0.09 66.99%
36) Chlorobenzene-d5 IS#3	20.63	117	894959	250.00	ng	0.11 67.39%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.51	65	528453	286.54	ng	0.07
Spiked Amount 250.000	Range 61 - 140		Recovery = 114.62%			
32) Toluene-d8 SURR#2	16.86	98	963040	262.55	ng	0.09
Spiked Amount 250.000	Range 90 - 109		Recovery = 105.02%			
46) 4-Bromofluorobenzene SURR#	23.78	95	878856	246.99	ng	0.11
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.80%			

Target Compounds

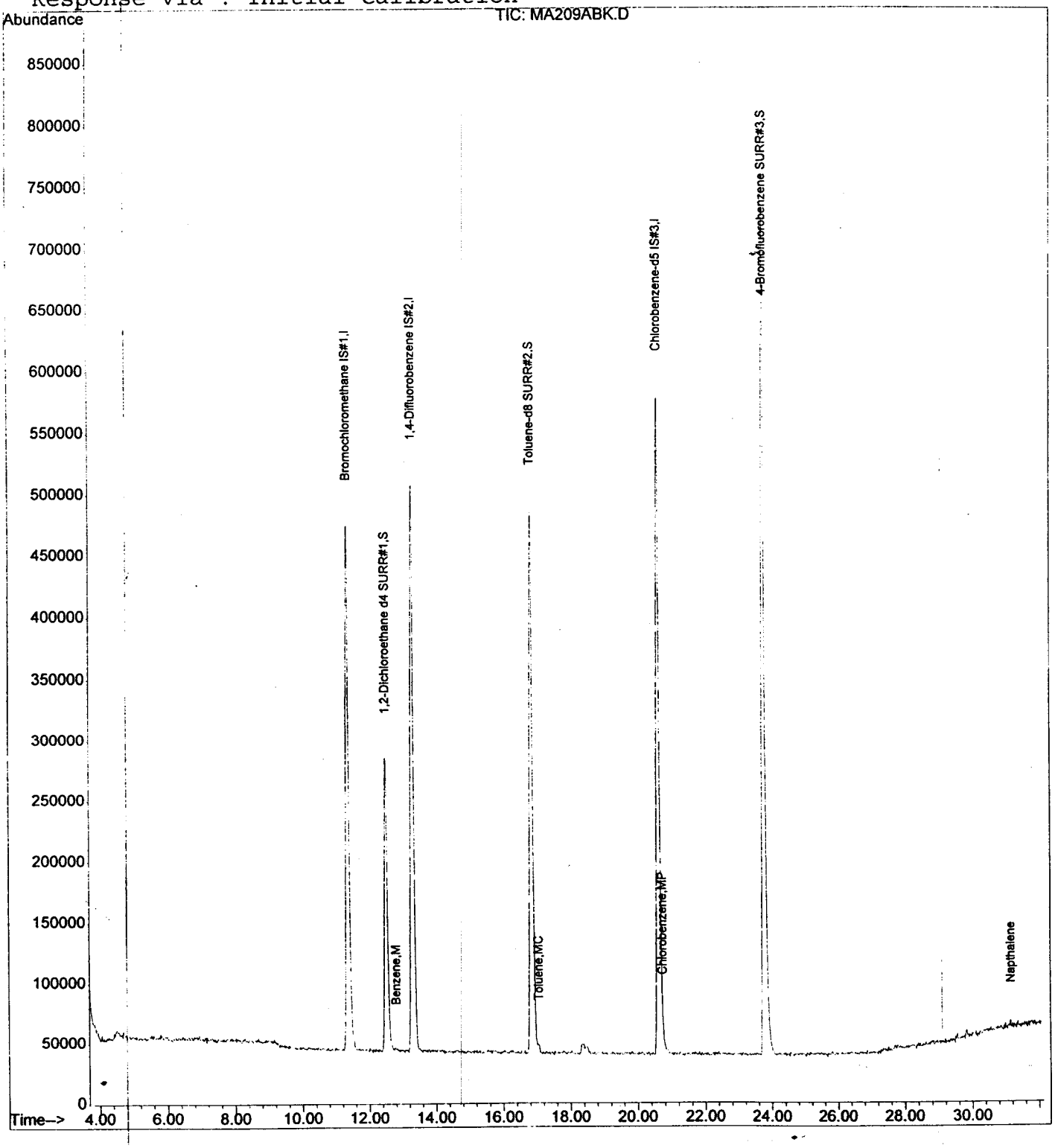
						Qvalue
27) Benzene	12.80	78	12400	3.49	ng	# 54
33) Toluene	17.06	92	5689	2.64	ng	# 67
39) Chlorobenzene	20.74	112	6803	2.12	ng	# 20
56) Napthalene	31.15	128	6155	2.75	ng	# 64

LRL/NR/NSF

(#) = qualifier out of range (m) = manual integration
MA209ABK.D TO14S.M Sun Oct 07 13:23:36 2001

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209ABK.D Vial: 15
Acq On : 7 Oct 2001 12:51 Operator: BDH
Sample : VBLKMA/ DAILY METHOD BLANK Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 13:23 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: BDH Date Acquired: 7 Oct 2001 12:51
Data File: D:\HPCHEM\1\DATA\MARILYN\1M1007A\MA209ABK.D
Name: VBLKMA/ DAILY METHOD BLANK
Misc: Pi/Pf=1 MA209ABK
Method: D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title: TO14
Library Searched: C:\DATABASE\NBS75K.L

TIC	Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

MA209ABK.D TO14S.M Mon Oct 08 15:10:27 2001

0 Tic's

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:19 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

BM 10-7-01

ng report

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	422646	250.00 ng	0.11 104.58%
26) 1,4-Difluorobenzene IS#2	13.33	114	1729116	250.00 ng	0.11 102.08%
36) Chlorobenzene-d5 IS#3	20.65	117	1315459	250.00 ng	0.12 99.06%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.54	65	736117	277.90 ng	0.11
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.16%					
32) Toluene-d8 SURR#2	16.87	98	1445026	258.54 ng	0.11
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.42%					
46) 4-Bromofluorobenzene SURR#	23.80	95	1248091	238.63 ng	0.12
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.45%					

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.17	96	410640	218.49 ng		83
27) Benzene	12.82	78	1316814	243.42 ng		97
28) Trichloroethene	14.14	130	651630	240.17 ng		98
33) Toluene	17.08	92	820078	249.58 ng	#	96
39) Chlorobenzene	20.74	112	1168342	247.42 ng		95

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:00 2001 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

orig.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	422646	250.00 ng	0.11 104.58%
26) 1,4-Difluorobenzene IS#2	13.33	114	1729116	250.00 ng	0.11 102.08%
36) Chlorobenzene-d5 IS#3	20.65	117	1315459	250.00 ng	0.12 99.06%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	736117	277.90 ng	0.11
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.16%					
32) Toluene-d8 SURR#2	16.87	98	1445026	258.54 ng	0.11
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.42%					
46) 4-Bromofluorobenzene SURR#	23.80	95	1248091	238.63 ng	0.12
Spiked Amount 250.000 Range 87 - 112 Recovery = 95.45%					

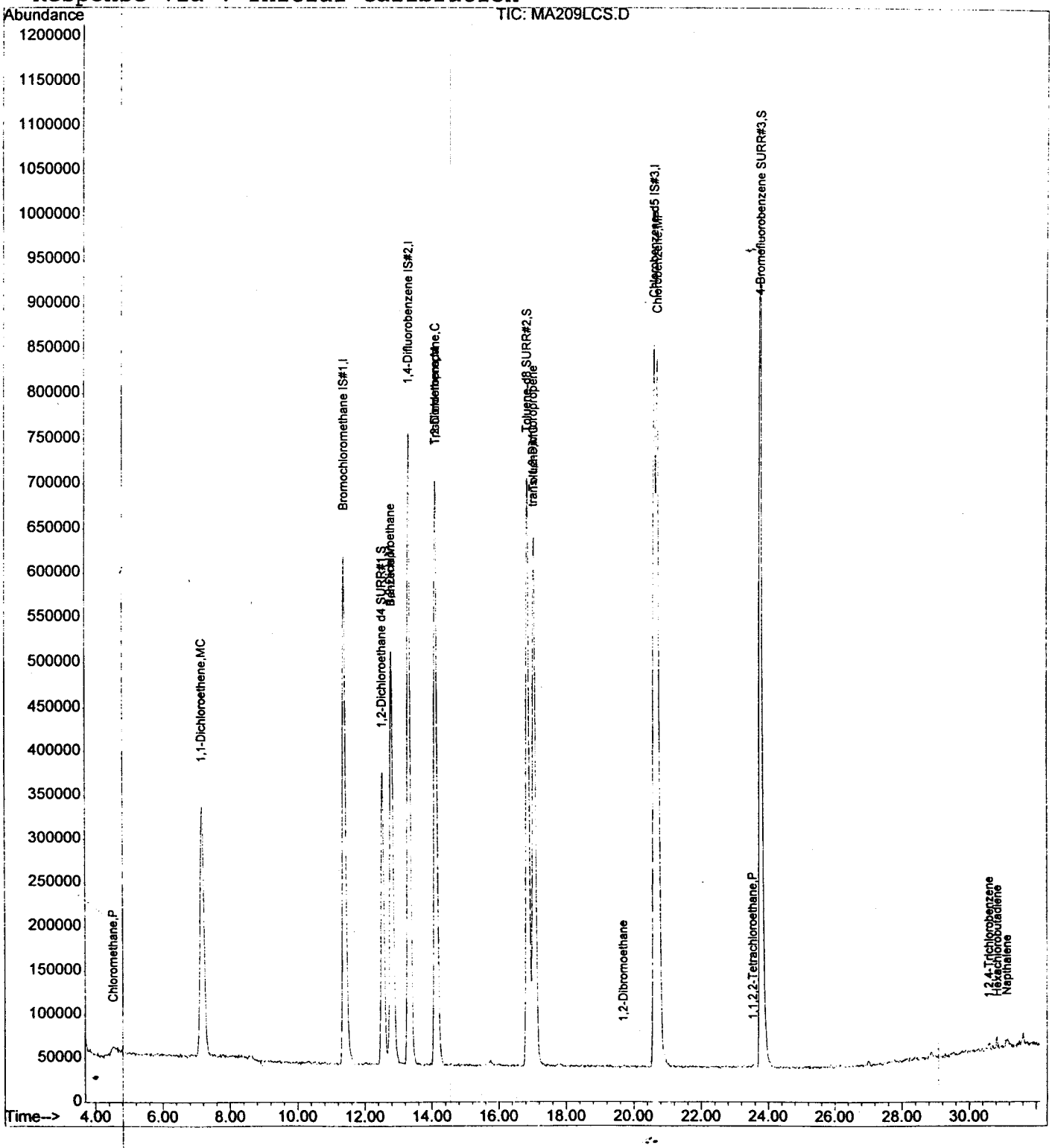
Target Compounds

						Qvalue
4) Chloromethane	4.53	50	2144	1.20 ng	#	77
10) 1,1-Dichloroethene	7.17	96	410640	218.49 ng		83
24) 1,2-Dichloroethane	12.81	62	15529	5.30 ng	#	49
25) 1,2-Dibromoethane	19.70	107	1026	0.30 ng	#	3
27) Benzene	12.82	78	1316814	243.42 ng		97
28) Trichloroethene	14.14	130	651630	240.17 ng		98
29) 1,2-Dichloropropane	14.14	63	957	0.39 ng	#	1
33) Toluene	17.08	92	820078	249.58 ng	#	96
34) trans-1,3-Dichloropropene	17.06	75	6870	2.42 ng	#	1
39) Chlorobenzene	20.74	112	1168342	247.42 ng		95
45) 1,1,2,2-Tetrachloroethane	23.55	83	7107	2.22 ng	#	44
55) 1,2,4-Trichlorobenzene	30.60	180	5846	2.04 ng	#	85
56) Napthalene	31.14	128	28019	8.52 ng	#	64
57) Hexachlorobutadiene	30.85	225	10364	4.09 ng	#	76

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA01\M1007A\MA209LCS.D Vial: 16
Acq On : 7 Oct 2001 13:28 Operator: BDH
Sample : LCS/BATCH #209 LCS 50ppb/250ng Inst : GC/MS Ins
Misc : Pi/Pf=1 MA209ABK 2nd SOURCE FOR CURVE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:00 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97191.D
Acq On : 7 Oct 2001 21:07
Sample : 062SVEEA09270120\9719-1 ST 500mls
Misc : Pf/Pi=2 MA209ABK
MS Integration Params: rteint.p
Quant Time: Oct 7 21:45 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 : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

BH 10-7-01

mg/m³ report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	365378	250.00	ng	0.12 90.41%
26) 1,4-Difluorobenzene IS#2	13.33	114	1497927	250.00	ng	0.10 88.43%
36) Chlorobenzene-d5 IS#3	20.64	117	1146835	250.00	ng	0.12 86.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	686309	299.70	ng	0.10
Spiked Amount 250.000	Range 61 - 140		Recovery = 119.88%			
32) Toluene-d8 SURR#2	16.89	98	1255852	259.37	ng	0.12
Spiked Amount 250.000	Range 90 - 109		Recovery = 103.75%			
46) 4-Bromofluorobenzene SURR#	23.79	95	1082130	237.32	ng	0.12
Spiked Amount 250.000	Range 87 - 112		Recovery = 94.93%			

Target Compounds

						Qvalue
41) m,p-Xylene	21.03	106	9913	0.02	ng <RL #	64
49) 1,3,5-Trimethylbenzene	24.55	105	35770	0.03	ng ↓	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97191.D
Acq On : 7 Oct 2001 21:07
Sample : 062SVEEA09270120\9719-1 ST 500mls
Misc : Pf/Pi=2 MA209ABK
MS Integration Params: rteint.p
Quant Time: Oct 7 21:39 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 : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA01\M1007A\CM1009A.D (7 Oct 2001 11:27)

orig.

ng report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	365378	250.00	ng	0.12 90.41%
26) 1,4-Difluorobenzene IS#2	13.33	114	1497927	250.00	ng	0.10 88.43%
36) Chlorobenzene-d5 IS#3	20.64	117	1146835	250.00	ng	0.12 86.36%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.54	65	686309	299.70	ng	0.10
Spiked Amount 250.000 Range 61 - 140 Recovery = 119.88%						
32) Toluene-d8 SURR#2	16.89	98	1255852	259.37	ng	0.12
Spiked Amount 250.000 Range 90 - 109 Recovery = 103.75%						
46) 4-Bromofluorobenzene SURR#	23.79	95	1082130	237.32	ng	0.12
Spiked Amount 250.000 Range 87 - 112 Recovery = 94.93%						

Target Compounds

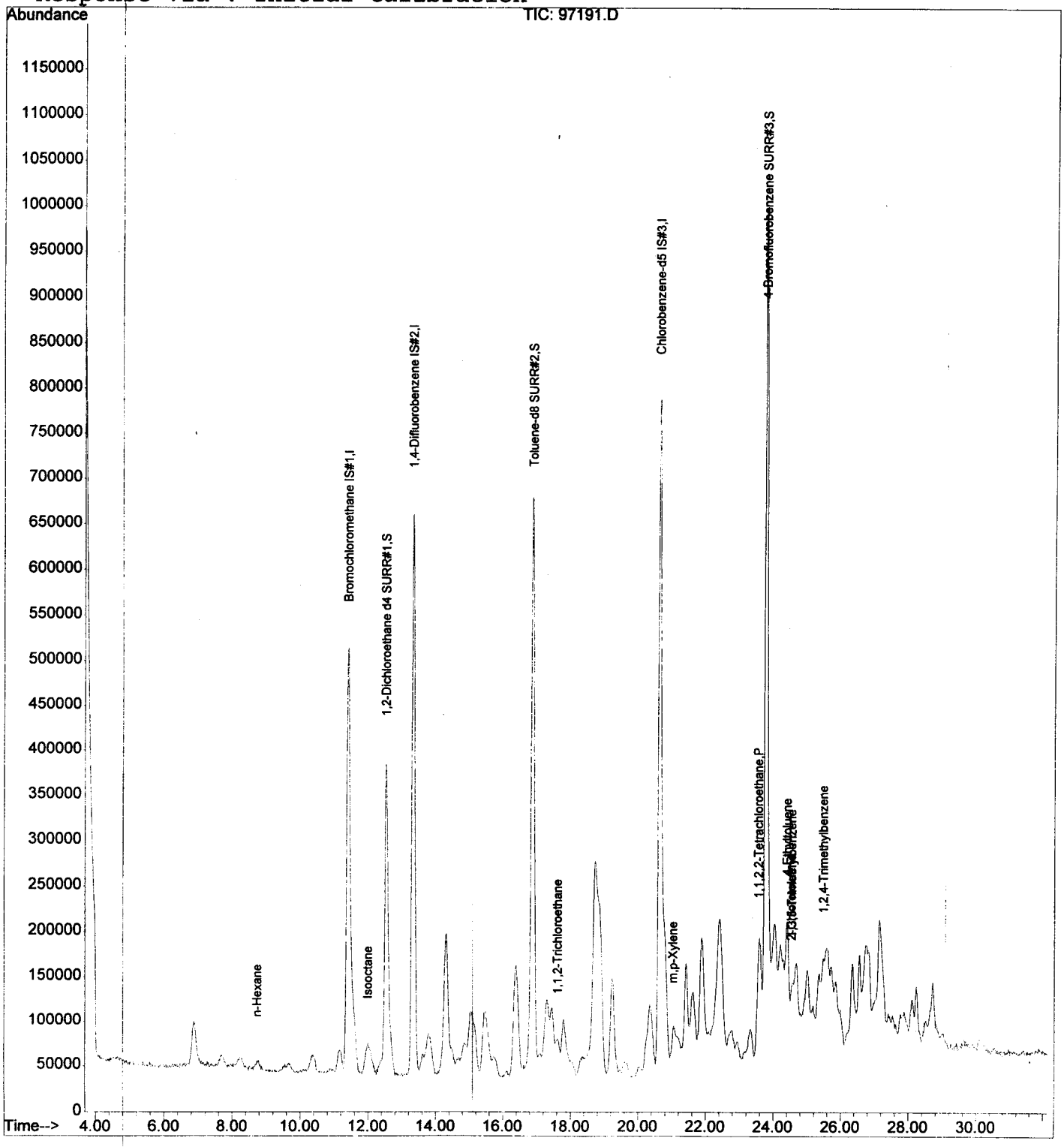
						Qvalue
16) n-Hexane	8.73	57	8460	4.22	ng	# 73
20) Isooctane	11.99	57	19197	2.79	ng	# 1
35) 1,1,2-Trichloroethane	17.61	97	44049	24.75	ng	# 14
41) m,p-Xylene	21.03	106	9913	4.62	ng	# 64
45) 1,1,2,2-Tetrachloroethane	23.58	83	54848	19.61	ng	# 31
48) 4-Ethyltoluene	24.41	105	15697	2.71	ng	# 46
49) 1,3,5-Trimethylbenzene	24.55	105	35770	7.85	ng	90
50) 2-Chlorotoluene	24.54	91	3034	0.50	ng	# 47
51) 1,2,4-Trimethylbenzene	25.49	105	10963	2.29	ng	# 31

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA01\M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 21:39 2001 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Oct 07 12:03:06 2001
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: BDH Date Acquired: 7 Oct 2001 21:07
Data File: D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D
Name: 062SVEEA09270120\9719-1 ST 500mls
Misc: Pf/Pi=2 MA209ABK
Method: D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title: TO14
Library Searched: C:\DATABASE\NBS75K.L MM 10-8-01

mg/m3 report

mg/m3

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Acetone	6.87	0.1	ng	423530	ISTD01	11.42	3939860	250.0
1-Pentene, 2-methyl-	11.99	0.1	ng	434015	ISTD01	11.42	3939860	250.0
unknown hydrocarbon	13.80	0.1	ng	531370	ISTD02	13.33	3955160	250.0
Cyclohexane, methyl-	14.31	0.4	ng	1431000	ISTD02	13.33	3955160	250.0
Octane, 3,4-dimethyl	15.46	0.2	ng	837569	ISTD02	13.33	3955160	250.0
Cyclohexane, 1,3-dim	16.39	0.3	ng	1288620	ISTD02	13.33	3955160	250.0
Cyclohexane, 1,1,3-t	18.73	0.7	ng	3875740	ISTD03	20.64	5716770	250.0
unknown hydrocarbon	19.23	0.2	ng	896371	ISTD03	20.64	5716770	250.0
unknown hydrocarbon	20.35	0.2	ng	883053	ISTD03	20.64	5716770	250.0
Octane, 2,6-dimethyl	21.42	0.1	ng	601844	ISTD03	20.64	5716770	250.0
Heptane, 3-ethyl-2-m	21.88	0.2	ng	864054	ISTD03	20.64	5716770	250.0
Cyclohexane, (1-meth	22.41	0.3	ng	1663540	ISTD03	20.64	5716770	250.0
Cyclohexane, 1,1,2,3	23.59	0.2	ng	1090300	ISTD03	20.64	5716770	250.0
Naphthalene, decahyd	27.15	0.2	ng	992497	ISTD03	20.64	5716770	250.0

97191.D TO14S.M Mon Oct 08 15:43:27 2001

Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

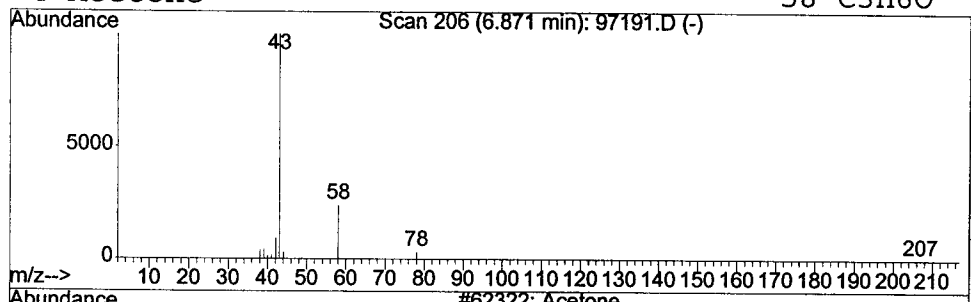
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

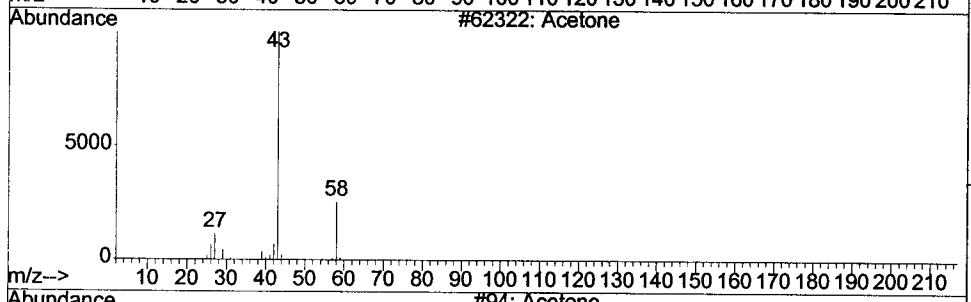
****

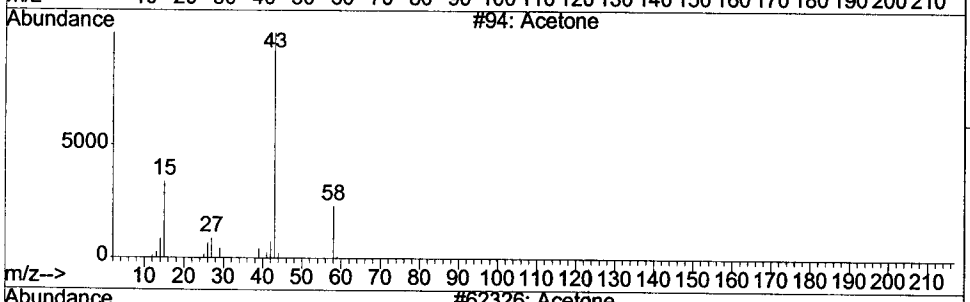
Peak Number 1 Acetone Concentration Rank 13

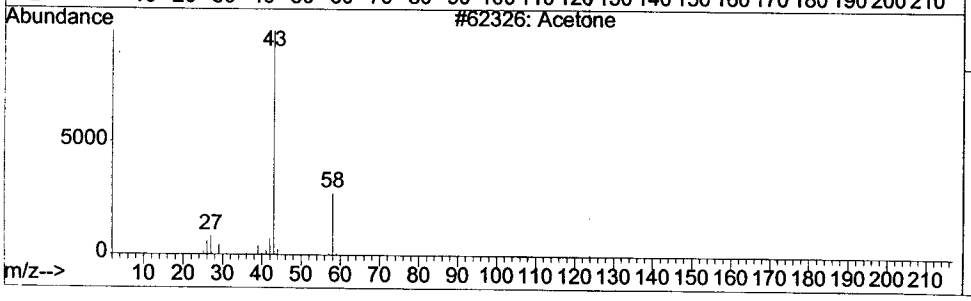
R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
6.87	0.11 ng	423530	Bromochloromethan	3939860	11.42

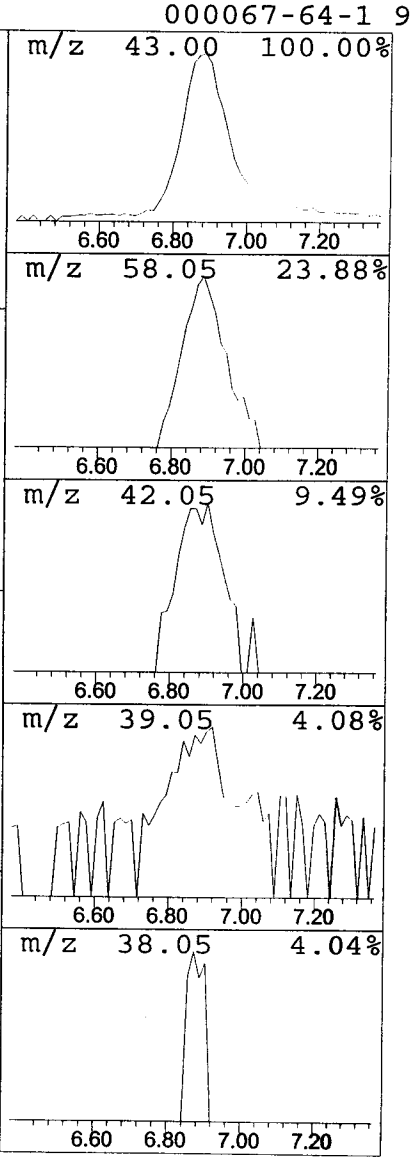
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Acetone	58	C3H6O	000067-64-1	72
2	Acetone	58	C3H6O	000067-64-1	56
3	Acetone	58	C3H6O	000067-64-1	56
4	Acetone	58	C3H6O	000067-64-1	9











Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

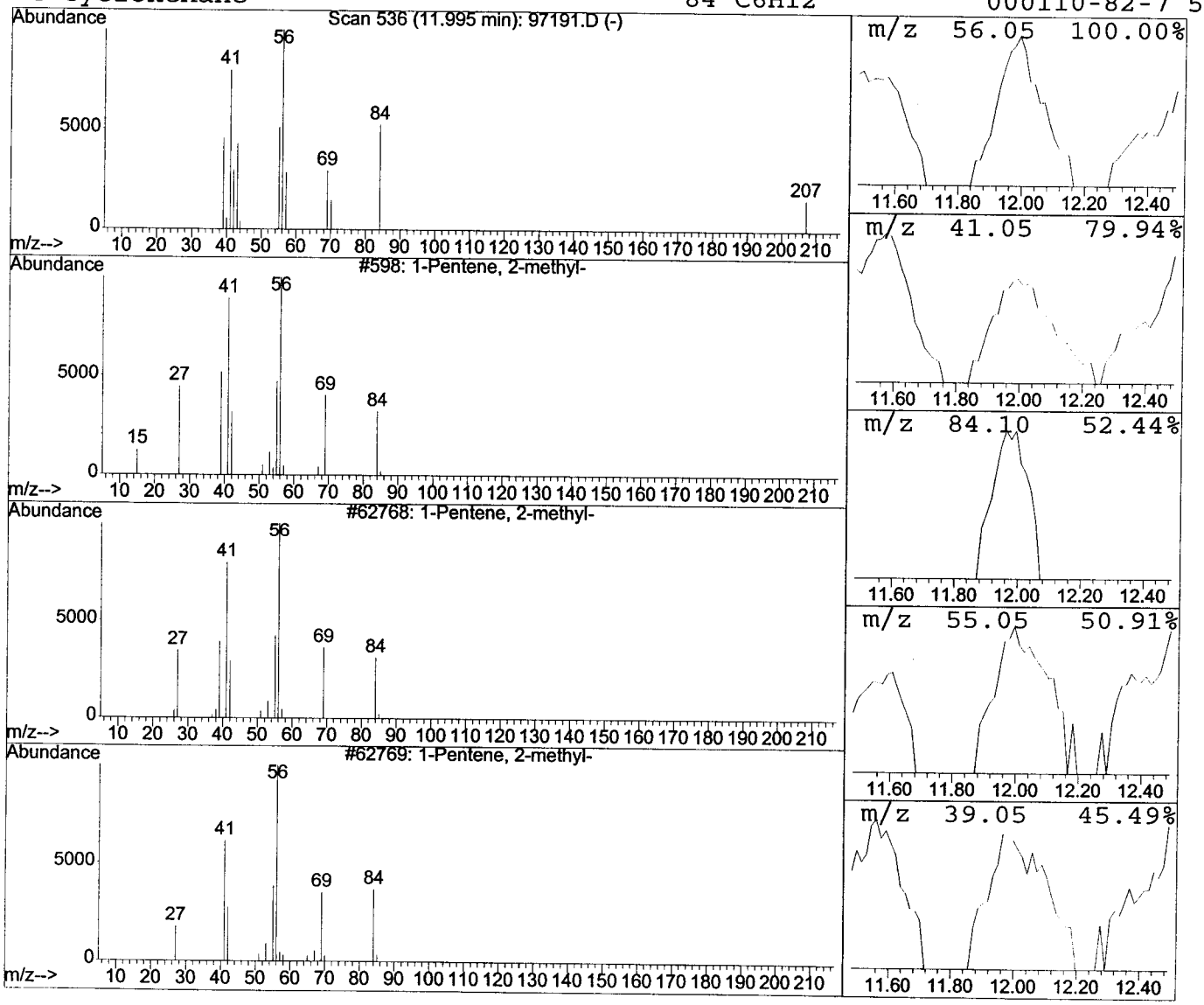
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 2 1-Pentene, 2-methyl- Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
11.99	0.11 ng	434015	Bromochloromethan	3939860	11.42

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	64
2	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	59
3	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	59
4	Cyclohexane	84	C6H12	000110-82-7	53



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

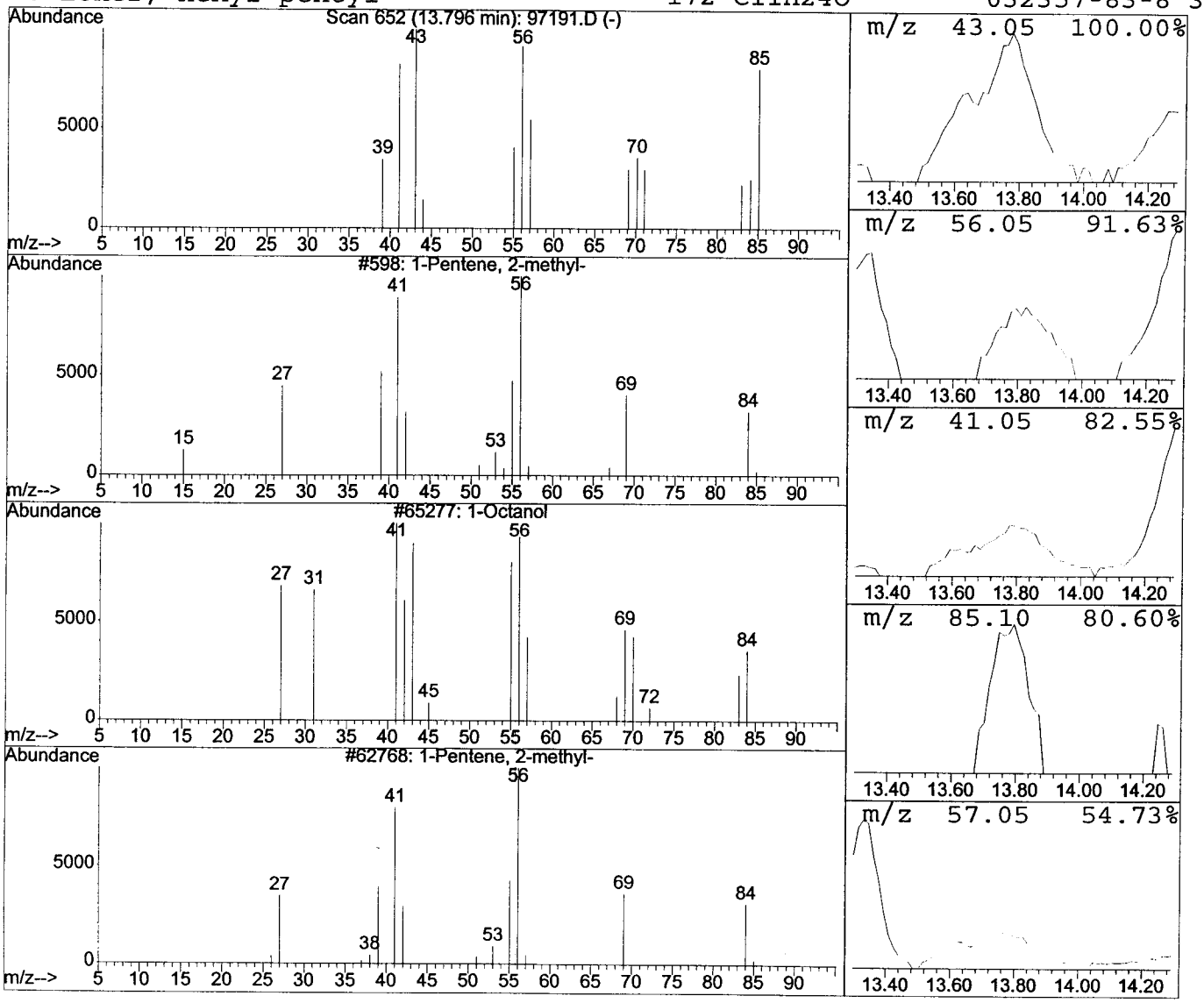
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 3 unknown hydrocarbon Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
13.80	0.13 ng	531370	1,4-Difluorobenze	3955160	13.33

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	38
2	1-Octanol	130	C8H18O	000111-87-5	38
3	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	38
4	Ether, hexyl pentyl	172	C11H24O	032357-83-8	38



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

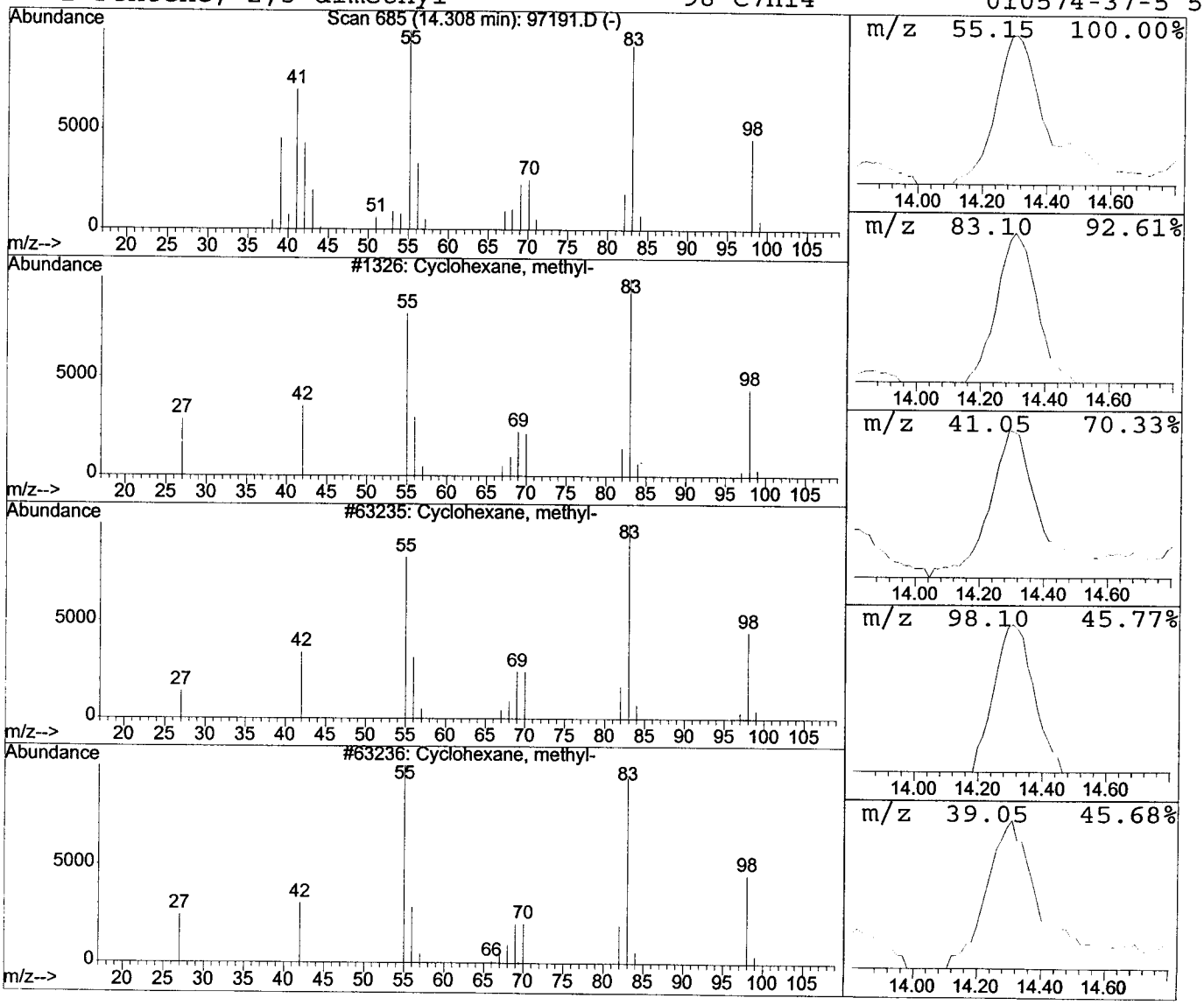
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 4 Cyclohexane, methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
14.31	0.36 ng	1431000	1,4-Difluorobenze	3955160	13.33

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	95
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	94
3	Cyclohexane, methyl-	98	C7H14	000108-87-2	94
4	2-Pentene, 2,3-dimethyl-	98	C7H14	010574-37-5	58



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

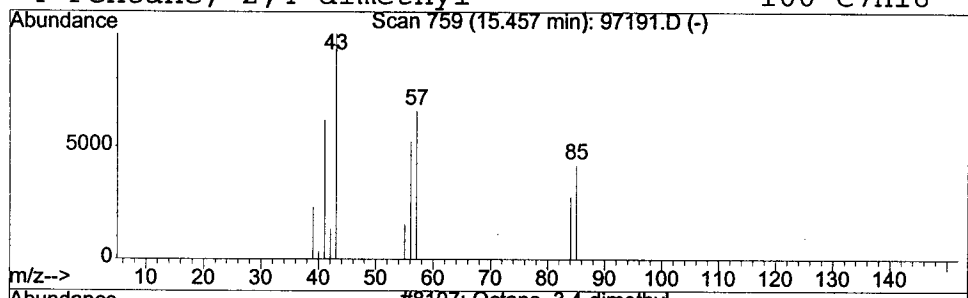
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

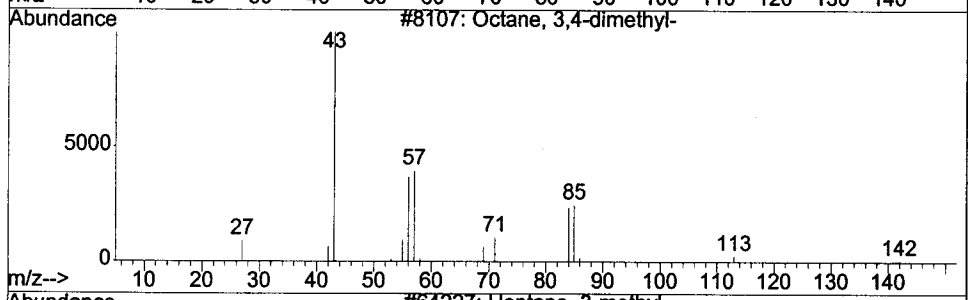
****

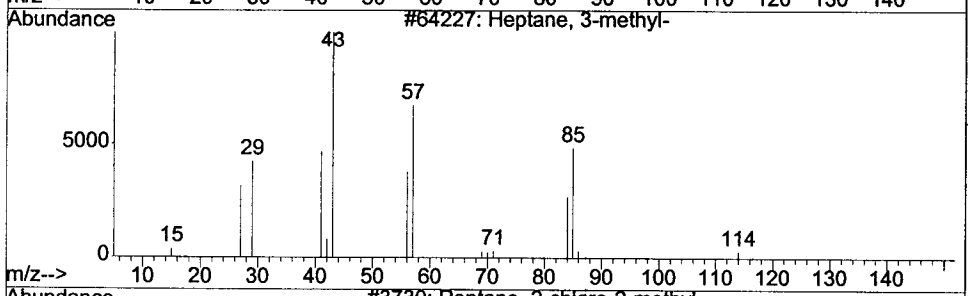
Peak Number 5 Octane, 3,4-dimethyl- Concentration Rank 5

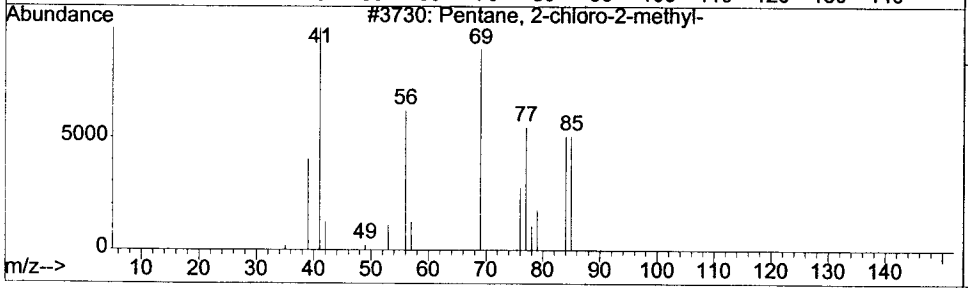
R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
15.46	0.21 ng	837569	1,4-Difluorobenze	3955160	13.33

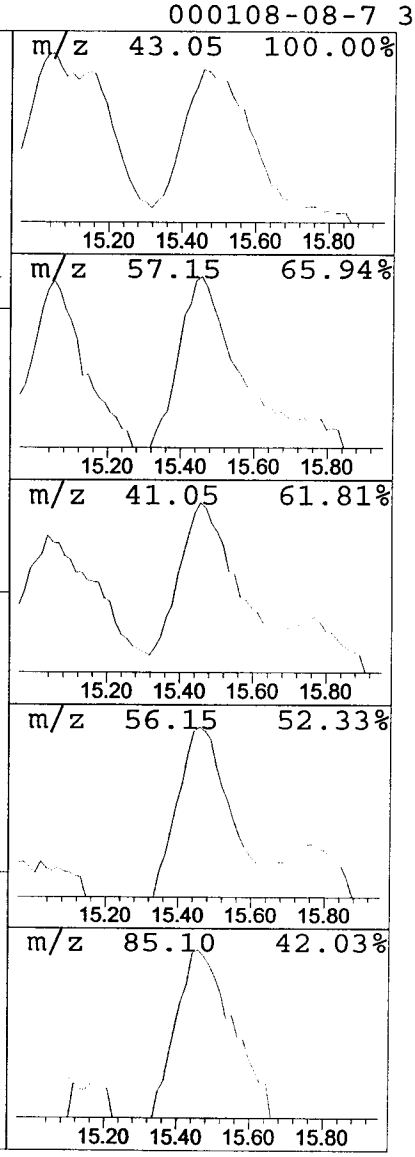
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane, 3,4-dimethyl-	142	C10H22	015869-92-8	74
2	Heptane, 3-methyl-	114	C8H18	000589-81-1	64
3	Pentane, 2-chloro-2-methyl-	120	C6H13Cl	004325-48-8	40
4	Pentane, 2,4-dimethyl-	100	C7H16	000108-08-7	39











Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

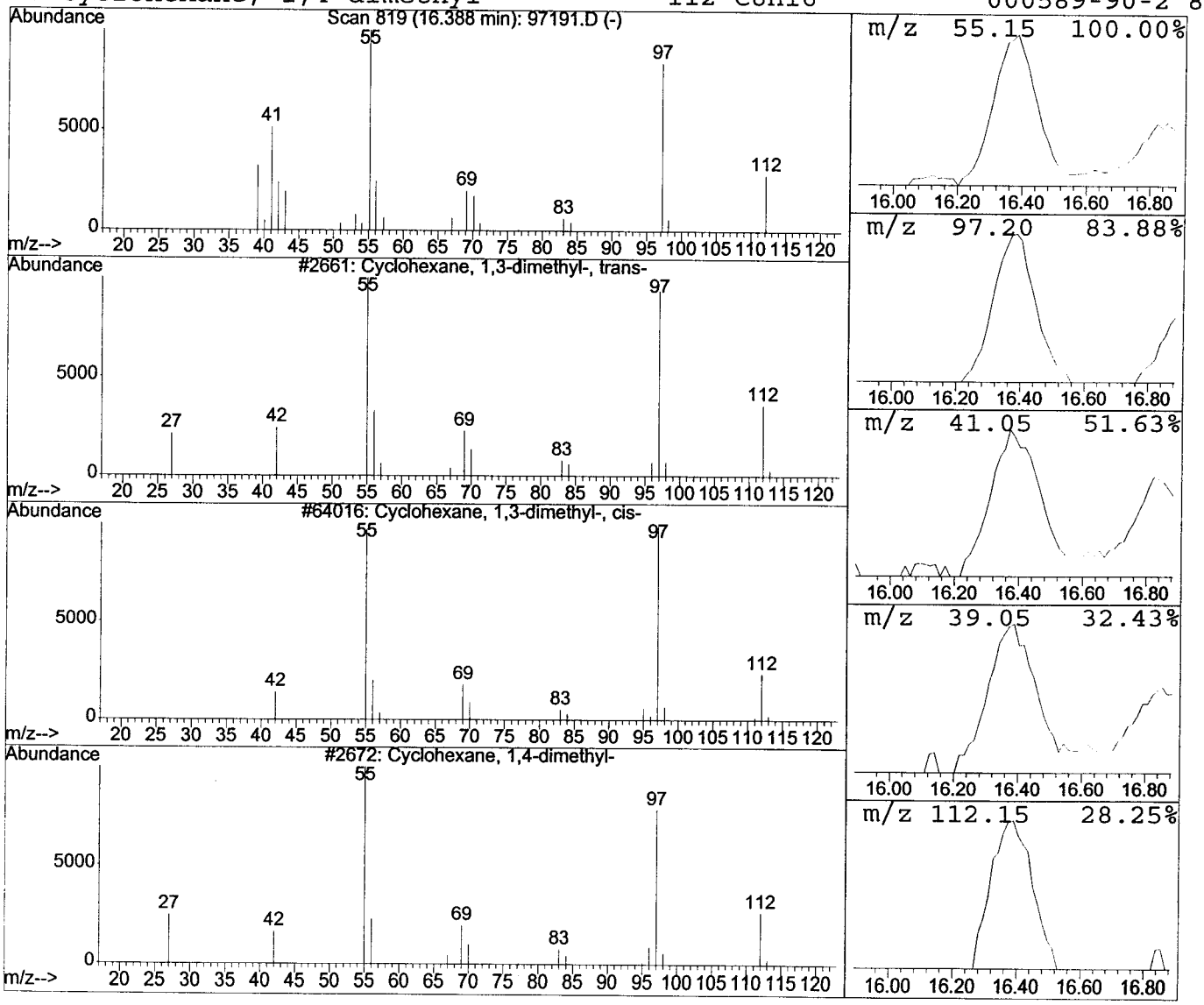
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 6 Cyclohexane, 1,3-dimethyl-, tr Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
16.39	0.33 ng	1288620	1,4-Difluorobenze	3955160	13.33

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, 1,3-dimethyl-, trans-	112	C8H16	002207-03-6	91
2	Cyclohexane, 1,3-dimethyl-, cis-	112	C8H16	000638-04-0	91
3	Cyclohexane, 1,4-dimethyl-	112	C8H16	000589-90-2	90
4	Cyclohexane, 1,4-dimethyl-	112	C8H16	000589-90-2	87



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

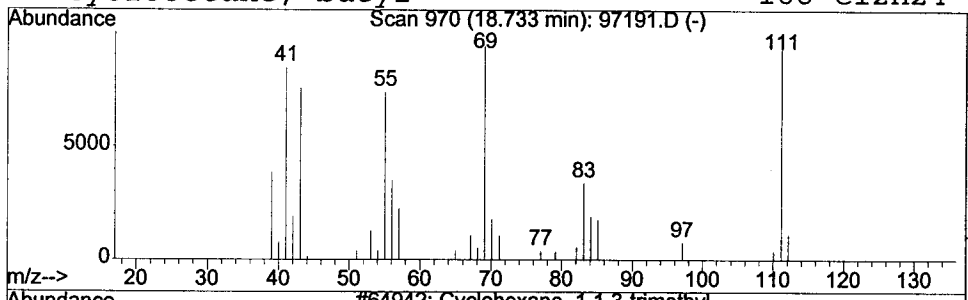
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

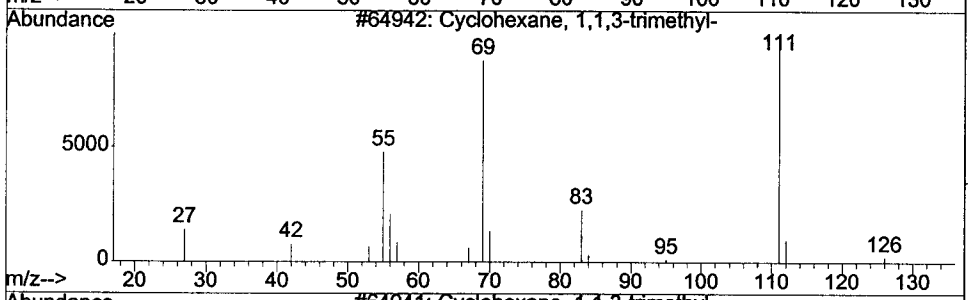
****

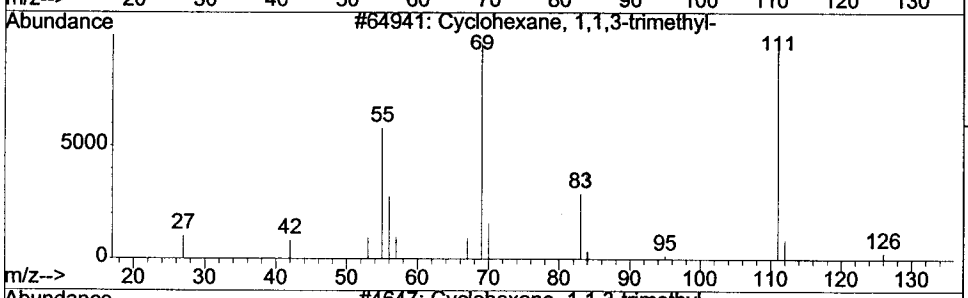
Peak Number 7 Cyclohexane, 1,1,3-trimethyl- Concentration Rank 1

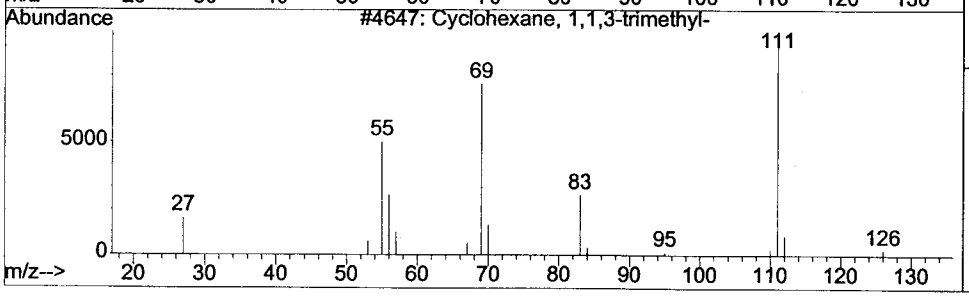
R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
18.73	0.68 ng	3875740	Chlorobenzene-d5	5716770	20.64

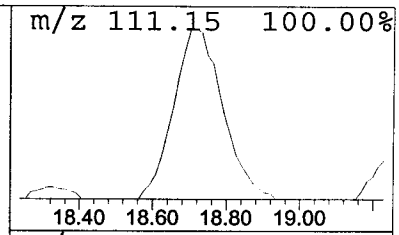
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, 1,1,3-trimethyl-	126	C9H18	003073-66-3	59
2	Cyclohexane, 1,1,3-trimethyl-	126	C9H18	003073-66-3	59
3	Cyclohexane, 1,1,3-trimethyl-	126	C9H18	003073-66-3	53
4	Cyclooctane, butyl-	168	C12H24	016538-93-5	50

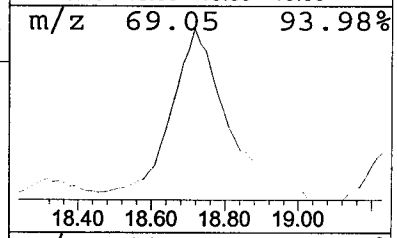


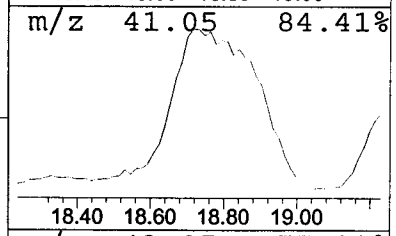


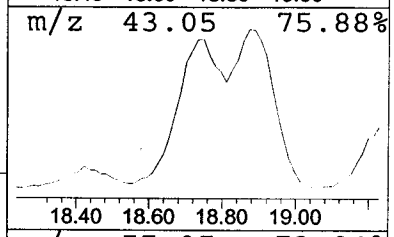


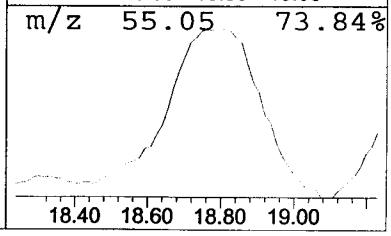












Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

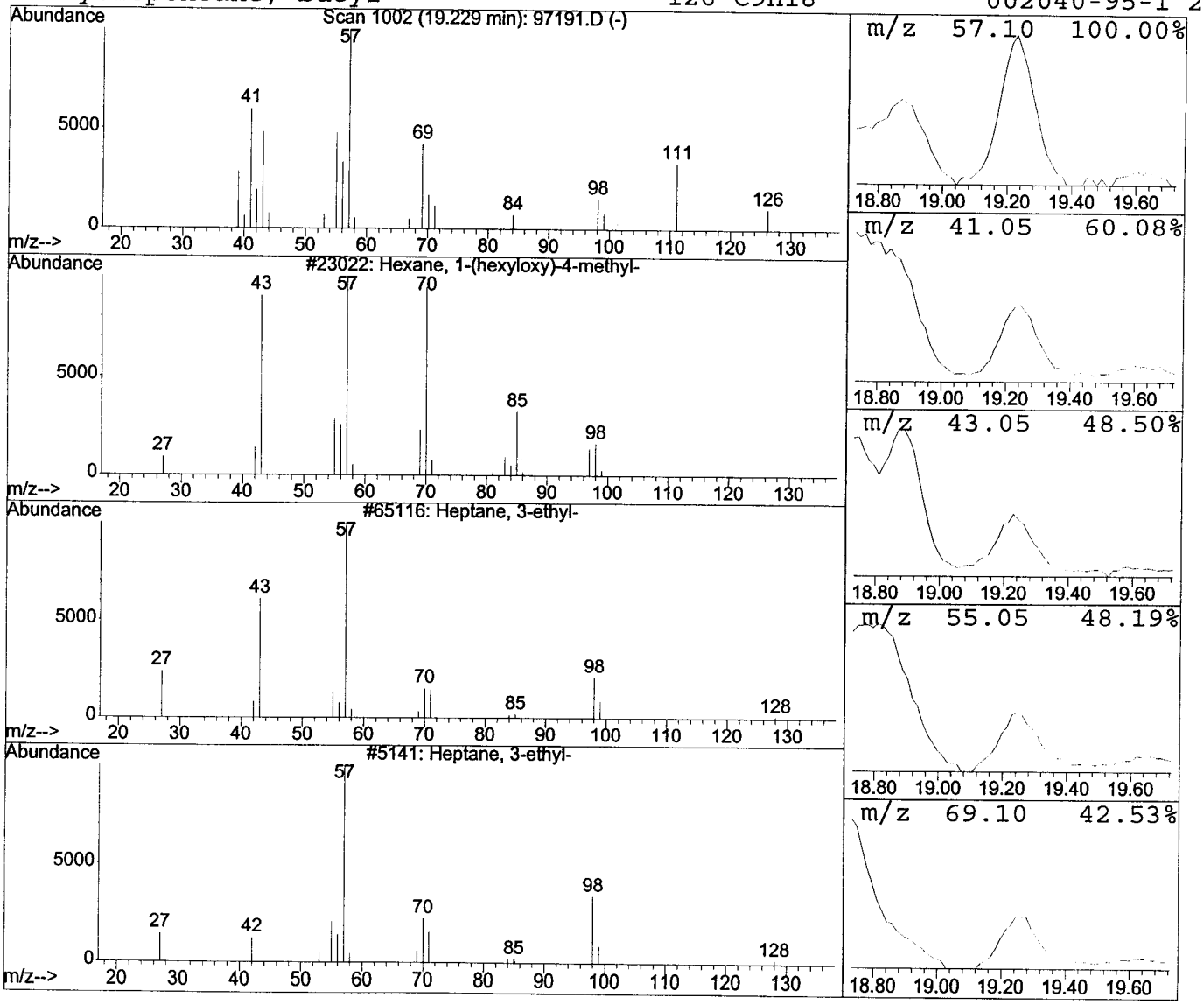
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 8 unknown hydrocarbon Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
19.23	0.16 ng	896371	Chlorobenzene-d5	5716770	20.64

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 1-(hexyloxy)-4-methyl-	200	C13H28O	074421-20-8	40
2	Heptane, 3-ethyl-	128	C9H20	015869-80-4	38
3	Heptane, 3-ethyl-	128	C9H20	015869-80-4	32
4	Cyclopentane, butyl-	126	C9H18	002040-95-1	25



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

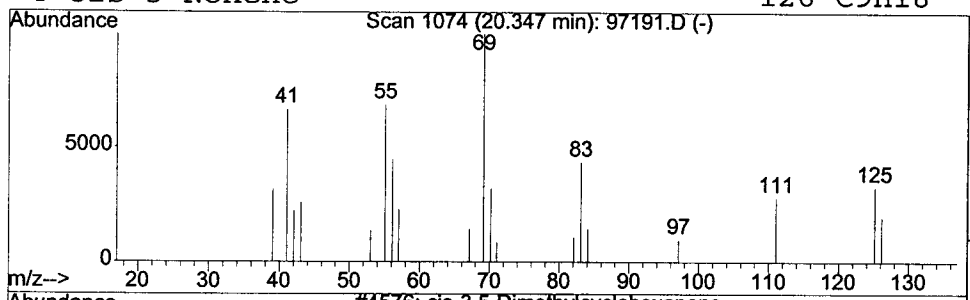
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

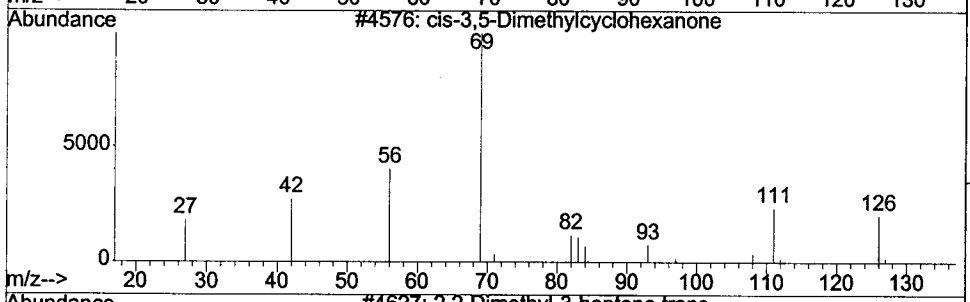
****

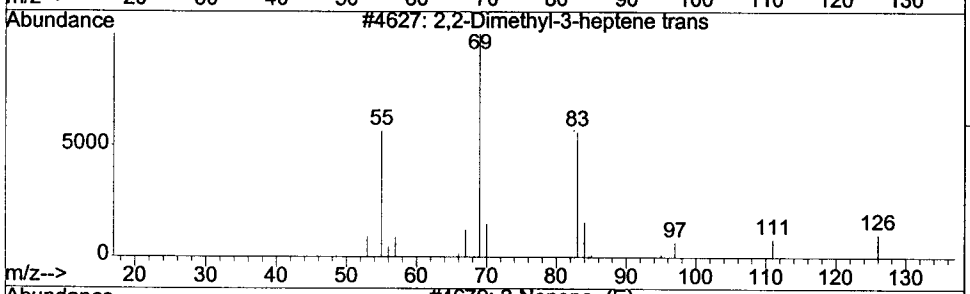
Peak Number 9 unknown hydrocarbon Concentration Rank 9

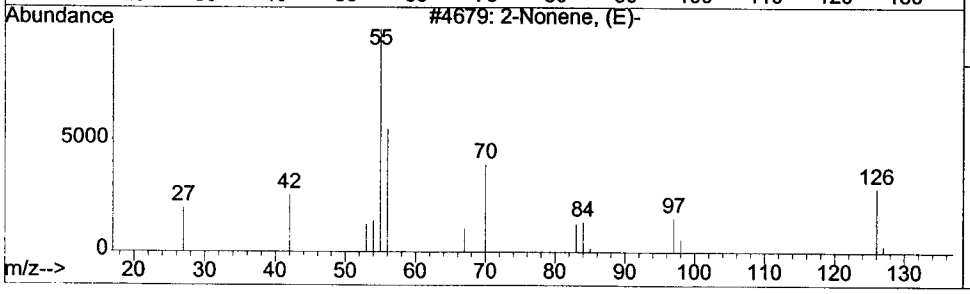
R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
20.35	0.15 ng	883053	Chlorobenzene-d5	5716770	20.64

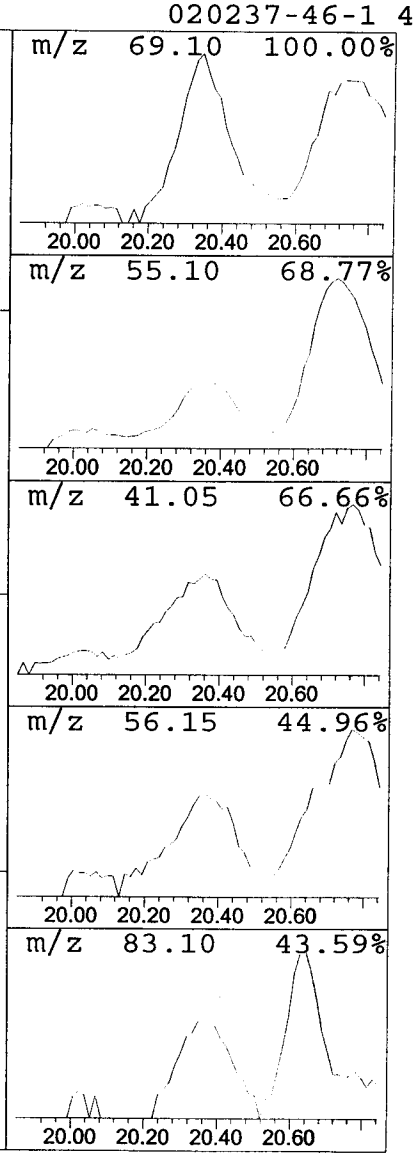
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	cis-3,5-Dimethylcyclohexanone	126	C8H14O	007214-49-5	52
2	2,2-Dimethyl-3-heptene trans	126	C9H18	019550-75-5	50
3	2-Nonene, (E)-	126	C9H18	006434-78-2	46
4	cis-3-Nonene	126	C9H18	020237-46-1	46











101

Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

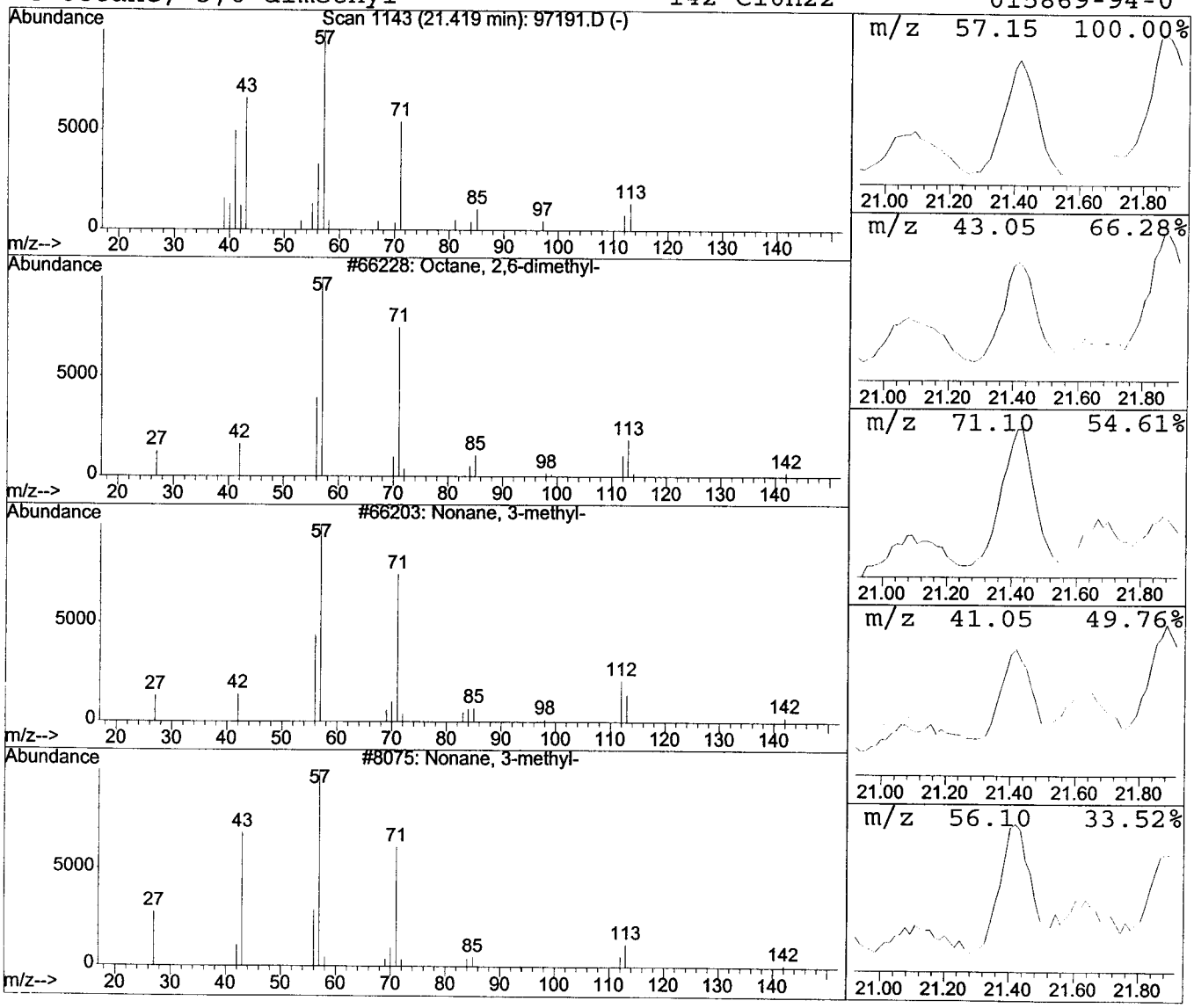
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 10 Octane, 2,6-dimethyl- Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
21.42	0.11 ng	601844	Chlorobenzene-d5	5716770	20.64

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane, 2,6-dimethyl-	142	C10H22	002051-30-1	78
2	Nonane, 3-methyl-	142	C10H22	005911-04-6	72
3	Nonane, 3-methyl-	142	C10H22	005911-04-6	72
4	Octane, 3,6-dimethyl-	142	C10H22	015869-94-0	72



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

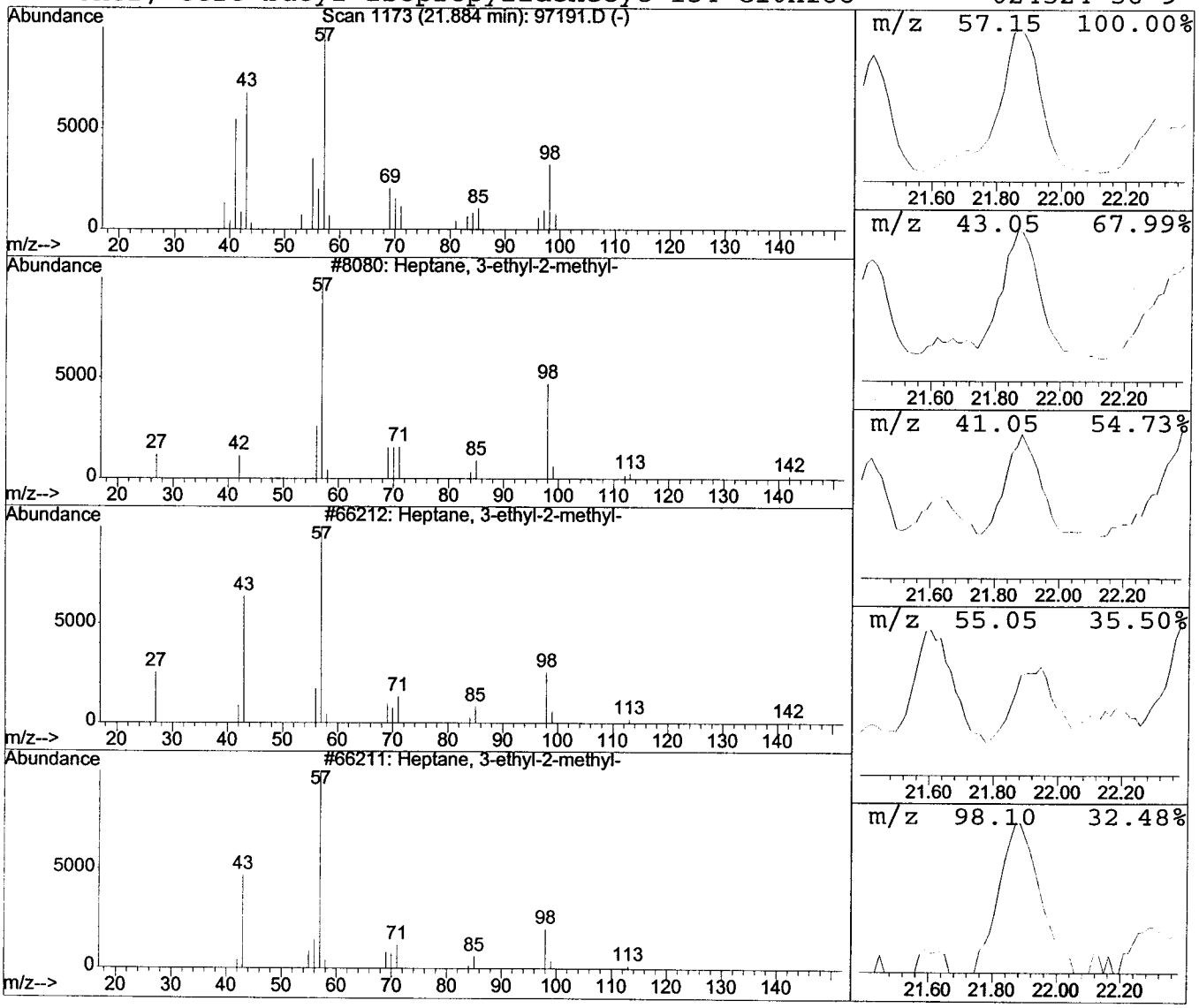
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 11 Heptane, 3-ethyl-2-methyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
21.88	0.15 ng	864054	Chlorobenzene-d5	5716770	20.64

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptane, 3-ethyl-2-methyl-	142	C10H22	014676-29-0	72
2	Heptane, 3-ethyl-2-methyl-	142	C10H22	014676-29-0	64
3	Heptane, 3-ethyl-2-methyl-	142	C10H22	014676-29-0	64
4	Ether, tert-butyl isopropylidenecyc	154	C10H18O	024524-56-9	43



Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

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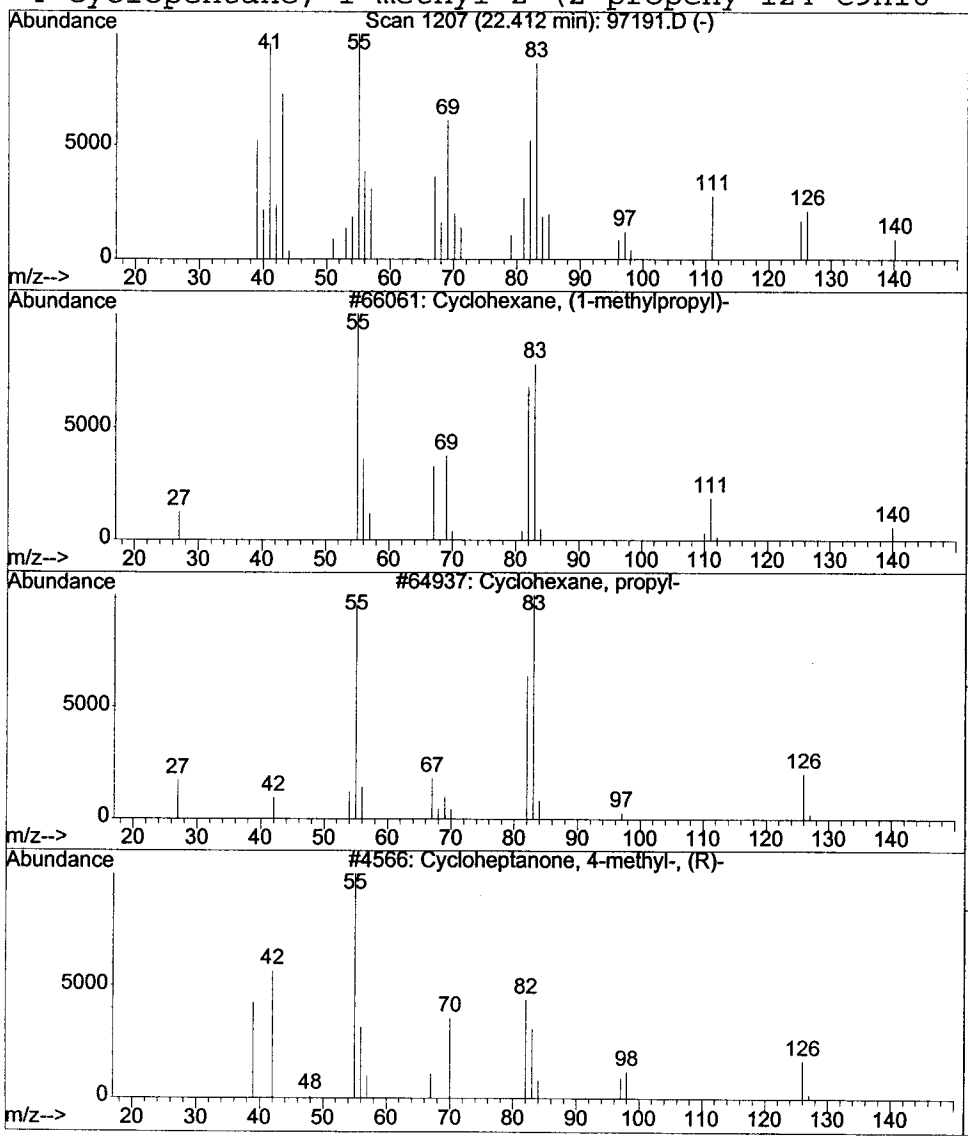
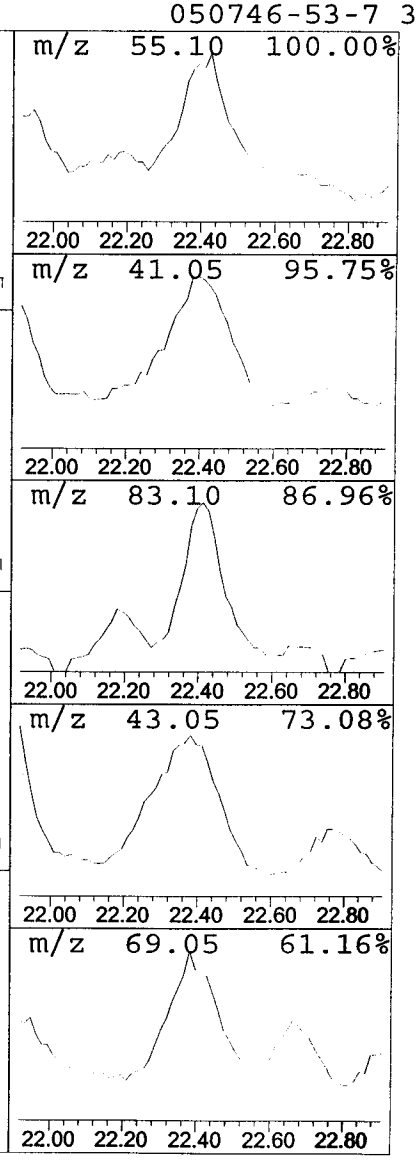
Peak Number 12 Cyclohexane, (1-methylpropyl)- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
22.41	0.29 ng	1663540	Chlorobenzene-d5	5716770	20.64

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, (1-methylpropyl)-	140	C10H20	007058-01-7	52
2	Cyclohexane, propyl-	126	C9H18	001678-92-8	47
3	Cycloheptanone, 4-methyl-, (R)-	126	C8H14O	013609-59-1	38
4	Cyclopentane, 1-methyl-2-(2-propeny	124	C9H16	050746-53-7	35





Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

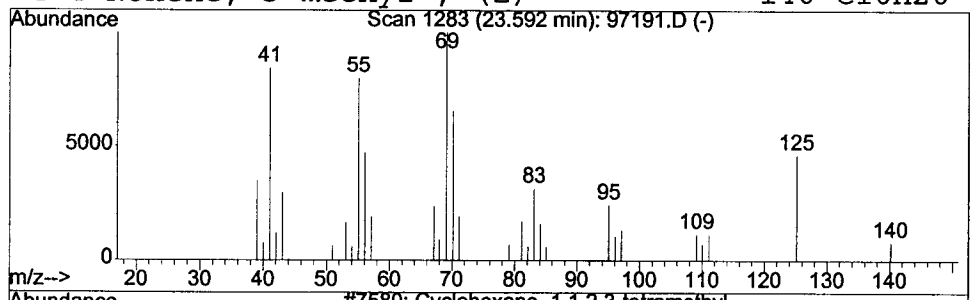
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

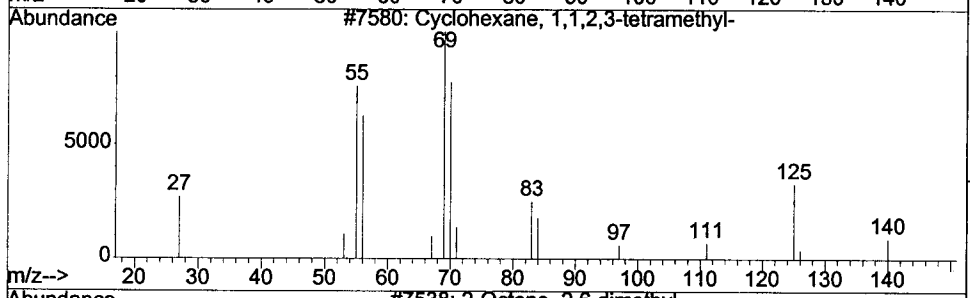
****

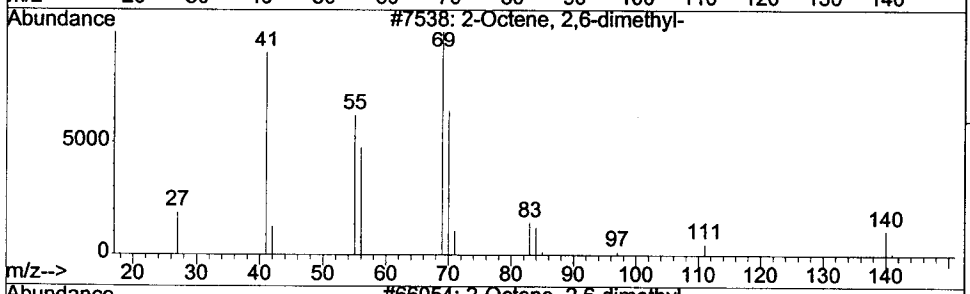
Peak Number 13 Cyclohexane, 1,1,2,3-tetrameth Concentration Rank 6

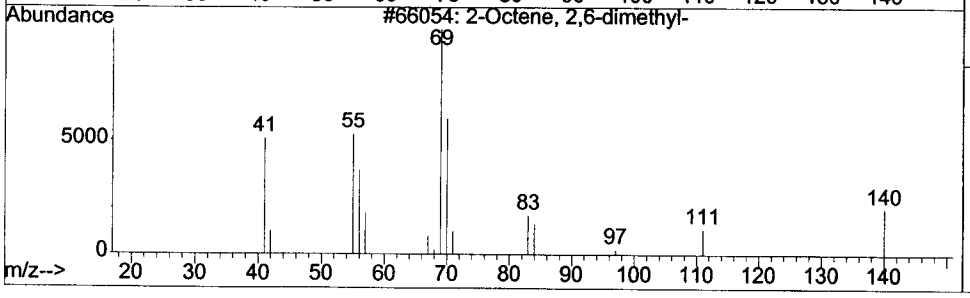
R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
23.59	0.19 ng	1090300	Chlorobenzene-d5	5716770	20.64

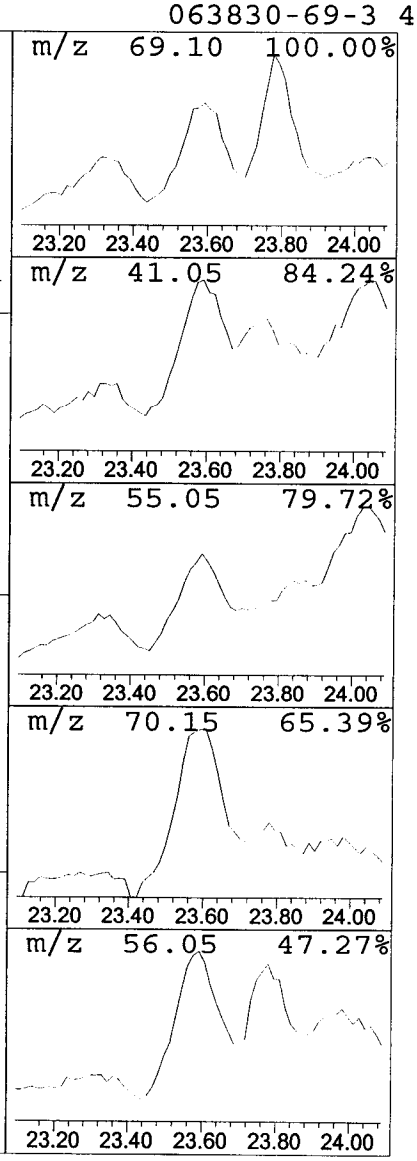
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, 1,1,2,3-tetramethyl-	140	C10H20	006783-92-2	68
2	2-Octene, 2,6-dimethyl-	140	C10H20	004057-42-5	52
3	2-Octene, 2,6-dimethyl-	140	C10H20	004057-42-5	52
4	4-Nonene, 3-methyl-, (Z)-	140	C10H20	063830-69-3	49











Library Search Compound Report

Data File : D:\HPCHEM\1\DATA\MARILYN\1M1007A\97191.D Vial: 1
Acq On : 7 Oct 2001 21:07 Operator: BDH
Sample : 062SVEEA09270120\9719-1 ST 500mls Inst : GC/MS Ins
Misc : Pf/Pi=2 MA209ABK Multiplr: 0.00
MS Integration Params: LSCINT.P

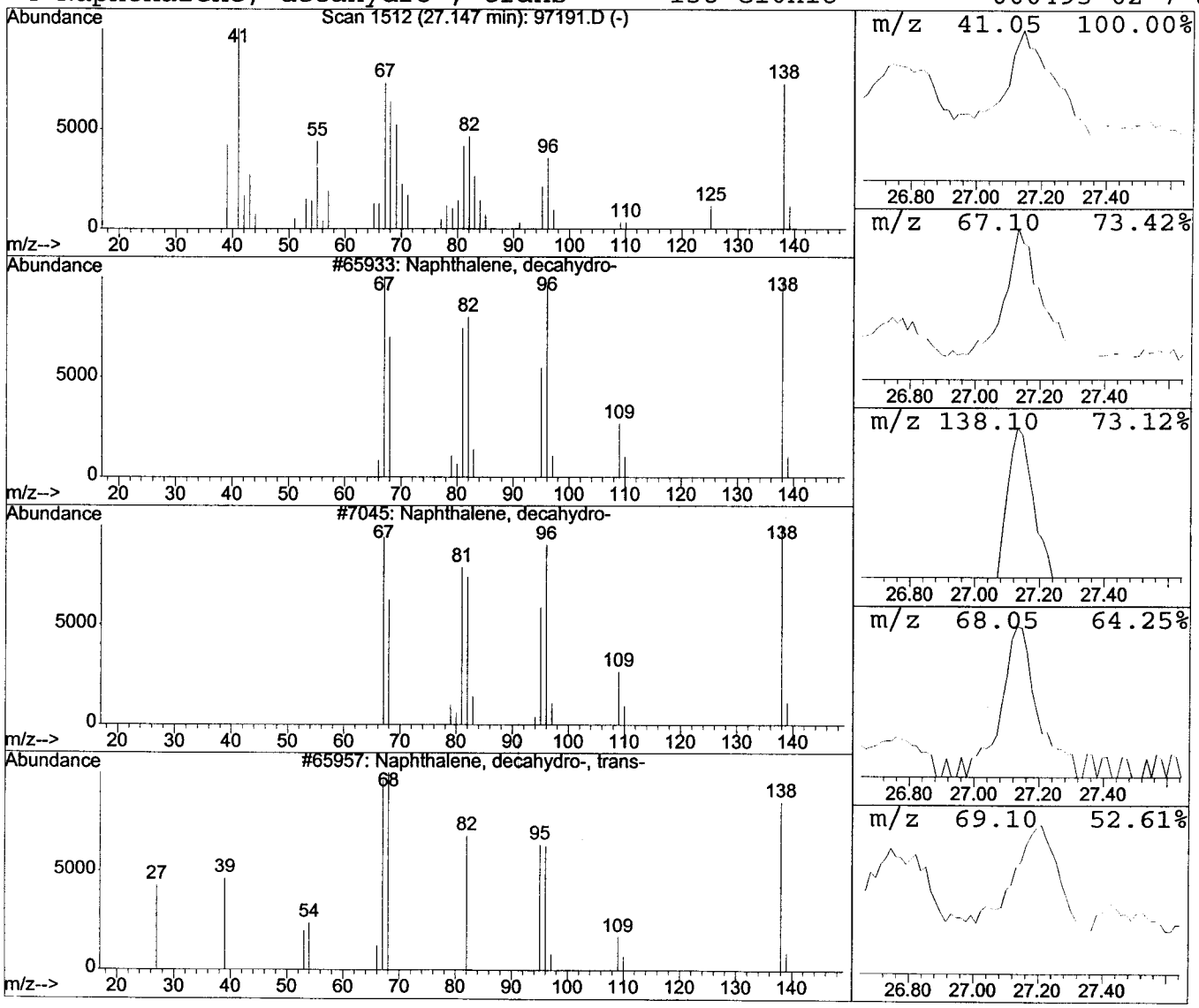
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Library : C:\DATABASE\NBS75K.L

****

Peak Number 14 Naphthalene, decahydro- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	IS Area	R.T.
27.15	0.17 ng	992497	Chlorobenzene-d5	5716770	20.64

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, decahydro-	138	C10H18	000091-17-8	90
2	Naphthalene, decahydro-	138	C10H18	000091-17-8	90
3	Naphthalene, decahydro-, trans-	138	C10H18	000493-02-7	83
4	Naphthalene, decahydro-, trans-	138	C10H18	000493-02-7	83



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.	#o unpi
502C	A804076	Acc STD	2000 µg/ml	7/1999	DWS 5/15/97	7-VN 2-1	3
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DWS 5/28/97	7-VN 2-2	4
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3	1(
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DWS 5/29/98	7-VN 2-4	1(
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5	1(
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DWS 6/16/98	7-VN 2-6	1(
Custom To14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7	1(
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8	1(
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	~~BH~~ 7/29/98	7-VN 2-9	
8260 Surr	A11795	Restek	2500 µg/ml	8/2001	DWS 10/6/98	7-VN 2-10	1(
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DWS 10/6/98	7-VN 2-11	1(
Matrix Spike	LA76220	Supelco	25 µg/ml	8/2000	DWS 10/7/98	7-VN 2-12	1(
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	DWS 10/8/98	7-VN 2-13	1
8260 Kit	1570	Restek	Varies	6/2000	DWS 11/10	7-VN 2-14	1
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15	2
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16	1(
2-Chloroethyl vinyl ether	A8090942-3B	Accustandard	200.1 µg/ml	9/99	BD 1/29/99	7-VN 2-17	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWS 3/9/99	7-VN 2-18	1
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DWS 3/9/99	7-VN 2-19	1
Custom Keytones Mix	A011115	Restek	2000 µg/ml	3/2000	DWS 3/10/99	7-VN 2-20	5
8260 Spike Kit	Varies	Restek	Varies	6/2001	DWS 3/10/99	7-VN 2-21	
8260 Cali. 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 5/10/99	7-VN 2-25	
~~Custom To14 Voa Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~	
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DWS 6/9/99	7-VN 2-27	
Idomethane	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~~ A way 1st Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Various	Various 2002 dates	11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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* To be used if neat standard is to be kept after container is opened.

STL - PENSACOLA, FL / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 (Not in Use)	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	2	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014275	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Vitra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom Keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016399	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	DK 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

* To be used if neat standard is to be kept after container is opened.

Revised 7/0 4/13/

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Volatile Mix 6	LA89247	Supleco	2000µg/ml	6/22/00	7/2001	1	8-VN 2-1
Iodomethane	LA89888	Supleco	20000µg/ml	6/22/00	7/2001	1	8-VN 2-2
8260 Mix 1	LA90476	Supleco	2000µg/ml	6/22/00	5/2002	1	8-VN 2-3
8260 IS	A016278	Restek	2500µg/ml	8/25/00	8/2003	10	8-VN 2-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/2/00	11/1/2001	2	8-VN 2-5
1,1,2-Trichloro-1,2,2-Trifluoroethane	A016542	Restek	2000µg/ml	10/17	10/17/2001	1	8-VN 2-6
1,1,2-Trichloro-1,2,2-Trifluoroethane	A810018	Acc STD	2000µg/ml	10/31	11/1/2001	2	8-VN 2-7
8260 Vol Kit	Various	Restek	2000µg/ml	11/1/00	11	1	8-VN 2-8
MTBE / Freon 113	A016494 A016542	Restek	2000	1/2004 11/1/2001	11/1/00	2 each	8-VN 2-9
n-Hexane	B0110235	Accustandard	2.0mg/ml	11/16/00	12/1/01	2	8-VN 2-10
Iso-octane	B0110234	↓	↓	↓	↓	5	8-VN 2-11
BP Shortlist Std.	LA95178	Supelco	5000µg/ml	12/20/00	12/20/01	3	8-VN 2-12
8260 Surr	A017973	Restek	2500µg/ml	12/22/00	3/2004	10	8-VN 2-13
Nitrobenzene	LA91148	Supelco	5000µg/ml	1/4/01	6/2003	1	8-VN 2-14
Nitrobenzene	044-072	AccuStandard	1000µg/ml	1/5/01	1/6/02	1	8-VN 2-15
Oxygenate Gasoline Add std	B1010025	Accustandard	Varied	2/20/01	1/4/03	1	8-VN 2-16
Keytone Mix	A019217	Restek	Various 4/6/01	4/6/01 ~~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

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: Oxygenates
Date: 3/1/01
Analyst: W/C

Standard I.D.: 8 -MSW 19- 1
Location: Freezer MS018
Solvent: MEOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-16	B010025	1/4/03	2000-10,000	45	1.8ml	50/250 ug/ml

Comments: exp. 9/1/01

Sol. Name: IS/Surr
Date: 3-29-01
Analyst: [illegible]

Standard I.D.: 8 -MSW 19- 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-4	A016278	8/03	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN-2-13	A017973	3/04	2500 µg/ml	↓	↓	↓

Comments: Exp 9-29-01

Sol. Name: Tol4 IS/SURR
Date: 4-2-01
Analyst: BDH

Standard I.D.: 8 -MSW 19-3
Location: Freezer MS018
Solvent: Methanol
Lot # V03E71

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6 (IS)	A012765	11/01	2500 µg/ml	500 µls	50 mls	25 ppm
7-VN-2-16 (Surr)	A012764	11/01	↓ ↓	↓	↓	↓

Comments: expires 10/2/01

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: AIR-SPIKE
Date:
Analyst:

Standard I.D.: 8 -MSW23. 1
Location: MS018 -Freezer
Solvent: MeOH -V04E74

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-27	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: expires 12/12/01

Sol. Name: IS/SURR
Date: 6/20/01
Analyst:

Standard I.D.: 8 -MSW23 2
Location:
Solvent:

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-4 IS	A016278	8/03	2500	500	10	125 ug/ml
8-VN2-13 SURR	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 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

STL Pensacola / GCMS Volatiles Run Log

Date 10-7-01 | Instrument ID : MARILYN | Method / TO14 /8260AIR /8260WATER /624MOD all airs

Batch MAB209 (1) 2 3 | Batch ____ 1 2 3 | Batch ____ 1 2 3 | Maint. ____ were summa cans

IS# 9 -MSW- 19 - 3 (+Surr) | TO14 8 -MSW- 23 - 3 | AIR-SPK 8 -MSW- 21 - 1 (LCS) | Sequence cont. on page

BFB 8 -MSW- 19 - 3 | 8260 -MSW- - | W-SPK -MSW- -

113

TIME 11:07	POS #13	METH/ BATCH	FILE NAME/ SAMPLE ID BEM1007A	DIL. —	RR	PRESERVED	MATRIX W	QC PASS** yes	*INIT BH	COMMENTS separate shot at 11:07 - passes
11:27	14	To14.m	CM 1007A named CM1009A by accident BH 10/9	50ppb		Y N	W	yes	BH	Daily Cal Check/bfb tune/95' ion area = 533,000
12:51	15		M A 209A BK	ST		Y N				Daily Method Blank
13:28	16		M A209 LCS	50ppb		Y N				Batch# 209 LCS
14:05	1		9716-2	X10		Y N	A(TO14)			50mls
14:39	2		-4			Y N				re-run ST.
15:51	1		9716-1	ST		Y N				500mls re-run X10 - 4 cmpds.
16:25	1		-3.			Y N				re-run X10 - cis12DCE
16:58	1		-4R	ST	✓	Y N				re-run ST. possible C.O. verified; report from #3 run at 1959
15:12	1		9664-1	ST.		Y N				
17:31	1		9717-1	ST.		Y N				
18:09	1		-2	ST.		Y N				
18:46	5		9716 -1R	X10	✓	Y N				for 4 cmpds
19:23	6		-3R	X10	✓	Y N				for cis12DCE only
19:59	1		9716 -4RR	ST	✓	Y N				c.o. check - report this run
20:33	1		9718-1	ST		Y N				
21:07	1		9719-1	ST.		Y N				
21:44	1		QC212	ST.		Y N				QC can check # 212 ST. - passes
—	14-13	BFBSTL	BLKTUBE	—		Y N	—	—		MPM clean-up/prep
:						Y N				
:						Y N				
:						Y N				BH 10-7-01
:						Y N				
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

SIL - Pensacola / GCMS Volatiles Run Log

Date 6-19-01 | Instrument ID : Marilyn | Method (TO14.m) 8260A.m/8260W.m | Other: New 1014 curve

Batch MAB127 (1) 2 3 | Batch 1 2 3 | Daily maint.

IS# 8 -MSW- 19 -3 | TO14 8 -MSW- 17 - 1 | AIR-SPK 8 -MSW- 23 - 1 | LCS# 8 -MSW- 23 - 1

BFB 8 -MSW- 19 -3 | 8260 -MSW- - | WATER-SPK -MSW- - | SURR# 8 -MSW- 19 -3

1114

TIME	POS#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	COMMENTS	*INIT	I.S. AREA X 1000 #1	#2	#3	#4
08:27	14	To14.m	BFM ———	50ng		N	Methanol	95 Ion Area = 988,000 (From ~~CCV~~ Blank)	BH	—	—	—	—
~~08:29~~ 10:20	14		CMA0250	50ppb		N	W	Daily Calib. Check		~~319~~ 325	~~1357~~ 1279	973	
08:37	15		MA127A BK	ST.		N	W	Daily Method Blank		319	1357	1016	—
13:41	16		MA127 LCS	50ppb		N	W	Batch # 127 LCS (2nd Source)		323	1296	962	—
09:04	14		CMA0075	5ppb		Y N	A(To14)	5ppb ICAL		319	1323	992	—
09:42	14		CMA0100	20ppb		Y N		20ppb		344	1383	1045	—
10:20	14		CMA0250	50ppb		Y N		50ppb ccv too		315	1279	973	—
10:58	14		CMA0500	100ppb		Y N		100ppb		316	1331	1006	—
11:46	14		CMA1000	200ppb		Y N		200ppb		297	1211	915	—
12:24	14		CMA1500	300ppb		Y N		300ppb		306	1263	947	—
14:22	1		6240-1	ST.		Y N		500mls		285	1001	780	—
14:57	1		-2			Y N				315	1126	878	—
15:34	9		6156-4	x20		Y N		25mls		325	1303	979	—
16:12	10		-5	x10		Y N		50mls		330	1325	988	—
16:50	11		6364-1	X1000		Y N		0.5ml		313	1279	964	—
17:28	12		6442-1	x20		Y N		25mls		336	1401	1061	—
:						Y N							
:						Y N							
:						Y N		BH					
:						Y N		6/19/01					
:						Y N		shift #1					
:						Y N							
:						Y N							
:						Y N							

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinguished sample(s) back to the sample storage refrigerator.

Appendix B

Laboratory Analytical Reports for Groundwater Samples
(CD only)

1010000 1000101 1100110

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	9-20-01; 10:10 AM
Date Reported:	10-3-01
PEL Submission Number:	2109095
Project:	NAS Cecil Field

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

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

CCI NAVY RAC PMO
OCT - 4 2001

Respectfully Submitted,

For: 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 2109095-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2109095	062DUPQ30120	FD	210909515	062-DUP-Q3-012-0
Cecil Field	2109095	062EQBQ30120	EB	210909516	062-EQB-Q3-01-20
Cecil Field	2109095	062MW13Q30120	N	210909503	062-MW13-Q3-01-20
Cecil Field	2109095	062MW20Q30120	N	210909504	062-MW20-Q3-01-20
Cecil Field	2109095	062MW20Q30120MS	MS	210909505	062-MW20-Q3-01-20
Cecil Field	2109095	062MW20Q30120SD	SD	210909506	062-MW20-Q3-01-20
Cecil Field	2109095	062MW22Q30120	N	210909507	062-MW22-Q3-01-20
Cecil Field	2109095	062MW4Q30120	N	210909501	062-MW4-Q3-01-20
Cecil Field	2109095	062MW9Q30120	N	210909502	062-MW9-Q3-01-20
Cecil Field	2109095	062TBQ30120	TB	210909517	062-TB-Q3-01-20
Cecil Field	2109095	062VEW2Q30120	N	210909508	062-VEW2-Q3-01-20
Cecil Field	2109095	062VEW3Q30120	N	210909509	062-VEW3-Q3-01-20
Cecil Field	2109095	062VEW4Q30120	N	210909510	062-VEW4-Q3-01-20
Cecil Field	2109095	062VEW5Q30120	N	210909511	062-VEW5-Q3-01-20
Cecil Field	2109095	062VEW6Q30120	N	210909512	062-VEW6-Q3-01-20
Cecil Field	2109095	062VEW7Q30120	N	210909513	062-VEW7-Q3-01-20
Cecil Field	2109095	062VEW8Q30120	N	210909514	062-VEW8-Q3-01-20
Cecil Field	2109095	0924blk11	MB	0924blk11	0924blk11
Cecil Field	2109095	0924lcs11	BS	0924lcs11	0924lcs11
Cecil Field	2109095	0925blk11	MB	0925blk11	0925blk11
Cecil Field	2109095	0925lcs11	BS	0925lcs11	0925lcs11

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Level 3

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Organics

Organic Data Qualifiers

U	Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for the compound. The reporting limit can vary from sample to sample depending on the dilution factors or the percent moisture adjustment when indicated.
J	Indicates estimated value. It is used when the data indicates the presence of a compound above the MDL yet lower than the reporting limit.
B	Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.
E	Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.
D	Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution that required for accurate quantitation.
C	The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.
P	This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two values is reported on the Form 1 with a "P" code.
N	This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.
A	This qualifier indicates that a YIC is suspected aldol-condensation product.
M	This qualifier indicates that the compound is reported as a summation of analyte isomers.
X	Data flagged as rejected by analyst utilizing analytical judgment.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis is defined below:

DL — Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R — Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE — Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS — Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD — Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC VOLATILE ORGANICS

METHOD 8021

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2109095

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by EPA 5030/SW846 for 8021 volatiles analysis.
All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

Initial calibration criteria are stated in SW-846 EPA method 8021. All analytes have a maximum percent RSD of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, if one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 20. In those instances, the average will be calculated and cited on the calibration forms.

Continuing Calibration criteria is stated in SW-846 EPA method 8021. All analytes have a maximum percent D of 15 with the exception of bromomethane, chloroethane, chloromethane, dichlorodifluoromethane, trichlorofluoromethane, and vinyl chloride which may have a percent D of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, If one or more of the analytes exceed the maximum percent D the average percent D may be used provided the average is less than or equal to 20. In those instances, the average will be calculated and cited on the calibration forms.

B. Blanks:

Blank 0924blk11 analyzed with the water samples was non-detect for all target analytes.

Blank 0925blk11 analyzed with the water samples had Ethylbenzene and m,p-Xylene above the MDL but below the RL. All associated samples received the appropriate qualifier.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2109095

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Samples (LCS)

Two LCSs were analyzed with the samples where all criteria were met for percent recovery.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, 062MW20Q30120, was analyzed as an MS/SD where all criteria were met for percent recovery. One out of six analytes did not meet the acceptance criteria for Relative Percent Difference.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. PEL reporting limits were used. All analytes were quantitated off of the PID detector. There was a retention time shift that occurred after the initial calibration was analyzed to the time when the samples from this SDG were analyzed. This could be attributed to a gas cylinder change. It did not affect peak identification.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Lisa Pelo **DATE:** 10/02/01

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Method: 8021

EPA Sample No	Lab Sample ID
062MW4Q30120	210909501
062MW9Q30120	210909502
062MW13Q30120	210909503
062MW20Q30120	210909504
062MW22Q30120	210909507
062VEW2Q30120	210909508
062VEW3Q30120	210909509
062VEW4Q30120	210909510
062VEW5Q30120	210909511
062VEW6Q30120	210909512
062VEW7Q30120	210909513
062VEW8Q30120	210909514
062DUPQ30120	210909515
062EQBQ30120	210909516
062TBQ30120	210909517

Sample Data

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW4Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909501 Lab File ID 95-1R.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 1247

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-293-4 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	0.18	J
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062MW9Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909502 Lab File ID 95-2.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1325

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-293-9 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062MW13Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909503 Lab File ID 95-3.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1411

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-293-13 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.36	J
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.
062MW20Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909504 Lab File ID 95-4.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1457

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-293-20 Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	0.72	J
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.35	J
511-39-00	M,P-Xylene	0.58	J
95-47-6	O-Xylene	0.55	J

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062MW22Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909507 Lab File ID 95-7R.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 1332

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID CEF-293-22 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1.9	
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.44	JB
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

JB

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW2Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909508 Lab File ID 95-8.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1800

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-2 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	14	
511-39-00	M,P-Xylene	1.2	J
95-47-6	O-Xylene	5.9	

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW3Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909509 Lab File ID 95-9.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1846

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-3 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW4Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909510 Lab File ID 95-10.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 1931

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-4 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW5Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909511 Lab File ID 95-11.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 2145

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-5 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW6Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909512 Lab File ID 95-12.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 2230

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-6 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW7Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909513 Lab File ID 95-13.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 2314

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-7 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062VEW8Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909514 Lab File ID 95-14.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 2359

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID VEW-8 Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062DUPQ30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909515 Lab File ID 95-15.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 0044

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID Duplicate Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.27	J
511-39-00	M,P-Xylene	0.58	J
95-47-6	O-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062EQBQ30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909516 Lab File ID 95-16.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 0128

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID Equipment Blank Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 062TBQ30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 210909517 Lab File ID 95-17.D

Sample wt/vol: 5 Units: ML Date Received: 09/20/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 0213

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID Trip Blank Method: 8021

GPC Cleanup: (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	0.5	U
95-47-6	O-Xylene	1	U

QC Summary

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 0924blk11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 0924blk11 Lab File ID BLK11.D

Sample wt/vol: 5 Units: ML Date Received: 09/24/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/24/01 Time: 0938

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	M,P-Xylene	2	U
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 0925blk11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109095

Matrix: WATER Lab Sample ID 0925blk11 Lab File ID BLK11.D

Sample wt/vol: 5 Units: ML Date Received: 09/25/01

Concentrated Extract Volume: Date Extracted:

Level:(low/med) LOW Date Analyzed: 09/25/01 Time: 0946

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID QC Method: 8021

GPC Cleanup : (Y/N) pH:

Column: RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.26	J
511-39-00	M,P-Xylene	0.7	J
95-47-6	O-Xylene	1	U

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0924blk11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Lab File ID BLK11.D Lab Sample ID 0924blk11

Instrument ID: vgc2 Date Extracted:

Matrix: WATER Date Analyzed: 09/24/01

Level:(low/med) LOW Time Analyzed: 0938

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	0924lcs11	0924lcs11	LCS11.D	09/24/01	1023
2	062MW9Q30120	210909502	95-2.D	09/24/01	1325
3	062MW13Q30120	210909503	95-3.D	09/24/01	1411
4	062MW20Q30120	210909504	95-4.D	09/24/01	1457
5	062MW20Q30120MS	210909505	95-5MS.D	09/24/01	1544
6	062MW20Q30120SD	210909506	95-6SD.D	09/24/01	1629
7	062VEW2Q30120	210909508	95-8.D	09/24/01	1800
8	062VEW3Q30120	210909509	95-9.D	09/24/01	1846
9	062VEW4Q30120	210909510	95-10.D	09/24/01	1931
10	062VEW5Q30120	210909511	95-11.D	09/24/01	2145
11	062VEW6Q30120	210909512	95-12.D	09/24/01	2230
12	062VEW7Q30120	210909513	95-13.D	09/24/01	2314
13	062VEW8Q30120	210909514	95-14.D	09/24/01	2359
14	062DUPQ30120	210909515	95-15.D	09/25/01	0044
15	062EQBQ30120	210909516	95-16.D	09/25/01	0128
16	062TBQ30120	210909517	95-17.D	09/25/01	0213

COMMENTS:

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0925blk11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. SAS No: SDG No.: 2109095

Lab File ID BLK11.D Lab Sample ID 0925blk11

Instrument ID: vgc2 Date Extracted:

Matrix: WATER Date Analyzed: 09/25/01

Level:(low/med) LOW Time Analyzed: 0946

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	0925lcs11	0925lcs11	LCS11.D	09/25/01	1031
2	062MW4Q30120	210909501	95-1R.D	09/25/01	1247
3	062MW22Q30120	210909507	95-7R.D	09/25/01	1332

COMMENTS:

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2109095

Column: RTX-502.2 ID: 0.53

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ30120	87.3						0
062EQBQ30120	86.3						0
062MW13Q30120	97.3						0
062MW20Q30120	81.3						0
062MW20Q30120MS	93.3						0
062MW20Q30120SD	89.7						0
062MW22Q30120	78.3						0
062MW4Q30120	78.7						0
062MW9Q30120	82.3						0
062TBQ30120	76.3						0
062VEW2Q30120	78.3						0
062VEW3Q30120	89.7						0
062VEW4Q30120	74.7						0
062VEW5Q30120	96.3						0
062VEW6Q30120	88.7						0
062VEW7Q30120	74.7						0
062VEW8Q30120	82.7						0
0924blk11	84.0						0
0924lcs11	90.7						0
0925blk11	85.0						0
0925lcs11	86.7						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

260901 1216

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Lab File ID (Standard): CCV12 Date Analyzed: 09/24/01

Instrument ID: VGC2 Time Analyzed: 0853

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	610654	14.41				
	UPPER LIMIT	1221308	14.91				
	LOWER LIMIT	305327	13.91				
	CLIENT SAMPLE NO.						
01	0924BLK11	578396	14.43				
02	0924LCS11	575402	14.44				
03	062MW9Q30120	334227	14.49				
04	062MW13Q30120	518542	14.50				
05	062MW20Q30120	601409	14.50				
06	062MW20Q30120MS	332309	14.50				
07	062MW20Q30120SD	560772	14.50				
08	062VEW2Q30120	575257	14.47				
09	062VEW3Q30120	512520	14.46				
10	062VEW4Q30120	562884	14.45				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Lab File ID (Standard): CCV24 Date Analyzed: 09/24/01

Instrument ID: VGC2 Time Analyzed: 2100

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	518936	14.43				
	UPPER LIMIT	1037872	14.93				
	LOWER LIMIT	259468	13.93				
	CLIENT SAMPLE NO.						
01	062VEW5Q30120	464065	14.43				
02	062VEW6Q30120	398811	14.42				
03	062VEW7Q30120	523895	14.43				
04	062VEW8Q30120	479284	14.43				
05	062DUPQ30120	467811	14.43				
06	062EQBQ30120	461238	14.43				
07	062TBQ30120	499988	14.43				
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Lab File ID (Standard): CCV11 Date Analyzed: 09/25/01

Instrument ID: VGC2 Time Analyzed: 0817

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	513802	14.42				
	UPPER LIMIT	1027604	14.92				
	LOWER LIMIT	256901	13.92				
	CLIENT SAMPLE NO.						
01	0925BLK11	481881	14.44				
02	0925LCS11	499563	14.44				
03	062MW4Q30120	501561	14.46				
04	062MW22Q30120	508904	14.45				
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 09/19/01

Instrument ID: VGC2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 29.12 S2 : 28.59

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	500PPTSTD	500PPTSTD	09/19/01	0952	29.03*	28.57
02	1PPBSTD	1PPBSTD	09/19/01	1122	29.07*	28.59
03	2PPBSTD	2PPBSTD	09/19/01	1254	29.09	28.61
04	5PPBSTD	5PPBSTD	09/19/01	1340	29.09	28.61
05	10PPBSTD	10PPBSTD	09/19/01	1426	29.10	28.62
06	20PPBSTD	20PPBSTD	09/19/01	1512	29.10	28.62
07	30PPBSTD	30PPBSTD	09/19/01	1558	29.09	28.61
08	40PPBSTD	40PPBSTD	09/19/01	1644	29.09	28.61
09	50PPBSTD	50PPBSTD	09/19/01	1732	29.07	28.59
10	100PPBSTD	100PPBSTD	09/19/01	1818	29.06*	28.57
11	0924CCV12	0924CCV12	09/24/01	0853	28.95*	
12	0924BLK11	0924BLK11	09/24/01	0938	28.96*	
13	0924LCS11	0924LCS11	09/24/01	1023	28.98*	
14	062MW9Q30120	210909502	09/24/01	1325	29.04*	
15	062MW13Q30120	210909503	09/24/01	1411	29.04*	
16	062MW20Q30120	210909504	09/24/01	1457	29.04*	
17	062MW20Q30120MS	210909505	09/24/01	1544	29.05*	
18	062MW20Q30120SD	210909506	09/24/01	1629	29.04*	
19	062VEW2Q30120	210909508	09/24/01	1800	29.01*	
20	062VEW3Q30120	210909509	09/24/01	1846	29.00*	
21	062VEW4Q30120	210909510	09/24/01	1931	28.98*	
22	092401CCV24	092401CCV24	09/24/01	2100	28.96*	
23	062VEW5Q30120	210909511	09/24/01	2145	28.96*	
24	062VEW6Q30120	210909512	09/24/01	2230	28.96*	
25	062VEW7Q30120	210909513	09/24/01	2314	28.96*	
26	062VEW8Q30120	210909514	09/24/01	2359	28.96*	
27	062DUPQ30120	210909515	09/25/01	0044	28.96*	
28	062EQBQ30120	210909516	09/25/01	0128	28.96*	
29	062TBQ30120	210909517	09/25/01	0213	28.96*	
30	092401CCV25	092401CCV25	09/25/01	0258	28.96*	
31	0925CCV11	0925CCV11	09/25/01	0817	28.95*	
32	0925BLK11	0925BLK11	09/25/01	0946	28.98*	

QC LIMITS
S1 = 4-bromofluorobenzene (+/- 0.05 MINUTES)
S2 = 1,4-dichlorobutane (+/- 0.05 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 09/19/01

Instrument ID: VGC2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 29.12 S2 : 28.59

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	0925LCS11	0925LCS11	09/25/01	1031	28.98*	
02	062MW4Q30120	210909501	09/25/01	1247	28.99*	
03	062MW22Q30120	210909507	09/25/01	1332	29.00*	
04	0925CCV24	0925CCV24	09/25/01	2105	28.98*	
05						
06						
07						
08						
09						
10						
11						
12						
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28						
29						
30						
31						
32						

		QC LIMITS
S1	= 4-bromofluorobenzene	(+/- 0.05 MINUTES)
S2	= 1,4-dichlorobutane	(+/- 0.05 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 0924lcs11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. _____ SAS No: _____ SDG No.: 2109095

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Benzene	10	12	115.0	86 - 117
MTBE	10	11	109.0	61 - 138
Toluene	10	11	111.0	87 - 118
Ethylbenzene	10	9.4	94.0	84 - 119
M,P-Xylene	20	20	100.0	86 - 119
O-Xylene	10	11	106.0	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: _____

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.: 0925lcs11

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code: PEL Case No. _____ SAS No: _____ SDG No.: 2109095

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Benzene	10	11	107.0	86 - 117
MTBE	10	10	102.0	61 - 138
Toluene	10	10	104.0	87 - 118
Ethylbenzene	10	9.4	94.0	84 - 119
M,P-Xylene	20	20	99.5	86 - 119
O-Xylene	10	10	102.0	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: _____

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW20Q30120MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2109095

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
Benzene	10	0.72	10	97.0	82 - 122
MTBE	10	0	10	100.0	67 - 137
Toluene	10	0	9.8	98.0	80 - 124
Ethylbenzene	10	0.35	8.5	82.0	79 - 123
M,P-Xylene	20	0.58	18	85.0	82 - 122
O-Xylene	10	0.55	9.4	88.0	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: _____

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 062MW20Q30120SD

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2109095

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	12	112.0	18.2 *	12	82 - 122
MTBE	10	11	110.0	9.5	15	67 - 137
Toluene	10	11	110.0	11.5	14	80 - 124
Ethylbenzene	10	10	98.0	16.2	18	79 - 123
M,P-Xylene	20	21	102.0	15.4	19	82 - 122
O-Xylene	10	11	106.0	15.7	16	81 - 124

RPD 1 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

Standards Data

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/19/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1818

LAB FILE ID: RF0.5: 500PPTR RF1: 1PPBR RF2: 2PPBR
RF5: 5PPB RF10: 10PPB

COMPOUND	RF0.5	RF1	RF2	RF5	RF10
Benzene		2.109	1.224	1.583	1.577
MTBE		0.688	0.705	0.674	0.698
Toluene		1.960	1.490	1.424	1.529
Ethylbenzene		1.825	1.573	1.427	1.490
m,p-xylene			1.769	1.639	1.632
o-xylene		1.771	1.333	1.375	1.287
4-bromofluorobenzene			2.049	1.221	1.416

Calibration Criteria Is Stated In Narrative

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/19/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1818

LAB FILE ID: RF20: 20PPB RF30: 30PPB RF40: 40PPB
RF50: 50PPB RF100: 100PPB

COMPOUND	RF20	RF30	RF40	RF50	RF100
Benzene	1.547	1.348	1.438	1.317	1.113
MTBE	0.669	0.498	0.571	0.537	0.455
Toluene	1.481	1.271	1.326	1.231	1.023
Ethylbenzene	1.649	1.139	1.287	1.293	1.005
m,p-xylene	1.587	1.303	1.414	1.269	1.106
o-xylene	1.258	1.005	1.136	1.212	0.931
4-bromofluorobenzene	1.358	1.044	1.136	1.050	0.917

Calibration Criteria Is Stated In Narrative

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/19/01

Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1818

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2	
Benzene	AVRG	1.47306507	19.6	
MTBE	AVRG	0.61054299	15.7	
Toluene	AVRG	1.41498554	18.3	
Ethylbenzene	AVRG	1.40973886	18.2	
m,p-xylene	AVRG	1.46496067	15.5	
o-xylene	AVRG	1.25637612	19.3	
4-bromofluorobenzene	AVRG	1.27389057	27.8	<-

Calibration Criteria Is Stated In Narrative

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/24/01 Time: 0853

Lab File ID: CCV12 Init. Calib. Date: 09/19/01

Heated Purge: (Y/N) N Init. Calib. Time: 1818

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	1.47306	1.45189	N/A	1.4	15.0
MTBE	0.61054	0.52371	N/A	14.2	15.0
Toluene	1.41498	1.33023	N/A	6.0	15.0
Ethylbenzene	1.40974	1.22181	N/A	13.3	15.0
m,p-xylene	1.46496	1.28334	N/A	12.4	15.0
o-xylene	1.25637	1.12970	N/A	10.1	15.0
4-bromofluorobenzene	1.27389	1.10806	0.01	13.0	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/24/01 Time: 2100

Lab File ID: CCV24 Init. Calib. Date: 09/19/01

Heated Purge: (Y/N) N Init. Calib. Time: 1818

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	1.47306	1.48754	N/A	1.0	15.0
MTBE	0.61054	0.54469	N/A	10.8	15.0
Toluene	1.41498	1.37004	N/A	3.2	15.0
Ethylbenzene	1.40974	1.23702	N/A	12.2	15.0
m,p-xylene	1.46496	1.34222	N/A	8.4	15.0
o-xylene	1.25637	1.17067	N/A	6.8	15.0
4-bromofluorobenzene	1.27389	1.16142	0.01	8.8	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/25/01 Time: 0258

Lab File ID: CCV25 Init. Calib. Date: 09/19/01

Heated Purge: (Y/N) N Init. Calib. Time: 1818

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	1.47306	1.60550	N/A	9.0	15.0
MTBE	0.61054	0.57373	N/A	6.0	15.0
Toluene	1.41498	1.46669	N/A	3.6	15.0
Ethylbenzene	1.40974	1.30832	N/A	7.2	15.0
m,p-xylene	1.46496	1.41334	N/A	3.5	15.0
o-xylene	1.25637	1.25105	N/A	0.4	15.0
4-bromofluorobenzene	1.27389	1.33816	0.01	5.0	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/25/01 Time: 0817

Lab File ID: CCV11 Init. Calib. Date: 09/19/01

Heated Purge: (Y/N) N Init. Calib. Time: 1818

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	1.47306	1.44522	N/A	1.9	15.0
MTBE	0.61054	0.52752	N/A	13.6	15.0
Toluene	1.41498	1.32899	N/A	6.1	15.0
Ethylbenzene	1.40974	1.20108	N/A	14.8	15.0
m,p-xylene	1.46496	1.31514	N/A	10.2	15.0
o-xylene	1.25637	1.14074	N/A	9.2	15.0
4-bromofluorobenzene	1.27389	1.13366	0.01	11.0	15.0

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109095

Instrument ID: VGC2 Calibration Date: 09/25/01 Time: 2105

Lab File ID: CCV24 Init. Calib. Date: 09/19/01

Heated Purge: (Y/N) N Init. Calib. Time: 1818

GC Column: RTX-502.2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF30	MIN RRF	%D	MAX %D
Benzene	1.47306	1.48752	N/A	1.0	15.0
MTBE	0.61054	0.58999	N/A	3.4	15.0
Toluene	1.41498	1.36108	N/A	3.8	15.0
Ethylbenzene	1.40974	1.21054	N/A	14.1	15.0
m,p-xylene	1.46496	1.30457	N/A	10.9	15.0
o-xylene	1.25637	1.15200	N/A	8.3	15.0
4-bromofluorobenzene	1.27389	1.14055	0.01	10.5	15.0

FORM VII VOA

HPLC PAH Organics
Method 8310

Method 8310 for SDG 2109095 is not reported with this data package due to low percent recoveries on surrogates. Samples are to be re-sampled and reported in a later SDG, and will include all Corrective Action Reports and investigations.

Chain of Custody Documentation

CH2M Hill Co[illegible]ctors, Inc.
115 Perimeter Center Pla[illegible]00
Atlanta, GA 30346-12[illegible]8
Tel No ([illegible]0) 604-9182 ; Fax No ([illegible]0) 604-9282

CHAIN-[illegible] CUSTODY RECORD

COC [illegible]BER
163151-01[illegible] Page 1 of

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904)
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 3rd Quarter GW Sampling	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 561 FAX:604-9282
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 602 BTEX & TM	Napthalene & 1,2-Napthalene									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q3-01-20	CEF-293-4	W	09/19/01	16:00	III/C	14	3	1									Grab		01
2	062-MW9-Q3-01-20	CEF-293-9	W	09/19/01	15:35	III/C	14	3	1									Grab	Turbid	02
3	062-MW13-Q3-01-20	CEF-293-13	W	09/19/01	11:10	III/C	14	3	1									Grab	Turbid	03
4	062-MW20-Q3-01-20	CEF-293-20	W	09/19/01	10:10	III/C	14	6	3									Grab	MS / MSD	04,05,06
5	062-MW22-Q3-01-20	CEF-293-22	W	09/19/01	10:30	III/C	14	3	1									Grab	Turbid	07
6	062-VEW2-Q3-01-20	VEW-2	W	09/19/01	14:30	III/C	14	3	1									Grab	Free product in sample. Turbid	08
7	062-VEW3-Q3-01-20	VEW-3	W	09/19/01	14:10	III/C	14	3	1									Grab	Turbid	09
8	062-VEW4-Q3-01-20	VEW-4	W	09/19/01	10:50	III/C	14	3	1									Grab	Turbid	10
9	062-VEW5-Q3-01-20	VEW-5	W	09/19/01	13:50	III/C	14	3	1									Grab	Turbid	11
10	062-VEW6-Q3-01-20	VEW-6	W	09/19/01	11:30	III/C	14	3	1									Grab	Turbid	12
11	062-VEW7-Q3-01-20	VEW-7	W	09/19/01	15:00	III/C	14	3	1									Grab	Turbid	13
12	062-VEW8-Q3-01-20	VEW-8	W	09/19/01	15:20	III/C	14	3	1									Grab	Turbid	14
13	062-DUP-Q3-01-20	Duplicate	W	09/19/01	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-Q3-01-20	Equipment Blank	W	09/19/01	14:40	III/C	14	3	1									Grab		16
16	062-TB-Q3-01-20	Trip Blank	W	NA	NA	III/C	14	4											Prepared by Lab	17

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Scott Sloan J.A. Jones Environmental Services	Federal Express TRK #791660779774, 792681398615.(2 Coolers)	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop	9/19/01	18:00	Federal Express	9/19/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			KEITH W. BRENNER	9/20/01	10:10
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

Temp upon rec'd 4 °C pH <2 (5021)

CH2M Hill C[illegible]ructors, Inc.
115 Perimeter Center [illegible] Suite 700
Atlanta, GA 30346-12[illegible]
Tel No ([illegible]) 604-9182 ; Fax No ([illegible]) 604-9282

2109-095

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 163151-010 Page 1 of

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904)
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 3rd Quarter GW Sampling	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 561 FAX:604-9282
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 602 EXH & T..	Napthalene & 1,2-Napthalene										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q3-01-20	CEF-293-4	W	09/19/01	16:00	III/C	14	3	1										Grab		01
2	062-MW9-Q3-01-20	CEF-293-9	W	09/19/01	15:35	III/C	14	3	1										Grab	Turbid	02
3	062-MW13-Q3-01-20	CEF-293-13	W	09/19/01	11:10	III/C	14	3	1										Grab	Turbid	03
4	062-MW20-Q3-01-20	CEF-293-20	W	09/19/01	10:10	III/C	14	6	3										Grab	MS / MSD	04,05,06
5	062-MW22-Q3-01-20	CEF-293-22	W	09/19/01	10:30	III/C	14	3	1										Grab	Turbid	07
6	062-VEW2-Q3-01-20	VEW-2	W	09/19/01	14:30	III/C	14	3	1										Grab	Free product in sample. Turbid	08
7	062-VEW3-Q3-01-20	VEW-3	W	09/19/01	14:10	III/C	14	3	1										Grab	Turbid	09
8	062-VEW4-Q3-01-20	VEW-4	W	09/19/01	10:50	III/C	14	3	1										Grab	Turbid	10
9	062-VEW5-Q3-01-20	VEW-5	W	09/19/01	13:50	III/C	14	3	1										Grab	Turbid	11
10	062-VEW6-Q3-01-20	VEW-6	W	09/19/01	11:30	III/C	14	3	1										Grab	Turbid	12
11	062-VEW7-Q3-01-20	VEW-7	W	09/19/01	15:00	III/C	14	3	1										Grab	Turbid	13
12	062-VEW8-Q3-01-20	VEW-8	W	09/19/01	15:20	III/C	14	3	1										Grab	Turbid	14
13	062-DUP-Q3-01-20	Duplicate	W	09/19/01	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-Q3-01-20	Equipment Blank	W	09/19/01	14:40	III/C	14	3	1										Grab		16
16	062-TB-Q3-01-20	Trip Blank	W	NA	NA	III/C	14	4												Prepared by Lab	17

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Scott Sloan J.A. Jones Environmental Services	Federal Express TRK #791660779774, 792681398615.(2 Coolers)	*8310's not to be reported; Client to resample.

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: R.Dumaop	9/19/01	18:00	Printed Name and Signature: Federal Express	9/19/01	18:00
Printed Name and Signature:			Printed Name and Signature: KEITH W. BRENNER	9/20/01	10:10
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

Temp upon rec'd 4 °C pH <2 (8021)

PEL LAB SAMPLE LOG IN SHEET

Client Information

Project # 2109-095

Client: CH2M Hill	Date Recd: 09/20/01
Project: Cecil Field	Due Date: 10/01/01
Log In Tech: NOH	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 (HCl)	✓		Correct Sample Containers	✓	
Soil Origin Domestic	NA		Soil Origin Foreign	NA	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: STND / RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2109-095 By NOU

Client/Project CH2MHill / Cecil Field Date 09/20/01

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other pH
2109-095-01					3 pH<2	
02					3	
03					3	
04					2	
05					2	
06					2	
07					3	
08					3	
09					3	
10					3	
11					3	
12					3	
13					3	
14					3	
15					3	
16					3	
17					3 pH<2	

CHZMHILL/CCCI 2109-095

Sample #	Parameter	Rel'd	Rec'd	Date	Time
01-17	8021 (✓)	✓	LM	9/24/01	1200
01-17	8021 (✓)	LM	✓	9/24/01	1700
01-16	8310 (✓)	✓	MR	9/22/01	0800
01-16	8310 (✓)	(consumed)			

Addendum

PEL Laboratories, Inc.

FAX MESSAGE

4420 Pendola Point Road
Tampa, Florida 33619
Phone: (813) 247-2805
Fax: (813) 248-1537

Date: 10/2/01

To: Christell Newsome Stacey Kondiat

Company: CH2M Hill

Number: 678-579-8098 678-579-8100

From: Darcy Weisman

This transmittal consists of ____ page(s), exclusive of the cover sheet.

Notes:
per your request

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	9-20-01; 10:10 AM
Date to be Reported:	10-4-01
Laboratory Submission Number/SDG:	2109095
Project:	NAS Cecil Field

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, and 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.

Log-in Report

Total of: 33 analyses on 17 samples (including QC) *25-Sep-01*

Report/SDG #: 2109095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW4Q30120	210909501	CEF-293-4	W	9/19/01 4:00:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW9Q30120	210909502	CEF-293-9	W	9/19/01 3:35:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW13Q3012	210909503	CEF-293-13	W	9/19/01 11:10:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW20Q3012	210909504	CEF-293-20	W	9/19/01 10:10:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW20Q3012	210909505	CEF-293-20	W	9/19/01 10:10:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

Report/SDG #: 2109095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW20Q3012	210909506	CEF-293-20	W	9/19/01 10:10:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062MW22Q3012	210909507	CEF-293-22	W	9/19/01 10:30:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW2Q3012	210909508	VEW-2	W	9/19/01 2:30:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW3Q3012	210909509	VEW-3	W	9/19/01 2:10:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW4Q3012	210909510	VEW-4	W	9/19/01 10:50:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW5Q3012	210909511	VEW-5	W	9/19/01 1:50:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

Report/SDG #: 2109095

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW6Q3012	210909512	VEW-6	W	9/19/01 11:30:00 AM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW7Q3012	210909513	VEW-7	W	9/19/01 3:00:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062VEW8Q3012	210909514	VEW-8	W	9/19/01 3:20:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062DUPQ30120	210909515	Duplicate	W	9/19/01	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062EQBQ30120	210909516	Equipment	WQ	9/19/01 2:40:00 PM	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND
8310	PAH			8310	STND	STND

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate	
062TBQ30120	210909517	Trip Blank	WQ	9/20/01	9/20/01 10:10:00 AM	
Method						
8021	VOH			8021	STND	STND

Darcy Weisman

From: Newsome, Christelle/ATL [cnewsome@CH2M.com]
Sent: Wednesday, October 03, 2001 4:27 PM
To: Darcy Weisman
Subject: RE: Cecil Field; SDG 2109095

I want you to include why you are not including 8310, corrective action and that they are resampling those samples for that parameter.

-----Original Message-----
From: Darcy Weisman [mailto:dweisman@PELAB.COM]
Sent: Wednesday, October 03, 2001 4:22 PM
To: Newsome, Christelle/ATL
Subject: RE: Cecil Field; SDG 2109095

You want us to include the CN for the 8310 even though we are not going to report and data?

-----Original Message-----
From: Newsome, Christelle/ATL [mailto:cnewsome@CH2M.com]
Sent: Wednesday, October 03, 2001 4:18 PM
To: Darcy Weisman
Subject: RE: Cecil Field; SDG 2109095

yes, report without the 8310 however, do mention the reason in the case narrative.

-----Original Message-----
From: Darcy Weisman [mailto:dweisman@PELAB.COM]
Sent: Wednesday, October 03, 2001 4:12 PM
To: Newsome, Christelle/ATL
Subject: Cecil Field; SDG 2109095

Christelle,
I just wanted to confirm that we are going to report this SDG without the 8310's as you are going to resample. Please let me know for sure as I am trying to final what I can of the report.

Darcy

Darcy Weisman
Project Manager
PEL Laboratories, Inc.
(813) 247-2805 ext. 237
email: dweisman@pelab.com
Visit our website at www.pelab.com

Raw Data

GC Volatile Organics
(Method 8021)

CGI NAVY RAC PMO
OCT 18 2001

KM | VGC2 | 8021 | V2091901 | 9-19-01 TS

11	500 PPT	VOS	5837	5753	5857
12	500 PPT r				
13	1 PPb				
14	1 PPb r	"			
15	2 PPb	VOS	5837	5794	5856
16	2 PPb r		"		"
1	5 PPb				
2	10 PPb				
3	20 PPb				
4	30 PPb				
5	40 PPb				
6	50 PPb				
7	100 PPb				
8	100 PPb				

KM 9/20/01

VGC2 8021 V2092401 9-24-01 LM

			IS	SS	CAL
5	CCV21	VOS	5837	5993	5794
6	CCV22		GAS	DC	5892
7	lcs	VOS	5834	5730	
8	blk				
9	blkms				
10	blkmsd				
11	2109095 01				
12	-2				
13	-3				
14	-4				
15	-5 ms				
16	-6sd				
1	-7				
2	-8				
3	-9				
4	-10				
5	CCV23				
6	CCV23				
7	-11				
8	-12				
9	-13				
10	-14				
11	-15				
12	-16				
13	CCV24				

reviewed 9/25/01 LM

4-01 LM | VGC2 | 8021 | V2092501 | 9-25-01 LM

CAL

				IS	SS	CAL
5794	15	CCV21	VOS	5837	5993	5794
	16	CCV22		GAS	QC	5856
	1	lcs	VOS	5834	5730	
	2	blk				
	3	blkms				
	4	blkmsd				
	5	21092501r				
	6	-7r				
	7	21092501				
	8	-2				
	9	-3				
	10	-4				
	11	-5				
	12	-6				
	13	-7				
	14	-8				
	15	CCV23				
	16	CCV24				
	1	-9				
	2	-10				
	3	-11				
	4	-12				
	5	-13				
	6	-14				
	7	reviewed 9/26/01 LM				

PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\500PPTR.D
Lab Smp Id: 500pptstd Client Smp ID: 500pptstd
Inj Date : 19-SEP-2001 09:52
Operator : Inst ID: vgc2.i
Smp Info : 500pptr
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:03 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52 Cal File: 500PPTR.D
Als bottle: 12 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.633	4.633	(0.367)	54876	0.50000	0.26(aM)
	2 chloromethane	AIB1A	5.106	5.106	(0.416)	112291	0.50000	0.41(aH)
	3 vinyl chloride	AIB1A	5.413	5.413	(0.441)	91949	0.50000	0.36(aH)
	4 bromomethane	AIB1A	6.476	6.476	(0.513)	16891	0.50000	0.14(aM)
	5 chloroethane	AIB1A	6.560	6.560	(0.520)	126856	0.50000	0.45(aM)
	6 trichlorofluoromethane	AIB1A	7.066	7.066	(0.560)	125102	0.50000	0.51(aM)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	7.993	7.993	(0.652)	90637	0.50000	0.32
	8 1,1-dichloroethene	AIB1A	8.266	8.266	(0.674)	167277	0.50000	0.43(aH)
	9 methylene chloride	AIB1A	9.193	9.193	(0.749)	329212	0.50000	0.69(a)
	10 MTBE	FID2B	9.600	9.600	(0.663)	15550	0.50000	1.1(M)
	11 trans 1,2-dichloroethene	AIB1A	9.820	9.820	(0.778)	194937	0.50000	0.48(aM)
	12 1,1-dichloroethane	AIB1A	10.680	10.680	(0.871)	140098	0.50000	0.38(aH)
M	13 1,2-Dichloroethene (tot)	AIB1A				337855	1.00000	0.89(a)
	14 cis-1,2-dichloroethene	AIB1A	11.940	11.940	(0.973)	142918	0.50000	0.41(a)
	15 chloroform	AIB1A	11.940	11.940	(0.973)	163919	0.50000	0.36(a)
*	16 Bromochloromethane	AIB1A	12.616	12.616	(1.000)	9021348	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.136	13.136	(1.071)	330396	0.50000	0.86(aH)
	18 carbontetrachloride	AIB1A	13.723	13.723	(1.119)	191353	0.50000	0.45(aH)
	19 1,2-dichloroethane	AIB1A	13.996	13.996	(1.141)	147502	0.50000	0.40(aH)
	20 Benzene	FID2B	14.046	14.046	(0.970)	22267	0.50000	0.64(aM)
*	21 Fluorobenzene	FID2B	14.480	14.480	(1.000)	712525	30.0000	(H)
	22 trichloroethene	AIB1A	15.443	15.443	(1.259)	180957	0.50000	0.44(a)

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.846	15.846	(1.292)	124187	0.50000	0.39(aH)
	24 bromodichloromethane	AIB1A	16.446	16.446	(1.304)	130356	0.50000	0.42(aMH)
	25 cis-1,3-dichloropropene	AIB1A	17.926	17.926	(1.421)	175302	0.50000	0.56(aM)
	26 Toluene	FID2B	18.976	18.976	(1.311)	18823	0.50000	0.56(aM)
	27 trans-1,3-dichloropropene	AIB1A	19.573	19.573	(1.551)	143650	0.50000	0.48(aM)
	28 1,1,2-trichlorethane	AIB1A	20.180	20.180	(1.599)	189827	0.50000	0.46(aM)
	29 tetrachloroethene	AIB1A	21.543	21.543	(1.708)	344410	0.50000	0.66(aM)
	30 dibromochloromethane	AIB1A	22.410	22.410	(1.776)	52724	0.50000	0.21(aM)
	31 chlorobenzene	AIB1A	24.960	24.960	(1.978)	79023	0.50000	0.41(aM)
	32 Ethylbenzene	FID2B	25.106	25.106	(1.734)	20825	0.50000	0.62(aM)
	33 m,p-xylene	FID2B	25.410	25.410	(1.755)	50898	1.00000	1.5(aM)
	34 o-xylene	FID2B	27.000	27.000	(1.865)	19395	0.50000	0.65(aM)
M	35 Xylene (tot)	FID2B				70293	1.50000	2.2
	36 bromoform	AIB1A	28.286	28.286	(2.242)	4125	0.50000	0.034(aM)
$	37 1,4-dichlorobutane	AIB1A	28.566	28.566	(2.329)	238893	0.50000	0.98(aH)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.810	28.810	(2.349)	111626	0.50000	0.42(aH)
$	39 4-bromofluorobenzene	FID2B	29.033	29.033	(2.005)	35863	0.50000	1.2(M)
	40 1,3-dichlorobenzene	AIB1A	31.416	31.416	(2.490)	81577	0.50000	0.43(aM)
	41 1,4-dichlorobenzene	AIB1A	31.583	31.583	(2.503)	152278	0.50000	0.59(aM)
	42 1,2-dichlorobenzene	AIB1A	32.170	32.170	(2.623)	99004	0.50000	0.47(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 500PPTR.D
Lab Smp Id: 500pptstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 500pptstd
Level: LOW
Sample Type: WATER

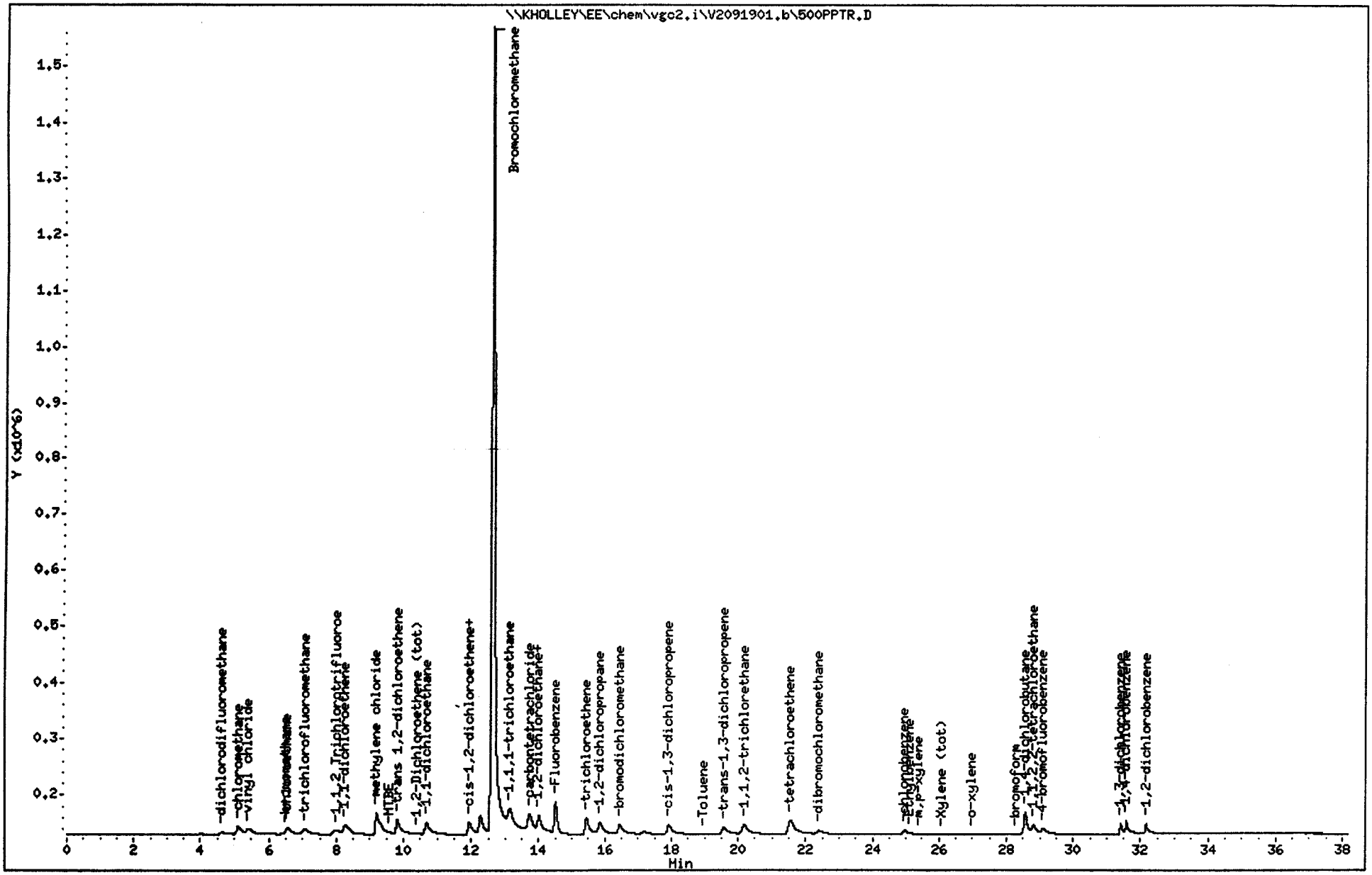
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	9021348	-59.43	<
21 Fluorobenzene	470401	235201	940802	712525	51.47	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.62	0.42
21 Fluorobenzene	14.43	13.93	14.93	14.48	0.37

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\500PPTR.D
Date : 19-SEP-2001 09:52
Client ID: 500pptstd
Sample Info: 500pptr
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i
Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\1PPBR.D
Lab Smp Id: 1ppbstd
Client Smp ID: 1ppbstd
Inj Date : 19-SEP-2001 11:22
Operator :
Inst ID: vgc2.i
Smp Info : 1ppbr
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:03 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 14
Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.633	4.633	(0.377)	165905	1.00000	0.78(a)
	2 chloromethane	AIB1A	5.113	5.113	(0.416)	345080	1.00000	1.2(H)
	3 vinyl chloride	AIB1A	5.410	5.410	(0.440)	300380	1.00000	1.2(H)
	4 bromomethane	AIB1A	6.480	6.480	(0.512)	64308	1.00000	0.53(aM)
	5 chloroethane	AIB1A	6.573	6.573	(0.520)	370283	1.00000	1.3(M)
	6 trichlorofluoromethane	AIB1A	7.076	7.076	(0.560)	376245	1.00000	1.5(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.003	8.003	(0.651)	305324	1.00000	1.1
	8 1,1-dichloroethene	AIB1A	8.336	8.336	(0.678)	479442	1.00000	1.2(H)
	9 methylene chloride	AIB1A	9.216	9.216	(0.729)	829589	1.00000	1.7(aM)
	10 MTBE	FID2B	9.496	9.496	(0.654)	16314	1.00000	1.1(M)
	11 trans 1,2-dichloroethene	AIB1A	9.840	9.840	(0.778)	601729	1.00000	1.4(M)
	12 1,1-dichloroethane	AIB1A	10.700	10.700	(0.870)	417465	1.00000	1.1
M	13 1,2-Dichloroethene (tot)	AIB1A				1026528	2.00000	2.6
	14 cis-1,2-dichloroethene	AIB1A	11.960	11.960	(0.973)	424799	1.00000	1.2
	15 chloroform	AIB1A	12.293	12.293	(1.000)	575365	1.00000	1.2(H)
*	16 Bromochloromethane	AIB1A	12.646	12.646	(1.000)	9296431	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.173	13.173	(1.042)	556096	1.00000	1.4(MH)
	18 carbontetrachloride	AIB1A	13.756	13.756	(1.119)	537456	1.00000	1.2(H)
	19 1,2-dichloroethane	AIB1A	14.026	14.026	(1.141)	422113	1.00000	1.1(H)
	20 Benzene	FID2B	14.073	14.073	(0.970)	50044	1.00000	1.4(M)
*	21 Fluorobenzene	FID2B	14.510	14.510	(1.000)	711832	30.0000	(H)
	22 trichloroethene	AIB1A	15.466	15.466	(1.258)	545737	1.00000	1.3

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.876	15.876	(1.291)	361560	1.00000	1.1(H)
	24 bromodichloromethane	AIB1A	16.473	16.473	(1.340)	251250	1.00000	0.79(aH)
	25 cis-1,3-dichloropropene	AIB1A	17.956	17.956	(1.461)	192511	1.00000	0.60(aH)
	26 Toluene	FID2B	19.013	19.013	(1.310)	46499	1.00000	1.4(M)
	27 trans-1,3-dichloropropene	AIB1A	19.603	19.603	(1.550)	373954	1.00000	1.2(M)
	28 1,1,2-trichlorethane	AIB1A	20.210	20.210	(1.598)	554840	1.00000	1.3(M)
	29 tetrachloroethene	AIB1A	21.586	21.586	(1.707)	766531	1.00000	1.4(M)
	30 dibromochloromethane	AIB1A	22.440	22.440	(1.774)	253377	1.00000	0.97(aM)
	31 chlorobenzene	AIB1A	24.990	24.990	(1.976)	252248	1.00000	1.3(M)
	32 Ethylbenzene	FID2B	25.153	25.153	(1.734)	43309	1.00000	1.3(M)
	33 m,p-xylene	FID2B	25.153	25.153	(1.734)	46244	2.00000	1.4(aM)
	34 o-xylene	FID2B	27.030	27.030	(1.863)	42019	1.00000	1.4(M)
M	35 Xylene (tot)	FID2B				88263	3.00000	2.8
	36 bromoform	AIB1A	28.336	28.336	(2.241)	50389	1.00000	0.40(aM)
$	37 1,4-dichlorobutane	AIB1A	28.593	28.593	(2.326)	381007	1.00000	1.5(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.836	28.836	(2.280)	359095	1.00000	1.3(MH)
$	39 4-bromofluorobenzene	FID2B	29.066	29.066	(2.003)	54848	1.00000	1.8(M)
	40 1,3-dichlorobenzene	AIB1A	31.426	31.426	(2.485)	186935	1.00000	0.96(aM)
	41 1,4-dichlorobenzene	AIB1A	31.596	31.596	(2.498)	320974	1.00000	1.2(M)
	42 1,2-dichlorobenzene	AIB1A	32.180	32.180	(2.618)	287304	1.00000	1.3

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 1PPBR.D
Lab Smp Id: 1ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 1ppbstd
Level: LOW
Sample Type: WATER

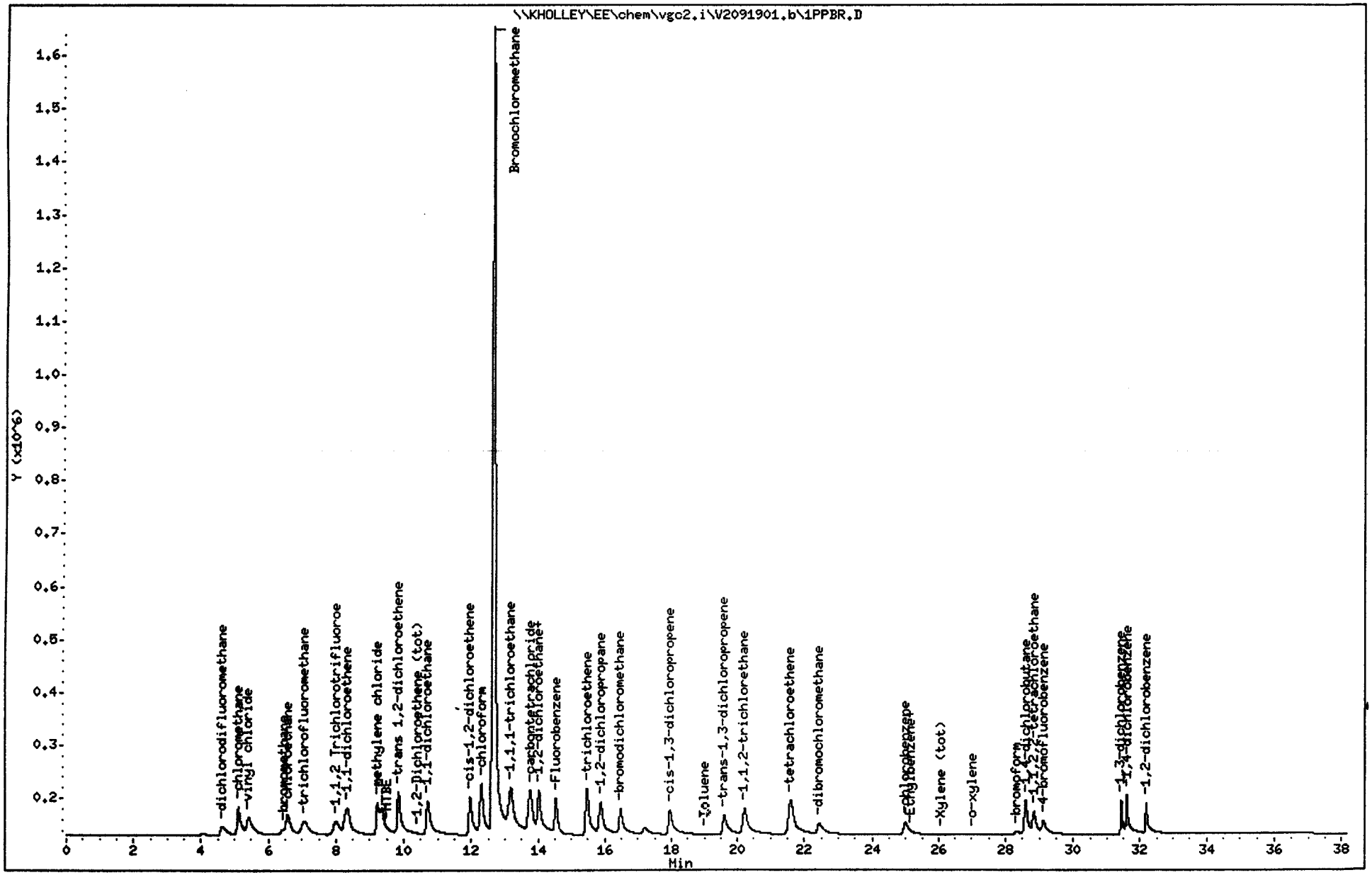
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	9296431	-58.19	<
21 Fluorobenzene	470401	235201	940802	711832	51.32	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.65	0.66
21 Fluorobenzene	14.43	13.93	14.93	14.51	0.58

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\1PPBR.D
Date : 19-SEP-2001 11:22
Client ID: 1ppbstd
Sample Info: 1ppbr
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i
Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\2PPBR.D
Lab Smp Id: 2ppbstd
Client Smp ID: 2ppbstd
Inj Date : 19-SEP-2001 12:54
Operator :
Inst ID: vgc2.i
Smp Info : 2ppbr
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:03 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 16
Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.633	4.633	(0.366)	442448	2.00000	2.0(M)
	2 chloromethane	AIB1A	5.123	5.123	(0.416)	617615	2.00000	2.0(H)
	3 vinyl chloride	AIB1A	5.430	5.430	(0.441)	521801	2.00000	1.9(H)
	4 bromomethane	AIB1A	6.433	6.433	(0.508)	163824	2.00000	1.3(M)
	5 chloroethane	AIB1A	6.586	6.586	(0.520)	730909	2.00000	2.4(M)
	6 trichlorofluoromethane	AIB1A	7.096	7.096	(0.560)	523660	2.00000	2.0(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.013	8.013	(0.651)	629563	2.00000	2.1
	8 1,1-dichloroethene	AIB1A	8.360	8.360	(0.679)	754483	2.00000	1.8(H)
	9 methylene chloride	AIB1A	9.356	9.356	(0.738)	1211111	2.00000	2.3(M)
	10 MTBE	FID2B	9.513	9.513	(0.675)	33280	2.00000	2.3
	11 trans 1,2-dichloroethene	AIB1A	9.856	9.856	(0.778)	891771	2.00000	2.0(M)
	12 1,1-dichloroethane	AIB1A	10.720	10.720	(0.846)	885459	2.00000	2.2(M)
M	13 1,2-Dichloroethene (tot)	AIB1A				1639094	4.00000	4.0
	14 cis-1,2-dichloroethene	AIB1A	11.983	11.983	(0.973)	747323	2.00000	2.0
	15 chloroform	AIB1A	12.310	12.310	(1.000)	1020024	2.00000	2.0(H)
*	16 Bromochloromethane	AIB1A	12.670	12.670	(1.000)	9827185	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.190	13.190	(1.071)	846870	2.00000	2.0(H)
	18 carbontetrachloride	AIB1A	13.776	13.776	(1.119)	923432	2.00000	2.0(H)
	19 1,2-dichloroethane	AIB1A	14.046	14.046	(1.141)	762479	2.00000	1.9(H)
	20 Benzene	FID2B	14.100	14.100	(1.000)	57766	2.00000	1.7
*	21 Fluorobenzene	FID2B	14.533	14.533	(1.000)	707650	30.0000	(H)
	22 trichloroethene	AIB1A	15.486	15.486	(1.258)	885357	2.00000	2.0

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.896	15.896	(1.291)	647909	2.00000	1.9(H)
	24 bromodichloromethane	AIB1A	16.496	16.496	(1.302)	641047	2.00000	1.9(MH)
	25 cis-1,3-dichloropropene	AIB1A	17.983	17.983	(1.419)	789010	2.00000	2.3(MH)
	26 Toluene	FID2B	19.043	19.043	(1.310)	70286	2.00000	2.1(M)
	27 trans-1,3-dichloropropene	AIB1A	19.630	19.630	(1.549)	692501	2.00000	2.1(M)
	28 1,1,2-trichlorethane	AIB1A	20.243	20.243	(1.598)	954648	2.00000	2.1(M)
	29 tetrachloroethene	AIB1A	21.620	21.620	(1.706)	1265521	2.00000	2.2(M)
	30 dibromochloromethane	AIB1A	22.480	22.480	(1.774)	455100	2.00000	1.6(M)
	31 chlorobenzene	AIB1A	25.010	25.010	(1.974)	453205	2.00000	2.2(M)
	32 Ethylbenzene	FID2B	25.183	25.183	(1.733)	74210	2.00000	2.2(M)
	33 m,p-xylene	FID2B	25.476	25.476	(1.753)	166956	4.00000	5.0(M)
	34 o-xylene	FID2B	27.053	27.053	(1.861)	62882	2.00000	2.1(M)
M	35 Xylene (tot)	FID2B				229838	6.00000	7.1
	36 bromoform	AIB1A	28.333	28.333	(2.302)	155163	2.00000	1.2
$	37 1,4-dichlorobutane	AIB1A	28.606	28.606	(2.324)	754264	2.00000	2.8(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.850	28.850	(2.277)	635250	2.00000	2.2(M)
$	39 4-bromofluorobenzene	FID2B	29.086	29.086	(2.001)	74404	2.00000	2.6(MH)
	40 1,3-dichlorobenzene	AIB1A	31.436	31.436	(2.481)	398448	2.00000	1.9(M)
	41 1,4-dichlorobenzene	AIB1A	31.603	31.603	(2.567)	636257	2.00000	2.3
	42 1,2-dichlorobenzene	AIB1A	32.190	32.190	(2.541)	431726	2.00000	1.9(M)

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 2PPBR.D
Lab Smp Id: 2ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 2ppbstd
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	9827185	-55.80	<
21 Fluorobenzene	470401	235201	940802	707650	50.44	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.67	0.85
21 Fluorobenzene	14.43	13.93	14.93	14.53	0.74

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\2PPBR.D

Date : 19-SEP-2001 12:54

Client ID: 2ppbstd

Sample Info: 2ppbr

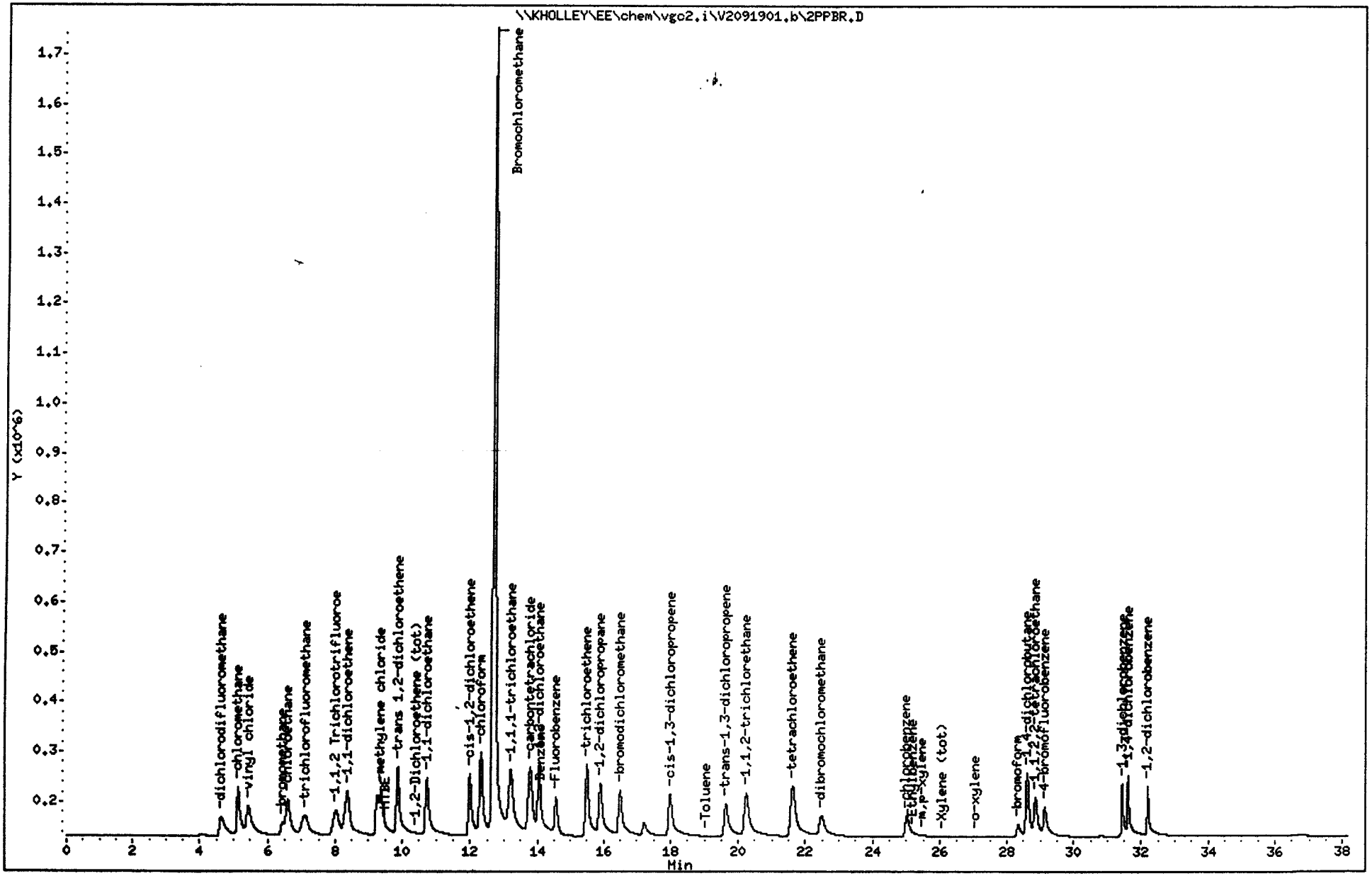
Purge Volume: 5.0

Column phase: RTX-502.2

Instrument: vgc2.i

Operator:

Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\5PPB.D
Lab Smp Id: 5ppbstd
Client Smp ID: 5ppbstd
Inj Date : 19-SEP-2001 13:40
Operator :
Inst ID: vgc2.i
Smp Info : 5ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:03 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 1
Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.620	4.620	(0.365)	1224519	5.00000	5.1(M)
	2 chloromethane	AIB1A	5.120	5.120	(0.416)	1632950	5.00000	5.1
	3 vinyl chloride	AIB1A	5.446	5.446	(0.442)	1297514	5.00000	4.5(H)
	4 bromomethane	AIB1A	6.410	6.410	(0.506)	619155	5.00000	4.6(M)
	5 chloroethane	AIB1A	6.586	6.586	(0.520)	1639080	5.00000	5.1(M)
	6 trichlorofluoromethane	AIB1A	7.093	7.093	(0.560)	1386701	5.00000	4.9(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.016	8.016	(0.651)	1689464	5.00000	5.2
	8 1,1-dichloroethene	AIB1A	8.363	8.363	(0.660)	2371917	5.00000	5.3(M)
	9 methylene chloride	AIB1A	9.360	9.360	(0.739)	2967448	5.00000	5.4(M)
	10 MTBE	FID2B	9.516	9.516	(0.675)	81758	5.00000	5.5
	11 trans 1,2-dichloroethene	AIB1A	9.856	9.856	(0.778)	2325482	5.00000	5.0(M)
	12 1,1-dichloroethane	AIB1A	10.716	10.716	(0.846)	2334840	5.00000	5.6(M)
M	13 1,2-Dichloroethene (tot)	AIB1A				4433102	10.0000	10.2
	14 cis-1,2-dichloroethene	AIB1A	11.983	11.983	(0.973)	2107620	5.00000	5.2
	15 chloroform	AIB1A	12.310	12.310	(1.000)	2843364	5.00000	5.4(H)
*	16 Bromochloromethane	AIB1A	12.673	12.673	(1.000)	10395848	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.193	13.193	(1.072)	2123556	5.00000	4.8(H)
	18 carbontetrachloride	AIB1A	13.776	13.776	(1.119)	2504870	5.00000	5.1(H)
	19 1,2-dichloroethane	AIB1A	13.776	13.776	(1.119)	2766100	5.00000	6.5
	20 Benzene	FID2B	14.106	14.106	(0.970)	191912	5.00000	5.4(M)
*	21 Fluorobenzene	FID2B	14.536	14.536	(1.000)	727185	30.0000	(H)
	22 trichloroethene	AIB1A	15.490	15.490	(1.258)	2435536	5.00000	5.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.893	15.893	(1.291)	1861434	5.00000	5.1(H)
	24 bromodichloromethane	AIB1A	16.496	16.496	(1.302)	1963214	5.00000	5.5(MH)
	25 cis-1,3-dichloropropene	AIB1A	17.983	17.983	(1.419)	2019840	5.00000	5.6(M)
	26 Toluene	FID2B	19.053	19.053	(1.311)	172588	5.00000	5.0(M)
	27 trans-1,3-dichloropropene	AIB1A	19.633	19.633	(1.549)	1613895	5.00000	4.7(M)
	28 1,1,2-trichlorethane	AIB1A	20.240	20.240	(1.597)	2320006	5.00000	4.9(M)
	29 tetrachloroethene	AIB1A	21.620	21.620	(1.706)	2928493	5.00000	4.8(M)
	30 dibromochloromethane	AIB1A	22.470	22.470	(1.773)	1452035	5.00000	5.0(M)
	31 chlorobenzene	AIB1A	25.010	25.010	(1.973)	1179446	5.00000	5.4(M)
	32 Ethylbenzene	FID2B	25.190	25.190	(1.733)	172923	5.00000	5.1(M)
	33 m,p-xylene	FID2B	25.483	25.483	(1.753)	397204	10.0000	11.6(M)
	34 o-xylene	FID2B	27.056	27.056	(1.861)	166680	5.00000	5.5(M)
M	35 Xylene (tot)	FID2B				563884	15.0000	17.1
	36 bromoform	AIB1A	28.316	28.316	(2.300)	712224	5.00000	5.0
$	37 1,4-dichlorobutane	AIB1A	28.610	28.610	(2.324)	1228660	5.00000	4.4(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.853	28.853	(2.344)	1431386	5.00000	4.6(H)
$	39 4-bromofluorobenzene	FID2B	29.090	29.090	(2.001)	147936	5.00000	5.0(M)
	40 1,3-dichlorobenzene	AIB1A	31.436	31.436	(2.554)	1161501	5.00000	5.3
	41 1,4-dichlorobenzene	AIB1A	31.603	31.603	(2.567)	1624731	5.00000	5.5
	42 1,2-dichlorobenzene	AIB1A	32.186	32.186	(2.615)	1257841	5.00000	5.2

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 5PPB.D
Lab Smp Id: 5ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 5ppbstd
Level: LOW
Sample Type: WATER

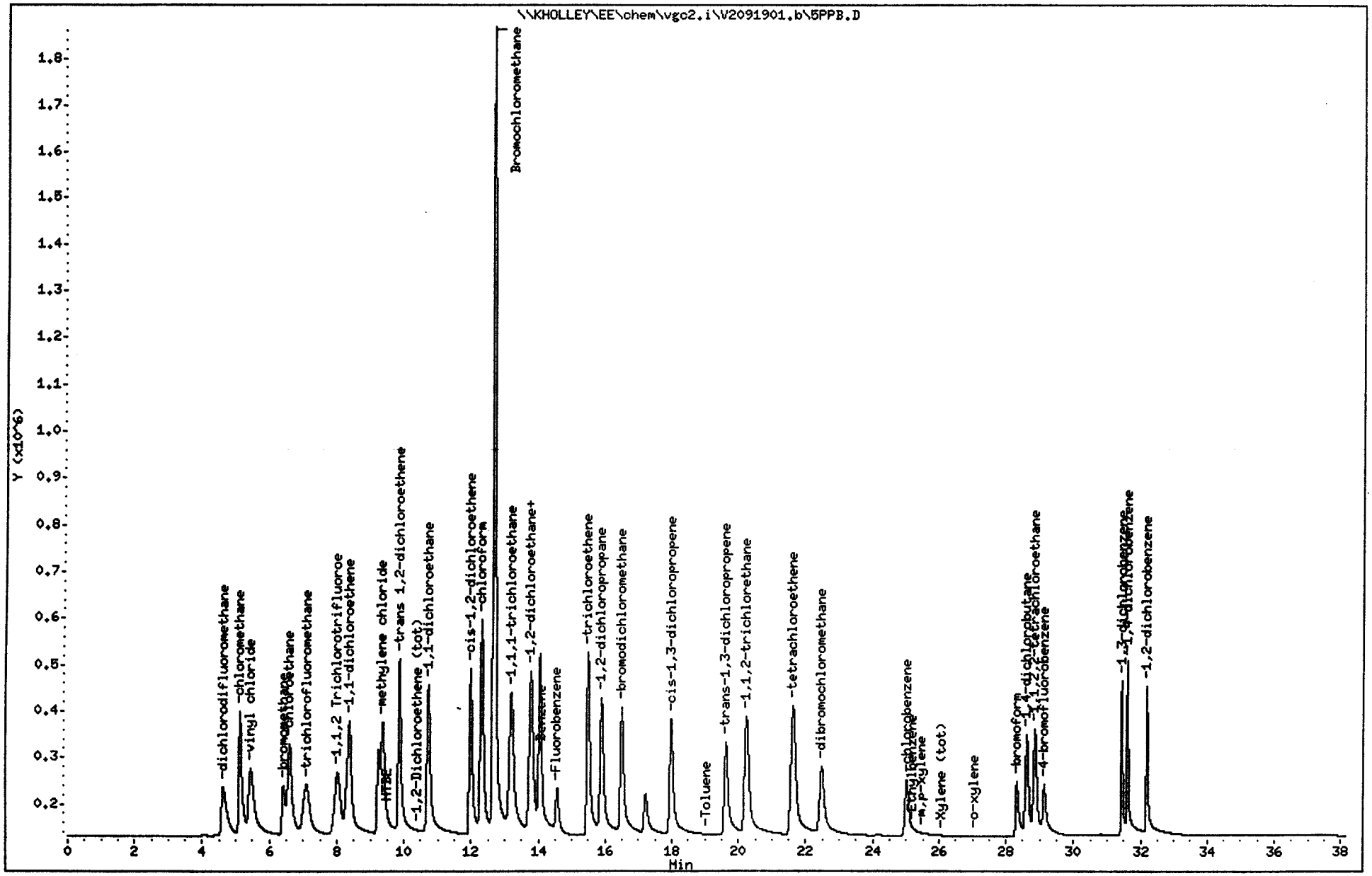
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	10395848	-53.24	<
21 Fluorobenzene	470401	235201	940802	727185	54.59	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.67	0.88
21 Fluorobenzene	14.43	13.93	14.93	14.54	0.76

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\5PPB.D
Date : 19-SEP-2001 13:40
Client ID: 5ppbstd
Sample Info: 5ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i
Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\10PPB.D
Lab Smp Id: 10ppbstd
Client Smp ID: 10ppbstd
Inj Date : 19-SEP-2001 14:26
Operator :
Inst ID: vgc2.i
Smp Info : 10ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 2
Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.613	4.613	(0.364)	2533378	10.0000	10.5(M)
	2 chloromethane	AIB1A	5.120	5.120	(0.416)	3497045	10.0000	10.9
	3 vinyl chloride	AIB1A	5.443	5.443	(0.442)	3200583	10.0000	10.9
	4 bromomethane	AIB1A	6.400	6.400	(0.505)	1575940	10.0000	11.6(M)
	5 chloroethane	AIB1A	6.586	6.586	(0.535)	3089922	10.0000	9.4(H)
	6 trichlorofluoromethane	AIB1A	7.093	7.093	(0.559)	2585047	10.0000	9.1(MH)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.013	8.013	(0.651)	3460776	10.0000	10.6
	8 1,1-dichloroethene	AIB1A	8.366	8.366	(0.679)	4748930	10.0000	10.5(H)
	9 methylene chloride	AIB1A	9.363	9.363	(0.738)	5962956	10.0000	10.8(M)
	10 MTBE	FID2B	9.520	9.520	(0.675)	161493	10.0000	11.4
	11 trans 1,2-dichloroethene	AIB1A	9.860	9.860	(0.778)	4611407	10.0000	9.8(MH)
	12 1,1-dichloroethane	AIB1A	10.720	10.720	(0.870)	4355524	10.0000	10.3
M	13 1,2-Dichloroethene (tot)	AIB1A				8986604	20.0000	20.6
	14 cis-1,2-dichloroethene	AIB1A	11.986	11.986	(0.973)	4375197	10.0000	10.7
	15 chloroform	AIB1A	12.316	12.316	(1.000)	5796152	10.0000	11.0(H)
*	16 Bromochloromethane	AIB1A	12.680	12.680	(1.000)	10493736	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.196	13.196	(1.041)	5249364	10.0000	11.8(MH)
	18 carbontetrachloride	AIB1A	13.786	13.786	(1.087)	5603250	10.0000	11.3(MH)
	19 1,2-dichloroethane	AIB1A	14.053	14.053	(1.108)	5266477	10.0000	12.2(MH)
	20 Benzene	FID2B	14.110	14.110	(0.970)	364923	10.0000	10.7(M)
*	21 Fluorobenzene	FID2B	14.540	14.540	(1.000)	694235	30.0000	(H)
	22 trichloroethene	AIB1A	15.493	15.493	(1.258)	4924359	10.0000	10.4

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.900	15.900	(1.254)	4710523	10.0000	12.8 (MH)
	24 bromodichloromethane	AIB1A	16.500	16.500	(1.301)	4269508	10.0000	11.8 (MH)
	25 cis-1,3-dichloropropene	AIB1A	17.986	17.986	(1.419)	4071927	10.0000	11.2 (M)
	26 Toluene	FID2B	19.060	19.060	(1.311)	353927	10.0000	10.8 (M)
	27 trans-1,3-dichloropropene	AIB1A	19.640	19.640	(1.549)	3634461	10.0000	10.5 (M)
	28 1,1,2-trichlorethane	AIB1A	20.246	20.246	(1.597)	5157697	10.0000	10.8 (M)
	29 tetrachloroethene	AIB1A	21.630	21.630	(1.706)	6253075	10.0000	10.2 (M)
	30 dibromochloromethane	AIB1A	22.476	22.476	(1.773)	3494475	10.0000	11.9 (M)
	31 chlorobenzene	AIB1A	25.013	25.013	(1.973)	2439717	10.0000	11.0 (M)
	32 Ethylbenzene	FID2B	25.196	25.196	(1.733)	344748	10.0000	10.6 (M)
	33 m,p-xylene	FID2B	25.490	25.490	(1.753)	755398	20.0000	23.1 (M)
	34 o-xylene	FID2B	27.066	27.066	(1.862)	297853	10.0000	10.2 (M)
M	35 Xylene (tot)	FID2B				1053251	30.0000	33.4
	36 bromoform	AIB1A	28.316	28.316	(2.233)	1836611	10.0000	12.9 (M)
$	37 1,4-dichlorobutane	AIB1A	28.616	28.616	(2.257)	3440062	10.0000	12.2 (M)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.863	28.863	(2.276)	3918462	10.0000	12.6 (MH)
$	39 4-bromofluorobenzene	FID2B	29.096	29.096	(2.001)	327790	10.0000	11.6 (MH)
	40 1,3-dichlorobenzene	AIB1A	31.436	31.436	(2.479)	2416982	10.0000	11.0 (M)
	41 1,4-dichlorobenzene	AIB1A	31.606	31.606	(2.566)	3137530	10.0000	10.5
	42 1,2-dichlorobenzene	AIB1A	32.190	32.190	(2.539)	2649662	10.0000	10.9 (M)

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 10PPB.D
Lab Smp Id: 10ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 10ppbstd
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	10493736	-52.80	<
21 Fluorobenzene	470401	235201	940802	694235	47.58	

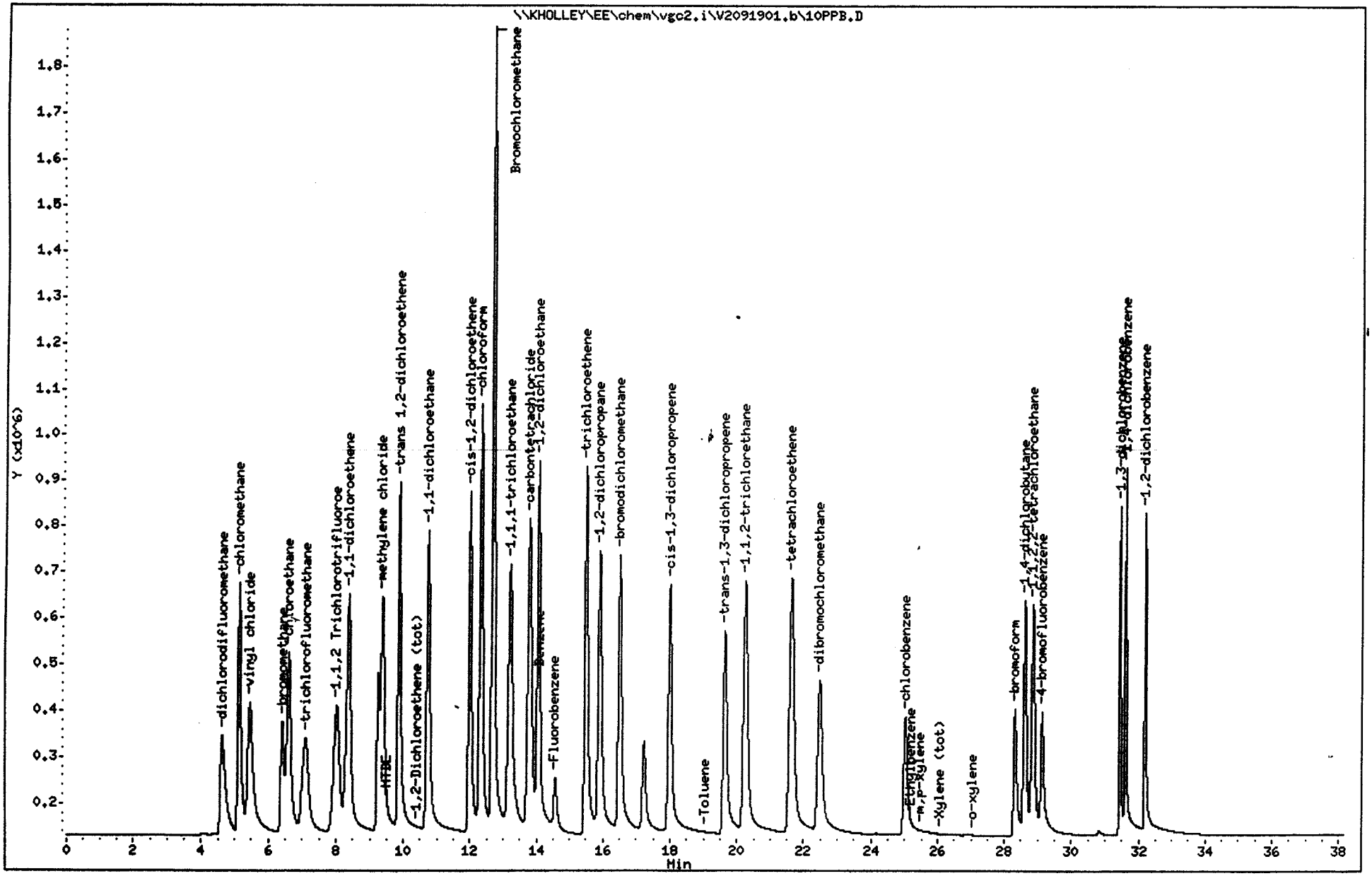
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.68	0.93
21 Fluorobenzene	14.43	13.93	14.93	14.54	0.79

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\10PPB.D
Date : 19-SEP-2001 14:26
Client ID: 10ppbstd
Sample Info: 10ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i

Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\20PPB.D
Lab Smp Id: 20ppbstd
Client Smp ID: 20ppbstd
Inj Date : 19-SEP-2001 15:12
Operator :
Inst ID: vgc2.i
Smp Info : 20ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 3
Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.606	4.606	(0.363)	4699321	20.0000	19.3(M)
	2 chloromethane	AIB1A	5.120	5.120	(0.416)	6709745	20.0000	20.7
	3 vinyl chloride	AIB1A	5.433	5.433	(0.441)	5921512	20.0000	20.0
	4 bromomethane	AIB1A	6.386	6.386	(0.504)	3139623	20.0000	22.9(M)
	5 chloroethane	AIB1A	6.583	6.583	(0.535)	6021423	20.0000	18.3(H)
	6 trichlorofluoromethane	AIB1A	7.086	7.086	(0.559)	5635853	20.0000	19.7(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.010	8.010	(0.651)	6877439	20.0000	21.0
	8 1,1-dichloroethene	AIB1A	8.366	8.366	(0.679)	8929138	20.0000	19.7(H)
	9 methylene chloride	AIB1A	9.363	9.363	(0.739)	11089105	20.0000	19.9(M)
	10 MTBE	FID2B	9.520	9.520	(0.675)	308199	20.0000	21.9
	11 trans 1,2-dichloroethene	AIB1A	9.856	9.856	(0.778)	8817263	20.0000	18.7(MH)
	12 1,1-dichloroethane	AIB1A	10.720	10.720	(0.846)	9157691	20.0000	21.5(M)
M	13 1,2-Dichloroethene (tot)	AIB1A				17385666	40.0000	39.6
	14 cis-1,2-dichloroethene	AIB1A	11.980	11.980	(0.973)	8568403	20.0000	20.9
	15 chloroform	AIB1A	12.313	12.313	(1.000)	11145274	20.0000	20.9(H)
*	16 Bromochloromethane	AIB1A	12.676	12.676	(1.000)	10581430	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.196	13.196	(1.072)	8180606	20.0000	18.2(H)
	18 carbontetrachloride	AIB1A	13.780	13.780	(1.119)	9736543	20.0000	19.4(H)
	19 1,2-dichloroethane	AIB1A	14.053	14.053	(1.141)	8853624	20.0000	20.4(H)
	20 Benzene	FID2B	14.110	14.110	(0.970)	713270	20.0000	21.0(M)
*	21 Fluorobenzene	FID2B	14.543	14.543	(1.000)	691380	30.0000	(H)
	22 trichloroethene	AIB1A	15.490	15.490	(1.258)	9601928	20.0000	20.1

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.900	15.900	(1.291)	7820956	20.0000	21.2(H)
	24 bromodichloromethane	AIB1A	16.496	16.496	(1.301)	8227700	20.0000	22.6(MH)
	25 cis-1,3-dichloropropene	AIB1A	17.986	17.986	(1.419)	7754323	20.0000	21.1(M)
	26 Toluene	FID2B	19.063	19.063	(1.311)	682521	20.0000	20.9(M)
	27 trans-1,3-dichloropropene	AIB1A	19.633	19.633	(1.549)	7514025	20.0000	21.6(M)
	28 1,1,2-trichlorethane	AIB1A	20.246	20.246	(1.597)	9857943	20.0000	20.5(M)
	29 tetrachloroethene	AIB1A	21.630	21.630	(1.706)	11047406	20.0000	17.9(M)
	30 dibromochloromethane	AIB1A	22.473	22.473	(1.773)	6268096	20.0000	21.2(M)
	31 chlorobenzene	AIB1A	25.016	25.016	(1.973)	4397641	20.0000	19.6(M)
	32 Ethylbenzene	FID2B	25.200	25.200	(1.733)	759979	20.0000	23.4(M)
	33 m,p-xylene	FID2B	25.493	25.493	(1.753)	1462782	40.0000	45.0(M)
	34 o-xylene	FID2B	27.070	27.070	(1.861)	579711	20.0000	20.0(M)
M	35 Xylene (tot)	FID2B				2042493	60.0000	65.0
	36 bromoform	AIB1A	28.313	28.313	(2.299)	3685649	20.0000	25.6
$	37 1,4-dichlorobutane	AIB1A	28.616	28.616	(2.324)	5773329	20.0000	20.2(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.860	28.860	(2.344)	6297475	20.0000	20.1(H)
$	39 4-bromofluorobenzene	FID2B	29.096	29.096	(2.001)	625891	20.0000	22.4(MH)
	40 1,3-dichlorobenzene	AIB1A	31.440	31.440	(2.553)	5007141	20.0000	22.5
	41 1,4-dichlorobenzene	AIB1A	31.606	31.606	(2.567)	6059543	20.0000	20.2
	42 1,2-dichlorobenzene	AIB1A	32.190	32.190	(2.539)	5057059	20.0000	20.7(M)

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 20PPB.D
Lab Smp Id: 20ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 02:58
Client Smp ID: 20ppbstd
Level: LOW
Sample Type: WATER

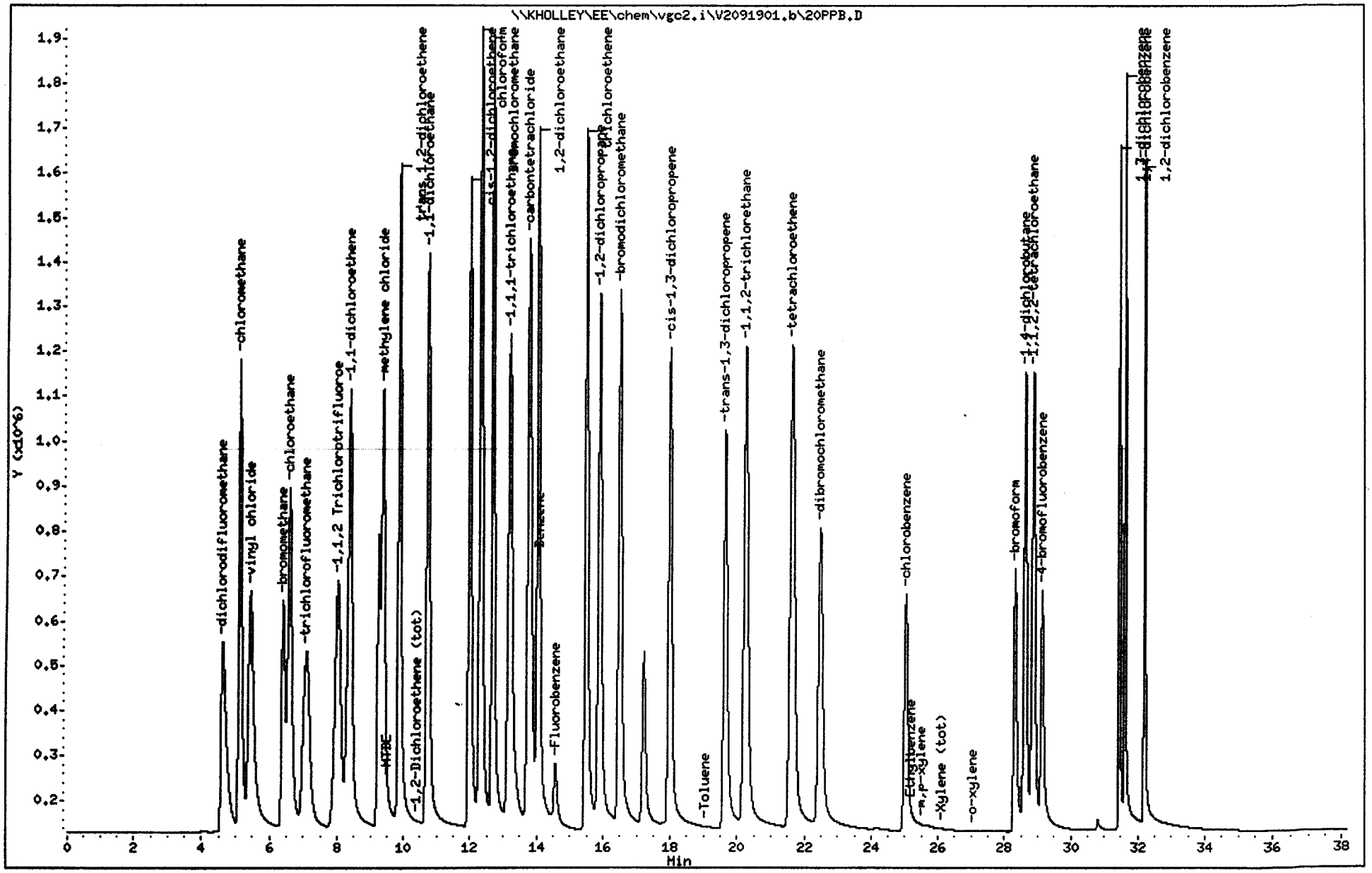
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
16 Bromochloromethan	22233778	11116889	44467556	10581430	-52.41	<
21 Fluorobenzene	470401	235201	940802	691380	46.98	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.56	12.06	13.06	12.68	0.90
21 Fluorobenzene	14.43	13.93	14.93	14.54	0.81

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\20PPB.D
Date : 19-SEP-2001 15:12
Client ID: 20ppbstd
Sample Info: 20ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i
Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\30PPB.D
Lab Smp Id: 30ppbstd Client Smp ID: 30ppbstd
Inj Date : 19-SEP-2001 15:58
Operator : Inst ID: vgc2.i
Smp Info : 30ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52 Cal File: 500PPTR.D
Als bottle: 4 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.590	4.590	(0.362)	12236338	30.0000	40.0(M)
	2 chloromethane	AIB1A	5.113	5.113	(0.415)	12093119	30.0000	29.6
	3 vinyl chloride	AIB1A	5.416	5.416	(0.440)	11922396	30.0000	32.1
	4 bromomethane	AIB1A	6.373	6.373	(0.503)	6367554	30.0000	37.0(M)
	5 chloroethane	AIB1A	6.570	6.570	(0.534)	11542182	30.0000	27.8(H)
	6 trichlorofluoromethane	AIB1A	7.076	7.076	(0.575)	9569758	30.0000	26.5(H)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	8.003	8.003	(0.650)	15058073	30.0000	36.5
	8 1,1-dichloroethene	AIB1A	8.360	8.360	(0.679)	17768606	30.0000	31.1(H)
	9 methylene chloride	AIB1A	9.363	9.363	(0.739)	19167116	30.0000	27.3(M)
	10 MTBE	FID2B	9.523	9.523	(0.675)	476191	30.0000	24.4
	11 trans 1,2-dichloroethene	AIB1A	9.850	9.850	(0.777)	16559063	30.0000	27.9(MH)
	12 1,1-dichloroethane	AIB1A	10.713	10.713	(0.870)	15450669	30.0000	28.8
M	13 1,2-Dichloroethene (tot)	AIB1A				31770930	60.0000	57.3
	14 cis-1,2-dichloroethene	AIB1A	11.976	11.976	(0.973)	15211867	30.0000	29.4
	15 chloroform	AIB1A	12.310	12.310	(1.000)	19379111	30.0000	28.8(H)
*	16 Bromochloromethane	AIB1A	12.673	12.673	(1.000)	13317348	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.193	13.193	(1.072)	15078630	30.0000	26.7(H)
	18 carbontetrachloride	AIB1A	13.776	13.776	(1.119)	18983151	30.0000	30.1(H)
	19 1,2-dichloroethane	AIB1A	14.050	14.050	(1.141)	14312781	30.0000	26.2(H)
	20 Benzene	FID2B	14.103	14.103	(0.970)	1290271	30.0000	27.5(M)
*	21 Fluorobenzene	FID2B	14.540	14.540	(1.000)	956902	30.0000	(H)
	22 trichloroethene	AIB1A	15.490	15.490	(1.258)	17265137	30.0000	28.7

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.900	15.900	(1.292)	13149525	30.0000	28.3(H)
	24 bromodichloromethane	AIB1A	16.496	16.496	(1.302)	13679527	30.0000	29.9(M)
	25 cis-1,3-dichloropropene	AIB1A	17.983	17.983	(1.419)	13392021	30.0000	29.0(M)
	26 Toluene	FID2B	19.056	19.056	(1.311)	1216523	30.0000	27.0(M)
	27 trans-1,3-dichloropropene	AIB1A	19.630	19.630	(1.549)	11639692	30.0000	26.6(M)
	28 1,1,2-trichlorethane	AIB1A	20.243	20.243	(1.597)	15243741	30.0000	25.2(M)
	29 tetrachloroethene	AIB1A	21.623	21.623	(1.706)	20892242	30.0000	27.0(M)
	30 dibromochloromethane	AIB1A	22.466	22.466	(1.773)	10916678	30.0000	29.3(M)
	31 chlorobenzene	AIB1A	25.010	25.010	(1.973)	7736089	30.0000	27.4(M)
	32 Ethylbenzene	FID2B	25.196	25.196	(1.733)	1089915	30.0000	24.2(M)
	33 m,p-xylene	FID2B	25.490	25.490	(1.753)	2493087	60.0000	55.4(M)
	34 o-xylene	FID2B	27.066	27.066	(1.862)	961921	30.0000	24.0(M)
M	35 Xylene (tot)	FID2B				3455008	90.0000	79.4
	36 bromoform	AIB1A	28.310	28.310	(2.300)	5928968	30.0000	32.8
$	37 1,4-dichlorobutane	AIB1A	28.613	28.613	(2.324)	9828000	30.0000	27.4(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.856	28.856	(2.344)	9901631	30.0000	25.1(H)
$	39 4-bromofluorobenzene	FID2B	29.093	29.093	(2.063)	998636	30.0000	25.8(H)
	40 1,3-dichlorobenzene	AIB1A	31.436	31.436	(2.554)	8888598	30.0000	31.8(H)
	41 1,4-dichlorobenzene	AIB1A	31.606	31.606	(2.568)	10226183	30.0000	27.0
	42 1,2-dichlorobenzene	AIB1A	32.190	32.190	(2.615)	8974813	30.0000	29.2

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 30PPB.D
Lab Smp Id: 30ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 19-SEP-2001
Calibration Time: 15:58
Client Smp ID: 30ppbstd
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	13317348	6658674	26634696	13317348	0.00
21 Fluorobenzene	956902	478451	1913804	956902	0.00

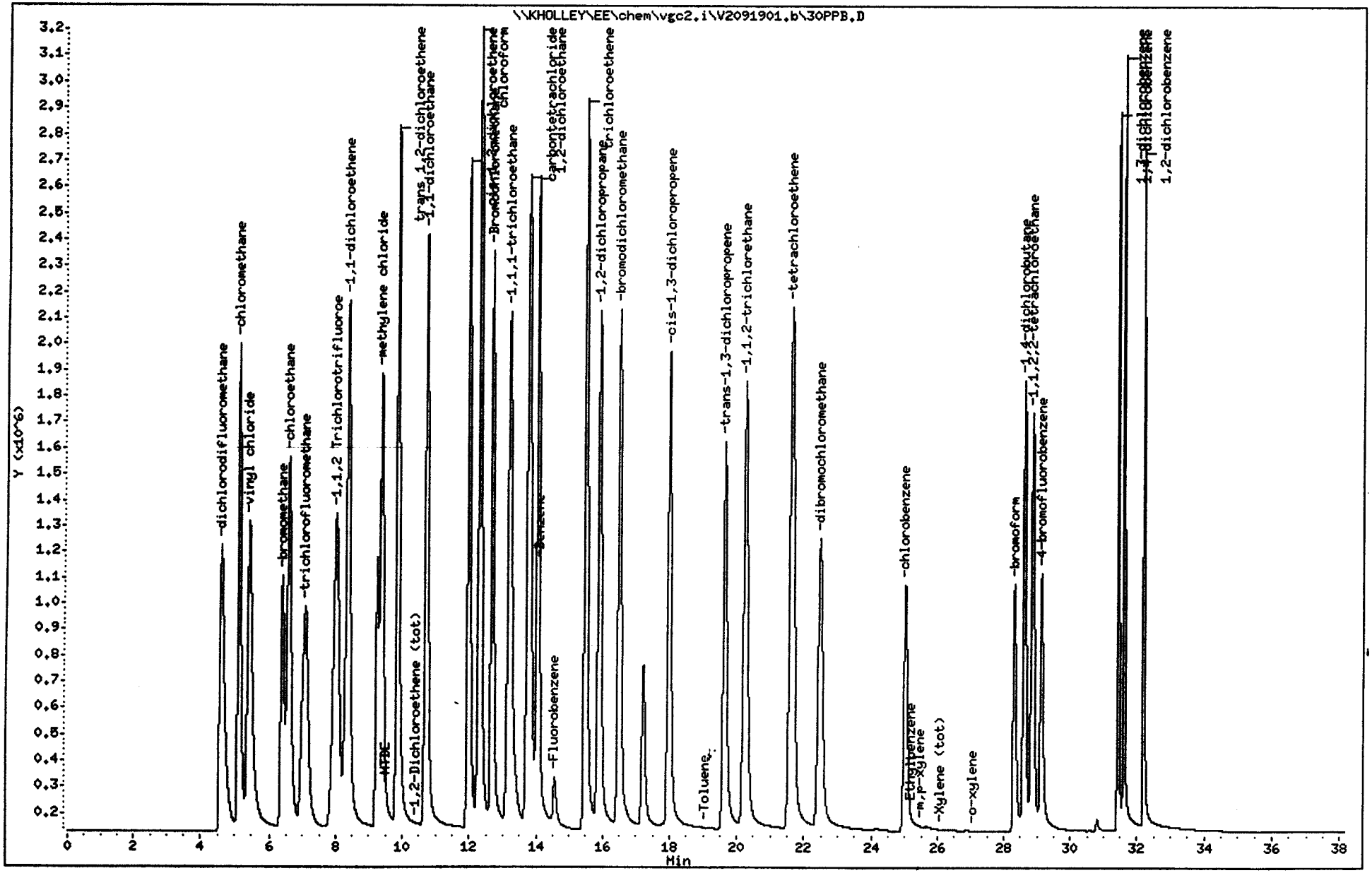
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.67	12.17	13.17	12.67	0.00
21 Fluorobenzene	14.54	14.04	15.04	14.54	0.00

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\30PPB.D
Date : 19-SEP-2001 15:58
Client ID: 30ppbstd
Sample Info: 30ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i

Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\40PPB.D
Lab Smp Id: 40ppbstd
Client Smp ID: 40ppbstd
Inj Date : 19-SEP-2001 16:44
Operator :
Inst ID: vgc2.i
Smp Info : 40ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 5
Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.593	4.593	(0.373)	10897982	40.0000	38.9
	2 chloromethane	AIB1A	5.110	5.110	(0.415)	14501016	40.0000	38.8
	3 vinyl chloride	AIB1A	5.410	5.410	(0.439)	13397029	40.0000	39.4
	4 bromomethane	AIB1A	6.363	6.363	(0.517)	8080277	40.0000	51.3(M)
	5 chloroethane	AIB1A	6.563	6.563	(0.533)	14274779	40.0000	37.6(M)
	6 trichlorofluoromethane	AIB1A	7.070	7.070	(0.574)	12885375	40.0000	39.1(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	7.993	7.993	(0.649)	15025556	40.0000	39.8
	8 1,1-dichloroethene	AIB1A	8.350	8.350	(0.678)	22633980	40.0000	43.3(M)
	9 methylene chloride	AIB1A	9.356	9.356	(0.760)	22697806	40.0000	35.4(M)
	10 MTBE	FID2B	9.526	9.526	(0.675)	638981	40.0000	37.4
	11 trans 1,2-dichloroethene	AIB1A	9.850	9.850	(0.777)	19710066	40.0000	36.3(M)
	12 1,1-dichloroethane	AIB1A	10.706	10.706	(0.870)	19024079	40.0000	38.7
M	13 1,2-Dichloroethene (tot)	AIB1A				38464534	80.0000	76.0
	14 cis-1,2-dichloroethene	AIB1A	11.976	11.976	(0.973)	18754468	40.0000	39.7
	15 chloroform	AIB1A	12.310	12.310	(1.000)	23876193	40.0000	38.9(H)
*	16 Bromochloromethane	AIB1A	12.673	12.673	(1.000)	12176997	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.190	13.190	(1.071)	18098604	40.0000	35.0(H)
	18 carbontetrachloride	AIB1A	13.770	13.770	(1.119)	22118432	40.0000	38.3(H)
	19 1,2-dichloroethane	AIB1A	14.043	14.043	(1.141)	18244902	40.0000	36.5(H)
	20 Benzene	FID2B	14.106	14.106	(1.000)	1609865	40.0000	39.0(M)
*	21 Fluorobenzene	FID2B	14.536	14.536	(1.000)	839792	30.0000	(H)
	22 trichloroethene	AIB1A	15.486	15.486	(1.258)	21011916	40.0000	38.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.893	15.893	(1.291)	16443180	40.0000	38.7(H)
	24 bromodichloromethane	AIB1A	16.490	16.490	(1.301)	17420022	40.0000	41.7(MH)
	25 cis-1,3-dichloropropene	AIB1A	17.980	17.980	(1.419)	16436879	40.0000	39.0(MH)
	26 Toluene	FID2B	19.053	19.053	(1.311)	1485112	40.0000	37.5(M)
	27 trans-1,3-dichloropropene	AIB1A	19.630	19.630	(1.549)	14519013	40.0000	36.3(M)
	28 1,1,2-trichlorethane	AIB1A	20.236	20.236	(1.597)	20193690	40.0000	36.5(M)
	29 tetrachloroethene	AIB1A	21.613	21.613	(1.705)	25560522	40.0000	36.1(M)
	30 dibromochloromethane	AIB1A	22.460	22.460	(1.772)	14055619	40.0000	41.2(M)
	31 chlorobenzene	AIB1A	25.006	25.006	(1.973)	9552242	40.0000	37.0(M)
	32 Ethylbenzene	FID2B	25.193	25.193	(1.733)	1440753	40.0000	36.5(M)
	33 m,p-xylene	FID2B	25.486	25.486	(1.753)	3167347	80.0000	80.2(M)
	34 o-xylene	FID2B	27.060	27.060	(1.861)	1271501	40.0000	36.2(M)
M	35 Xylene (tot)	FID2B				4438848	120.000	116
	36 bromoform	AIB1A	28.303	28.303	(2.233)	8293586	40.0000	50.1(M)
$	37 1,4-dichlorobutane	AIB1A	28.606	28.606	(2.324)	10643991	40.0000	32.4(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.856	28.856	(2.344)	13104481	40.0000	36.4(H)
$	39 4-bromofluorobenzene	FID2B	29.090	29.090	(2.001)	1271709	40.0000	37.4(MH)
	40 1,3-dichlorobenzene	AIB1A	31.433	31.433	(2.553)	10948413	40.0000	42.8
	41 1,4-dichlorobenzene	AIB1A	31.603	31.603	(2.567)	12444535	40.0000	36.0
	42 1,2-dichlorobenzene	AIB1A	32.183	32.183	(2.614)	11009150	40.0000	39.1

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 40PPB.D
Lab Smp Id: 40ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 19-SEP-2001
Calibration Time: 15:58
Client Smp ID: 40ppbstd
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	13317348	6658674	26634696	12176997	-8.56
21 Fluorobenzene	956902	478451	1913804	839792	-12.24

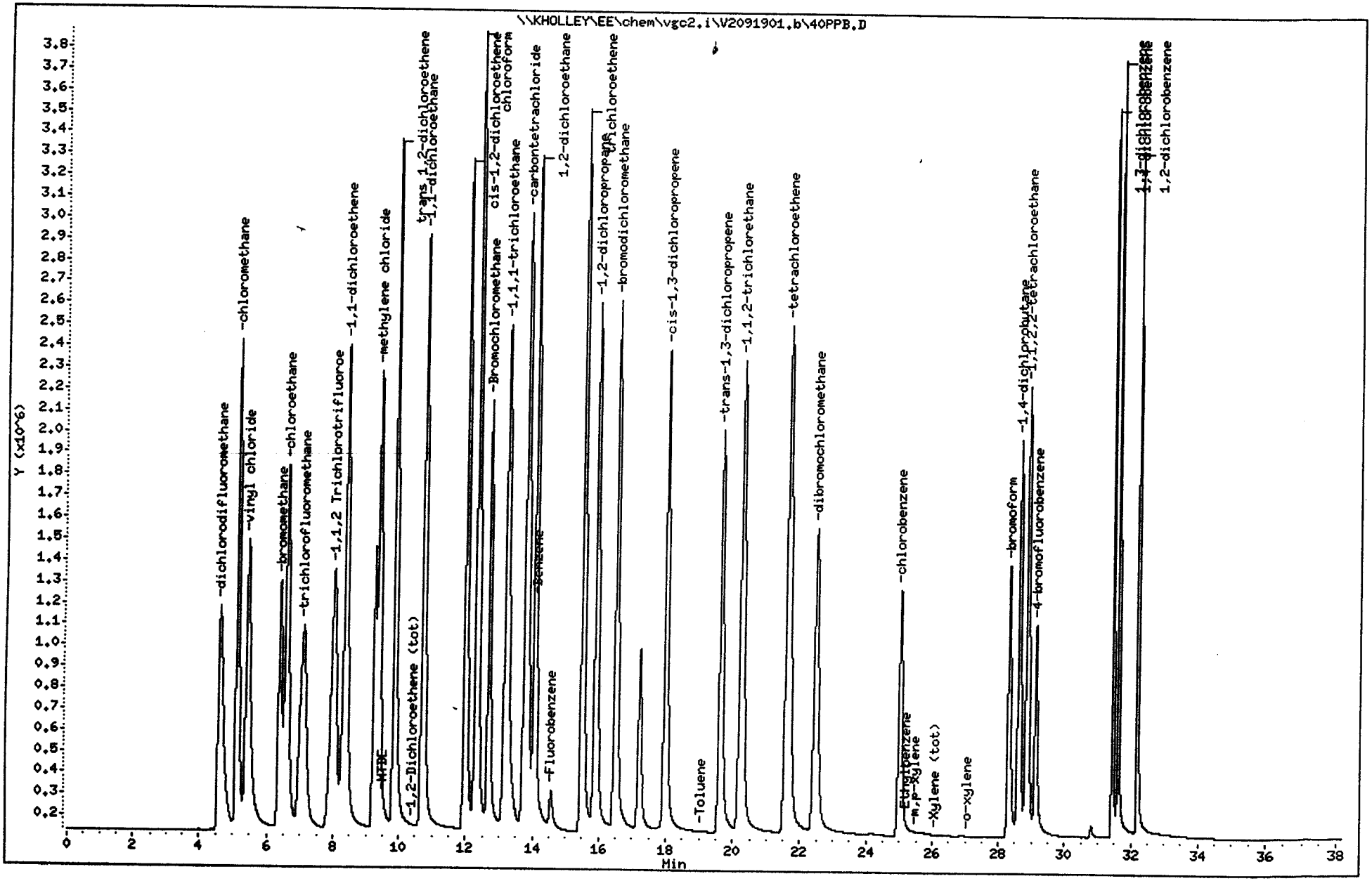
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.67	12.17	13.17	12.67	0.00
21 Fluorobenzene	14.54	14.04	15.04	14.54	-0.02

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\40PPB.D
Date : 19-SEP-2001 16:44
Client ID: 40ppbstd
Sample Info: 40ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i

Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\50PPB.D
Lab Smp Id: 50ppbstd
Client Smp ID: 50ppbstd
Inj Date : 19-SEP-2001 17:32
Operator :
Inst ID: vgc2.i
Smp Info : 50ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 09:52
Cal File: 500PPTR.D
Als bottle: 6
Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.573	4.573	(0.361)	12859000	50.0000	45.0(M)
	2 chloromethane	AIB1A	5.096	5.096	(0.415)	16143896	50.0000	42.4
	3 vinyl chloride	AIB1A	5.396	5.396	(0.439)	14704869	50.0000	42.4
	4 bromomethane	AIB1A	6.346	6.346	(0.501)	8668925	50.0000	53.9(M)
	5 chloroethane	AIB1A	6.546	6.546	(0.533)	15199317	50.0000	39.2(M)
	6 trichlorofluoromethane	AIB1A	7.053	7.053	(0.574)	13173894	50.0000	39.1(M)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	7.973	7.973	(0.649)	16998779	50.0000	44.1
	8 1,1-dichloroethene	AIB1A	8.336	8.336	(0.678)	21849682	50.0000	41.0(M)
	9 methylene chloride	AIB1A	9.340	9.340	(0.760)	28555274	50.0000	43.6(M)
	10 MTBE	FID2B	9.510	9.510	(0.675)	754074	50.0000	44.0
	11 trans 1,2-dichloroethene	AIB1A	9.833	9.833	(0.800)	22118462	50.0000	39.9(M)
	12 1,1-dichloroethane	AIB1A	10.690	10.690	(0.870)	21442494	50.0000	42.8
M	13 1,2-Dichloroethene (tot)	AIB1A				43616186	100.000	84.5
	14 cis-1,2-dichloroethene	AIB1A	11.960	11.960	(0.973)	21497724	50.0000	44.6
	15 chloroform	AIB1A	12.293	12.293	(1.000)	27113049	50.0000	43.2(H)
*	16 Bromochloromethane	AIB1A	12.660	12.660	(1.000)	12433705	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.176	13.176	(1.072)	19918437	50.0000	37.8(H)
	18 carbontetrachloride	AIB1A	13.753	13.753	(1.119)	24043625	50.0000	40.8(H)
	19 1,2-dichloroethane	AIB1A	14.033	14.033	(1.142)	21392570	50.0000	41.9(H)
	20 Benzene	FID2B	14.090	14.090	(1.000)	1848109	50.0000	44.7(M)
*	21 Fluorobenzene	FID2B	14.523	14.523	(1.000)	841833	30.0000	(H)
	22 trichloroethene	AIB1A	15.470	15.470	(1.258)	23161923	50.0000	41.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.880	15.880	(1.292)	19028355	50.0000	43.8(H)
	24 bromodichloromethane	AIB1A	16.473	16.473	(1.301)	20536768	50.0000	48.1(MH)
	25 cis-1,3-dichloropropene	AIB1A	17.960	17.960	(1.419)	19002867	50.0000	44.1(MH)
	26 Toluene	FID2B	19.033	19.033	(1.311)	1726751	50.0000	43.5(M)
	27 trans-1,3-dichloropropene	AIB1A	19.606	19.606	(1.549)	17687655	50.0000	43.3(M)
	28 1,1,2-trichlorethane	AIB1A	20.213	20.213	(1.597)	23650486	50.0000	41.9(M)
	29 tetrachloroethene	AIB1A	21.586	21.586	(1.705)	28351485	50.0000	39.2(M)
	30 dibromochloromethane	AIB1A	22.433	22.433	(1.772)	16546484	50.0000	47.5(M)
	31 chlorobenzene	AIB1A	24.983	24.983	(1.973)	10814997	50.0000	41.0(M)
	32 Ethylbenzene	FID2B	25.173	25.173	(1.733)	1814141	50.0000	45.8(M)
	33 m,p-xylene	FID2B	25.466	25.466	(1.754)	3561050	100.000	90.0(M)
	34 o-xylene	FID2B	27.040	27.040	(1.862)	1700327	50.0000	48.2(M)
M	35 Xylene (tot)	FID2B				5261377	150.000	138
	36 bromoform	AIB1A	28.283	28.283	(2.301)	9256278	50.0000	54.8
$	37 1,4-dichlorobutane	AIB1A	28.590	28.590	(2.326)	12507521	50.0000	37.3(H)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.833	28.833	(2.345)	14960050	50.0000	40.7(H)
$	39 4-bromofluorobenzene	FID2B	29.073	29.073	(2.002)	1473864	50.0000	43.2(MH)
	40 1,3-dichlorobenzene	AIB1A	31.423	31.423	(2.556)	12666138	50.0000	48.5
	41 1,4-dichlorobenzene	AIB1A	31.593	31.593	(2.496)	14529642	50.0000	41.2(M)
	42 1,2-dichlorobenzene	AIB1A	32.176	32.176	(2.617)	12732860	50.0000	44.3

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 50PPB.D
Lab Smp Id: 50ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 19-SEP-2001
Calibration Time: 15:58
Client Smp ID: 50ppbstd
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	13317348	6658674	26634696	12433705	-6.64
21 Fluorobenzene	956902	478451	1913804	841833	-12.03

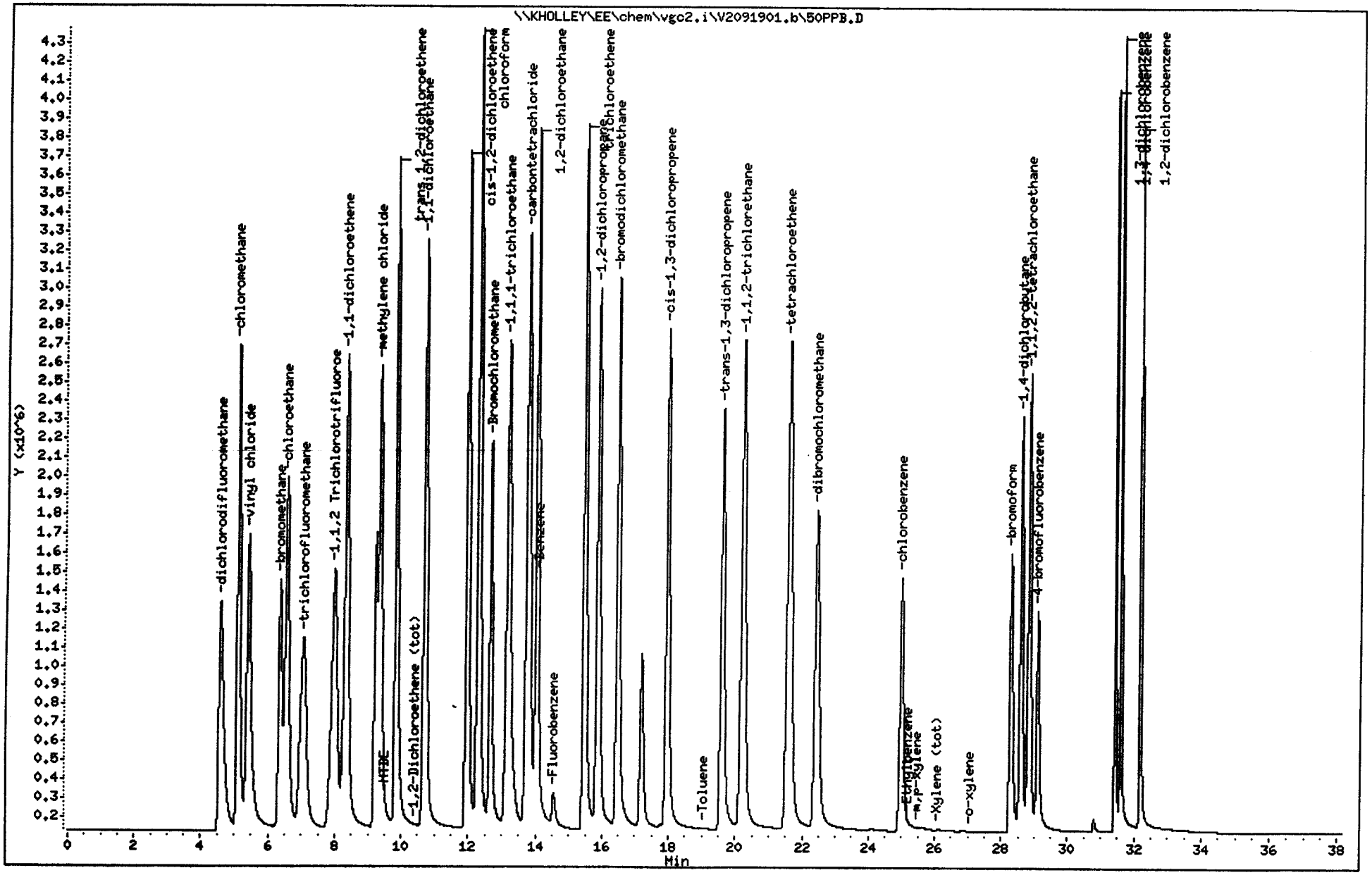
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.67	12.17	13.17	12.66	-0.11
21 Fluorobenzene	14.54	14.04	15.04	14.52	-0.11

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\50PPB.D
Date : 19-SEP-2001 17:32
Client ID: 50ppbstd
Sample Info: 50ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i

Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\100PPB.D
Lab Smp Id: 100ppbstd
Client Smp ID: 100ppbstd
Inj Date : 19-SEP-2001 18:18
Operator :
Inst ID: vgc2.i
Smp Info : 100ppb
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Meth Date : 08-Oct-2001 16:04 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18
Cal File: 100PPB.D
Als bottle: 7
Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: all.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.553	4.553	(0.360)	23751067	100.000	76.1(AM)
	2 chloromethane	AIB1A	5.083	5.083	(0.414)	28611284	100.000	68.7(A)
	3 vinyl chloride	AIB1A	5.373	5.373	(0.438)	27220688	100.000	71.8(A)
	4 bromomethane	AIB1A	6.293	6.293	(0.512)	17513756	100.000	99.7(AM)
	5 chloroethane	AIB1A	6.500	6.500	(0.514)	29384963	100.000	69.5(AMH)
	6 trichlorofluoromethane	AIB1A	7.006	7.006	(0.571)	26478723	100.000	72.0(AM)
	7 1,1,2 Trichlorotrifluoroethane	AIB1A	7.943	7.943	(0.647)	30281919	100.000	72.0(A)
	8 1,1-dichloroethene	AIB1A	8.306	8.306	(0.676)	41649599	100.000	71.5(AH)
	9 methylene chloride	AIB1A	9.323	9.323	(0.759)	53284171	100.000	74.6(AM)
	10 MTBE	FID2B	9.516	9.516	(0.656)	1449817	100.000	74.5(M)
	11 trans 1,2-dichloroethene	AIB1A	9.810	9.810	(0.799)	40193865	100.000	66.4(AM)
	12 1,1-dichloroethane	AIB1A	10.676	10.676	(0.869)	39692488	100.000	72.5(A)
M	13 1,2-Dichloroethene (tot)	AIB1A				79929040	200.000	142
	14 cis-1,2-dichloroethene	AIB1A	11.943	11.943	(0.973)	39735175	100.000	75.4(A)
	15 chloroform	AIB1A	12.280	12.280	(1.000)	49013629	100.000	71.6(AH)
*	16 Bromochloromethane	AIB1A	12.643	12.643	(1.000)	13576158	30.0000	(H)
	17 1,1,1-trichloroethane	AIB1A	13.160	13.160	(1.041)	42365438	100.000	73.6(AMH)
	18 carbontetrachloride	AIB1A	13.736	13.736	(1.119)	43855789	100.000	68.2(AH)
	19 1,2-dichloroethane	AIB1A	14.013	14.013	(1.141)	37888891	100.000	67.9(AH)
	20 Benzene	FID2B	14.073	14.073	(0.970)	3545490	100.000	75.5(M)
*	21 Fluorobenzene	FID2B	14.506	14.506	(1.000)	955822	30.0000	(MH)
	22 trichloroethene	AIB1A	15.450	15.450	(1.258)	42399351	100.000	69.1(A)

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	23 1,2-dichloropropane	AIB1A	15.860	15.860	(1.292)	34612542	100.000	73.0(AH)
	24 bromodichloromethane	AIB1A	16.456	16.456	(1.302)	36588578	100.000	78.5(AMH)
	25 cis-1,3-dichloropropene	AIB1A	17.936	17.936	(1.419)	34188931	100.000	72.7(AMH)
	26 Toluene	FID2B	19.013	19.013	(1.311)	3258593	100.000	72.3(M)
	27 trans-1,3-dichloropropene	AIB1A	19.580	19.580	(1.549)	31337905	100.000	70.2(AM)
	28 1,1,2-trichlorethane	AIB1A	20.193	20.193	(1.597)	42039002	100.000	68.2(AM)
	29 tetrachloroethene	AIB1A	21.566	21.566	(1.706)	47430252	100.000	60.1(AM)
	30 dibromochloromethane	AIB1A	22.410	22.410	(1.772)	31203043	100.000	82.1(AM)
	31 chlorobenzene	AIB1A	24.966	24.966	(1.975)	19787603	100.000	68.8(M)
	32 Ethylbenzene	FID2B	25.156	25.156	(1.734)	3202952	100.000	71.3(M)
	33 m,p-xylene	FID2B	25.453	25.453	(1.755)	7050911	200.000	157(M)
	34 o-xylene	FID2B	27.026	27.026	(1.863)	2965643	100.000	74.1(M)
M	35 Xylene (tot)	FID2B				10016554	300.000	231
	36 bromoform	AIB1A	28.270	28.270	(2.302)	16776949	100.000	91.0(A)
$	37 1,4-dichlorobutane	AIB1A	28.573	28.573	(2.327)	23127044	100.000	63.2(AH)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.823	28.823	(2.347)	26557929	100.000	66.2(AH)
$	39 4-bromofluorobenzene	FID2B	29.060	29.060	(2.003)	2923030	100.000	75.5(MH)
	40 1,3-dichlorobenzene	AIB1A	31.416	31.416	(2.558)	23791092	100.000	83.4
	41 1,4-dichlorobenzene	AIB1A	31.586	31.586	(2.498)	25772714	100.000	66.8(M)
	42 1,2-dichlorobenzene	AIB1A	32.166	32.166	(2.619)	23587315	100.000	75.2

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: 100PPB.D
Lab Smp Id: 100ppbstd
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2091901.b\8021.m
Misc Info:

Calibration Date: 19-SEP-2001
Calibration Time: 15:58
Client Smp ID: 100ppbstd
Level: LOW
Sample Type: WATER

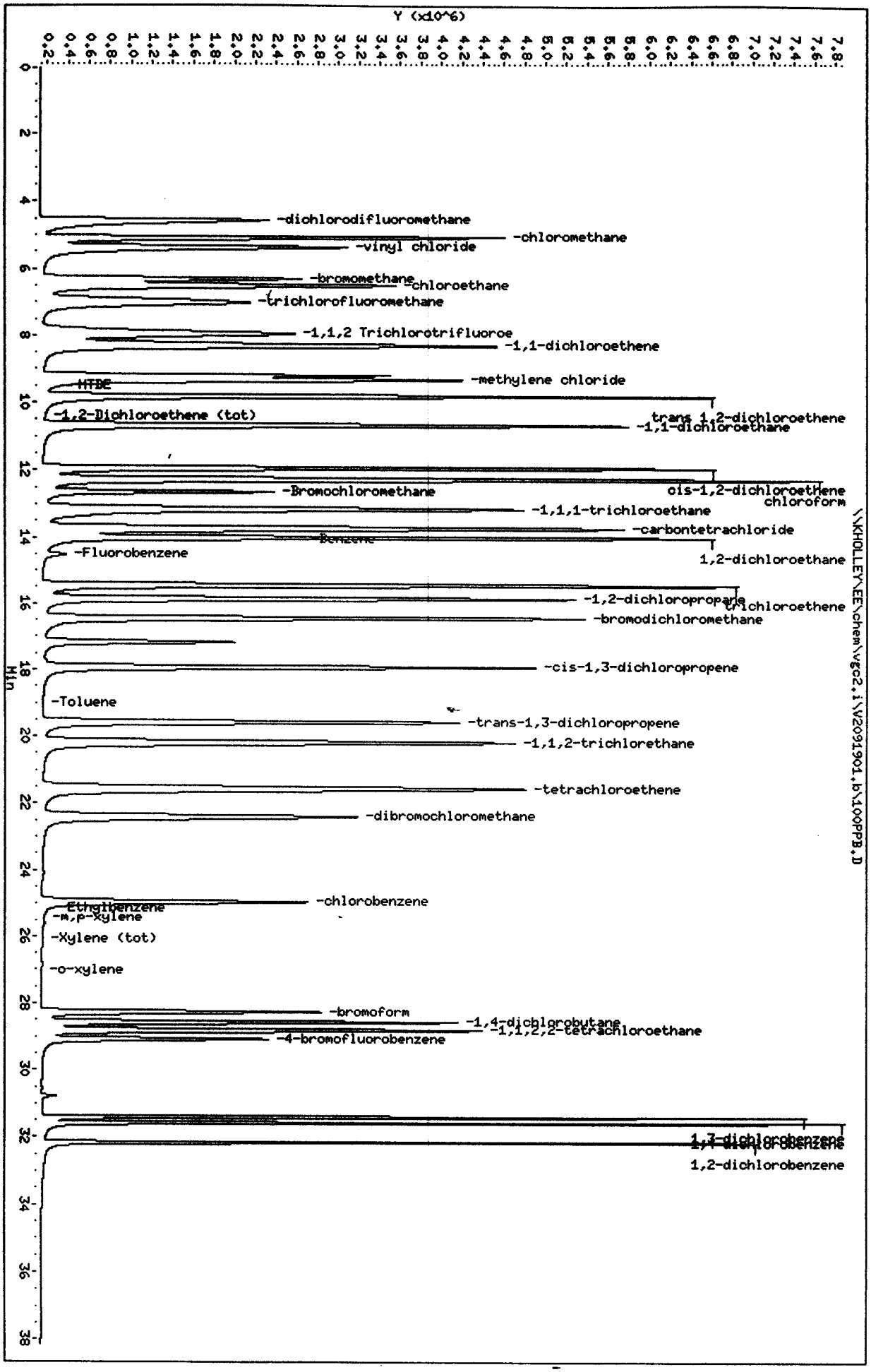
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	13317348	6658674	26634696	13576158	1.94
21 Fluorobenzene	956902	478451	1913804	955822	-0.11

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.67	12.17	13.17	12.64	-0.24
21 Fluorobenzene	14.54	14.04	15.04	14.51	-0.23

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.

Data File: \\KHOLLEY\EE\chem\vgc2.i\V2091901.b\100PPB.D
Date : 19-SEP-2001 18:18
Client ID: 100ppbstd
Sample Info: 100ppb
Purge Volume: 5.0
Column phase: RTX-502.2

Instrument: vgc2.i
Operator:
Column diameter: 0.53



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\CCV12.D
Lab Smp Id: 0924ccv12 Client Smp ID: 0924ccv12
Inj Date : 24-SEP-2001 08:53
Operator : Inst ID: vgc2.i
Smp Info : 0924ccv12
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.410	9.426	(0.653)	319808	25.7335	25.7
20 Benzene	FID2B	13.976	13.993	(0.970)	886605	29.5688	29.6
* 21 Fluorobenzene	FID2B	14.406	14.430	(1.000)	610654	30.0000	
26 Toluene	FID2B	18.876	18.896	(1.310)	812310	28.2030	28.2
32 Ethylbenzene	FID2B	25.026	25.040	(1.737)	746105	26.0008	26.0(M)
33 m,p-xylene	FID2B	25.320	25.336	(1.758)	1567356	52.5615	52.6
34 o-xylene	FID2B	26.906	26.926	(1.868)	689856	26.9752	27.0
$ 39 4-bromofluorobenzene	FID2B	28.950	28.963	(2.009)	676644	26.0948	26.1

QC Flag Legend

M - Compound response manually integrated.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

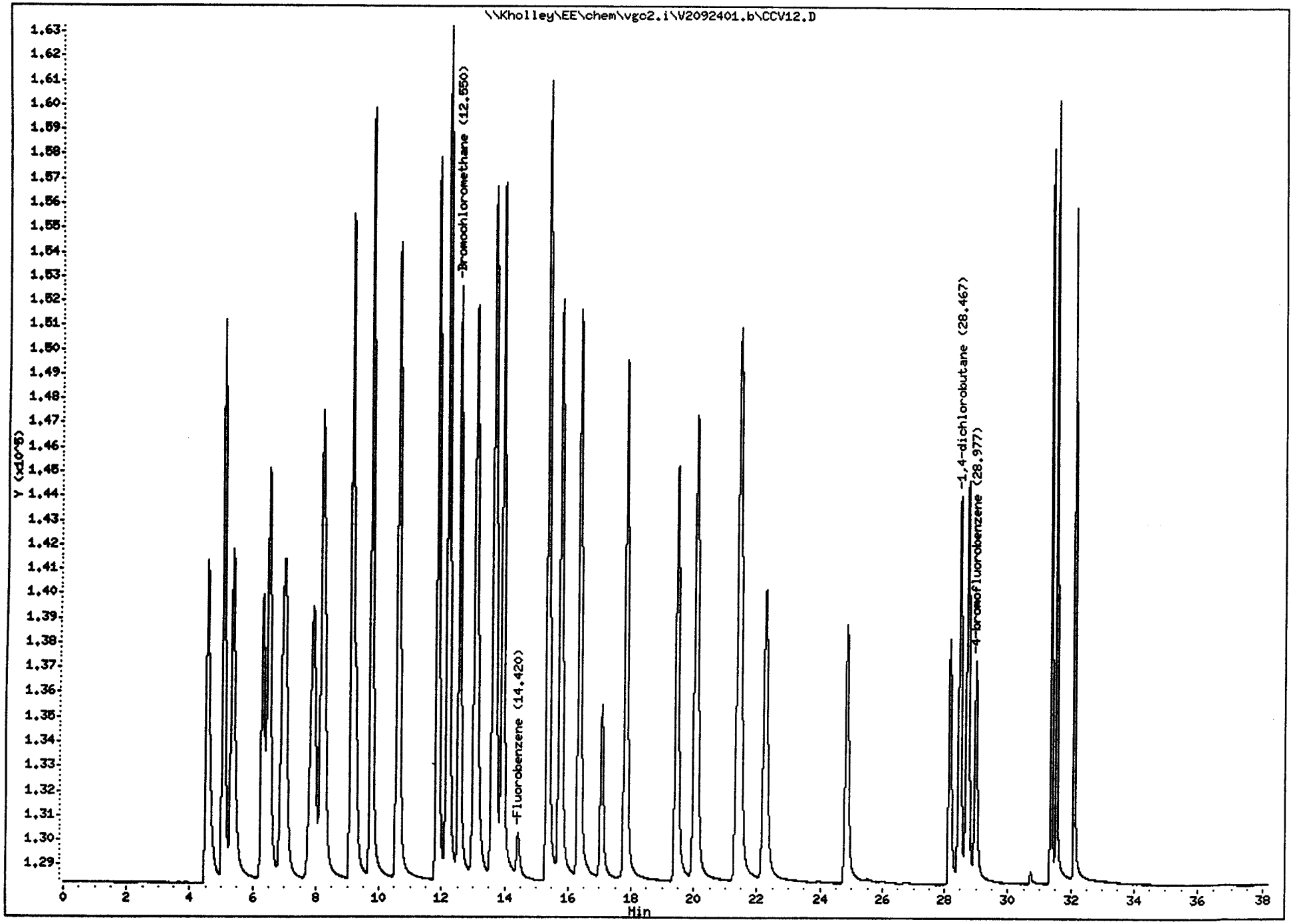
Instrument ID: vgc2.i
Lab File ID: CCV12.D
Lab Smp Id: 0924ccv12
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 0924ccv12
Level: LOW
Sample Type: WATER

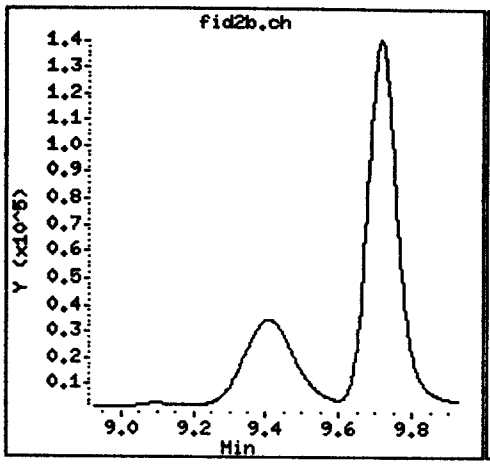
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	610654	17.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.41	-0.16

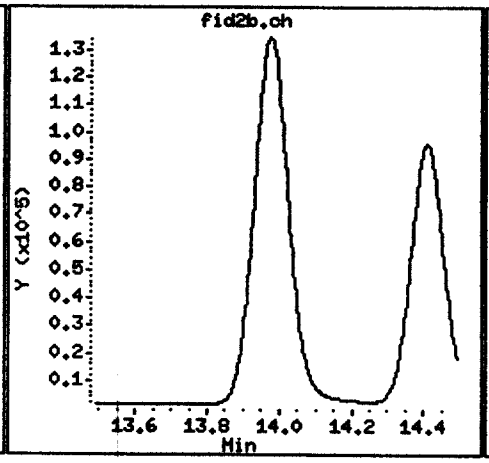
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\CCV12.D
Bromochloromethane (12.550)
Fluorobenzene (14.420)
1,4-dichlorobutane (28.467)
4-bromofluorobenzene (28.977)
y (x10^5)
Min

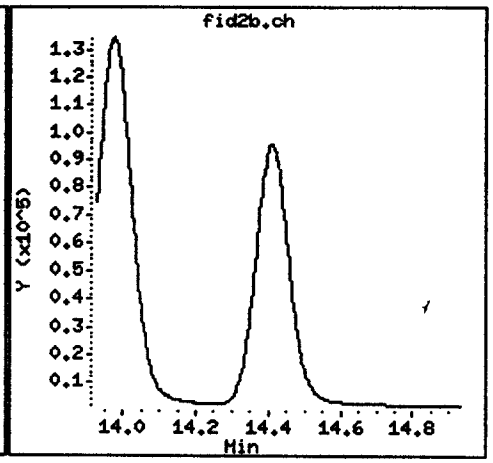
10 MTBE



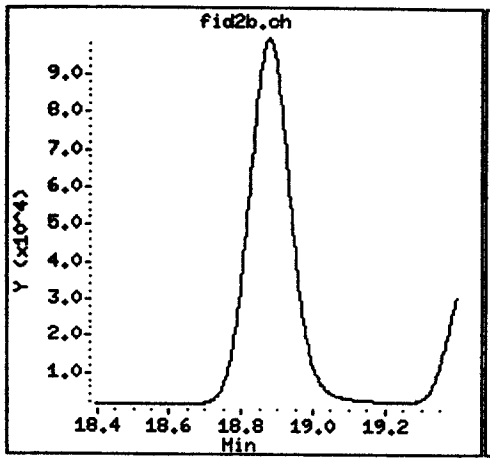
20 Benzene



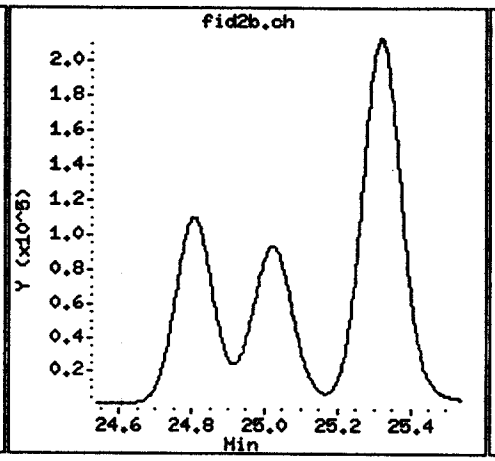
* 21 Fluorobenzene



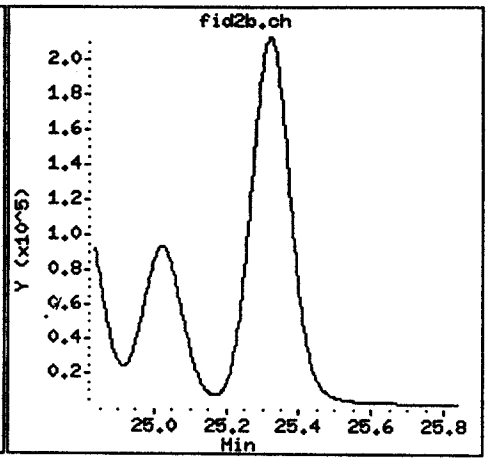
26 Toluene



32 Ethylbenzene

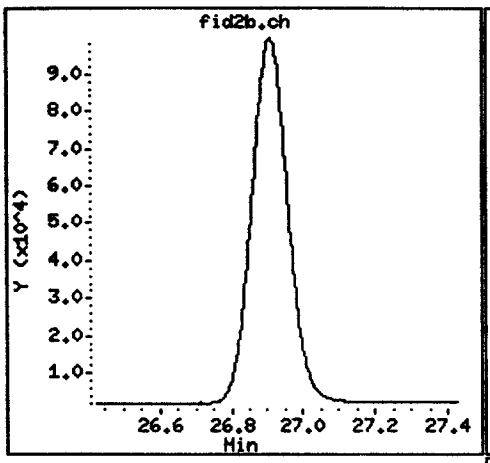


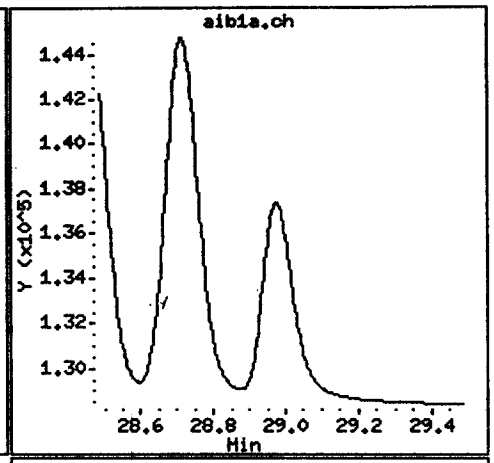
33 m,p-xylene

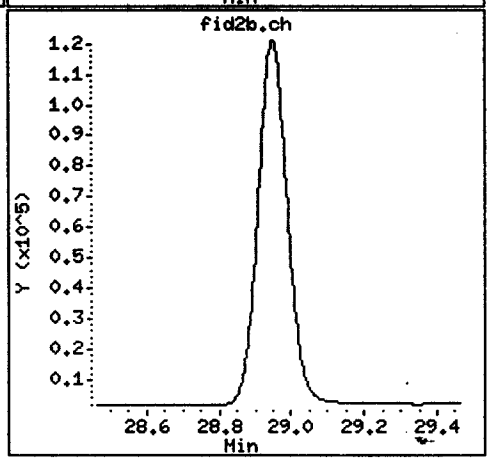


34 o-xylene

$ 39 4-bromofluorobenzene







PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\CCV24.D
Lab Smp Id: 092401ccv24 Client Smp ID: 092401ccv24
Inj Date : 24-SEP-2001 21:00
Operator : Inst ID: vgc2.i
Smp Info : 092401ccv24
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.426	9.426	(0.653)	282658	26.7641	26.8
20 Benzene	FID2B	13.993	13.993	(0.970)	771936	30.2947	30.3
* 21 Fluorobenzene	FID2B	14.430	14.430	(1.000)	518936	30.0000	
26 Toluene	FID2B	18.896	18.896	(1.310)	710964	29.0471	29.0
32 Ethylbenzene	FID2B	25.040	25.040	(1.735)	641936	26.3245	26.3
33 m,p-xylene	FID2B	25.336	25.336	(1.756)	1393048	54.9728	55.0
34 o-xylene	FID2B	26.926	26.926	(1.866)	607501	27.9534	28.0
$ 39 4-bromofluorobenzene	FID2B	28.963	28.963	(2.007)	602705	27.3514	27.4

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

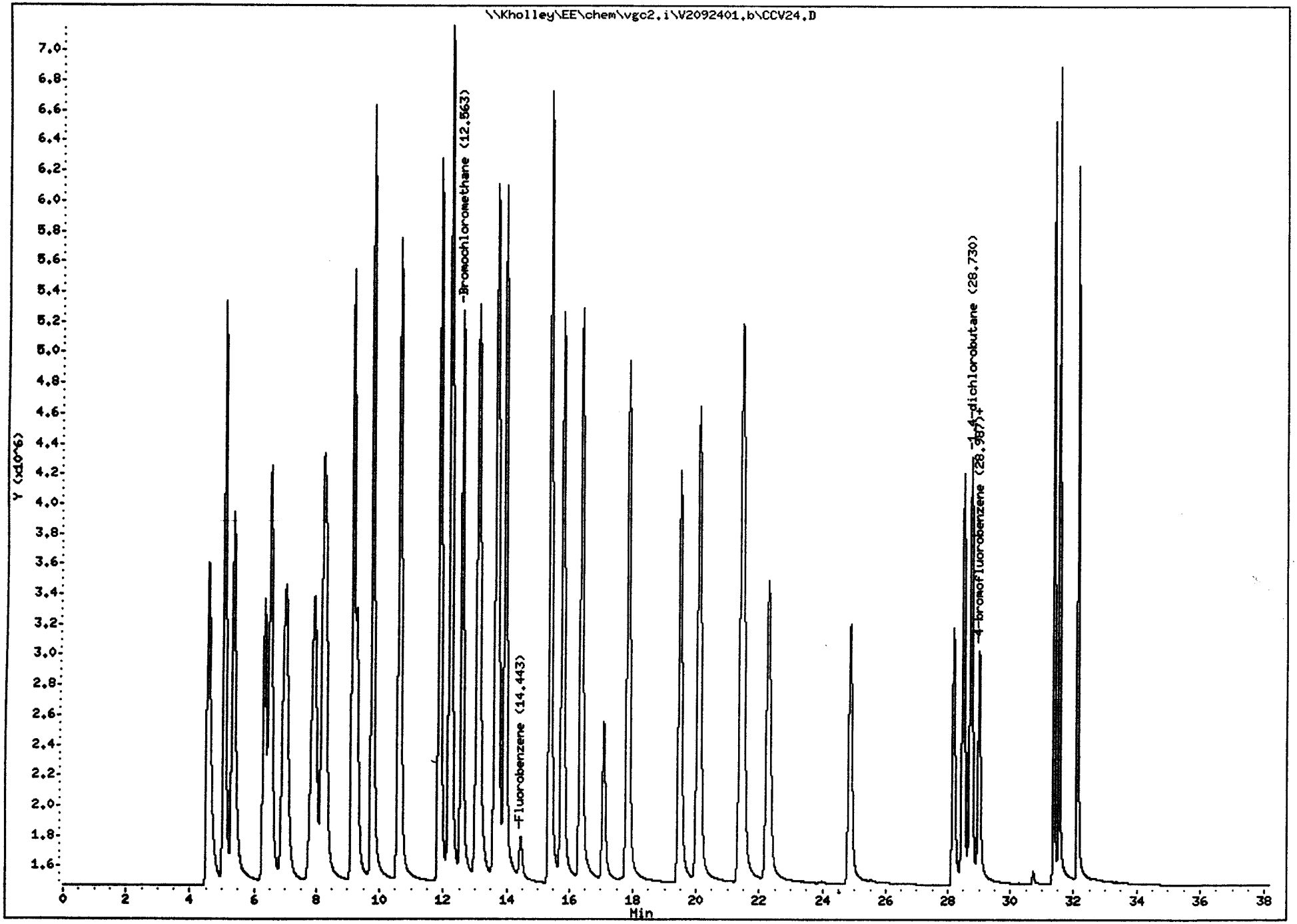
Instrument ID: vgc2.i
Lab File ID: CCV24.D
Lab Smp Id: 092401ccv24
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 092401ccv24
Level: LOW
Sample Type: WATER

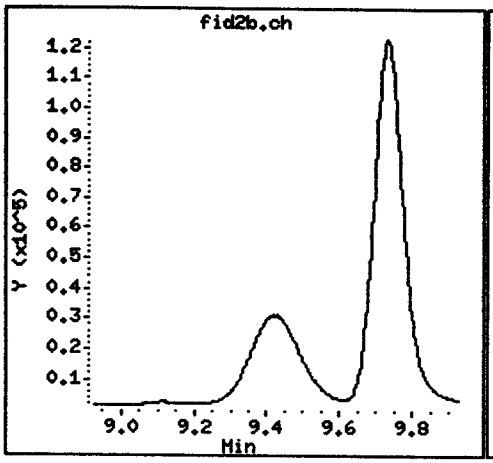
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	518936	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	0.00

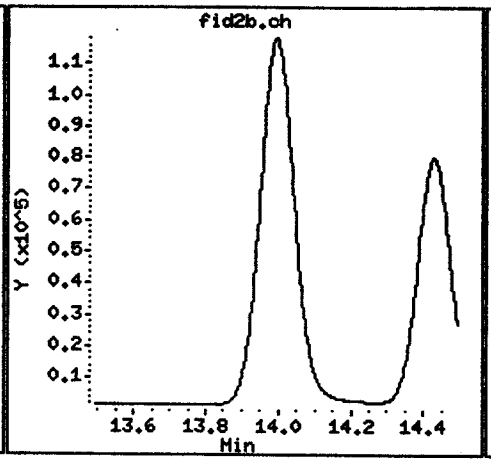
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\CCV24.D
Y (x10^6)
Min
-Bromochloromethane (12.563)
-Fluorobenzene (14.443)
-1,4-dichlorobutane (28.730)
-4-bromofluorobenzene (28.987)

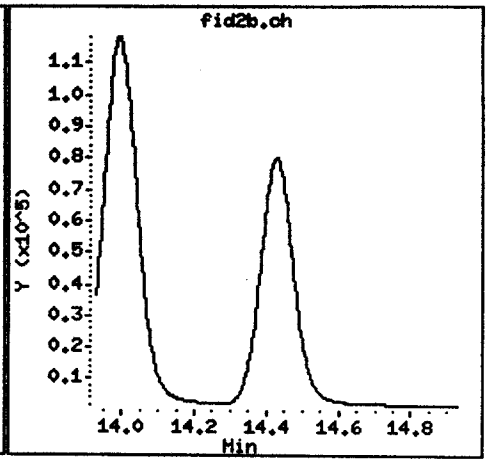
10 MTBE



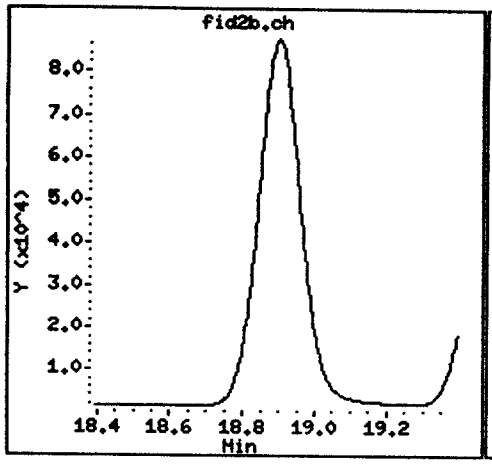
20 Benzene



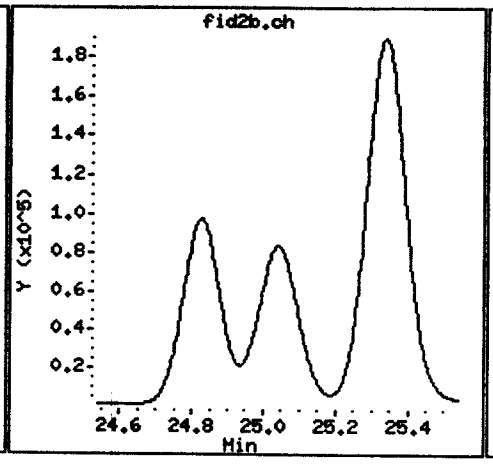
* 21 Fluorobenzene



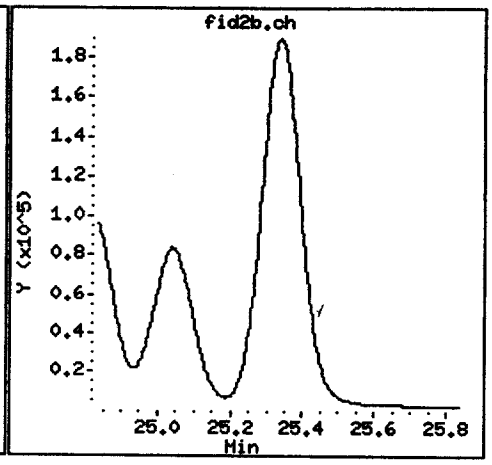
26 Toluene



32 Ethylbenzene

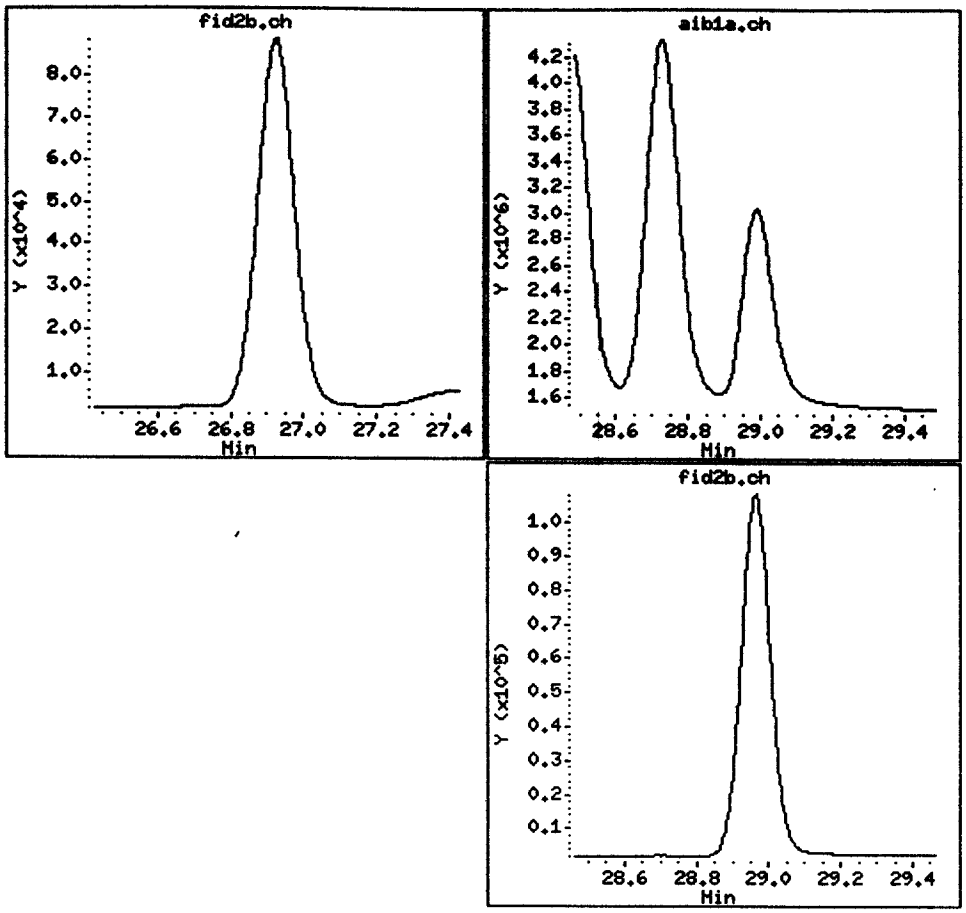


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\CCV25.D
Lab Smp Id: 092401ccv25 Client Smp ID: 092401ccv25
Inj Date : 25-SEP-2001 02:58
Operator : Inst ID: vgc2.i
Smp Info : 092401ccv25
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.423	9.426	(0.653)	269884	28.1912	28.2
20 Benzene	FID2B	13.993	13.993	(0.970)	755231	32.6972	32.7
* 21 Fluorobenzene	FID2B	14.426	14.430	(1.000)	470401	30.0000	
26 Toluene	FID2B	18.900	18.896	(1.310)	689931	31.0962	31.1
32 Ethylbenzene	FID2B	25.043	25.040	(1.736)	615437	27.8418	27.8
33 m,p-xylene	FID2B	25.340	25.336	(1.756)	1329671	57.8857	57.9
34 o-xylene	FID2B	26.926	26.926	(1.866)	588497	29.8729	29.9
$ 39 4-bromofluorobenzene	FID2B	28.963	28.963	(2.008)	629473	31.5136	31.5

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

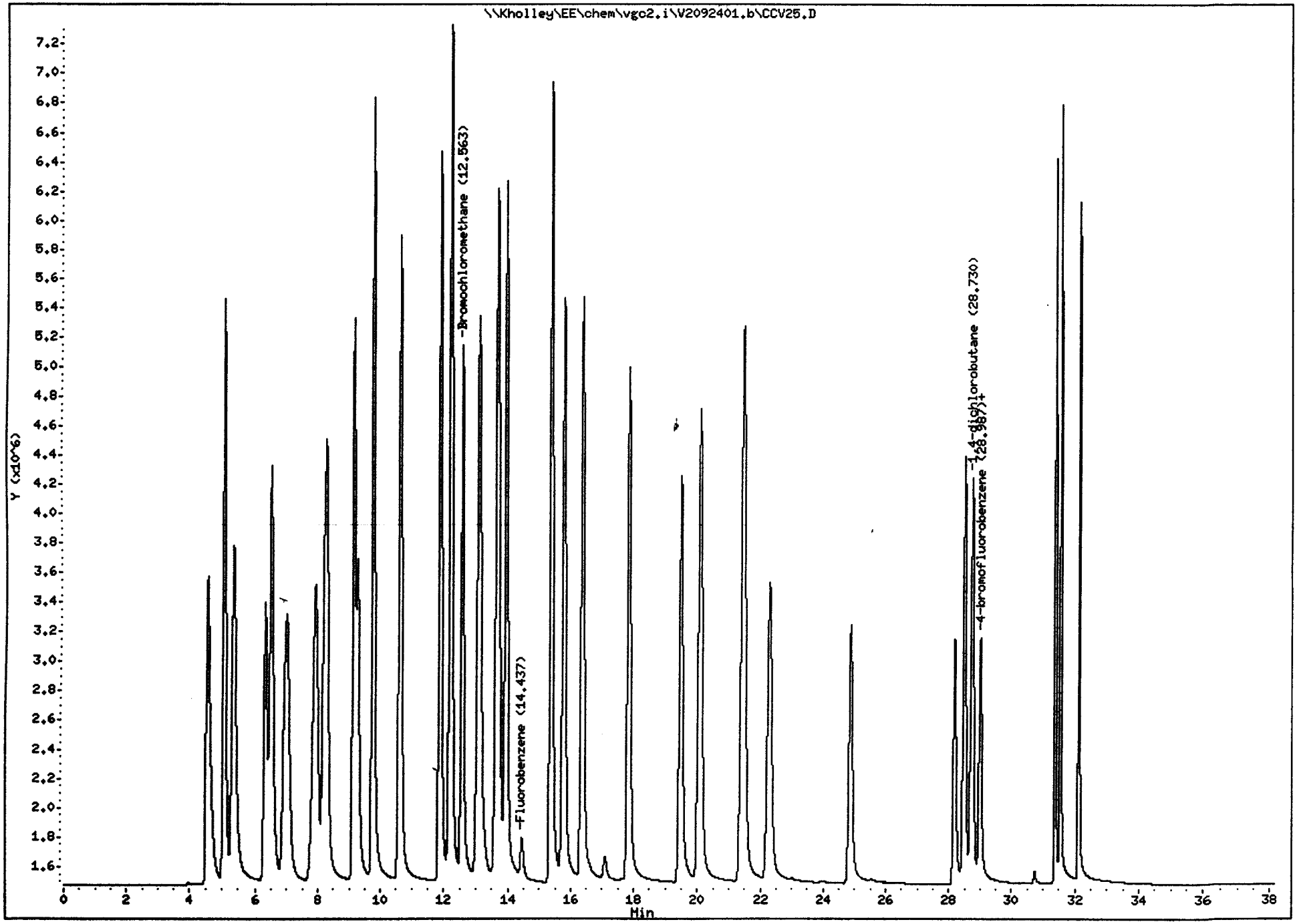
Instrument ID: vgc2.i
Lab File ID: CCV25.D
Lab Smp Id: 092401ccv25
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 092401ccv25
Level: LOW
Sample Type: WATER

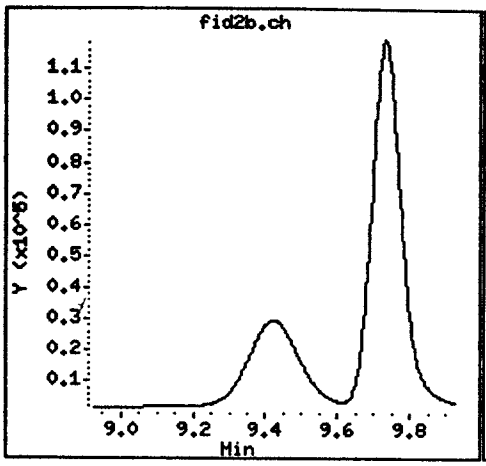
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	470401	-9.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	-0.02

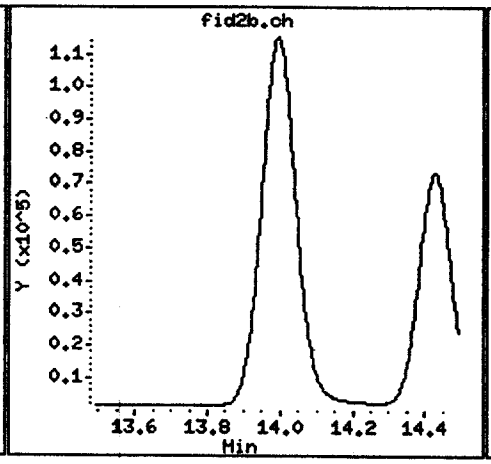
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\CCV25.D
Y (x10^6)
Min
-Bromochloromethane (12.563)
-Fluorobenzene (14.437)
-1,4-dichlorobutane (28.730)
-4-bromofluorobenzene (28.987)

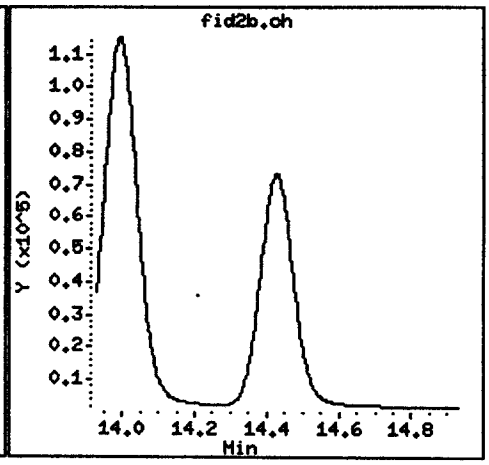
10 MTBE



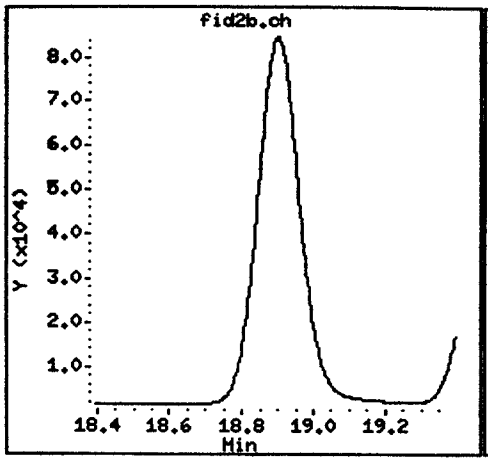
20 Benzene



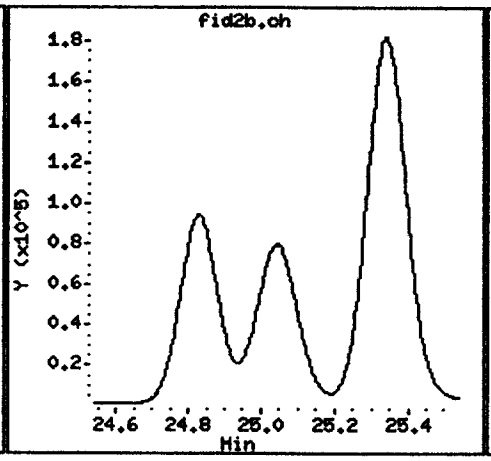
M 21 Fluorobenzene



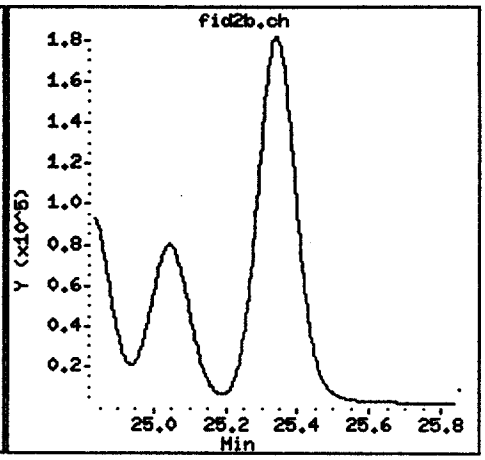
26 Toluene



32 Ethylbenzene

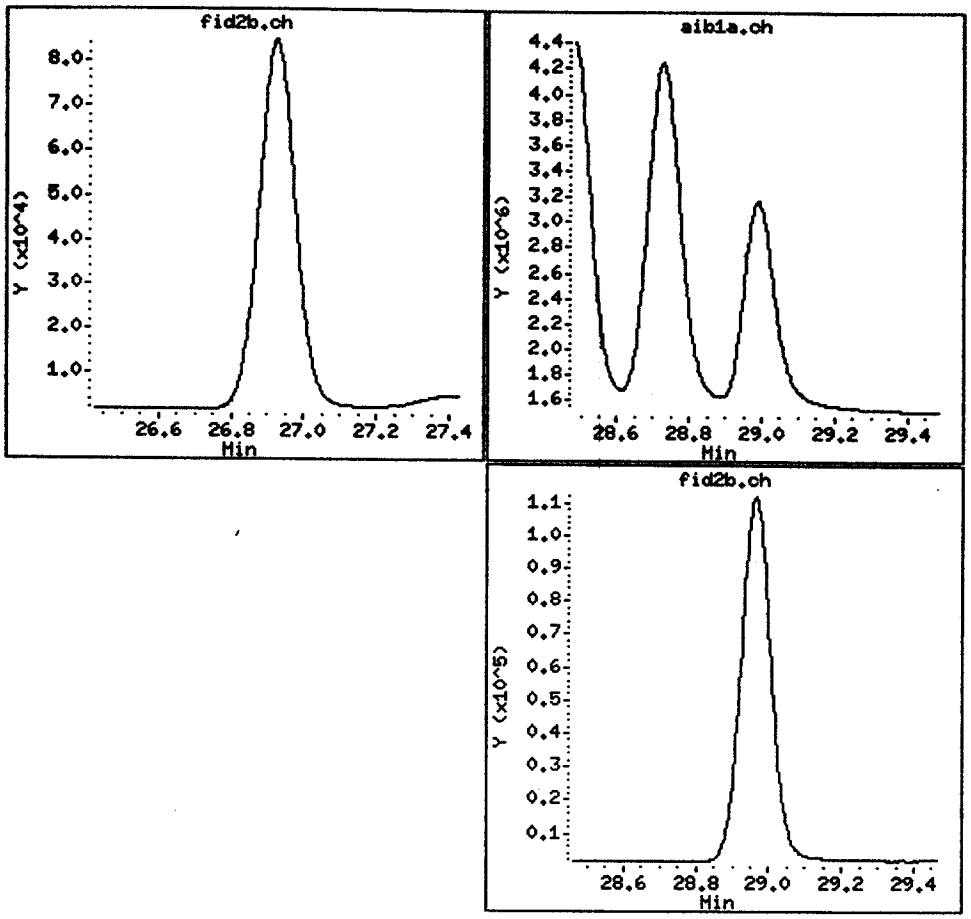


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\BLK11.D
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Inj Date : 24-SEP-2001 09:38
Operator : Inst ID: vgc2.i
Smp Info : 0924blk11
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.426	14.406	(1.000)	578396	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.963	28.950	(2.008)	618940	25.2007	25.2(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

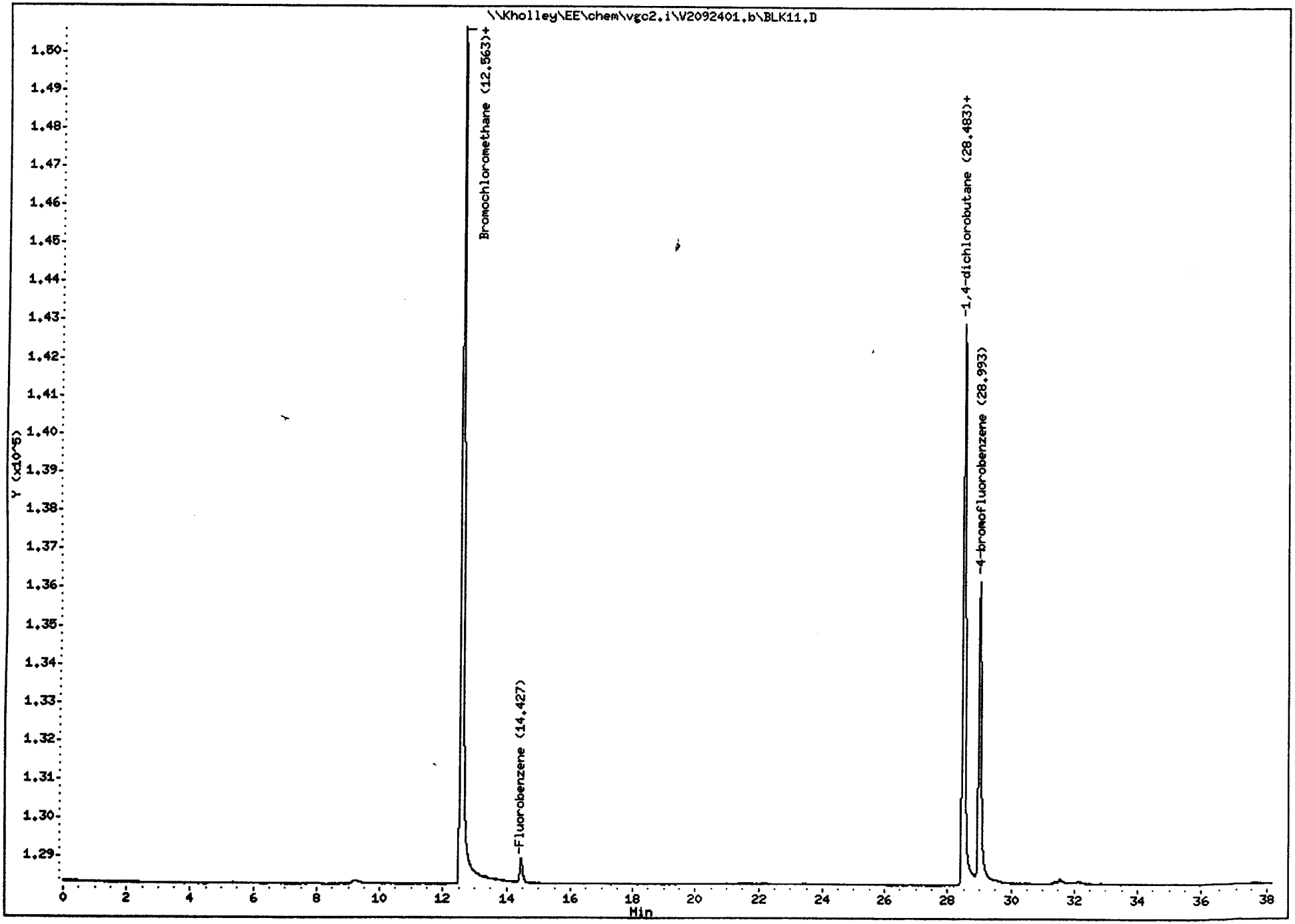
Instrument ID: vgc2.i
Lab File ID: BLK11.D
Lab Smp Id: 0924blk11
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 0924blk11
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	578396	-5.28

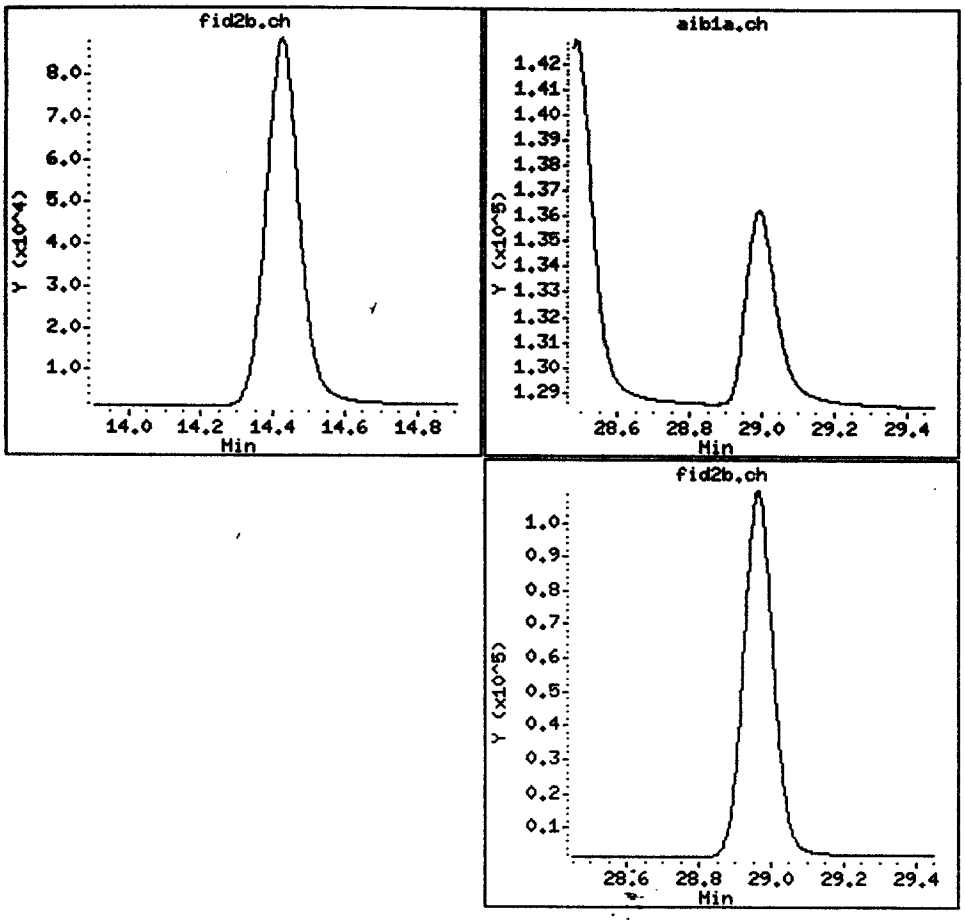
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.43	0.14

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\BLK11.D
Bromochloromethane (12.563)+
Fluorobenzene (14.427)
1,4-dichlorobutane (28.483)+
4-bromofluorobenzene (28.993)
Y (x10^5)
1.50
1.49
1.48
1.47
1.46
1.45
1.44
1.43
1.42
1.41
1.40
1.39
1.38
1.37
1.36
1.35
1.34
1.33
1.32
1.31
1.30
1.29
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

* 21 Fluorobenzene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\LCS11.D
Lab Smp Id: 0924lcs11 Client Smp ID: 0924lcs11
Inj Date : 24-SEP-2001 10:23
Operator : Inst ID: vgc2.i
Smp Info : 0924lcs11
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.433	9.410	(0.653)	127191	10.8615	10.9
20 Benzene	FID2B	14.006	13.976	(0.970)	323901	11.4641	11.5
* 21 Fluorobenzene	FID2B	14.440	14.406	(1.000)	575402	30.0000	
26 Toluene	FID2B	18.923	18.876	(1.310)	301273	11.1009	11.1
32 Ethylbenzene	FID2B	25.066	25.026	(1.736)	253882	9.38951	9.4
33 m,p-xylene	FID2B	25.363	25.320	(1.756)	562662	20.0250	20.0
34 o-xylene	FID2B	26.950	26.906	(1.866)	254899	10.5779	10.6
$ 39 4-bromofluorobenzene	FID2B	28.983	28.950	(2.007)	663929	27.1731	27.2(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

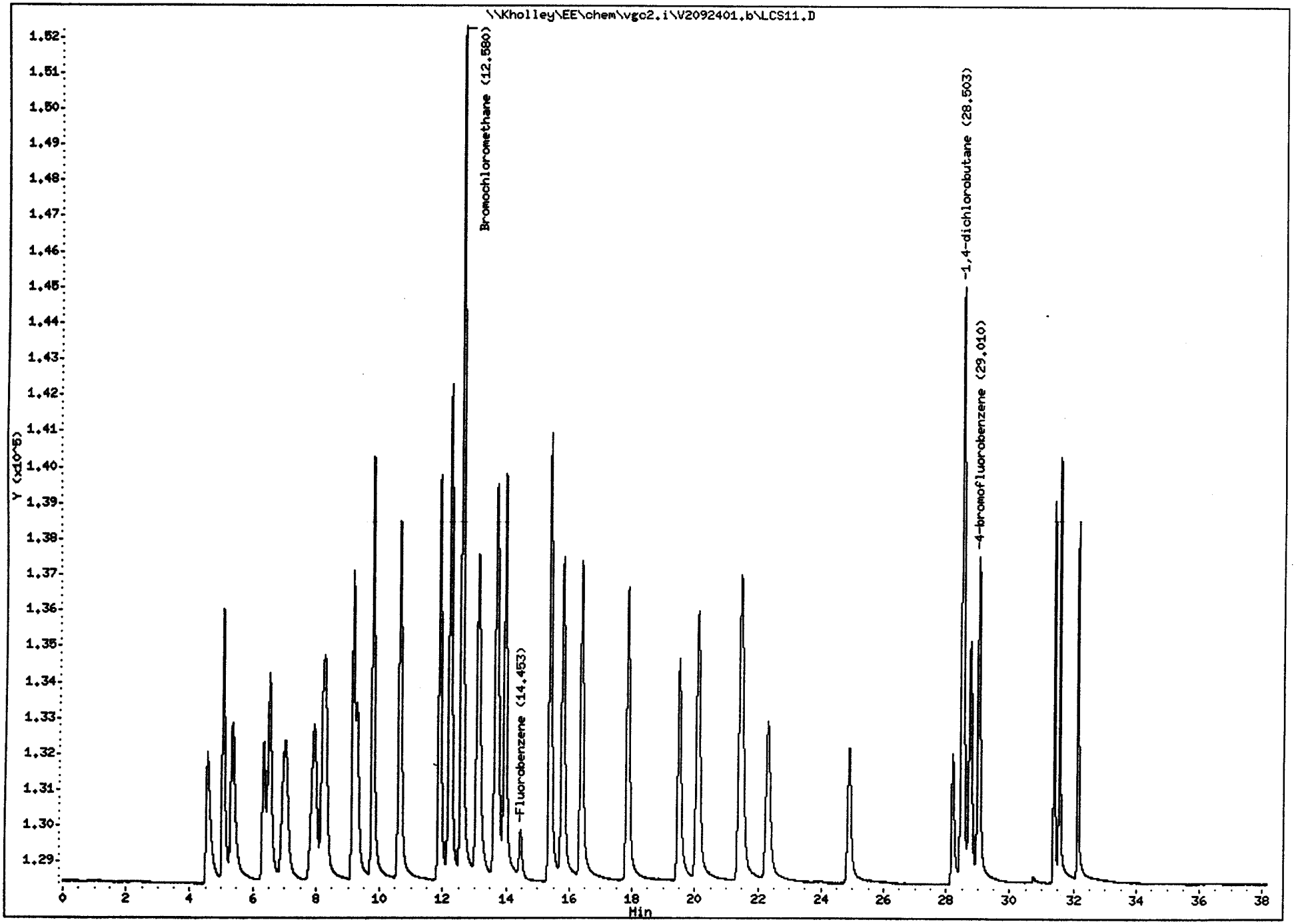
Instrument ID: vgc2.i
Lab File ID: LCS11.D
Lab Smp Id: 0924lcs11
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 0924lcs11
Level: LOW
Sample Type: WATER

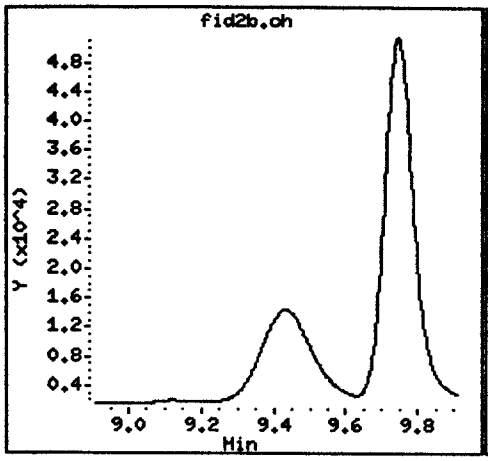
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	575402	-5.77

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.44	0.23

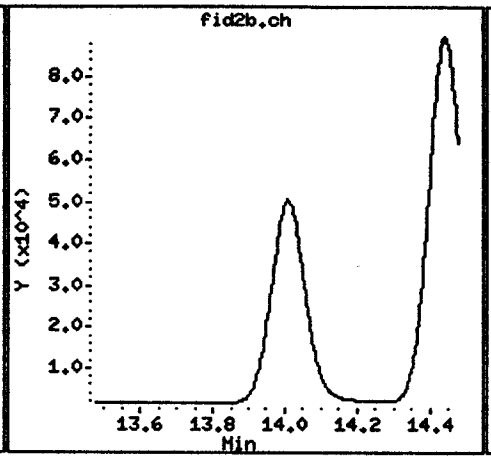
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\LCS11.D
Bromochloromethane (12.580)
-Fluorobenzene (14.453)
-1,4-dichlorobutane (28.503)
-4-bromofluorobenzene (29.010)
Y (x10^5)
Min

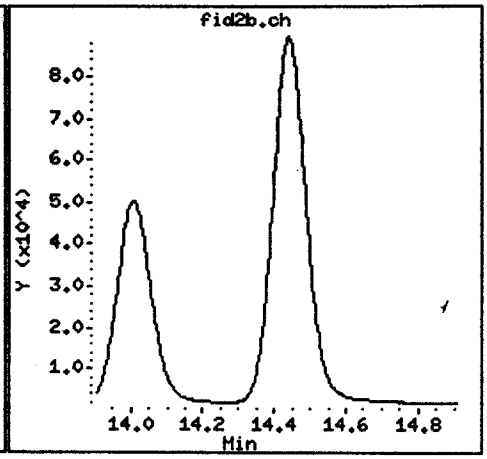
10 MTBE



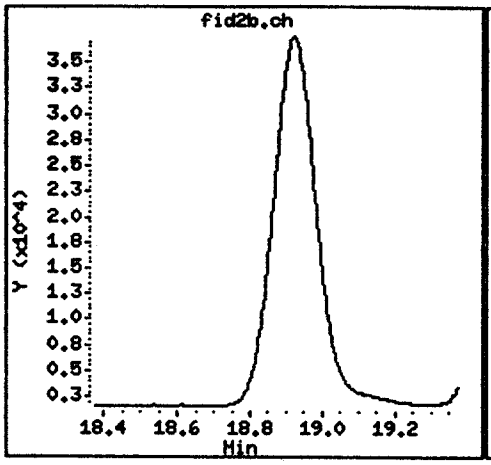
20 Benzene



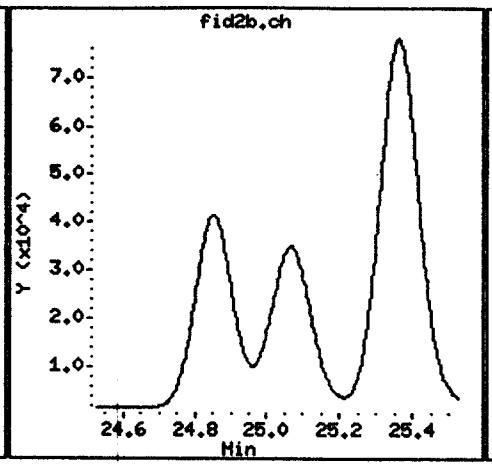
* 21 Fluorobenzene



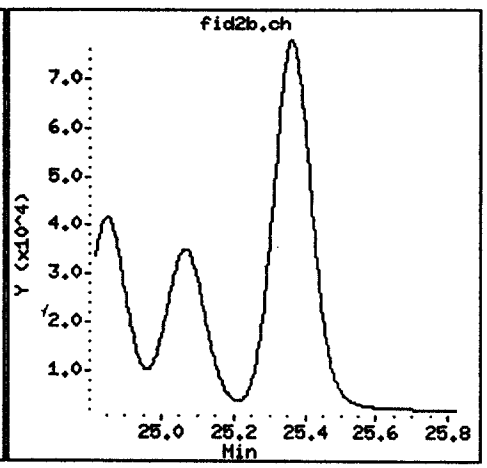
26 Toluene



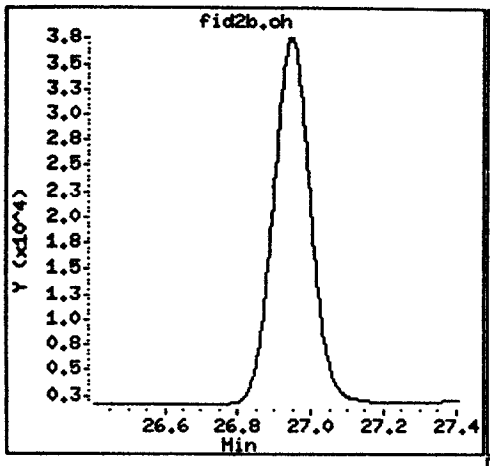
32 Ethylbenzene



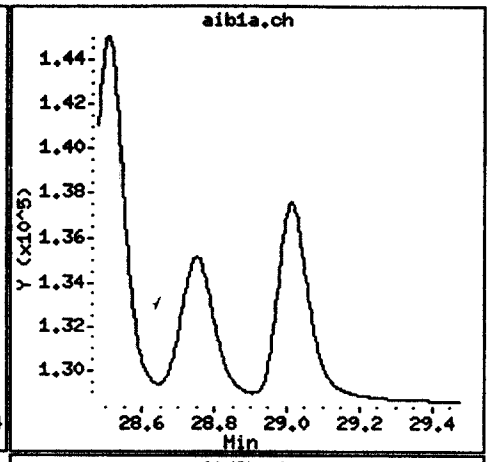
33 m,p-xylene

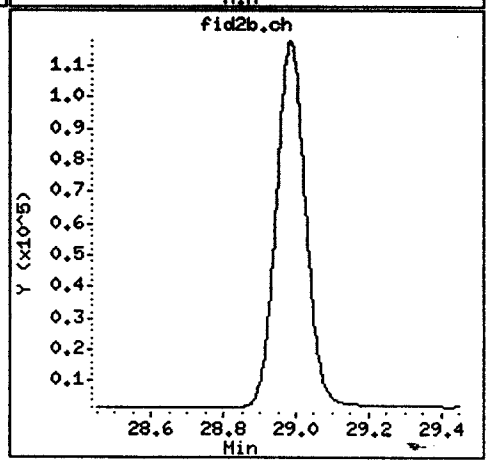


34 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-5MS.D
Lab Smp Id: 210909505 Client Smp ID: 062MW20Q30120MS
Inj Date : 24-SEP-2001 15:44
Operator : Inst ID: vgc2.i
Smp Info : 210909505
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.480	9.410	(0.654)	68021	10.0579	10.0
20 Benzene	FID2B	14.070	13.976	(0.970)	170387	10.4422	10.4
* 21 Fluorobenzene	FID2B	14.500	14.406	(1.000)	332309	30.0000	
26 Toluene	FID2B	19.000	18.876	(1.310)	154230	9.84002	9.8(M)
32 Ethylbenzene	FID2B	25.136	25.026	(1.734)	132777	8.50283	8.5
33 m,p-xylene	FID2B	25.433	25.320	(1.754)	285975	17.6231	17.6
34 o-xylene	FID2B	27.010	26.906	(1.863)	131357	9.43871	9.4
$ 39 4-bromofluorobenzene	FID2B	29.046	28.950	(2.003)	394996	27.9924	28.0(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

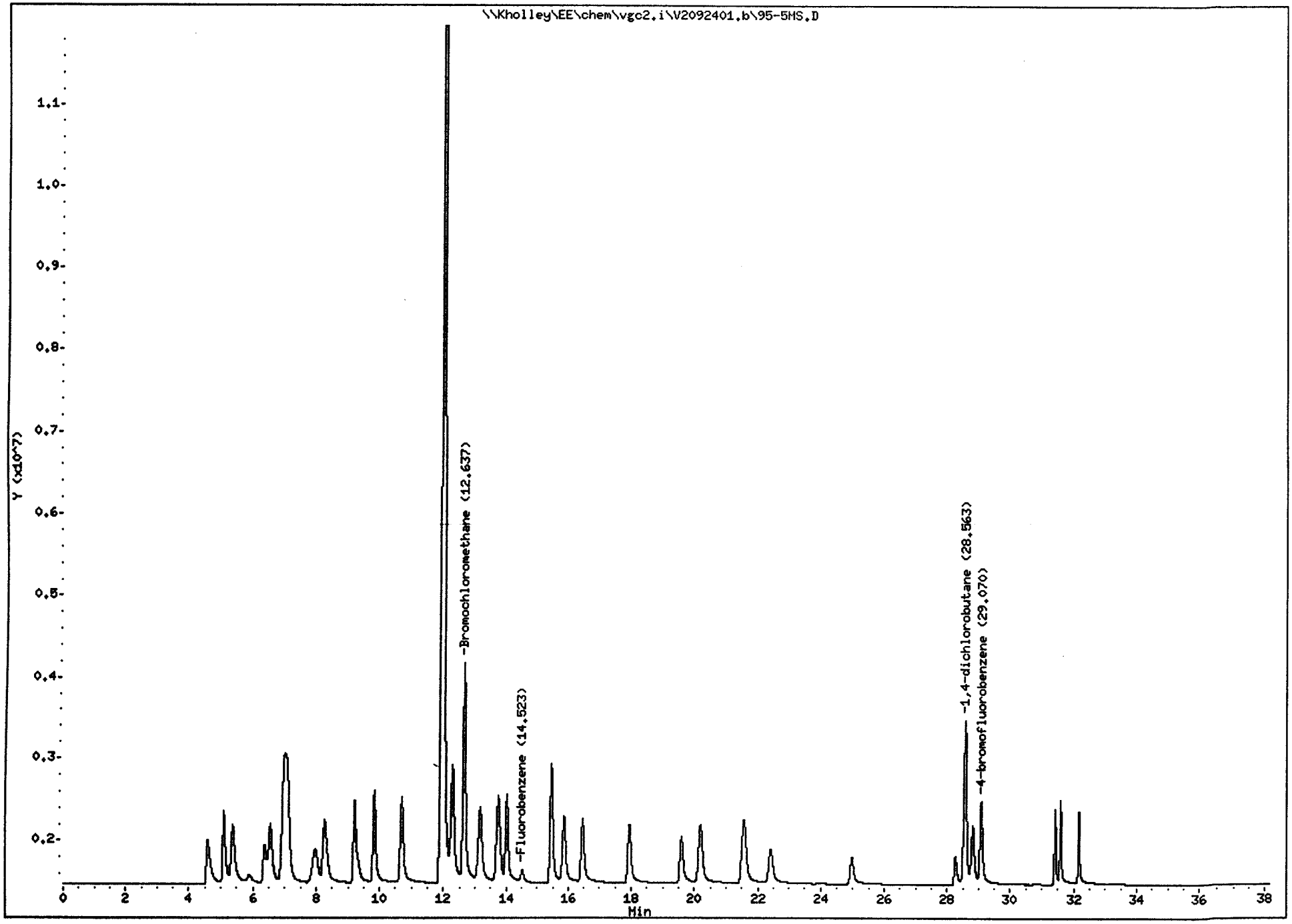
Instrument ID: vgc2.i
Lab File ID: 95-5MS.D
Lab Smp Id: 210909505
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062MW20Q30120MS
Level: LOW
Sample Type: WATER

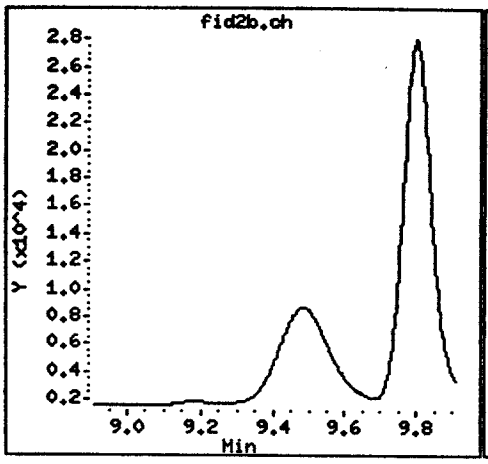
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	332309	-45.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.50	0.65

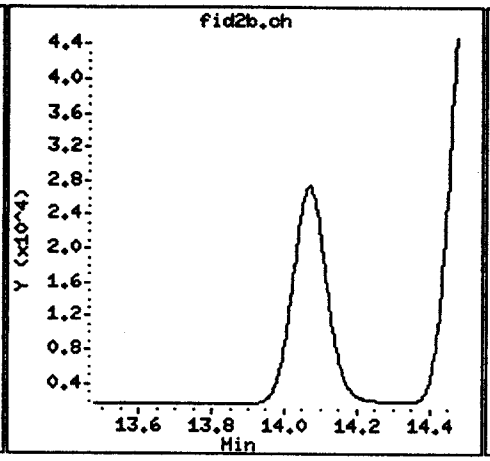
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-5MS.D
Y (x10^7)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-Bromochloromethane (12.637)
-Fluorobenzene (14.523)
-1,4-dichlorobutane (28.563)
-4-bromofluorobenzene (29.070)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

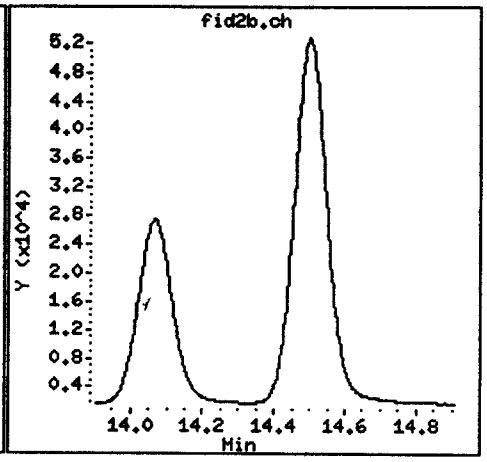
10 MTBE



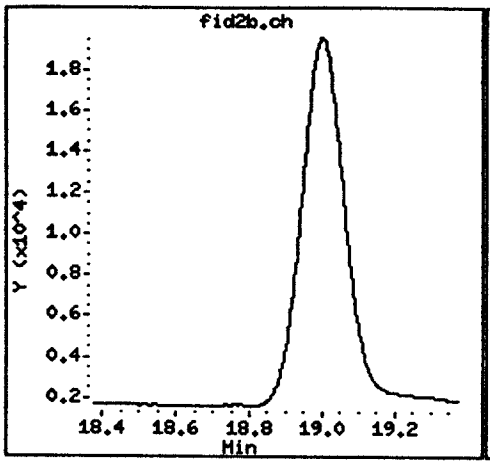
20 Benzene



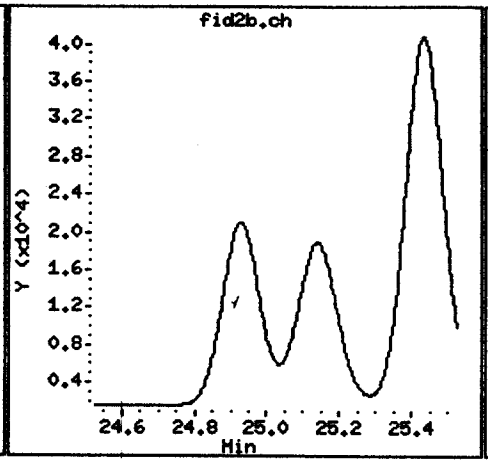
M 21 Fluorobenzene



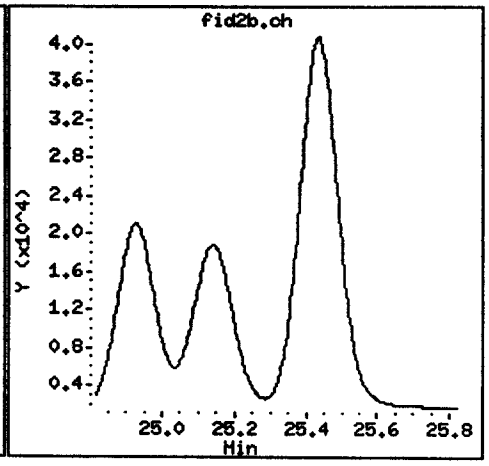
26 Toluene



32 Ethylbenzene

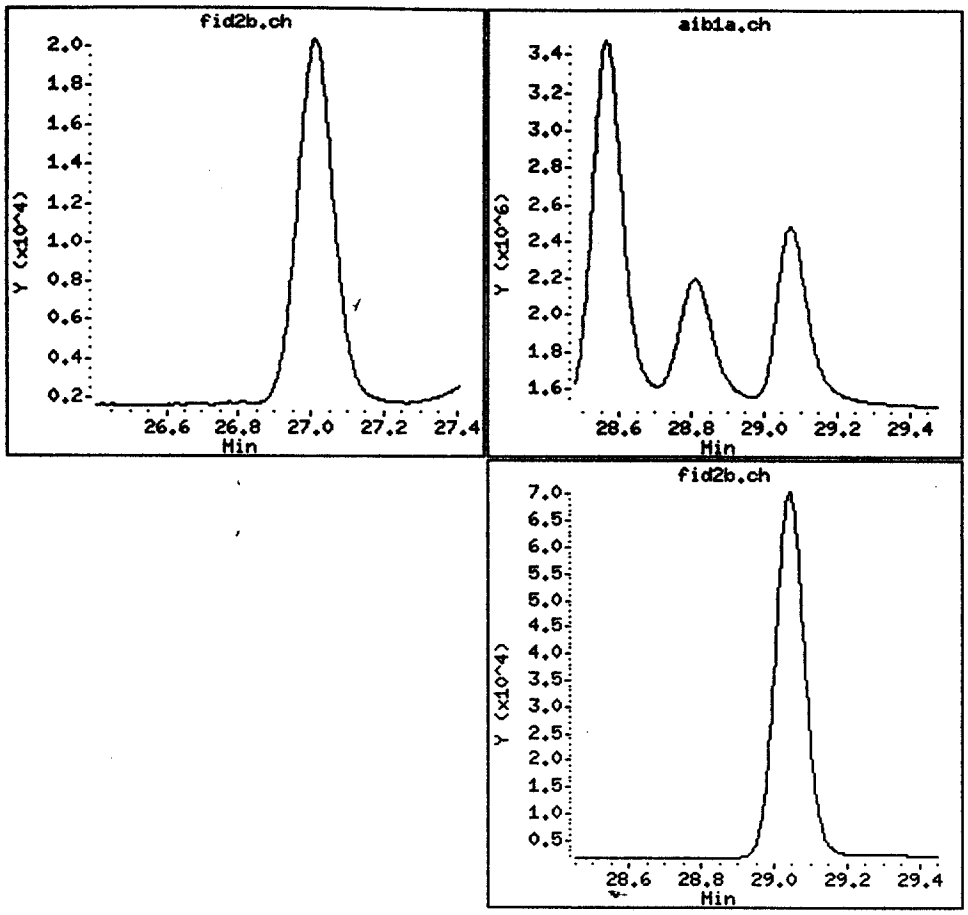


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-6SD.D
Lab Smp Id: 210909506 Client Smp ID: 062MW20Q30120SD
Inj Date : 24-SEP-2001 16:29
Operator : Inst ID: vgc2.i
Smp Info : 210909506
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.480	9.410	(0.654)	125923	11.0338	11.0
20 Benzene	FID2B	14.063	13.976	(0.970)	328351	11.9248	11.9(M)
* 21 Fluorobenzene	FID2B	14.500	14.406	(1.000)	560772	30.0000	
26 Toluene	FID2B	18.993	18.876	(1.310)	291457	11.0194	11.0(M)
32 Ethylbenzene	FID2B	25.133	25.026	(1.733)	267398	10.1474	10.1
33 m,p-xylene	FID2B	25.426	25.320	(1.754)	571370	20.8654	20.9
34 o-xylene	FID2B	27.006	26.906	(1.863)	261349	11.1285	11.1
$ 39 4-bromofluorobenzene	FID2B	29.036	28.950	(2.003)	639814	26.8693	26.9(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

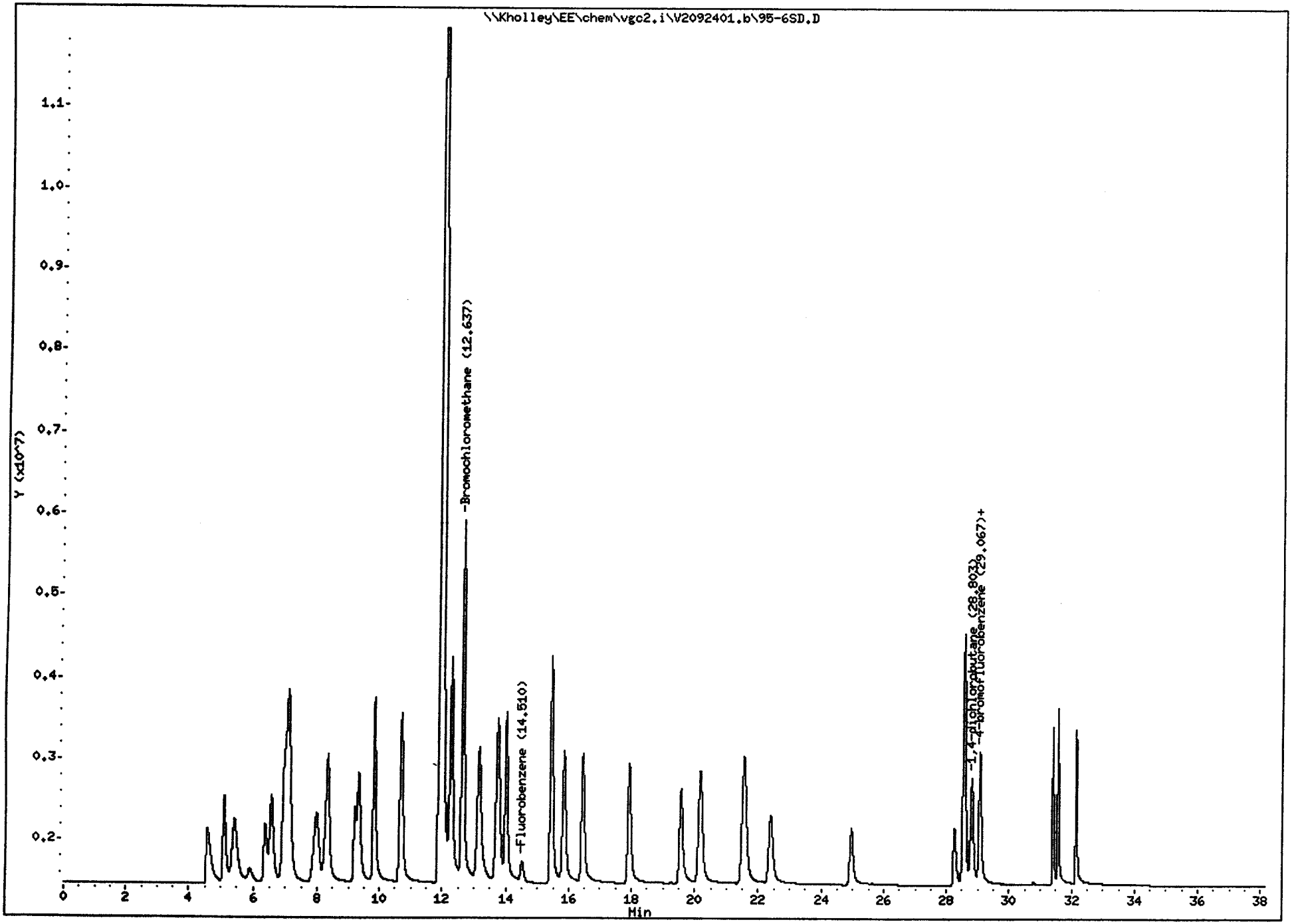
Instrument ID: vgc2.i
Lab File ID: 95-6SD.D
Lab Smp Id: 210909506
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062MW20Q30120SD
Level: LOW
Sample Type: WATER

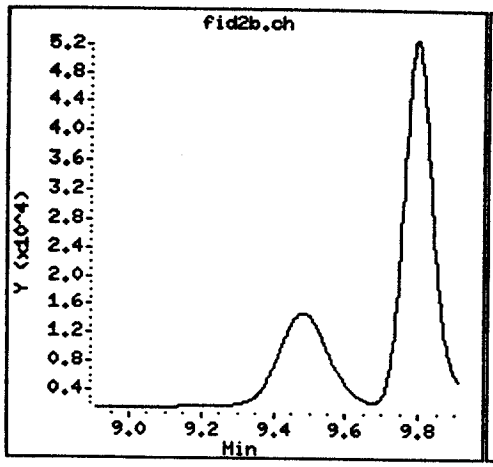
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	560772	-8.17

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.50	0.65

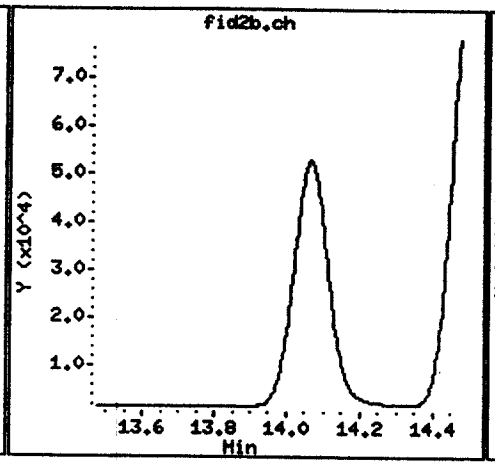
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\W2092401.b\95-6SD.D
Y (x10^7)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-Bromochloromethane (12.637)
-Fluorobenzene (14.510)
-1,4-Dichlorobutane (28.807)
-4-Bromofluorobenzene (29.067)+
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

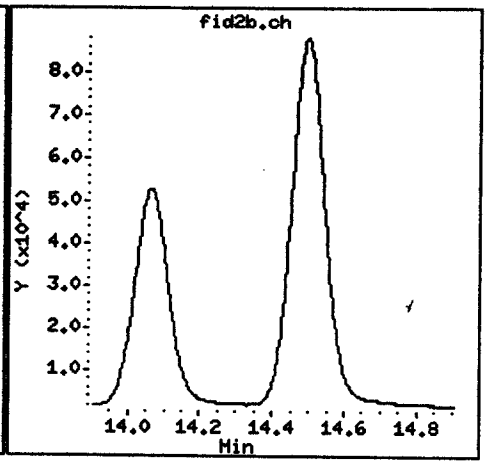
10 MTBE



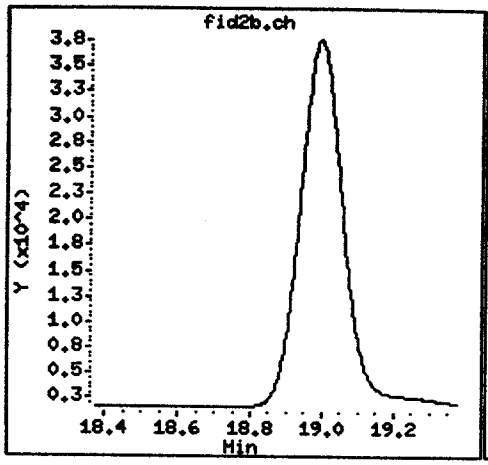
20 Benzene



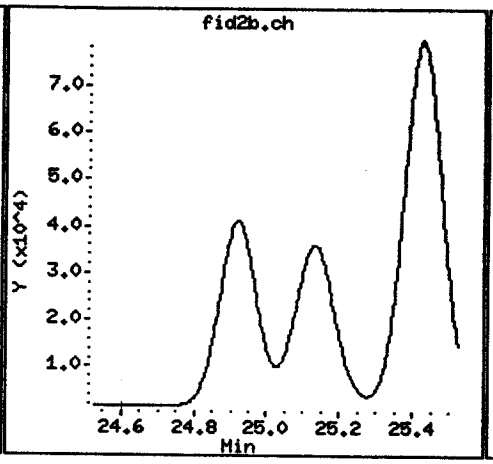
* 21 Fluorobenzene



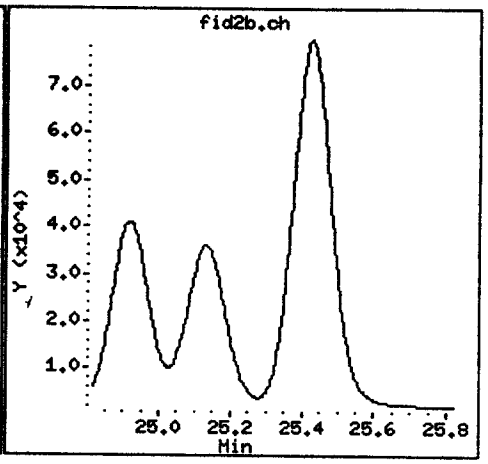
26 Toluene



32 Ethylbenzene

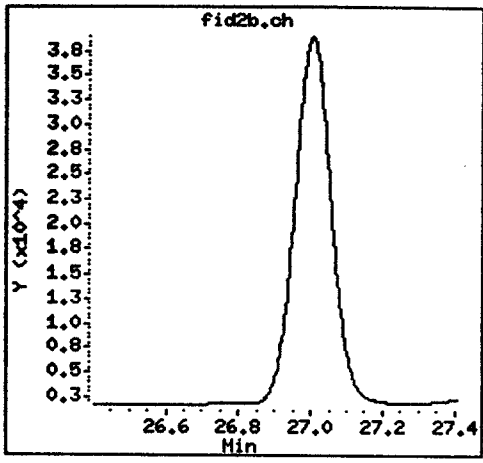


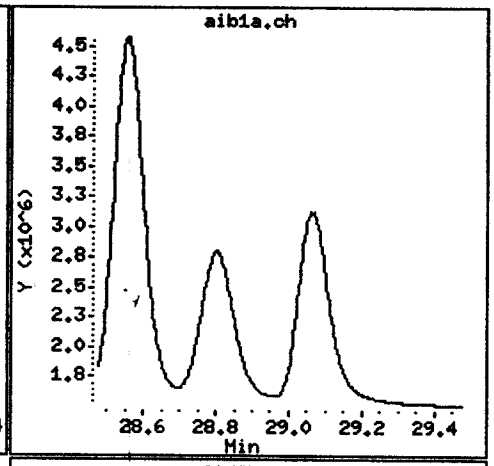
33 m,p-xylene

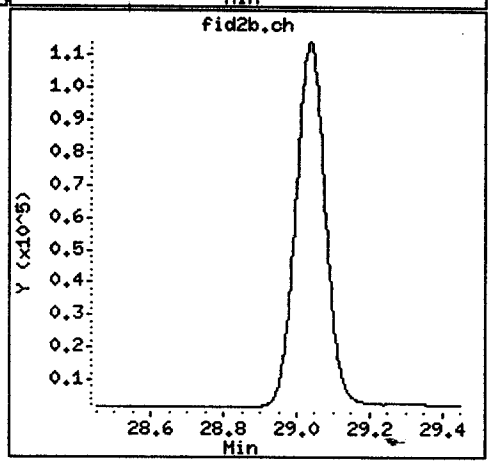


34 o-xylene

$ 39 4-bromofluorobenzene







PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\CCV11.D
Lab Smp Id: 0925ccv11 Client Smp ID: 0925ccv11
Inj Date : 25-SEP-2001 08:17
Operator : Inst ID: vgc2.i
Smp Info : 0925ccv11
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.416	9.433	(0.653)	271042	25.9206	25.9
20 Benzene	FID2B	13.983	14.010	(0.970)	742556	29.4329	29.4
* 21 Fluorobenzene	FID2B	14.416	14.443	(1.000)	513802	30.0000	
26 Toluene	FID2B	18.883	18.920	(1.310)	682836	28.1767	28.2
32 Ethylbenzene	FID2B	25.026	25.063	(1.736)	617119	25.5597	25.6
33 m,p-xylene	FID2B	25.323	25.356	(1.757)	1351445	53.8639	53.9
34 o-xylene	FID2B	26.913	26.943	(1.867)	586116	27.2389	27.2
$ 39 4-bromofluorobenzene	FID2B	28.953	28.976	(2.008)	582475	26.6975	26.7

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

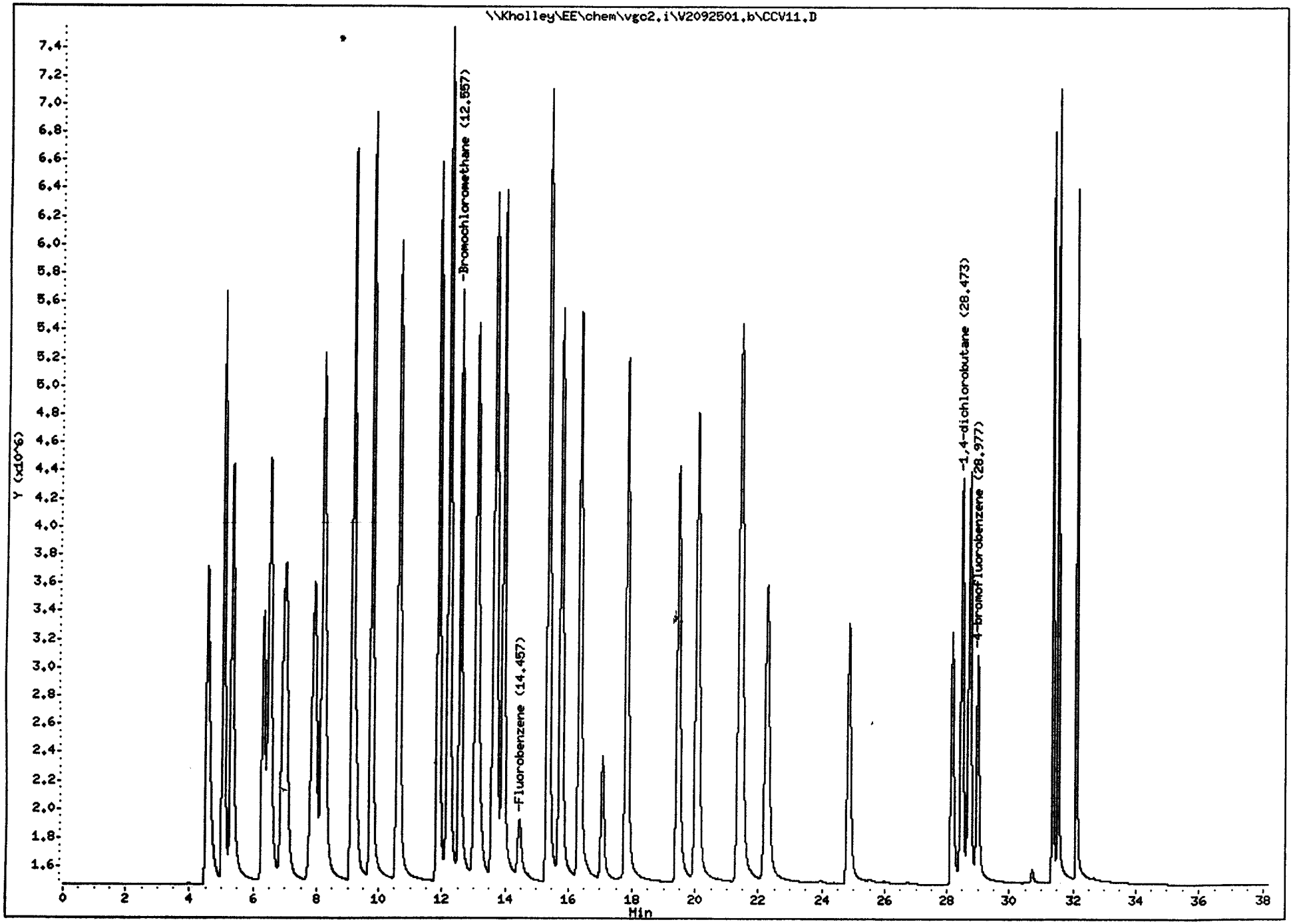
Instrument ID: vgc2.i
Lab File ID: CCV11.D
Lab Smp Id: 0925ccv11
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 0925ccv11
Level: LOW
Sample Type: WATER

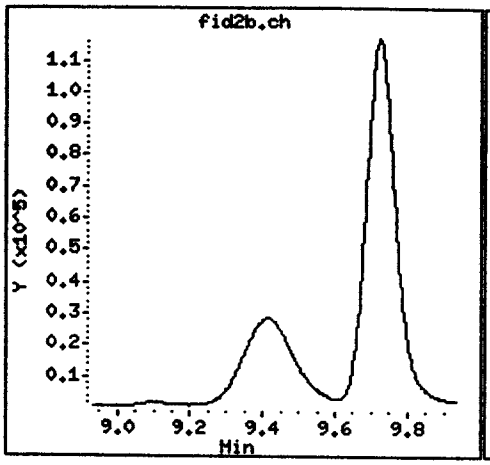
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	513802	65.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.42	-0.18

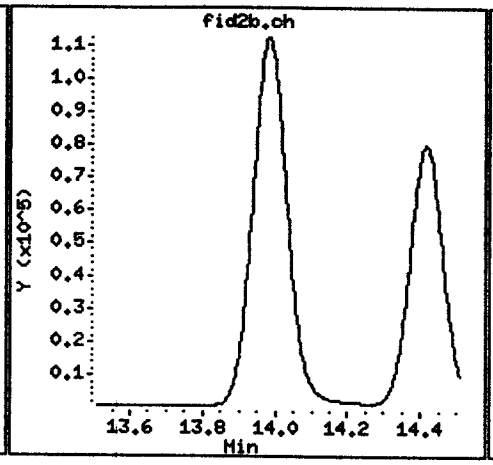
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092501.b\CCV11.D
Y (x10^6)
Min
-Bromochloromethane (12.557)
-Fluorobenzene (14.457)
-1,4-dichlorobutane (28.473)
-4-bromofluorobenzene (28.977)

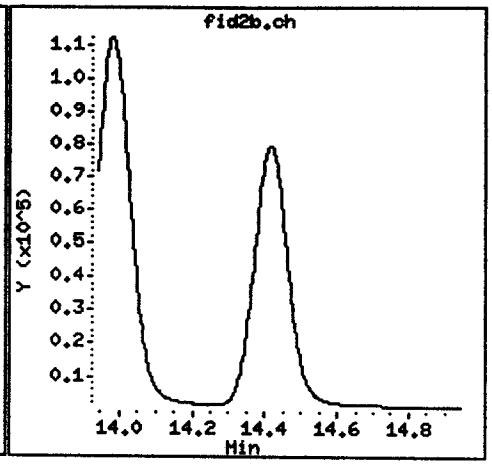
10 MTBE



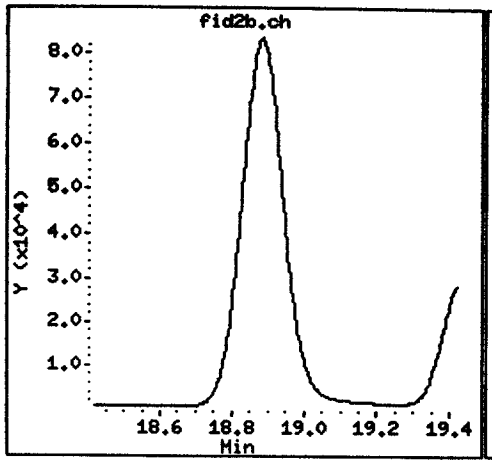
20 Benzene



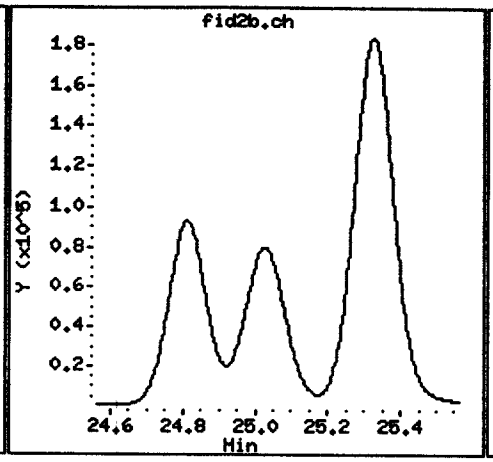
× 21 Fluorobenzene



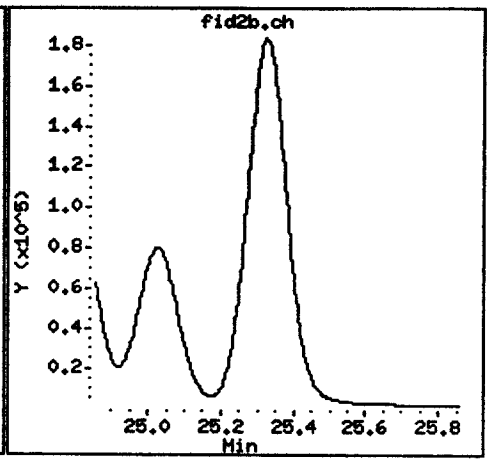
26 Toluene



32 Ethylbenzene

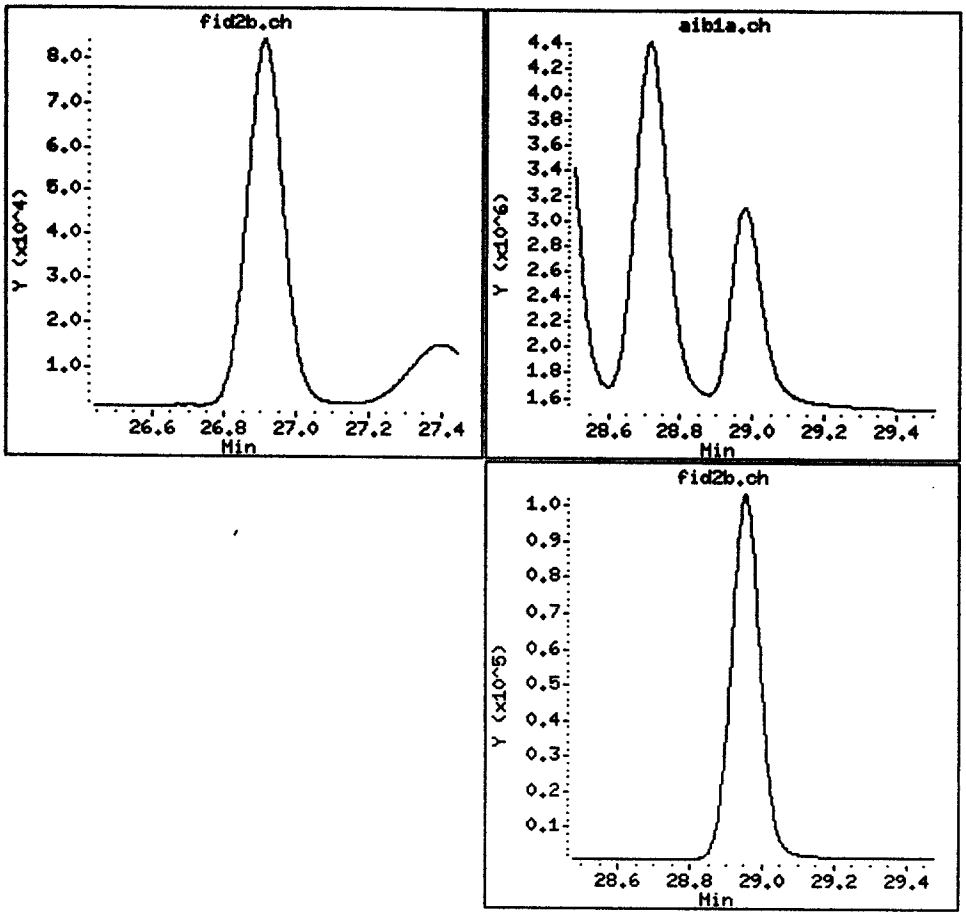


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\CCV24.D
Lab Smp Id: 0925ccv24 Client Smp ID: 0925ccv24
Inj Date : 25-SEP-2001 21:05
Operator : Inst ID: vgc2.i
Smp Info : 0925ccv24
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.433	9.433	(0.653)	182844	28.9899	29.0
20 Benzene	FID2B	14.010	14.010	(0.970)	461001	30.2944	30.3
* 21 Fluorobenzene	FID2B	14.443	14.443	(1.000)	309912	30.0000	
26 Toluene	FID2B	18.920	18.920	(1.310)	421814	28.8570	28.8
32 Ethylbenzene	FID2B	25.063	25.063	(1.735)	375161	25.7610	25.8
33 m,p-xylene	FID2B	25.356	25.356	(1.756)	808603	53.4309	53.4
34 o-xylene	FID2B	26.943	26.943	(1.865)	357019	27.5077	27.5
$ 39 4-bromofluorobenzene	FID2B	28.976	28.976	(2.006)	353469	26.8598	26.8

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

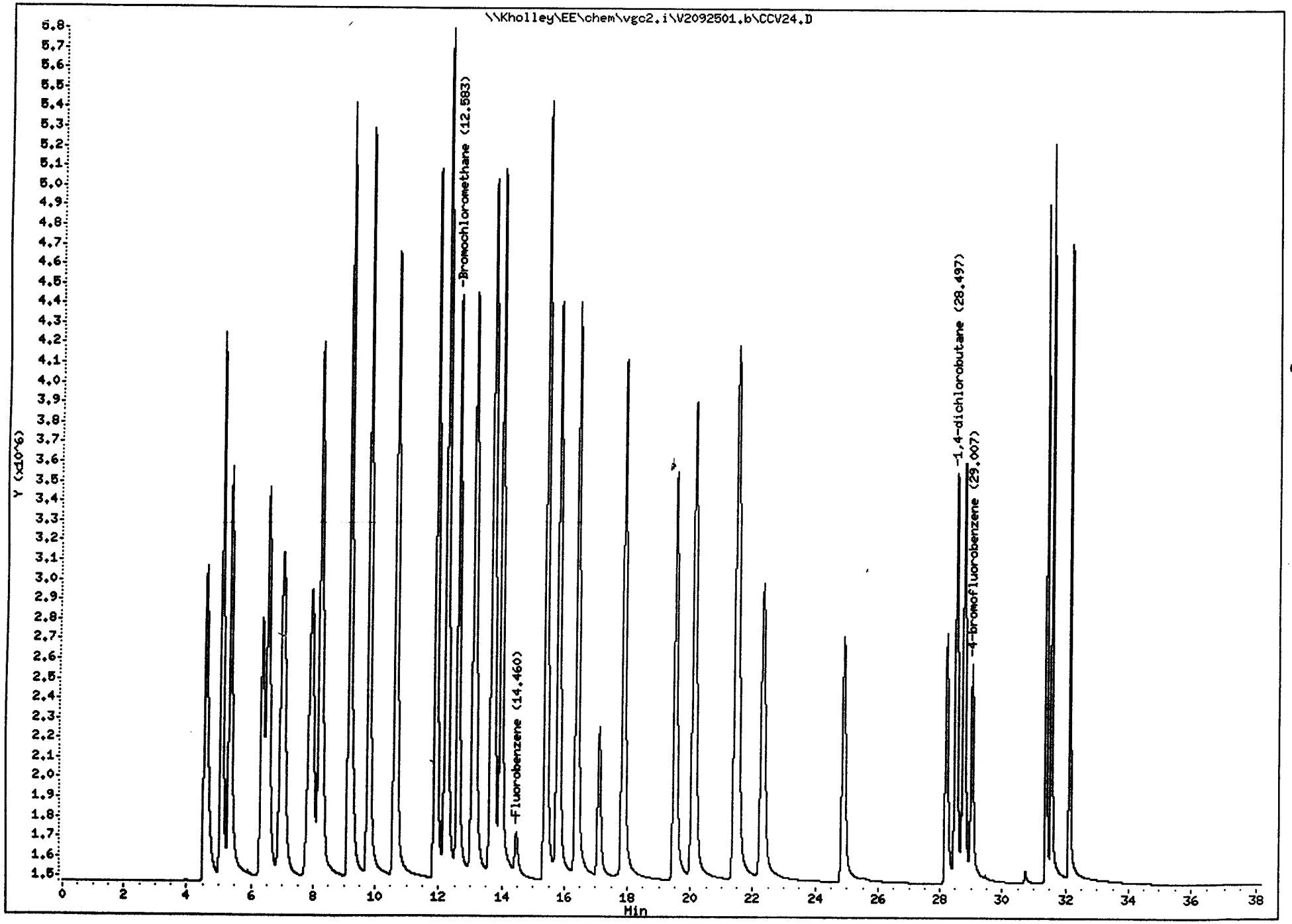
Instrument ID: vgc2.i
Lab File ID: CCV24.D
Lab Smp Id: 0925ccv24
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 0925ccv24
Level: LOW
Sample Type: WATER

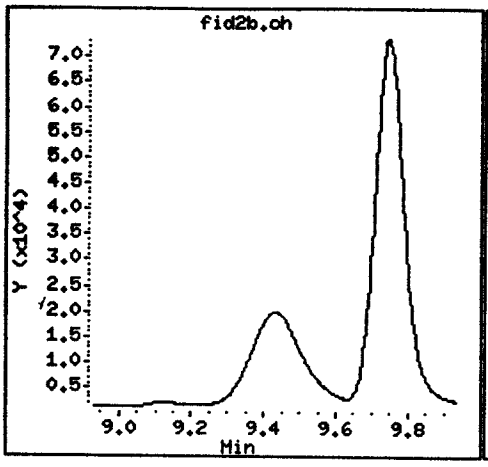
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	309912	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.44	0.00

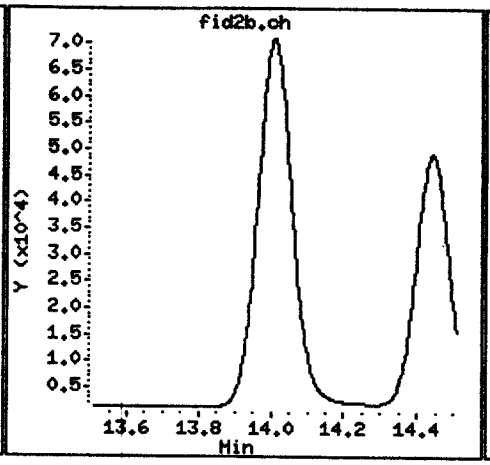
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092501.b\CCV24.D
Y (x10^6)
Min
-Bromochloromethane (12.583)
-Fluorobenzene (14.460)
-1,4-dichlorobutane (28.497)
-4-bromofluorobenzene (29.007)

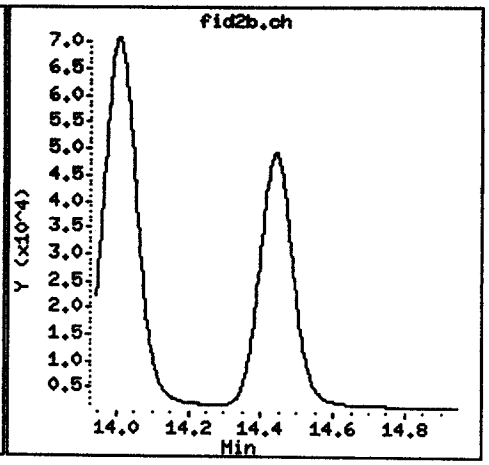
10 MTBE



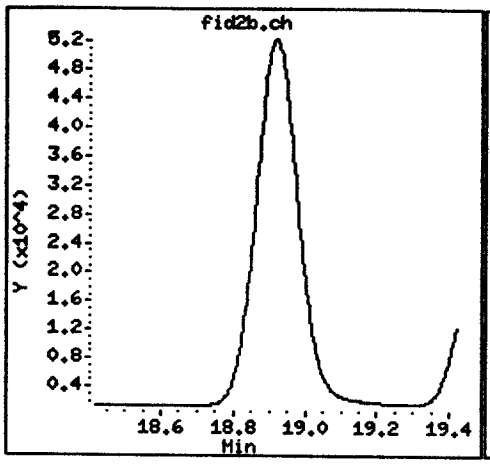
20 Benzene



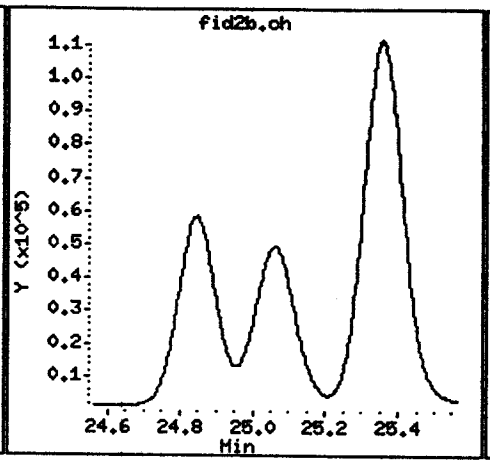
* 21 Fluorobenzene



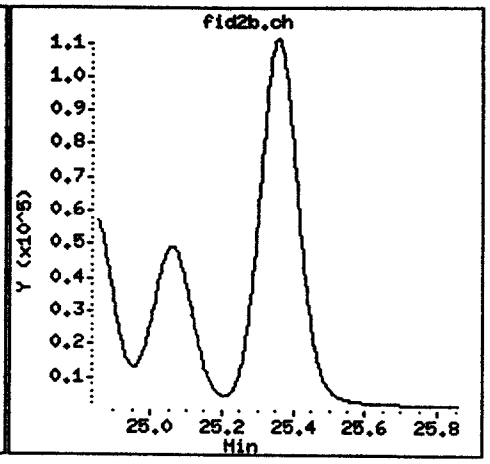
26 Toluene



32 Ethylbenzene

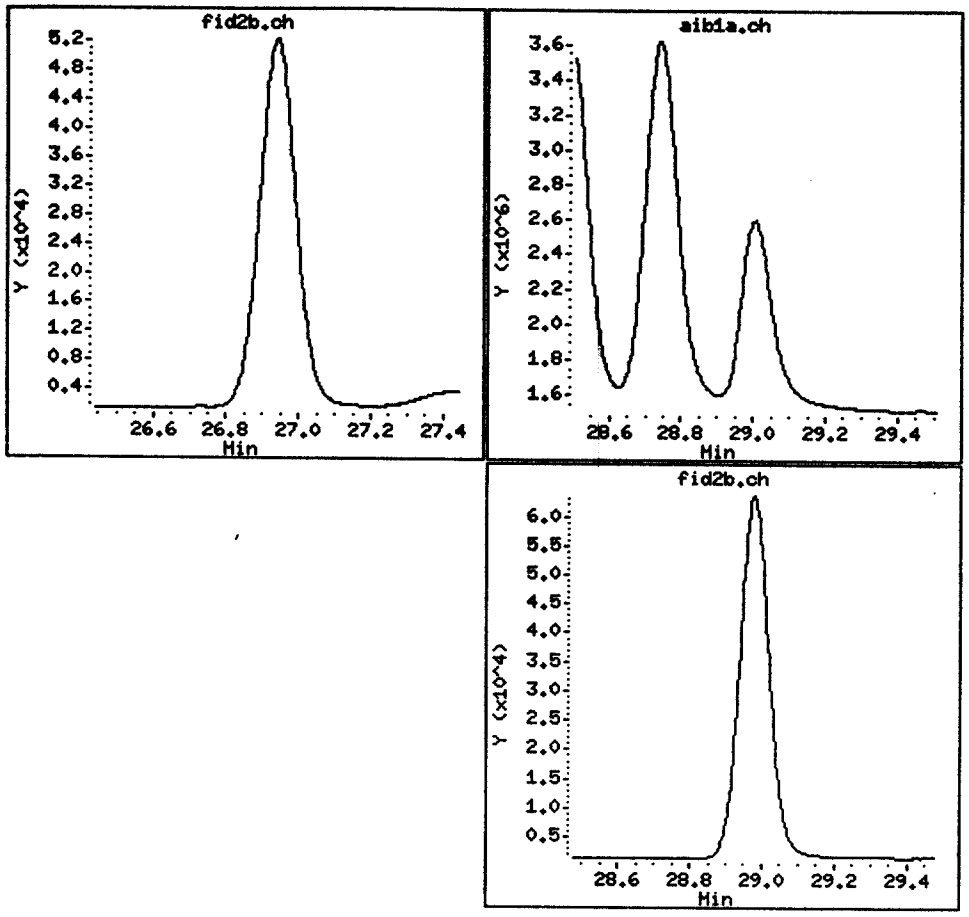


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\BLK11.D
Lab Smp Id: 0925blk11 Client Smp ID: 0925blk11
Inj Date : 25-SEP-2001 09:46
Operator : Inst ID: vgc2.i
Smp Info : 0925blk11
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.443	14.443	(1.000)	481881	30.0000	
32 Ethylbenzene	FID2B	25.066	25.063	(1.736)	5962	0.26329	0.26(a)
33 m,p-xylene	FID2B	25.360	25.356	(1.756)	16379	0.69605	0.70(a)
$ 39 4-bromofluorobenzene	FID2B	28.983	28.976	(2.007)	521221	25.4725	25.5

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: BLK11.D
Lab Smp Id: 0925blk11
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

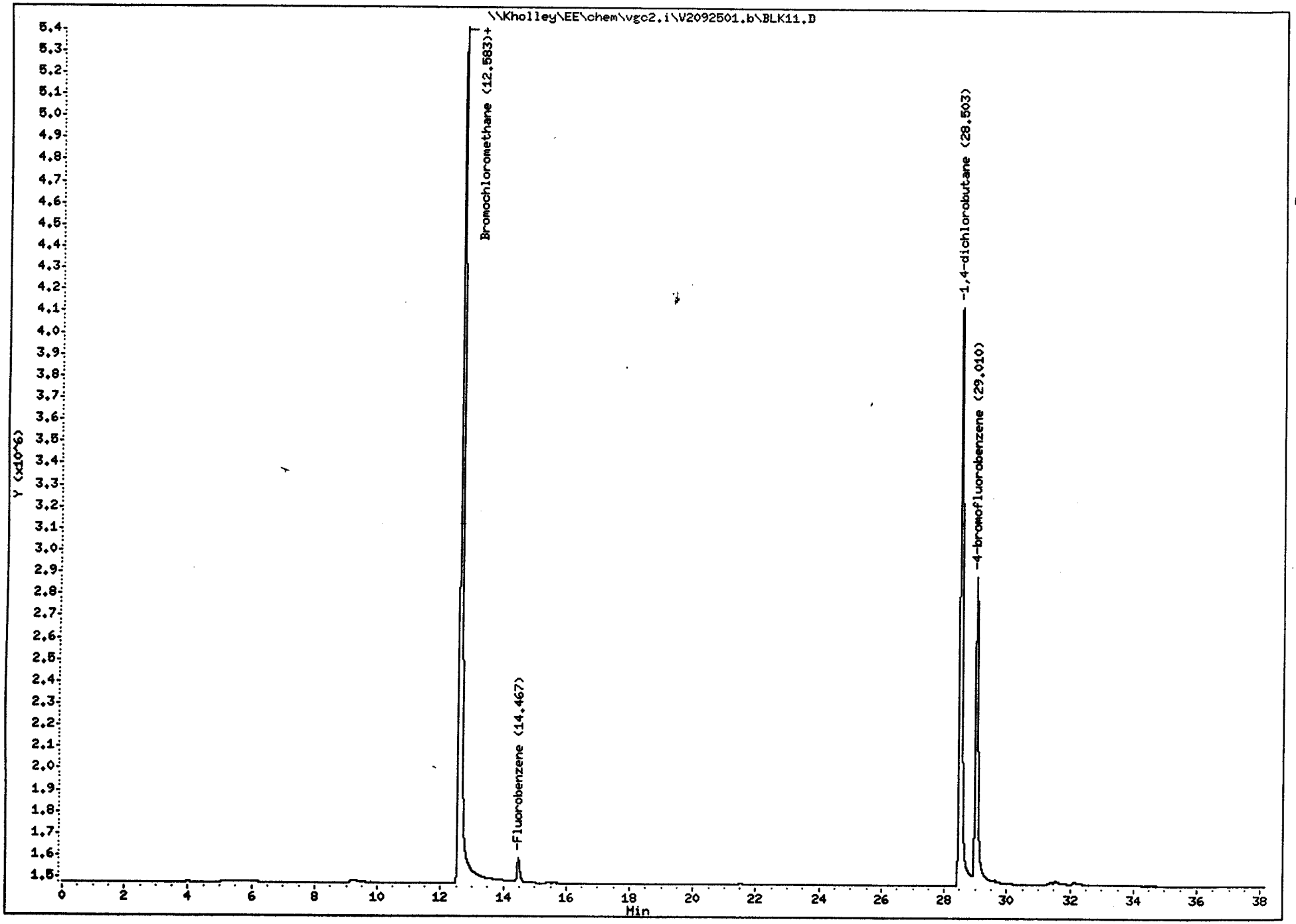
Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 0925blk11
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	481881	55.49

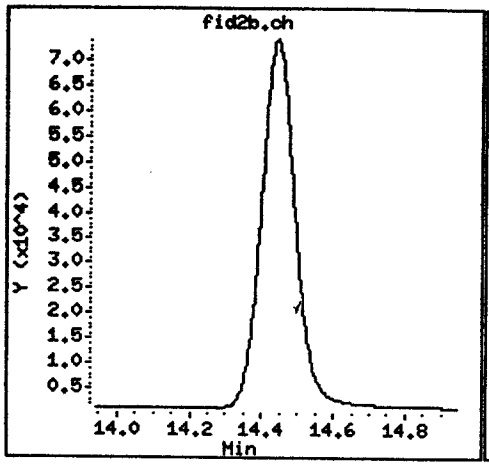
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.44	0.00

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.

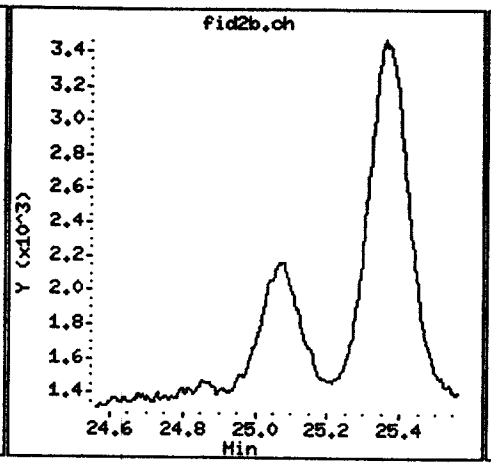
Data File: \\Kholley\EE\chem\vgc2.i\V2092501.b\BLK11.D



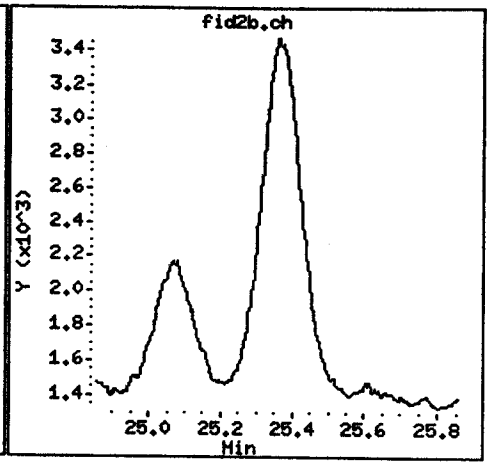
* 21 Fluorobenzene



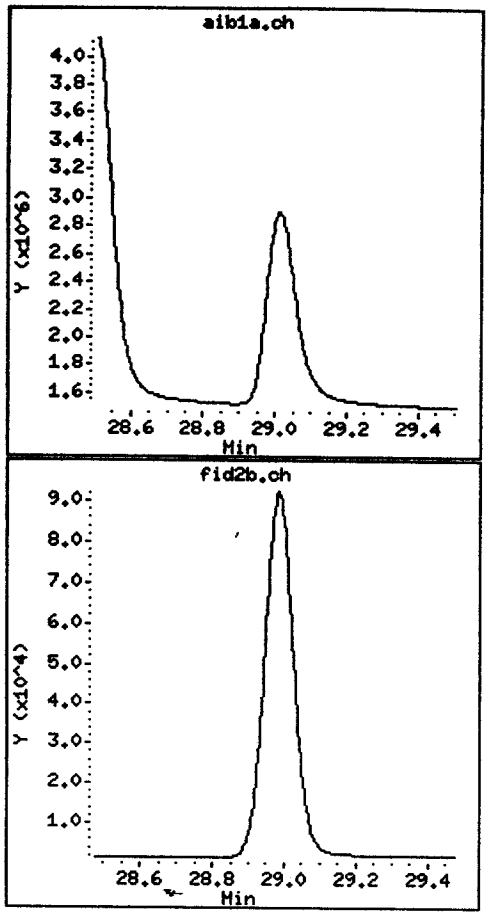
32 Ethylbenzene



33 m,p-xylene



$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\LCS11.D
Lab Smp Id: 0925lcs11 Client Smp ID: 0925lcs11
Inj Date : 25-SEP-2001 10:31
Operator : Inst ID: vgc2.i
Smp Info : 0925lcs11
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.436	9.433	(0.653)	103360	10.1664	10.2
20 Benzene	FID2B	14.013	14.010	(0.970)	263419	10.7388	10.7
* 21 Fluorobenzene	FID2B	14.443	14.443	(1.000)	499563	30.0000	
26 Toluene	FID2B	18.930	18.920	(1.311)	245080	10.4013	10.4
32 Ethylbenzene	FID2B	25.066	25.063	(1.736)	221193	9.42245	9.4
33 m,p-xylene	FID2B	25.363	25.356	(1.756)	486092	19.9262	19.9
34 o-xylene	FID2B	26.943	26.943	(1.865)	212654	10.1645	10.2
$ 39 4-bromofluorobenzene	FID2B	28.983	28.976	(2.007)	551519	25.9992	26.0

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc2.i
Lab File ID: LCS11.D
Lab Smp Id: 09251cs11
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

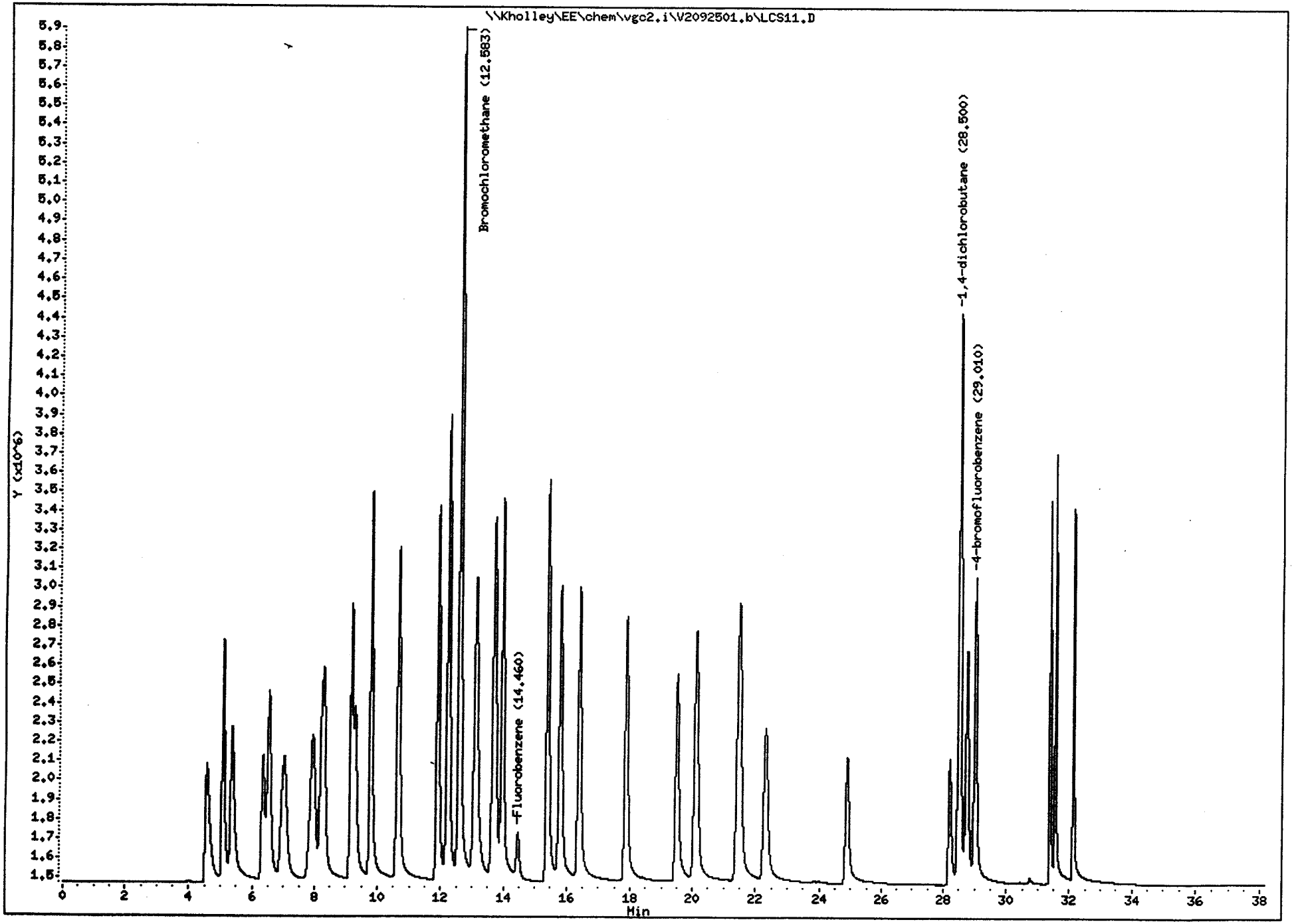
Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 09251cs11
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	499563	61.20

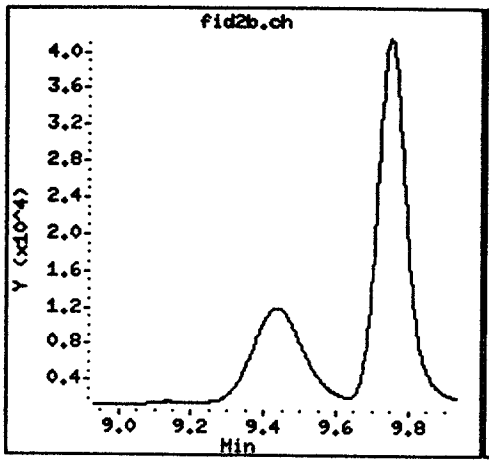
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.44	0.00

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.

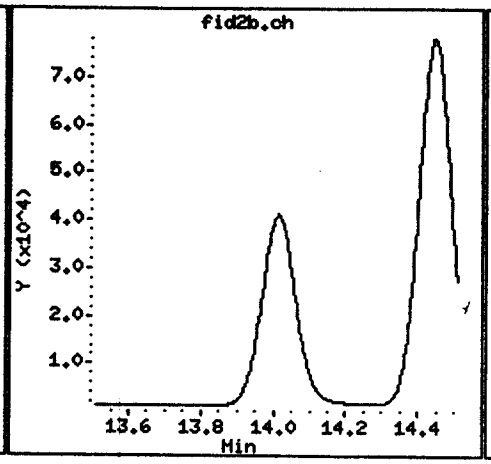
Data File: \\Kholley\EE\chem\vgc2.i\V2092501.b\LCS11.D



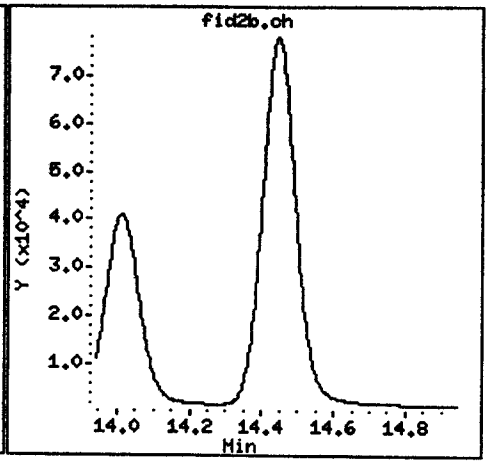
10 MTBE



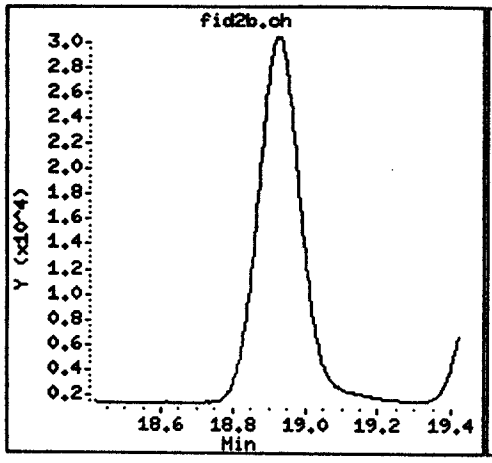
20 Benzene



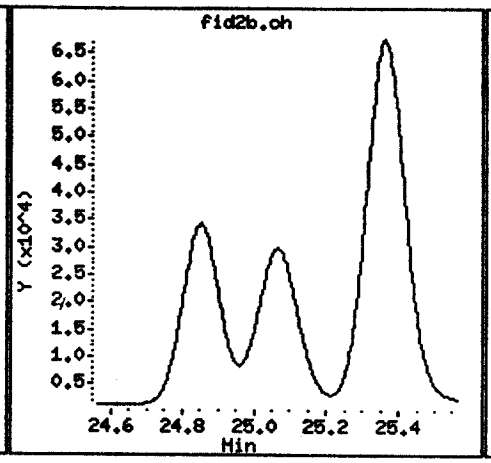
* 21 Fluorobenzene



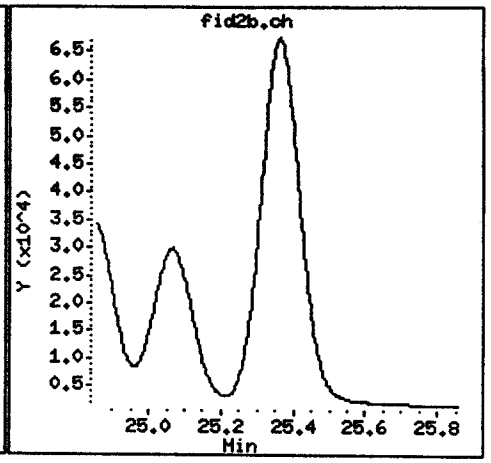
26 Toluene



32 Ethylbenzene

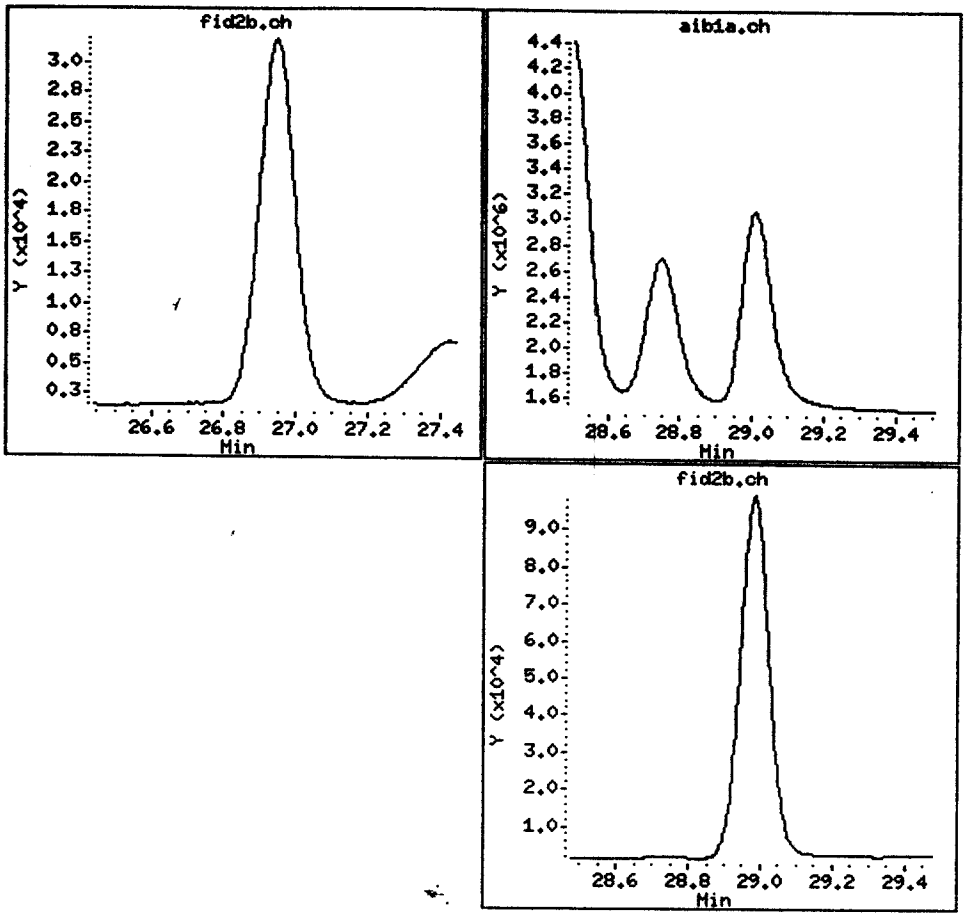


33 m,p-xylene



34 o-xylene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\95-1R.D
Lab Smp Id: 210909501
Client Smp ID: 062MW4Q30120
Inj Date : 25-SEP-2001 12:47
Operator :
Inst ID: vgc2.i
Smp Info : 210909501
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh
Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18
Cal File: 100PPB.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
20 Benzene	FID2B	14.030	14.010	(0.970)	4375	0.17765	0.18(a)
* 21 Fluorobenzene	FID2B	14.456	14.443	(1.000)	501561	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.993	28.976	(2.006)	503460	23.6391	23.6

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

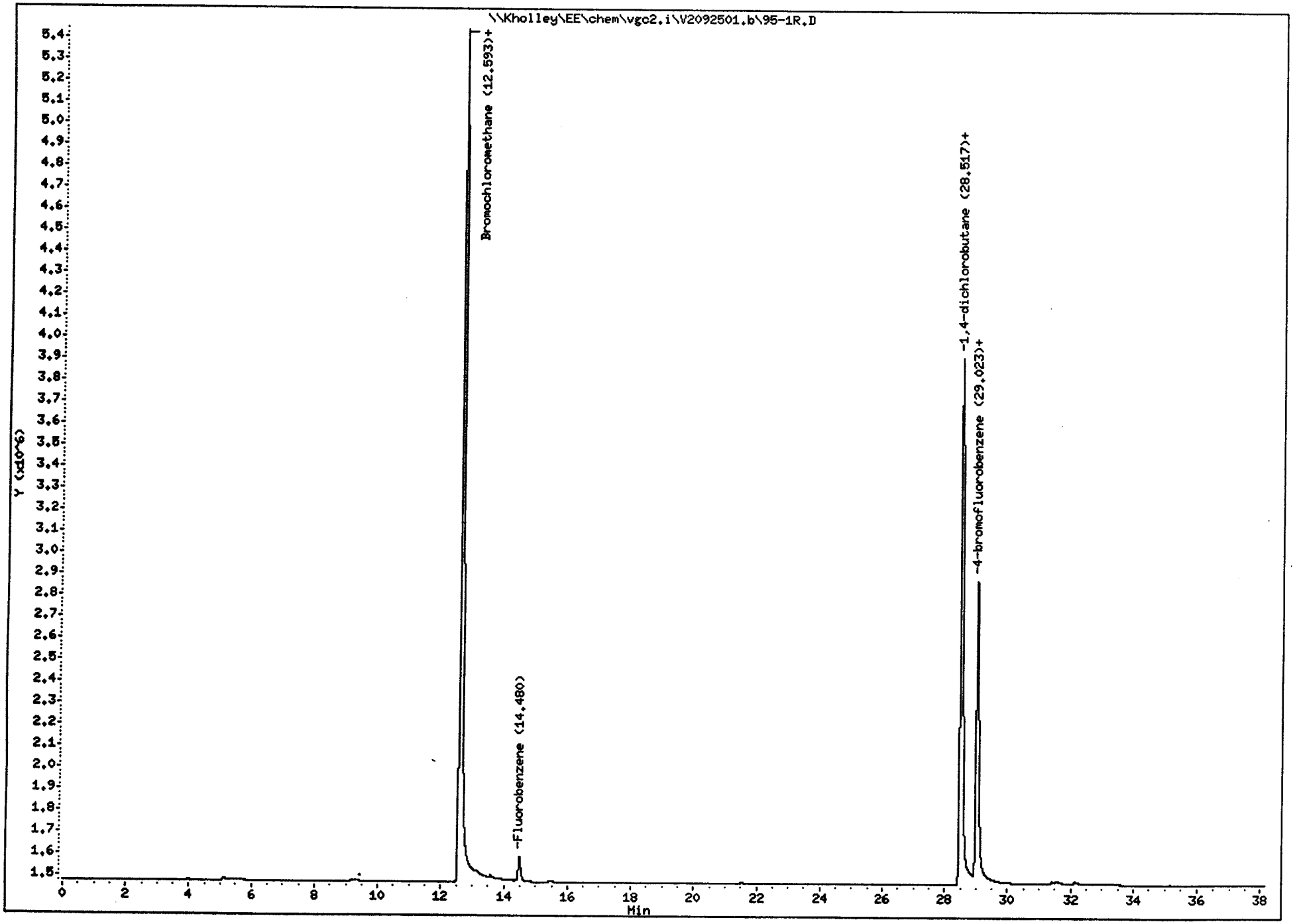
Instrument ID: vgc2.i
Lab File ID: 95-1R.D
Lab Smp Id: 210909501
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 062MW4Q30120
Level: LOW
Sample Type: WATER

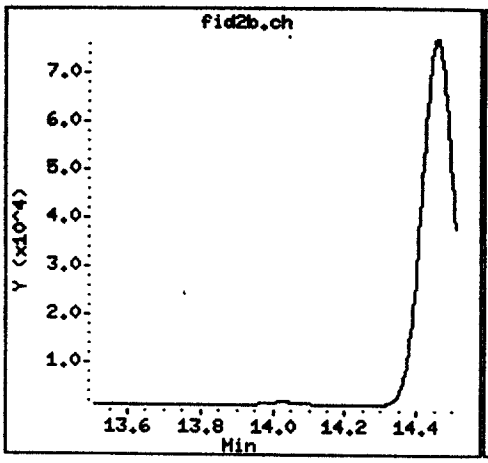
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	501561	61.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.46	0.09

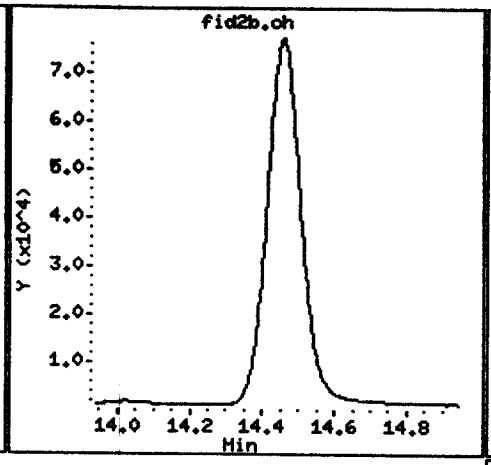
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092501.b\95-1R.D
Bromochloromethane (12.593)+
-Fluorobenzene (14.480)
-1,4-dichlorobutane (28.517)+
-4-bromofluorobenzene (29.023)+
Y (x10^6)
Min

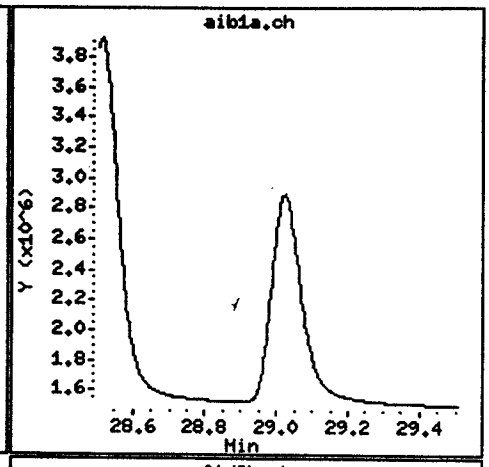
20 Benzene

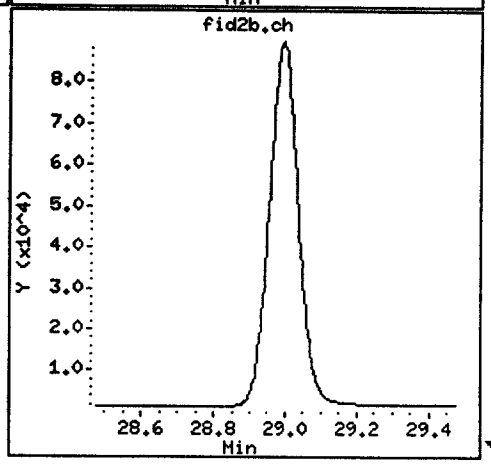


* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-2.D
Lab Smp Id: 210909502
Client Smp ID: 062MW9Q30120
Inj Date : 24-SEP-2001 13:25
Operator :
Inst ID: vgc2.i
Smp Info : 210909502
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18
Cal File: 100PPB.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.493	14.406	(1.000)	334227	30.0000	
$ 39 4-bromofluorobenzene	FID2B	29.040	28.950	(2.004)	350100	24.6683	24.7(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

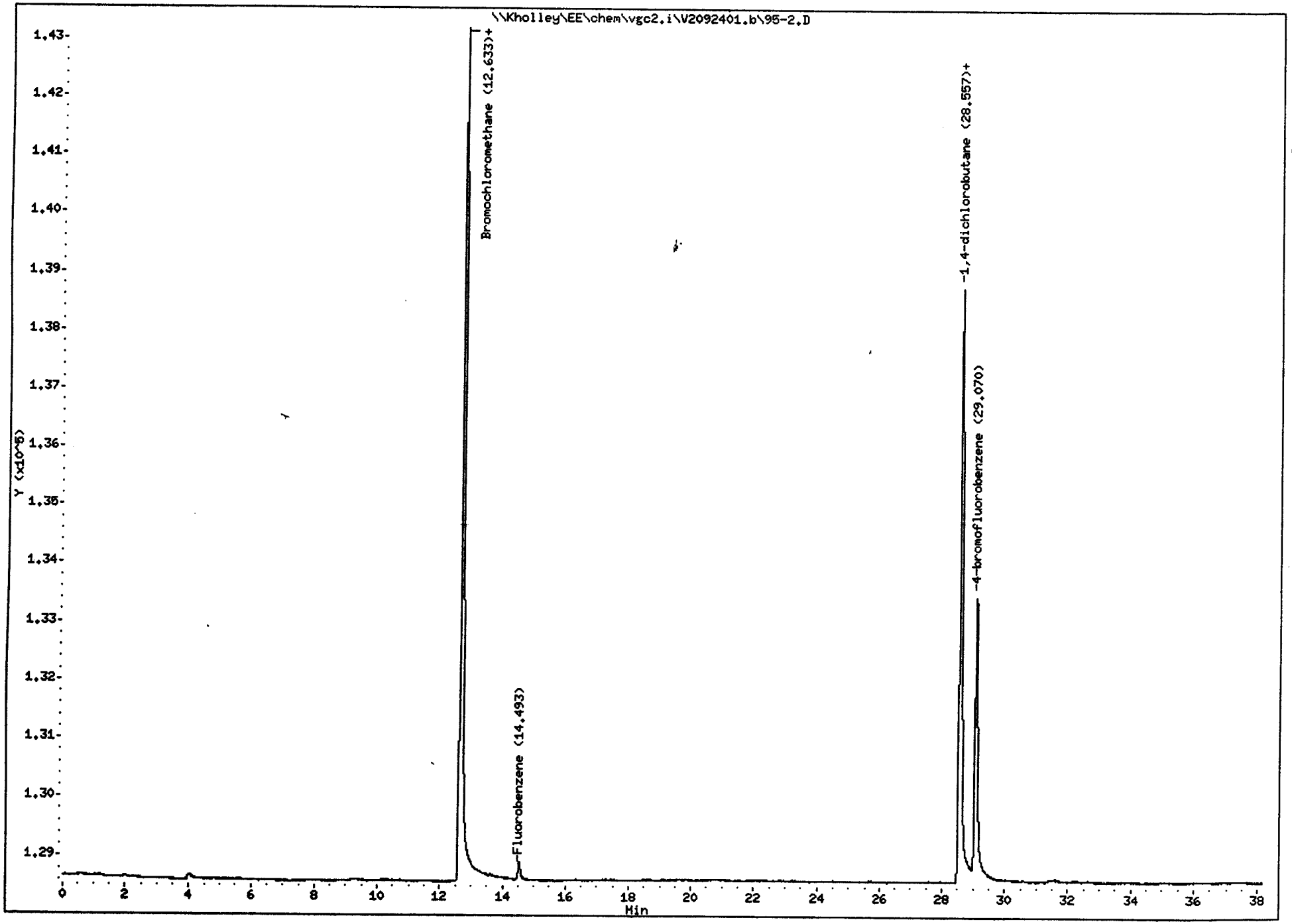
Instrument ID: vgc2.i
Lab File ID: 95-2.D
Lab Smp Id: 210909502
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062MW9Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	334227	-45.27

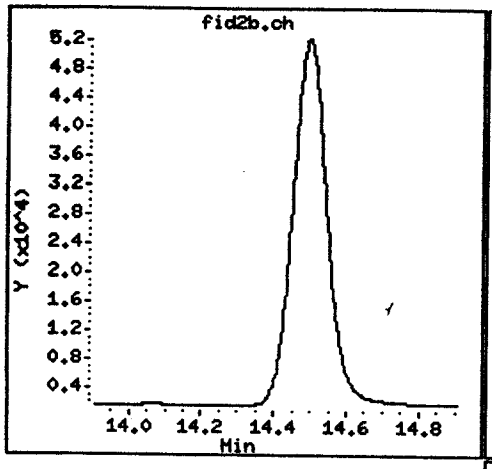
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.49	0.60

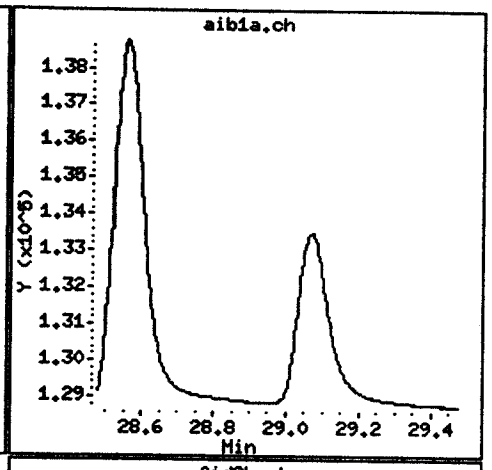
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

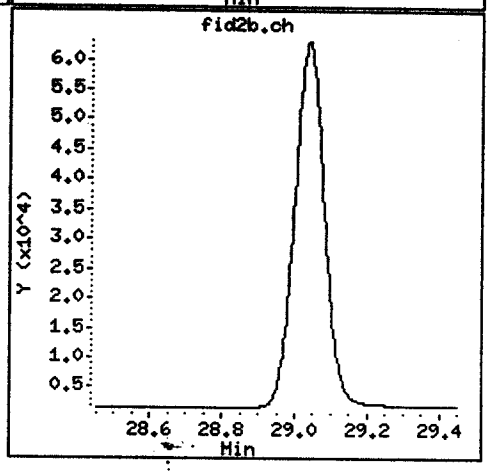

\\Kholley\EE\chem\vgc2.i\V2092401.b\95-2.D
Bromochloromethane (12.633)+
Fluorobenzene (14.493)
-1,4-dichlorobutane (28.557)+
-4-bromofluorobenzene (29.070)
Y (x10^5)
1.43
1.42
1.41
1.40
1.39
1.38
1.37
1.36
1.35
1.34
1.33
1.32
1.31
1.30
1.29
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

* 21 Fluorobenzene

$ 39 4-bromofluorobenzene







PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-3.D
Lab Smp Id: 210909503
Client Smp ID: 062MW13Q30120
Inj Date : 24-SEP-2001 14:11
Operator :
Inst ID: vgc2.i
Smp Info : 210909503
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH
Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18
Cal File: 100PPB.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.496	14.406	(1.000)	518542	30.0000	
32 Ethylbenzene	FID2B	25.120	25.026	(1.733)	8661	0.35544	0.36(a)
$ 39 4-bromofluorobenzene	FID2B	29.043	28.950	(2.003)	642994	29.2020	29.2(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

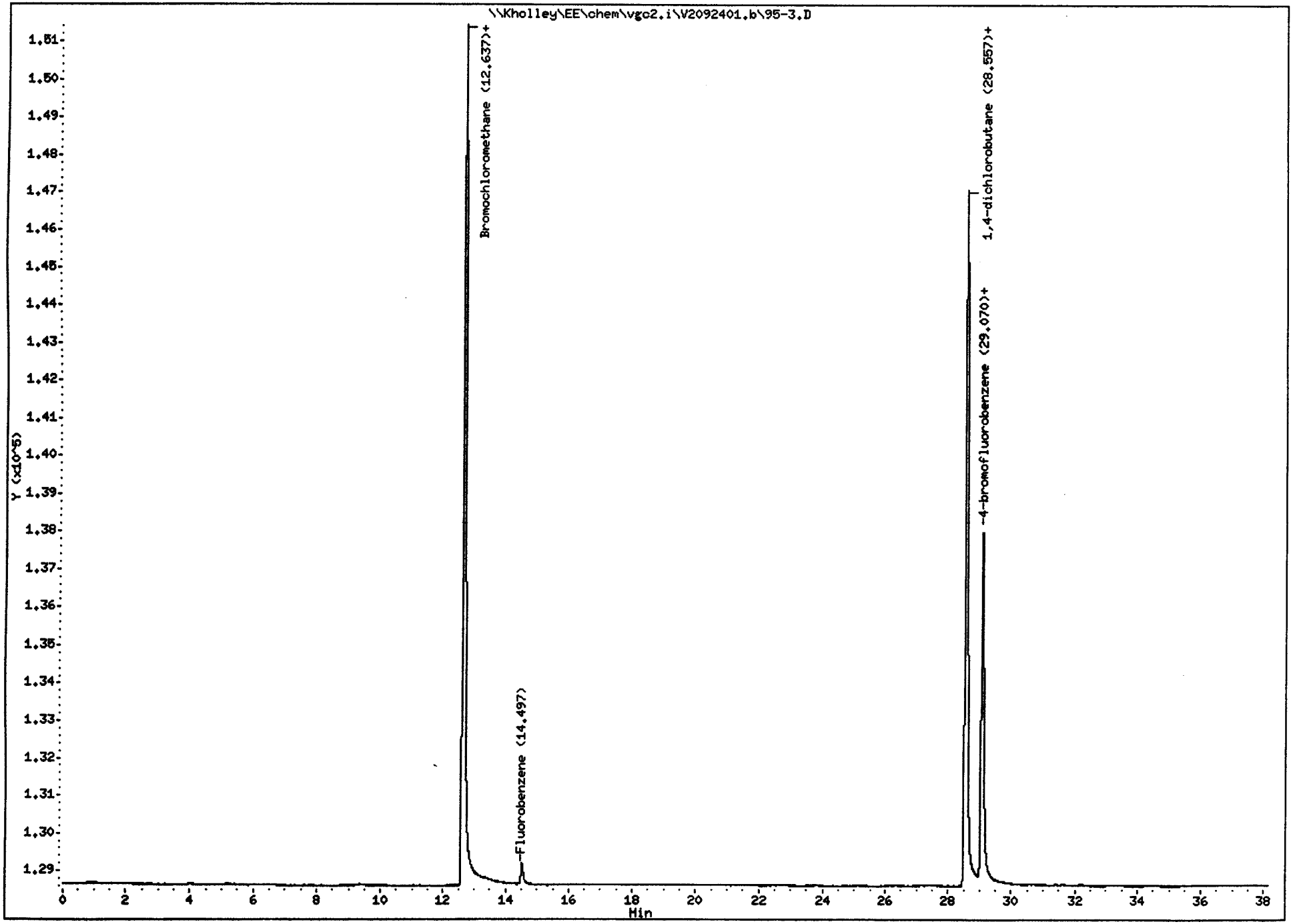
Instrument ID: vgc2.i
Lab File ID: 95-3.D
Lab Smp Id: 210909503
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062MW13Q30120
Level: LOW
Sample Type: WATER

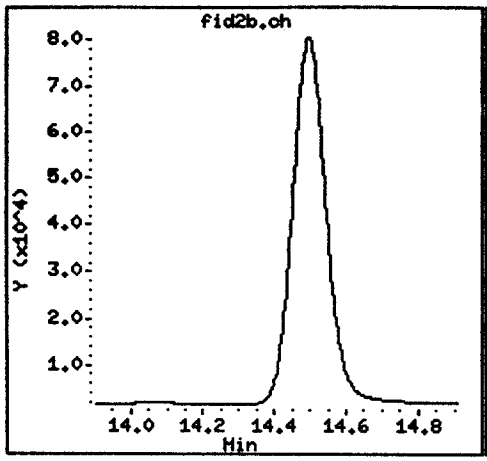
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	518542	-15.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.50	0.62

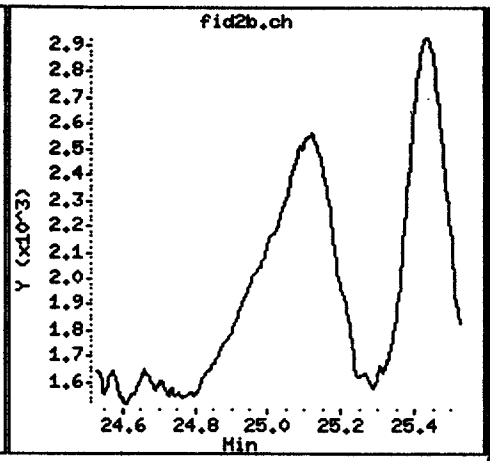
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-3.D
Bromochloromethane (12.637)+
Fluorobenzene (14.497)
1,4-dichlorobutane (28.557)+
-4-bromofluorobenzene (29.070)+
Y (x10^5)
1.51
1.50
1.49
1.48
1.47
1.46
1.45
1.44
1.43
1.42
1.41
1.40
1.39
1.38
1.37
1.36
1.35
1.34
1.33
1.32
1.31
1.30
1.29
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

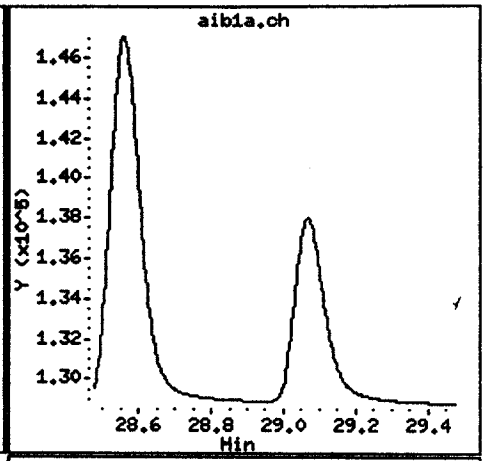
M 21 Fluorobenzene

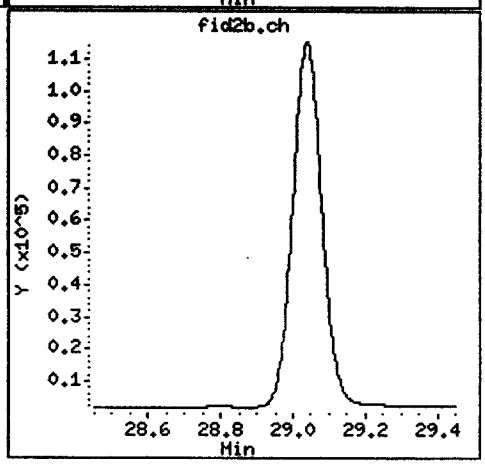


32 Ethylbenzene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-4.D
Lab Smp Id: 210909504 Client Smp ID: 062MW20Q30120
Inj Date : 24-SEP-2001 14:57
Operator : Inst ID: vgc2.i
Smp Info : 210909504
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
20 Benzene	FID2B	14.066	13.976	(0.970)	21294	0.72109	0.72(a)
* 21 Fluorobenzene	FID2B	14.496	14.406	(1.000)	601409	30.0000	
32 Ethylbenzene	FID2B	25.130	25.026	(1.734)	9936	0.35158	0.35(a)
33 m,p-xylene	FID2B	25.436	25.320	(1.755)	17059	0.58087	0.58(a)
34 o-xylene	FID2B	27.006	26.906	(1.863)	13814	0.54847	0.55(a)
$ 39 4-bromofluorobenzene	FID2B	29.043	28.950	(2.003)	624537	24.4555	24.4(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

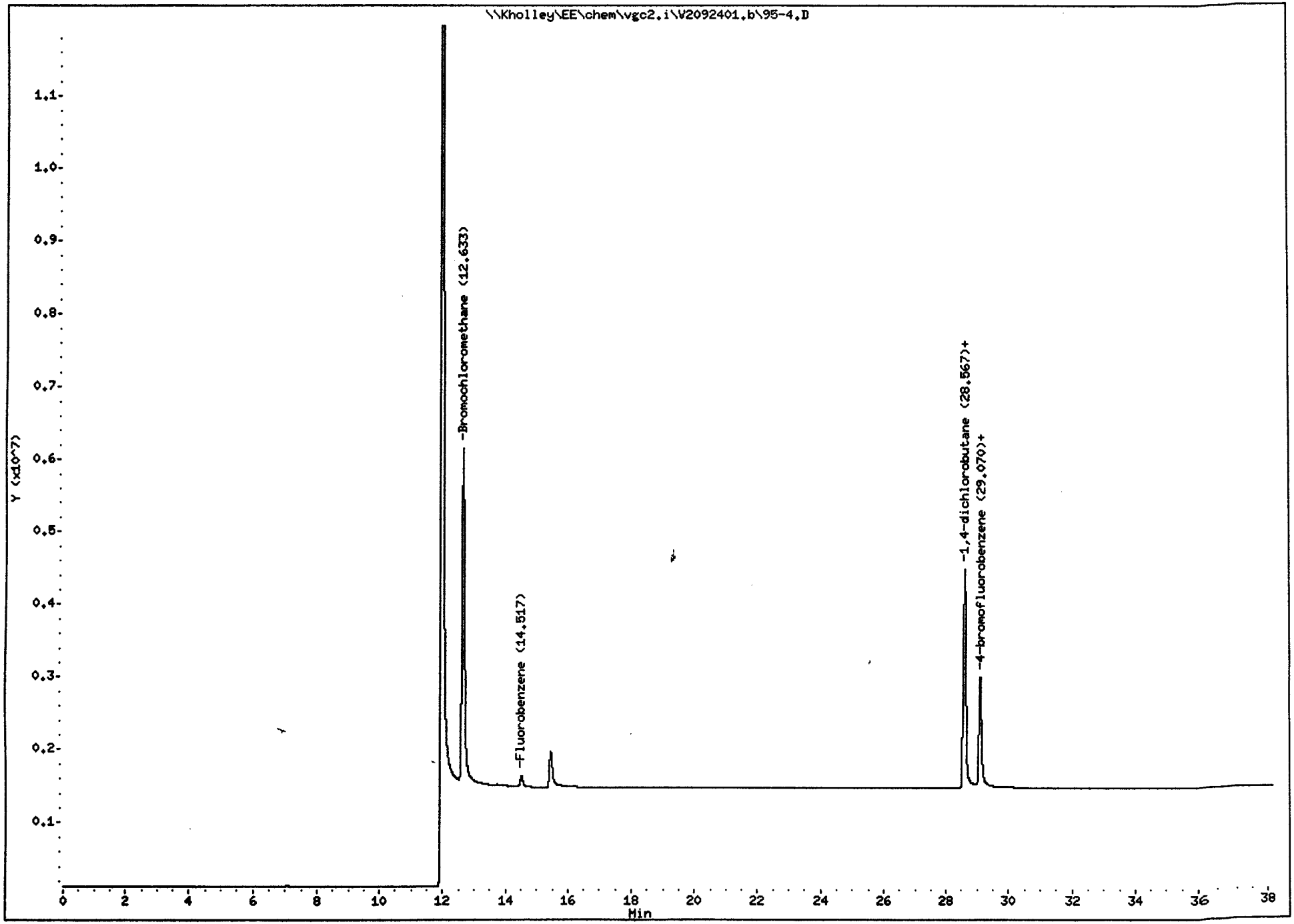
Instrument ID: vgc2.i
Lab File ID: 95-4.D
Lab Smp Id: 210909504
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062MW20Q30120
Level: LOW
Sample Type: WATER

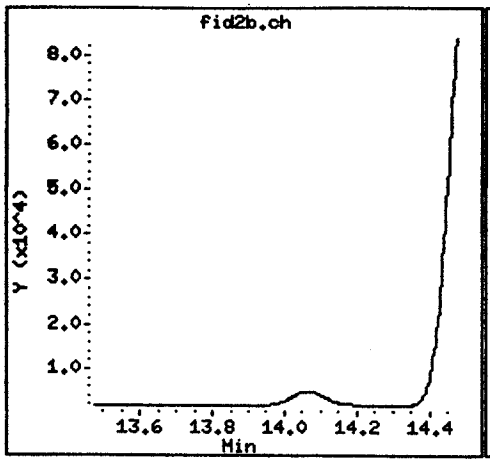
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	601409	-1.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.50	0.62

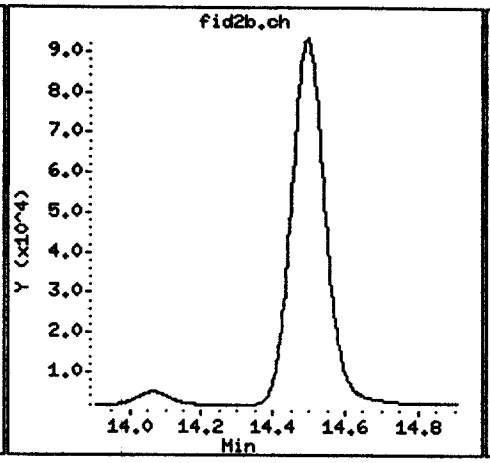
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-4.D
Y (x10^7)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-Bromochloromethane (12.633)
-Fluorobenzene (14.517)
-1,4-dichlorobutane (28.567)+
-4-bromofluorobenzene (29.070)+
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
Min

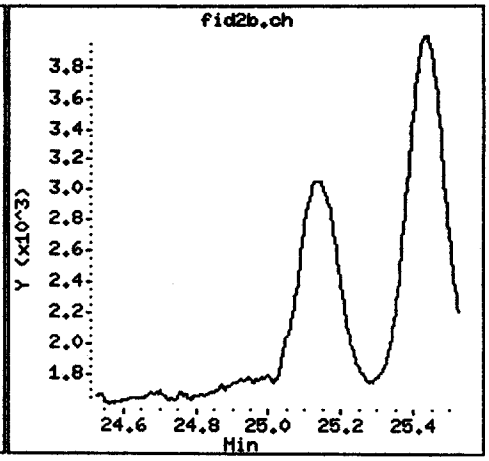
20 Benzene



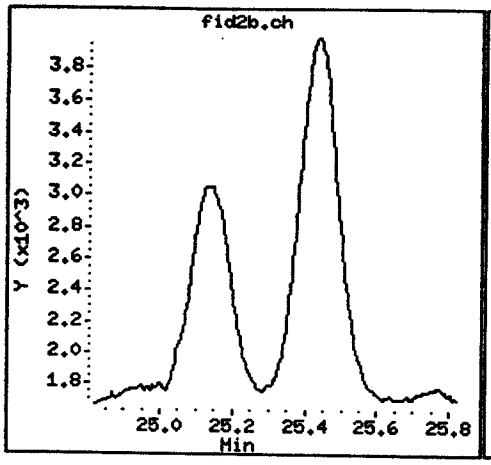
M 21 Fluorobenzene



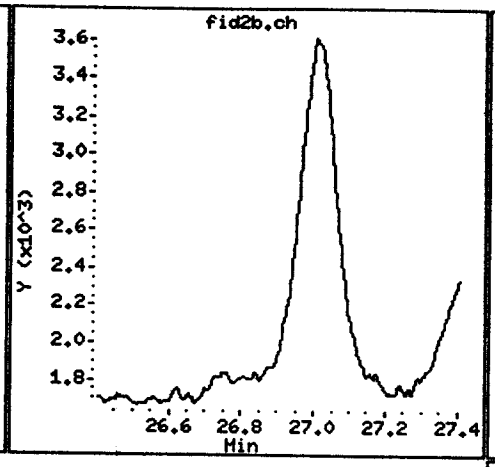
32 Ethylbenzene



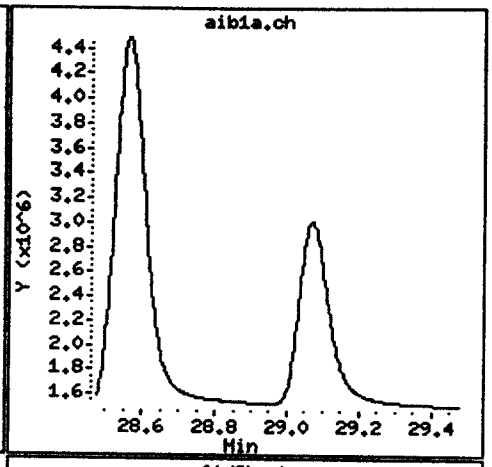
33 m,p-xylene

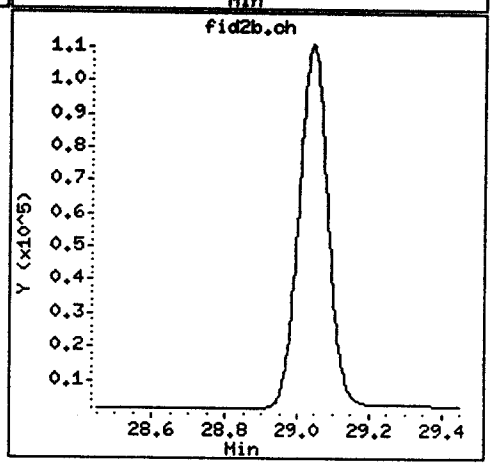


34 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092501.b\95-7R.D
Lab Smp Id: 210909507 Client Smp ID: 062MW22Q30120
Inj Date : 25-SEP-2001 13:32
Operator : Inst ID: vgc2.i
Smp Info : 210909507
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Meth Date : 26-Sep-2001 11:01 lmchugh Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
20 Benzene	FID2B	14.023	14.010	(0.970)	47345	1.89469	1.9
* 21 Fluorobenzene	FID2B	14.453	14.443	(1.000)	508904	30.0000	
32 Ethylbenzene	FID2B	25.080	25.063	(1.735)	10603	0.44338	0.44(a)
$ 39 4-bromofluorobenzene	FID2B	28.996	28.976	(2.006)	508437	23.5283	23.5

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

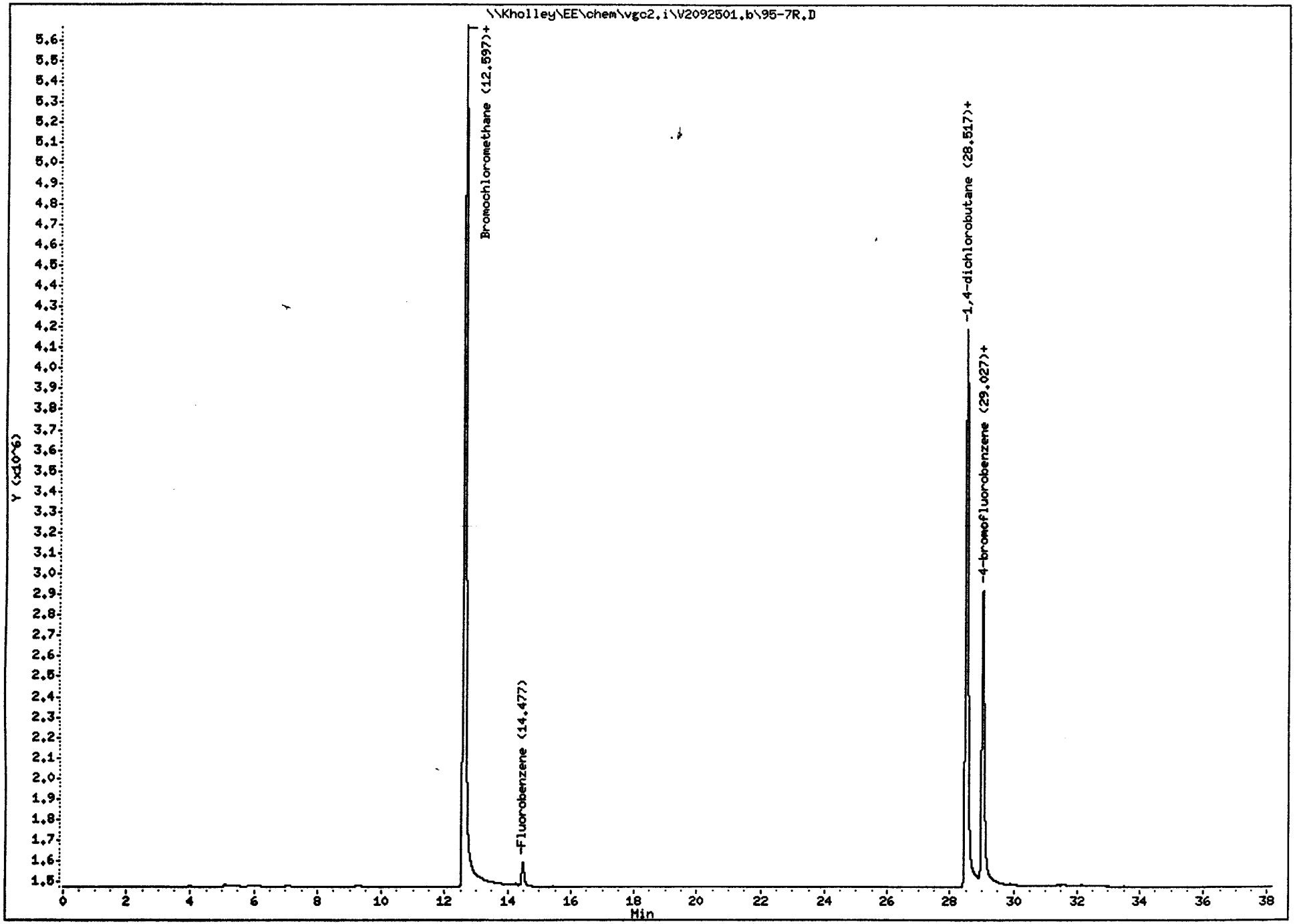
Instrument ID: vgc2.i
Lab File ID: 95-7R.D
Lab Smp Id: 210909507
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092501.b\8021.m
Misc Info:

Calibration Date: 25-SEP-2001
Calibration Time: 21:05
Client Smp ID: 062MW22Q30120
Level: LOW
Sample Type: WATER

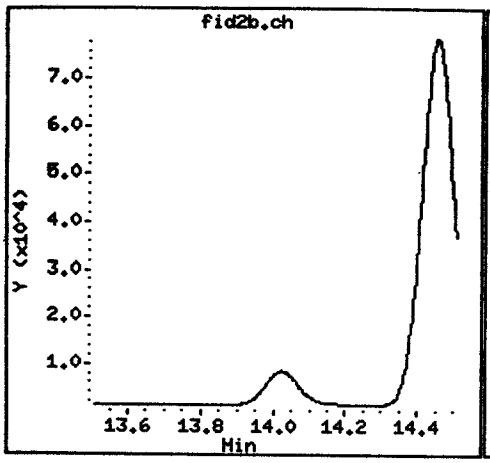
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	309912	154956	619824	508904	64.21

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.44	13.94	14.94	14.45	0.07

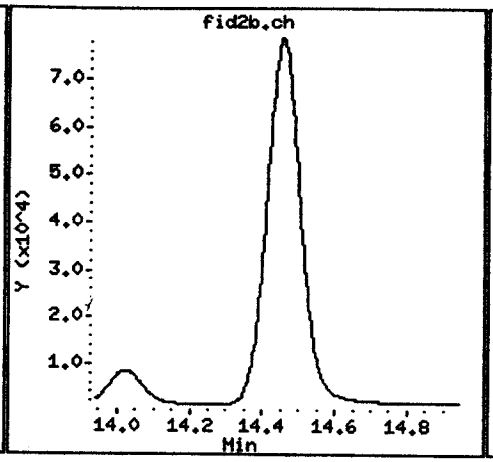
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092501.b\95-7R.D
Bromochloromethane (12.597)+
-Fluorobenzene (14.477)
-1,4-dichlorobutane (28.517)+
-4-bromofluorobenzene (29.027)+
Y (x10^6)
Min

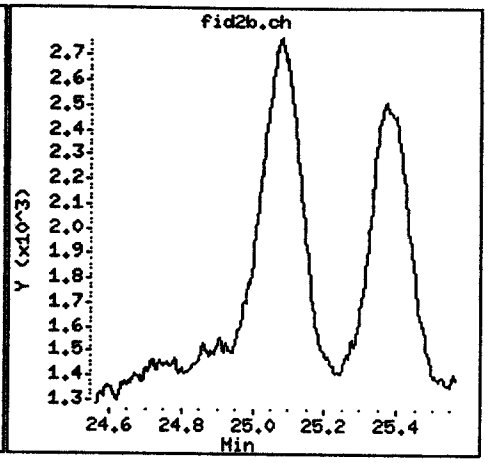
20 Benzene



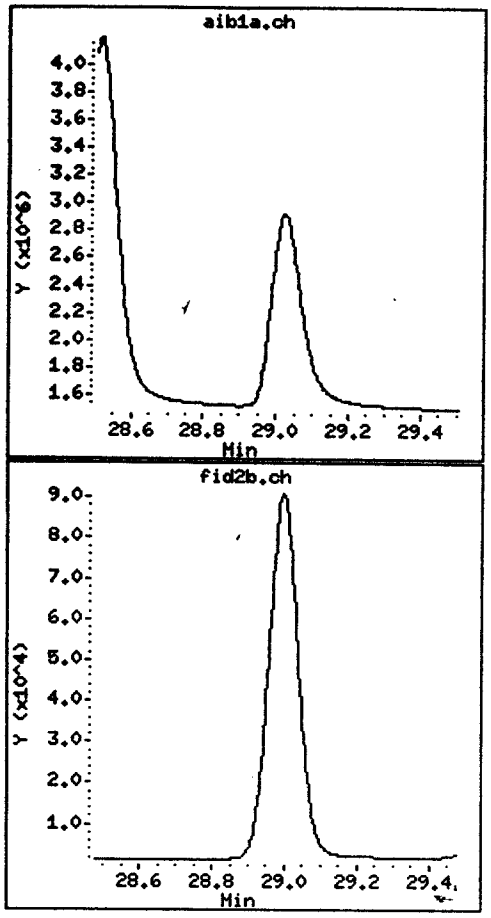
× 21 Fluorobenzene



32 Ethylbenzene



$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-8.D
Lab Smp Id: 210909508 Client Smp ID: 062VEW2Q30120
Inj Date : 24-SEP-2001 18:00
Operator : Inst ID: vgc2.i
Smp Info : 210909508
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.466	14.406	(1.000)	575257	30.0000	
32 Ethylbenzene	FID2B	25.003	25.026	(1.728)	382476	14.1490	14.1
33 m,p-xylene	FID2B	25.260	25.320	(1.746)	33868	1.20565	1.2(a)
34 o-xylene	FID2B	27.000	26.906	(1.866)	141899	5.89005	5.9
$ 39 4-bromofluorobenzene	FID2B	29.010	28.950	(2.005)	575082	23.5427	23.5(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

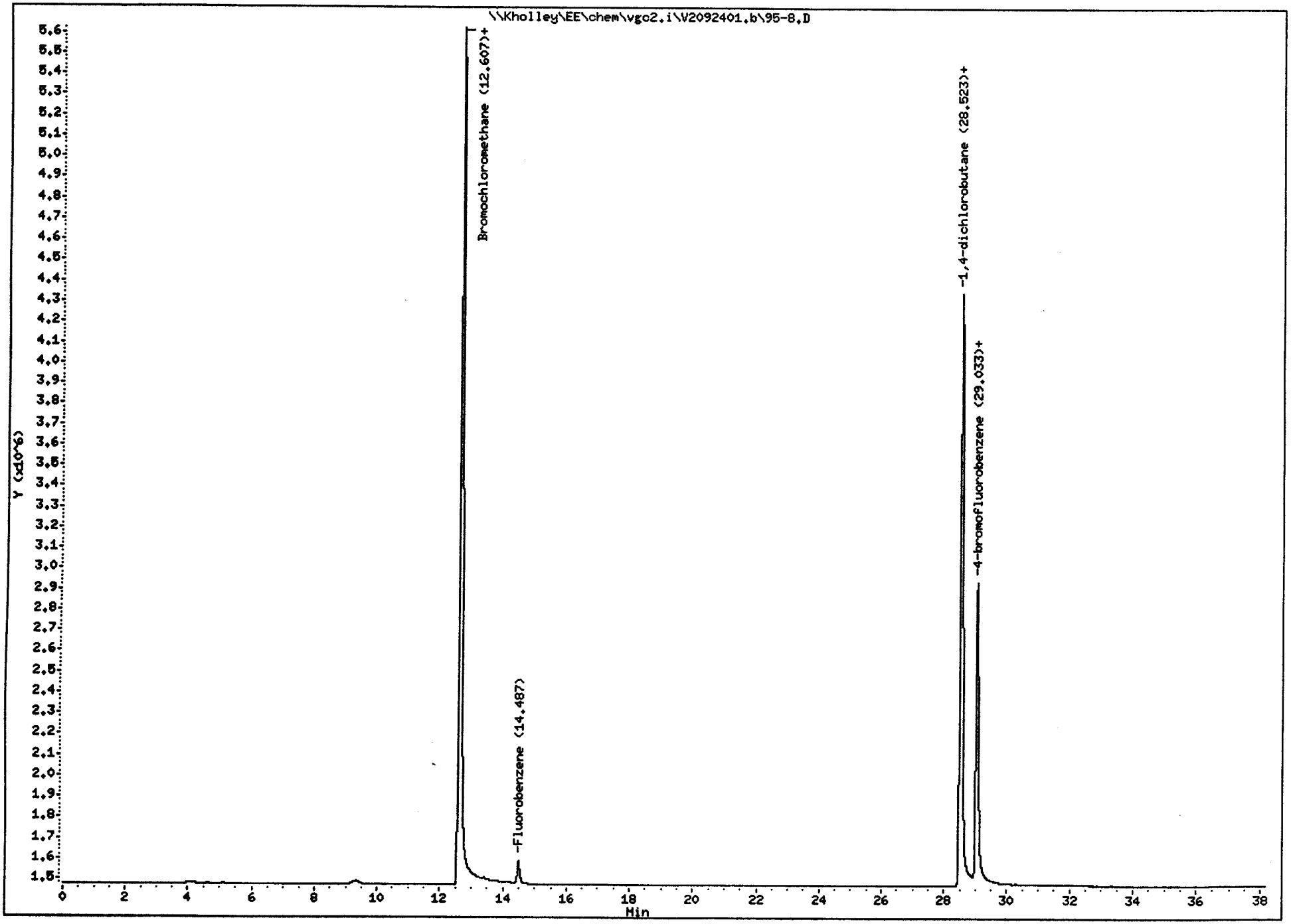
Instrument ID: vgc2.i
Lab File ID: 95-8.D
Lab Smp Id: 210909508
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062VEW2Q30120
Level: LOW
Sample Type: WATER

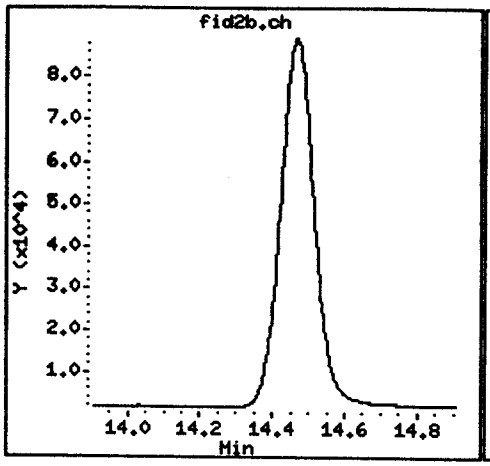
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	575257	-5.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.47	0.42

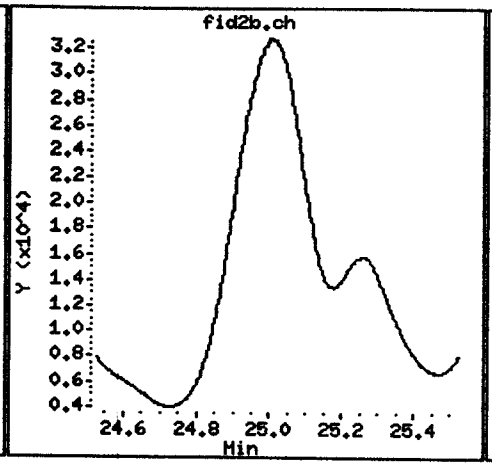
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-8.D
Bromochloromethane (12.607)+
-Fluorobenzene (14.487)
-1,4-dichlorobutane (28.523)+
-4-bromofluorobenzene (29.033)+
Y (x10^6)
Min

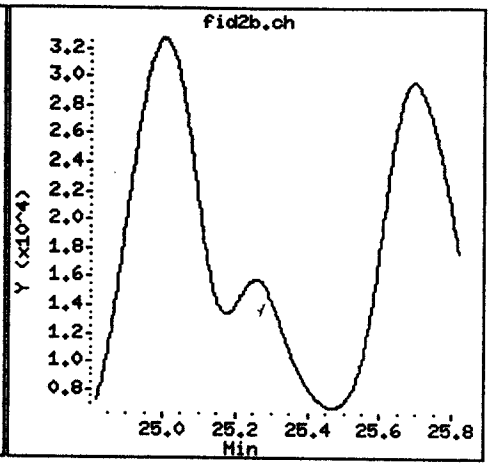
M 21 Fluorobenzene



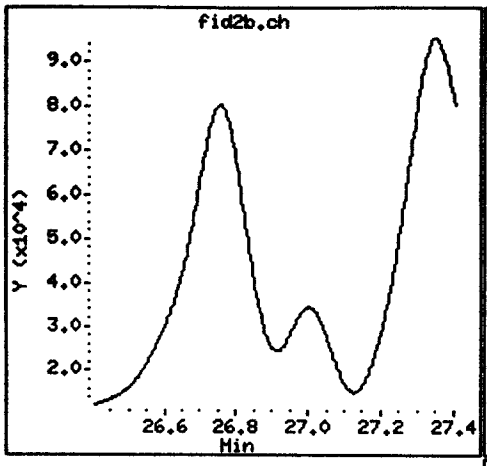
32 Ethylbenzene



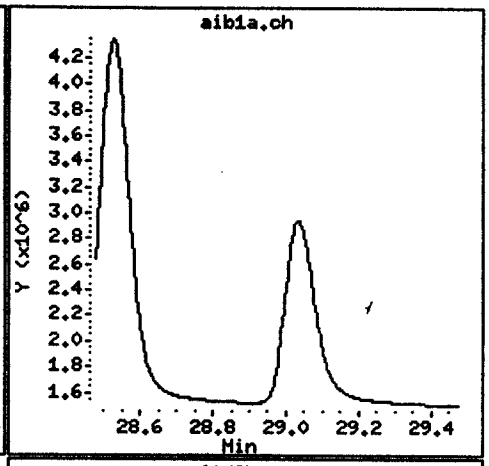
33 m,p-xylene

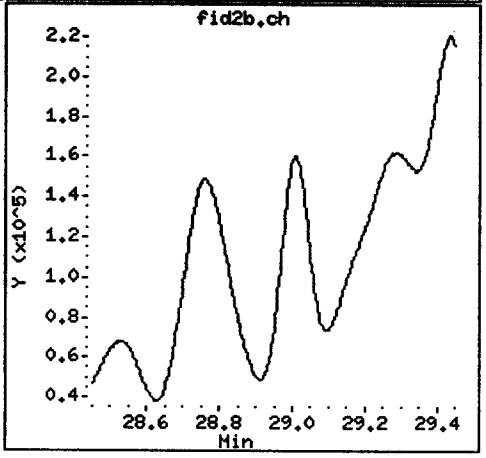


34 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-9.D
Lab Smp Id: 210909509 Client Smp ID: 062VEW3Q30120
Inj Date : 24-SEP-2001 18:46
Operator : Inst ID: vgc2.i
Smp Info : 210909509
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.460	14.406	(1.000)	512520	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.996	28.950	(2.005)	585255	26.8920	26.9(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

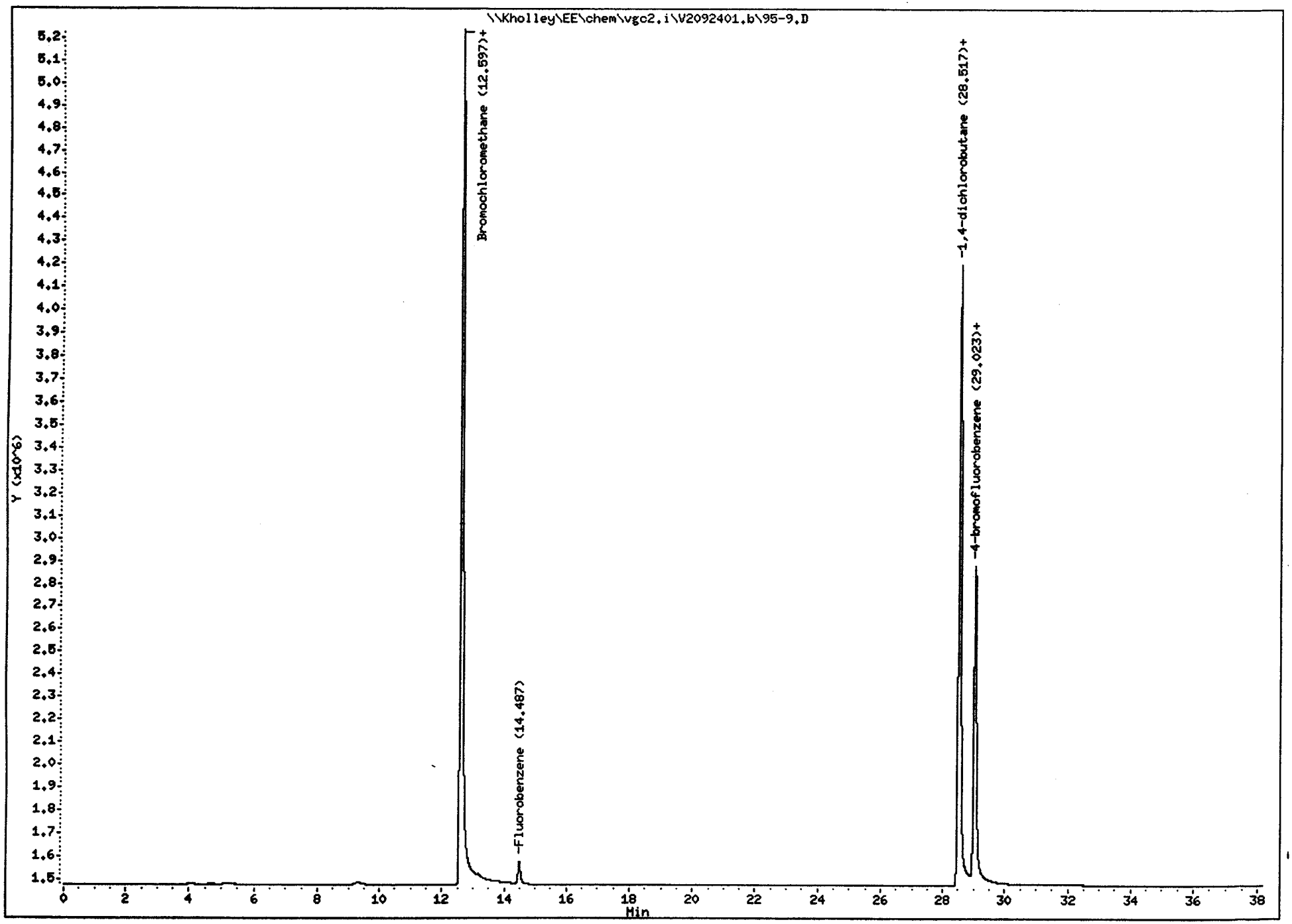
Instrument ID: vgc2.i
Lab File ID: 95-9.D
Lab Smp Id: 210909509
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062VEW3Q30120
Level: LOW
Sample Type: WATER

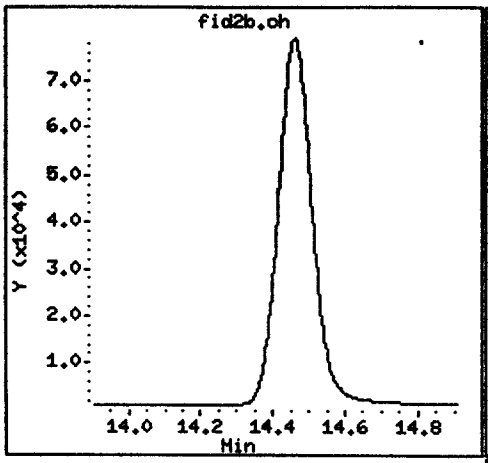
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	512520	-16.07

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.46	0.37

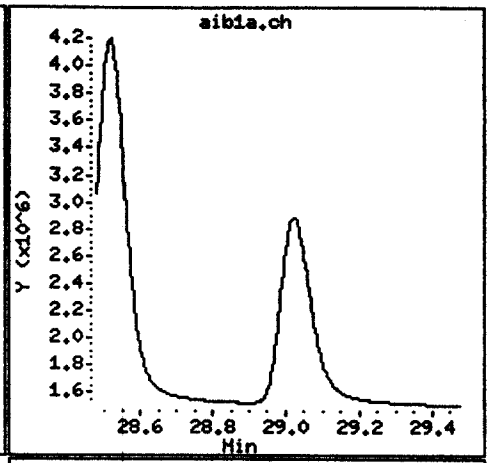
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

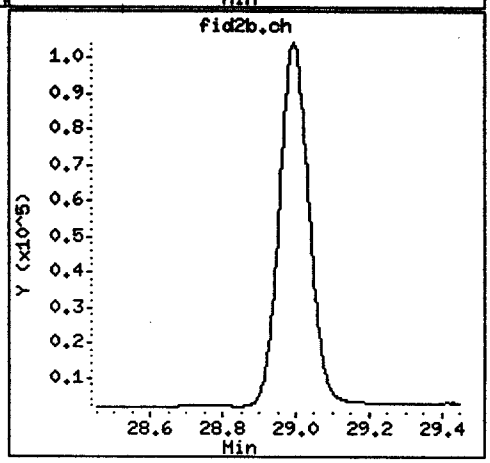

\\Kholley\EE\chem\vgc2.i\V2092401.b\95-9.D
Bromochloromethane (12.597)+
-Fluorobenzene (14.487)
-1,4-dichlorobutane (28.517)+
-4-bromofluorobenzene (29.023)+
Y (x10^6)
Min

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-10.D
Lab Smp Id: 210909510 Client Smp ID: 062VEW4Q30120
Inj Date : 24-SEP-2001 19:31
Operator : Inst ID: vgc2.i
Smp Info : 210909510
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:07 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.446	14.406	(1.000)	562884	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.980	28.950	(2.006)	535123	22.3884	22.4(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

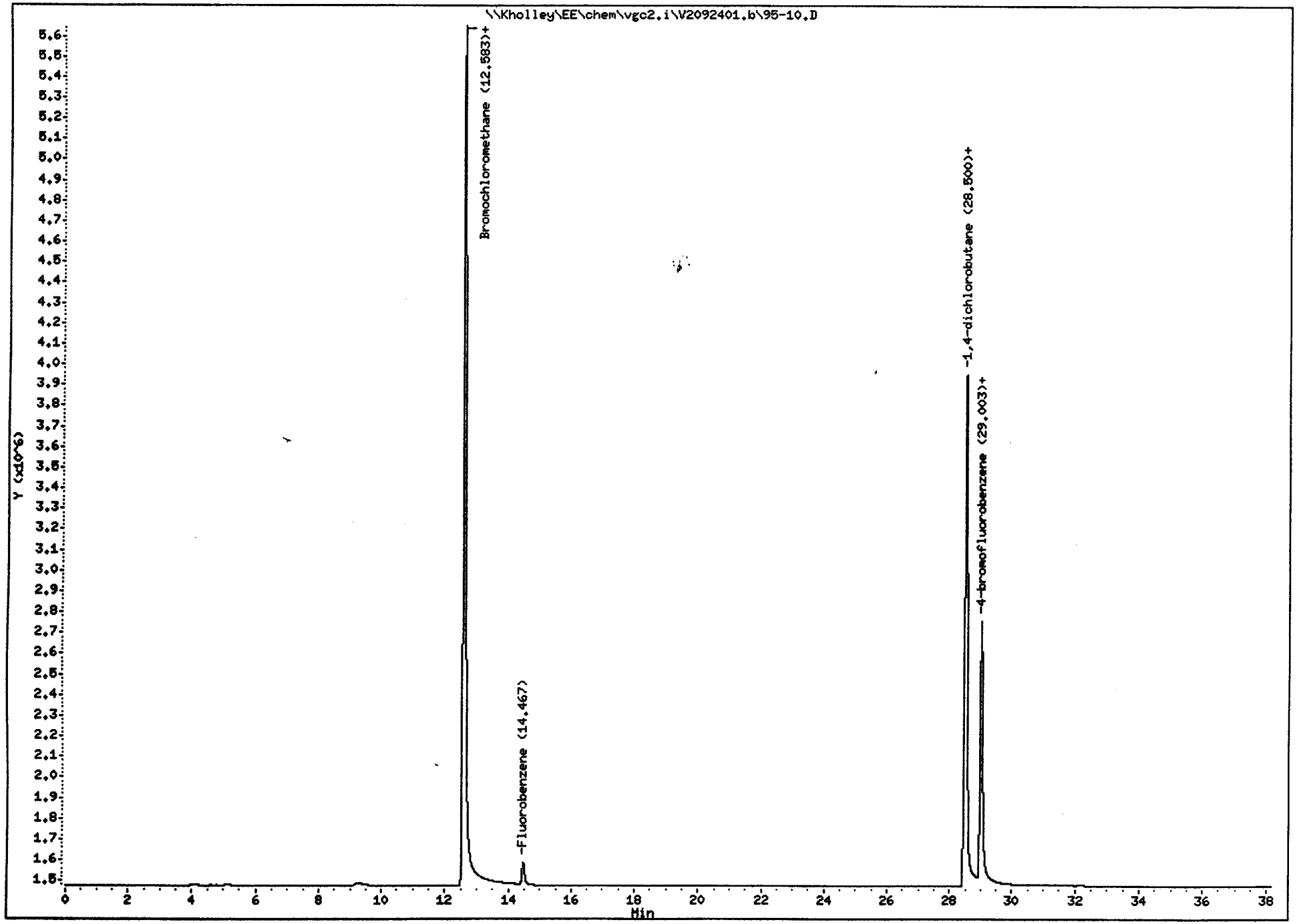
Instrument ID: vgc2.i
Lab File ID: 95-10.D
Lab Smp Id: 210909510
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 08:53
Client Smp ID: 062VEW4Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	610654	305327	1221308	562884	-7.82

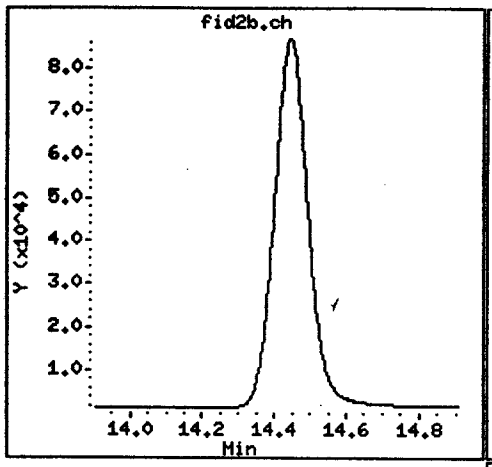
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.41	13.91	14.91	14.45	0.28

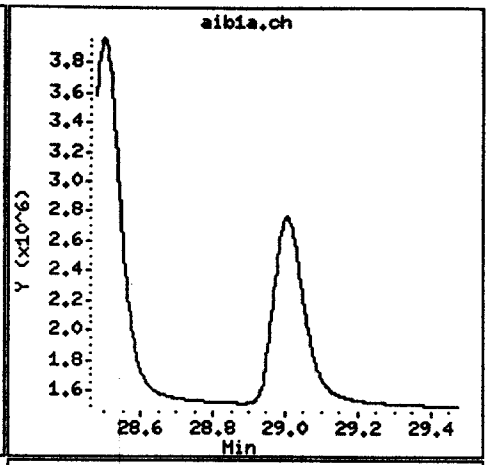
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

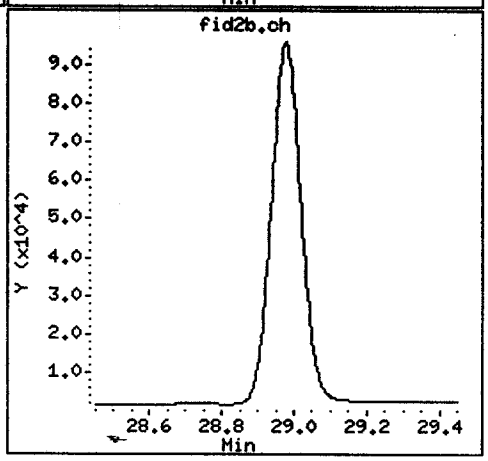

\\Kholley\EE\chem\vgc2.i\V2092401.b\95-10.D
Bromochloromethane (12.583)+
-Fluorobenzene (14.467)
-1,4-dichlorobutane (28.500)+
-4-bromofluorobenzene (29.003)+
Y (x10^6)
Min

M 21 Fluorobenzene

$ 39 4-bromofluorobenzene







PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-11.D
Lab Smp Id: 210909511 Client Smp ID: 062VEW5Q30120
Inj Date : 24-SEP-2001 21:45
Operator : Inst ID: vgc2.i
Smp Info : 210909511
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.433	14.430	(1.000)	464065	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.960	28.963	(2.006)	570185	28.9352	28.9(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

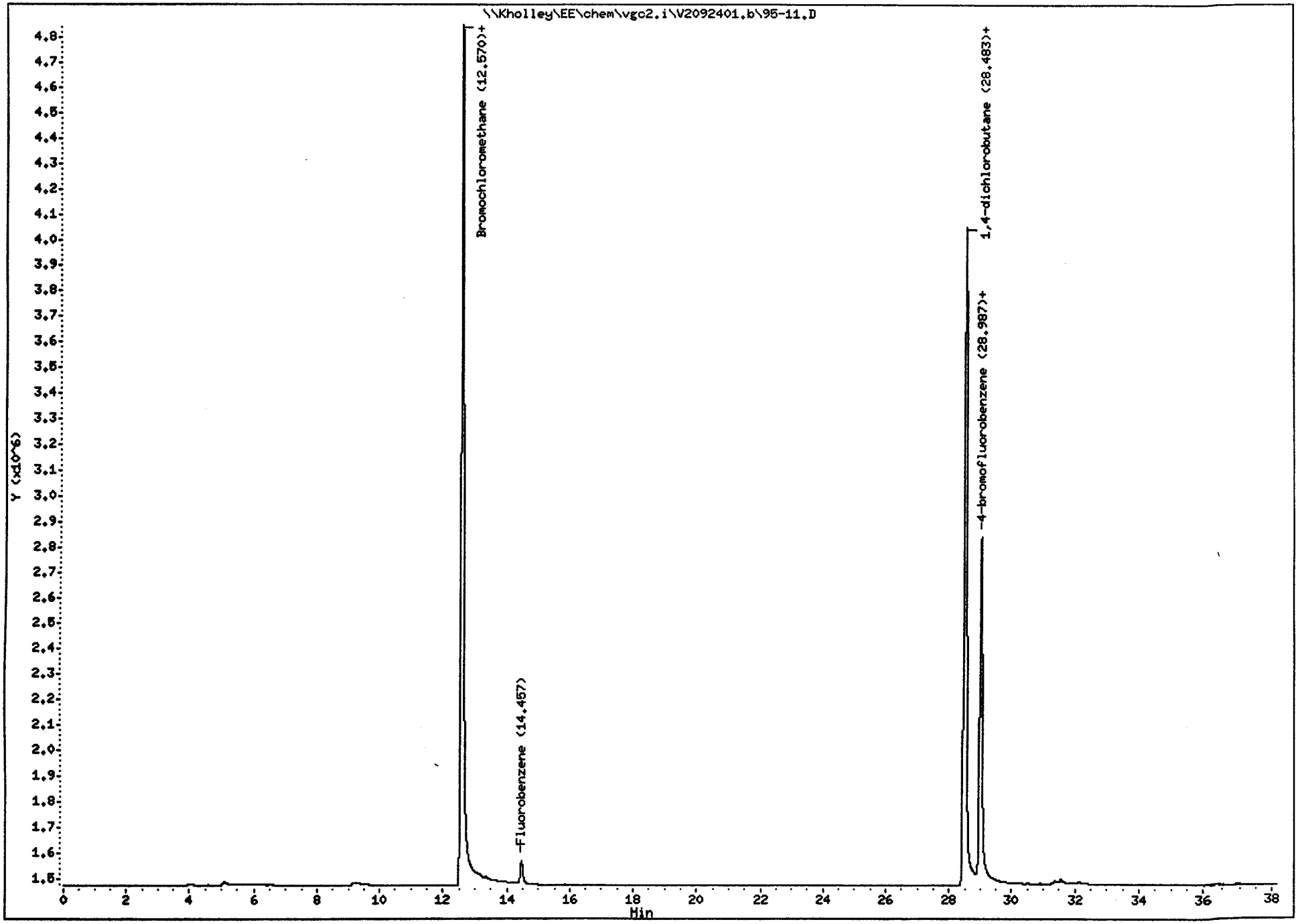
Instrument ID: vgc2.i
Lab File ID: 95-11.D
Lab Smp Id: 210909511
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062VEW5Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	464065	-10.57

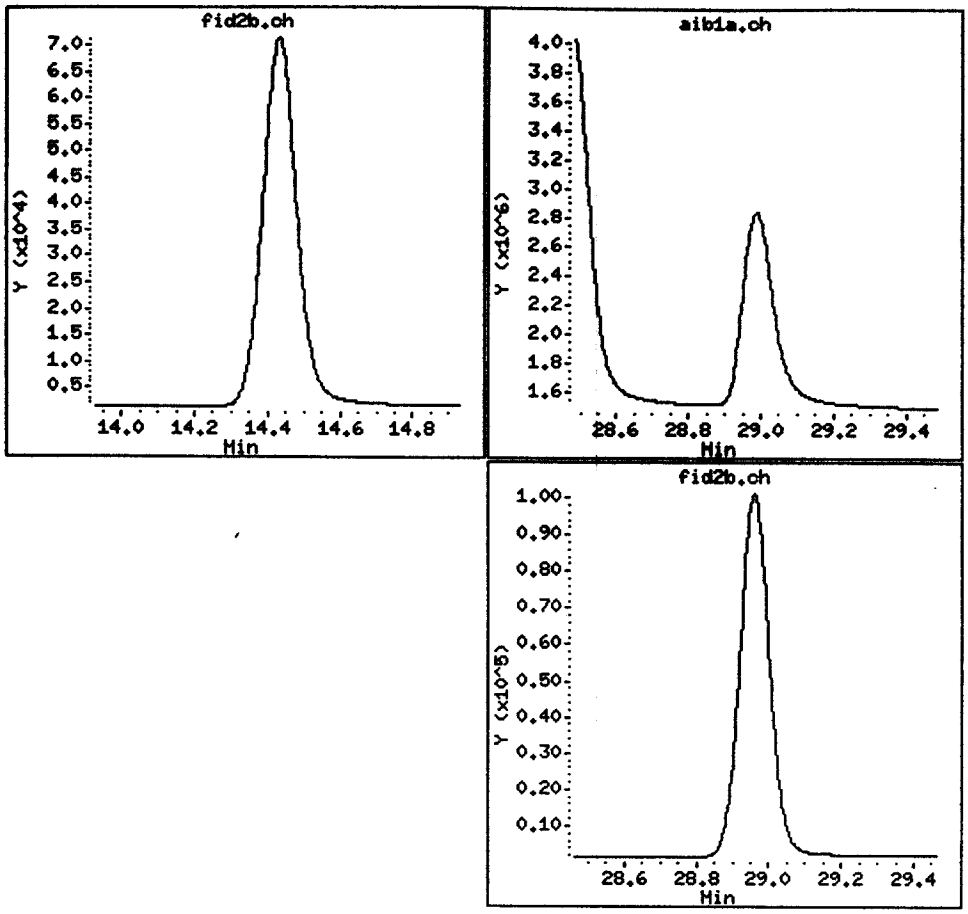
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	0.02

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-11.D
Bromochloromethane (12.570)+
Fluorobenzene (14.457)
1,4-dichlorobutane (28.483)+
4-bromofluorobenzene (28.987)+
Y (x10^6)
Min

M 21 Fluorobenzene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-12.D
Lab Smp Id: 210909512 Client Smp ID: 062VEW6Q30120
Inj Date : 24-SEP-2001 22:30
Operator : Inst ID: vgc2.i
Smp Info : 210909512
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.423	14.430	(1.000)	398811	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.960	28.963	(2.008)	450040	26.5750	26.6(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

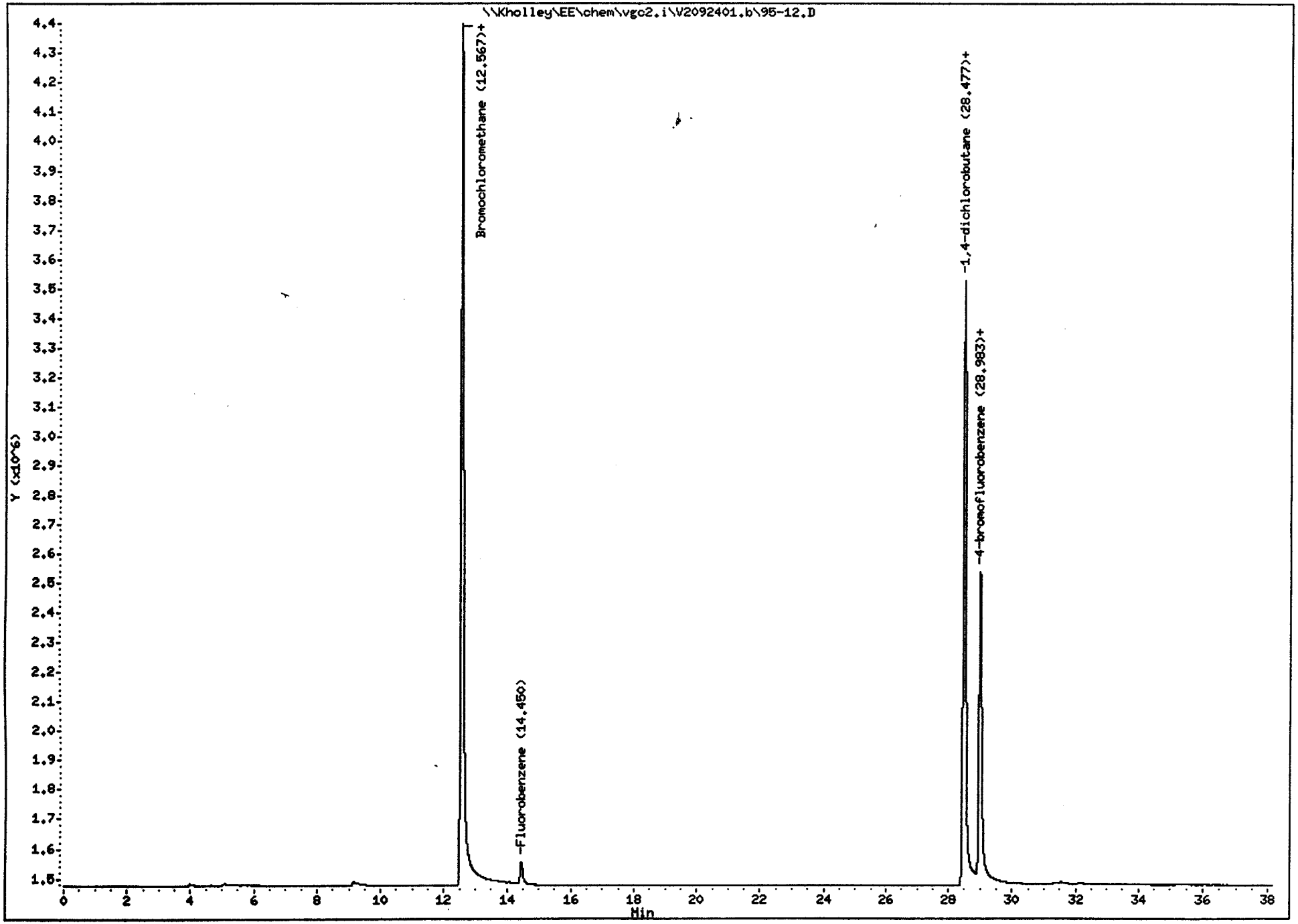
Instrument ID: vgc2.i
Lab File ID: 95-12.D
Lab Smp Id: 210909512
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062VEW6Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	398811	-23.15

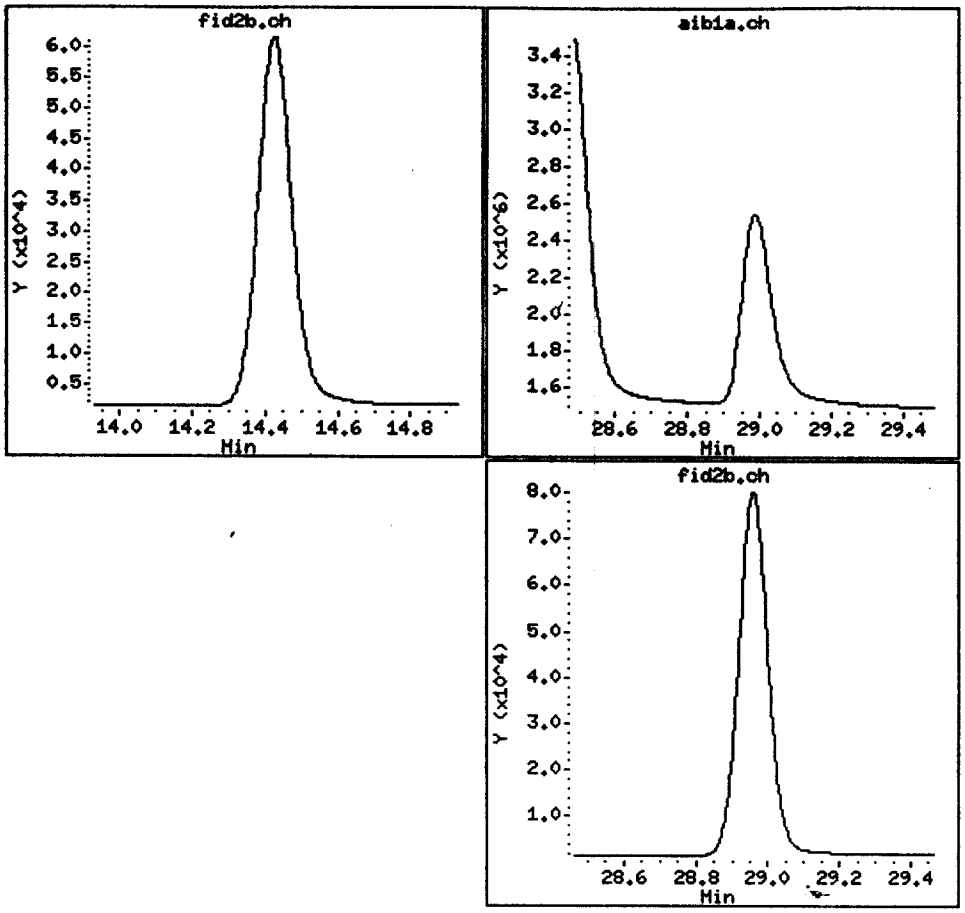
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.42	-0.05

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-12.D
Bromochloromethane (12.567)+
-Fluorobenzene (14.450)
-1,4-dichlorobutane (28.477)+
-4-bromofluorobenzene (28.983)+
Y (x10^6)
Min

* 21 Fluorobenzene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-13.D
Lab Smp Id: 210909513 Client Smp ID: 062VEW7Q30120
Inj Date : 24-SEP-2001 23:14
Operator : Inst ID: vgc2.i
Smp Info : 210909513
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.430	14.430	(1.000)	523895	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.963	28.963	(2.007)	497332	22.3559	22.4(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

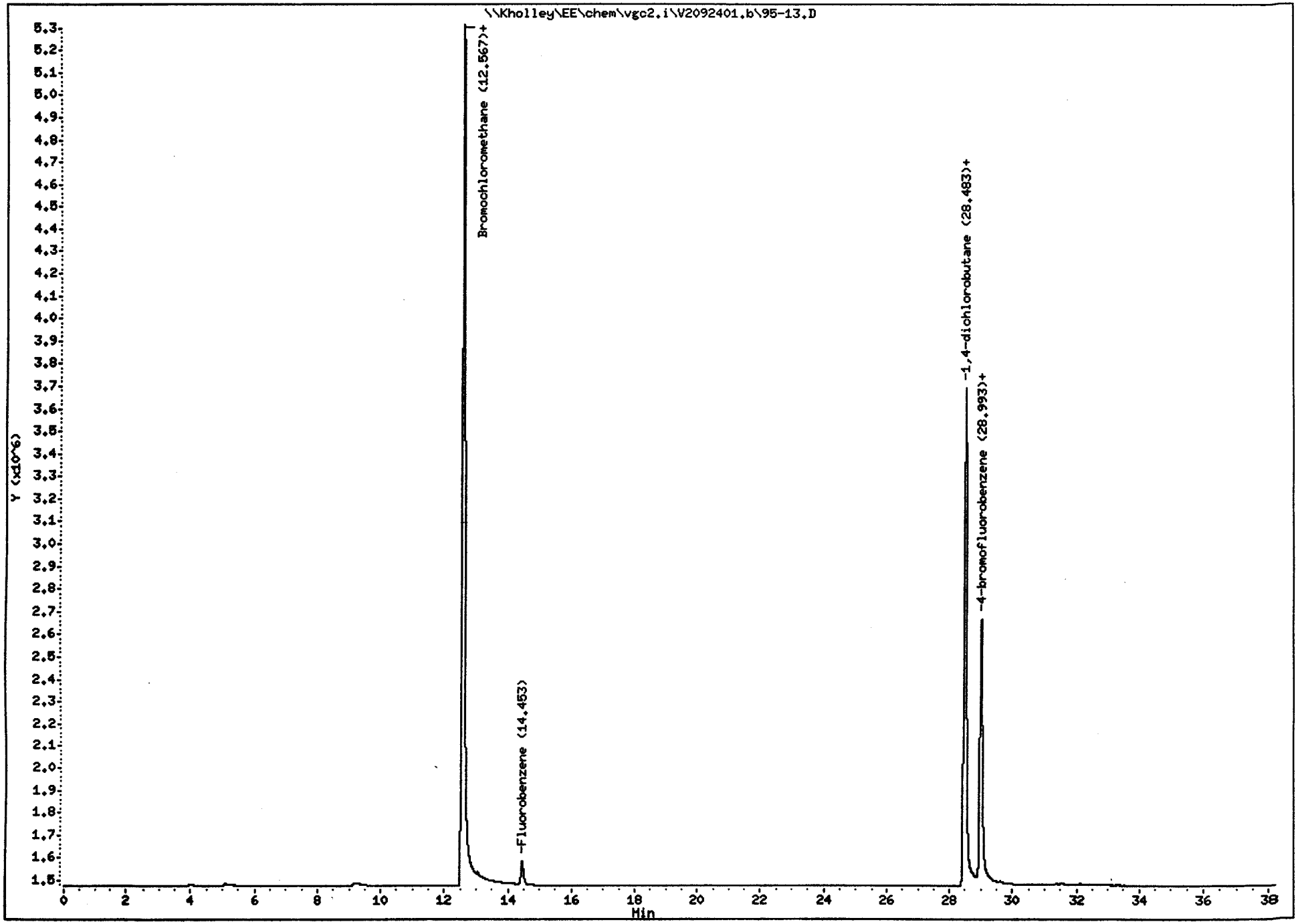
Instrument ID: vgc2.i
Lab File ID: 95-13.D
Lab Smp Id: 210909513
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062VEW7Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	523895	0.96

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	0.00

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-13.D
Bromochloromethane (12.567)+
-Fluorobenzene (14.453)
-1,4-dichlorobutane (28.483)+
-4-bromofluorobenzene (28.993)+
Y (x10^6)
Min

PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-14.D
Lab Smp Id: 210909514 Client Smp ID: 062VEW8Q30120
Inj Date : 24-SEP-2001 23:59
Operator : Inst ID: vgc2.i
Smp Info : 210909514
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.430	14.430	(1.000)	479284	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.963	28.963	(2.007)	504659	24.7967	24.8(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

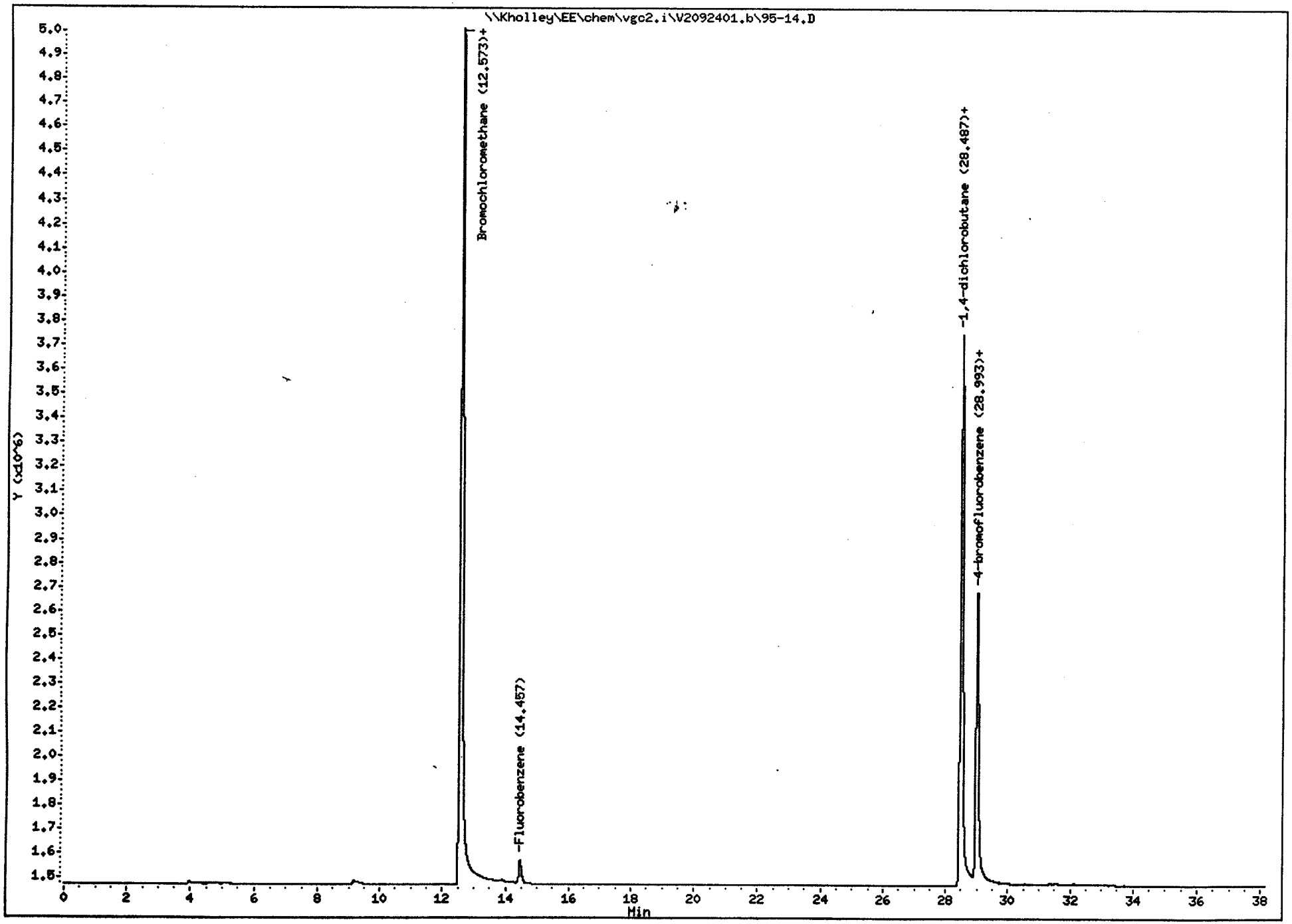
Instrument ID: vgc2.i
Lab File ID: 95-14.D
Lab Smp Id: 210909514
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062VEW8Q30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	479284	-7.64

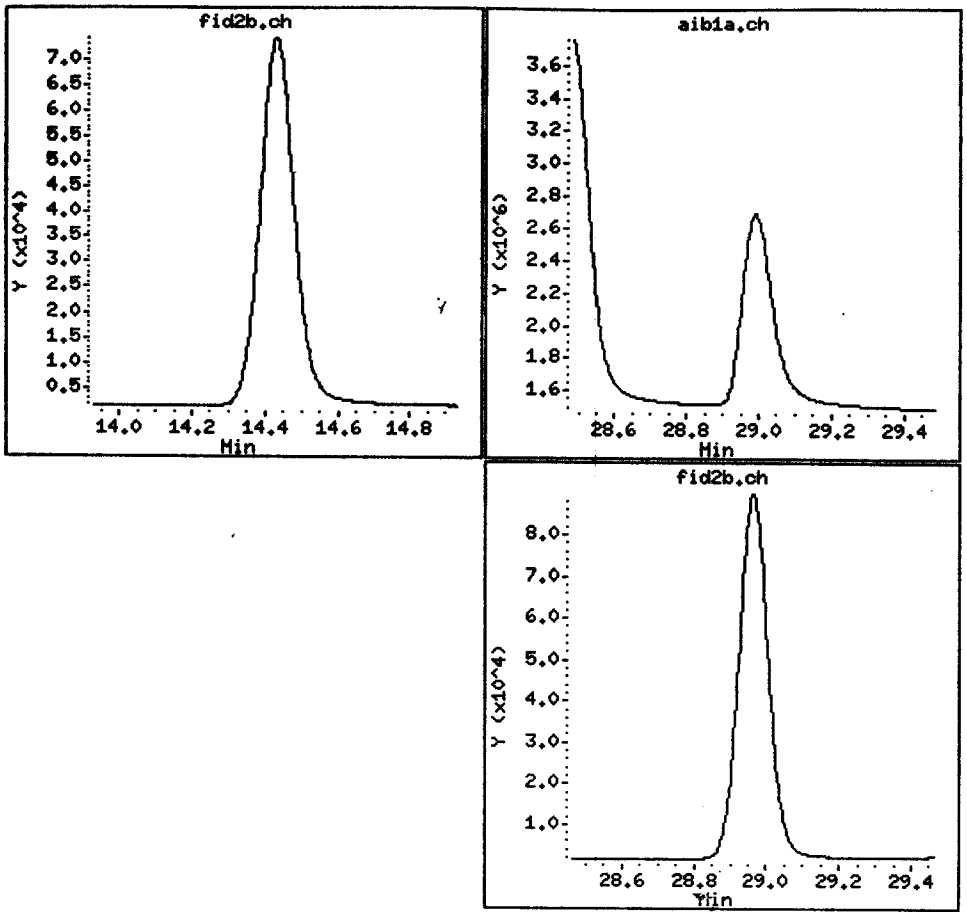
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	0.00

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-14.D
Bromochloromethane (12.573)+
-Fluorobenzene (14.457)
-1,4-dichlorobutane (28.487)+
-4-bromofluorobenzene (28.993)+
Y (x10^6)
Min

M 21 Fluorobenzene

$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-15.D
Lab Smp Id: 210909515 Client Smp ID: 062DUPQ30120
Inj Date : 25-SEP-2001 00:44
Operator : Inst ID: vgc2.i
Smp Info : 210909515
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.430	14.430	(1.000)	467811	30.0000	
32 Ethylbenzene	FID2B	25.040	25.040	(1.735)	5859	0.26652	0.27(a)
33 m,p-xylene	FID2B	25.343	25.336	(1.756)	13336	0.58378	0.58(a)
$ 39 4-bromofluorobenzene	FID2B	28.963	28.963	(2.007)	519817	26.1679	26.2(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

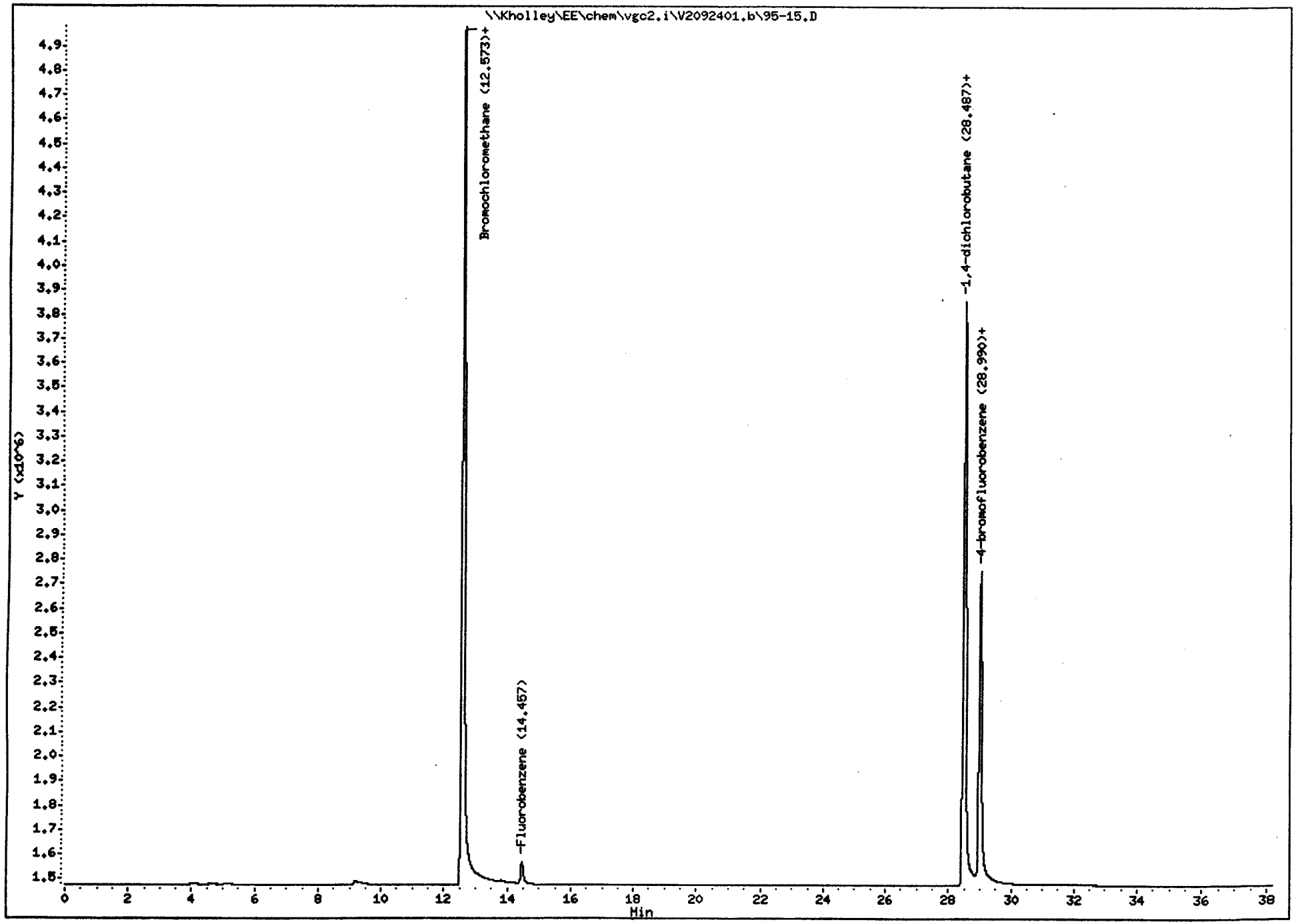
Instrument ID: vgc2.i
Lab File ID: 95-15.D
Lab Smp Id: 210909515
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062DUPQ30120
Level: LOW
Sample Type: WATER

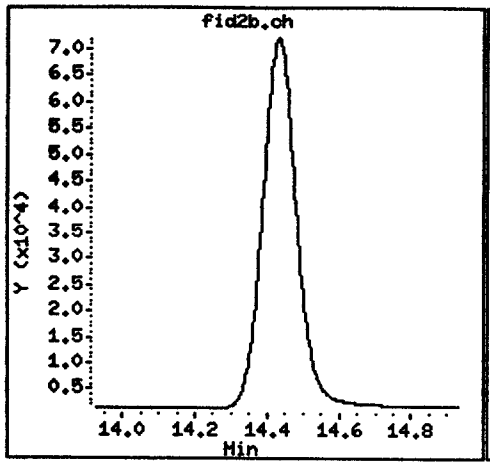
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	467811	-9.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	0.00

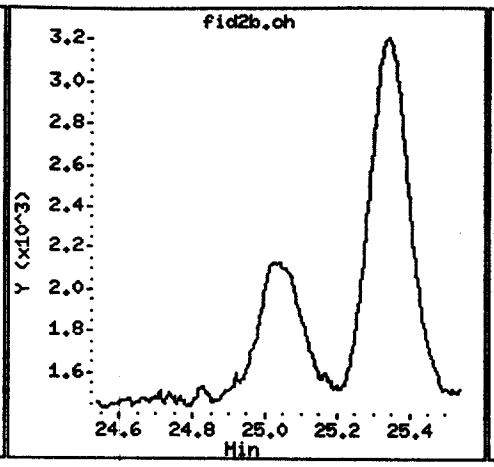
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-15.D
Bromochloromethane (12.573)+
-Fluorobenzene (14.457)
-1,4-dichlorobutane (28.487)+
-4-bromofluorobenzene (28.990)+
Y (x10^6)
Min

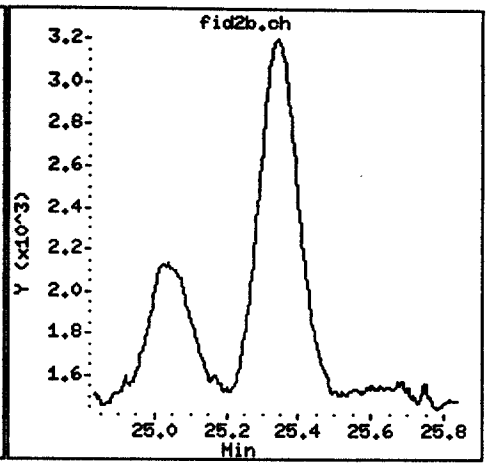
21 Fluorobenzene



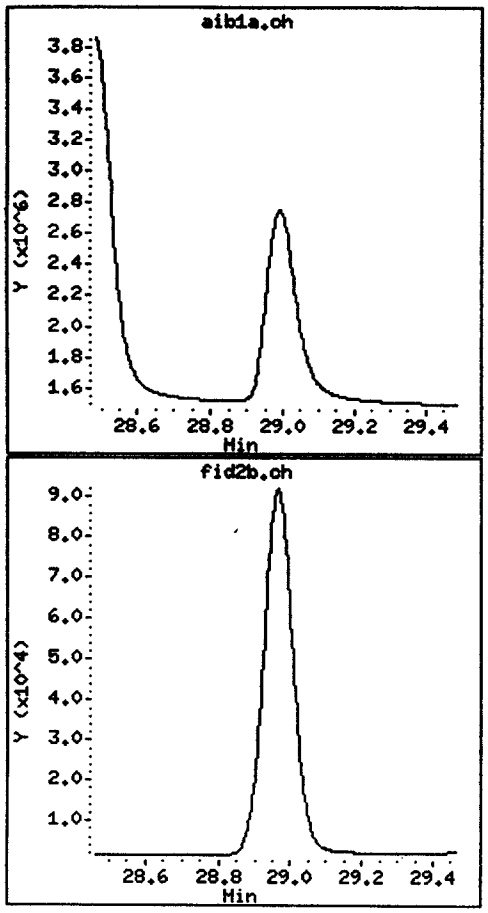
32 Ethylbenzene



33 m,p-xylene



$ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-16.D
Lab Smp Id: 210909516 Client Smp ID: 062EQBQ30120
Inj Date : 25-SEP-2001 01:28
Operator : Inst ID: vgc2.i
Smp Info : 210909516
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date. : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.426	14.430	(1.000)	461258	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.960	28.963	(2.007)	507974	25.9362	25.9(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

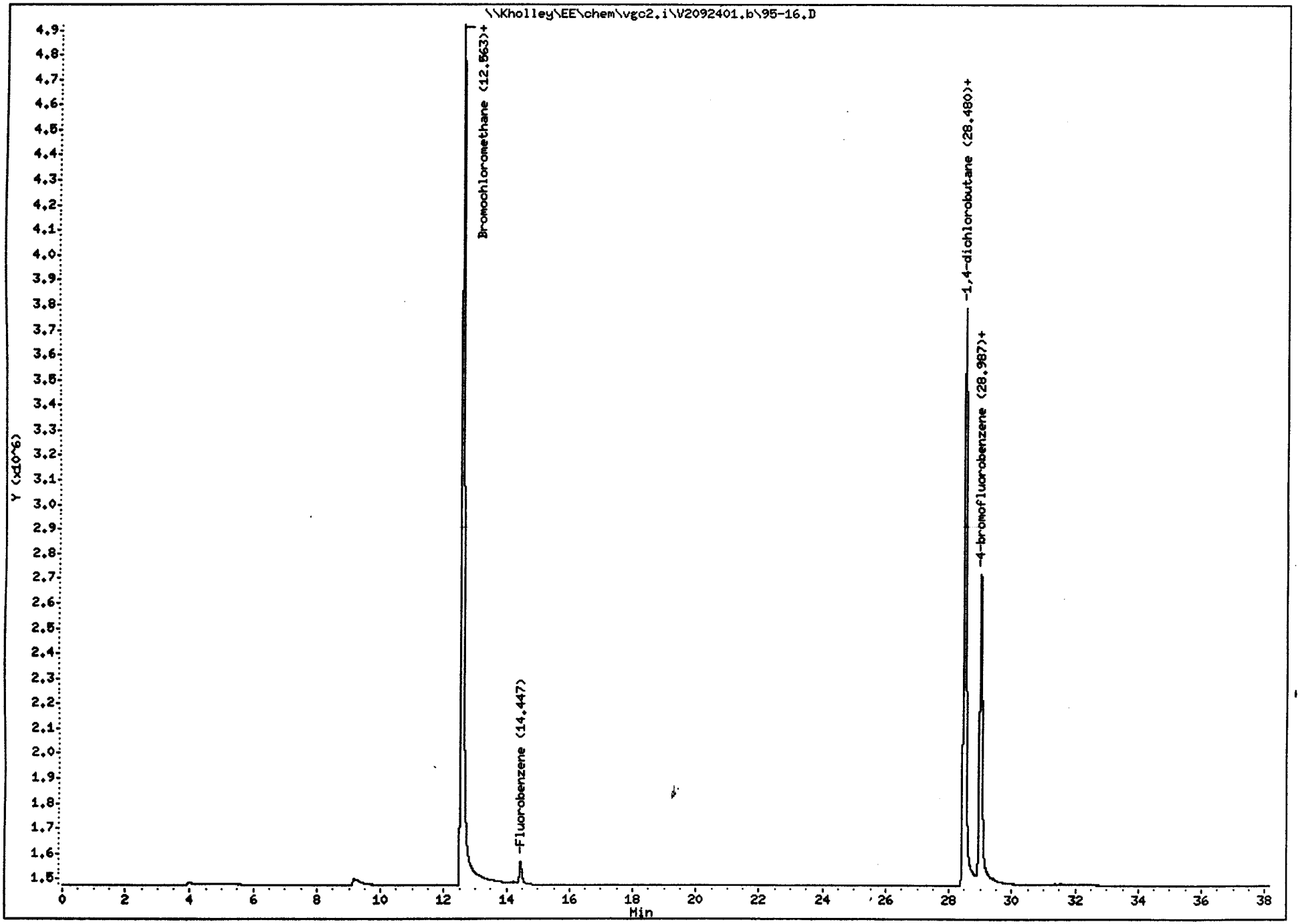
Instrument ID: vgc2.i
Lab File ID: 95-16.D
Lab Smp Id: 210909516
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062EQBQ30120
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	461238	-11.12

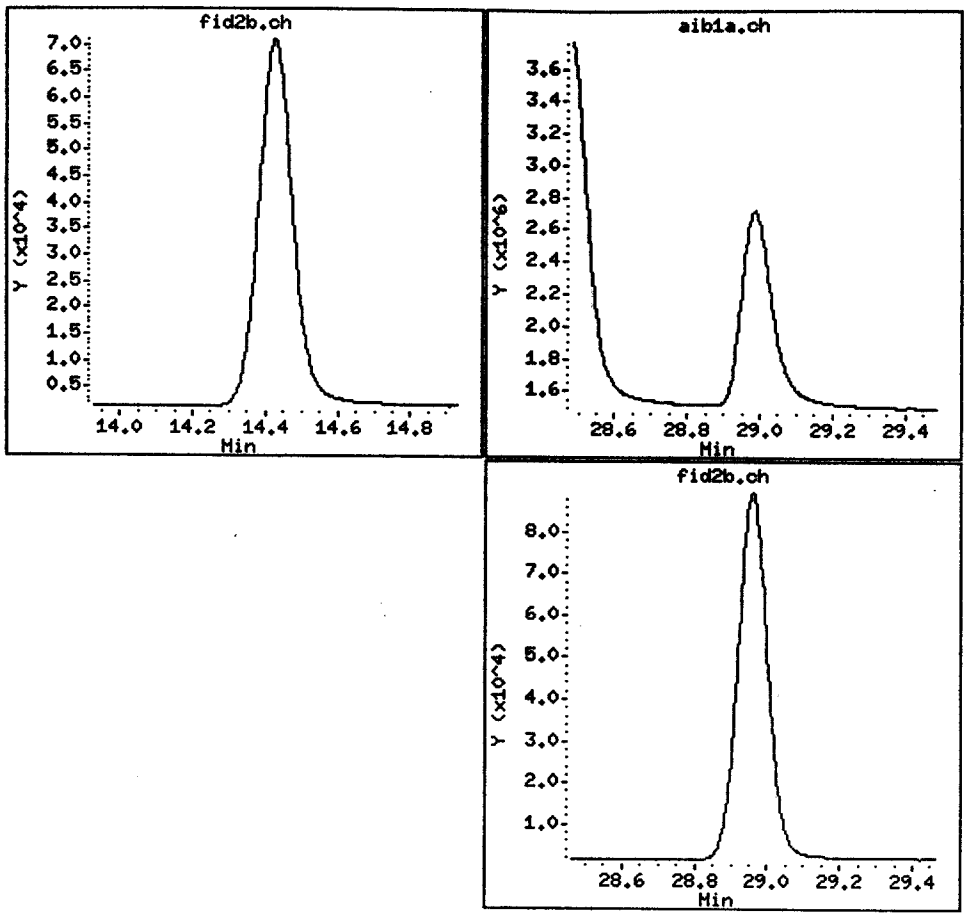
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	-0.02

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.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-16.D
Bromochloromethane (12.563)+
-Fluorobenzene (14.447)
-1,4-dichlorobutane (28.480)+
-4-bromofluorobenzene (28.987)+
Y (x10^6)
Min

× 21 Fluorobenzene

↕ 39 4-bromofluorobenzene



PEL Laboratories

Data file : \\KHOLLEY\EE\chem\vgc2.i\V2092401.b\95-17.D
Lab Smp Id: 210909517 Client Smp ID: 062TBQ30120
Inj Date : 25-SEP-2001 02:13
Operator : Inst ID: vgc2.i
Smp Info : 210909517
Misc Info :
Comment :
Method : \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Meth Date : 08-Oct-2001 16:09 LMCHUGH Quant Type: ISTD
Cal Date : 19-SEP-2001 18:18 Cal File: 100PPB.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: cto-062.sub
Target Version: 4.04
Processing Host: KHOLLEY

Concentration Formula: Amt * DF

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.426	14.430	(1.000)	499988	30.0000	
33 m,p-xylene	FID2B	25.343	25.336	(1.757)	12347	0.50570	0.50(a)
$ 39 4-bromofluorobenzene	FID2B	28.960	28.963	(2.007)	486802	22.9288	22.9(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

PEL Laboratories

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

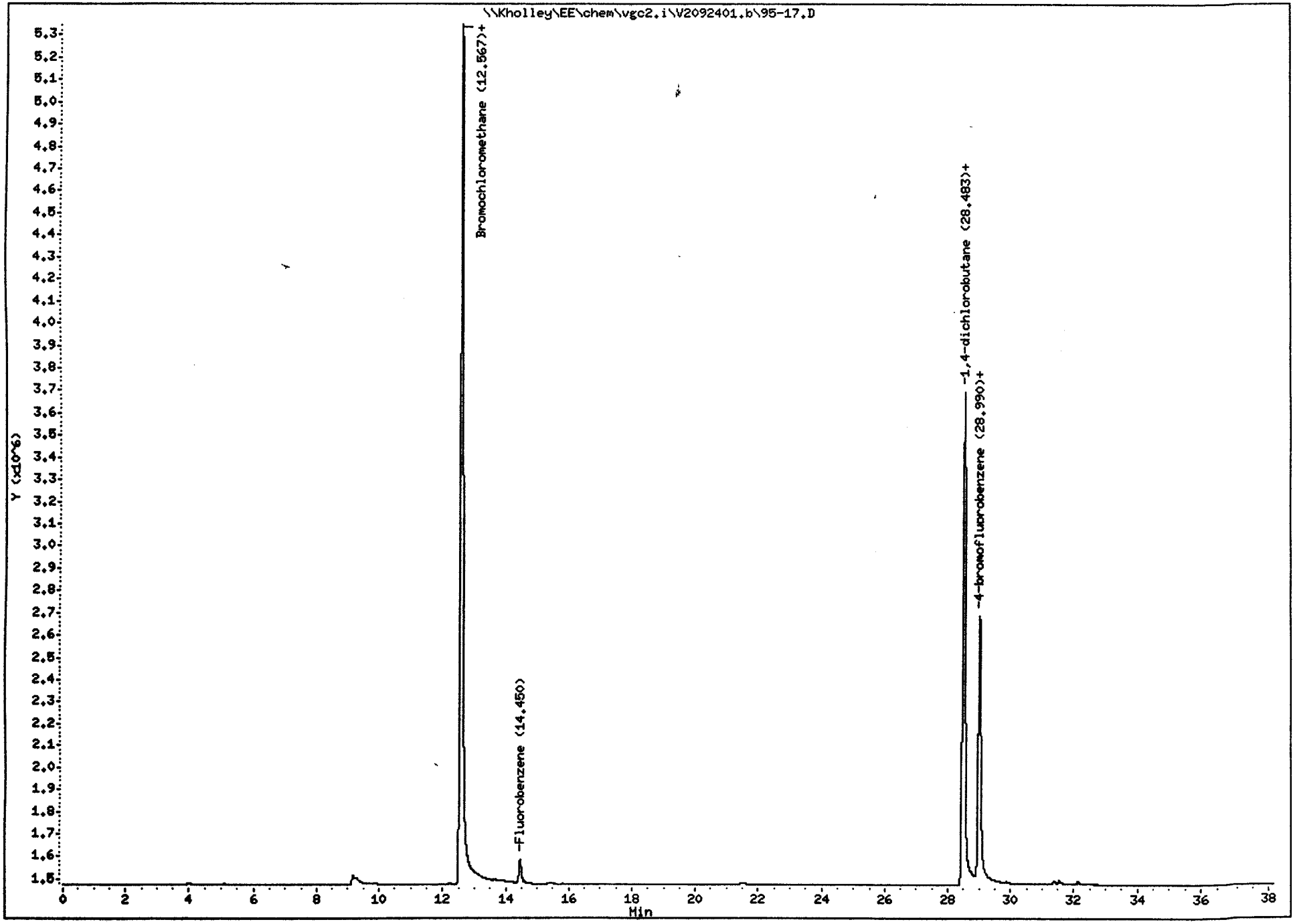
Instrument ID: vgc2.i
Lab File ID: 95-17.D
Lab Smp Id: 210909517
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\Kholley\ee\chem\vgc2.i\V2092401.b\8021.m
Misc Info:

Calibration Date: 24-SEP-2001
Calibration Time: 21:00
Client Smp ID: 062TBQ30120
Level: LOW
Sample Type: WATER

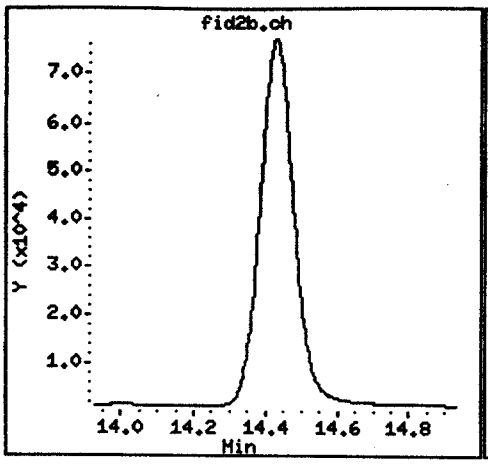
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	518936	259468	1037872	499988	-3.65

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.43	13.93	14.93	14.43	-0.02

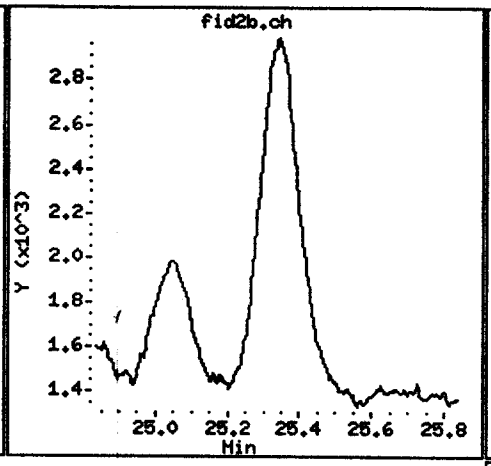
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc2.i\V2092401.b\95-17.D
Bromochloromethane (12.567)+
-Fluorobenzene (14.450)
-1,4-dichlorobutane (28.483)+
-4-bromofluorobenzene (28.990)+
Y (x10^6)
Min

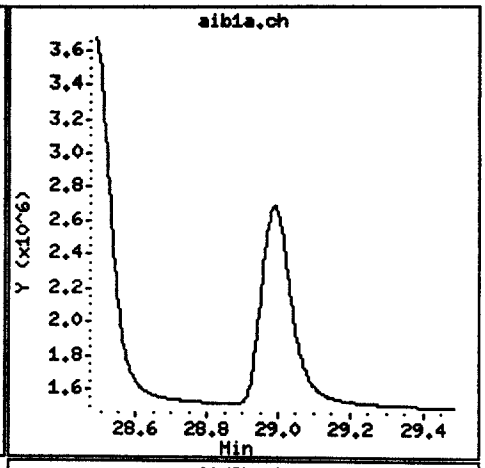
* 21 Fluorobenzene

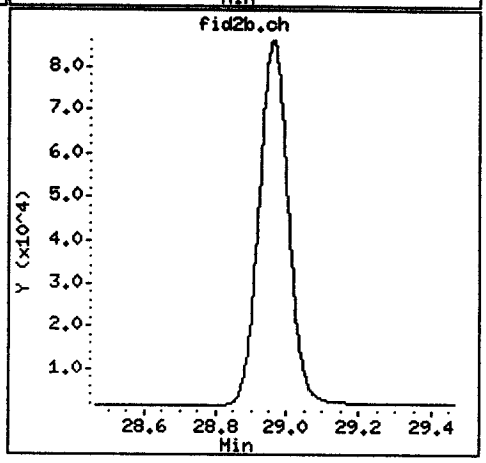


33 m,p-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	10-4-01; 10:10 AM
Date Reported:	10-11-01
PEL Submission Number:	2109206
Project:	NAS Cecil Field

Samples: The submission consisted of 17 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
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

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 2109206-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2109206	062DUPQ30120	N	210920615	062-DUP-Q3-01-20
Cecil Field	2109206	062EQBQ30120	EB	210920616	062-EQB-Q3-01-20
Cecil Field	2109206	062MW13Q30120	N	210920605	062-MW13-Q3-01-20
Cecil Field	2109206	062MW20Q30120	N	210920606	062-MW20-Q3-01-20
Cecil Field	2109206	062MW22Q30120	N	210920607	062-MW22-Q3-01-20
Cecil Field	2109206	062MW4Q30120	N	210920601	062-MW4-Q3-01-20
Cecil Field	2109206	062MW9Q30120	N	210920602	062-MW9-Q3-01-20
Cecil Field	2109206	062MW9Q30120MS	MS	210920603	062-MW9-Q3-01-20
Cecil Field	2109206	062MW9Q30120SD	SD	210920604	062-MW9-Q3-01-20
Cecil Field	2109206	062VEW2Q30120	N	210920608	062-VEW2-Q3-01-20
Cecil Field	2109206	062VEW3Q30120	N	210920609	062-VEW3-Q3-01-20
Cecil Field	2109206	062VEW4Q30120	N	210920610	062-VEW4-Q3-01-20
Cecil Field	2109206	062VEW5Q30120	N	210920611	062-VEW5-Q3-01-20
Cecil Field	2109206	062VEW6Q30120	N	210920612	062-VEW6-Q3-01-20
Cecil Field	2109206	062VEW7Q30120	N	210920613	062-VEW7-Q3-01-20
Cecil Field	2109206	062VEW8Q30120	N	210920614	062-VEW8-Q3-01-20
Cecil Field	2109206	1004ABlk	MB	49383	1004ABlk
Cecil Field	2109206	1004ALCS	BS	49384	1004ALCS

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Level 4

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GC VOLATILE ORGANICS Case Narrative	5
Sample Data	8
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Organics

Organic Data Qualifiers

U Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when incicated.

J Indicates estimated value. It is used when the data indicates the presence of a compound above the method MDL yet lower than the reporting limit.

B Indicates the analyte was found in the associated bland as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that compound. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result will be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" code.

N This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as clorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is suspected aldol-condensation product.

M This qualifier indicates that the compound is reported as a summation of analyte isomers.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contaioned compoounds 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 matrex within a sample set).

SD Matrix spike duplicate (may be followed by a digit tio indicate multiple matrix spike duplicate within a sample set).

HPLC PAH ORGANICS

METHOD 8310

111001 1531

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2109206

Client: CH2MHILL

I. RECEIPT

Sample 062-MW4-Q3-01-20 arrived at PEL with a broken lid on the bottle. The client was notified and sample analysis proceeded. A Sample Receipt Exception Report is attached to the Chain-of-Custody and a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

Initial calibration criteria is stated in SW-846 EPA method 8310. All analytes have a maximum percent RSD of 20. As per SW-846 EPA method 8000; Section 7.5.1.2 and 7.5.1.2.1, if one or more of the analytes exceed the maximum percent RSD the average percent RSD may be used provided the average is less than or equal to 15. In those instances, the average will be calculated and cited on the calibration forms.

Calibration verification criteria is stated in SW-846 EPA method 8000. All analytes have a maximum percent D of 15. As per SW-846 EPA method 8000; Section 7.7, if one or more of the analytes exceed the maximum percent D the average percent D may be used provided the average is less than or equal to 15. In those instances, the average will be calculated and cited on the calibration forms.

B. Blanks:

There was one blank analyzed associated with the water samples and was non-detect for target parameters.

C. Surrogates:

All surrogate recoveries met acceptable criteria for the water.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2109206

D. Spikes:

Laboratory Control Spikes (LCS)

One LCS, 1004ALCS, was analyzed with the water samples where Naphthalene and 2-Methylnaphthalene fell below acceptable criteria as stated in the project instructions. This sample was re-analyzed with similar results, therefore only the original analyses are reported. All criteria would have met PEL historical in house limits.

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

One MS/SD set was analyzed with the water samples, on sample 062MW9Q30120, where all criteria were met for relative percent difference however twenty-two out of 36 analytes did not meet criteria for percent recovery based on limits as stated in the project instructions. Please see the appropriate Form IIIs for a listing of analytes that did not meet criteria. There were notes in the extraction log that indicated emulsions in the samples during the extraction process. Also, the surrogate recoveries on these two samples were lower than that of the reagent samples. This indicates matrix interference in the client samples causing the quality control to not meet criteria. These samples were reanalyzed with similar results, therefore only the original analyses are reported. All quality control criteria would have met PEL historical in house limits.

E. Internal standards:

All internal standard criteria were met for the water samples.

F. Samples:

Sample analysis proceeded normally. Sample 062VEW2Q30120 had a final volume of 2ml. The normal final volume for an 8310 extraction is 1ml. This 2ml final volume will cause an increase in the reporting limits for this sample. Project specific RLs were used per client request.

The following analytes were quantified by the VWD detector: Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, 1-Methyl Naphthalene, 2-Methyl Naphthalene, Phenanthrene, Pyrene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: Anthracene, and Benzo(g,h,i)perylene

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:** 10-11-01

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Method: 8310

EPA Sample No	Lab Sample ID
062MW4Q30120	210920601
062MW9Q30120	210920602
062MW13Q30120	210920605
062MW20Q30120	210920606
062MW22Q30120	210920607
062VEW2Q30120	210920608
062VEW3Q30120	210920609
062VEW4Q30120	210920610
062VEW5Q30120	210920611
062VEW6Q30120	210920612
062VEW7Q30120	210920613
062VEW8Q30120	210920614
062DUPQ30120	210920615
062EQBQ30120	210920616

111001 1531

Sample Data

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW4Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920601 Lab File ID 206-1.D

Sample wt/vol: 980 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0055

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-293-4 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW9Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920602 Lab File ID 206-2.D

Sample wt/vol: 940 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0130

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-293-9 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW13Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920605 Lab File ID 206-5.D

Sample wt/vol: 980 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0314

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-293-13 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.86	
91-57-6	2-Methylnaphthalene	1.9	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW20Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920606 Lab File ID 206-6.D

Sample wt/vol: 960 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-293-20 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062MW22Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920607 Lab File ID 206-7.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0423

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID CEF-293-22 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	9.9	
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	4.8	
91-57-6	2-Methylnaphthalene	6.8	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW2Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920608 Lab File ID 206-8V2.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 2 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0457

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-2 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.4	U
208-96-8	Acenaphthylene	2.1	
90-12-0	1-Methylnaphthalene	4.6	
91-57-6	2-Methylnaphthalene	2.2	
83-32-9	Acenaphthene	0.42	U
86-73-7	Fluorene	0.4	U
85-01-8	Phenanthrene	2.1	
120-12-7	Anthracene	0.4	U
206-44-0	Fluoranthene	5.9	
129-00-0	Pyrene	0.28	J
56-55-3	Benzo(a)anthracene	0.4	U
218-01-9	Chrysene	0.69	
205-99-2	Benzo(b)fluoranthene	0.76	
207-08-9	Benzo(k)fluoranthene	0.49	
50-32-8	Benzo(a)pyrene	0.51	
53-70-3	Dibenz(a,h)anthracene	0.4	U
191-24-2	Benzo(g,h,i)perylene	1.8	
193-39-5	Indeno(1,2,3-cd)pyrene	0.4	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW3Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920609 Lab File ID 206-9.D

Sample wt/vol: 950 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0532

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-3 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW4Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920610 Lab File ID 206-10.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0607

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-4 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW5Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920611 Lab File ID 206-11.D

Sample wt/vol: 1000 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0716

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-5 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW6Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920612 Lab File ID 206-12.D

Sample wt/vol: 970 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0750

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-6 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW7Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920613 Lab File ID 206-13.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0825

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-7 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	ANALYTE	RESULT	Q
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

062VEW8Q30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920614 Lab File ID 206-14.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0900

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID VEW-8 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.16	J
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.5	
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.

062DUPQ30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920615 Lab File ID 206-15.D

Sample wt/vol: 990 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 0934

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Duplicate Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	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.

062EQBQ30120

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 210920616 Lab File ID 206-16.D

Sample wt/vol: 960 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 1009

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID Equipment Blank Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	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

QC Summary

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

1004ABlk

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Matrix: WATER Lab Sample ID 49383 Lab File ID 1004AB.D

Sample wt/vol: 1000 Units: ML Date Received: 10/04/01

Concentrated Extract Volume: 1 Date Extracted: 10/04/01

Level:(low/med) LOW Date Analyzed: 10/06/01 Time: 1043

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID QC Method: 8310

GPC Cleanup : (Y/N) N pH:

Column: Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: ug/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 1004ABlk

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2109206

Lab File ID 1004AB.D Lab Sample ID 49383

Instrument ID: slc01 Date Extracted: 10/04/01

Matrix: WATER Date Analyzed: 10/06/01

Level:(low/med) LOW Time Analyzed: 1043

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	062MW4Q30120	210920601	206-1.D	10/06/01	0055
2	062MW9Q30120	210920602	206-2.D	10/06/01	0130
3	062MW9Q30120MS	210920603	206-3.D	10/06/01	0205
4	062MW9Q30120SD	210920604	206-4.D	10/06/01	0239
5	062MW13Q30120	210920605	206-5.D	10/06/01	0314
6	062MW20Q30120	210920606	206-6.D	10/06/01	0348
7	062MW22Q30120	210920607	206-7.D	10/06/01	0423
8	062VEW2Q30120	210920608	206-8V2.D	10/06/01	0457
9	062VEW3Q30120	210920609	206-9.D	10/06/01	0532
10	062VEW4Q30120	210920610	206-10.D	10/06/01	0607
11	062VEW5Q30120	210920611	206-11.D	10/06/01	0716
12	062VEW6Q30120	210920612	206-12.D	10/06/01	0750
13	062VEW7Q30120	210920613	206-13.D	10/06/01	0825
14	062VEW8Q30120	210920614	206-14.D	10/06/01	0900
15	062DUPQ30120	210920615	206-15.D	10/06/01	0934
16	062EQBQ30120	210920616	206-16.D	10/06/01	1009
17	1004ALCS	49384	1004ALCS.D	10/06/01	1118

COMMENTS:

Page 1 of 1

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WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG NO.: 2109206

Column: Vydac 201TP54 ID: 4.6

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
062DUPQ30120	79.2						0
062EQBQ30120	59.1						0
062MW13Q30120	60.3						0
062MW20Q30120	77.4						0
062MW22Q30120	53.0						0
062MW4Q30120	66.7						0
062MW9Q30120	64.3						0
062MW9Q30120MS	68.3						0
062MW9Q30120SD	65.5						0
062VEW2Q30120	81.7						0
062VEW3Q30120	40.5						0
062VEW4Q30120	47.5						0
062VEW5Q30120	64.0						0
062VEW6Q30120	66.0						0
062VEW7Q30120	63.4						0
062VEW8Q30120	42.6						0
1004ABlk	76.5						0
1004ALCS	88.0						0

Control Limits

S1 = Terphenyl-d14 17 - 130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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FORM 8
PAH ANALYTICAL SEQUENCE

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

GC Column: VYDAC 201TP54 ID: 4.60 (mm) Init. Calib. Date: 10/02/01

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.64

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	RT #
01	ZZZZZ	ZZZZZ	10/02/01	1924		
02	30UGML	30ST2850 NE	10/02/01	1959	18.64	
03	20UGML	20ST2851 C	10/02/01	2033	18.64	
04	15UGML	15ST2852 #0	10/02/01	2108	18.64	
05	10UGML	10ST2853 PL	10/02/01	2142	18.65	
06	5UGML	5ST2854 GUA	10/02/01	2217	18.65	
07	PT5UGML	0.5ST2855 C	10/02/01	2252	18.65	
08	PT2UGML	0.2ST2856	10/02/01	2326	18.66	
09	15STD2825	15STD2825	10/05/01	2334	18.63	
10	062MW4Q30120	210920601	10/06/01	0055	18.65	
11	062MW9Q30120	210920602	10/06/01	0130	18.64	
12	062MW9Q30120MS	210920603	10/06/01	0205	18.64	
13	062MW9Q30120SD	210920604	10/06/01	0239	18.64	
14	062MW13Q30120	210920605	10/06/01	0314	18.64	
15	062MW20Q30120	210920606	10/06/01	0348	18.64	
16	062MW22Q30120	210920607	10/06/01	0423	18.64	
17	062VEW2Q30120	210920608	10/06/01	0457	18.60	
18	062VEW3Q30120	210920609	10/06/01	0532	18.62	
19	062VEW4Q30120	210920610	10/06/01	0607	18.63	
20	15STD2825	15STD2825	10/06/01	0641	18.63	
21	062VEW5Q30120	210920611	10/06/01	0716	18.63	
22	062VEW6Q30120	210920612	10/06/01	0750	18.62	
23	062VEW7Q30120	210920613	10/06/01	0825	18.63	
24	062VEW8Q30120	210920614	10/06/01	0900	18.63	
25	062DUPQ30120	210920615	10/06/01	0934	18.63	
26	062EQBQ30120	210920616	10/06/01	1009	18.64	
27	1004ABLK	49383	10/06/01	1043	18.64	
28	1004ALCS	49384	10/06/01	1118	18.62	
29	ZZZZZ	ZZZZZ	10/06/01	1153	18.63	
30	ZZZZZ	ZZZZZ	10/06/01	1227	18.62	
31	15STD2825	15STD2825	10/06/01	1302	18.63	
32						

QC LIMITS
S1 = p-Terphenyl-d14 (SURR) (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PAH

FORM 8
PAH INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Lab File ID (Standard): CCV1B Date Analyzed: 10/05/01

Instrument ID: SLC01 Time Analyzed: 2334

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	4181723	10.68				
	UPPER LIMIT	8363446	11.18				
	LOWER LIMIT	2090862	10.18				
	CLIENT SAMPLE NO.						
01	062MW4Q30120	3776798	10.80				
02	062MW9Q30120	3693723	10.73				
03	062MW9Q30120MS	3698374	10.74				
04	062MW9Q30120SD	3655249	10.73				
05	062MW13Q30120	4075467	10.70				
06	062MW20Q30120	3568946	10.68				
07	062MW22Q30120	4073549	10.72				
08	062VEW2Q30120	3931186	10.58				
09	062VEW3Q30120	3820559	10.66				
10	062VEW4Q30120	3679897	10.65				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Carbazole (ISTD)

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM 8
PAH INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Lab File ID (Standard): CCV2 Date Analyzed: 10/06/01

Instrument ID: SLC01 Time Analyzed: 0641

		IS1 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	4013377	10.66				
	UPPER LIMIT	8026754	11.16				
	LOWER LIMIT	2006689	10.16				
	CLIENT SAMPLE NO.						
01	062VEW5Q30120	3820060	10.66				
02	062VEW6Q30120	3653399	10.65				
03	062VEW7Q30120	3770016	10.66				
04	062VEW8Q30120	3565170	10.66				
05	062DUPQ30120	3744784	10.68				
06	062EQBQ30120	3772431	10.68				
07	1004ABLK	3797501	10.73				
08	1004ALCS	3664845	10.63				
09	1004ABLKSD	3603940	10.63				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Carbazole (ISTD)

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field 1004ALCS

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2109206

COMPOUND	SPIKE ADDED ug/l	LCS CONCENTRATION ug/l	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.4	54.0 * Pred	60 - 140
Acenaphthylene	10	6	60.0	60 - 140
1-Methylnaphthalene	10	6.6	66.0	60 - 140
2-Methylnaphthalene	10	5.7	57.0 * Pred	60 - 140
Acenaphthene	10	6.3	63.0	60 - 140
Fluorene	10	6.6	66.0	60 - 140
Phenanthrene	10	7	70.0	60 - 140
Anthracene	10	6.7	67.0	60 - 140
Fluoranthene	10	8	80.0	60 - 140
Pyrene	10	8	80.0	60 - 140
Benzo(a)anthracene	10	8.3	83.0	60 - 140
Chrysene	10	8.2	82.0	60 - 140
Benzo(b)fluoranthene	10	8.4	84.0	60 - 140
Benzo(k)fluoranthene	10	8.5	85.0	60 - 140
Benzo(a)pyrene	10	7.8	78.0	60 - 140
Dibenz(a,h)anthracene	10	8.2	82.0	60 - 140
Benzo(g,h,i)perylene	10	7.8	78.0	60 - 140
Indeno(1,2,3-cd)pyrene	10	8.1	81.0	60 - 140

Spike Recovery: 2 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW9Q30120MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2109206

COMPOUND	SPIKE ADDED ug/l	SAMPLE CONCENTRATION ug/l	MS CONCENTRATION ug/l	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	3.5	33.7 * Rpd	60 - 140
Acenaphthylene	10	0	4.1	39.4 * Rpd	60 - 140
1-Methylnaphthalene	10	0	5	48.1 * Rpd	60 - 140
2-Methylnaphthalene	10	0	4.1	39.4 * Rpd	60 - 140
Acenaphthene	10	0	4.5	43.3 * Rpd	60 - 140
Fluorene	10	0	4.4	42.3 * Rpd	60 - 140
Phenanthrene	10	0	5.5	52.9 * Rpd	60 - 140
Anthracene	10	0	4.8	46.2 * Rpd	60 - 140
Fluoranthene	10	0	6.8	65.4	60 - 140
Pyrene	10	0	6.9	66.3	60 - 140
Benzo(a)anthracene	10	0	6.9	66.3	60 - 140
Chrysene	10	0	6.8	65.4	60 - 140
Benzo(b)fluoranthene	10	0	6.6	63.5	60 - 140
Benzo(k)fluoranthene	10	0	6.9	66.3	60 - 140
Benzo(a)pyrene	10	0	5.9	56.7 * Rpd	60 - 140
Dibenz(a,h)anthracene	10	0	6.8	65.4	60 - 140
Benzo(g,h,i)perylene	10	0	6.4	61.5	60 - 140
Indeno(1,2,3-cd)pyrene	10	0	6.6	63.5	60 - 140

Spike Recovery: 9 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

111001 1532

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

062MW9Q30120SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. _____ SAS No: _____ SDG No.: 2109206

COMPOUND	SPIKE ADDED ug/l	MSD CONCENTRATION ug/l	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	3.4	33.0 *	2.9	51	60 - 140
Acenaphthylene	10	4.3	41.7 *	4.8	30	60 - 140
1-Methylnaphthalene	10	6	58.3 *	18.2	30	60 - 140
2-Methylnaphthalene	10	4.1	39.8 *	0	30	60 - 140
Acenaphthene	10	4.3	41.7 *	4.5	30	60 - 140
Fluorene	10	4.5	43.7 *	2.2	30	60 - 140
Phenanthrene	10	5.5	53.4 *	0	30	60 - 140
Anthracene	10	5	48.5 *	4.1	30	60 - 140
Fluoranthene	10	6.4	62.1	6.1	30	60 - 140
Pyrene	10	6.6	64.1	4.4	30	60 - 140
Benzo(a)anthracene	10	6.4	62.1	7.5	30	60 - 140
Chrysene	10	6.3	61.2	7.6	30	60 - 140
Benzo(b)fluoranthene	10	6.1	59.2 *	7.9	30	60 - 140
Benzo(k)fluoranthene	10	6.3	61.2	9.1	30	60 - 140
Benzo(a)pyrene	10	5.6	54.4 *	5.2	30	60 - 140
Dibenz(a,h)anthracene	10	6.1	59.2 *	10.9	30	60 - 140
Benzo(g,h,i)perylene	10	5.8	56.3 *	9.8	30	60 - 140
Indeno(1,2,3-cd)pyrene	10	5.9	57.3 *	11.2	30	60 - 140

RPD: 0 out of 18 outside limits

Spike Recovery: 13 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

111001 1532

Standards Data

111001 1532

6A

PAH ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/02/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2252

LAB FILE ID: RRF0.2=PT2UGML.D RRF5 =5UGML.D
RRF10 =10UGML.D RRF15 =15UGML.D RRF20 =20UGML.D

COMPOUND	RRF0.2	RRF5	RRF10	RRF15	RRF20	$\overline{RRF}$	% RSD
Naphthalene	0.013	0.013	0.014	0.013	0.013		
Acenaphthylene	0.009	0.010	0.010	0.010	0.010		
1-Methyl naphthalene	0.009	0.008	0.008	0.008	0.008		
2-Methyl naphthalene	0.011	0.012	0.012	0.011	0.011		
Acenaphthene	0.005	0.005	0.005	0.005	0.005		
Fluorene	0.063	0.060	0.063	0.062	0.061		
Phenanthrene	0.168	0.152	0.161	0.158	0.155		
Anthracene	0.034	0.034	0.040	0.041	0.040		
Fluoranthene	0.044	0.038	0.040	0.039	0.038		
Pyrene	0.029	0.032	0.034	0.034	0.033		
Benzo(a)Anthracene	0.105	0.093	0.097	0.096	0.094		
Chrysene	0.173	0.140	0.147	0.145	0.142		
Benzo(b)Fluoranthene	0.125	0.104	0.109	0.109	0.106		
Benzo(k)Fluoranthene	0.083	0.074	0.076	0.076	0.075		
Benzo(a)pyrene	0.093	0.092	0.096	0.095	0.092		
Dibenz(ah)Anthracene	0.025	0.023	0.024	0.024	0.023		
Benzo(ghi)Perylene	0.249	0.276	0.297	0.301	0.285		
Indeno(123cd)Pyrene	0.093	0.090	0.093	0.094	0.092		
p-Terphenyl-d14 (SURR)	0.046	0.036	0.038	0.037	0.037		

Calibration Criteria Is Stated In Narrative

FORM VI SV-1

6A
PAH ORGANICS INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/02/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2252

LAB FILE ID: RRF30 =30UGML.D

COMPOUND	RRF30					$\overline{RRF}$	% RSD
Naphthalene	0.013					0.0132	2.4
Acenaphthylene	0.010					0.0098	3.7
1-Methyl naphthalene	0.008					0.0082	3.2
2-Methyl naphthalene	0.011					0.0113	3.4
Acenaphthene	0.005					0.0050	2.8
Fluorene	0.060					0.0615	2.0
Phenanthrene	0.150					0.1573	4.1
Anthracene	0.040					0.0382	8.4
Fluoranthene	0.038					0.0395	5.5
Pyrene	0.033					0.0325	6.2
Benzo(a)Anthracene	0.093					0.0963	4.9
Chrysene	0.139					0.1477	8.5
Benzo(b)Fluoranthene	0.104					0.1095	7.2
Benzo(k)Fluoranthene	0.074					0.0763	4.3
Benzo(a)pyrene	0.092					0.0933	1.8
Dibenz(ah)Anthracene	0.023					0.0237	3.9
Benzo(ghi)Perylene	0.295					0.2838	6.8
Indeno(123cd)Pyrene	0.091					0.0922	1.5
p-Terphenyl-d14 (SURR)	0.036					0.0383	9.4

Calibration Criteria Is Stated In Narrative
FORM VI SV-1

FORM 6
PAH INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/02/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2252

LAB FILE ID: RT1: PT2UGML RT2: 5UGML RT3: 10UGML
RT4: 15UGML RT5: 20UGML

COMPOUND	RT1	RT2	RT3	RT4	RT5
Naphthalene	11.867	11.850	11.847	11.837	11.847
(2)	11.911	11.926	11.918	11.915	11.925
Acenaphthylene	13.057	13.057	13.050	13.047	13.057
1-Methyl naphthalene	13.693	13.703	13.697	13.690	13.700
(2)	13.768	13.776	13.770	13.769	13.773
2-Methyl naphthalene	14.047	14.037	14.030	14.027	14.037
(2)	14.109	14.112	14.105	14.104	14.110
Acenaphthene	14.367	14.370	14.363	14.360	14.367
(2)	14.441	14.444	14.438	14.437	14.443
Fluorene	14.720	14.720	14.713	14.707	14.717
(2)	14.793	14.799	14.786	14.787	14.790
Phenanthrene	15.513	15.510	15.503	15.497	15.507
(2)	15.586	15.582	15.580	15.575	15.578
Anthracene	16.333	16.317	16.313	16.310	16.310
Fluoranthene	17.073	17.063	17.060	17.053	17.060
Pyrene	17.610	17.603	17.600	17.590	17.597
(2)	17.686	17.676	17.675	17.670	17.673
Benzo(a)Anthracene	19.413	19.407	19.407	19.393	19.397
(2)	19.491	19.484	19.483	19.499	19.513
Chrysene	19.823	19.820	19.817	19.803	19.807
(2)	19.906	19.899	19.895	19.887	19.885
Benzo(b)Fluoranthene	21.267	21.260	21.257	21.240	21.243
(2)	21.354	21.344	21.340	21.325	21.326
Benzo(k)Fluoranthene	21.940	21.930	21.923	21.903	21.907
(2)	22.026	22.011	22.003	21.990	21.988
Benzo(a)pyrene	22.540	22.527	22.523	22.503	22.507
(2)	22.623	22.611	22.606	22.590	22.590
Dibenz(ah)Anthracene	23.643	23.633	23.617	23.590	23.583
(2)	23.731	23.717	23.701	23.679	23.668
Benzo(ghi)Perylene	24.446	24.431	24.415	24.395	24.383
Indeno(123cd)Pyrene	24.910	24.883	24.867	24.840	24.827
p-Terphenyl-d14 (SURR)	18.650	18.647	18.647	18.637	18.640
(2)	18.736	18.724	18.725	18.717	18.738

COMMENTS:

FORM VI PAH

FORM 6
PAH INITIAL CALIBRATION DATA

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/02/01

Column: VYDAC 201TP54 ID: 4.60 (mm) Calibration Time: 2252

RT6: 30UGML

COMPOUND	RT6	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.847	11.849	11.607	12.067
(2)	11.919	11.919	11.685	12.145
Acenaphthylene	13.053	13.054	12.817	13.277
1-Methyl naphthalene	13.697	13.697	13.460	13.920
(2)	13.773	13.771	13.539	13.999
2-Methyl naphthalene	14.033	14.035	13.797	14.257
(2)	14.108	14.108	13.874	14.334
Acenaphthene	14.367	14.366	14.130	14.590
(2)	14.441	14.441	14.207	14.667
Fluorene	14.717	14.716	14.477	14.937
(2)	14.788	14.791	14.557	15.017
Phenanthrene	15.507	15.506	15.267	15.727
(2)	15.579	15.580	15.345	15.805
Anthracene	16.311	16.316	16.080	16.540
Fluoranthene	17.060	17.061	16.823	17.283
Pyrene	17.597	17.600	17.360	17.820
(2)	17.691	17.679	17.440	17.900
Benzo(a)Anthracene	19.407	19.404	19.163	19.623
(2)	19.538	19.501	19.269	19.729
Chrysene	19.813	19.814	19.573	20.033
(2)	19.891	19.894	19.657	20.117
Benzo(b)Fluoranthene	21.250	21.253	21.010	21.470
(2)	21.331	21.337	21.095	21.555
Benzo(k)Fluoranthene	21.910	21.919	21.673	22.133
(2)	21.994	22.002	21.760	22.220
Benzo(a)pyrene	22.510	22.518	22.273	22.733
(2)	22.594	22.602	22.360	22.820
Dibenz(ah)Anthracene	23.587	23.609	23.360	23.820
(2)	23.671	23.695	23.449	23.909
Benzo(ghi)Perylene	24.386	24.409	24.165	24.625
Indeno(123cd)Pyrene	24.830	24.859	24.610	25.070
p-Terphenyl-d14 (SURR)	18.640	18.644	18.407	18.867
(2)	18.761	18.733	18.487	18.947

COMMENTS:

FORM VI PAH

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/05/01 Time: 2334

Lab File ID: CCV1B Init. Calib. Date: 10/02/01

Init. Calib. Time: 2252

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0132	0.0135	0.000	-2.3	15.0
Acenaphthylene	0.0098	0.0096	0.000	2.0	15.0
1-Methyl naphthalene	0.0082	0.0086	0.000	-4.9	15.0
2-Methyl naphthalene	0.0113	0.0120	0.000	-6.2	15.0
Acenaphthene	0.0050	0.0054	0.000	-8.0	15.0
Fluorene	0.0615	0.0630	0.000	-2.4	15.0
Phenanthrene	0.1573	0.1558	0.000	1.0	15.0
Anthracene	0.0382	0.0422	0.000	-10.5	15.0
Fluoranthene	0.0395	0.0396	0.000	-0.2	15.0
Pyrene	0.0325	0.0345	0.000	-6.2	15.0
Benzo(a)Anthracene	0.0963	0.0970	0.000	-0.7	15.0
Chrysene	0.1477	0.1458	0.000	1.3	15.0
Benzo(b)Fluoranthene	0.1095	0.1102	0.000	-0.6	15.0
Benzo(k)Fluoranthene	0.0763	0.0781	0.000	-2.4	15.0
Benzo(a)pyrene	0.0933	0.0834	0.000	10.6	15.0
Dibenz(ah)Anthracene	0.0237	0.0244	0.000	-3.0	15.0
Benzo(ghi)Perylene	0.2838	0.2921	0.000	-2.9	15.0
Indeno(123cd)Pyrene	0.0922	0.0954	0.000	-3.5	15.0
p-Terphenyl-d14 (SURR)	0.0383	0.0385	0.000	-0.5	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/06/01 Time: 0641

Lab File ID: CCV2 Init. Calib. Date: 10/02/01

Init. Calib. Time: 2252

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0132	0.0140	0.000	-6.1	15.0
Acenaphthylene	0.0098	0.0100	0.000	-2.0	15.0
1-Methyl naphthalene	0.0082	0.0091	0.000	-11.0	15.0
2-Methyl naphthalene	0.0113	0.0126	0.000	-11.5	15.0
Acenaphthene	0.0050	0.0056	0.000	-12.0	15.0
Fluorene	0.0615	0.0661	0.000	-7.5	15.0
Phenanthrene	0.1573	0.1675	0.000	-6.5	15.0
Anthracene	0.0382	0.0436	0.000	-14.1	15.0
Fluoranthene	0.0395	0.0415	0.000	-5.1	15.0
Pyrene	0.0325	0.0362	0.000	-11.4	15.0
Benzo(a)Anthracene	0.0963	0.1014	0.000	-5.3	15.0
Chrysene	0.1477	0.1529	0.000	-3.5	15.0
Benzo(b)Fluoranthene	0.1095	0.1148	0.000	-4.8	15.0
Benzo(k)Fluoranthene	0.0763	0.0815	0.000	-6.8	15.0
Benzo(a)pyrene	0.0933	0.0825	0.000	11.6	15.0
Dibenz(ah)Anthracene	0.0237	0.0253	0.000	-6.8	15.0
Benzo(ghi)Perylene	0.2838	0.2990	0.000	-5.4	15.0
Indeno(123cd)Pyrene	0.0922	0.1012	0.000	-9.8	15.0
p-Terphenyl-d14 (SURR)	0.0383	0.0402	0.000	-5.0	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PEL LABORATORIES, INC. Contract: CECIL FIELD

Lab Code: PEL Case No.: SAS No.: SDG No.: 2109206

Instrument ID: SLC01 Calibration Date: 10/06/01 Time: 1302

Lab File ID: CCV3 Init. Calib. Date: 10/02/01

Init. Calib. Time: 2252

GC Column: VYDAC 201TP54 ID: 4.60 (mm)

COMPOUND	$\overline{RRF}$	RRF15	MIN RRF	%D	MAX %D
Naphthalene	0.0132	0.0141	0.000	-6.8	15.0
Acenaphthylene	0.0098	0.0103	0.000	-5.1	15.0
1-Methyl naphthalene	0.0082	0.0093	0.000	-13.4	15.0
2-Methyl naphthalene	0.0113	0.0129	0.000	-14.2	15.0
Acenaphthene	0.0050	0.0057	0.000	-14.0	15.0
Fluorene	0.0615	0.0679	0.000	-10.4	15.0
Phenanthrene	0.1573	0.1712	0.000	-8.8	15.0
Anthracene	0.0382	0.0437	0.000	-14.4	15.0
Fluoranthene	0.0395	0.0426	0.000	-7.8	15.0
Pyrene	0.0325	0.0373	0.000	-14.8	15.0
Benzo(a)Anthracene	0.0963	0.1042	0.000	-8.2	15.0
Chrysene	0.1477	0.1575	0.000	-6.6	15.0
Benzo(b)Fluoranthene	0.1095	0.1178	0.000	-7.6	15.0
Benzo(k)Fluoranthene	0.0763	0.0839	0.000	-10.0	15.0
Benzo(a)pyrene	0.0933	0.0823	0.000	11.8	15.0
Dibenz(ah)Anthracene	0.0237	0.0259	0.000	-9.3	15.0
Benzo(ghi)Perylene	0.2838	0.3078	0.000	-8.4	15.0
Indeno(123cd)Pyrene	0.0922	0.1027	0.000	-11.4	15.0
p-Terphenyl-d14 (SURR)	0.0383	0.0414	0.000	-8.1	15.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

Chain of Custody Documentation

111001 1533

2109-206 KWB

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-013 Page 1 of

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904)
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 3rd Quarter GW Re-sampling	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext 561 FAX:604-9282
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	PKG DATA LEVEL	TAT (calendar days)	USEPA Method 610 / 8310										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q3-01-20	CEF-293-4	W	10/03/01	14:20	III/C	14	1	*Bottle cap was broken in transit Sample rec'd "open" EWK 10/04/01									Grab		01
2	062-MW9-Q3-01-20	CEF-293-9	W	10/03/01	13:55	III/C	14	3										Grab	MS / MSD	02,03,04
3	062-MW13-Q3-01-20	CEF-293-13	W	10/03/01	10:05	III/C	14	1										Grab		05
4	062-MW20-Q3-01-20	CEF-293-20	W	10/03/01	11:25	III/C	14	1										Grab		06
5	062-MW22-Q3-01-20	CEF-293-22	W	10/03/01	10:40	III/C	14	1										Grab		07
6	062-VEW2-Q3-01-20	VEW-2	W	10/03/01	9:15	III/C	14	1										Grab	Free product in sample. Turbid	08
7	062-VEW3-Q3-01-20	VEW-3	W	10/03/01	9:35	III/C	14	1										Grab		09
8	062-VEW4-Q3-01-20	VEW-4	W	10/03/01	11:00	III/C	14	1										Grab		10
9	062-VEW5-Q3-01-20	VEW-5	W	10/03/01	9:50	III/C	14	1										Grab		11
10	062-VEW6-Q3-01-20	VEW-6	W	10/03/01	10:25	III/C	14	1										Grab		12
11	062-VEW7-Q3-01-20	VEW-7	W	10/03/01	13:10	III/C	14	1										Grab		13
12	062-VEW8-Q3-01-20	VEW-8	W	10/03/01	13:30	III/C	14	1										Grab		14
13	062-DUP-Q3-01-20	Duplicate	W	10/03/01	NA	III/C	14	1										Grab		15
14	NA	Temperature Blank	W	NA	NA	III/C	14	1											Prepared by Lab	
15	062-EQB-Q3-01-20	Equipment Blank	W	10/03/01	11:45	III/C	14		2									Grab		16

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Scott Sloan / Anthony Cain / Roger Deisler J.A. Jones Environmental Services	Federal Express TRK #790175877696, 790175877814.(2 Coolers)	Temp upon rec't 4°C

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop	10/3/01	18:00	Federal Express	10/3/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			KEITH W. BRENNER	10-4-01	10:10
Printed Name and Signature:			Printed Name and Signature:		

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Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information

Project # 2109-206

Client: CH2M HILL	Date Recd: 10-4-01
Project: 2 Cecil Field	Due Date: 10-15-01
Log In Tech: KEITH	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		✓	Correct Sample Containers	✓	
Soil Origin Domestic	N/A		Soil Origin Foreign	N/A	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: STND / RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

CH2M HILL / Cecil Field 2109-206

Sample#	Parameter	Rel'd	Rec'd	Date	time
01-16	8310 (w)	MK	BF	10/4/01	1440
01-16	8310 (w)	CONSUMED			
~~0~~					

Addendum

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	10-4-01; 10:10 AM
Date to be Reported:	10-18-01
Laboratory Submission Number/SDG:	2109206
Project:	NAS Cecil Field

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:
8310.

Sample Custody/COC discrepancies:
PEL received sample 062-MW4-Q3-01-20 with a broken cap. Only one sample container was sent and was received with the cap off in the cooler. Please advise.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's. Form 1's to be sent by 10-11-01.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Total of: 16 analyses on 16 samples (including QC) *04-Oct-01*

Report/SDG #: 2109206

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW4Q30120	210920601	CEF-293-4	W	10/3/01 2:20:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW9Q30120	210920602	CEF-293-9	W	10/3/01 1:55:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW9Q30120	210920603	CEF-293-9	WQ	10/3/01 1:55:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW9Q30120	210920604	CEF-293-9	WQ	10/3/01 1:55:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW13Q3012	210920605	CEF-293-13	W	10/3/01 10:05:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW20Q3012	210920606	CEF-293-20	W	10/3/01 11:25:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062MW22Q3012	210920607	CEF-293-22	W	10/3/01 10:40:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

Report/SDG #: 2109206

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW2Q3012	210920608	VEW-2	W	10/3/01 9:15:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW3Q3012	210920609	VEW-3	W	10/3/01 9:35:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW4Q3012	210920610	VEW-4	W	10/3/01 11:00:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW5Q3012	210920611	VEW-5	W	10/3/01 9:50:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW6Q3012	210920612	VEW-6	W	10/3/01 10:25:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW7Q3012	210920613	VEW-7	W	10/3/01 1:10:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062VEW8Q3012	210920614	VEW-8	W	10/3/01 1:30:00 PM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

Report/SDG #: 2109206

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062DUPQ30120	210920615	Duplicate	W	10/3/01	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
062EQBQ30120	210920616	Equipment	WQ	10/3/01 11:45:00 AM	10/4/01 10:10:00 AM
Method					
8310	PAH			8310	

2109-206 RMS

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-013 Page 1

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904)
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 3rd Quarter GW Re-sampling	0062	2712	Christelle Newsome / CH2M Hill Constuctors, Inc	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30 (770)604-9182 Ext 561 FAX:604-9282
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX	DATE COLLECTED	TIME COLLECTED	PKG DATA LEVEL	TAT (calendar days)	USEPA Method 610 / 8310									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q3-01-20	CEF-293-4	W	10/03/01	14:20	III/C	14	1	*Bottle cap was broken in transit Sample rec'd "open" EMK 10/04/01								Grab		01
2	062-MW9-Q3-01-20	CEF-293-9	W	10/03/01	13:55	III/C	14	3									Grab	MS / MSD	02,03,
3	062-MW13-Q3-01-20	CEF-293-13	W	10/03/01	10:05	III/C	14	1									Grab		05
4	062-MW20-Q3-01-20	CEF-293-20	W	10/03/01	11:25	III/C	14	1									Grab		06
5	062-MW22-Q3-01-20	CEF-293-22	W	10/03/01	10:40	III/C	14	1									Grab		07
6	062-VEW2-Q3-01-20	VEW-2	W	10/03/01	9:15	III/C	14	1									Grab	Free product in sample. Turbid	08
7	062-VEW3-Q3-01-20	VEW-3	W	10/03/01	9:35	III/C	14	1									Grab		09
8	062-VEW4-Q3-01-20	VEW-4	W	10/03/01	11:00	III/C	14	1									Grab		10
9	062-VEW5-Q3-01-20	VEW-5	W	10/03/01	9:50	III/C	14	1									Grab		11
10	062-VEW6-Q3-01-20	VEW-6	W	10/03/01	10:25	III/C	14	1									Grab		12
11	062-VEW7-Q3-01-20	VEW-7	W	10/03/01	13:10	III/C	14	1									Grab		13
12	062-VEW8-Q3-01-20	VEW-8	W	10/03/01	13:30	III/C	14	1									Grab		14
13	062-DUP-Q3-01-20	Duplicate	W	10/03/01	NA	III/C	14	1									Grab		15
14	NA	Temperature Blank	W	NA	NA	III/C	14	1										Prepared by Lab	
15	062-EQB-Q3-01-20	Equipment Blank	W	10/03/01	11:45	III/C	14		2								Grab		16

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Scott Sloan / Anthony Cain / Roger Deisler J.A. Jones Environmental Services	Federal Express TRK #790175877696, 790175877814.(2 Coolers)	Temp upon rec't 4°C

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop	10/3/01	18:00	Federal Express	10/3/01	18:00
Printed Name and Signature:			Printed Name and Signature:		
			KEITH W. BRENNER	10-4-01	10:1(
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCI001, Rev 02/00

PEL LAB SAMPLE LOG IN SHEET

Client Information

Project # 2109-206

Client: CH2M HILL	Date Recd: 10-4-01
Project: Cecil Field	Due Date: 10-15-01
Log In Tech: KEITH	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		✓	Correct Sample Containers	✓	
Soil Origin Domestic	N/A		Soil Origin Foreign	N/A	

COC VERIFICATION

	YES	NO		YES	NO
Site Location/Project on COC	✓		Samplers Initials on COC	✓	
Client Project # on COC	✓		Sample Time/Date Indicated	✓	
Project Mgr. Indicated on COC	✓		TAT requested: STND / RUSH	✓	
COC Relinquished/Dated by Client	✓		Client Requests Verbal Results	✓	
COC Received/Dated by PEL	✓		Client Requests FAX Results	✓	
			* PEL to Conduct All Analysis	✓	
			* Specific Subcontract Indicated		

* SUBCONTRACTED ANALYSIS

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

Darcy Weisman

From: Kondrat, Stacey/ATL [skondrat@CH2M.com]
Sent: Friday, October 05, 2001 1:16 PM
To: Darcy Weisman
Subject: RE: Cecil Field; SDG 2109206 (Sample Acceptance)

Hi Darcy-

I was waiting to hear back from the project manager. He said to go ahead and analyze the sample received with the broken cap and make a note of it in the case narrative.

Thanks.
Stacey

-----Original Message-----
From: Darcy Weisman [mailto:dweisman@PELAB.COM]
Sent: October 05, 2001 12:31 PM
To: Darcy Weisman; Newsome, Christelle/ATL
Cc: Kondrat, Stacey/ATL; Brian Spann
Subject: RE: Cecil Field; SDG 2109206 (Sample Acceptance)

Christelle,
I hadn't heard yet how you would like us to proceed on the 8310 that was received with a broken cap. Please let me know ASAP.

Thanks

> -----Original Message-----
> From: Darcy Weisman
> Sent: Friday, October 05, 2001 9:50 AM
> To: Christelle Newsome (E-mail)
> Cc: Stacey Kondrat (E-mail)
> Subject: Cecil Field; SDG 2109206 (Sample Acceptance)
>
> Please advise.
>
> << File: 2109206LOA.DOC >> << File: 2109206.doc >> << File: 2109206.pdf
> >>
>
>
> Darcy Weisman
> Project Manager
> PEL Laboratories, Inc.
> (813) 247-2805 ext. 237
> email: dweisman@pelab.com
> Visit our website at www.pelab.com
>