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SECOND QUARTER 2002 OPERATIONS AND MAINTENANCE STATUS REPORT FOR BIOSPARGING AND SOIL VAPOR EXTRACTION SYSTEM AT DAY TANK 1 SITE NAS CECIL FIELD FL

12/1/2002

CH2MHILL CONSTRUCTORS INC

Second Quarter 2002
Operations and Maintenance Status Report

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

Biosparging and Soil Vapor Extraction System
Day Tank 1 Site
April 1, 2002 – June 30, 2002

Former Naval Air Station Cecil Field
Jacksonville, Florida

Submitted to:

U.S. Naval Facilities
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Acronyms

ABB-ES	ABB Environmental Services, Inc.
acfh	actual cubic feet per hour
acfm	actual cubic feet per minute
AST	aboveground storage tank
bls	below land surface
CCI	CH2M HILL Constructors, Inc.
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CTO	Contract Task Order
DO	dissolved oxygen
EMST	earth-mounded storage tank
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
GAC	granular activated carbon
GCTLs	groundwater cleanup target levels
J.A. Jones	J.A. Jones Environmental Services
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
RAP	Remedial Action Plan
SVOAs	semivolatile organic aromatics
SVOCs	semivolatile organic compounds
TOC	top of casing
VCS	vapor collection system
VEW	vapor extraction well
VOAs	volatile organic aromatics
VOCs	volatile organic compounds

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) with J.A. Jones Environmental Services Company (J.A. Jones) has been contracted by the Department of the Navy, Southern Division Naval Facilities Engineering Command (NAVFAC), to provide operation and maintenance (O&M) services at Day Tank 1, Former 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 Second Quarter 2002 O&M Report is to provide a summary of activities performed at the site during the period of April 1, 2002, to June 30, 2002.

1.1 Objective

The objective of the remedial action at Day Tank 1 is to reduce the concentrations of petroleum contaminants in the groundwater and unsaturated soils to Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs) and Soil Cleanup Target Levels (SCTLs), as specified in Tables I and II of Chapter 62-777, Florida Administrative Code (FAC). Biosparging and soil vapor extraction (SVE) are the two technologies currently 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 one 200,000-gallon earth-mounded storage tank (EMST), piping, and associated equipment to supply jet propellant fuel to the high-speed refuelers located on the flightline. It was reported that numerous spills occurred at the site over the course of the operation of the fuel delivery system (ABB Environmental Services, Inc. [ABB-ES], 1997). ABB-ES completed a contamination assessment for the facility in 1996, which documented the presence of petroleum-contaminated soil and groundwater at the site. A Remedial Action Plan (RAP) was subsequently developed by ABB-ES in 1997 for the excavation of 20,000 tons of petroleum-contaminated soil and the installation of a biosparging/SVE remediation system to address the contaminated groundwater at the site. The EMST 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). CCI/J.A. Jones constructed the biosparge/SVE system during the period from January 2000 to February 2000 and start-up was performed on February 29, 2000. The system was operated and maintained by CCI/J.A. Jones under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002 for the first year of operation and is currently being operated and maintained by CCI/J.A. Jones under Response Action Contract No. N62467-98-D-0995, CTO No. 0062.

1.3 Remediation System/Technology Description

The chosen technology utilizes injection of compressed air into the groundwater to promote biodegradation of dissolved petroleum contaminants. The SVE system was installed to recover the undissolved portion of the injected air.

The biosparging 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 SVE system consists of 8 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 SVE system was initially equipped with two 1,000-pound granular activated carbon units (GACs) that were removed after the first 30 days of operation based on the concentrations of the pre-treatment air stream. The SVE system 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 biosparging and SVE wells and the remediation system are shown on Figure 1-1.

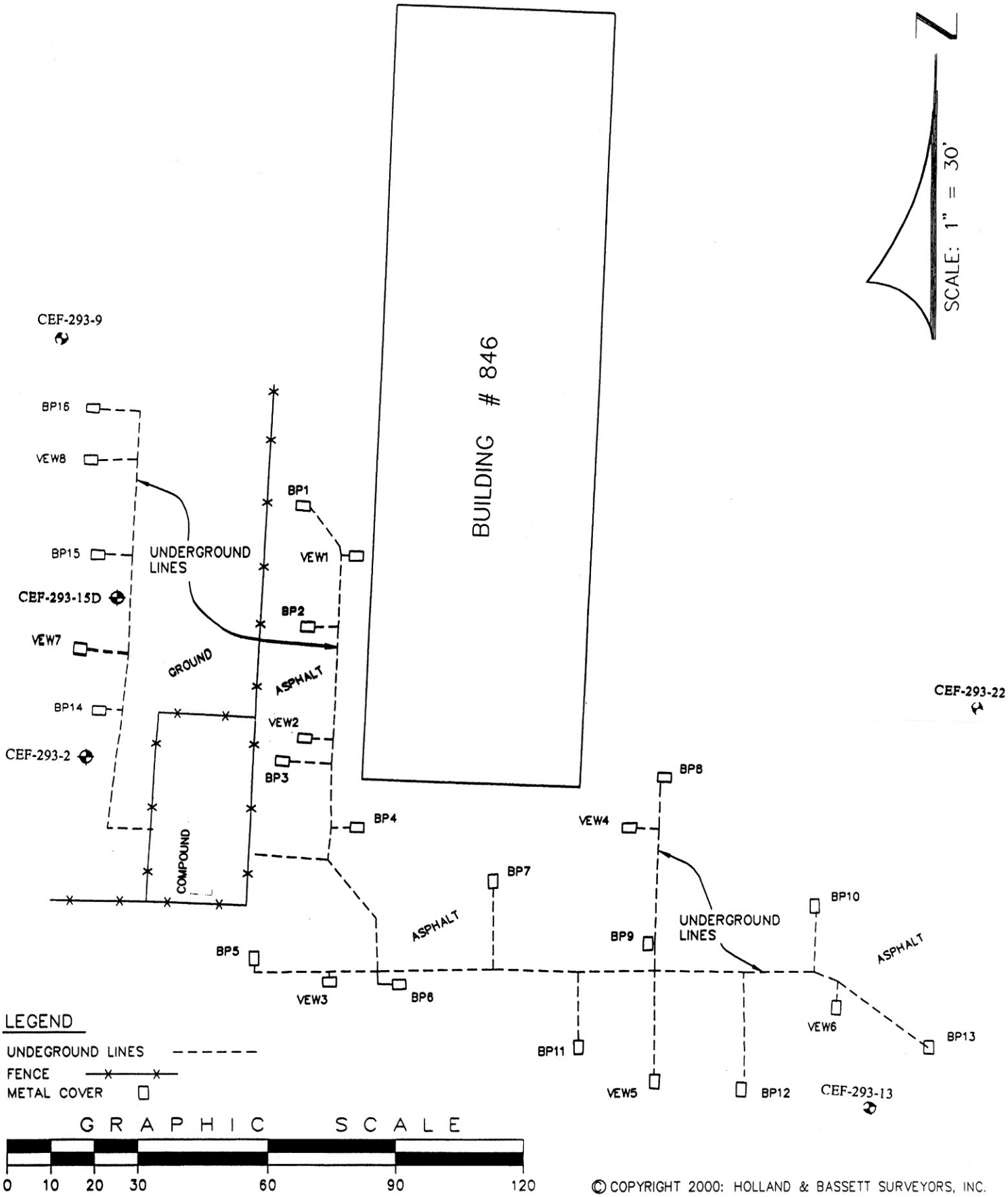

Figure 1-1
Site Map
DayTank 1 Site
NAS Cecil Field

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. All meters and gauges at the system are read and recorded during the O&M check. Well vault gauges and meters are read on a monthly basis.

2.1 Operational Efficiencies

2.1.1 Biosparging System

	Period	To Date
Hours of Possible Operation:	2,184	20,471
Hours of Actual Operation:	1,901	18,017
Percent Hours of Operation:	87.0	88.0

2.1.2 SVE System

	Period	To Date
Hours of Possible Operation:	2,184	20,471
Hours of Actual Operation:	2,137	18,050
Percent Hours of Operation:	97.9	88.2

2.2 Summary of Maintenance and System Downtime

2.2.1 Biosparging System

During the period of April 1, 2002, to June 30, 2002, the biosparging system ran a total of 79.2 days out of a possible 91 days, resulting in 283 hours of downtime. The biosparging system downtime is detailed as follows:

- The system was shut down for a total of 239 hours due to power interruptions. The system was reset and restarted after each occurrence.
- The system was manually shut down for a total 43 hours while the quarterly groundwater sampling event and water level measurements were performed.
- The system was manually shut down for a total of 1 hour for routine maintenance.

2.2.2 SVE System

During the period of April 1, 2002, to June 30, 2002, the SVE system ran a total of 89.0 days out of a possible 91 days, resulting in 47 hours of downtime. The SVE system downtime is detailed as follows:

- The system was manually shut down for a total 43 hours while the quarterly groundwater sampling event and water level measurements were performed.
- The system was shut down for a total of 3 hours due to power interruptions. The system was reset and restarted after each occurrence
- The system was manually shut down for a total of 1 hour for routine maintenance.

2.3 Pressure/Flow Rate Monitoring

2.3.1 Biosparging System

During the April 1, 2002, to June 30, 2002 monitoring period, the injection pressure and airflow rate were measured at each biosparging injection well on a monthly basis. The data are provided in Table 2-1. The actual injection pressures for the biosparging wells averaged 10.5 psi, compared to the design injection pressure of 18 psi. The actual injection airflow rate averaged 58.2 acfh per biosparging well, compared to the design injection airflow rate of 60 acfh per biosparging well.

2.3.2 SVE System

During the April 1, 2002, to June 30, 2002 monitoring period, the vacuum pressure and airflow rate were measured at each SVE well on a monthly basis. The data are provided in Table 2-2. The actual vacuum pressures for the SVE wells averaged 30.9 in H2O, compared to the design vacuum pressure of 23 in H2O. The actual airflow rate averaged 6.9 acfm per SVE well, compared to the design injection airflow rate of 6 acfm per SVE well.

2.4 Groundwater Level Measurements

Depth to groundwater/light non-aqueous phase liquid (LNAPL) measurements were recorded on June 4, 2002 at selected monitoring wells (CEF-293-01, CEF-293-02, CEF-293-04, CEF-293-05, CEF-293-06, CEF-293-07, CEF-293-09, CEF-293-10, CEF-293-11, CEF-293-13, CEF-293-14, CEF-293-19, CEF-293-20, CEF-293-21, CEF-293-22) and the eight SVE wells (VEW-01 through VEW-08). The top of casing (TOC) elevation, depth to LNAPL measurements, depth to water measurements, calculated LNAPL thickness, and calculated water level elevations are provided in Table 2-3.

LNAPL was noted only in VEW-1. LNAPL was recovered from VEW-1 via bailing. Total LNAPL recovered during the monitoring period was 4.7 gallons and total recovery to date is 22.6 gallons.

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-01	02/29/2000	60	3
	03/01/2000	60	5
	03/02/2000	60	6
	04/07/2000	65	NM
	04/24/2000	60	12
	05/30/2000	60	11
	07/24/2000	60	12
	08/22/2000	60	12
	10/30/2000	60	11
	11/27/2000	60	11
	12/11/2000	60	10
	01/29/2001	60	11
	02/26/2001	70	10
	04/16/2001	55	11
	05/21/2001	55	10.5
	07/03/2001	55	10
	07/30/2001	50	11
	08/29/2001	55	10
	09/18/2001	40	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	55	10
	01/30/2002	50	10
	02/25/2002	60	10
	03/28/2002	50	12
	04/15/2002	60	12
	05/20/2002	60	12
	06/26/2002	60	12
BP-02	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	62	10
	04/07/2000	65	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	55	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	65	10
	02/26/2001	75	9
	04/16/2001	60	10
	05/21/2001	55	10
	07/03/2001	45	10
	07/30/2001	60	10
	08/29/2001	50	10
	09/18/2001	55	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	55	10
	01/30/2002	55	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	60	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-03	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	64	9.5
	04/07/2000	65	8
	04/24/2000	60	10
	05/30/2000	NM	10
	07/24/2000	120	10
	08/22/2000	NM	10
	10/30/2000	120	10
	11/27/2000	120	10
	12/11/2000	NM	10
	01/29/2001	NM	10
	02/26/2001	120	9
	04/16/2001	NM	10
	05/21/2001	NM	10
	07/03/2001	NM	10
	07/30/2001	NM	10
	08/29/2001	NM	10
	09/18/2001	NM	10
	10/29/2001	NM	10
	11/26/2001	NM	10
	12/12/2001	NM	10
	01/30/2002	NM	10
	02/25/2002	60	10
	03/28/2002	NM	10
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	60	10
BP-04	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	62	10
	04/07/2000	65	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	50	10
	08/22/2000	60	10
	10/30/2000	60	11
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	60	10
	02/26/2001	50	10
	04/16/2001	60	10
	05/21/2001	60	10
	07/03/2001	60	10
	07/30/2001	60	10
	08/29/2001	60	10
	09/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	65	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	55	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-05	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	60	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	50	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	65	10
	01/29/2001	60	10
	02/26/2001	70	9
	04/16/2001	60	10
	05/21/2001	60	10
	07/03/2001	35	10
	07/30/2001	40	10
	08/29/2001	45	10
	09/18/2001	50	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	40	10
	06/26/2002	60	10
BP-06	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	65	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	70	10
	01/29/2001	60	10
	02/26/2001	80	10
	04/16/2001	60	10
	05/21/2001	60	10
	07/03/2001	40	10
	07/30/2001	50	10
	08/29/2001	60	10
	09/18/2001	60	10
	10/29/2001	50	10
	11/26/2001	NA	NA
	12/12/2001	60	10
	01/30/2002	60	9
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	50	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-07	02/29/2000	65	10
	03/01/2000	65	10
	03/02/2000	60	10
	04/07/2000	60	10
	04/24/2000	55	10
	05/30/2000	60	10
	07/24/2000	50	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	70	10
	01/29/2001	60	10
	02/26/2001	80	8
	04/16/2001	60	10
	05/21/2001	65	10
	07/03/2001	60	10
	07/30/2001	60	10
	08/29/2001	60	10
	09/18/2001	55	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	55	10
	04/15/2002	60	10
	05/20/2002	50	10
	06/26/2002	60	10
BP-08	02/29/2000	65	10
	03/01/2000	65	10
	03/02/2000	60	10
	04/07/2000	60	10
	04/24/2000	NM	NM
	05/30/2000	50	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	50	10
	02/26/2001	25	9
	04/16/2001	70	10
	05/21/2001	55	10
	07/03/2001	30	10
	07/30/2001	50	10
	08/29/2001	60	10
	09/18/2001	45	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	60	11
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	60	11

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-09	02/29/2000	60	10
	03/01/2000	65	12
	03/02/2000	NM	NM
	04/07/2000	65	10
	04/24/2000	NM	NM
	05/30/2000	60	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	70	10
	02/26/2001	70	10
	04/16/2001	65	10
	05/21/2001	60	10
	07/03/2001	50	10
	07/30/2001	60	10
	08/29/2001	60	10
	09/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	65	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	60	10
	06/26/2002	65	10
BP-10	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	NM	10
	04/24/2000	NM	NM
	05/30/2000	60	10
	07/24/2000	50	10
	08/22/2000	55	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	65	10
	01/29/2001	60	10
	02/26/2001	80	10
	04/16/2001	80	10
	05/21/2001	70	10
	07/03/2001	40	10
	07/30/2001	50	10
	08/29/2001	55	10
	09/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	9
	03/28/2002	60	12
	04/15/2002	60	10
	05/20/2002	60	12
	06/26/2002	50	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-11	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	60	10
	04/24/2000	NM	NM
	05/30/2000	60	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	50	10
	02/26/2001	50	10
	04/16/2001	55	11
	05/21/2001	50	10
	07/03/2001	30	10
	07/30/2001	60	10
	08/29/2001	50	10
	09/18/2001	60	10
	10/29/2001	55	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	66	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	55	10
	06/26/2002	60	11
BP-12	02/29/2000	NM	NM
	03/01/2000	65	NM
	03/02/2000	60	NM
	04/07/2000	65	NM
	04/24/2000	NM	NM
	05/30/2000	55	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10.5
	11/27/2000	60	10
	12/11/2000	65	10
	01/29/2001	NM	NM
	02/26/2001	60	10
	04/16/2001	60	10
	05/21/2001	50	10
	07/03/2001	20	10
	07/30/2001	50	10
	08/29/2001	50	10
	09/18/2001	60	12
	10/29/2001	60	10
	11/26/2001	40	10
	12/12/2001	60	10
	01/30/2002	55	10
	02/25/2002	60	11
	03/28/2002	50	10
	04/15/2002	60	12
	05/20/2002	40	12
	06/26/2002	55	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-13	02/29/2000	65	10
	03/01/2000	65	10
	03/02/2000	60	10
	04/07/2000	65	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	40	10
	08/22/2000	60	10
	10/30/2000	65	10
	11/27/2000	60	10
	12/11/2000	65	10
	01/29/2001	50	10
	02/26/2001	20	9
	04/16/2001	60	10
	05/21/2001	65	10
	07/03/2001	65	10
	07/30/2001	60	10
	08/29/2001	60	10
	09/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	70	10
	06/26/2002	60	10
BP-14	02/29/2000	60	16
	03/01/2000	60	16
	03/02/2000	60	16
	04/07/2000	55	16
	04/24/2000	55	16
	05/30/2000	NM	10
	07/24/2000	60	16
	08/22/2000	60	16
	10/30/2000	70	18
	11/27/2000	60	18
	12/11/2000	60	10
	01/29/2001	65	10
	02/26/2001	70	12
	04/16/2001	60	10
	05/21/2001	60	16
	07/03/2001	50	18
	07/30/2001	50	14
	08/29/2001	55	15
	09/18/2001	60	16
	10/29/2001	60	10
	11/26/2001	60	15
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	16
	03/28/2002	55	12
	04/15/2002	60	16
	05/20/2002	60	14
	06/26/2002	60	10

TABLE 2-1
Biosparging Well Pressure And Flow Measurements

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
BP-15	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	60	10
	04/24/2000	55	10
	05/30/2000	60	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	60	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	60	10
	02/26/2001	60	9
	04/16/2001	50	10
	05/21/2001	50	10
	07/03/2001	30	10
	07/30/2001	50	10
	08/29/2001	50	10
	09/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	65	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	55	10
	06/26/2002	60	10
BP-16	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10
	04/07/2000	65	10
	04/24/2000	60	10
	05/30/2000	60	10
	07/24/2000	60	10
	08/22/2000	60	10
	10/30/2000	70	10
	11/27/2000	60	10
	12/11/2000	60	10
	01/29/2001	60	10
	02/26/2001	70	10
	04/16/2001	60	10
	05/21/2001	60	10
	07/03/2001	50	10
	07/30/2001	50	10
	08/29/2001	60	10
	09/18/2001	60	10
	10/29/2001	60	10
	11/26/2001	60	10
	12/12/2001	60	10
	01/30/2002	60	10
	02/25/2002	60	10
	03/28/2002	60	10
	04/15/2002	60	10
	05/20/2002	55	10
	06/26/2002	55	10

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

TABLE 2-2
SVE System Wellhead Vacuum and Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-1	02/29/2000	4	38
	03/01/2000	4	38
	03/02/2000	2	39
	04/07/2000	3	41
	04/24/2000	2	40
	05/30/2000	6	6
	07/24/2000	11	2
	08/22/2000	7	8
	10/30/2000	4	10
	11/27/2000	6	10
	12/11/2000	5	8
	01/29/2001	4	21
	02/26/2001	5	15
	04/16/2001	6	8
	05/21/2001	5	36
	07/03/2001	5	42
	07/30/2001	6	50
	08/29/2001	5	NM
	09/18/2001	3	22
	10/29/2001	5	45
	11/26/2001	6	35
	12/12/2001	5	45
	01/30/2002	6	44
	02/25/2002	8	20
	03/28/2002	7	35
	04/15/2002	8	40
	05/20/2002	9	33
	06/26/2002	7	35
VEW-2	02/29/2000	6	26
	03/01/2000	6	26
	03/02/2000	5	23
	04/07/2000	NM	40
	04/24/2000	NM	28
	05/30/2000	1	26
	07/24/2000	2	27
	08/22/2000	0	25
	10/30/2000	7	26
	11/27/2000	4	20
	12/11/2000	6	20
	01/29/2001	4	25
	02/26/2001	8	25
	04/16/2001	6	20
	05/21/2001	3	34
	07/03/2001	4	20
	07/30/2001	6	25
	08/29/2001	5	20
	09/18/2001	4	27
	10/29/2001	6	28
	11/26/2001	6	32
	12/12/2001	5	46
	01/30/2002	7	49
	02/25/2002	7	32
	03/28/2002	6	20
	04/15/2002	5	23
	05/20/2002	6	23
	06/26/2002	6	23

TABLE 2-2
SVE System Wellhead Vacuum and Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-3	02/29/2000	8	28
	03/01/2000	8	28
	03/02/2000	6	19
	04/07/2000	6	18
	04/24/2000	6	16
	05/30/2000	6	13
	07/24/2000	2	30
	08/22/2000	6	1
	10/30/2000	5	10.5
	11/27/2000	6	15
	12/11/2000	6.5	14
	01/29/2001	6	15
	02/26/2001	6	15
	04/16/2001	5	14
	05/21/2001	6	10
	07/03/2001	7	8
	07/30/2001	6	10
	08/29/2001	6	10
	09/18/2001	6	10
	10/29/2001	6	10
	11/26/2001	NA	NA
	12/12/2001	8	60
	01/30/2002	6	42
	02/25/2002	6	27
	03/28/2002	8	28
	04/15/2002	7	42
	05/20/2002	9	25
	06/26/2002	8	29
VEW-4	02/29/2000	8	38
	03/01/2000	8	38
	03/02/2000	5	37
	04/07/2000	7	14
	04/24/2000	NM	NM
	05/30/2000	6	31
	07/24/2000	6	15
	08/22/2000	6	8
	10/30/2000	7	8
	11/27/2000	7	8
	12/11/2000	7	7
	01/29/2001	6	5
	02/26/2001	6	12
	04/16/2001	8	5
	05/21/2001	10	15
	07/03/2001	8	6
	07/30/2001	6	10
	08/29/2001	8	5
	09/18/2001	5	4
	10/29/2001	6	12
	11/26/2001	6	31
	12/12/2001	6	54
	01/30/2002	6	40
	02/25/2002	6	30
	03/28/2002	6	31
	04/15/2002	6	32
	05/20/2002	6	27
	06/26/2002	6	31

TABLE 2-2
SVE System Wellhead Vacuum and Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-5	02/29/2000	5	38
	03/01/2000	5	38
	03/02/2000	4	37
	04/07/2000	6	40
	04/24/2000	5	24
	05/30/2000	6	5
	07/24/2000	6	0
	08/22/2000	6	6
	10/30/2000	6	32
	11/27/2000	6	15
	12/11/2000	6	18
	01/29/2001	7	10
	02/26/2001	7	18
	04/16/2001	6	18
	05/21/2001	6	24
	07/03/2001	6	NM
	07/30/2001	6	32
	08/29/2001	6	15
	09/18/2001	4	29
	10/29/2001	6	30
	11/26/2001	6	25
	12/12/2001	6	51
	01/30/2002	10	36
	02/25/2002	6	33
	03/28/2002	6	38
	04/15/2002	6	39
	05/20/2002	6	33
	06/26/2002	6	34
VEW-6	02/29/2000	4	38
	03/01/2000	4	38
	03/02/2000	4	39
	04/07/2000	6	43
	04/24/2000	6	40
	05/30/2000	6	41
	07/24/2000	6	40
	08/22/2000	6	10
	10/30/2000	6	39
	11/27/2000	7	13
	12/11/2000	8	20
	01/29/2001	7	15
	02/26/2001	10	56
	04/16/2001	6	20
	05/21/2001	6	17
	07/03/2001	5	NM
	07/30/2001	6	45
	08/29/2001	6	18
	09/18/2001	4	NM
	10/29/2001	6	35
	11/26/2001	6	15
	12/12/2001	6	55
	01/30/2002	6	40
	02/25/2002	6	33
	03/28/2002	6	39
	04/15/2002	6	39
	05/20/2002	6	35
	06/26/2002	9	35

TABLE 2-2
SVE System Wellhead Vacuum and Flow Measurements

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
VEW-7	02/29/2000	11	22
	03/01/2000	11	24
	03/02/2000	6	18
	04/07/2000	6	40
	04/24/2000	6	15
	05/30/2000	5	32
	07/24/2000	6	5
	08/22/2000	6	5
	10/30/2000	7	5
	11/27/2000	7	7
	12/11/2000	7	5
	01/29/2001	6	6
	02/26/2001	10	5
	04/16/2001	7	5
	05/21/2001	6	16
	07/03/2001	10	7
	07/30/2001	6	5
	08/29/2001	8	6
	09/18/2001	5	NM
	10/29/2001	5	6
	11/26/2001	8	6
	12/12/2001	8	58
	01/30/2002	6	26
	02/25/2002	6	20
	03/28/2002	7	23
	04/15/2002	7	30
	05/20/2002	9	19
	06/26/2002	9	23
VEW-8	02/29/2000	8	24
	03/01/2000	8	24
	03/02/2000	6	22
	04/07/2000	7	20
	04/24/2000	6	20
	05/30/2000	6	17
	07/24/2000	6	14
	08/22/2000	6	14
	10/30/2000	6	14
	11/27/2000	6	15
	12/11/2000	6	14
	01/29/2001	6	15
	02/26/2001	7	15
	04/16/2001	6	15
	05/21/2001	6	14
	07/03/2001	8	25
	07/30/2001	6	25
	08/29/2001	6	20
	09/18/2001	4	6
	10/29/2001	5	25
	11/26/2001	6	15
	12/12/2001	6	53
	01/30/2002	6	36
	02/25/2002	6	27
	03/28/2002	6	31
	04/15/2002	6	37
	05/20/2002	6	27
	06/26/2002	6	27

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

TABLE 2-3
Depth to Groundwater/LNAPL Measurements

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
CEF-293-01	06/13/00	NA	none present	8.79	0.00	NA
	09/14/00		none present	5.55	0.00	NA
	12/21/00		none present	7.72	0.00	NA
	03/15/01		none present	8.03	0.00	NA
	06/25/01		none present	7.37	0.00	NA
	09/19/01		none present	4.17	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	7.43	0.00	NA
	03/20/02		none present	7.00	0.00	NA
	06/04/02		none present	7.99	0.00	NA
CEF-293-02	06/13/00	NA	none present	9.70	0.00	NA
	09/14/00		none present	6.83	0.00	NA
	12/21/00		none present	8.81	0.00	NA
	03/15/01		none present	9.22	0.00	NA
	06/25/01		none present	8.36	0.00	NA
	09/19/01		none present	5.87	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.53	0.00	NA
	03/20/02		none present	8.06	0.00	NA
	06/04/02		none present	9.00	0.00	NA
CEF-293-04	06/13/00	77.22	none present	9.45	0.00	67.77
	09/14/00		none present	5.44	0.00	71.78
	12/21/00		none present	8.33	0.00	68.89
	03/15/01		none present	8.62	0.00	68.60
	06/25/01		none present	7.75	0.00	69.47
	09/19/01		none present	1.85	0.00	75.37
	10/03/01		none present	6.33	0.00	70.89
	12/19/01		none present	7.74	0.00	69.48
	03/20/02		none present	7.39	0.00	69.83
	06/04/02		none present	8.61	0.00	68.61
CEF-293-05	06/13/00	NA	none present	9.01	0.00	NA
	09/14/00		none present	3.18	0.00	NA
	12/21/00		none present	7.95	0.00	NA
	03/15/01		none present	NM	0.00	NA
	06/25/01		none present	NM	0.00	NA
	09/19/01		none present	1.95	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	7.59	0.00	NA
	03/20/02		none present	7.26	0.00	NA
	06/04/02		none present	8.22	0.00	NA
CEF-293-06	06/13/00	NA	none present	9.77	0.00	NA
	09/14/00		none present	6.89	0.00	NA
	12/21/00		none present	8.75	0.00	NA
	03/15/01		none present	9.00	0.00	NA
	06/25/01		none present	8.39	0.00	NA
	09/19/01		none present	5.85	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.44	0.00	NA
	03/20/02		none present	8.15	0.00	NA
	06/04/02		none present	9.03	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

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-293-07 (continued)	09/19/01		none present	5.44	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.55	0.00	NA
	03/20/02		none present	8.21	0.00	NA
	06/04/02		none present	9.10	0.00	NA
CEF-293-09	06/13/00	77.36	none present	9.93	0.00	67.43
	09/14/00		none present	7.01	0.00	70.35
	12/21/00		none present	8.96	0.00	68.40
	03/15/01		none present	9.29	0.00	68.07
	06/25/01		none present	8.37	0.00	68.99
	09/19/01		none present	5.81	0.00	71.55
	10/03/01		none present	7.29	0.00	70.07
	12/19/01		none present	8.70	0.00	68.66
	03/20/02		none present	8.13	0.00	69.23
	06/04/02		none present	9.21	0.00	68.15
CEF-293-10	06/13/00	NA	none present	9.46	0.00	NA
	09/14/00		none present	6.75	0.00	NA
	12/21/00		none present	8.52	0.00	NA
	03/15/01		none present	8.80	0.00	NA
	06/25/01		none present	8.21	0.00	NA
	09/19/01		none present	5.69	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.28	0.00	NA
	03/20/02		none present	8.01	0.00	NA
	06/04/02		none present	8.77	0.00	NA
CEF-293-11	06/13/00	NA	none present	9.62	0.00	NA
	09/14/00		none present	6.91	0.00	NA
	12/21/00		none present	8.70	0.00	NA
	03/15/01		none present	9.12	0.00	NA
	06/25/01		none present	8.46	0.00	NA
	09/19/01		none present	5.85	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.48	0.00	NA
	03/20/02		none present	8.31	0.00	NA
	06/04/02		none present	8.97	0.00	NA
CEF-293-13	06/13/00	75.97	none present	9.05	0.00	66.92
	09/14/00		none present	6.31	0.00	69.66
	12/21/00		none present	8.11	0.00	67.86
	03/15/01		none present	8.63	0.00	67.34
	06/25/01		none present	8.06	0.00	67.91
	09/19/01		none present	7.40	0.00	68.57
	10/03/01		none present	6.67	0.00	69.30
	12/19/01		none present	7.89	0.00	68.08
	03/20/02		none present	7.69	0.00	68.28
	06/04/02		none present	8.32	0.00	67.65
CEF-293-14	06/13/00	NA	none present	9.34	0.00	NA
	09/14/00		none present	6.45	0.00	NA
	12/21/00		none present	8.40	0.00	NA
	03/15/01		none present	9.71	0.00	NA
	06/25/01		none present	8.10	0.00	NA
	09/19/01		none present	5.19	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.14	0.00	NA
	03/20/02		none present	7.73	0.00	NA
	06/04/02		none present	8.56	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-293-19	06/13/00	NA	none present	8.95	0.00	NA
	09/14/00		none present	6.99	0.00	NA
	12/21/00		none present	8.75	0.00	NA
	03/15/01		none present	9.11	0.00	NA
	06/25/01		none present	8.55	0.00	NA
	09/19/01		none present	5.93	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.54	0.00	NA
	03/20/02		none present	8.26	0.00	NA
	06/04/02		NM	NM	NM	NM
CEF-293-20	06/13/00	76.14	none present	9.40	0.00	66.74
	09/14/00		none present	6.85	0.00	69.29
	12/21/00		none present	8.53	0.00	67.61
	03/15/01		none present	8.81	0.00	67.33
	06/25/01		none present	8.25	0.00	67.89
	09/19/01		none present	5.70	0.00	70.44
	10/03/01		none present	6.98	0.00	69.16
	12/19/01		none present	8.35	0.00	67.79
	03/20/02		none present	7.97	0.00	68.17
	06/04/02		none present	8.76	0.00	67.38
CEF-293-21	06/13/00	NA	none present	9.51	0.00	NA
	09/14/00		none present	6.98	0.00	NA
	12/21/00		none present	8.62	0.00	NA
	03/15/01		none present	8.94	0.00	NA
	06/25/01		none present	8.37	0.00	NA
	09/19/01		none present	5.81	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.46	0.00	NA
	03/20/02		none present	8.07	0.00	NA
	06/04/02		none present	8.85	0.00	NA
CEF-293-22	06/13/00	75.95	none present	8.88	0.00	67.07
	09/14/00		none present	6.20	0.00	69.75
	12/21/00		none present	7.89	0.00	68.06
	03/15/01		none present	8.34	0.00	67.61
	06/25/01		none present	7.70	0.00	68.25
	09/19/01		none present	5.10	0.00	70.85
	10/03/01		none present	6.51	0.00	69.44
	12/19/01		none present	7.79	0.00	68.16
	03/20/02		none present	7.62	0.00	68.33
	06/04/02		none present	8.27	0.00	67.68
VEW-01	06/13/00	76.32	8.60	10.89	2.29	67.03
	09/14/00		4.85	7.70	2.85	70.62
	10/12/00		6.26	7.39	1.13	69.72
	10/18/00		6.39	7.29	0.90	69.66
	10/24/00		6.55	7.56	1.01	69.47
	10/30/00		6.80	7.70	0.90	69.25
	11/07/00		6.95	7.20	0.25	69.30
	11/13/00		7.05	8.13	1.08	68.95
	11/20/00		7.10	8.30	1.20	68.86
	11/27/00		7.05	9.05	2.00	68.67
	12/06/01		7.25	10.15	2.90	68.20
	12/11/00		7.35	10.10	2.75	68.15
	12/18/00		7.32	10.80	3.48	67.96
	12/21/00		7.80	9.61	1.81	67.98
	01/03/01		7.45	11.85	4.40	67.55

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)	01/17/01		8.16	9.36	1.20	67.80
	01/29/01		7.68	11.11	3.43	67.61
	02/13/01		7.57	11.48	3.91	67.58
	02/19/01		7.61	11.45	3.84	67.56
	02/26/01		7.70	11.68	3.98	67.43
	03/06/01		7.55	11.10	3.55	67.71
	03/12/01		7.59	11.31	3.72	67.61
	03/15/01		8.34	10.50	2.16	67.33
	04/09/01		7.29	8.08	0.79	68.79
	04/16/01		7.31	8.29	0.98	68.72
	05/03/01		7.20	11.00	3.80	67.98
	05/08/01		7.35	11.10	3.75	67.85
	05/14/01		7.52	11.58	4.06	67.58
	05/21/01		7.59	11.50	3.91	67.56
	06/25/01		7.70	10.55	2.85	67.77
	07/03/01		6.55	10.67	4.12	68.53
	08/06/01		5.60	8.49	2.89	69.85
	09/19/01		5.21	6.15	0.94	70.83
	10/03/01		NM	NM	NM	NM
	12/07/01		4.90	5.70	0.80	71.18
	12/12/01		7.80	10.70	2.90	67.65
	12/19/01		7.48	9.08	1.60	68.36
	03/20/02		7.36	9.21	1.85	68.41
	06/04/02		8.15	9.20	1.05	67.86
VEW-02	06/13/00	75.86	7.50	13.02	5.52	62.84
	09/14/00		5.75	5.76	0.01	70.10
	12/21/00		7.70	7.73	0.03	68.13
	03/15/01		8.34	8.36	0.02	67.50
	06/25/01		7.92	7.96	0.04	67.90
	09/19/01		none present	4.98	0.00	70.88
	10/03/01		none present	6.20	0.00	69.66
	12/19/01		none present	7.40	0.00	68.46
	03/20/02		none present	7.42	0.00	68.44
	06/04/02		none present	7.89	0.00	67.97
VEW-03	06/13/00	75.28	none present	8.05	0.00	67.23
	09/14/00		none present	5.25	0.00	70.03
	12/21/00		none present	7.21	0.00	68.07
	03/15/01		none present	7.75	0.00	67.53
	06/25/01		none present	7.06	0.00	68.22
	09/19/01		none present	4.15	0.00	71.13
	10/03/01		none present	5.55	0.00	69.73
	12/19/01		none present	6.93	0.00	68.35
	03/20/02		none present	6.85	0.00	68.43
	06/04/02		none present	7.38	0.00	67.90
VEW-04	06/13/00	75.54	none present	8.38	0.00	67.16
	09/14/00		none present	5.68	0.00	69.86
	12/21/00		none present	7.60	0.00	67.94
	03/15/01		none present	8.07	0.00	67.47
	06/25/01		none present	7.70	0.00	67.84
	09/19/01		none present	4.67	0.00	70.87
	10/03/01		none present	6.04	0.00	69.50
	12/19/01		none present	7.31	0.00	68.23
	03/20/02		none present	7.23	0.00	68.31
	06/04/02		none present	7.78	0.00	67.76

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-05	06/13/00	74.63	none present	7.53	0.00	67.10
	09/14/00		none present	4.85	0.00	69.78
	12/21/00		none present	6.75	0.00	67.88
	03/15/01		none present	7.18	0.00	67.45
	06/25/01		none present	6.56	0.00	68.07
	09/19/01		none present	3.83	0.00	70.80
	10/03/01		none present	5.16	0.00	69.47
	12/19/01		none present	7.42	0.00	67.21
	03/20/02		none present	6.38	0.00	68.25
	06/04/02		none present	6.91	0.00	67.72
VEW-06	06/13/00	74.31	none present	7.26	0.00	67.05
	09/14/00		none present	4.60	0.00	69.71
	12/21/00		none present	6.40	0.00	67.91
	03/15/01		none present	6.94	0.00	67.37
	06/25/01		none present	6.45	0.00	67.86
	09/19/01		none present	3.72	0.00	70.59
	10/03/01		none present	5.03	0.00	69.28
	12/19/01		none present	6.16	0.00	68.15
	03/20/02		none present	6.13	0.00	68.18
	06/04/02		none present	6.63	0.00	67.68
VEW-07	06/13/00	76.44	none present	9.06	0.00	67.38
	09/14/00		none present	6.15	0.00	70.29
	12/21/00		none present	8.15	0.00	68.29
	03/15/01		none present	8.65	0.00	67.79
	06/25/01		none present	8.36	0.00	68.08
	09/19/01		none present	5.15	0.00	71.29
	10/03/01		none present	6.50	0.00	69.94
	12/19/01		none present	7.80	0.00	68.64
	03/20/02		none present	7.71	0.00	68.73
	06/04/02		none present	8.36	0.00	68.08
VEW-08	06/13/00	76.43	none present	9.06	0.00	67.37
	09/14/00		none present	6.16	0.00	70.27
	12/21/00		none present	8.11	0.00	68.32
	03/15/01		none present	8.57	0.00	67.86
	06/25/01		none present	8.33	0.00	68.10
	09/19/01		none present	5.35	0.00	71.08
	10/03/01		none present	6.41	0.00	70.02
	12/19/01		none present	7.76	0.00	68.67
	03/20/02		none present	7.61	0.00	68.82
	06/04/02		none present	8.30	0.00	68.13

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 SVE discharge stack was sampled monthly during the monitoring period for analysis 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 the analytical results are summarized in Table 3-1. The pounds per day loading (air emission) rate summary is provided in Table 3-2.

Based upon an average pounds per day VOC removal rate of 0.0003 pounds per day and an on-stream time of 89.0 days, a total of 0.03 pounds of volatile organic compounds (VOCs) were removed from the subsurface during the monitoring period via volatilization and 22.9 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

Monitoring wells CEF-293-04, CEF-293-09, CEF-293-13, CEF-293-20, CEF-293-22, and SVE wells VEW-02 through VEW-08 were sampled on June 4 and 5, 2002, for VOCs by USEPA Method 8021B and semi-volatile organic compounds (SVOCs) by USEPA Method 8310. All sampling points exhibited decreases in contaminant concentrations from the baseline groundwater sampling event that was performed on January 25, 2000. The second quarter 2002 analytical results showed that all contaminant concentrations were below the GCTLs for all sampling points except monitoring well CEF-293-22. The analytical results for CEF-293-22 showed concentrations of naphthalene (20.5 micrograms per liter [µg/L]), 1-methylnaphthalene (21.6 µg/L), and 2-methylnaphthalene (26.2 µg/L) that exceed the FDEP GCTL (20 µg/L), but did not exceed the FDEP Natural Attenuation Default Source Concentration (NADSC). SVE well VEW-01 was not sampled during the second quarter 2002 due to the presence of LNAPL (discussed in Section 2.4).

The locations of the monitoring and SVE 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 3-3.

Dissolved oxygen (DO), pH, conductivity, and temperature measurements were recorded during the groundwater sampling event on June 4 and 5, 2002. The results are summarized in Table 3-4. The results indicate that the DO concentrations in the monitoring and SVE wells within the treatment zone were elevated as a result of remediation system operation.

TABLE 3-1
Pre-Treatment Vapor Analytical Results

Compound	02/28/2000	03/07/2000	03/16/2000	03/23/2000	05/30/2000	06/19/2000	07/24/2000	08/15/2000	09/18/00	10/18/00	11/13/00	12/11/2000	01/17/2001	02/13/2001	03/12/2001	04/16/2001	05/03/2001	05/29/2001	06/15/2001	07/17/2001	08/14/2001	09/27/2001	10/15/2001	11/20/2001	12/12/2001	01/30/2002	02/19/2002	03/11/2002	04/08/2002	05/06/2002	06/10/2002
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	2130	3580	824	5060	4690	8640	7750	2840	1610	ND	1120	878	550	446	932	317	457	460	170	280	140	ND	ND	40	60	ND	50	420	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	62.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	898	1780	422	2870	3380	5940	6330	2650	1600	ND	1520	1010	957	662	1320	NA	898	860	380	530	60	ND	100	210	300	100	80	440	70	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	605	1080	224	1470	1510	3030	2580	782	336	ND	NS	654	152	144	165	70.3	79.6	430	170	240	160	ND	ND	50	70	ND	50	340	ND	ND	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	NA	NA	NA	NA	NA	NA	ND	ND	ND
Benzene	112	1350	210	979	83.3	138	161	33.5	9.6	12	30	ND	12	27	19	12	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	19	ND	72.9	21	ND	ND	ND	1.2	ND	ND	ND	ND	ND	3.2	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	3.1	3.6	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorotetrafluroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1540	3060	585	4510	1740	3320	3360	811	260	107	392	165	134	213	198	91.9	98.8	190	90	120	ND	ND	ND	ND	ND	ND	ND	60	ND	ND	ND
Freon 113	229	ND	2350	305	263	389	1860	165	47	ND	ND	68	ND	93.6	27	20	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Freon 114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	840	380	410	ND	ND	80	140	150	ND	ND	120	60	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	120	90	80	ND	ND	250	ND	ND	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	NA	NA	NA	NA	NA	NA	ND	ND	ND
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	ND	ND	ND
Methylene Chloride	ND	ND	87.3	114	163	46.7	105	ND	11	ND	ND	ND	ND	9.3	2.3	0.41	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
o-Xylene	397	1820	375	2940	2270	3620	3760	1340	91.9	168	759	572	432	370	581	200	344	330	140	170	60	ND	ND	50	60	ND	ND	120	ND	ND	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	NA	NA	NA	NA	NA	NA	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	90.7	1410	1060	2770	452	500	715	112	23	17	54.6	13	39.1	79.4	63.6	32	33	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	1.3	0.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	3230	8280	1570	12300	6940	11200	11200	3170	233	443	1570	971	880	1050	1370	607	720	980	430	ND	ND	ND	ND	140	ND	ND	ND	ND	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	1157.91	2327.86	3830	1620	2140	550	0	530	580	720	100	180	1860	130	0	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 zero.
3. All samples were analyzed by EPA Method 18, TO-14.
4. All concentrations are in micrograms per cubic meter. (ug/m^3)
5. ND= Not Detected, please see Appendix D for detection limits
6. NA= Not analyzed for listed parameter

TABLE 3-2
Pounds Per Day Loading/Emissions Rates

Location	Sample Date	Flow Rate (SCFM)	Total VOC Concentration (mg/m^3)	Loading Rate (lbs/day)
Pre-Treatment	02/28/2000	44	8.842	0.035
	03/07/2000	56	20.54	0.103
	03/16/2000	61	7.399	0.041
	03/23/2000	46	19.26	0.080
	05/30/2000	44	30.42	0.120
	06/19/2000	45	33.25	0.135
	07/24/2000	50	34.08	0.153
	08/15/2000	49	10.55	0.046
	09/18/2000	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
	01/17/2001	45	2.27	0.009
	02/13/2001	49	2.730	0.012
	03/12/2001	70	4.104	0.026
	04/16/2001	63	1.764	0.010
	05/03/2001	65	3.047	0.018
	05/29/2001	70	4.810	0.030
	06/15/2001	70	2.050	0.013
	07/17/2001	70	2.140	0.013
	08/14/2001	60	0.550	0.003
	09/27/2001	75	0.000	0.000
	10/15/2001	70	0.530	0.003
	11/20/2001	70	0.580	0.004
	12/12/2001	70	0.720	0.005
	01/30/2002	70	0.100	0.001
	02/19/2002	70	0.180	0.001
	03/11/2002	70	1.860	0.012
	04/08/2002	70	0.130	0.001
	05/06/2002	77	0.000	0.000
	06/10/2002	77	0.000	0.000
Post-Treatment	02/28/2000	44	0.044	0.00017
	03/07/2000	56	0.019	0.00010
	03/16/2000	61	0.127	0.00070
	03/23/2000	46	0.030	0.00012

TABLE 3-3
Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethylbenzene	Toluene	Xylenes (total)	Acenapthylene	Acenapthene	Fluoranthene	Pyrene	Chrysene	Benzo (a) anthracene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Indeno (1,2,3-cd) Pyrene	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	ND	ND	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	0.18	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NF	ND
CEF 293-09	01/25/00	43.1	602	826	2150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	378	128	182	ND
	06/13/00	ND	1.4	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CEF 293-13	01/25/00	57.6	43	2.3	70.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	124	54.2	68	ND
	06/13/00	128	124	3.1	193	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	157	64.2	82.2	ND
	09/14/00	112	106	2.2	161	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	163	61.1	75	ND
	12/21/00	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	40.7	29.6	39.2	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.6	15.5	20.6	ND
	06/25/01	0.24	1.3	ND	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	7	11	0.22
	09/19/01	ND	0.13	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	1.9	ND
	12/19/01	ND	0.53	ND	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38	0.97	1.8	0.3
	03/20/02	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.61	ND
	06/04/02	ND	0.44	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	0.26
CEF 293-20	01/25/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	0.67	0.25	0.37	0.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54	19	21	0.34
	09/19/01	0.72	0.35	ND	1.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	0.68	ND	0.52	0.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	0.45	ND	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	0.77	0.39	0.47	0.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.99	ND	0.24	ND
CEF 293-22	01/25/00	24.2	19.4	0.88	47.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	142	59.6	67	ND
	06/13/00	43.2	60.6	5.5	218	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	188	80.3	95.4	ND
	09/14/00	6.4	8.4	ND	20.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38.7	22	25.1	ND
	12/21/00	19.7	9.7	<1	11.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	95	31.6	42.4	ND
	03/15/01	32.6	28.2	0.97	72.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	148	49.7	71.3	ND
	06/25/01	25	12	ND	18.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45	16	22	ND
	09/19/01	1.9	0.44	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.9	4.8	6.8	ND
	12/19/01	8.7	1.2	ND	1.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34.2	13.4	17	0.57
	03/20/02	2.2	0.43	ND	0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.8	14	17.8	0.57
	06/04/02	1	0.92	ND	0.6	0.28	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.5	21.6	26.2	2.3

TABLE 3-3
Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethylbenzene	Toluene	Xylenes (total)	Acenapthylene	Acenapthene	Fluoranthene	Pyrene	Chrysene	Benzo (a) anthracene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Indeno (1,2,3-cd) Pyrene	Naphthalene	1-Methylnapthalene	2-Methylnapthalene	Phenanthrene
VEW-01	01/25/00	18.5	257	59.4	726	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	350	220	307	ND
	06/13/00											FREE PRODUCT								
	09/14/00											FREE PRODUCT								
	12/21/00											FREE PRODUCT								
	03/15/01											FREE PRODUCT								
	06/25/01											FREE PRODUCT								
	09/19/01											FREE PRODUCT								
	10/03/01											FREE PRODUCT								
	12/19/01											FREE PRODUCT								
	03/20/02											FREE PRODUCT								
	06/05/02											FREE PRODUCT								
VEW-02	01/25/00	91.6	149	29.2	573	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	283	118	139	ND
	06/13/00											FREE PRODUCT								
	09/14/00	ND	ND	ND	156	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00											FREE PRODUCT								
	03/15/01											FREE PRODUCT								
	06/25/01											FREE PRODUCT								
	09/19/01	ND	14	ND	7.1	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	2.1	ND	5.9	0.28	0.69	ND	0.76	0.49	0.51	1.8	ND	ND	4.6	2.2	2.1
	12/19/01	ND	22	ND	12.6	8.9	2.2	11.6	18.2	1.3	1.2	0.93	0.86	ND	0.34	0.38	ND	19.3	18.7	7.5
	03/20/02	ND	ND	ND	0.85	ND	0.39	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.84	0.96	ND
	06/05/02	ND	0.45	ND	0.62	0.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-03	01/25/00	24.4	85.6	11.5	128	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220	78	102	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND
VEW-04	01/25/00	81	138	7.8	288	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	232	88.7	108	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-05	01/25/00	118	72.5	11.3	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	194	59.8	86.1	ND
	06/13/00	33.2	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3-3
Groundwater Analytical Results

Sample I.D.	Date	Benzene	Ethylbenzene	Toluene	Xylenes (total)	Acenapthylene	Acenapthene	Fluoranthene	Pyrene	Chrysene	Benzo (a) anthracene	Benzo(b) Fluoranthene	Benzo(k) Fluoranthene	Benzo(a) Pyrene	Benzo(g,h,i) Perylene	Indeno (1,2,3-cd) Pyrene	Naphthalene	1-Methylnapthalene	2-Methylnapthalene	Phenanthrene
VEW-06	01/25/00	31.1	97.9	12.7	283	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	189	64.6	77.2	ND
	06/13/00	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/04/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-07	01/25/00	48	213	97.8	459	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	481	172	210	ND
	06/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/21/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/25/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VEW-08	01/25/00	53.4	242	4.5	451	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	393	124	162	ND
	06/13/00	4	41.8	1.4	37.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	86.6	44.9	39.6	ND
	09/14/00	ND	4.8	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	6.5	5.2	ND
	12/21/00	ND	10.6	<1	9.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.7	16	17.1	ND
	03/15/01	ND	6.4	ND	5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7	3.7	3.8	ND
	06/25/01	ND	1.5	ND	0.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	0.46	0.96	ND
	09/19/01	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/03/01	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	0.5	ND
	12/19/01	ND	1.9	ND	1.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.84	0.67	ND
	03/20/02	ND	0.89	ND	0.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	0.95	1.2	ND
	06/05/02	ND	1.7	ND	2.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	1.6	2	0.29
Cleanup Goal - RAP		1	NA	NA	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GCTL		1	30	40	20	210	20	280	210	4.8	0.2	0.2	0.5	0.2	210	0.2	20	20	20	210
NADSC		100	300	400	200	2100	200	2800	2100	480	20	20	50	20	2100	20	200	200	200	2100

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

= above GC
= above NADSC

TABLE 3-4
Groundwater Field Analytical Results

	Date	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (^oC)
CEF-293-4	01/25/2000	6.69	0.218	NM	21.3
	06/13/2000	6.15	0.259	-0.50	26.3
	09/14/2000	6.30	0.246	1.94	27.4
	12/21/2000	8.44	0.263	2.90	20.5
	03/15/2001	6.30	0.247	1.22	20.6
	06/25/2001	6.22	0.259	NM	25.2
	09/19/2001	6.06	0.416	0.57	26.3
	12/19/2001	7.22	0.232	3.75	22.7
	03/20/2002	6.19	0.244	3.19	21.2
	06/04/2002	6.23	0.241	3.09	26.4
CEF-293-9	01/25/2000	5.99	0.088	NM	21.4
	06/13/2000	5.55	0.068	-0.36	24.6
	09/14/2000	6.03	0.830	2.82	26.0
	12/21/2000	7.71	0.075	5.50	22.4
	03/15/2001	6.29	0.066	7.80	20.7
	06/25/2001	6.31	0.094	NM	23.3
	09/19/2001	5.94	0.244	4.93	25.0
	12/19/2001	7.19	0.079	5.88	23.2
	03/20/2002	7.03	0.119	6.33	21.8
	06/05/2002	7.00	0.235	3.90	24.2
CEF-293-13	01/25/2000	5.64	0.039	NM	21.4
	06/13/2000	4.99	0.068	-0.33	24.4
	09/14/2000	4.87	0.054	2.14	26.1
	12/21/2000	7.41	0.075	1.42	21.5
	03/15/2001	5.50	0.063	2.14	19.8
	06/25/2001	5.01	0.069	NM	24.4
	09/19/2001	5.43	0.157	2.34	26.9
	12/19/2001	6.22	0.068	2.22	23.0
	03/20/2002	5.44	0.099	1.32	21.1
	06/04/2002	5.79	0.115	1.54	26.1
CEF-293-20	01/25/2000	5.96	0.062	NM	20.8
	06/13/2000	5.04	0.083	-0.16	27.0
	09/14/2000	5.19	0.100	1.38	29.3
	12/21/2000	7.65	0.101	2.24	24.6
	03/15/2001	5.49	0.105	2.78	23.4
	06/25/2001	4.83	0.103	NM	26.3
	09/19/2001	5.34	0.149	2.00	29.0
	12/19/2001	7.17	0.113	2.34	24.8
	03/20/2002	5.99	0.234	1.90	23.6
	06/04/2002	5.84	0.198	1.49	27.7
CEF-293-22	01/25/2000	6.44	0.126	NM	23.0
	06/13/2000	5.71	0.180	-0.47	27.7
	09/14/2000	5.74	0.812	1.83	28.0
	12/21/2000	8.14	0.573	2.80	23.1
	03/15/2001	5.86	0.230	2.27	22.0
	06/25/2001	5.55	0.365	NM	25.2
	09/19/2001	5.69	1.030	3.22	27.6
	12/19/2001	6.91	0.416	2.30	24.0
	03/20/2002	5.87	0.463	6.50	21.8
	06/04/2002	5.80	0.345	1.74	26.8

TABLE 3-4
Groundwater Field Analytical Results

	Date	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (°C)
VEW-1	01/25/2000	5.33	0.057	NM	23.0
	06/13/2000	NM	NM	NM	NM
	09/14/2000	NM	NM	NM	NM
	12/21/2000	NM	NM	NM	NM
	03/15/2001	NM	NM	NM	NM
	06/25/2001	NM	NM	NM	NM
	09/19/2001	NM	NM	NM	NM
	12/19/2001	NM	NM	NM	NM
	03/20/2002	NM	NM	NM	NM
	06/04/2002	NM	NM	NM	NM
VEW-2	01/25/2000	5.63	0.085	NM	22.7
	06/13/2000	NM	NM	NM	NM
	09/14/2000	6.20	0.114	2.26	26.2
	12/21/2000	NM	NM	NM	NM
	03/15/2001	NM	NM	NM	NM
	06/25/2001	NM	NM	NM	NM
	09/19/2001	6.04	0.137	5.06	26.7
	12/19/2001	7.00	0.095	2.26	24.8
	03/20/2002	6.47	0.084	3.82	23.5
	06/04/2002	6.46	0.096	2.89	25.5
VEW-3	01/25/2000	5.90	0.070	NM	22.1
	06/13/2000	4.86	0.034	-0.57	26.2
	09/14/2000	5.44	0.040	5.23	26.8
	12/21/2000	7.74	0.047	6.02	22.8
	03/15/2001	6.24	0.047	8.02	21.8
	06/25/2001	4.80	0.056	NM	24.7
	09/19/2001	6.38	0.130	5.86	26.9
	12/19/2001	6.94	0.057	6.79	23.9
	03/20/2002	5.64	0.081	5.91	23.0
	06/04/2002	7.47	0.089	5.35	25.7
VEW-4	01/25/2000	5.59	0.078	NM	23.0
	06/13/2000	NM	NM	NM	NM
	09/14/2000	6.48	0.086	2.48	26.6
	12/21/2000	7.92	0.045	4.55	23.8
	03/15/2001	5.31	0.045	6.81	22.2
	06/25/2001	5.40	0.045	NM	24.8
	09/19/2001	6.59	0.098	5.64	26.8
	12/19/2001	7.42	0.050	5.34	24.0
	03/20/2002	6.54	0.060	5.96	22.5
	06/04/2002	5.27	0.054	4.77	27.6
VEW-5	01/25/2000	6.28	0.113	NM	21.5
	06/13/2000	4.87	0.080	-0.59	25.5
	09/14/2000	5.96	0.066	3.23	26.8
	12/21/2000	7.84	0.069	3.42	21.6
	03/15/2001	5.58	0.061	5.80	20.7
	06/25/2001	5.35	0.060	NM	24.7
	09/19/2001	6.14	0.106	4.78	27.4
	12/19/2001	6.74	0.057	5.03	22.9
	03/20/2002	6.17	0.074	6.85	21.7
	06/04/2002	5.52	0.082	3.81	25.6

TABLE 3-4
Groundwater Field Analytical Results

	Date	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (^{o}C)
VEW-6	01/25/2000	5.78	0.076	NM	21.4
	06/13/2000	5.28	0.151	-0.60	26.0
	09/14/2000	8.81	0.066	3.08	26.9
	12/21/2000	7.37	0.083	4.33	22.3
	03/15/2001	6.57	0.127	7.26	20.9
	06/25/2001	5.54	0.064	NM	25.3
	09/19/2001	6.30	0.145	5.18	27.3
	12/19/2001	6.61	0.050	5.76	23.8
	03/20/2002	6.39	0.120	5.98	22.5
	06/04/2002	6.08	0.160	4.25	26.0
VEW-7	01/25/2000	5.63	0.074	NM	21.8
	06/13/2000	5.12	0.126	-0.56	24.9
	09/14/2000	5.52	0.070	2.22	25.8
	12/21/2000	7.78	0.700	2.67	22.5
	03/15/2001	5.96	0.068	6.65	21.5
	06/25/2001	5.60	0.078	NM	24.0
	09/19/2001	5.49	0.109	8.56	25.4
	12/19/2001	6.83	0.064	3.04	23.3
	03/20/2002	6.20	0.075	4.71	22.5
	06/05/2002	6.24	0.083	2.60	24.5
VEW-8	01/25/2000	6.29	0.206	NM	22.1
	06/13/2000	5.60	0.219	-0.60	24.2
	09/14/2000	5.77	0.118	1.92	25.9
	12/21/2000	7.87	0.156	1.31	22.5
	03/15/2001	6.35	0.137	2.06	21.2
	06/25/2001	5.86	0.128	NM	23.4
	09/19/2001	4.69	0.162	7.21	25.5
	12/19/2001	5.5	0.089	3.75	23.0
	03/20/2002	6.14	0.134	1.41	22.3
	06/05/2002	6.11	0.153	1.83	24.4

mS/cm = millisiemens per centimeter
mg/L =milligrams per liter
^{o}C = degrees Celcuis
NM = not measured

4.0 Conclusions and Recommendations

Twelve groundwater monitoring locations (5 monitoring wells and 7 SVE wells) at the site were sampled on June 4 and 5, 2002 for VOCs by USEPA Method 8021B and SVOCs by EPA Method 8310.

Only one of the 12 monitoring locations sampled, monitoring well CEF-293-22, showed concentrations of naphthalene (20.5 µg/L), 1-methylnaphthalene (21.6 µg/L), and 2-methylnaphthalene (26.2 µg/L) that exceed the FDEP GCTL (20 µg/L), but did not exceed the FDEP NADSC. Monitoring well CEF-293-22 is located outside the design radius of influence of the biosparging system. Prior to the current monitoring period, CEF-293-22 showed a concentration of benzene that exceeded the GCTL. The benzene concentration in CEF-293-22 has shown a decreasing trend and the second quarter 2002 analytical results show a benzene concentration that equals the GCTL (1 µg/L).

SVE well VEW-02, which previously contained minimal LNAPL, has not contained LNAPL since the second quarter 2001 and no longer contains contaminant concentrations above the GCTLs.

Vapor extraction well VEW-01 continues to contain LNAPL. VEW-01 was not sampled during the monitoring period due to the presence of LNAPL. LNAPL has been bailed on a periodic basis from VEW-01 since October 2000 and a total of approximately 22.6 gallons has been recovered to date. No significant decreases in LNAPL thickness at VEW-01 were noted during the monitoring period.

CCI/J.A. Jones recommends that the remediation systems continue to operate and recovery of LNAPL continue to be performed until LNAPL is no longer present in VEW-01. Quarterly groundwater monitoring will continue. VEW-01 should be sampled after LNAPL is no longer present to monitor the groundwater in this area.

The source of the LNAPL in the vicinity of VEW-01 and VEW-02 is believed to be due to an underground abandoned fuel pipe that still contains product. The underground piping has been located and the location mapped. A project under CTO No. 21 to pig the line to remove any remaining product will be conducted in the first quarter of 2003. Additional plans for delineation and recovery of LNAPL in the vicinity of VEW-01 and VEW-02 are currently being developed by the Comprehensive Long-Term Environmental Action Navy (CLEAN) contractor.

5.0 References

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

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

Appendix A

Laboratory Analytical Reports for Air Samples

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C206345
Project: CH2M Hill Construction
NAS Cecil Field Day Tank 1 – CTO-0062

Client Sample ID	STL Sample ID
062-SVE-E-A-0610-02-29	C206345-1

The above-referenced samples were received at STL Pensacola on June 13, 2002. See Project Sample Inspection Form (PSIF) for further information about receipt of samples.

Rick Hayes
Senior Project Manager

6/25/02

CCI NAVY RAC PMO
JUN 20 2002

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
Received: 13 JUN 02
Reported: 25 JUN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
06345-1	062-SVE-E-A-0610-02-29	06-10-02/12:15

PARAMETER	06345-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
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Reported: 25 JUN 02

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115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION, AIR SAMPLES	DATE/ TIME SAMPLED
06345-1	062-SVE-E-A-0610-02-29	06-10-02/12:15

PARAMETER	06345-1
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	80 %
Surrogate - Toluene-d8	102 %
Surrogate - 4-Bromofluorobenzene	91 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
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Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
06345-1	062-SVE-E-A-0610-02-29	06-10-02/12:15

PARAMETER	06345-1
Dilution Factor	1
Prep Date	06.17.02
Prep Time	15:11
Analysis Date	06.17.02
Analysis Time	15:11
Batch ID	MAB107
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
Received: 13 JUN 02
Reported: 25 JUN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
06345-2	Method Blank	
06345-3	Lab Control Standard True Value	
06345-4	Lab Control Standard Result	
06345-5	Lab Control Standard % Recovery	
06345-6	LCS Accuracy Control Limit (%R)	

PARAMETER	06345-2	06345-3	06345-4	06345-5	06345-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5147	103 %	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	0.5529	111 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
Received: 13 JUN 02
Reported: 25 JUN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
06345-2	Method Blank	
06345-3	Lab Control Standard True Value	
06345-4	Lab Control Standard Result	
06345-5	Lab Control Standard % Recovery	
06345-6	LCS Accuracy Control Limit (%R)	

PARAMETER	06345-2	06345-3	06345-4	06345-5	06345-6
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	0.4471	95 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5329	107 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
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Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
06345-2	Method Blank	
06345-3	Lab Control Standard True Value	
06345-4	Lab Control Standard Result	
06345-5	Lab Control Standard % Recovery	
06345-6	LCS Accuracy Control Limit (%R)	

PARAMETER	06345-2	06345-3	06345-4	06345-5	06345-6
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	0.5518	110 %	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	81 %	0.5000	0.4020	80 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.4878	98 %	90-109
Surrogate - 4-Bromofluorobenzene	88 %	0.5000	0.4537	91 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	06.17.02	---	06.17.02	---	---
Prep Time	11:08	---	11:42	---	---
Analysis Date	06.17.02	---	06.17.02	---	---
Analysis Time	11:08	---	11:42	---	---
Batch ID	MAB107	MAB107	MAB107	MAB107	MAB107
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-06345
Received: 13 JUN 02
Reported: 25 JUN 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 113820625

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
06345-2	Method Blank	
06345-3	Lab Control Standard True Value	
06345-4	Lab Control Standard Result	
06345-5	Lab Control Standard % Recovery	
06345-6	LCS Accuracy Control Limit (%R)	

PARAMETER	06345-2	06345-3	06345-4	06345-5	06345-6

Data from any samples that do not meet client, federal, or state sample acceptance criteria (collection, preservation, or holding time) will be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF).

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C206 345 Date Received: 6-13-02

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

Airbill Number(s): 7918 5780 7034

Shipped By: Fed EX

Cooler Number(s): Box

Shipping Charges: N/A

Cooler Weight(s): 14 #

Cooler Temp(s) (°C): HS JS

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAO Date: 6-13-02 Logged By: PEZ Date: 6/13/02

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

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

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

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

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

C 206 345

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-050

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0610-02-29	SVE Effluent	AIR	06/10/02	12:15	III/C	14 Day	1									1	Grab	Summa Canister	061
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 # 7918 5780 7034.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	6/11/02	11:00	Federal Express	6/11/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon	6-13-02	0912
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

NAS Cecil Field Day Tank, CTO-0062

STL Pensacola

C206 345

FedEx | Ship Manager | Label7918 5780 7034

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 325147045

SHIP DATE: 11JUN02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7918 5780 7034 FORM 0201

THU
AA
Deliver by:
13JUN02

BFM

32514-FL-US F3 PNSA

NAS Cecil Field Day Tank, CTO-0062 STL Pensacola 11

STL Pensacola

Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C206345
CH2M Hill Constructors, Inc. (CCI)

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	0	~~8~~ 1		pm 6/14/02	
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

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

SEVERN TRENT SERVICES

STL Pensacola

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

3355 McLemore Drive • Pensacola, FL 32514• Tel: 850 474 1001 • Fax: 850 478 2671• www.stl-inc.com
STL Pensacola is part of Severn Trent Laboratories, Inc.

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/11/03

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/20/03

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

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

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

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

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

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

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

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

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

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

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/02.

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

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

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

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

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

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

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 05/14/2002

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 206345
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED June 13, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0610-02-29	206345-1	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
June 24, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0617A.D Date Analyzed : 17 Jun 2002
Instrument ID : MARILYN Time Analyzed : 10:10 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
63451R	062SVEEA0610022	80	102	91	0	0	0	0
MA107ABK	VBLKMA\ DAILY M	81	99	88	0	0	0	0
MA107LCS	VLCSMA\ BATCH #	80	98	91	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 #	206345					
Batch	MAB107	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		257.34	0.5000	0.5147	103%	87-116%
Chlorobenzene		276.44	0.5000	0.5529	111%	88-111%
1,1-Dichloroethene		238.57	0.5000	0.4771	95%	58-138%
Toluene		266.44	0.5000	0.5329	107%	86-113%
Trichloroethene		275.9	0.5000	0.5518	110%	85-116%
1,2-Dichloroethane-d4		200.99	0.5000	0.4020	80%	61-140%
Toluene-d8		243.92	0.5000	0.4878	98%	90-109%
4-Bromofluorobenzene		226.83	0.5000	0.4537	91%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\MA107LCS.D Vial: 16
Acq On : 17 Jun 2002 11:42 am Operator: BDH
Sample : VLCSMA\ BATCH #107 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 24 11:40:31 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	238.57	250.00	95.43	58 to 138%	[ ]
27)	M	Benzene	257.34	250.00	102.93	87 to 116%	[ ]
28)	M	Trichloroethene	275.90	250.00	110.36	85 to 116%	[ ]
33)	MC	Toluene	266.44	250.00	106.58	86 to 113%	[ ]
39)	MP	Chlorobenzene	276.44	250.00	110.58	88 to 111%	[ ]

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C206345

Lab File ID: MA107ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 6/17/02 Time Analyzed: 11:08

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND SOU	VLCSMA\ BATCH #107 L	MA107LCS.D	11:42
02	SVEEA	062SVEEA06100229\634	63451R.D	15:11

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C206345

Lab File ID: BFM0520P.D BFB Injection Date: 5/20/02

Instrument ID: MARILYN BFB Injection Time: 12:39

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.0
75	30.0 - 66.0% of mass 95	42.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	72.5
175	4.0 - 9.0% of mass 174	5.7 (7.9)1
176	93.0 - 101.0% of mass 174	70.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.6 (6.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	5/20/02	15:34
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	5/20/02	16:08
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	5/20/02	16:42
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	5/20/02	17:18
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	5/20/02	18:12
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	5/20/02	19:05

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C206345

Lab File ID: BFM0617A.D BFB Injection Date: 6/17/02

Instrument ID: MARILYN BFB Injection Time: 9:10

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	15.3
75	30.0 - 66.0% of mass 95	39.6
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	86.2
175	4.0 - 9.0% of mass 174	6.6 (7.6)1
176	93.0 - 101.0% of mass 174	85.3 (98.9)1
177	5.0 - 9.0% of mass 176	5.3 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0617A.D	6/17/02	10:10
02	VBLKMA	VBLKMA\ DAILY METHO	MA107ABK.D	6/17/02	11:08
03	LCS AND 2ND SOU	VLCSMA\ BATCH #107 L	MA107LCS.D	6/17/02	11:42
04	SVEEA	062SVEEA06100229\634	63451R.D	6/17/02	15:11

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Mon Jun 24 11:39:42 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	-----	
							L	M= 0.611	R^2=0.999	
								B= -0.034		
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50

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

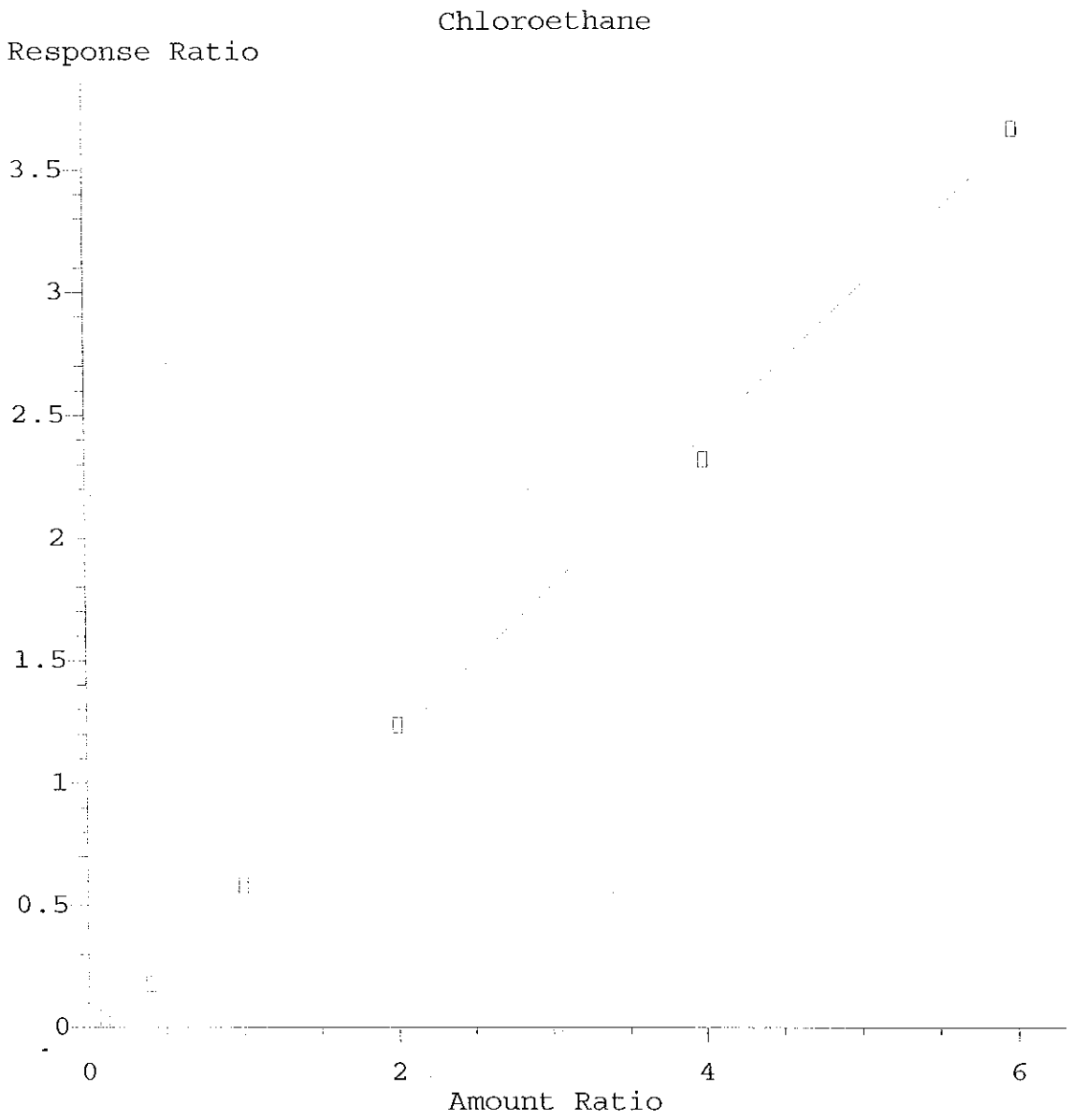
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Mon Jun 24 11:39:42 2002
Response via : Initial Calibration

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

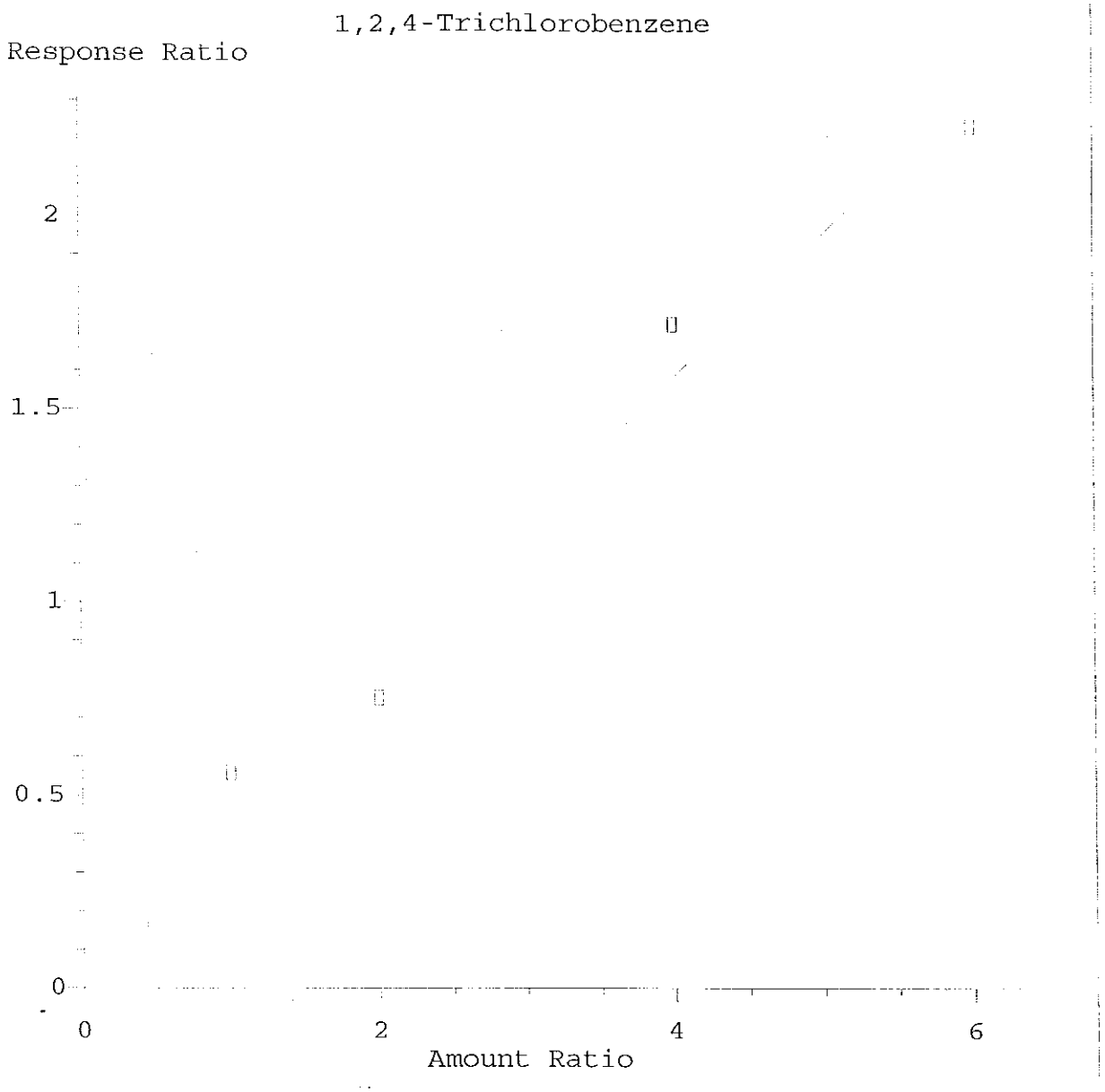
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

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



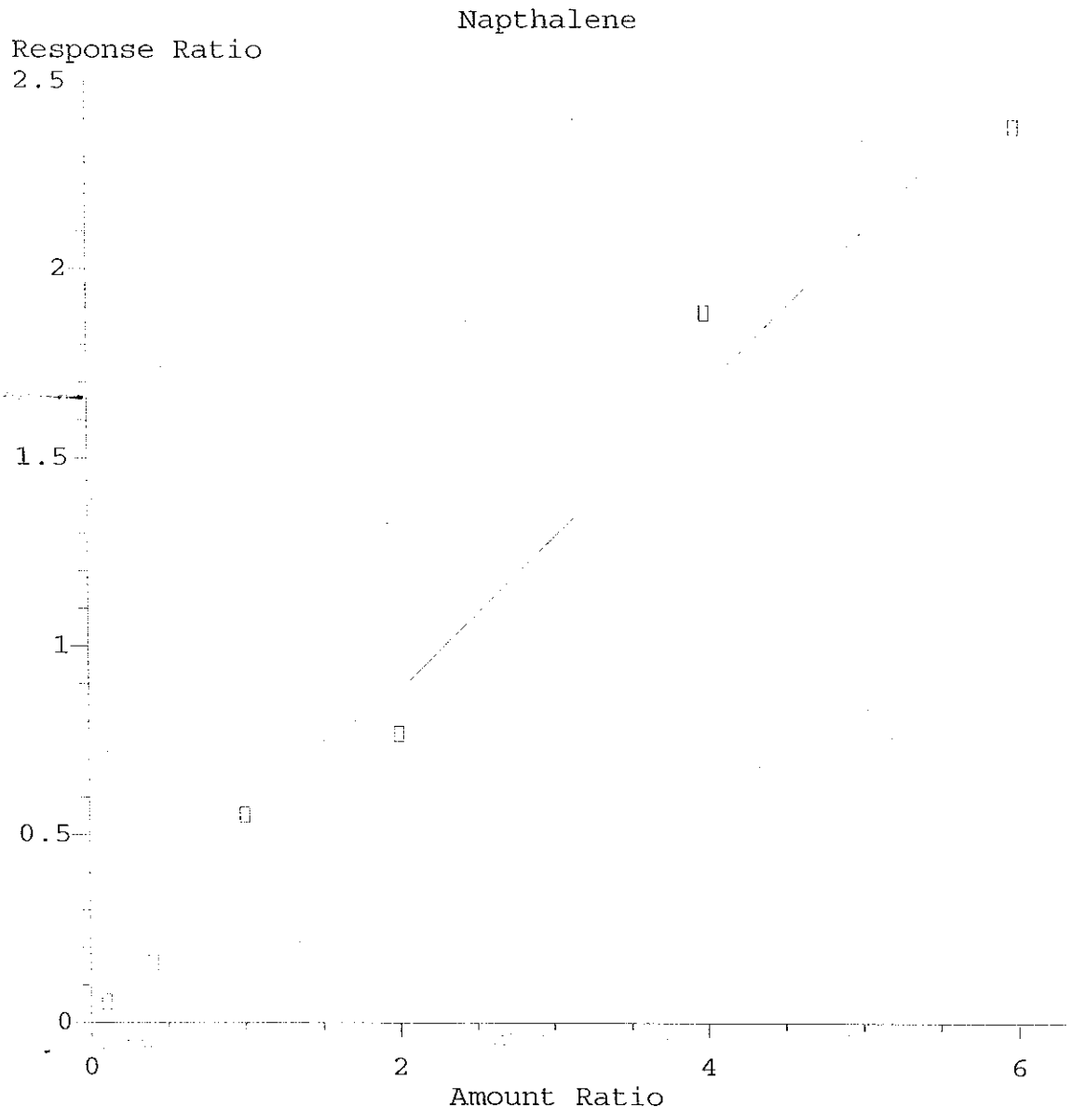
Resp Ratio = 6.11e-001 * Amt - 3.43e-002
Coef of Det (r^2) = 0.999 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 13:39:51 2002



Resp Ratio = 3.72e-001 * Amt + 8.97e-002
Coef of Det (r^2) = 0.983 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 13:39:51 2002



Resp Ratio = 4.04e-001 * Amt + 7.10e-002
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 13:39:51 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:38:15 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	104	0.00
2		Dichlorodifluoromethane	1.560	0.920	41.0#	60	0.00
3		Dichlorotetrafluoroethane	1.617	1.547	4.3#	96	0.00
4	P	Chloromethane	0.783	0.660	15.7#	83	0.00
5	C	Vinyl chloride	0.793	0.766	3.4#	95	0.00
6		Bromomethane	1.138	1.142	-0.4	103	0.00
7		Chloroethane	0.543	0.580	-6.8#	104	0.00
8		Trichlorofluoromethane	3.075	2.876	6.5#	94	0.00
9		1,1,2-Trichlorotrifluoroeth	2.020	2.405	-19.1#	122	0.00
10	MC	1,1-Dichloroethene	1.048	1.151	-9.8#	113	0.00
11		Iodomethane	0.000	0.000	0.0	98	0.00
12		Methylene chloride	1.389	1.474	-6.1#	104	0.00
13		Carbon disulfide	2.992	3.236	-8.2#	110	0.00
14		methyl-Tert-Butyl Ether	1.854	2.099	-13.2#	108	0.00
15		trans-1,2-Dichloroethene	1.236	1.332	-7.8#	111	0.00
16		n-Hexane	1.141	1.259	-10.3#	120	0.00
17	P	1,1-Dichloroethane	2.126	2.187	-2.9#	103	0.00
18		cis-1,2-Dichloroethene	1.733	1.759	-1.5	102	0.00
19	C	Chloroform	2.734	2.750	-0.6#	102	0.00
20		Isooctane	3.807	4.465	-17.3#	115	0.00
21		1,1,1-Trichloroethane	2.613	2.472	5.4#	97	0.00
22		Carbon tetrachloride	2.679	2.617	2.3#	98	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.356	1.062	21.7#	80	0.00
24		1,2-Dichloroethane	1.454	1.350	7.2#	91	0.00
25		1,2-Dibromoethane	1.967	2.382	-21.1#	114	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	105	0.00
27	M	Benzene	0.687	0.749	-9.0#	110	0.00
28	M	Trichloroethene	0.386	0.463	-19.9#	120	0.00
29	C	1,2-Dichloropropane	0.294	0.321	-9.2#	108	0.00
30		Bromodichloromethane	0.776	0.772	0.5	100	0.00
31		cis-1,3-Dichloropropene	0.470	0.485	-3.2#	102	0.00
32	S	Toluene-d8 SURR#2	0.765	0.755	1.3	102	0.00
33	MC	Toluene	0.462	0.524	-13.4#	113	0.00
34		trans-1,3-Dichloropropene	0.398	0.415	-4.3#	99	0.00
35		1,1,2-Trichloroethane	0.270	0.326	-20.7#	115	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	102	0.00
37		Tetrachloroethene	0.524	0.633	-20.8#	119	0.00
38		Dibromochloromethane	0.681	0.794	-16.6#	111	0.00
39	MP	Chlorobenzene	0.874	1.010	-15.6#	111	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:38:15 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.358	0.404	-12.8#	111	0.00
41		m,p-Xylene	0.460	0.532	-15.7#	109	0.00
42		o-Xylene	0.452	0.507	-12.2#	108	0.00
43		Styrene	0.774	0.890	-15.0#	108	0.00
44	P	Bromoform	0.662	0.883	-33.4#	118	0.00
45	P	1,1,2,2-Tetrachloroethane	0.507	0.679	-33.9#	119	0.00
46	S	4-Bromofluorobenzene SURR#3	0.939	0.826	12.0#	86	0.00
47		1,4-Dichloro-2-butene	0.114	0.145	-27.2#	111	0.00
48		4-Ethyltoluene	1.191	1.271	-6.7#	100	0.00
49		1,3,5-Trimethylbenzene	0.887	1.017	-14.7#	98	0.00
50		2-Chlorotoluene	1.201	1.298	-8.1#	101	0.00
51		1,2,4-Trimethylbenzene	0.943	1.074	-13.9#	102	0.00
52		1,3-Dichlorobenzene	0.761	0.899	-18.1#	104	0.00
53		1,4-Dichlorobenzene	0.782	0.918	-17.4#	104	0.00
54		1,2-Dichlorobenzene	0.684	0.861	-25.9#	106	0.00
55		1,2,4-Trichlorobenzene	0.435	0.613	-40.9#	111	0.00
56		Napthalene	0.460	0.710	-54.3#	130	0.00
57		Hexachlorobutadiene	0.381	0.569	-49.3#	106	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:38:15 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	104	0.00
2		Dichlorodifluoromethane	250.000	147.343	41.1#	60	0.00
3		Dichlorotetrafluoroethane	250.000	239.222	4.3#	96	0.00
4	P	Chloromethane	250.000	210.735	15.7#	83	0.00
5	C	Vinyl chloride	250.000	241.332	3.5#	95	0.00
6		Bromomethane	250.000	250.925	-0.4	102	0.00
7		Chloroethane	250.000	251.900	-0.8	104	0.00
8		Trichlorofluoromethane	250.000	233.838	6.5#	94	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	297.715	-19.1#	122	0.00
10	MC	1,1-Dichloroethene	250.000	274.724	-9.9#	113	0.00
11		Iodomethane	-1.000	0.000	0.0	98	0.00
12		Methylene chloride	250.000	265.410	-6.2#	104	0.00
13		Carbon disulfide	250.000	270.423	-8.2#	110	0.00
14		methyl-Tert-Butyl Ether	250.000	283.003	-13.2#	108	0.00
15		trans-1,2-Dichloroethene	250.000	269.470	-7.8#	111	0.00
16		n-Hexane	250.000	276.027	-10.4#	120	0.00
17	P	1,1-Dichloroethane	250.000	257.238	-2.9#	103	0.00
18		cis-1,2-Dichloroethene	250.000	253.750	-1.5	102	0.00
19	C	Chloroform	250.000	251.520	-0.6#	102	0.00
20		Isooctane	250.000	293.214	-17.3#	115	0.00
21		1,1,1-Trichloroethane	250.000	236.530	5.4#	97	0.00
22		Carbon tetrachloride	250.000	244.205	2.3#	98	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	195.732	21.7#	80	0.00
24		1,2-Dichloroethane	250.000	232.124	7.2#	91	0.00
25		1,2-Dibromoethane	250.000	302.651	-21.1#	114	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	105	0.00
27	M	Benzene	250.000	272.618	-9.0#	110	0.00
28	M	Trichloroethene	250.000	299.632	-19.9#	120	0.00
29	C	1,2-Dichloropropane	250.000	273.170	-9.3#	108	0.00
30		Bromodichloromethane	250.000	248.741	0.5	100	0.00
31		cis-1,3-Dichloropropene	250.000	258.130	-3.3#	102	0.00
32	S	Toluene-d8 SURR#2	250.000	246.801	1.3	102	0.00
33	MC	Toluene	250.000	283.132	-13.3#	113	0.00
34		trans-1,3-Dichloropropene	250.000	260.502	-4.2#	99	0.00
35		1,1,2-Trichloroethane	250.000	302.271	-20.9#	115	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	102	0.00
37		Tetrachloroethene	250.000	302.097	-20.8#	119	0.00
38		Dibromochloromethane	250.000	291.610	-16.6#	111	0.00
39	MP	Chlorobenzene	250.000	288.818	-15.5#	111	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:38:15 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	282.446	-13.0#	111	0.00
41		m,p-Xylene	500.000	578.897	-15.8#	109	0.00
42		o-Xylene	250.000	280.737	-12.3#	108	0.00
43		Styrene	250.000	287.299	-14.9#	108	0.00
44	P	Bromoform	250.000	333.457	-33.4#	118	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	334.948	-34.0#	119	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	219.992	12.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	317.618	-27.0#	111	0.00
48		4-Ethyltoluene	250.000	266.749	-6.7#	100	0.00
49		1,3,5-Trimethylbenzene	250.000	286.567	-14.6#	98	0.00
50		2-Chlorotoluene	250.000	270.133	-8.1#	101	0.00
51		1,2,4-Trimethylbenzene	250.000	284.830	-13.9#	102	0.00
52		1,3-Dichlorobenzene	250.000	295.572	-18.2#	104	0.00
53		1,4-Dichlorobenzene	250.000	293.350	-17.3#	104	0.00
54		1,2-Dichlorobenzene	250.000	314.677	-25.9#	106	0.00
55		1,2,4-Trichlorobenzene	250.000	364.675	-45.9#	111	0.00
56		Napthalene	250.000	404.642	-61.9#	130	0.00
57		Hexachlorobutadiene	250.000	372.769	-49.1#	106	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.: C206345

Lab File ID (Standard): CM0617A.D

Instrument ID: MARILYN Date Analyzed: 6/17/02

GC Column: CAP ID: 0.53 (mm) Time Analyzed: 10:10

Heated Purge: (Y/N) N

	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
12 HOUR STD	435470	11.30	1794860	13.24	1357090	20.55
UPPER LIMIT	870940	11.80	3589720	13.74	2714180	21.05
LOWER LIMIT	217735	10.80	897430	12.74	678545	20.05
EPA SAMPLE NO.						
01 VBLKMA	435677	11.29	1772613	13.23	1348633	20.54
02 LCS AND 2ND S	452161	11.30	1831587	13.25	1399278	20.55
03 SVEEA	512978	11.31	1941439	13.24	1510603	20.54

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

FORM VIII VOA

STL Pensacola / GCMS Volatiles Run Log

Date 5/20/02 Instrument ID : MARILYN Method : TO14 /8260AIR /8260WATER /624MOD New TO14 Curve ⇒ 34

Batch MAB091 1 2 3 Batch _____ 1 2 3 32 BH 5/20

IS# 8 -MSW- 34 - 1 TO14 8 -MSW- ~~27~~ - 1 AIR-SPK 8 -MSW- 30 - 2 Maint. New trap (see occE for last and)

BFB 8 -MSW- 34 - 1 8260 -MSW- - W-SPK -MSW- -

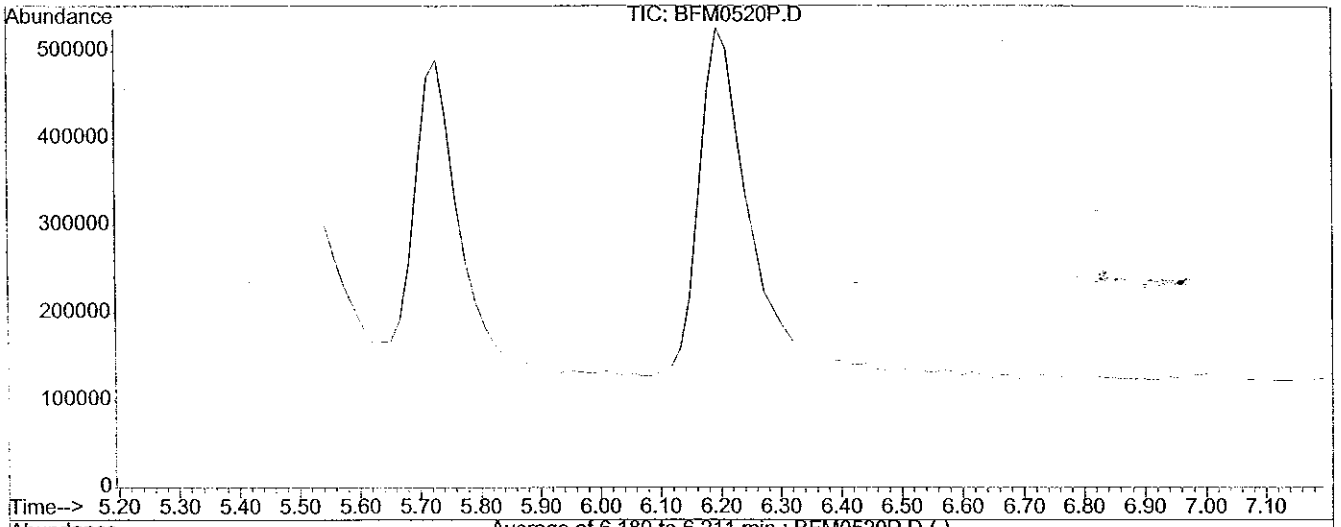
TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS**	*INIT	COMMENTS
12:39	#13	BFBSTL	~~BFM0520A~~	50ppb			W	Yes	BH	Daily 12hr BFB tune 582,000 area 95 ION
16:42	14	To14S.m	CM 0520	250ng			W	Yes	BH	Daily Cal Check / ~~BFB tune~~ no ccv needed (also CMA0250)
14:57	15		MAB91A BK	ST						Daily Method Blank
19:59	~~16~~ 17	BK 5/20	MAB91 LCS	50ppb						Batch# 091 LCS
15:34	14		CMA0025	25ng		Y N				5 ppb ICAL
16:08	15		0100	100ng		Y N				20
16:42	16		0250	250ng		Y N				50 (CCV also) - not needed
17:18	1		0500	500ng		Y N				100
17:51	2	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #2 Skip
18:12	3	To14S.m	CMA1000	1000ng		Y N	W	Yes		200ppb ICAL
18:45	4	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #4 skip/C.O. cleanup
19:05	5	To14S.m	CMA1500	1500ng		Y N	W	Yes		300ppb ICAL
19:39	6	BFBSTL	BLKTUBE	—		Y N	—	—		MFM Port #6 skip/C.O. cleanup
19:59	7	To14S.m	MAB91LCS	250ng		Y N	W	Yes		Batch #091 LCS/2nd Source
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 5/20/02
:						Y N				
:						Y N				
:						Y N				

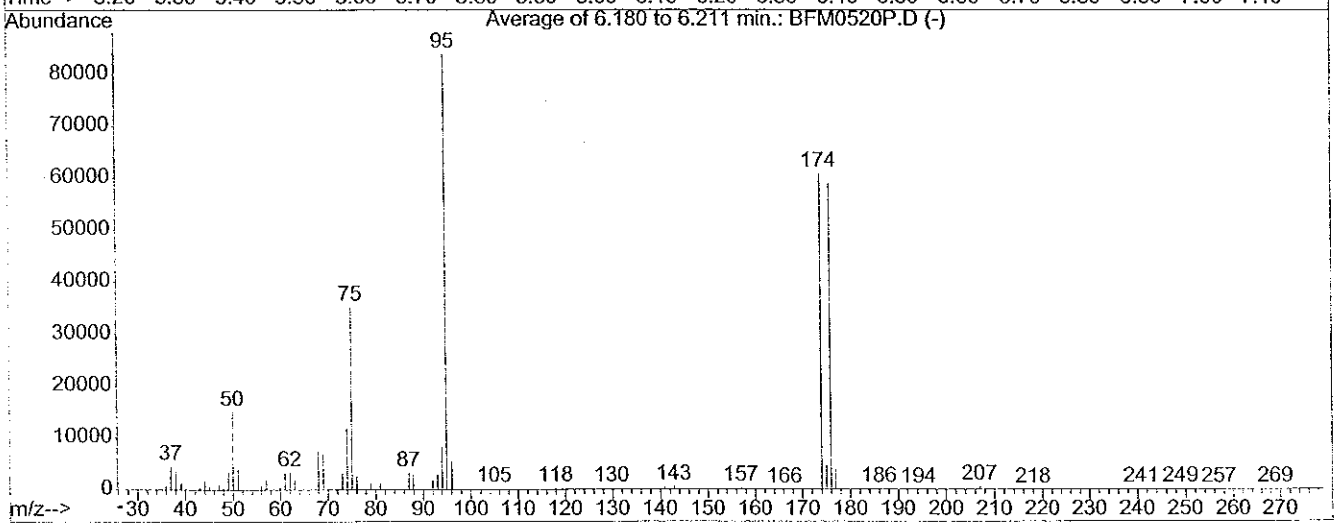
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

NAS Cecil Field Day Tank, CTO-0062 STL Pensacola

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0520P\BFM0520P.D Vial: 13
Acq On : 20 May 2002 12:39 pm Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14





Peak Apex is scan: 43 (6.20 min)
Average of 3 scans: 42,43,44 minus background scan 23 (5.88 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	15079	PASS
75	95	30	60	42.1	35322	PASS
95	95	100	100	100.0	83987	PASS
96	95	5	9	6.5	5458	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	72.5	60859	PASS
175	174	5	9	7.9	4783	PASS
176	174	95	101	97.1	59093	PASS
177	176	5	9	6.5	3865	PASS

BFM0520P.D TO14S.M Mon Jun 24 10:02:41 2002

DAILY BFB 12HR. TUNE 50ppb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	762	51.05	3919	75.05	35322	140.90	532
37.00	4572	55.95	886	76.00	2617	142.90	611
38.05	3644	57.05	2010	78.90	1357	174.00	60859
39.10	1368	59.95	597	80.90	1369	175.00	4783
43.00	537	61.00	3189	87.00	3231	176.00	59093
44.05	1957	62.05	3338	87.90	2927	176.90	3865
45.00	679	63.00	2035	92.00	2128	207.00	594
47.05	1364	68.00	7431	93.05	2953		
47.95	436	68.95	6919	94.05	8271		
49.05	3388	73.00	3166	95.00	83987		
50.00	15079	74.00	11908	96.05	5458		

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Mon Jun 24 11:30:22 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	-----	
							L	M= 0.611	R^2=0.999	
								B= -0.034		
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50

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

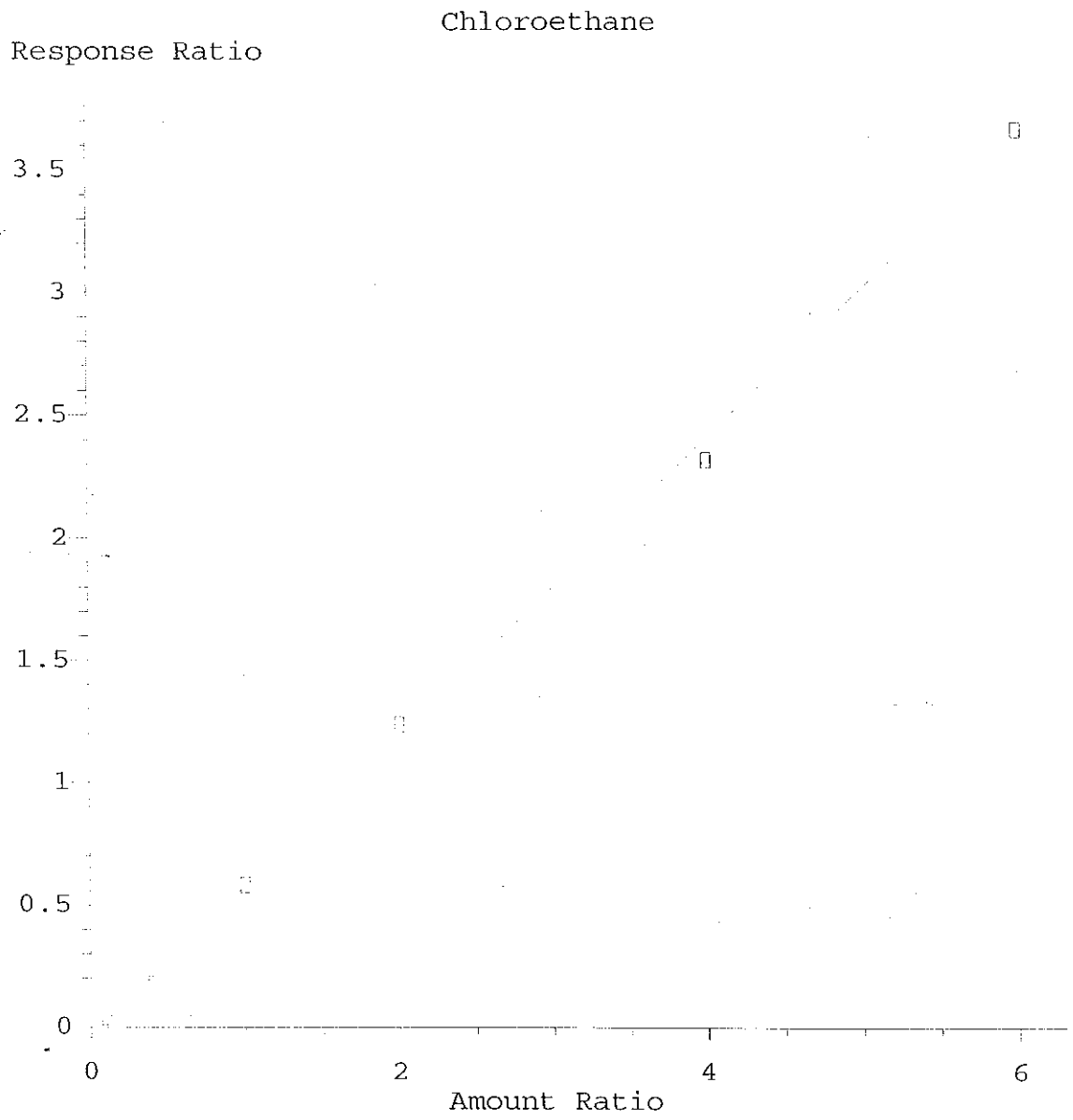
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Mon Jun 24 11:30:22 2002
Response via : Initial Calibration

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

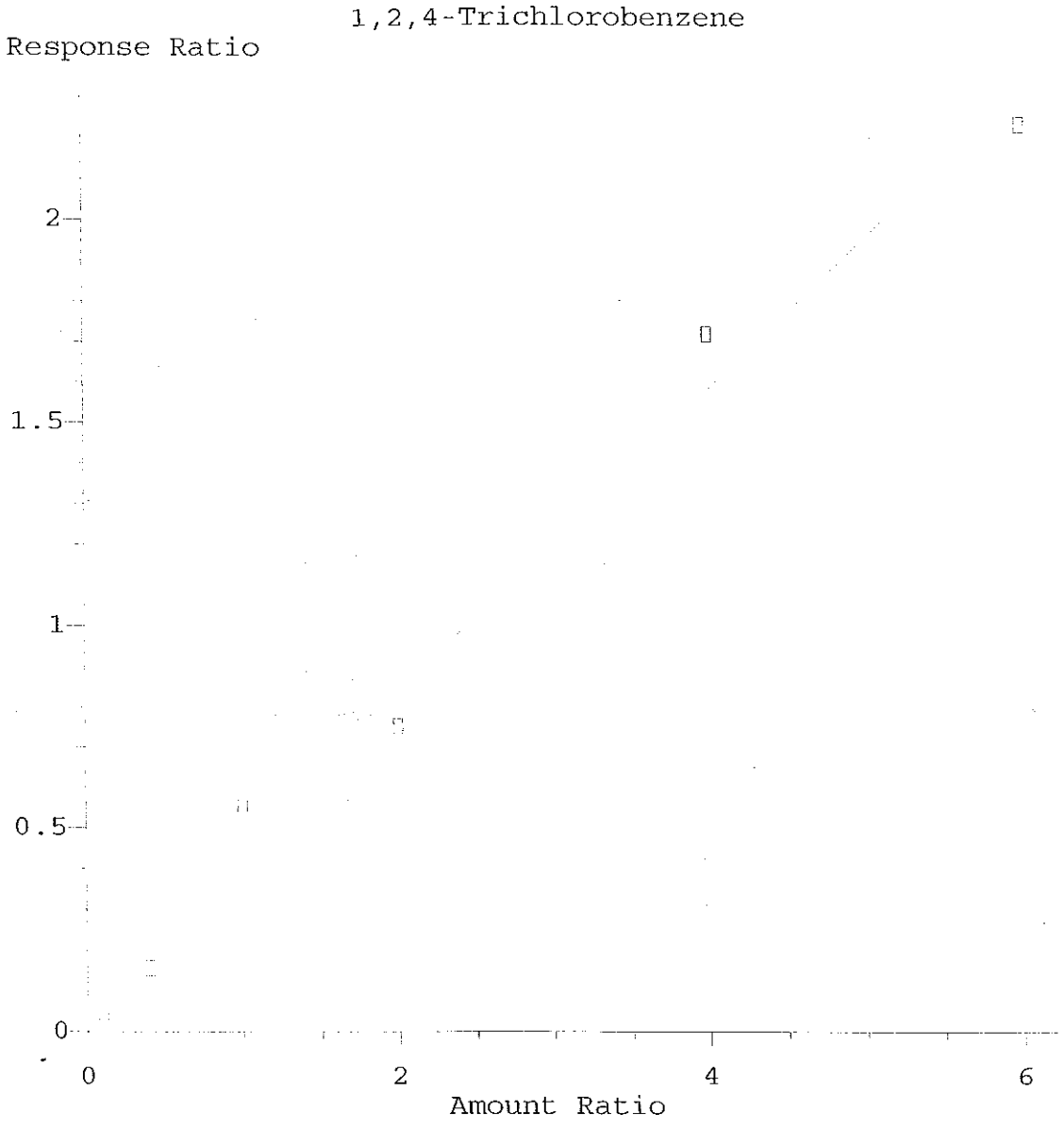
		Compound	25	250	1500	1000	100	500	Avg	%RSD
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

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



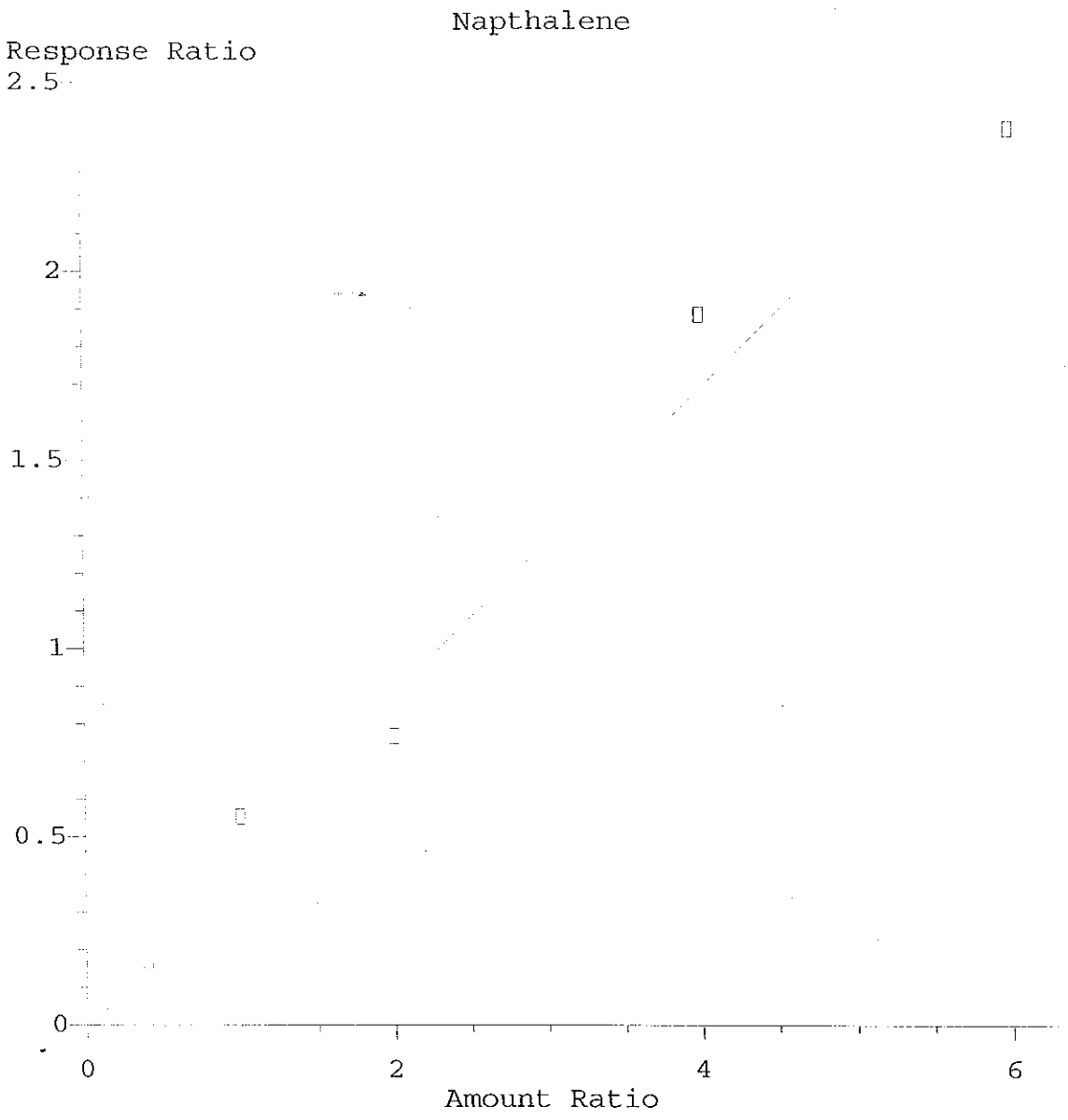
Resp Ratio = 6.11e-001 * Amt - 3.43e-002
Coef of Det (r^2) = 0.999 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 11:30:24 2002



Resp Ratio = 3.72e-001 * Amt + 8.97e-002
Coef of Det (r^2) = 0.983 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 11:30:24 2002



Resp Ratio = 4.04e-001 * Amt + 7.10e-002
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Mon Jun 24 11:30:24 2002

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520A\R&D4GAS.D (20 May 2002 11:48)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	399070	250.00	ng	0.02 96.93%
26) 1,4-Difluorobenzene IS#2	13.30	114	1616838	250.00	ng	0.03 91.93%
36) Chlorobenzene-d5 IS#3	20.60	117	1225795	250.00	ng	0.02 92.85%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	550991	293.44	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 117.38%						
32) Toluene-d8 SURR#2	16.85	98	1240697	245.61	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1141375	261.16	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 104.46%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.74	85	60980	41.58	ng	91
3) Dichlorotetrafluoroethane	3.92	135	55885	24.22	ng #	42
4) Chloromethane	4.20	50	30830	24.52	ng #	72
5) Vinyl chloride	4.41	62	27011	23.26	ng #	91
6) Bromomethane	5.26	94	44836	23.80	ng #	92
7) Chloroethane	5.40	64	16593	19.63	ng #	65
8) Trichlorofluoromethane	5.90	101	111246	55.27	ng	97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	70556	23.66	ng	85
10) 1,1-Dichloroethene	7.06	96	38944	22.94	ng	90
12) Methylene chloride	8.01	49	49592	21.71	ng	96
13) Carbon disulfide	8.10	76	107612	23.55	ng	96
14) methyl-Tert-Butyl Ether	8.29	73	74719	30.18	ng #	86
15) trans-1,2-Dichloroethene	8.60	96	45836	24.05	ng	91
16) n-Hexane	8.69	57	48503	27.91	ng #	1
17) 1,1-Dichloroethane	9.42	63	75154	24.22	ng #	97
18) cis-1,2-Dichloroethene	10.66	61	61638	24.50	ng	99
19) Chloroform	10.99	83	104554	26.69	ng	98
20) Isooctane	11.95	57	156368	26.82	ng	91
21) 1,1,1-Trichloroethane	11.86	97	98647	29.64	ng #	92
22) Carbon tetrachloride	12.42	117	93794	26.77	ng	95
24) 1,2-Dichloroethane	12.70	62	54180	25.70	ng #	95
25) 1,2-Dibromoethane	19.66	107	72521	21.39	ng	99
27) Benzene	12.78	78	108990	22.98	ng	97

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

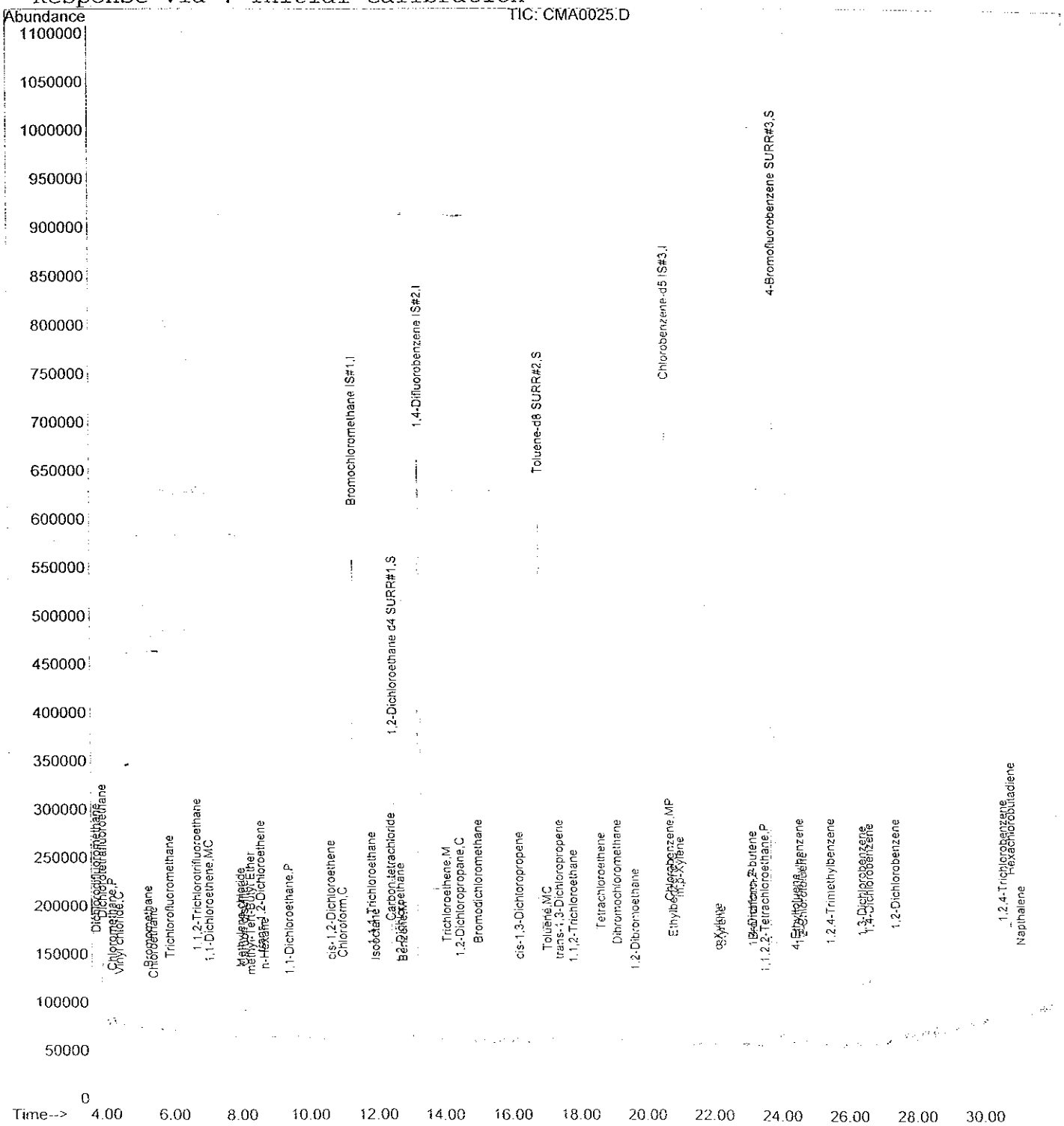
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.10	130	56884	21.59	ng		98
29)	1,2-Dichloropropane	14.49	63	44837	22.35	ng	#	72
30)	Bromodichloromethane	15.01	83	127141	26.05	ng	#	95
31)	cis-1,3-Dichloropropene	16.22	75	74016	24.38	ng	#	86
33)	Toluene	17.05	92	69914	23.34	ng		97
34)	trans-1,3-Dichloropropene	17.41	75	62535	24.07	ng	#	80
35)	1,1,2-Trichloroethane	17.82	97	43255	20.76	ng		99
37)	Tetrachloroethene	18.65	164	60353	25.25	ng		92
38)	Dibromochloromethane	19.13	127	82766	23.38	ng	#	93
39)	Chlorobenzene	20.71	112	100540	23.01	ng		91
40)	Ethylbenzene	20.81	106	43148	24.69	ng		99
41)	m,p-Xylene	21.01	106	103239	45.88	ng		95
42)	o-Xylene	22.14	106	53395	24.82	ng		97
43)	Styrene	22.24	104	88042	23.30	ng		98
44)	Bromoform	23.17	173	79512	22.76	ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.51	83	66459	21.19	ng	#	97
47)	1,4-Dichloro-2-butene	23.15	75	14301	22.38	ng	#	91
48)	4-Ethyltoluene	24.43	105	145409	25.63	ng	#	86
49)	1,3,5-Trimethylbenzene	24.53	105	106064	23.72	ng		93
50)	2-Chlorotoluene	24.64	91	143648	24.60	ng		95
51)	1,2,4-Trimethylbenzene	25.47	105	111623	23.69	ng		95
52)	1,3-Dichlorobenzene	26.40	146	89648	23.39	ng		94
53)	1,4-Dichlorobenzene	26.62	146	91515	22.63	ng		94
54)	1,2-Dichlorobenzene	27.38	146	80646	21.69	ng		98
55)	1,2,4-Trichlorobenzene	30.56	180	59257	21.27	ng	#	94
56)	Napthalene	31.10	128	67702	16.64	ng	#	87
57)	Hexachlorobutadiene	30.79	225	60589	24.95	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0025.D 8260W100.M Mon Jun 24 10:03:11 2002 Page 2

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration



CMA0025.D 8260W100.M Mon Jun 24 10:03:13 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	373178	250.00	ng	0.01 90.64%
26) 1,4-Difluorobenzene IS#2	13.30	114	1549218	250.00	ng	0.00 88.08%
36) Chlorobenzene-d5 IS#3	20.62	117	1186656	250.00	ng	0.01 89.89%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.49	65	513097	281.91	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.76%						
32) Toluene-d8 SURR#2	16.86	98	1185537	245.24	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.10%						
46) 4-Bromofluorobenzene SURR#	23.75	95	1124132	263.32	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.33%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.70	85	208215	142.60	ng	98
3) Dichlorotetrafluoroethane	3.90	135	210039	99.31	ng #	45
4) Chloromethane	4.18	50	104743	91.83	ng #	90
5) Vinyl chloride	4.39	62	105251	99.42	ng #	92
6) Bromomethane	5.26	94	152151	90.35	ng	97
7) Chloroethane	5.41	64	66570	87.07	ng #	91
8) Trichlorofluoromethane	5.88	101	393732	163.14	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	254579	93.28	ng	84
10) 1,1-Dichloroethene	7.07	96	136196	87.16	ng	93
12) Methylene chloride	8.01	49	174142	84.00	ng	97
13) Carbon disulfide	8.11	76	383967	92.08	ng	99
14) methyl-Tert-Butyl Ether	8.30	73	235409	99.63	ng	92
15) trans-1,2-Dichloroethene	8.60	96	157885	89.38	ng	93
16) n-Hexane	8.70	57	151156	92.29	ng #	1
17) 1,1-Dichloroethane	9.42	63	266761	92.48	ng	99
18) cis-1,2-Dichloroethene	10.68	61	215129	91.82	ng	96
19) Chloroform	11.00	83	344741	92.95	ng	99
20) Isooctane	11.95	57	493297	90.96	ng	99
21) 1,1,1-Trichloroethane	11.86	97	332268	104.12	ng	93
22) Carbon tetrachloride	12.43	117	344087	103.64	ng	99
24) 1,2-Dichloroethane	12.70	62	182601	92.00	ng	97
25) 1,2-Dibromoethane	19.67	107	244693	79.07	ng	99
27) Benzene	12.77	78	363827	82.28	ng	99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

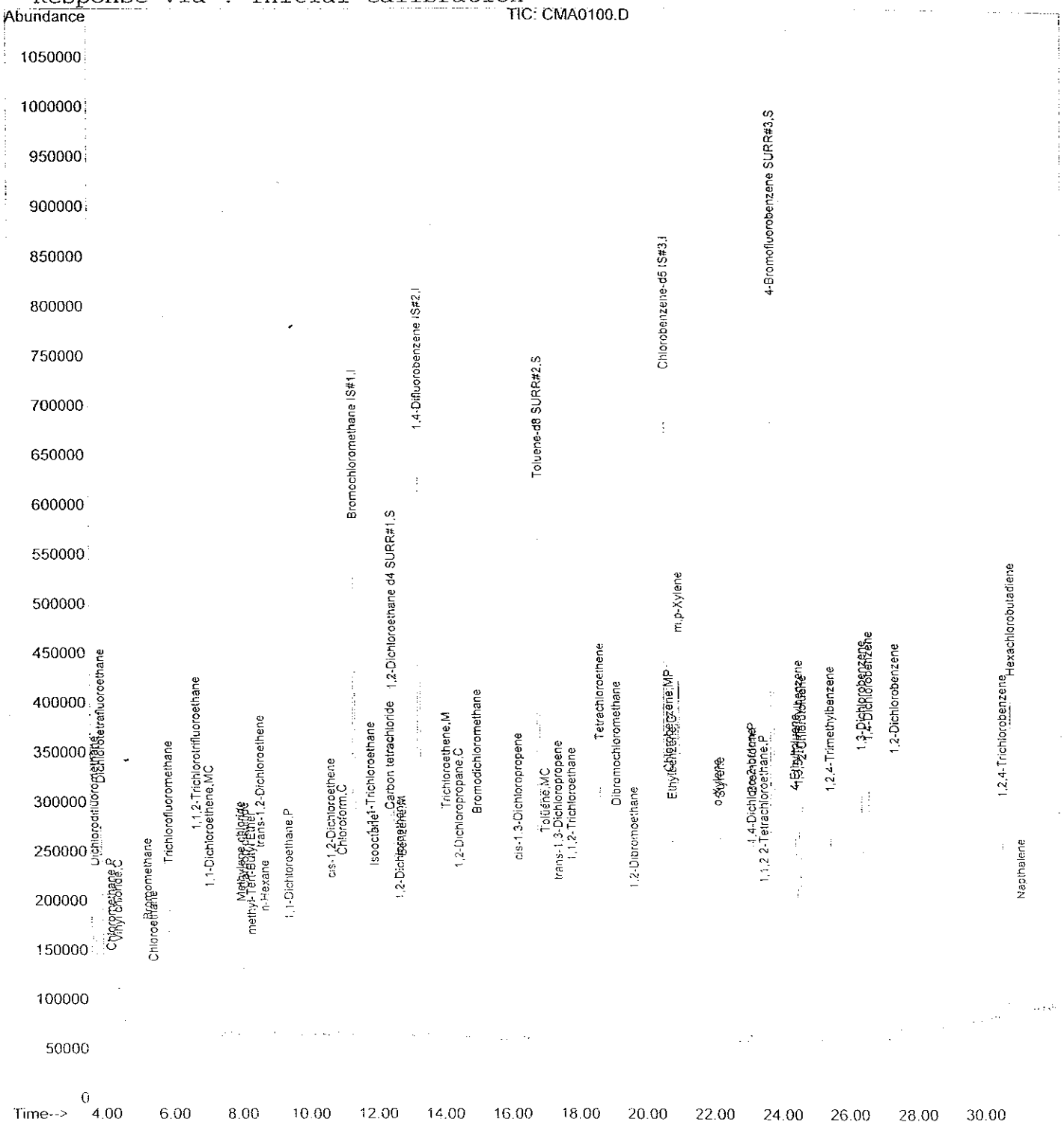
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.11	130	201542	81.77 ng		97
29)	1,2-Dichloropropane	14.48	63	151752	80.54 ng	#	90
30)	Bromodichloromethane	15.03	83	408610	86.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	241241	82.98 ng		91
33)	Toluene	17.04	92	245575	86.66 ng		96
34)	trans-1,3-Dichloropropene	17.42	75	201539	81.12 ng	#	89
35)	1,1,2-Trichloroethane	17.82	97	139953	72.43 ng		97
37)	Tetrachloroethene	18.66	164	209613	90.95 ng		91
38)	Dibromochloromethane	19.16	127	274483	80.98 ng	#	98
39)	Chlorobenzene	20.73	112	347242	83.24 ng		98
40)	Ethylbenzene	20.82	106	141753	84.17 ng		94
41)	m,p-Xylene	21.01	106	373377	174.23 ng		100
42)	o-Xylene	22.15	106	179424	86.02 ng		99
43)	Styrene	22.23	104	307926	84.87 ng		99
44)	Bromoform	23.18	173	264009	79.30 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	206475	70.59 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	43155	71.09 ng		94
48)	4-Ethyltoluene	24.44	105	481270	89.01 ng		97
49)	1,3,5-Trimethylbenzene	24.53	105	362124	85.37 ng		93
50)	2-Chlorotoluene	24.64	91	509871	91.50 ng		97
51)	1,2,4-Trimethylbenzene	25.48	105	389067	86.67 ng		99
52)	1,3-Dichlorobenzene	26.41	146	313479	85.41 ng		96
53)	1,4-Dichlorobenzene	26.61	146	322064	83.19 ng		96
54)	1,2-Dichlorobenzene	27.37	146	287311	83.20 ng		97
55)	1,2,4-Trichlorobenzene	30.56	180	185496	76.09 ng		99
56)	Napthalene	31.10	128	190082	58.95 ng	#	87
57)	Hexachlorobutadiene	30.81	225	186532	92.47 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	417253	250.00	ng	0.02 101.35%
26) 1,4-Difluorobenzene IS#2	13.31	114	1707946	250.00	ng	0.00 97.11%
36) Chlorobenzene-d5 IS#3	20.62	117	1335967	250.00	ng	0.02 101.20%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	575921	277.22	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.89%						
32) Toluene-d8 SURR#2	16.86	98	1323808	249.00	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.60%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1306401	269.45	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 107.78%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.71	85	663827	367.07	ng	100
3) Dichlorotetrafluoroethane	3.91	135	701816	291.32	ng	# 44
4) Chloromethane	4.19	50	345732	272.06	ng	# 95
5) Vinyl chloride	4.39	62	352324	291.53	ng	95
6) Bromomethane	5.26	94	483269	258.51	ng	99
7) Chloroethane	5.40	64	243344	286.02	ng	98
8) Trichlorofluoromethane	5.88	101	1331915	415.12	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.71	151	859877	279.86	ng	84
10) 1,1-Dichloroethene	7.06	96	444023	256.57	ng	98
12) Methylene chloride	8.00	49	615621	268.79	ng	98
13) Carbon disulfide	8.10	76	1278404	272.13	ng	99
14) methyl-Tert-Butyl Ether	8.29	73	845762	316.01	ng	97
15) trans-1,2-Dichloroethene	8.59	96	524208	266.41	ng	98
16) n-Hexane	8.71	57	458238	249.68	ng	# 1
17) 1,1-Dichloroethane	9.42	63	921051	283.65	ng	98
18) cis-1,2-Dichloroethene	10.67	61	747445	282.93	ng	97
19) Chloroform	10.99	83	1172455	280.52	ng	100
20) Isooctane	11.96	57	1691408	282.91	ng	98
21) 1,1,1-Trichloroethane	11.86	97	1114413	303.45	ng	91
22) Carbon tetrachloride	12.42	117	1160795	303.96	ng	99
24) 1,2-Dichloroethane	12.70	62	648568	291.50	ng	98
25) 1,2-Dibromoethane	19.68	107	911988	270.23	ng	99
27) Benzene	12.78	78	1219770	255.05	ng	98

(#) = qualifier out of range (m) = manual integration
CMA0250.D 8260W100.M Mon Jun 24 10:04:44 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

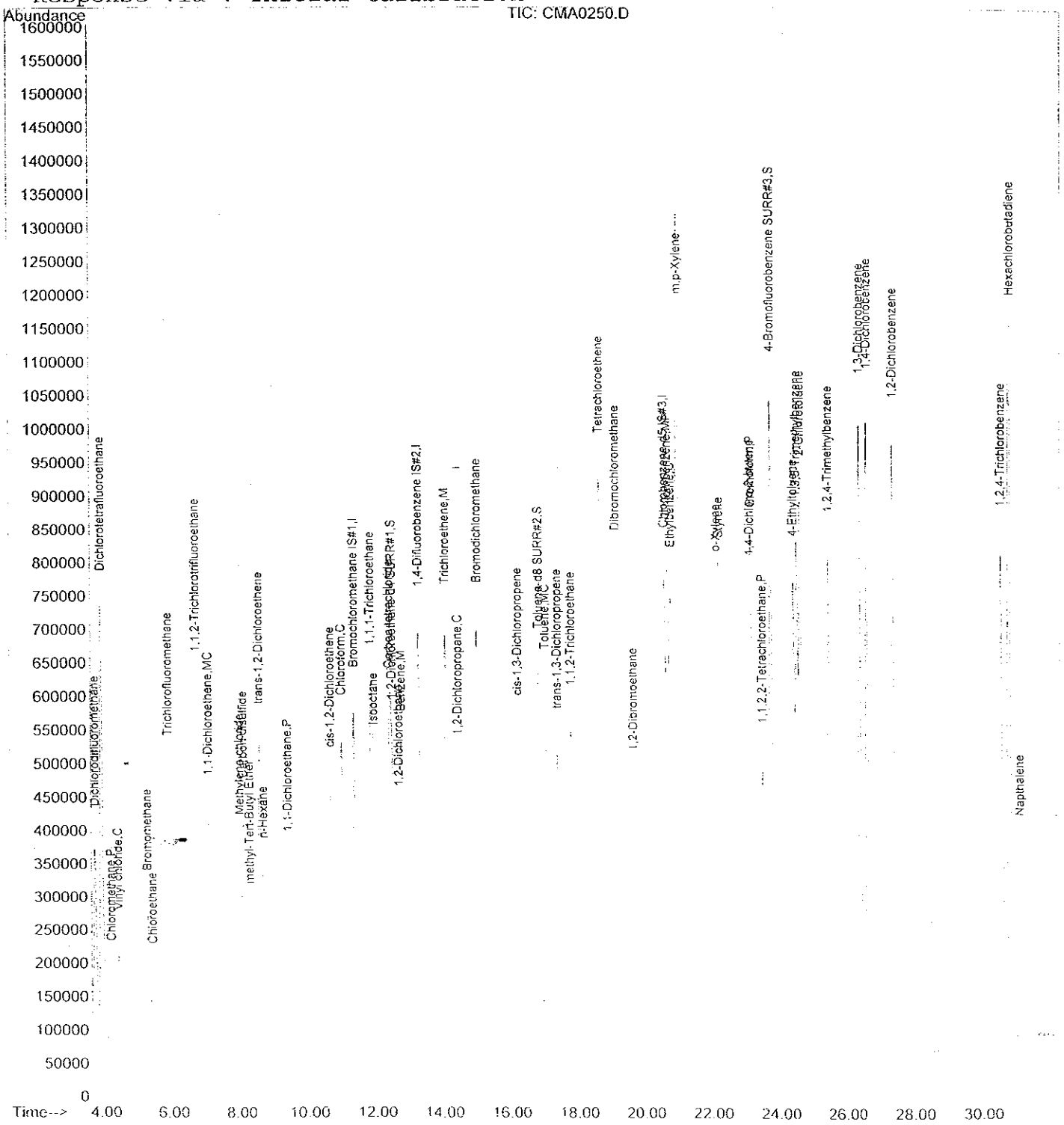
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	693355	260.21 ng		97
29)	1,2-Dichloropropane	14.47	63	531527	261.09 ng		95
30)	Bromodichloromethane	15.03	83	1391715	269.49 ng		98
31)	cis-1,3-Dichloropropene	16.24	75	854837	269.64 ng		96
33)	Toluene	17.05	92	833424	268.18 ng		99
34)	trans-1,3-Dichloropropene	17.41	75	748576	278.06 ng		96
35)	1,1,2-Trichloroethane	17.81	97	507382	248.42 ng		97
37)	Tetrachloroethene	18.67	164	724724	279.20 ng		92
38)	Dibromochloromethane	19.15	127	970854	260.07 ng		98
39)	Chlorobenzene	20.72	112	1231627	266.26 ng		97
40)	Ethylbenzene	20.81	106	494615	263.02 ng		95
41)	m,p-Xylene	21.01	106	1323312	552.43 ng		96
42)	o-Xylene	22.16	106	635186	271.93 ng		100
43)	Styrene	22.24	104	1114793	274.99 ng		97
44)	Bromoform	23.19	173	1012669	278.34 ng		99
45)	1,1,2,2-Tetrachloroethane	23.51	83	774119	246.56 ng		99
47)	1,4-Dichloro-2-butene	23.15	75	177079	268.80 ng		99
48)	4-Ethyltoluene	24.44	105	1722714	281.98 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	1412433	301.18 ng		93
50)	2-Chlorotoluene	24.65	91	1744653	278.39 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	1423152	284.90 ng		100
52)	1,3-Dichlorobenzene	26.40	146	1171866	287.54 ng		96
53)	1,4-Dichlorobenzene	26.62	146	1199069	280.81 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1098533	289.46 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	747752	284.37 ng		99
56)	Napthalene	31.12	128	740301	225.19 ng	#	91
57)	Hexachlorobutadiene	30.81	225	726983	328.17 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	416766	250.00	ng	0.00 99.88%
26) 1,4-Difluorobenzene IS#2	13.31	114	1792397	250.00	ng	0.00 104.94%
36) Chlorobenzene-d5 IS#3	20.62	117	1360342	250.00	ng	0.00 101.82%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	555053	263.27	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.31%						
32) Toluene-d8 SURR#2	16.86	98	1364331	245.41	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.16%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1279462	255.65	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.26%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.74	85	1458753	731.15	ng		99
3) Dichlorotetrafluoroethane	3.94	135	1468601	599.73	ng	#	46
4) Chloromethane	4.22	50	707140	550.40	ng		95
5) Vinyl chloride	4.42	62	734031	597.16	ng		97
6) Bromomethane	5.28	94	1013134	539.25	ng		99
7) Chloroethane	5.42	64	516165	598.37	ng		97
8) Trichlorofluoromethane	5.91	101	2728826	736.61	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.72	151	1810480	580.32	ng		84
10) 1,1-Dichloroethene	7.09	96	905211	524.65	ng		99
12) Methylene chloride	8.03	49	1213973	532.26	ng		99
13) Carbon disulfide	8.12	76	2631305	552.53	ng		100
14) methyl-Tert-Butyl Ether	8.31	73	1501820	539.26	ng		95
15) trans-1,2-Dichloroethene	8.60	96	1078808	544.20	ng		97
16) n-Hexane	8.71	57	947618	517.91	ng	#	1
17) 1,1-Dichloroethane	9.44	63	1869662	565.64	ng		98
18) cis-1,2-Dichloroethene	10.68	61	1513036	564.14	ng		97
19) Chloroform	11.01	83	2347164	553.51	ng		99
20) Isooctane	11.97	57	3054730	503.50	ng		98
21) 1,1,1-Trichloroethane	11.86	97	2262655	594.74	ng		92
22) Carbon tetrachloride	12.44	117	2358585	598.03	ng		99
24) 1,2-Dichloroethane	12.70	62	1232739	546.62	ng		98
25) 1,2-Dibromoethane	19.67	107	1643507	487.51	ng		99
27) Benzene	12.78	78	2494309	499.36	ng		98

(#) = qualifier out of range (m) = manual integration
CMA0500.D 8260W100.M Mon Jun 24 10:05:06 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

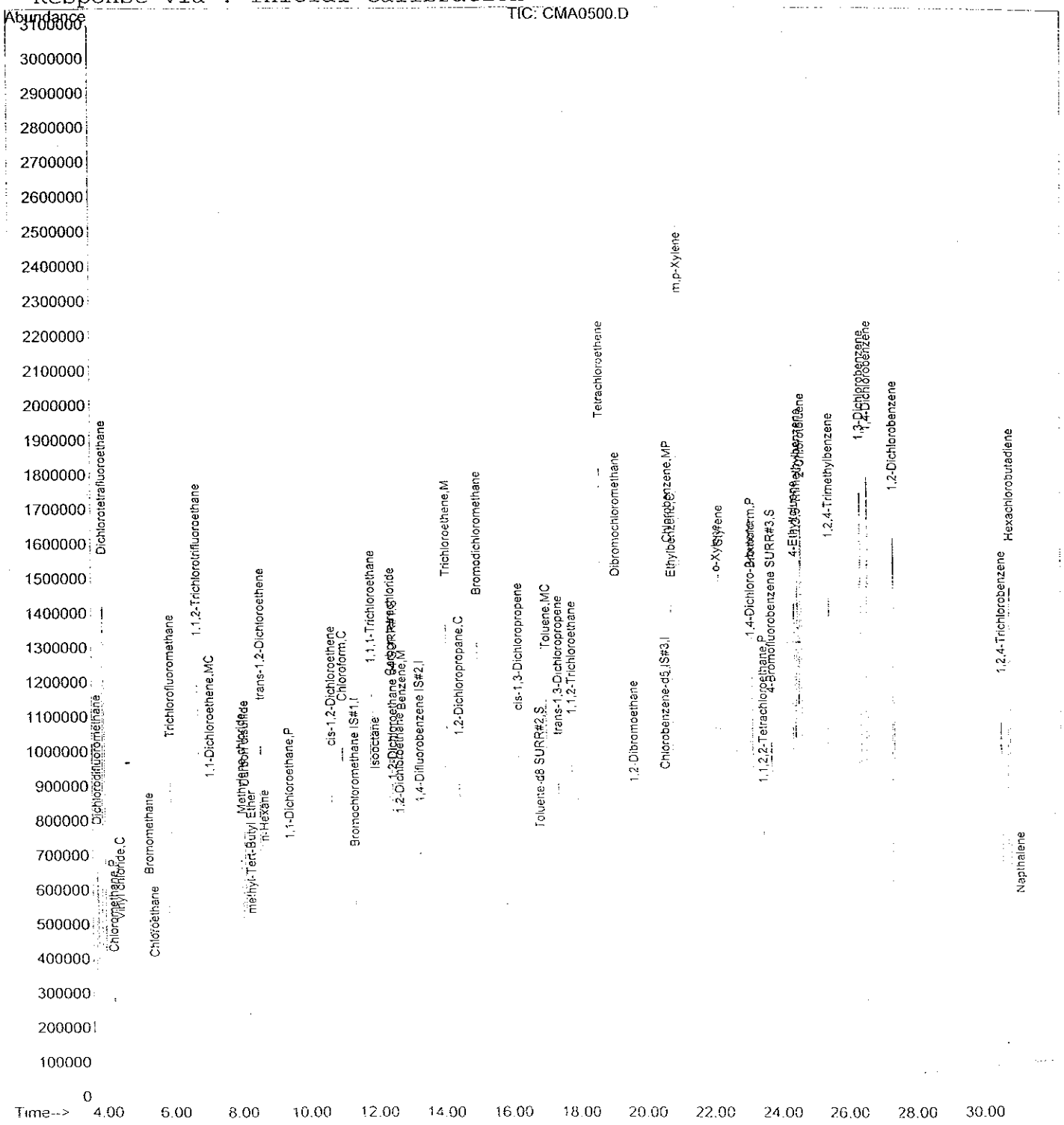
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	1432364	514.74 ng		96
29)	1,2-Dichloropropane	14.49	63	1071754	504.26 ng		97
30)	Bromodichloromethane	15.02	83	2739984	504.58 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	1690648	505.74 ng		97
33)	Toluene	17.05	92	1703256	520.16 ng		97
34)	trans-1,3-Dichloropropene	17.41	75	1409734	495.90 ng		95
35)	1,1,2-Trichloroethane	17.81	97	941430	448.37 ng		97
37)	Tetrachloroethene	18.66	164	1469307	545.87 ng		92
38)	Dibromochloromethane	19.15	127	1812921	479.34 ng		98
39)	Chlorobenzene	20.72	112	2433163	515.97 ng		96
40)	Ethylbenzene	20.82	106	1004604	523.75 ng		100
41)	m,p-Xylene	21.01	106	2571729	1044.70 ng		98
42)	o-Xylene	22.16	106	1250748	521.41 ng		99
43)	Styrene	22.24	104	2177929	522.77 ng		97
44)	Bromoform	23.18	173	1748129	468.44 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	1291894	412.18 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	289125	428.59 ng		98
48)	4-Ethyltoluene	24.44	105	3264969	515.49 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	2348158	478.21 ng	#	81
50)	2-Chlorotoluene	24.64	91	3348047	518.72 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	2630210	511.79 ng		100
52)	1,3-Dichlorobenzene	26.40	146	2100877	501.27 ng		96
53)	1,4-Dichlorobenzene	26.62	146	2137944	491.21 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1851673	476.57 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	1023646	382.56 ng		100
56)	Napthalene	31.12	128	1045942	328.70 ng	#	91
57)	Hexachlorobutadiene	30.81	225	830293	355.90 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	394554	250.00	ng	-0.02 94.56%
26) 1,4-Difluorobenzene IS#2	13.31	114	1652129	250.00	ng	0.00 96.73%
36) Chlorobenzene-d5 IS#3	20.62	117	1259470	250.00	ng	0.00 94.27%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	534557	267.82	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 107.13%						
32) Toluene-d8 SURR#2	16.86	98	1259913	245.87	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.35%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1200446	259.07	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.63%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.71	85	2472279	1308.90	ng	100
3) Dichlorotetrafluoroethane	3.91	135	2705137	1166.88	ng	# 44
4) Chloromethane	4.20	50	1203446	989.42	ng	96
5) Vinyl chloride	4.39	62	1292403	1110.60	ng	97
6) Bromomethane	5.26	94	1798871	1011.36	ng	99
7) Chloroethane	5.38	64	916308	1122.05	ng	98
8) Trichlorofluoromethane	5.88	101	5148169	1467.91	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	3425426	1159.77	ng	84
10) 1,1-Dichloroethene	7.06	96	1745693	1068.74	ng	99
12) Methylene chloride	7.99	49	2349215	1087.99	ng	98
13) Carbon disulfide	8.10	76	5052330	1120.62	ng	100
14) methyl-Tert-Butyl Ether	8.29	73	3152644	1195.75	ng	95
15) trans-1,2-Dichloroethene	8.58	96	2073926	1105.08	ng	97
16) n-Hexane	8.69	57	1824641	1053.38	ng	# 1
17) 1,1-Dichloroethane	9.42	63	3628464	1159.54	ng	98
18) cis-1,2-Dichloroethene	10.67	61	2985062	1175.64	ng	98
19) Chloroform	10.99	83	4584005	1141.87	ng	99
20) Isooctane	11.95	57	6258676	1089.67	ng	98
21) 1,1,1-Trichloroethane	11.85	97	4402790	1222.43	ng	92
22) Carbon tetrachloride	12.42	117	4572900	1224.76	ng	99
24) 1,2-Dichloroethane	12.70	62	2508634	1175.00	ng	98
25) 1,2-Dibromoethane	19.67	107	3439109	1077.57	ng	100
27) Benzene	12.78	78	4836746	1050.53	ng	98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

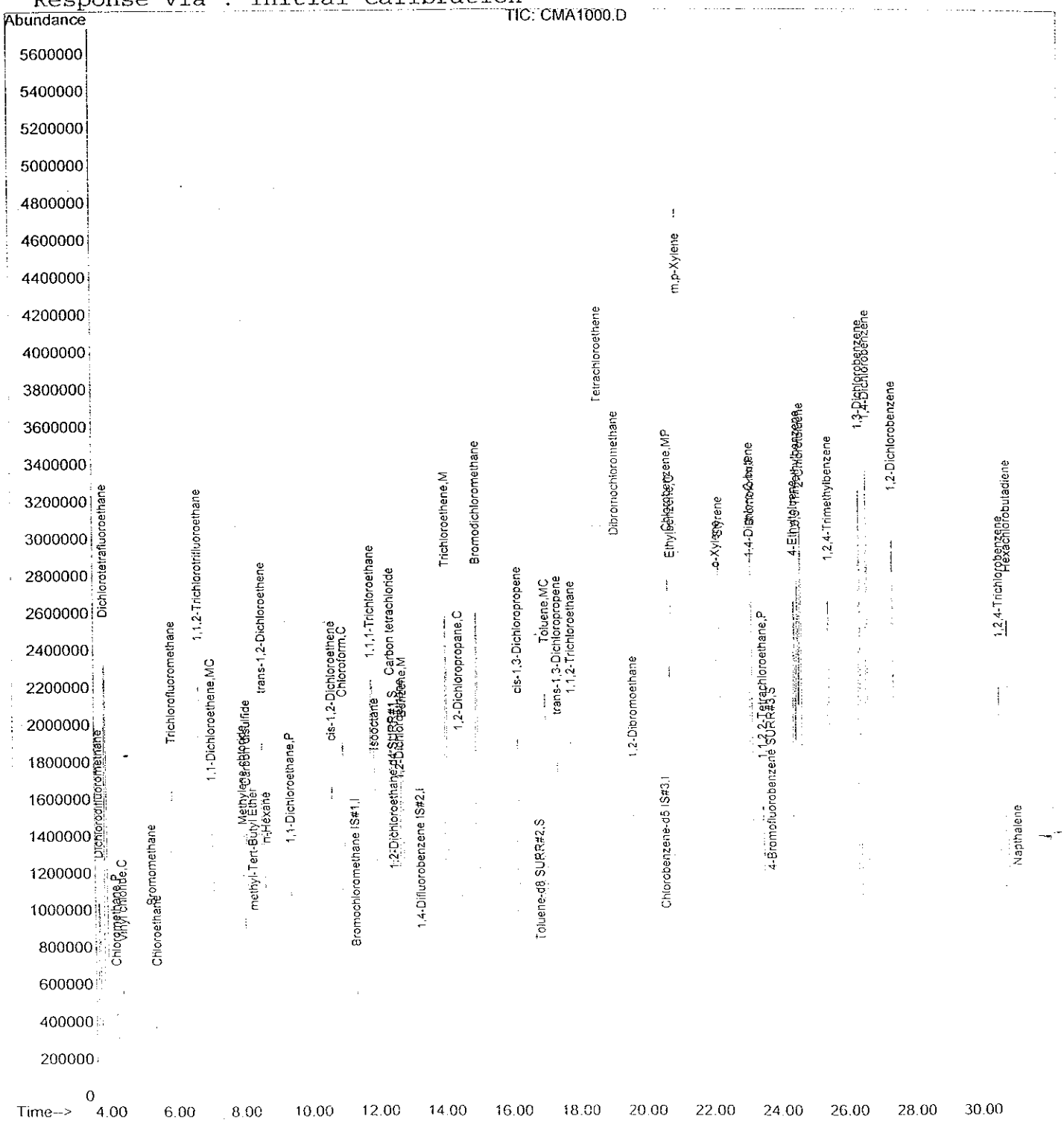
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	2777041	1082.70 ng		96
29)	1,2-Dichloropropane	14.49	63	2111962	1078.04 ng		97
30)	Bromodichloromethane	15.01	83	5508218	1100.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	3365587	1092.27 ng		97
33)	Toluene	17.05	92	3290004	1090.04 ng		98
34)	trans-1,3-Dichloropropene	17.41	75	2914397	1112.24 ng		96
35)	1,1,2-Trichloroethane	17.83	97	1957001	1011.18 ng		97
37)	Tetrachloroethene	18.66	164	2844548	1141.42 ng		92
38)	Dibromochloromethane	19.16	127	3731352	1065.60 ng		98
39)	Chlorobenzene	20.73	112	4748532	1087.61 ng		95
40)	Ethylbenzene	20.82	106	1914168	1077.87 ng		100
41)	m,p-Xylene	21.03	106	4979844	2184.96 ng		97
42)	o-Xylene	22.17	106	2441444	1099.31 ng		96
43)	Styrene	22.25	104	4204219	1089.96 ng		98
44)	Bromoform	23.20	173	3680732	1065.31 ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	2758607	950.63 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	657970	1053.47 ng		98
48)	4-Ethyltoluene	24.46	105	6304262	1075.06 ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	4302298	946.35 ng	#	80
50)	2-Chlorotoluene	24.66	91	6282472	1051.32 ng		99
51)	1,2,4-Trimethylbenzene	25.50	105	4938539	1037.92 ng		99
52)	1,3-Dichlorobenzene	26.41	146	3971818	1023.57 ng		97
53)	1,4-Dichlorobenzene	26.63	146	4133586	1025.80 ng		95
54)	1,2-Dichlorobenzene	27.39	146	3553735	987.88 ng		97
55)	1,2,4-Trichlorobenzene	30.58	180	2164954	873.89 ng		100
56)	Napthalene	31.12	128	2376885	806.78 ng	#	92
57)	Hexachlorobutadiene	30.81	225	1453336	672.85 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration



CMA1000.D 8260W100.M Mon Jun 24 10:05:21 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	384814	250.00	ng	-0.02 92.23%
26) 1,4-Difluorobenzene IS#2	13.29	114	1659953	250.00	ng	-0.02 97.19%
36) Chlorobenzene-d5 IS#3	20.62	117	1234109	250.00	ng	0.00 92.38%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	505438	259.64	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.86%						
32) Toluene-d8 SURR#2	16.85	98	1257252	244.19	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.68%						
46) 4-Bromofluorobenzene SURR#	23.78	95	1091145	240.32	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.13%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.71	85	3538177	1920.63	ng	99
3) Dichlorotetrafluoroethane	3.93	135	4007266	1772.31	ng	# 53
4) Chloromethane	4.21	50	1807253	1523.46	ng	95
5) Vinyl chloride	4.39	62	1921485	1692.99	ng	97
6) Bromomethane	5.25	94	2704264	1558.87	ng	99
7) Chloroethane	5.39	64	1413667	1774.89	ng	97
8) Trichlorofluoromethane	5.88	101	7613753	2225.87	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	5177281	1797.28	ng	83
10) 1,1-Dichloroethene	7.06	96	2636659	1655.05	ng	98
12) Methylene chloride	7.99	49	3470726	1648.08	ng	98
13) Carbon disulfide	8.10	76	7525988	1711.53	ng	100
14) methyl-Tert-Butyl Ether	8.29	73	4266479	1659.17	ng	96
15) trans-1,2-Dichloroethene	8.59	96	3103467	1695.53	ng	97
16) n-Hexane	8.69	57	2825624	1672.55	ng	# 1
17) 1,1-Dichloroethane	9.42	63	5388402	1765.54	ng	98
18) cis-1,2-Dichloroethene	10.67	61	4423007	1786.05	ng	98
19) Chloroform	10.99	83	6791788	1734.65	ng	100
20) Isooctane	11.96	57	9085470	1621.86	ng	98
21) 1,1,1-Trichloroethane	11.85	97	6476682	1843.76	ng	92
22) Carbon tetrachloride	12.42	117	6721298	1845.72	ng	99
24) 1,2-Dichloroethane	12.70	62	3511462	1686.34	ng	98
25) 1,2-Dibromoethane	19.67	107	4643985	1491.91	ng	100
27) Benzene	12.78	78	7167425	1549.41	ng	98

(#) = qualifier out of range (m) = manual integration
CMA1500.D 8260W100.M Mon Jun 24 10:05:30 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

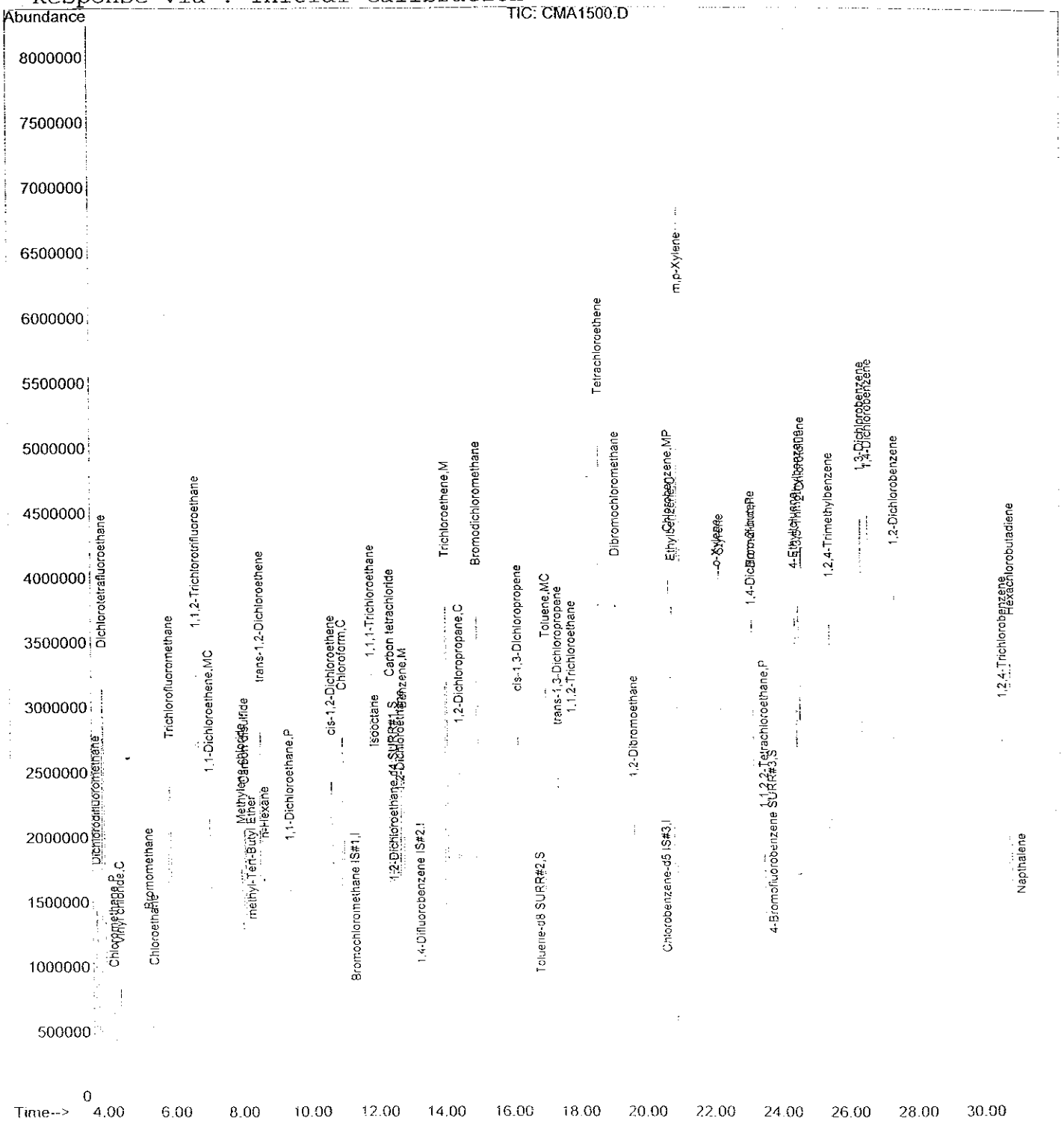
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	4129346	1602.35 ng		96
29)	1,2-Dichloropropane	14.49	63	3091310	1570.51 ng		97
30)	Bromodichloromethane	15.02	83	7968064	1584.43 ng		99
31)	cis-1,3-Dichloropropene	16.23	75	4903870	1584.00 ng		97
33)	Toluene	17.05	92	4832913	1593.69 ng		98
34)	trans-1,3-Dichloropropene	17.41	75	4032681	1531.76 ng		96
35)	1,1,2-Trichloroethane	17.83	97	2679218	1377.83 ng		97
37)	Tetrachloroethene	18.67	164	4172961	1708.88 ng		92
38)	Dibromochloromethane	19.16	127	5156431	1502.84 ng		97
39)	Chlorobenzene	20.73	112	6933813	1620.77 ng		95
40)	Ethylbenzene	20.82	106	2789207	1602.88 ng		98
41)	m,p-Xylene	21.03	106	7153023	3202.96 ng		97
42)	o-Xylene	22.18	106	3524637	1619.65 ng		95
43)	Styrene	22.25	104	5995630	1586.34 ng		97
44)	Bromoform	23.19	173	4699838	1388.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	3406981	1198.19 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	813503	1329.26 ng		98
48)	4-Ethyltoluene	24.44	105	8912492	1551.07 ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	6810996m	1528.96 ng	#	67
50)	2-Chlorotoluene	24.65	91	8724683	1490.01 ng		99
51)	1,2,4-Trimethylbenzene	25.48	105	6772432	1452.59 ng		99
52)	1,3-Dichlorobenzene	26.42	146	5433868	1429.13 ng		96
53)	1,4-Dichlorobenzene	26.63	146	5648009	1430.43 ng		96
54)	1,2-Dichlorobenzene	27.39	146	4686133	1329.44 ng		96
55)	1,2,4-Trichlorobenzene	30.58	180	2755935	1135.30 ng		99
56)	Napthalene	31.12	128	2939930	1018.40 ng	#	93
57)	Hexachlorobutadiene	30.81	225	1951302	921.96 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

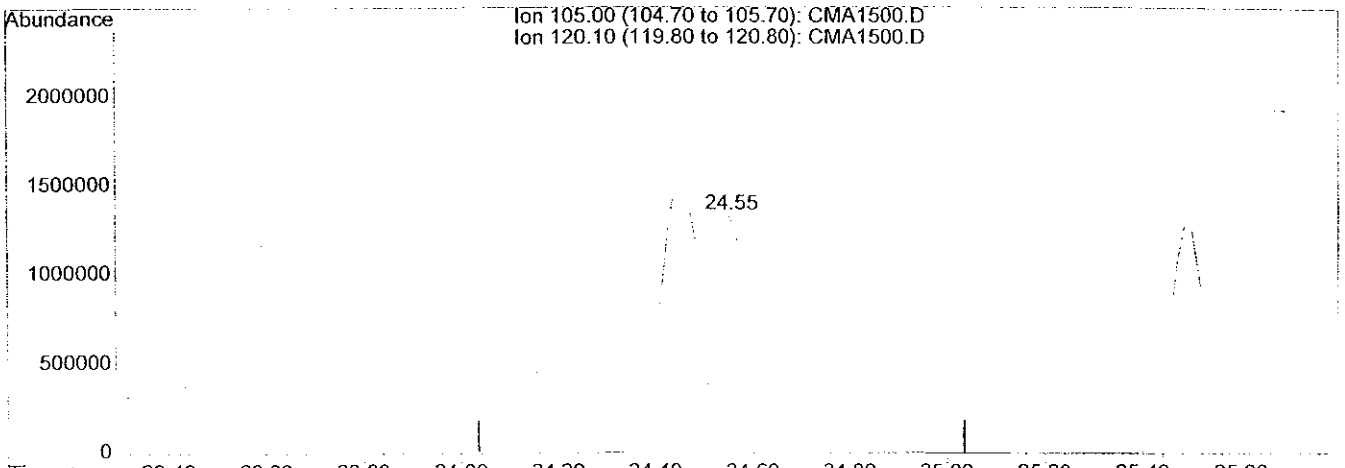
Method : D:\HPCHEM\1\METHODS\8260W100.M (RTE Integrator)
Title : 8260
Last Update : Fri Jun 21 11:06:32 2002
Response via : Initial Calibration

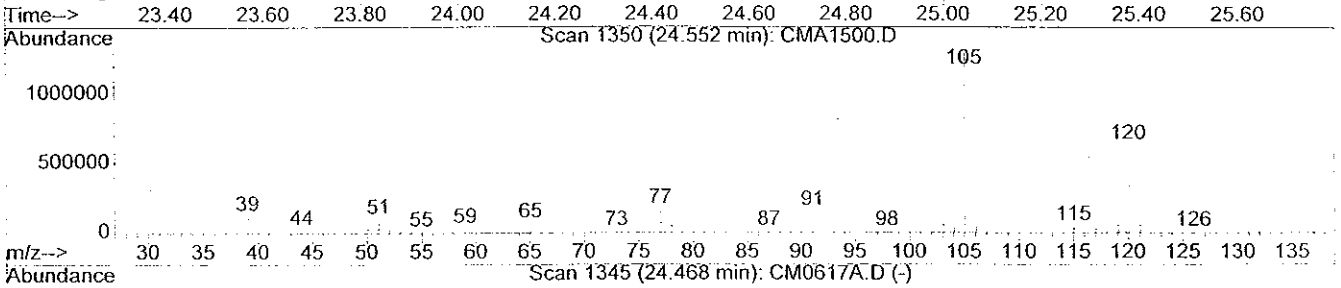


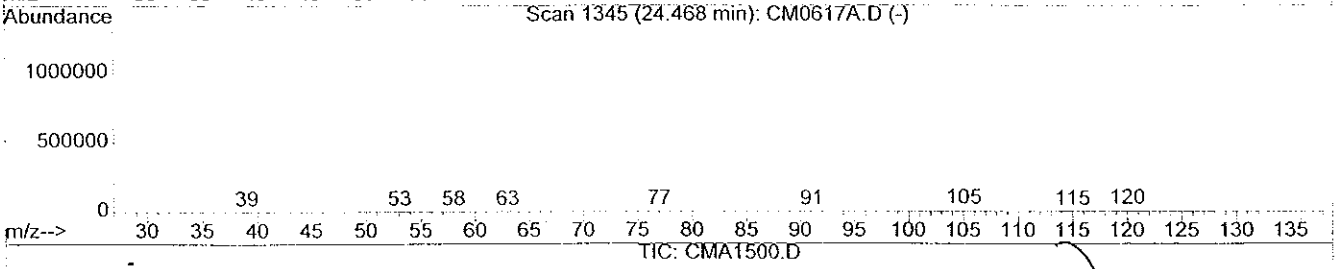
CMA1500.D 8260W100.M Mon Jun 24 10:05:33 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Multiple Level Calibration







(49) 1,3,5-Trimethylbenzene

24.55min 1528.96ng m

response 6810996

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	32.42#
0.00	0.00	0.00
0.00	0.00	0.00

after (was wrong peak prior to integration)

CMA1500.D TO14S.M Mon Jun 24 10:12:41 2002

STL Pensacola / GCMS Volatiles Run Log

Date 6-17-02 Instrument ID : MARILYN Method TO14 /8260AIR /8260WATER /624MOD

Batch MAB107 1 2 3 Batch _____ 1 2 3

IS# 8 -MSW- 34 - 1 TO14 8 -MSW- 32 - 1 AIR-SPK 8 -MSW- 30 - 2 Maint. _____

BFB 8 -MSW- 34 - 1 8260 -MSW- - W-SPK -MSW- -

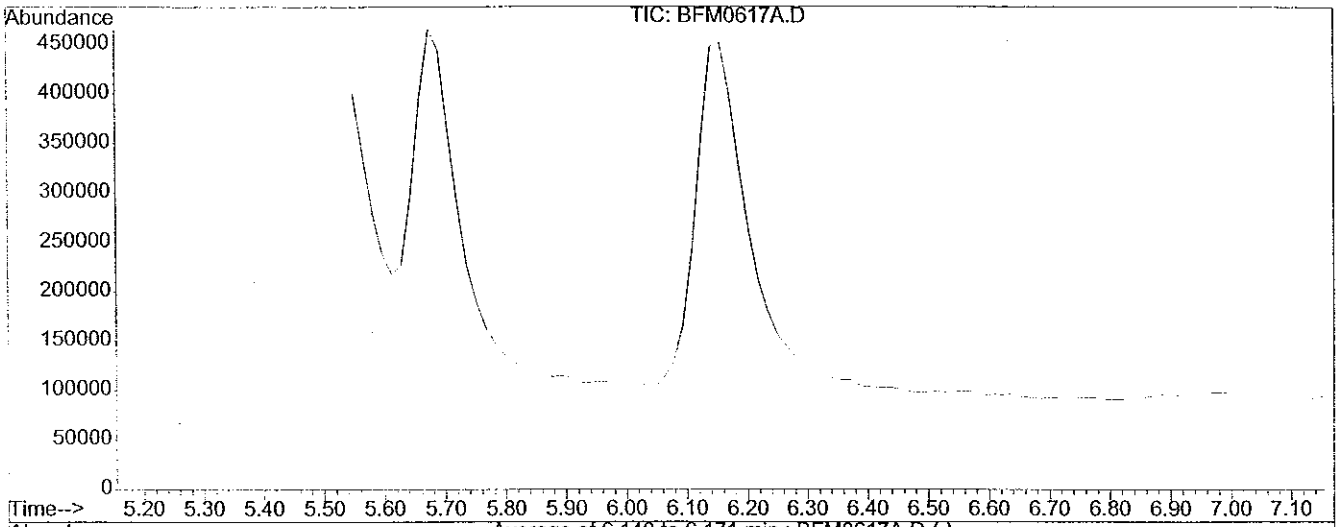
TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS	*INIT	COMMENTS
09:10	#13	BFBSTC	~~BFM061MA~~	50ppb			W	YES	BDH	Daily 12hr. BFB tune check.
10:10	14	TO14S.m	CM 0617A	750ng			W	YES	BDH	Daily Cal Check / ~~BFB tune~~
11:08	15		M A107A BK	ST						Daily Method Blank
11:42	16		M A107 LCS	50ppb						Batch# 107 LCS
12:15	1		QC151	ST.		Y N	A(TO14)			QC Can check #151 -500mls -passed
12:53	3		6345-1	X100		Y N				5mls re-run ST.
13:30	4		6346-1			Y N				
14:04	5		6375-1	X100		Y N				5mls re-run X10
14:37	6		-2			Y N				ST.
15:11	1		6345-1R	ST	✓	Y N				500mls
:	1		6346-1R	ST		Y N				
:	1		6301-1R	ST.	✓	Y N				500mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

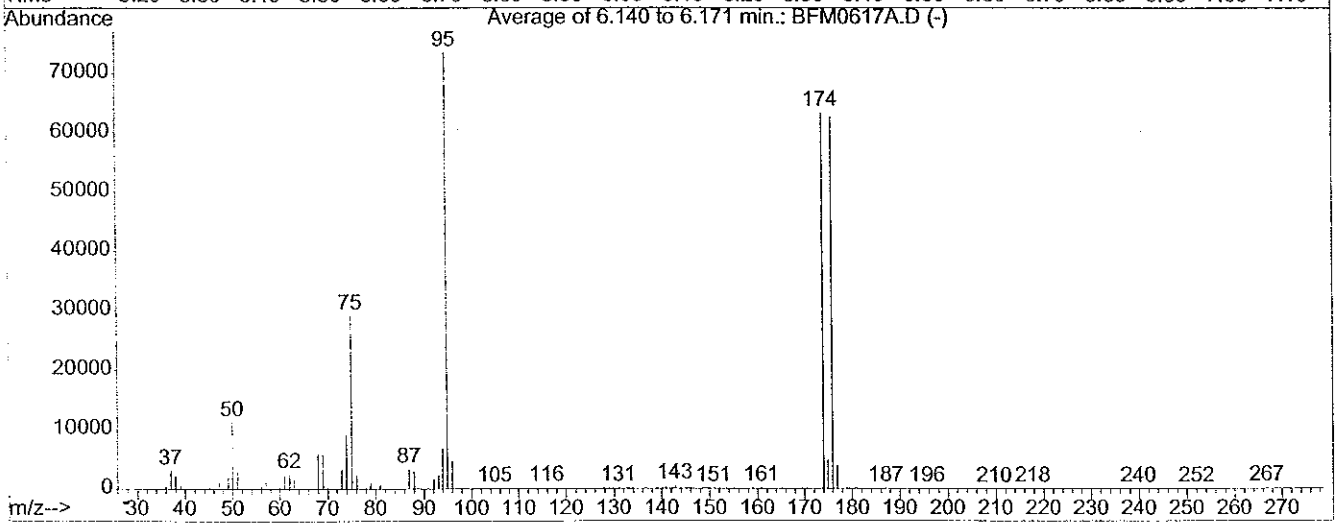
* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

NAS Cecil Field Day Tank, CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\BFM0617A.D Vial: 13
Acq On : 17 Jun 2002 9:10 am Operator: BDH
Sample : BFB050\ DAILY BFB TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14





Peak Apex is scan: 40 (6.16 min)
Average of 3 scans: 39,40,41 minus background scan 20 (5.85 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	11283	PASS
75	95	30	60	39.6	29152	PASS
95	95	100	100	100.0	73582	PASS
96	95	5	9	6.6	4826	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	86.2	63413	PASS
175	174	5	9	7.6	4836	PASS
176	174	95	101	98.9	62747	PASS
177	176	5	9	6.3	3925	PASS

BFM0617A.D TO14S.M Mon Jun 24 11:35:50 2002

Average of 8.140 to 8.171 min.: BFM0017A.D

BFB050\ DAILY BFB TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	509	60.00	440	80.95	988	175.00	4836
37.05	3128	61.00	2287	87.00	3403	176.00	62747
38.00	2210	62.05	2537	88.00	3056	176.90	3925
39.10	646	63.00	1708	92.05	1676		
44.95	457	68.00	5930	93.05	2341		
47.10	1069	69.05	5817	94.05	6871		
49.05	2647	73.00	3253	95.00	73582		
50.00	11283	74.00	9286	96.00	4826		
51.05	3158	75.05	29152	140.85	413		
56.05	507	76.05	2426	142.85	550		
57.05	1072	78.95	974	174.00	63413		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:53:29 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	104	0.00
2		Dichlorodifluoromethane	250.000	147.343	41.1#	60	0.00
3		Dichlorotetrafluoroethane	250.000	239.222	4.3#	96	0.00
4	P	Chloromethane	250.000	210.735	15.7#	83	0.00
5	C	Vinyl chloride	250.000	241.332	3.5#	95	0.00
6		Bromomethane	250.000	250.925	-0.4	103	0.00
7		Chloroethane	250.000	251.900	-0.8	104	0.00
8		Trichlorofluoromethane	250.000	233.838	6.5#	94	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	297.715	-19.1#	122	0.00
10	MC	1,1-Dichloroethene	250.000	274.724	-9.9#	113	0.00
11		Iodomethane	-1.000	0.000	0.0	98	0.00
12		Methylene chloride	250.000	265.410	-6.2#	104	0.00
13		Carbon disulfide	250.000	270.423	-8.2#	110	0.00
14		methyl-Tert-Butyl Ether	250.000	283.003	-13.2#	108	0.00
15		trans-1,2-Dichloroethene	250.000	269.470	-7.8#	111	0.00
16		n-Hexane	250.000	276.027	-10.4#	120	0.00
17	P	1,1-Dichloroethane	250.000	257.238	-2.9#	103	0.00
18		cis-1,2-Dichloroethene	250.000	253.750	-1.5	102	0.00
19	C	Chloroform	250.000	251.520	-0.6#	102	0.00
20		Isooctane	250.000	293.214	-17.3#	115	0.00
21		1,1,1-Trichloroethane	250.000	236.530	5.4#	97	0.00
22		Carbon tetrachloride	250.000	244.205	2.3#	98	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	195.732	21.7#	80	0.00
24		1,2-Dichloroethane	250.000	232.124	7.2#	91	0.00
25		1,2-Dibromoethane	250.000	302.651	-21.1#	114	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	105	0.00
27	M	Benzene	250.000	272.618	-9.0#	110	0.00
28	M	Trichloroethene	250.000	299.632	-19.9#	120	0.00
29	C	1,2-Dichloropropane	250.000	273.170	-9.3#	108	0.00
30		Bromodichloromethane	250.000	248.741	0.5	100	0.00
31		cis-1,3-Dichloropropene	250.000	258.130	-3.3#	102	0.00
32	S	Toluene-d8 SURR#2	250.000	246.801	1.3	102	0.00
33	MC	Toluene	250.000	283.132	-13.3#	113	0.00
34		trans-1,3-Dichloropropene	250.000	260.502	-4.2#	99	0.00
35		1,1,2-Trichloroethane	250.000	302.271	-20.9#	115	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	102	0.00
37		Tetrachloroethene	250.000	302.097	-20.8#	119	0.00
38		Dibromochloromethane	250.000	291.610	-16.6#	111	0.00
39	MP	Chlorobenzene	250.000	288.818	-15.5#	111	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Mon Jun 24 11:53:29 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	282.446	-13.0#	111	0.00
41		m,p-Xylene	500.000	578.897	-15.8#	109	0.00
42		o-Xylene	250.000	280.737	-12.3#	108	0.00
43		Styrene	250.000	287.299	-14.9#	108	0.00
44	P	Bromoform	250.000	333.457	-33.4#	118	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	334.948	-34.0#	119	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	219.992	12.0#	86	0.00
47		1,4-Dichloro-2-butene	250.000	317.618	-27.0#	111	0.00
48		4-Ethyltoluene	250.000	266.749	-6.7#	100	0.00
49		1,3,5-Trimethylbenzene	250.000	286.567	-14.6#	98	0.00
50		2-Chlorotoluene	250.000	270.133	-8.1#	101	0.00
51		1,2,4-Trimethylbenzene	250.000	284.830	-13.9#	102	0.00
52		1,3-Dichlorobenzene	250.000	295.572	-18.2#	104	0.00
53		1,4-Dichlorobenzene	250.000	293.350	-17.3#	104	0.00
54		1,2-Dichlorobenzene	250.000	314.677	-25.9#	106	0.00
55		1,2,4-Trichlorobenzene	250.000	364.675	-45.9#	111	0.00
56		Napthalene	250.000	404.642	-61.9#	130	0.00
57		Hexachlorobutadiene	250.000	372.769	-49.1#	106	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 10:42 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0614A\CM0614A.D (14 Jun 2002 9:22)

original BH 6/17/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	435470	250.00	ng	0.04 93.81%
26) 1,4-Difluorobenzene IS#2	13.24	114	1794860	250.00	ng	0.04 95.79%
36) Chlorobenzene-d5 IS#3	20.55	117	1357090	250.00	ng	0.04 94.25%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.43	65	462317	195.73	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 78.29%						
32) Toluene-d8 SURR#2	16.78	98	1355164	246.80	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.72%						
46) 4-Bromofluorobenzene SURR#	23.69	95	1121377	219.99	ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 88.00%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.67	85	400502	147.34	ng	97
3) Dichlorotetrafluoroethane	3.87	135	673729	239.22	ng #	49
4) Chloromethane	4.15	50	287326	210.73	ng #	94
5) Vinyl chloride	4.34	62	333360	241.33	ng	95
6) Bromomethane	5.21	94	497366	250.93	ng #	96
7) Chloroethane	5.33	64	252582	251.90	ng	95
8) Trichlorofluoromethane	5.83	101	1252559	233.84	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.65	151	1047464	297.72	ng #	78
10) 1,1-Dichloroethene	7.01	96	501387	274.72	ng	90
12) Methylene chloride	7.93	49	642065	265.41	ng	95
13) Carbon disulfide	8.04	76	1409240	270.42	ng	100
14) methyl-Tert-Butyl Ether	8.22	73	913908	283.00	ng	98
15) trans-1,2-Dichloroethene	8.53	96	580090	269.47	ng	91
16) n-Hexane	8.64	57	548364	276.03	ng #	1
17) 1,1-Dichloroethane	9.37	63	952438	257.24	ng	98
18) cis-1,2-Dichloroethene	10.60	61	766088	253.75	ng	91
19) Chloroform	10.92	83	1197626	251.52	ng	97
20) Isooctane	11.89	57	1944412	293.21	ng	94
21) 1,1,1-Trichloroethane	11.78	97	1076578	236.53	ng	88
22) Carbon tetrachloride	12.35	117	1139698	244.21	ng	98
24) 1,2-Dichloroethane	12.63	62	587941	232.12	ng #	96
25) 1,2-Dibromoethane	19.59	107	1037176	302.65	ng	97
27) Benzene	12.71	78	1344864	272.62	ng	98

(#) = qualifier out of range (m) = manual integration
CM0617A.D TO14S.M Mon Jun 17 10:42:25 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 10:42 2002 Quant Results File: TO14S.RES

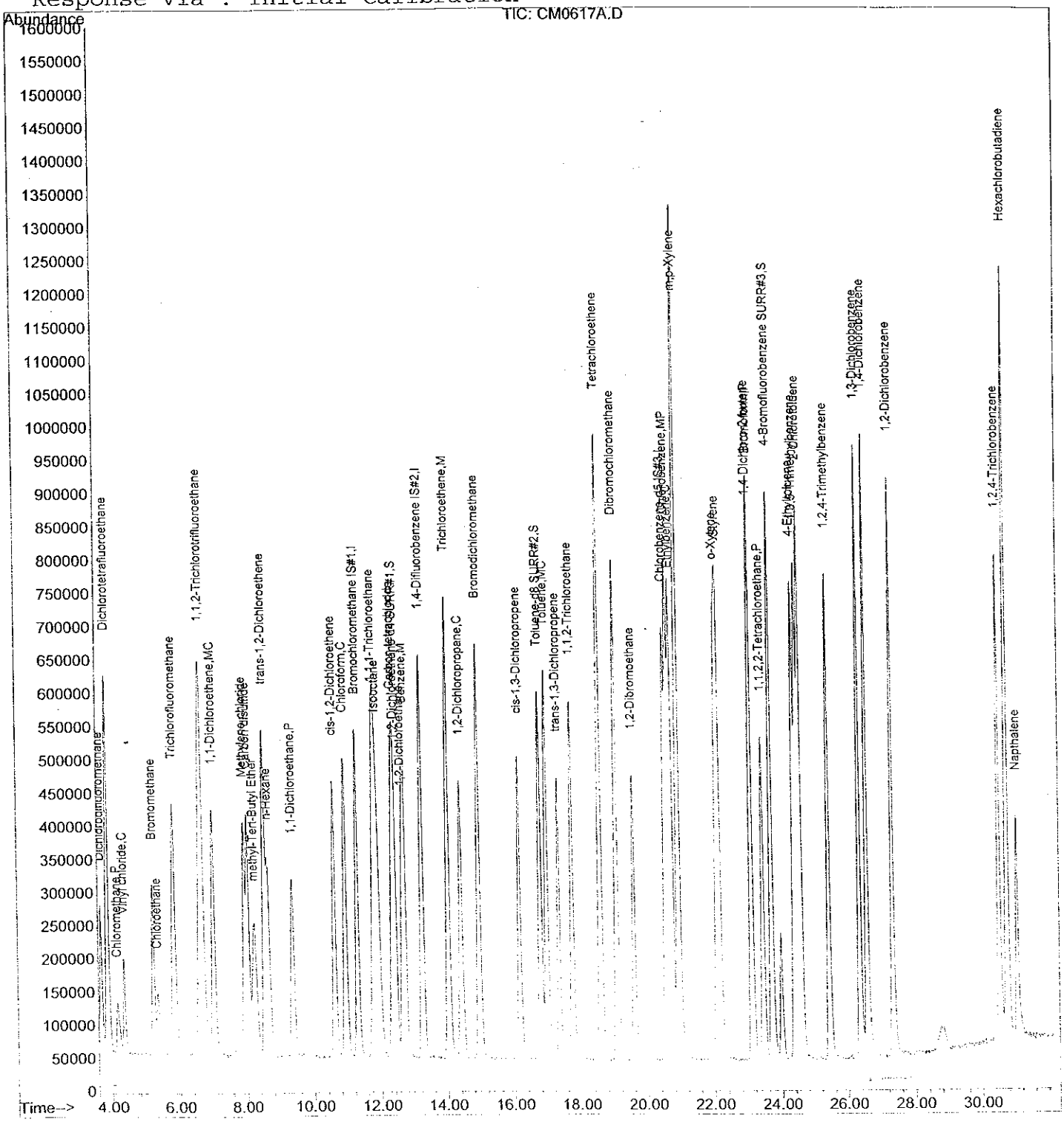
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.03	130	830862	299.63 ng		91
29) 1,2-Dichloropropane	14.42	63	576052	273.17 ng		94
30) Bromodichloromethane	14.95	83	1386528	248.74 ng		99
31) cis-1,3-Dichloropropene	16.17	75	871280	258.13 ng		95
33) Toluene	16.98	92	940100	283.13 ng		97
34) trans-1,3-Dichloropropene	17.34	75	744815	260.50 ng		99
35) 1,1,2-Trichloroethane	17.74	97	585286	302.27 ng		97
37) Tetrachloroethene	18.60	164	859488	302.10 ng		91
38) Dibromochloromethane	19.08	127	1077355	291.61 ng	#	95
39) Chlorobenzene	20.65	112	1371036	288.82 ng		91
40) Ethylbenzene	20.76	106	548574	282.45 ng		96
41) m,p-Xylene	20.94	106	1445300	578.90 ng		94
42) o-Xylene	22.09	106	688157	280.74 ng		95
43) Styrene	22.17	104	1207662	287.30 ng		93
44) Bromoform	23.12	173	1197919	333.46 ng		99
45) 1,1,2,2-Tetrachloroethane	23.44	83	920968	334.95 ng		99
47) 1,4-Dichloro-2-butene	23.09	75	197377	317.62 ng		91
48) 4-Ethyltoluene	24.38	105	1724268	266.75 ng		92
49) 1,3,5-Trimethylbenzene	24.47	105	1379887	286.57 ng		89
50) 2-Chlorotoluene	24.58	91	1761579	270.13 ng		96
51) 1,2,4-Trimethylbenzene	25.43	105	1457823	284.83 ng		99
52) 1,3-Dichlorobenzene	26.35	146	1220296	295.57 ng	#	92
53) 1,4-Dichlorobenzene	26.57	146	1245181	293.35 ng	#	93
54) 1,2-Dichlorobenzene	27.33	146	1168490	314.68 ng	#	93
55) 1,2,4-Trichlorobenzene	30.51	180	832134	364.68 ng		99
56) Napthalene	31.05	128	963897	404.64 ng	#	91
57) Hexachlorobutadiene	30.74	225	771843	372.77 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D Vial: 14
Acq On : 17 Jun 2002 10:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 10:42 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration



CM0617A.D TO14S.M Mon Jun 17 10:42:28 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0617A\MA107ABK.D Vial: 15
Acq On : 17 Jun 2002 11:08 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 11:40 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002 original BH 6/17/02
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D (17 Jun 2002 10:10)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	435677	250.00 ng	0.03 93.85%
26) 1,4-Difluorobenzene IS#2	13.23	114	1772613	250.00 ng	0.03 94.61%
36) Chlorobenzene-d5 IS#3	20.54	117	1348633	250.00 ng	0.03 93.67%

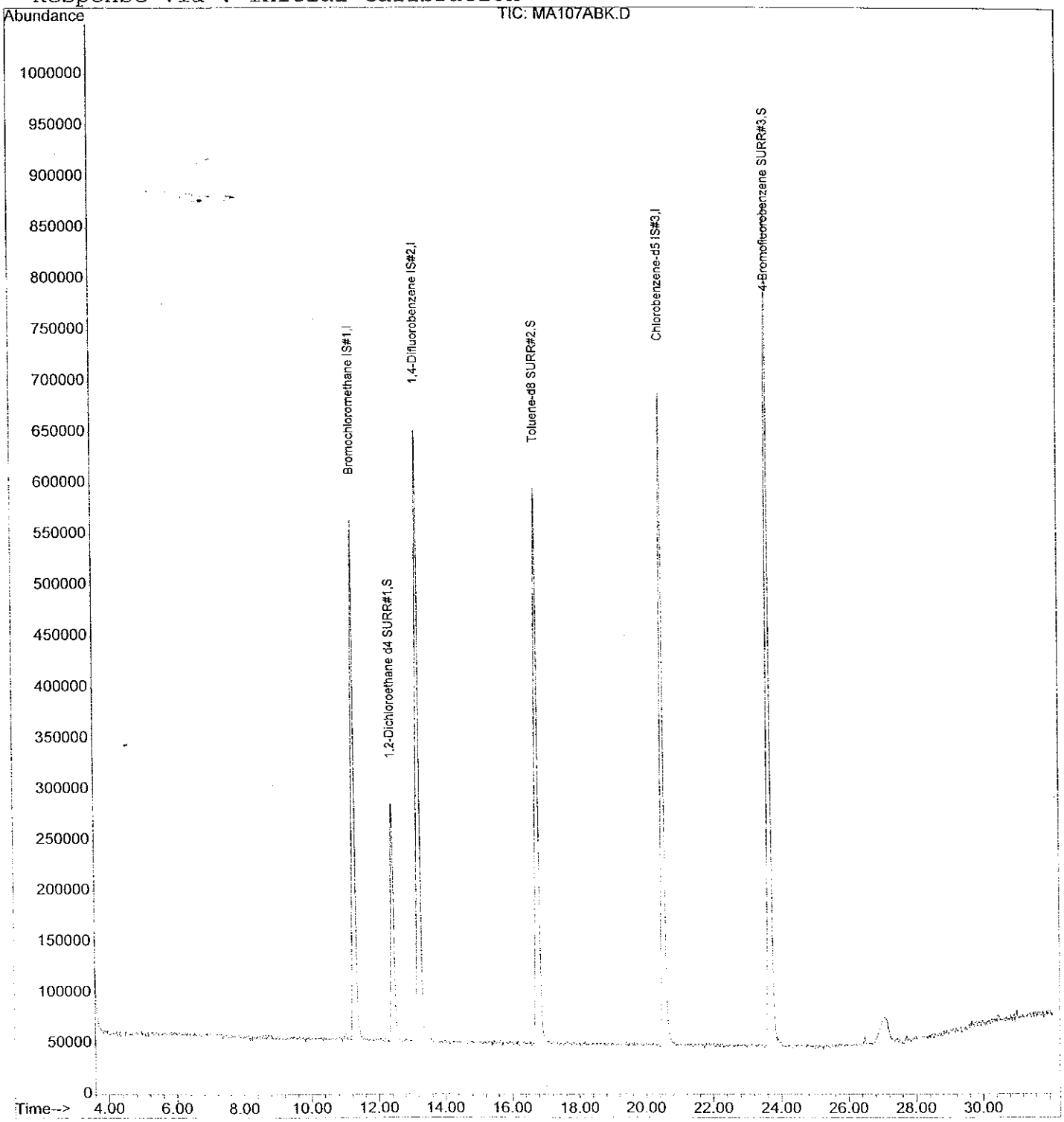
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.42	65	475640	201.28 ng	0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 80.51%					
32) Toluene-d8 SURR#2	16.78	98	1337425	246.63 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.65%					
46) 4-Bromofluorobenzene SURR#	23.70	95	1111546	219.43 ng	0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 87.77%					

Target Compounds					Qvalue
55) 1,2,4-Trichlorobenzene	30.47	180	5691	✓Below Cal	# 44
56) Napthalene	31.04	128	10492	✓Below Cal	# 64

(#) = qualifier out of range (m) = manual integration
MA107ABK.D TO14S.M Mon Jun 17 11:40:56 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0617A\MA107ABK.D Vial: 15
Acq On : 17 Jun 2002 11:08 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 11:40 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0617A\MA107LCS.D Vial: 16
Acq On : 17 Jun 2002 11:42 am Operator: BDH
Sample : VLCSMA\ BATCH #107 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Jun 24 11:40:31 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	238.57	250.00	95.43	58 to 138%	[ ]
27)	M	Benzene	257.34	250.00	102.93	87 to 116%	[ ]
28)	M	Trichloroethene	275.90	250.00	110.36	85 to 116%	[ ]
33)	MC	Toluene	266.44	250.00	106.58	86 to 113%	[ ]
39)	MP	Chlorobenzene	276.44	250.00	110.58	88 to 111%	[ ]

Data File : D:\HPCHEM\1\DATA02\M0617A\MA107LCS.D Vial: 16
Acq On : 17 Jun 2002 11:42 Operator: BDH
Sample : VLCSMA\ BATCH #107 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 13:54 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D (17 Jun 2002 10:10)

BH 6/17/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	452161	250.00 ng	0.05 97.41%
26) 1,4-Difluorobenzene IS#2	13:25	[illegible]	1831587	250.00 ng	0.05 97.75%
36) Chlorobenzene-d5 IS#3	20.55	117	1399278	250.00 ng	0.03 97.18%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.44	65	492932	200.99 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 80.40%					
32) Toluene-d8 SURR#2	16.79	98	1366748	243.92 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.57%					
46) 4-Bromofluorobenzene SURR#	23.68	95	1192191	226.83 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.73%					

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.02	96	452100	238.57 ng		88
27) Benzene	12.72	78	1295454	257.34 ng		97
28) Trichloroethene	14.04	130	780706	275.90 ng		91
33) Toluene	16.99	92	902775	266.44 ng		99
39) Chlorobenzene	20.65	112	1353074	276.44 ng	#	82

(#) = qualifier out of range (m) = manual integration
MA107LCS.D TO14S.M Mon Jun 17 13:54:13 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0617A\MA107LCS.D Vial: 16
Acq On : 17 Jun 2002 11:42 Operator: BDH
Sample : VLCSMA\ BATCH #107 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 12:14 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D (17 Jun 2002 10:10)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	452161	250.00 ng	0.05 97.41%
26) 1,4-Difluorobenzene IS#2	13.25	114	1831587	250.00 ng	0.05 97.75%
36) Chlorobenzene-d5 IS#3	20.55	117	1399278	250.00 ng	0.03 97.18%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.44	65	492932	200.99 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 80.40%					
32) Toluene-d8 SURR#2	16.79	98	1366748	243.92 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.57%					
46) 4-Bromofluorobenzene SURR#	23.68	95	1192191	226.83 ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 90.73%					

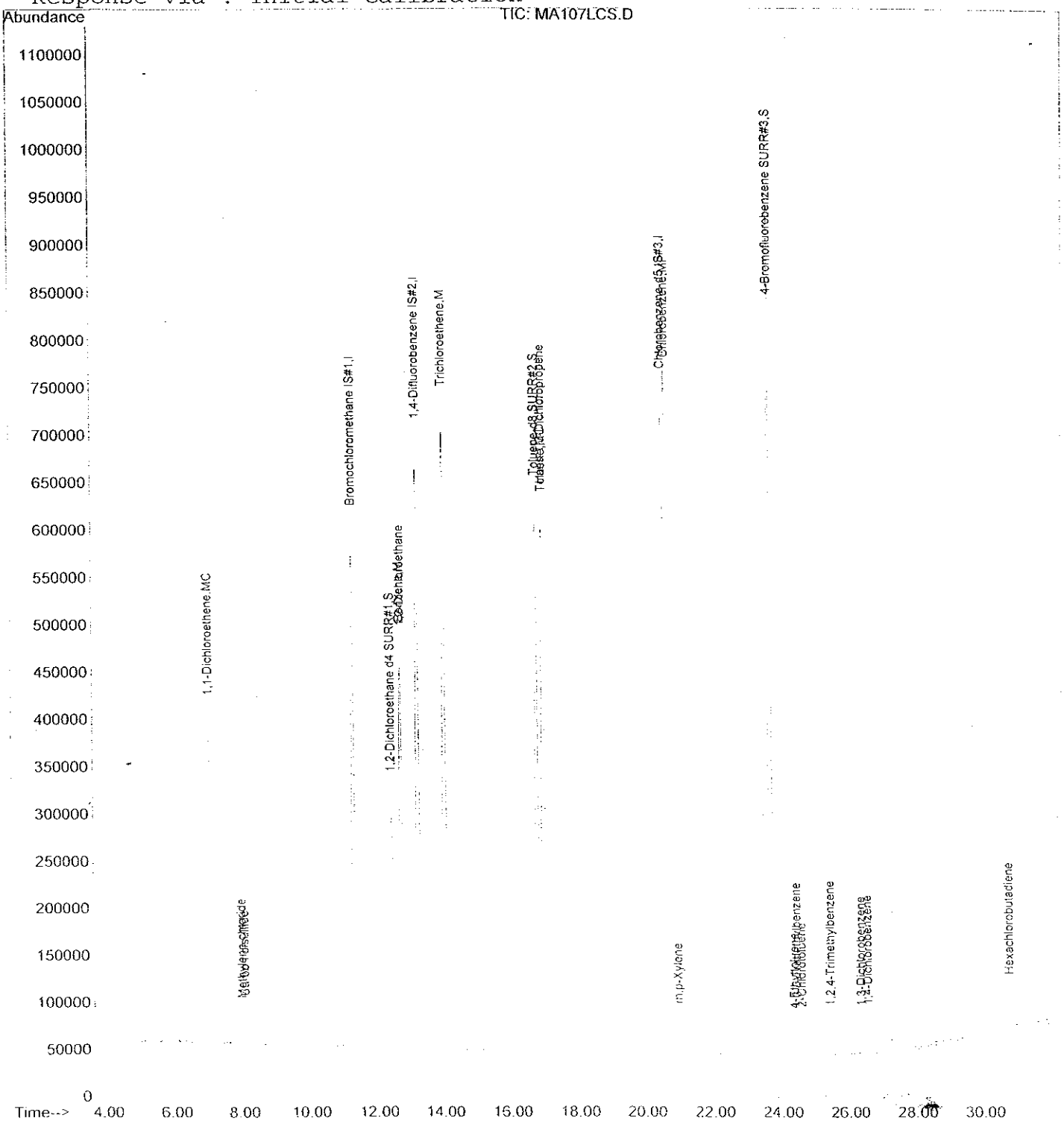
Target Compounds

						Qvalue
10) 1,1-Dichloroethene	7.02	96	452100	238.57 ng		88
12) Methylene chloride	7.96	49	991	0.39 ng	#	54
13) Carbon disulfide	8.04	76	951	0.18 ng	#	74
24) 1,2-Dichloroethane	12.73	62	5865	2.23 ng	#	49
27) Benzene	12.72	78	1295454	257.34 ng		97
28) Trichloroethene	14.04	130	780706	275.90 ng		91
33) Toluene	16.99	92	902775	266.44 ng		99
34) trans-1,3-Dichloropropene	16.97	75	5780	1.98 ng	#	1
39) Chlorobenzene	20.65	112	1353074	276.44 ng	#	82
41) m,p-Xylene	20.93	106	1020	0.40 ng	#	1
48) 4-Ethyltoluene	24.37	105	1011	0.15 ng	#	46
49) 1,3,5-Trimethylbenzene	24.43	105	1017	0.20 ng	#	30
50) 2-Chlorotoluene	24.57	91	1004	0.15 ng	#	47
51) 1,2,4-Trimethylbenzene	25.42	105	12936	2.45 ng	#	79
52) 1,3-Dichlorobenzene	26.34	146	2145	0.50 ng	#	27
53) 1,4-Dichlorobenzene	26.54	146	2033	0.46 ng	#	27
55) 1,2,4-Trichlorobenzene	30.47	180	7137	Below Cal	#	72
56) Napthalene	31.03	128	15038	Below Cal	#	64
57) Hexachlorobutadiene	30.72	225	10992	5.15 ng		86

(#) = qualifier out of range (m) = manual integration
MA107LCS.D TO14S.M Mon Jun 17 12:14:39 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0617A\MA107LCS.D Vial: 16
Acq On : 17 Jun 2002 11:42 Operator: BDH
Sample : VLCSMA\ BATCH #107 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA107ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 12:14 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0617A\63451R.D Vial: 1
Acq On : 17 Jun 2002 15:11 Operator: BDH
Sample : 062SVEEA06100229\6345-1 ST. 500mls Inst : ~~MARILYN~~
Misc : Pi/Pf=2 CAN MA107ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Jun 17 15:50 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D (17 Jun 2002 10:10)

BH 6/17/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	512978	250.00 ng	0.06 110.51%
26) 1,4-Difluorobenzene IS#2	13.24	114	1941439	250.00 ng	0.04 103.62%
36) Chlorobenzene-d5 IS#3	20.54	117	1510603	250.00 ng	0.03 104.91%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.45	65	557015	200.19 ng	0.04
Spiked Amount 250.000	Range 61 - 140		Recovery = 80.08%		
32) Toluene-d8 SURR#2	16.78	98	1508389	253.97 ng	0.03
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.59%		
46) 4-Bromofluorobenzene SURR#	23.69	95	1292803	227.85 ng	0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 91.14%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
63451R.D TO14S.M Mon Jun 17 15:50:49 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0617A\63451R.D Vial: 1
Acq On : 17 Jun 2002 15:11 Operator: BDH
Sample : 062SVEEA06100229\6345-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MA107ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 15:43 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0617A\CM0617A.D (17 Jun 2002 10:10)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	512978	250.00 ng	0.06 110.51%
26) 1,4-Difluorobenzene IS#2	13.24	114	1941439	250.00 ng	0.04 103.62%
36) Chlorobenzene-d5 IS#3	20.54	117	1510603	250.00 ng	0.03 104.91%

System Monitoring Compounds

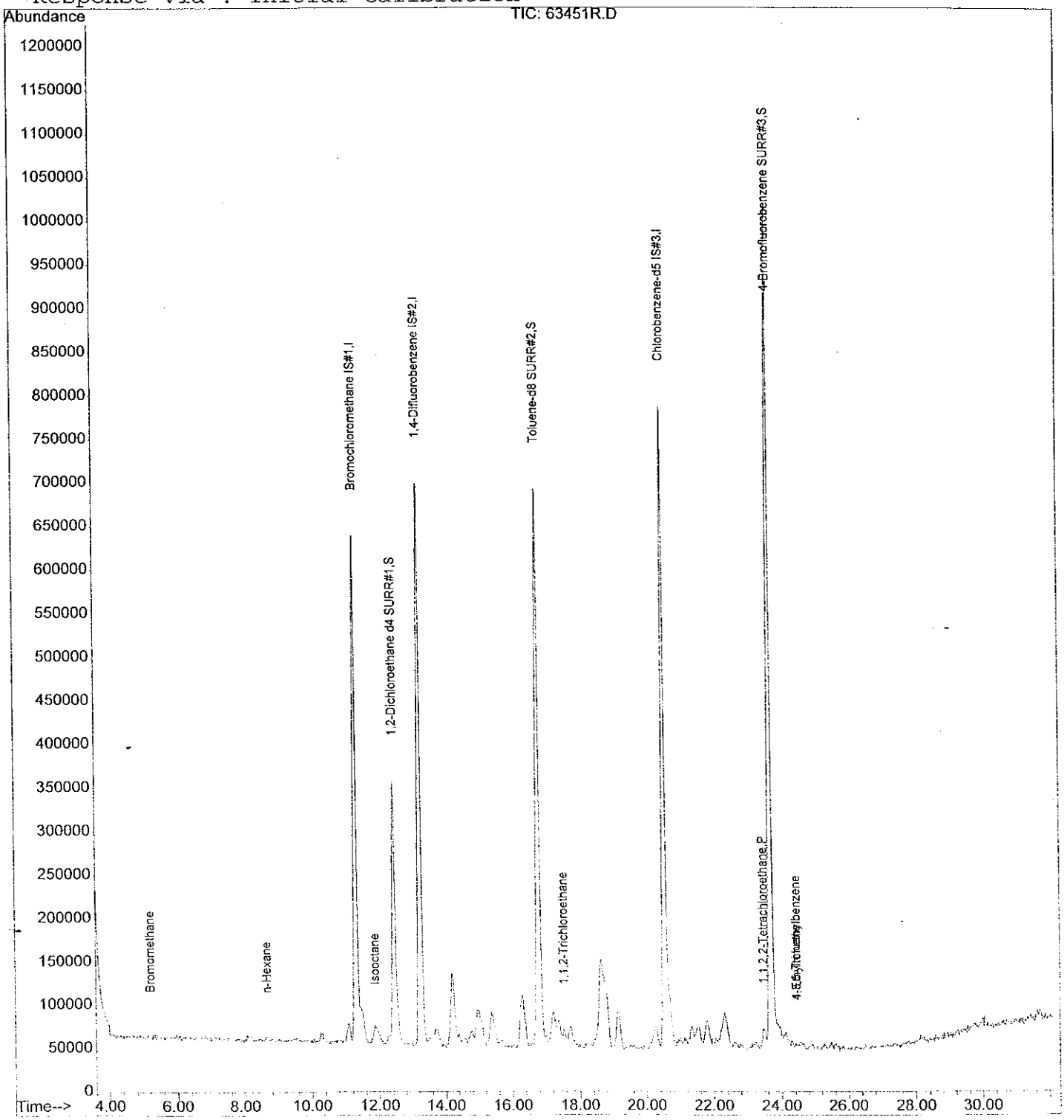
23) 1,2-Dichloroethane d4 SURR	12.45	65	557015	200.19 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 80.08%					
32) Toluene-d8 SURR#2	16.78	98	1508389	253.97 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.59%					
46) 4-Bromofluorobenzene SURR#	23.69	95	1292803	227.85 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 91.14%					

Target Compounds					Qvalue
6) Bromomethane	5.21	94	950	0.41 ng #	9
16) n-Hexane	8.67	57	9606	4.10 ng LMD2 #	1
20) Isooctane	11.89	57	3461	0.44 ng #	1
35) 1,1,2-Trichloroethane	17.53	97	26085	12.45 ng J #	14
45) 1,1,2,2-Tetrachloroethane	23.49	83	6762	2.21 ng #	30
48) 4-Ethyltoluene	24.45	105	5151	0.72 ng #	46
49) 1,3,5-Trimethylbenzene	24.45	105	5151	0.96 ng #	30

(#) = qualifier out of range (m) = manual integration
63451R.D TO14S.M Mon Jun 17 15:43:59 2002

Data File : D:\HPCHEM\1\DATA02\M0617A\63451R.D Vial: 1
Acq On : 17 Jun 2002 15:11 Operator: BDH
Sample : 062SVEEA06100229\6345-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MA107ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 17 15:43 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jun 14 10:14:04 2002
Response via : Initial Calibration



63451R.D TO14S.M Mon Jun 17 15:43:59 2002 Page 2

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Iso-octane	B0110734	Accu STD	2000 µg/ml	11/16/01	12/31/02	5	8-VN 4-1
Custom 8260 short list	LA-95178	Supelco	5000 µg/ml	11/20/01	11/20/02	3	8-VN 4-2
Dichloro fluoroethane		Pall Memb.	99+ %				8-VN 4-3
ASAHIKLIN AK-225	NA	Pall Membrane	99+ %	12/18/01	12/18/02	1	8-VN 4-4
Custom TO14 STD. MIX	LB81788	Supelco	2500 µg/ml	1/7/02	1/2/03	4	8-VN 4-5
8260 IS	A21610	Restek	2500 µg/ml	3/7/02	4/05	10	8-VN 4-6
Vol 3 Mix 6	LB02915	Supelco	2000 µg/ml	3/21/02	5/03	3	8-VN 4-7
FREON 113	LB02616	Supelco	2000 µg/ml	3/21/02	2/05	2	8-VN 4-8
502/524 Mix	LB02048	Supelco	2000 µg/ml	3/21/02	5/04	3	8-VN 4-9
8260 Keytone	LA97448	Supelco	2000-2000 µg/ml	3/21/02	9/03	3	8-VN 4-10
Iodomethane	LB00103	Supelco	2000 µg/ml	3/21/02	12/02	3	8-VN 4-11
8260 Kit	VARIOUS	Restek	Various	3/21/02	Various	2	8-VN 4-12
FREON 113	A02343	Restek	2000 µg/ml	3/21/02	3/03	3	8-VN 4-13
VOM IS (TO14)	A018019	Restek	2500 µg/ml	3/21/02	3/05	3	8-VN 4-14
VOM Sum (TO14)	A021561	Restek	2500 µg/ml	3/21/02	4/06	2	8-VN 4-15
8260 Keytone	LB03079	Supelco	2000-2000 µg/ml	3/22	8/04	3	8-VN 4-16
Custom Mix	LB03455	Supelco	2000-4000 µg/ml	3/25	3/25/03	3	8-VN 4-17
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 SURR	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000 µg/mL	10/2001 6 easiest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90448	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016395	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	6/13/03 5 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Run 7-5 4-13

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

001

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: 1014 IS/Surr
Date: 4-11-02
Analyst: BDA

Standard I.D.: 8-MSW34-1
Location: GC/MS Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN4-14 (IS)	A018019	3/05	2500 ug/ml	500 uls	50 mls	25 ppm
8-VN4-15 (Surr)	A021561	4/06	↓	↓	↓	↓

Comments: expires 10-11-02

Sol. Name: IS/SURR
Date: 4-15-02
Analyst: GCG

Standard I.D.: 8-MSW34-2
Location: GC/MS Freezer MS018
Solvent: MeOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-21 (IS)	A018631	06/04	2500 ug/ml	500 ul	50 ml	25 ug/ml
8-VW3-1 (Surr)	A019474	08/04	2500 ug/ml	500 ug	50 ml	25 ug/ml

Comments: Expires 10-15-02

Sol. Name: Matrix Spike
Date: 4/16/02
Analyst: MG

Standard I.D.: 8-MSW34-3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
Custom Mix 8-VW4-17	LB03455	3/03	2000	625	50	25 µg/ml
Iodomethane 8-VW4-11	LB00103	12/02	↓	↓	↓	↓
Mix 6 8-VN-3-14	LA99456	11/02				
502/524 8-VW-3-15	LA98534	10/03				
Freon 113 8-VN-3-13	LA98546	6/04				
Keytones 8-VN-3-16	LA97408	9/30/02		1250		

Comments: expires 9/30/02

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32- 1
Location: MS018-Std Freezer
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	4/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: expires 6/25/02 expires 7/25/02 8 # 2/5/02

Sol. Name: 8 IS/Surr
Date: 2-18-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32-2
Location: MS018-Std Freezer
Solvent: MeOH Lot # V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 (IS)	A018631	06/04	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN3-1 (Surr)	A019474	08/04	↓	↓	↓	↓

Comments: Expires 8-18-02

Sol. Name: IS/SUMA
Date: 3/1/02
Analyst: [illegible]

Standard I.D.: 8-MSW32-3
Location: KAT - freezer
Solvent: V30E40 MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW-2-21 IS	A018631	6/04	2500	500	10	125 µg/ml
8-VW-3-1 Surr	A019474	8/04	2500	500	10	

Comments: expires 9/1/02

032

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX - B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-UN2-21 (IS)~~						
~~8-UN3-1 (IS)~~						
8-UN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: ~~8~~ 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

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

Comments: Expires 6/26/02

Sol. Name: ASAHIKLIN AK-225 stock
Date: 12-28-01
Analyst: KM

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/18/02	1000 000	100	10	10 000

Comments: exp 6/28/02

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05176-1	062-SVE-E-A-0506-02-28	05-06-02/16:00

PARAMETER	05176-1
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

CCI NAVY PAC PMO
MAY 29 2002

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05176-1	062-SVE-E-A-0506-02-28	05-06-02/16:00

PARAMETER	05176-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.060U
4-Ethyltoluene, mg/m3	0.060U
Hexachlorobutadiene, mg/m3	0.060UR2
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.060U
1,3,5-Trimethylbenzene, mg/m3	0.060U
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	101 %
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	96 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
05176-1	062-SVE-E-A-0506-02-28	05-06-02/16:00

PARAMETER	05176-1
Dilution Factor	1
Prep Date	05.21.02
Prep Time	15:20
Analysis Date	05.21.02
Analysis Time	15:33
Batch ID	MAB092
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05176-2	Method Blank	
05176-3	Lab Control Standard True Value	
05176-4	Lab Control Standard Result	
05176-5	Lab Control Standard % Recovery	
05176-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05176-2	05176-3	05176-4	05176-5	05176-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5058	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5107	102 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
05176-2	Method Blank	
05176-3	Lab Control Standard True Value	
05176-4	Lab Control Standard Result	
05176-5	Lab Control Standard % Recovery	
05176-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05176-2	05176-3	05176-4	05176-5	05176-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4782	96 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030UR2	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5163	103 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 085320523

REPORT OF RESULTS

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PARAMETER	05176-2	05176-3	05176-4	05176-5	05176-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5115	102 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	102 %	0.5000	0.5107	102 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5041	101 %	90-109
Surrogate - 4-Bromofluorobenzene	107 %	0.5000	0.4974	99 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	05.21.02	---	05.21.02	---	---
Prep Time	10:49	---	11:23	---	---
Analysis Date	05.21.02	---	05.21.02	---	---
Analysis Time	11:02	---	11:36	---	---
Batch ID	MAB092	MAB092	MAB092	MAB092	MAB092
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05176
Received: 09 MAY 02
Reported: 23 MAY 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
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REPORT OF RESULTS

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05176-6	LCS Accuracy Control Limit (%R)	

PARAMETER	05176-2	05176-3	05176-4	05176-5	05176-6

Data from any samples that do not meet client, federal, or state sample acceptance criteria (collection, preservation, or holding time) will be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF).

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C205176 Date Received: 5/9/02

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

Airbill Number(s): 7920 2847 8483

Shipped By: FedEx

Cooler Number(s): CAN #177

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

Multiple Project

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 5/9/02 Logged By: [illegible] Date: 5/9/02

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

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

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

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

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

C 205 176

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-041

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0506-02-28	SVE Effluent	AIR	05/06/02	16:00	III/C	14 Day	1							177			Grab	Summa Canister	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7920 2897 8483.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	5/7/02	11:00	Federal Express	5/7/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	5/9/02	0920
Printed Name and Signature:			Printed Name and Signature:		

NAS Cecil Field CTO 0062

STL Pensacola

9

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

Form CC1001, Rev 02/00

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

C205176

SHIP DATE: 07MAY02
WEIGHT: 16 LBS

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

Pensacola, FL, 32514

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7920 2897 8483 F0911 0201

THU
AA

BFM

32514-FL-US F3 PNSA

Deliver by:
09MAY02

Shipping Label

Schedule Courier | Find a Dropoff Location | Shipping History
Shipment Complete | Cancel Shipment | Edit Shipment Information

1. Use the "Print" feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Shipment Details

To print a copy of the shipment information for your records, please click "Shipment Details". Shipment Details

Ship a New Package

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

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

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

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

CH2M-CONST-GA C205176
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	(	MHS	5/10/02	0910
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

Arizona *Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/11/03*

Arkansas *Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/20/03*

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

Connecticut *Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03*

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

Florida *DEP/DOH CompQAP # 980156*

Kansas *Department of Health & Environment,* ***NELAP*** *Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02*

Kentucky *NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.*

Louisiana *DEQ, LELAP,* ***NELAP*** *Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)*

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

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

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

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

New Jersey *DEP&E,* ***NELAP*** *Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.*

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

North Carolina *DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/02.*

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

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

Pennsylvania *Department of Environmental Resources,* ***NELAP*** *Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02*

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

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

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

Washington *Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02*

West Virginia *DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.*

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR *(Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031*

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 05/14/2002

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 205176
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED May 9, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0506-02-28	205176-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
May 22, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0521A.D Date Analyzed : 21 May 2002
Instrument ID : MARILYN Time Analyzed : 10:08 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
51761R	062SVEEA0506022	101	102	96	0	0	0	0
MAB92ABK	VBLKMA\ DAILY M	102	99	97	0	0	0	0
MAB92LCS	VLCSMA\ BATCH #	102	101	99	0	0	0	0

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

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

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	205176					
Batch	MAB092	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		252.88	0.5000	0.5058	101%	87-116%
Chlorobenzene		255.34	0.5000	0.5107	102%	88-111%
1,1-Dichloroethene		239.08	0.5000	0.4782	96%	58-138%
Toluene		258.15	0.5000	0.5163	103%	86-113%
Trichloroethene		255.74	0.5000	0.5115	102%	85-116%
1,2-Dichloroethane-d4		255.36	0.5000	0.5107	102%	61-140%
Toluene-d8		252.03	0.5000	0.5041	101%	90-109%
4-Bromofluorobenzene		248.72	0.5000	0.4974	99%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	239.08	250.00	95.63	58 to 138%	[ ]
27)	M	Benzene	252.88	250.00	101.15	87 to 116%	[ ]
28)	M	Trichloroethene	255.74	250.00	102.29	85 to 116%	[ ]
33)	MC	Toluene	258.15	250.00	103.26	86 to 113%	[ ]
39)	MP	Chlorobenzene	255.34	250.00	102.13	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205176

Lab File ID: MAB92ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 5/21/02 Time Analyzed: 11:02

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND SOU	VLCSMA\ BATCH #092 L	MAB92LCS.D	11:36
02	SVEEA	062SVEEA05060228\517	51761R.D	15:33

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205176

Lab File ID: BFM0520P.D BFB Injection Date: 5/20/02

Instrument ID: MARILYN BFB Injection Time: 12:39

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.0
75	30.0 - 66.0% of mass 95	42.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	72.5
175	4.0 - 9.0% of mass 174	5.7 (7.9)1
176	93.0 - 101.0% of mass 174	70.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.6 (6.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0025	25NG/1UL/5PPB INITIAL	CMA0025.D	5/20/02	15:34
02	VSTD0100	100NG/4UL/20PPB INITI	CMA0100.D	5/20/02	16:08
03	VSTD0250	250NG/10UL/50PPB INITI	CMA0250.D	5/20/02	16:42
04	VSTD0500	500NG/20UL/100PPB INI	CMA0500.D	5/20/02	17:18
05	VSTD1000	1000NG/40UL/200PPB IN	CMA1000.D	5/20/02	18:12
06	VSTD1500	1500NG/60UL/300PPB IN	CMA1500.D	5/20/02	19:05

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205176

Lab File ID: BFM0521A.D BFB Injection Date: 5/21/02

Instrument ID: MARILYN BFB Injection Time: 9:48

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.4
75	30.0 - 66.0% of mass 95	45.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	69.0
175	4.0 - 9.0% of mass 174	5.5 (7.9)1
176	93.0 - 101.0% of mass 174	69.0 (100.0)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0521A.D	5/21/02	10:08
02	VBLKMA	VBLKMA\ DAILY METHO	MAB92ABK.D	5/21/02	11:02
03	LCS AND 2ND SOU	VLCSMA\ BATCH #092 L	MAB92LCS.D	5/21/02	11:36
04	SVEEA	062SVEEA05060228\517	51761R.D	5/21/02	15:33

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:35:21 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	0.543	16.32
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26

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

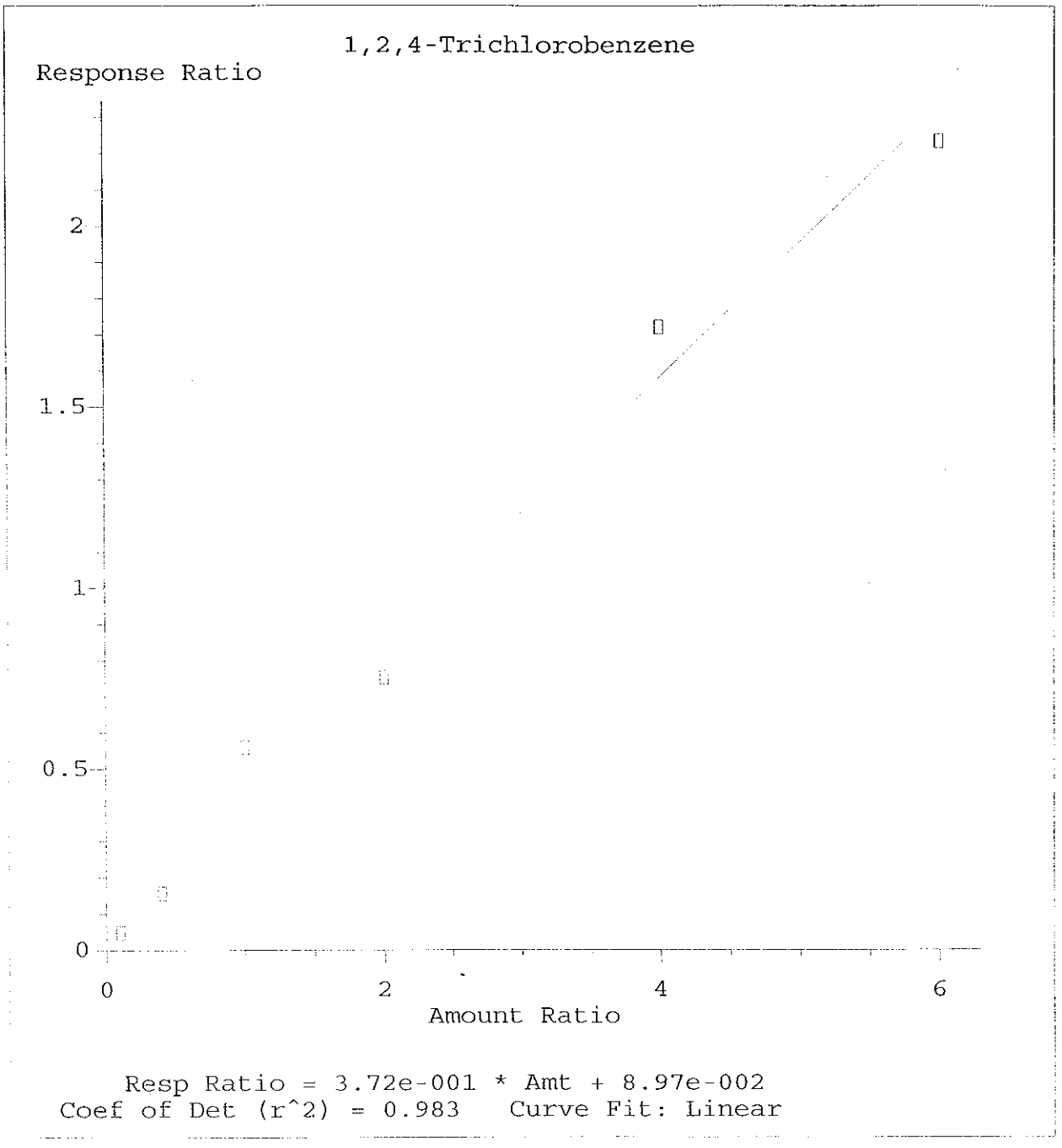
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:35:21 2002
Response via : Initial Calibration

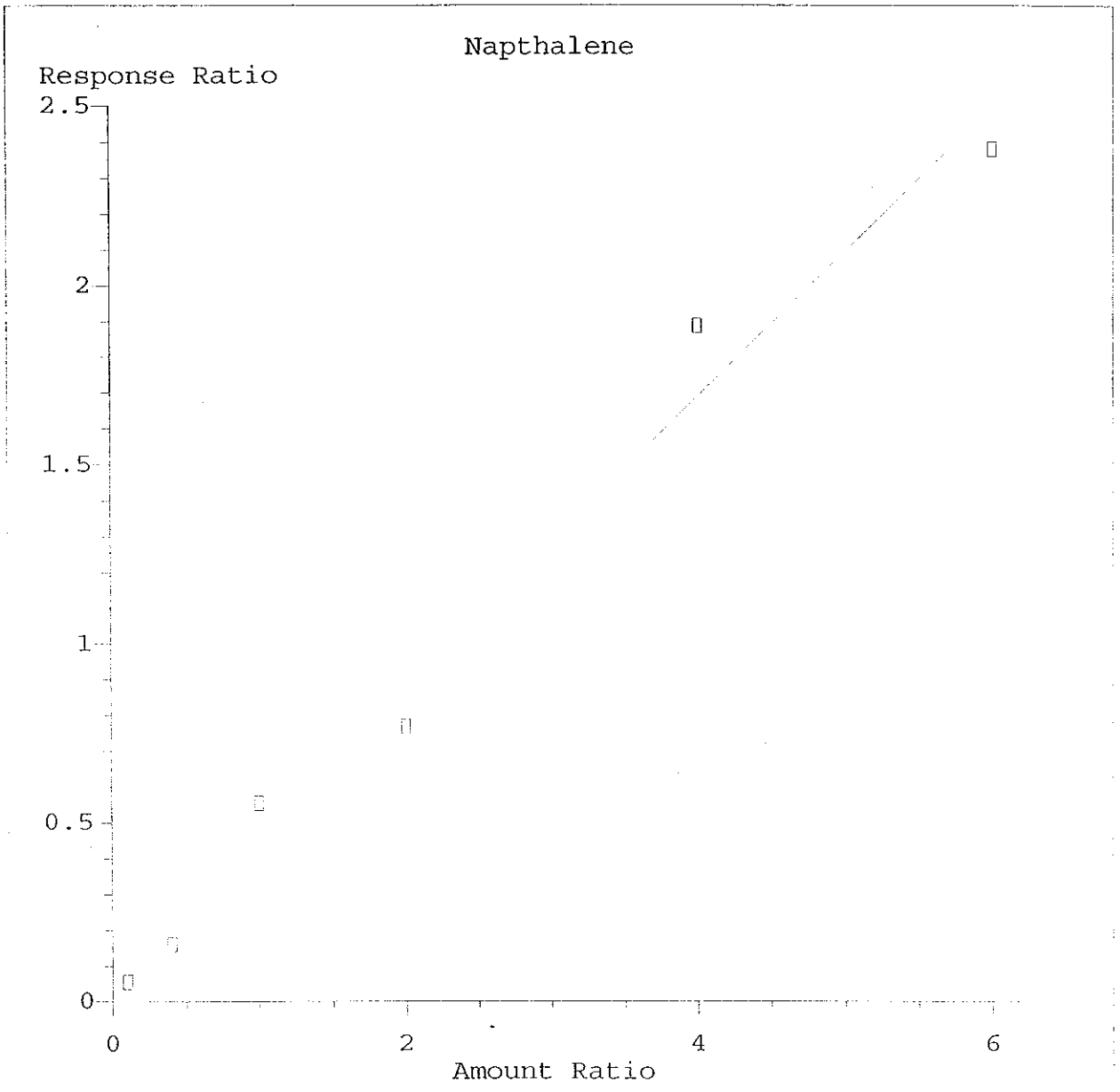
Calibration Files
25 =CMA0025.D 250 =CMA0250.D 1500 =CMA1500.D
1000 =CMA1000.D 100 =CMA0100.D 500 =CMA0500.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

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

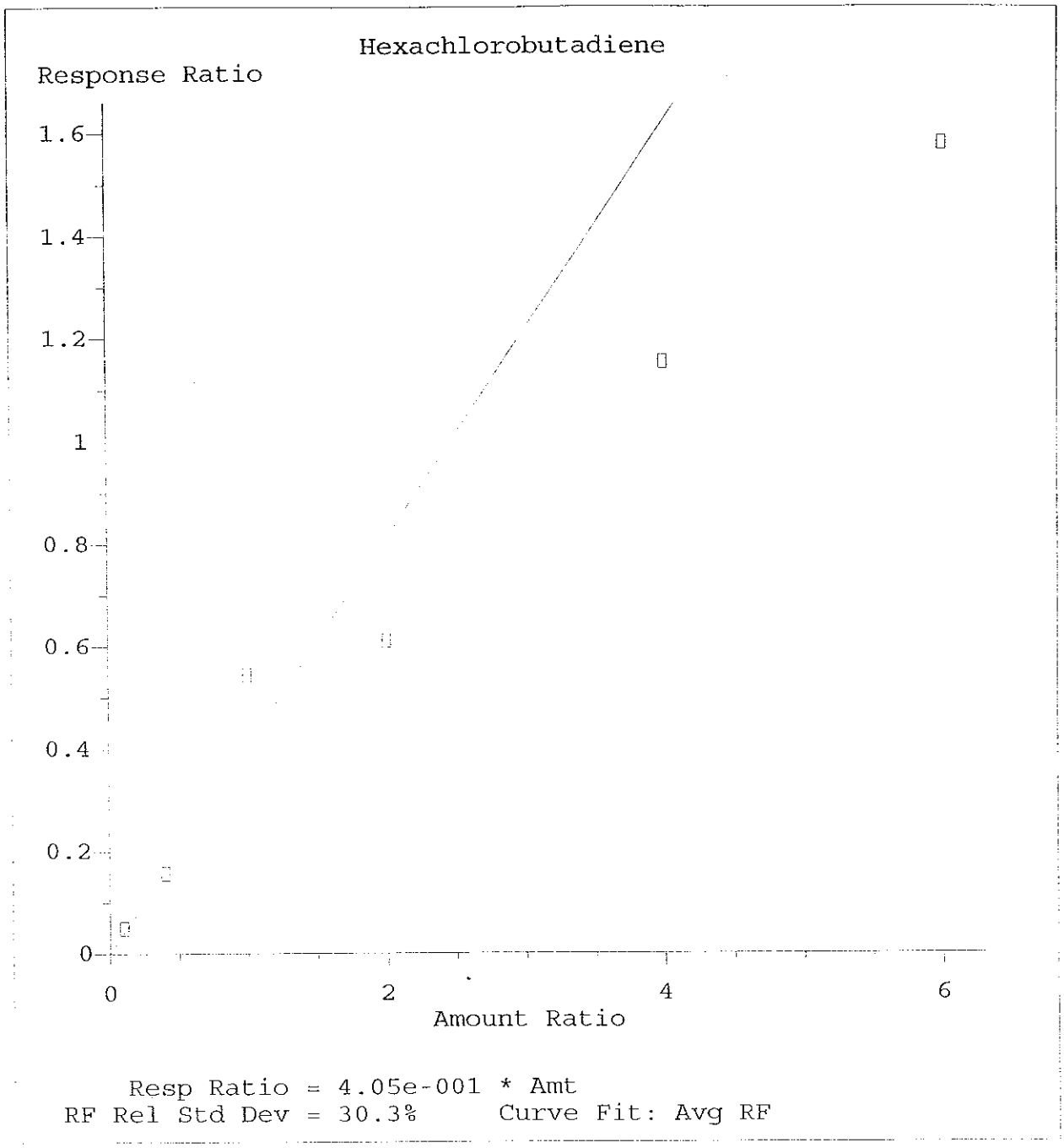


Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002



Resp Ratio = 4.04e-001 * Amt + 7.10e-002
Coef of Det (r^2) = 0.982 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M
Calibration Table Last Updated: Wed May 22 08:35:21 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	85	0.00
2		Dichlorodifluoromethane	1.560	1.554	0.4	83	0.00
3		Dichlorotetrafluoroethane	1.617	1.592	1.5	81	0.00
4	P	Chloromethane	0.783	0.688	12.1#	71	0.00
5	C	Vinyl chloride	0.793	0.772	2.6#	78	0.00
6		Bromomethane	1.138	1.158	-1.8	85	0.00
7		Chloroethane	0.543	0.560	-3.1#	82	0.00
8		Trichlorofluoromethane	3.075	3.313	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	2.020	2.223	-10.0#	92	0.00
10	MC	1,1-Dichloroethene	1.048	1.143	-9.1#	92	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.70#
12		Methylene chloride	1.389	1.508	-8.6#	87	0.00
13		Carbon disulfide	2.992	3.318	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	1.854	1.967	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	1.236	1.358	-9.9#	92	0.00
16		n-Hexane	1.141	1.219	-6.8#	95	0.00
17	P	1,1-Dichloroethane	2.126	2.326	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	1.733	1.909	-10.2#	91	0.00
19	C	Chloroform	2.734	3.022	-10.5#	92	0.00
20		Isooctane	3.807	4.118	-8.2#	87	0.00
21		1,1,1-Trichloroethane	2.613	2.961	-13.3#	95	0.00
22		Carbon tetrachloride	2.679	3.045	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.356	1.377	-1.5	85	0.00
24		1,2-Dichloroethane	1.454	1.583	-8.9#	87	0.00
25		1,2-Dibromoethane	1.967	2.107	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	88	0.00
27	M	Benzene	0.687	0.751	-9.3#	93	0.00
28	M	Trichloroethene	0.386	0.426	-10.4#	93	0.00
29	C	1,2-Dichloropropane	0.294	0.320	-8.8#	91	0.00
30		Bromodichloromethane	0.776	0.844	-8.8#	92	0.00
31		cis-1,3-Dichloropropene	0.470	0.515	-9.6#	91	0.00
32	S	Toluene-d8 SURR#2	0.765	0.765	0.0	87	0.00
33	MC	Toluene	0.462	0.500	-8.2#	91	0.00
34		trans-1,3-Dichloropropene	0.398	0.434	-9.0#	88	0.00
35		1,1,2-Trichloroethane	0.270	0.291	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.524	0.576	-9.9#	91	0.00
38		Dibromochloromethane	0.681	0.735	-7.9#	87	0.00
39	MP	Chlorobenzene	0.874	0.956	-9.4#	89	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.358	0.385	-7.5#	89	0.00
41		m,p-Xylene	0.460	0.513	-11.5#	89	0.00
42		o-Xylene	0.452	0.493	-9.1#	89	0.00
43		Styrene	0.774	0.851	-9.9#	87	0.00
44	P	Bromoform	0.662	0.721	-8.9#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	0.507	0.545	-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	0.939	0.948	-1.0	83	0.00
47		1,4-Dichloro-2-butene	0.114	0.123	-7.9#	80	0.00
48		4-Ethyltoluene	1.191	1.321	-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	0.887	1.090	-22.9#	88	0.00
50		2-Chlorotoluene	1.201	1.317	-9.7#	86	0.00
51		1,2,4-Trimethylbenzene	0.943	1.085	-15.1#	87	0.00
52		1,3-Dichlorobenzene	0.761	0.850	-11.7#	83	0.00
53		1,4-Dichlorobenzene	0.782	0.873	-11.6#	83	0.00
54		1,2-Dichlorobenzene	0.684	0.785	-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	0.435	0.550	-26.4#	84	0.00
56		Napthalene	0.460	0.564	-22.6#	87	0.00
57		Hexachlorobutadiene	0.381	0.491	-28.9#	77	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	85	0.00
2		Dichlorodifluoromethane	250.000	248.908	0.4	83	0.00
3		Dichlorotetrafluoroethane	250.000	246.195	1.5	81	0.00
4	P	Chloromethane	250.000	219.708	12.1#	71	0.00
5	C	Vinyl chloride	250.000	243.509	2.6#	78	0.00
6		Bromomethane	250.000	254.511	-1.8	85	0.00
7		Chloroethane	250.000	258.091	-3.2#	82	0.00
8		Trichlorofluoromethane	250.000	269.374	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	275.152	-10.1#	92	0.00
10	MC	1,1-Dichloroethene	250.000	272.718	-9.1#	92	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.70#
12		Methylene chloride	250.000	271.420	-8.6#	87	0.00
13		Carbon disulfide	250.000	277.229	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	250.000	265.221	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	250.000	274.734	-9.9#	92	0.00
16		n-Hexane	250.000	267.221	-6.9#	95	0.00
17	P	1,1-Dichloroethane	250.000	273.541	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	250.000	275.380	-10.2#	91	0.00
19	C	Chloroform	250.000	276.393	-10.6#	92	0.00
20		Isooctane	250.000	270.427	-8.2#	87	0.00
21		1,1,1-Trichloroethane	250.000	283.278	-13.3#	95	0.00
22		Carbon tetrachloride	250.000	284.168	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.890	-1.6	85	0.00
24		1,2-Dichloroethane	250.000	272.240	-8.9#	87	0.00
25		1,2-Dibromoethane	250.000	267.778	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	88	0.00
27	M	Benzene	250.000	273.393	-9.4#	93	0.00
28	M	Trichloroethene	250.000	275.563	-10.2#	93	0.00
29	C	1,2-Dichloropropane	250.000	272.666	-9.1#	91	0.00
30		Bromodichloromethane	250.000	271.663	-8.7#	92	0.00
31		cis-1,3-Dichloropropene	250.000	273.664	-9.5#	91	0.00
32	S	Toluene-d8 SURR#2	250.000	250.177	-0.1	87	0.00
33	MC	Toluene	250.000	270.191	-8.1#	91	0.00
34		trans-1,3-Dichloropropene	250.000	272.338	-8.9#	88	0.00
35		1,1,2-Trichloroethane	250.000	269.506	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	274.820	-9.9#	91	0.00
38		Dibromochloromethane	250.000	269.861	-7.9#	87	0.00
39	MP	Chlorobenzene	250.000	273.364	-9.3#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integ
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	268.818	-7.5#	89	0.00
41		m,p-Xylene	500.000	557.565	-11.5#	89	0.00
42		o-Xylene	250.000	272.877	-9.2#	89	0.00
43		Styrene	250.000	274.867	-9.9#	87	0.00
44	P	Bromoform	250.000	272.402	-9.0#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	268.843	-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	252.317	-0.9	83	0.00
47		1,4-Dichloro-2-butene	250.000	268.884	-7.6#	80	0.00
48		4-Ethyltoluene	250.000	277.261	-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	250.000	307.281	-22.9#	88	0.00
50		2-Chlorotoluene	250.000	274.123	-9.6#	86	0.00
51		1,2,4-Trimethylbenzene	250.000	287.815	-15.1#	87	0.00
52		1,3-Dichlorobenzene	250.000	279.334	-11.7#	83	0.00
53		1,4-Dichlorobenzene	250.000	278.985	-11.6#	83	0.00
54		1,2-Dichlorobenzene	250.000	287.000	-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	250.000	322.960	-29.2#	84	0.00
56		Napthalene	250.000	315.236	-26.1#	87	0.00
57		Hexachlorobutadiene	250.000	321.742	-28.7#	77	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C205176

Lab File ID (Standard): CM0521A.D Date Analyzed: 5/21/02

Instrument ID: MARILYN Time Analyzed: 10:08

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

	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
12 HOUR STD	356653	11.41	1510179	13.37	1145206	20.70
UPPER LIMIT	713306	11.91	3020358	13.87	2290412	21.20
LOWER LIMIT	178327	10.91	755090	12.87	572603	20.20
EPA SAMPLE NO.						
01 VBLKMA	327818	11.41	1407692	13.36	1036578	20.69
02 LCS AND 2ND S	410452	11.42	1694799	13.38	1311586	20.70
03 SVEEA	360207	11.40	1585973	13.34	1192691	20.65

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

Date 5/20/02 Instrument ID : MARILYN Method : TO14 /8260AIR /8260WATER /624MOD

New TO14 Curve

Batch MAB091 1 2 3 Batch _____ 1 2 3

IS# 8 -MSW- 34 - 1 TO14 8 -MSW- ~~27~~ 37 BH 5/20 - 1 AIR-SPK 8 -MSW- 30 - 2

BFB 8 -MSW- 34 - 1 8260 -MSW- - W-SPK -MSW- -

Maint. New trap (see OCCE for instrument)

33

TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS**	*INIT	COMMENTS
12:39	#13	BFBSTL	~~BFM0520A~~	50ppb			W	Yes	BDH	Daily 12hr BFB tune 582,000 ion 95 ion
16:42	14	TO14S.m	CM 0520	250ng			W	Yes	BDH	Daily Cal Check / ~~BFB tune~~ no ccv needed (also CMA0250)
14:57	15		MAB91A BK	ST						Daily Method Blank
19:59	~~16~~ 17	BH 5/20	MAB91 LCS	50ppb						Batch# 091 LCS
15:34	14		CMA0025	25ng		Y N				5 ppb ICAL
16:08	15		0100	100ng		Y N				20
16:42	16		0250	250ng		Y N				50 (CCV also) - not needed
17:18	1		0500	500ng		Y N				100
17:51	2	BFBSTL	BLKTUBE	—		Y N	—	—		MPM Port #2 Skip
18:12	3	TO14S.m	CMA1000	1000ng		Y N	W	Yes		200ppb ICAL
18:45	4	BFBSTL	BLKTUBE	—		Y N	—	—		MPM Port #4 skip / C.O. cleanup
19:05	5	TO14S.m	CMA1500	1500ng		Y N	W	Yes		300ppb ICAL
19:39	6	BFBSTL	BLKTUBE	—		Y N	—	—		MPM Port #6 skip / C.O. cleanup
19:59	7	TO14S.m	MAB91LCS	250ng		Y N	W	Yes		Batch #091 LCS / 2nd Source
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 5/20/02
:						Y N				
:						Y N				
:						Y N				

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

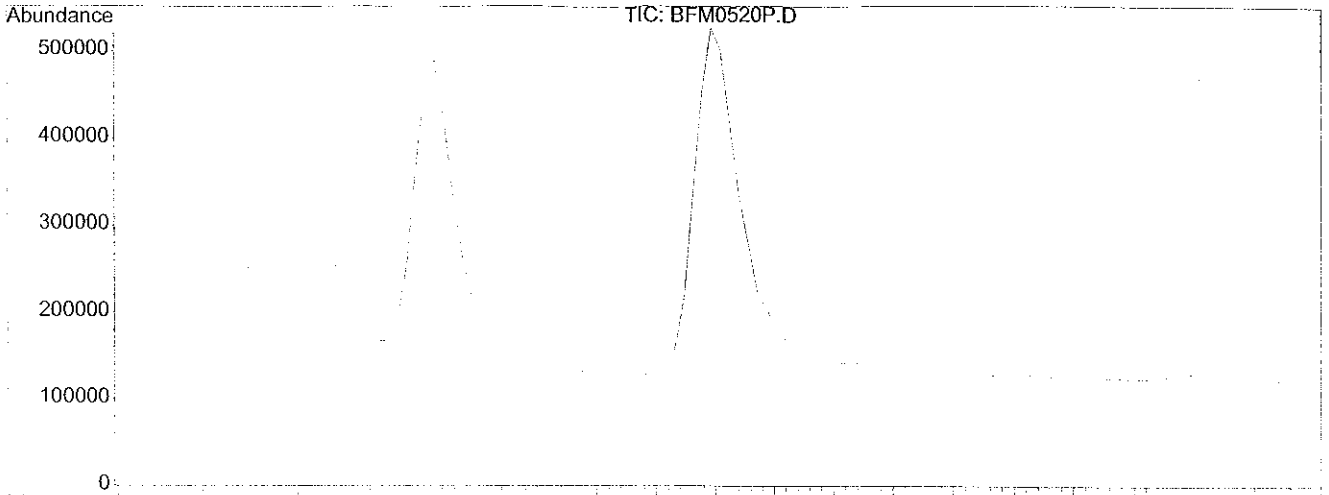
** Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

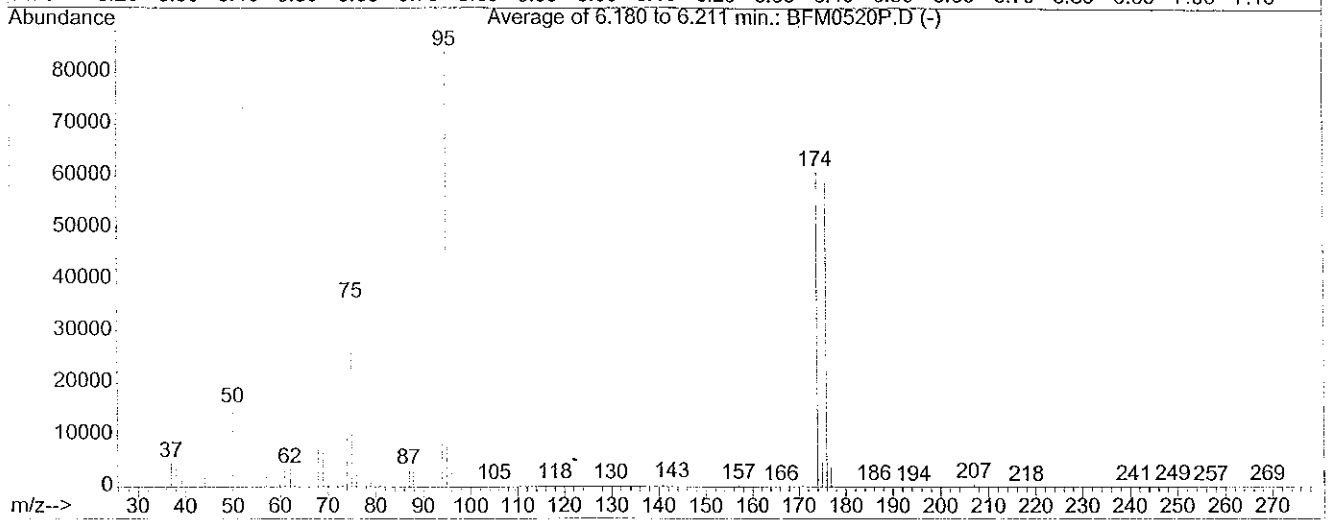
NAS Cecil Field CTO-0062

STL Pensacola

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0520P\BFM0520P.D Vial: 13
Acq On : 20 May 2002 12:39 pm Operator: BDH
Sample : DAILY BFB 12HR. TUNE 50ppb Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK BFB TUNE CHECK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14





Peak Apex is scan: 43 (6.20 min)
Average of 3 scans: 42,43,44 minus background scan 23 (5.88 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	15079	PASS
75	95	30	60	42.1	35322	PASS
95	95	100	100	100.0	83987	PASS
96	95	5	9	6.5	5458	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	72.5	60859	PASS
175	174	5	9	7.9	4783	PASS
176	174	95	101	97.1	59093	PASS
177	176	5	9	6.5	3865	PASS

BFM0520P.D TO14S.M Wed May 22 08:32:34 2002

Average of 6.180 to 6.211 min.: BFM0520P.D
DAILY BFB 12HR. TUNE 50ppb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	762	51.05	3919	75.05	35322	140.90	532
37.00	4572	55.95	886	76.00	2617	142.90	611
38.05	3644	57.05	2010	78.90	1357	174.00	60859
39.10	1368	59.95	597	80.90	1369	175.00	4783
43.00	537	61.00	3189	87.00	3231	176.00	59093
44.05	1957	62.05	3338	87.90	2927	176.90	3865
45.00	679	63.00	2035	92.00	2128	207.00	594
47.05	1364	68.00	7431	93.05	2953		
47.95	436	68.95	6919	94.05	8271		
49.05	3388	73.00	3166	95.00	83987		
50.00	15079	74.00	11908	96.05	5458		

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration

see OCCE for last analyte BH 5-21-02

Calibration Files

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

5-21-02

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	1.528	1.591	1.532	1.567	1.395	1.750	1.560	7.37
3)		Dichlorotetrafluoro	1.400	1.682	1.736	1.714	1.407	1.762	1.617	10.34
4)	P	Chloromethane	0.773	0.829	0.783	0.763	0.702	0.848	0.783	6.64
5)	C	Vinyl chloride	0.677	0.844	0.832	0.819	0.705	0.881	0.793	10.36#
6)		Bromomethane	1.124	1.158	1.171	1.140	1.019	1.215	1.138	5.81
7)		Chloroethane	0.416	0.583	0.612	0.581	0.446	0.619	0.543	16.32
8)		Trichlorofluorometh	2.788	3.192	3.298	3.262	2.638	3.274	3.075	9.33
9)		1,1,2-Trichlorotrif	1.768	2.061	2.242	2.170	1.705	2.172	2.020	11.27
10)	MC	1,1-Dichloroethene	0.976	1.064	1.142	1.106	0.912	1.086	1.048	8.27#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.243	1.475	1.503	1.489	1.167	1.456	1.389	10.48
13)		Carbon disulfide	2.697	3.064	3.260	3.201	2.572	3.157	2.992	9.59
14)		methyl-Tert-Butyl E	1.872	2.027	1.848	1.998	1.577	1.802	1.854	8.71
15)		trans-1,2-Dichloroe	1.149	1.256	1.344	1.314	1.058	1.294	1.236	8.94
16)		n-Hexane	1.215	1.098	1.224	1.156	1.013	1.137	1.141	6.90
17)	P	1,1-Dichloroethane	1.883	2.207	2.334	2.299	1.787	2.243	2.126	10.88
18)		cis-1,2-Dichloroeth	1.545	1.791	1.916	1.891	1.441	1.815	1.733	11.23
19)	C	Chloroform	2.620	2.810	2.942	2.905	2.309	2.816	2.734	8.62#
20)		Isooctane	3.918	4.054	3.935	3.966	3.305	3.665	3.807	7.31
21)		1,1,1-Trichloroetha	2.472	2.671	2.805	2.790	2.226	2.715	2.613	8.58
22)		Carbon tetrachlorid	2.350	2.782	2.911	2.898	2.305	2.830	2.679	10.33
23)	S	1,2-Dichloroethane	1.381	1.380	1.313	1.355	1.375	1.332	1.356	2.07
24)		1,2-Dichloroethane	1.358	1.554	1.521	1.590	1.223	1.479	1.454	9.53
25)		1,2-Dibromoethane	1.817	2.186	2.011	2.179	1.639	1.972	1.967	10.77
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------	----------	
27)	M	Benzene	0.674	0.714	0.720	0.732	0.587	0.696	0.687	7.71
28)	M	Trichloroethene	0.352	0.406	0.415	0.420	0.325	0.400	0.386	9.98
29)	C	1,2-Dichloropropane	0.277	0.311	0.310	0.320	0.245	0.299	0.294	9.55#
30)		Bromodichloromethan	0.786	0.815	0.800	0.834	0.659	0.764	0.776	7.99
31)		cis-1,3-Dichloropro	0.458	0.501	0.492	0.509	0.389	0.472	0.470	9.34
32)	S	Toluene-d8 SURR#2	0.767	0.775	0.757	0.763	0.765	0.761	0.765	0.80
33)	MC	Toluene	0.432	0.488	0.485	0.498	0.396	0.475	0.462	8.58#
34)		trans-1,3-Dichlorop	0.387	0.438	0.405	0.441	0.325	0.393	0.398	10.63
35)		1,1,2-Trichloroetha	0.268	0.297	0.269	0.296	0.226	0.263	0.270	9.71
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------	----------	
37)		Tetrachloroethene	0.492	0.542	0.564	0.565	0.442	0.540	0.524	9.19
38)		Dibromochloromethan	0.675	0.727	0.696	0.741	0.578	0.666	0.681	8.49
39)	MP	Chlorobenzene	0.820	0.922	0.936	0.943	0.732	0.894	0.874	9.50
40)	C	Ethylbenzene	0.352	0.370	0.377	0.380	0.299	0.369	0.358	8.54#
41)		m,p-Xylene	0.421	0.495	0.483	0.494	0.393	0.473	0.460	9.26

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

Response Factor Report MARILYN

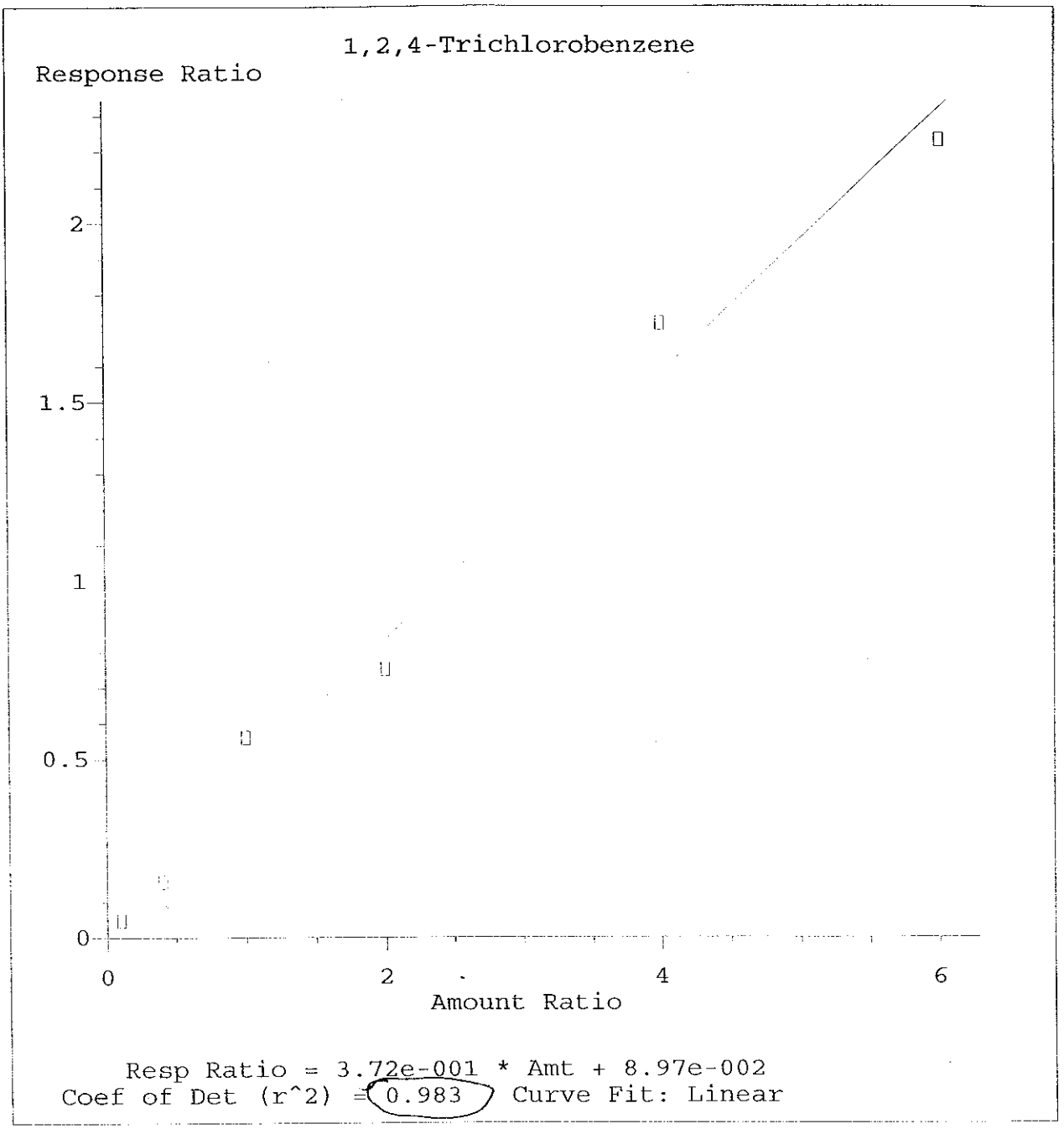
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
42)		o-Xylene	0.436	0.475	0.476	0.485	0.378	0.460	0.452	8.85
43)		Styrene	0.718	0.834	0.810	0.835	0.649	0.801	0.774	9.68
44)	P	Bromoform	0.649	0.758	0.635	0.731	0.556	0.643	0.662	10.98
45)	P	1,1,2,2-Tetrachloro	0.542	0.579	0.460	0.548	0.435	0.475	0.507	11.36
46)	S	4-Bromofluorobenzen	0.931	0.978	0.884	0.953	0.947	0.941	0.939	3.32
47)		1,4-Dichloro-2-bute	0.117	0.133	0.110	0.131	0.091	0.106	0.114	13.73
48)		4-Ethyltoluene	1.186	1.289	1.204	1.251	1.014	1.200	1.191	7.96
49)		1,3,5-Trimethylbenz	0.865	1.057	0.920	0.854	0.763	0.863	0.887	11.00
50)		2-Chlorotoluene	1.172	1.306	1.178	1.247	1.074	1.231	1.201	6.60
51)		1,2,4-Trimethylbenz	0.911	1.065	0.915	0.980	0.820	0.967	0.943	8.74
52)		1,3-Dichlorobenzene	0.731	0.877	0.734	0.788	0.660	0.772	0.761	9.50
53)		1,4-Dichlorobenzene	0.747	0.898	0.763	0.821	0.679	0.786	0.782	9.43
54)		1,2-Dichlorobenzene	0.658	0.822	0.633	0.705	0.605	0.681	0.684	11.15
55)		1,2,4-Trichlorobenz	0.483	0.560	0.372	0.430	0.391	0.376	-----	
							L	M= 0.372	R^2=0.983	
								B= 0.090		
56)		Napthalene	0.552	0.554	0.397	0.472	0.400	0.384	-----	
							L	M= 0.404	R^2=0.982	
								B= 0.071		
57)		Hexachlorobutadiene	0.494	0.544	0.264	0.288	0.393	0.305	0.381	30.51

out; see occF

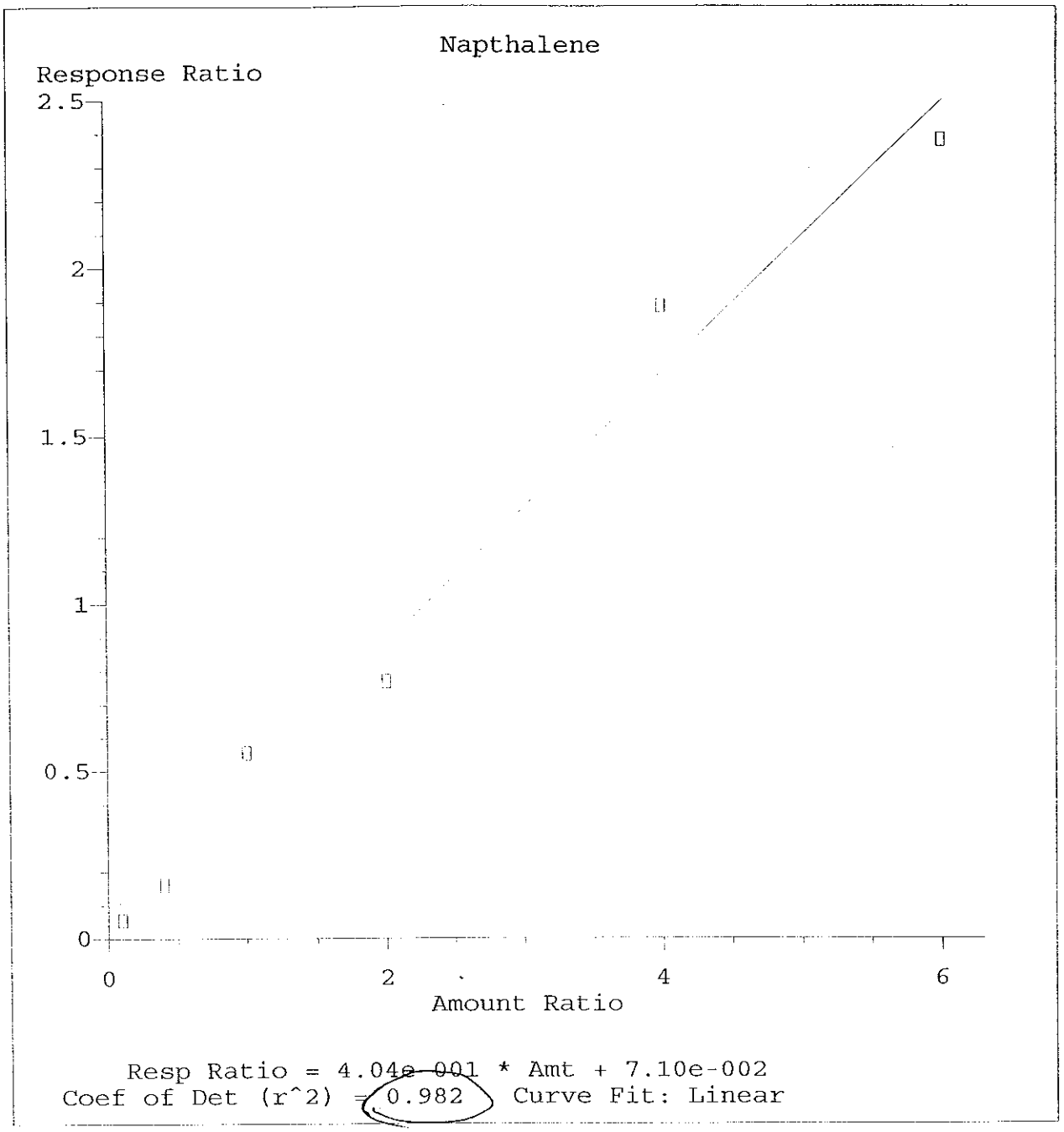
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:54:50 2002

BH 5/21/02

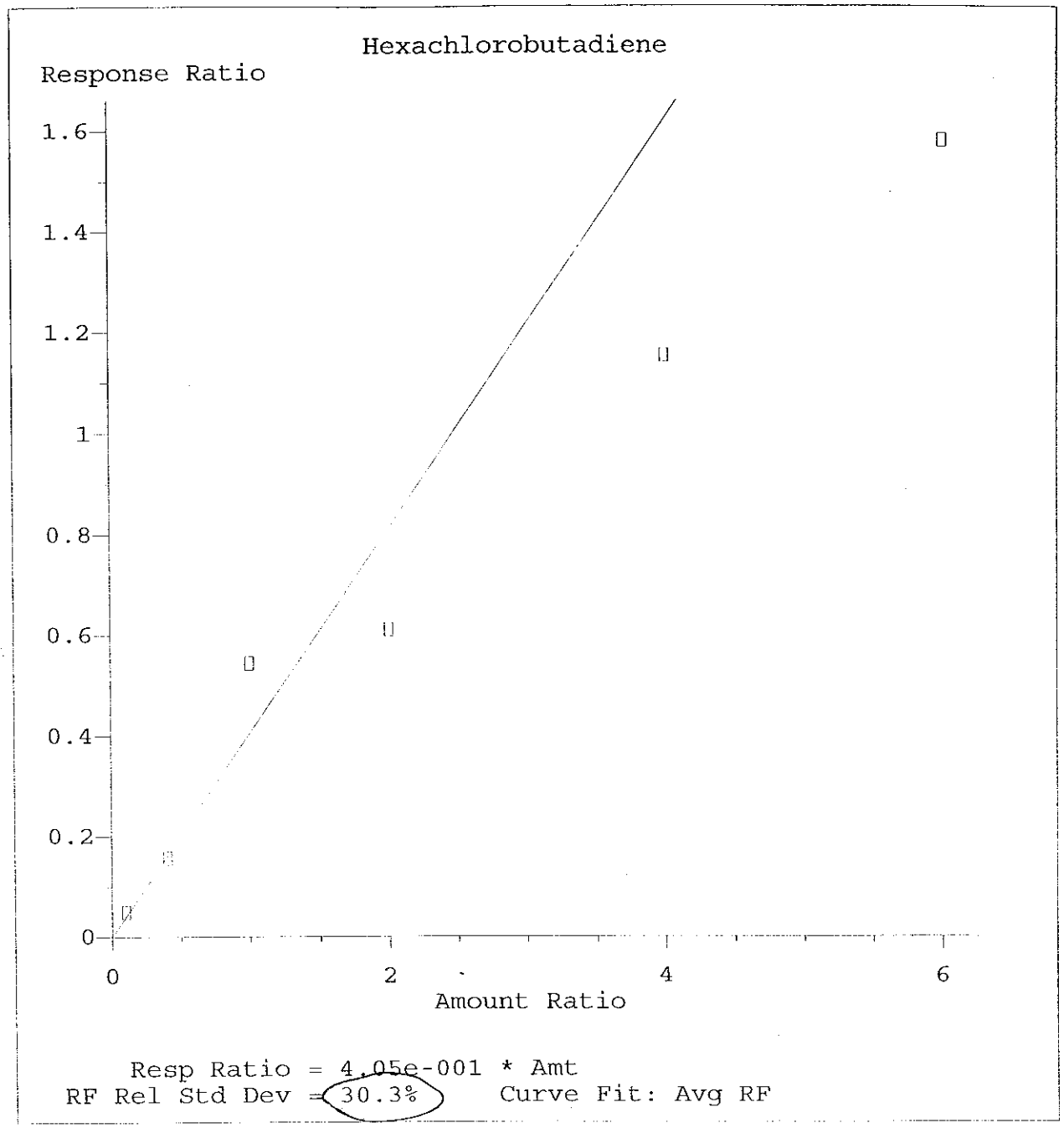
TRJ 5-21-02



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:54:50 2002

BA 5/21/02

5-21-02



Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Tue May 21 08:56:31 2002

See OCCE
BH 5/21/02

5-21-02

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520A\R&D4GAS.D (20 May 2002 11:48)

original BH 5/20/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	399070	250.00 ng	0.02 96.93%
26) 1,4-Difluorobenzene IS#2	13.30	114	1616838	250.00 ng	0.03 91.93%
36) Chlorobenzene-d5 IS#3	20.60	117	1225795	250.00 ng	0.02 92.85%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	550991	293.44 ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 117.38%					
32) Toluene-d8 SURR#2	16.85	98	1240697	245.61 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.24%					
46) 4-Bromofluorobenzene SURR#	23.76	95	1141375	261.16 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 104.46%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.74	85	60980	41.58 ng		91
3) Dichlorotetrafluoroethane	3.92	135	55885	24.22 ng	#	42
4) Chloromethane	4.20	50	30830	24.52 ng	#	72
5) Vinyl chloride	4.41	62	27011	23.26 ng	#	91
6) Bromomethane	5.26	94	44836	23.80 ng	#	92
7) Chloroethane	5.40	64	16593	19.63 ng	#	65
8) Trichlorofluoromethane	5.90	101	111246	55.27 ng		97
9) 1,1,2-Trichlorotrifluoroet	6.70	151	70556	23.66 ng		85
10) 1,1-Dichloroethene	7.06	96	38944	22.94 ng		90
12) Methylene chloride	8.01	49	49592	21.71 ng		96
13) Carbon disulfide	8.10	76	107612	23.55 ng		96
14) methyl-Tert-Butyl Ether	8.29	73	74719	30.18 ng	#	86
15) trans-1,2-Dichloroethene	8.60	96	45836	24.05 ng		91
16) n-Hexane	8.69	57	48503	27.91 ng	#	1
17) 1,1-Dichloroethane	9.42	63	75154	24.22 ng	#	97
18) cis-1,2-Dichloroethene	10.66	61	61638	24.50 ng		99
19) Chloroform	10.99	83	104554	26.69 ng		98
20) Isooctane	11.95	57	156368	26.82 ng		91
21) 1,1,1-Trichloroethane	11.86	97	98647	29.64 ng	#	92
22) Carbon tetrachloride	12.42	117	93794	26.77 ng		95
24) 1,2-Dichloroethane	12.70	62	54180	25.70 ng	#	95
25) 1,2-Dibromoethane	19.66	107	72521	21.39 ng		99
27) Benzene	12.78	78	108990	22.98 ng		97

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

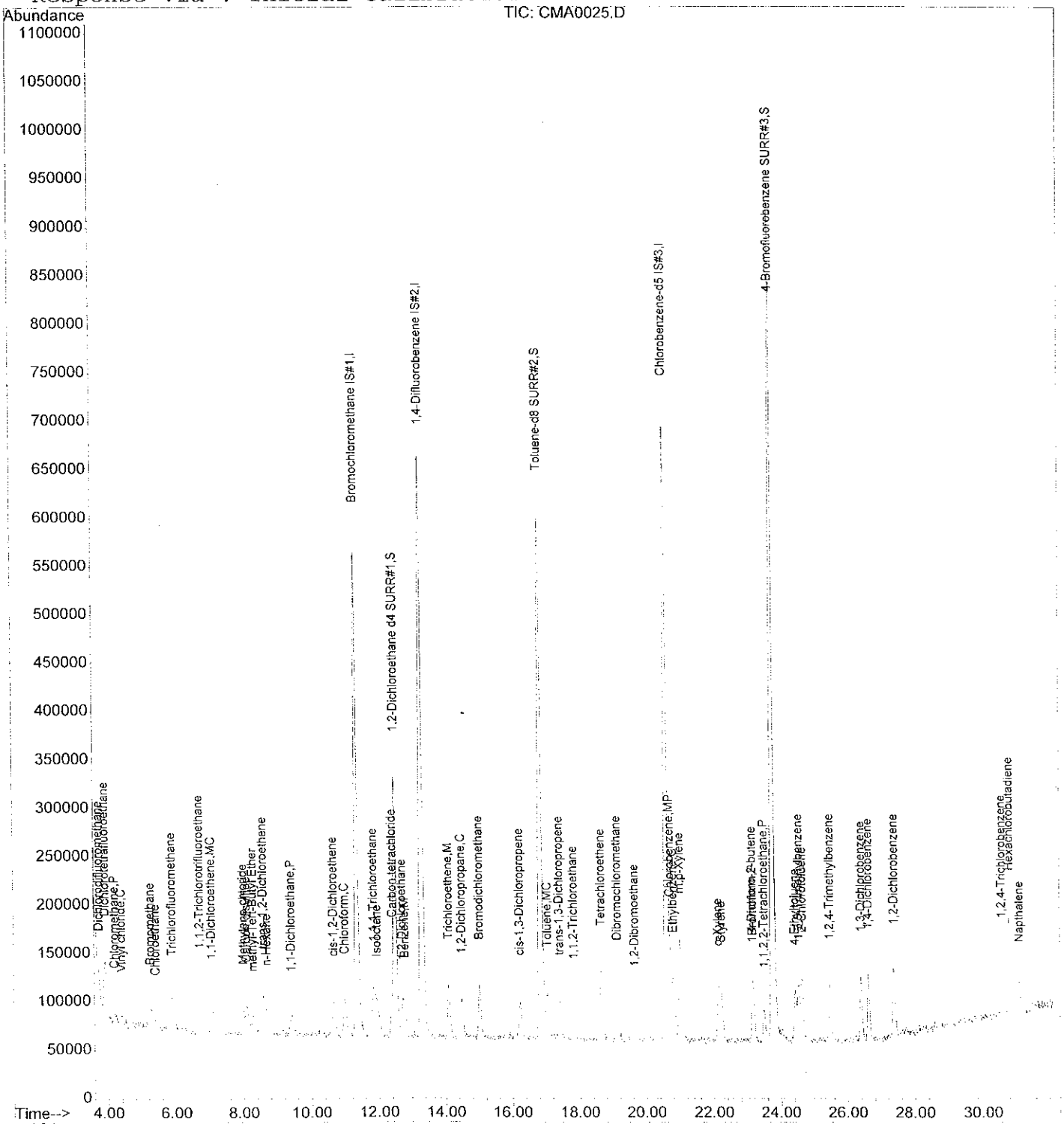
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	56884	21.59 ng		98
29)	1,2-Dichloropropane	14.49	63	44837	22.35 ng	#	72
30)	Bromodichloromethane	15.01	83	127141	26.05 ng	#	95
31)	cis-1,3-Dichloropropene	16.22	75	74016	24.38 ng	#	86
33)	Toluene	17.05	92	69914	23.34 ng		97
34)	trans-1,3-Dichloropropene	17.41	75	62535	24.07 ng	#	80
35)	1,1,2-Trichloroethane	17.82	97	43255	20.76 ng		99
37)	Tetrachloroethene	18.65	164	60353	25.25 ng		92
38)	Dibromochloromethane	19.13	127	82766	23.38 ng	#	93
39)	Chlorobenzene	20.71	112	100540	23.01 ng		91
40)	Ethylbenzene	20.81	106	43148	24.69 ng		99
41)	m,p-Xylene	21.01	106	103239	45.88 ng		95
42)	o-Xylene	22.14	106	53395	24.82 ng		97
43)	Styrene	22.24	104	88042	23.30 ng		98
44)	Bromoform	23.17	173	79512	22.76 ng	#	96
45)	1,1,2,2-Tetrachloroethane	23.51	83	66459	21.19 ng	#	97
47)	1,4-Dichloro-2-butene	23.15	75	14301	22.38 ng	#	91
48)	4-Ethyltoluene	24.43	105	145409	25.63 ng	#	86
49)	1,3,5-Trimethylbenzene	24.53	105	106064	23.72 ng		93
50)	2-Chlorotoluene	24.64	91	143648	24.60 ng		95
51)	1,2,4-Trimethylbenzene	25.47	105	111623	23.69 ng		95
52)	1,3-Dichlorobenzene	26.40	146	89648	23.39 ng		94
53)	1,4-Dichlorobenzene	26.62	146	91515	22.63 ng		94
54)	1,2-Dichlorobenzene	27.38	146	80646	21.69 ng		98
55)	1,2,4-Trichlorobenzene	30.56	180	59257	21.27 ng	#	94
56)	Napthalene	31.10	128	67702	16.64 ng	#	87
57)	Hexachlorobutadiene	30.79	225	60589	24.95 ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D Vial: 14
Acq On : 20 May 2002 15:34 Operator: BDH
Sample : 25ng/1uL/5ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:07 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 15:33:03 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D
Acq On : 20 May 2002 16:08
Sample : 100ng/4uL/20ppb INITIAL CALIB.
Misc : Pi/Pf=1 MAB91ABK
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002

Vial: 15
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

BH 5/20/02

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	373178	250.00 ng	0.01 90.64%
26) 1,4-Difluorobenzene IS#2	13.30	114	1549218	250.00 ng	0.00 88.08%
36) Chlorobenzene-d5 IS#3	20.62	117	1186656	250.00 ng	0.01 89.89%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.49	65	513097	281.91 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 112.76%					
32) Toluene-d8 SURR#2	16.86	98	1185537	245.24 ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.10%					
46) 4-Bromofluorobenzene SURR#	23.75	95	1124132	263.32 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.33%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.70	85	208215	142.60 ng		98
3) Dichlorotetrafluoroethane	3.90	135	210039	99.31 ng	#	45
4) Chloromethane	4.18	50	104743	91.83 ng	#	90
5) Vinyl chloride	4.39	62	105251	99.42 ng	#	92
6) Bromomethane	5.26	94	152151	90.35 ng		97
7) Chloroethane	5.41	64	66570	87.07 ng	#	91
8) Trichlorofluoromethane	5.88	101	393732	163.14 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.70	151	254579	93.28 ng		84
10) 1,1-Dichloroethene	7.07	96	136196	87.16 ng		93
12) Methylene chloride	8.01	49	174142	84.00 ng		97
13) Carbon disulfide	8.11	76	383967	92.08 ng		99
14) methyl-Tert-Butyl Ether	8.30	73	235409	99.63 ng		92
15) trans-1,2-Dichloroethene	8.60	96	157885	89.38 ng		93
16) n-Hexane	8.70	57	151156	92.29 ng	#	1
17) 1,1-Dichloroethane	9.42	63	266761	92.48 ng		99
18) cis-1,2-Dichloroethene	10.68	61	215129	91.82 ng		96
19) Chloroform	11.00	83	344741	92.95 ng		99
20) Isooctane	11.95	57	493297	90.96 ng		99
21) 1,1,1-Trichloroethane	11.86	97	332268	104.12 ng		93
22) Carbon tetrachloride	12.43	117	344087	103.64 ng		99
24) 1,2-Dichloroethane	12.70	62	182601	92.00 ng		97
25) 1,2-Dibromoethane	19.67	107	244693	79.07 ng		99
27) Benzene	12.77	78	363827	82.28 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

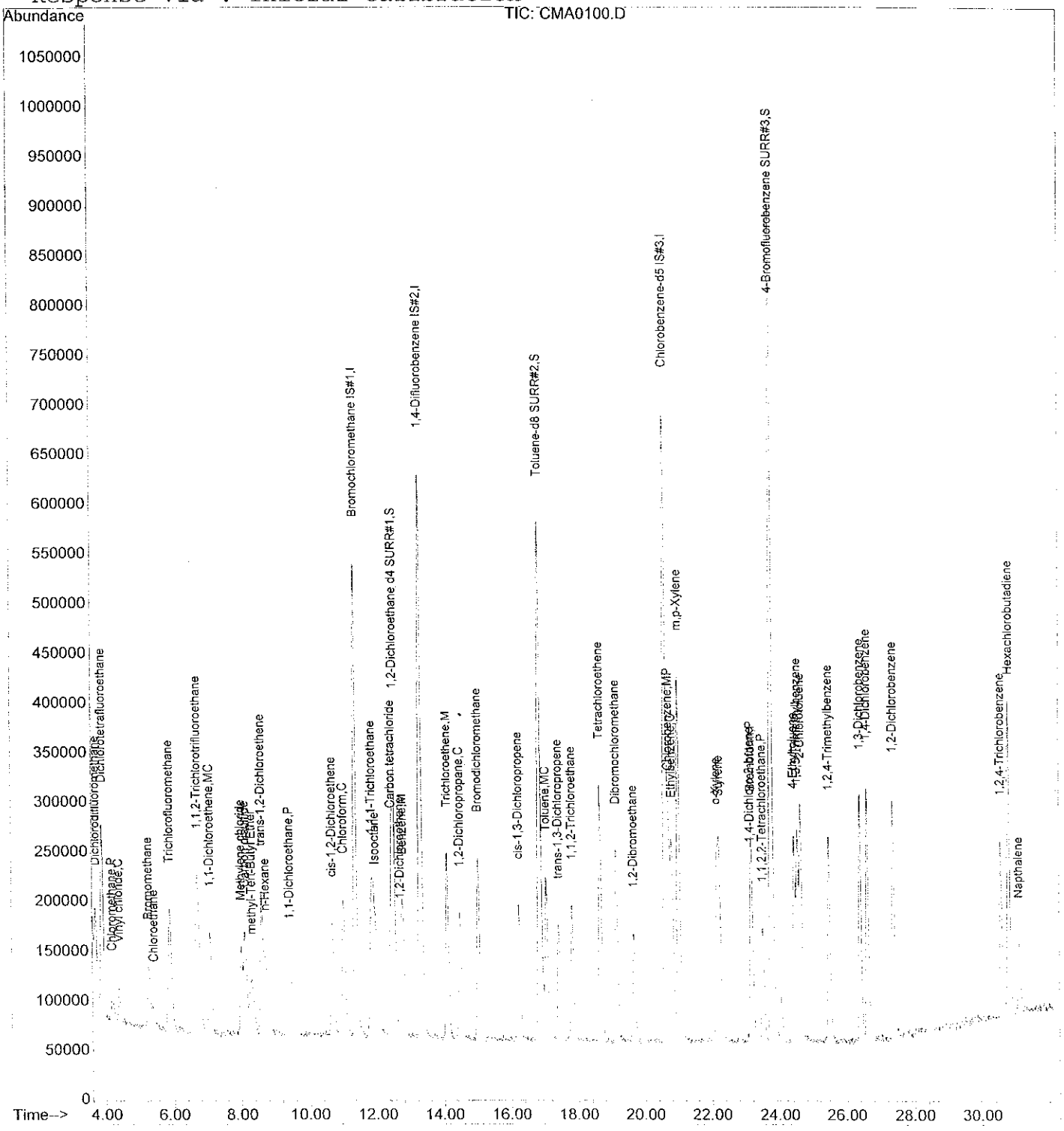
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.11	130	201542	81.77 ng		97
29)	1,2-Dichloropropane	14.48	63	151752	80.54 ng	#	90
30)	Bromodichloromethane	15.03	83	408610	86.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	241241	82.98 ng		91
33)	Toluene	17.04	92	245575	86.66 ng		96
34)	trans-1,3-Dichloropropene	17.42	75	201539	81.12 ng	#	89
35)	1,1,2-Trichloroethane	17.82	97	139953	72.43 ng		97
37)	Tetrachloroethene	18.66	164	209613	90.95 ng		91
38)	Dibromochloromethane	19.16	127	274483	80.98 ng	#	98
39)	Chlorobenzene	20.73	112	347242	83.24 ng		98
40)	Ethylbenzene	20.82	106	141753	84.17 ng		94
41)	m,p-Xylene	21.01	106	373377	174.23 ng		100
42)	o-Xylene	22.15	106	179424	86.02 ng		99
43)	Styrene	22.23	104	307926	84.87 ng		99
44)	Bromoform	23.18	173	264009	79.30 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	206475	70.59 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	43155	71.09 ng		94
48)	4-Ethyltoluene	24.44	105	481270	89.01 ng		97
49)	1,3,5-Trimethylbenzene	24.53	105	362124	85.37 ng		93
50)	2-Chlorotoluene	24.64	91	509871	91.50 ng		97
51)	1,2,4-Trimethylbenzene	25.48	105	389067	86.67 ng		99
52)	1,3-Dichlorobenzene	26.41	146	313479	85.41 ng		96
53)	1,4-Dichlorobenzene	26.61	146	322064	83.19 ng		96
54)	1,2-Dichlorobenzene	27.37	146	287311	83.20 ng		97
55)	1,2,4-Trichlorobenzene	30.56	180	185496	76.09 ng		99
56)	Napthalene	31.10	128	190082	58.95 ng	#	87
57)	Hexachlorobutadiene	30.81	225	186532	92.47 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0100.D Vial: 15
Acq On : 20 May 2002 16:08 Operator: BDH
Sample : 100ng/4uL/20ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 16:40 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:15:02 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D
Acq On : 20 May 2002 16:42
Sample : 250ng/10uL/50ppb INITIAL CALIB.
Misc : Pi/Pf=1 MAB91ABK
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002

Vial: 16
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0025.D (20 May 2002 15:34)

BH original 5/20/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	417253	250.00	ng	0.02 101.35%
26) 1,4-Difluorobenzene IS#2	13.31	114	1707946	250.00	ng	0.00 97.11%
36) Chlorobenzene-d5 IS#3	20.62	117	1335967	250.00	ng	0.02 101.20%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	575921	277.22	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.89%						
32) Toluene-d8 SURR#2	16.86	98	1323808	249.00	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.60%						
46) 4-Bromofluorobenzene SURR#	23.76	95	1306401	269.45	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 107.78%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.71	85	663827	367.07	ng	100
3) Dichlorotetrafluoroethane	3.91	135	701816	291.32	ng #	44
4) Chloromethane	4.19	50	345732	272.06	ng #	95
5) Vinyl chloride	4.39	62	352324	291.53	ng	95
6) Bromomethane	5.26	94	483269	258.51	ng	99
7) Chloroethane	5.40	64	243344	286.02	ng	98
8) Trichlorofluoromethane	5.88	101	1331915	415.12	ng	98
9) 1,1,2-Trichlorotrifluoroet	6.71	151	859877	279.86	ng	84
10) 1,1-Dichloroethene	7.06	96	444023	256.57	ng	98
12) Methylene chloride	8.00	49	615621	268.79	ng	98
13) Carbon disulfide	8.10	76	1278404	272.13	ng	99
14) methyl-Tert-Butyl Ether	8.29	73	845762	316.01	ng	97
15) trans-1,2-Dichloroethene	8.59	96	524208	266.41	ng	98
16) n-Hexane	8.71	57	458238	249.68	ng #	1
17) 1,1-Dichloroethane	9.42	63	921051	283.65	ng	98
18) cis-1,2-Dichloroethene	10.67	61	747445	282.93	ng	97
19) Chloroform	10.99	83	1172455	280.52	ng	100
20) Isooctane	11.96	57	1691408	282.91	ng	98
21) 1,1,1-Trichloroethane	11.86	97	1114413	303.45	ng	91
22) Carbon tetrachloride	12.42	117	1160795	303.96	ng	99
24) 1,2-Dichloroethane	12.70	62	648568	291.50	ng	98
25) 1,2-Dibromoethane	19.68	107	911988	270.23	ng	99
27) Benzene	12.78	78	1219770	255.05	ng	98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

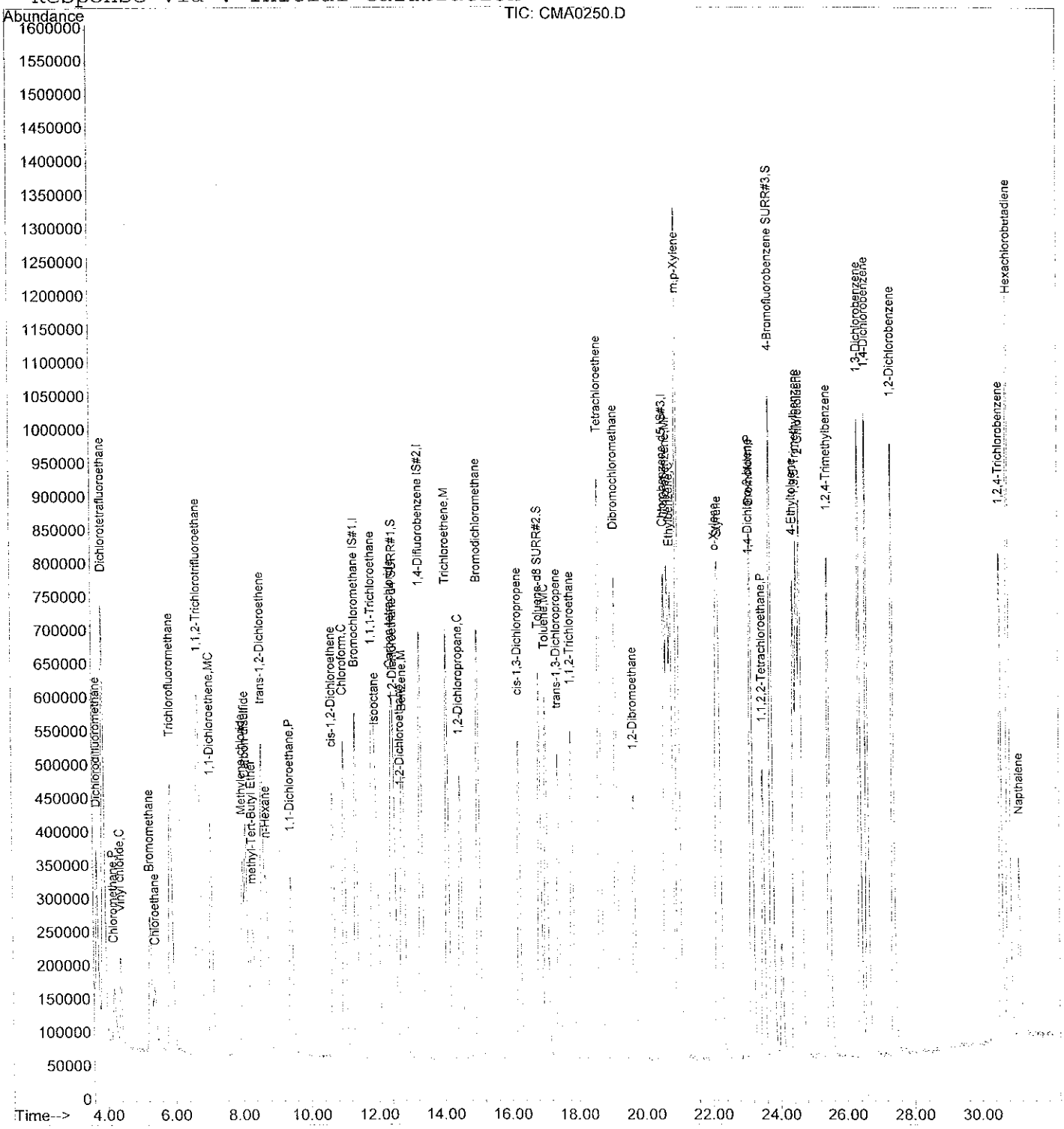
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	693355	260.21 ng		97
29)	1,2-Dichloropropane	14.47	63	531527	261.09 ng		95
30)	Bromodichloromethane	15.03	83	1391715	269.49 ng		98
31)	cis-1,3-Dichloropropene	16.24	75	854837	269.64 ng		96
33)	Toluene	17.05	92	833424	268.18 ng		99
34)	trans-1,3-Dichloropropene	17.41	75	748576	278.06 ng		96
35)	1,1,2-Trichloroethane	17.81	97	507382	248.42 ng		97
37)	Tetrachloroethene	18.67	164	724724	279.20 ng		92
38)	Dibromochloromethane	19.15	127	970854	260.07 ng		98
39)	Chlorobenzene	20.72	112	1231627	266.26 ng		97
40)	Ethylbenzene	20.81	106	494615	263.02 ng		95
41)	m,p-Xylene	21.01	106	1323312	552.43 ng		96
42)	o-Xylene	22.16	106	635186	271.93 ng		100
43)	Styrene	22.24	104	1114793	274.99 ng		97
44)	Bromoform	23.19	173	1012669	278.34 ng		99
45)	1,1,2,2-Tetrachloroethane	23.51	83	774119	246.56 ng		99
47)	1,4-Dichloro-2-butene	23.15	75	177079	268.80 ng		99
48)	4-Ethyltoluene	24.44	105	1722714	281.98 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	1412433	301.18 ng		93
50)	2-Chlorotoluene	24.65	91	1744653	278.39 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	1423152	284.90 ng		100
52)	1,3-Dichlorobenzene	26.40	146	1171866	287.54 ng		96
53)	1,4-Dichlorobenzene	26.62	146	1199069	280.81 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1098533	289.46 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	747752	284.37 ng		99
56)	Napthalene	31.12	128	740301	225.19 ng	#	91
57)	Hexachlorobutadiene	30.81	225	726983	328.17 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D Vial: 16
Acq On : 20 May 2002 16:42 Operator: BDH
Sample : 250ng/10uL/50ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:15 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 16:55:08 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.37	128	416766	250.00 ng	0.00 99.88%
26) 1,4-Difluorobenzene IS#2	13.31	114	1792397	250.00 ng	0.00 104.94%
36) Chlorobenzene-d5 IS#3	20.62	117	1360342	250.00 ng	0.00 101.82%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.50	65	555053	263.27 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.31%					
32) Toluene-d8 SURR#2	16.86	98	1364331	245.41 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.16%					
46) 4-Bromofluorobenzene SURR#	23.76	95	1279462	255.65 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.26%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.74	85	1458753	731.15 ng		99
3) Dichlorotetrafluoroethane	3.94	135	1468601	599.73 ng	#	46
4) Chloromethane	4.22	50	707140	550.40 ng		95
5) Vinyl chloride	4.42	62	734031	597.16 ng		97
6) Bromomethane	5.28	94	1013134	539.25 ng		99
7) Chloroethane	5.42	64	516165	598.37 ng		97
8) Trichlorofluoromethane	5.91	101	2728826	736.61 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.72	151	1810480	580.32 ng		84
10) 1,1-Dichloroethene	7.09	96	905211	524.65 ng		99
12) Methylene chloride	8.03	49	1213973	532.26 ng		99
13) Carbon disulfide	8.12	76	2631305	552.53 ng		100
14) methyl-Tert-Butyl Ether	8.31	73	1501820	539.26 ng		95
15) trans-1,2-Dichloroethene	8.60	96	1078808	544.20 ng		97
16) n-Hexane	8.71	57	947618	517.91 ng	#	1
17) 1,1-Dichloroethane	9.44	63	1869662	565.64 ng		98
18) cis-1,2-Dichloroethene	10.68	61	1513036	564.14 ng		97
19) Chloroform	11.01	83	2347164	553.51 ng		99
20) Isooctane	11.97	57	3054730	503.50 ng		98
21) 1,1,1-Trichloroethane	11.86	97	2262655	594.74 ng		92
22) Carbon tetrachloride	12.44	117	2358585	598.03 ng		99
24) 1,2-Dichloroethane	12.70	62	1232739	546.62 ng		98
25) 1,2-Dibromoethane	19.67	107	1643507	487.51 ng		99
27) Benzene	12.78	78	2494309	499.36 ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

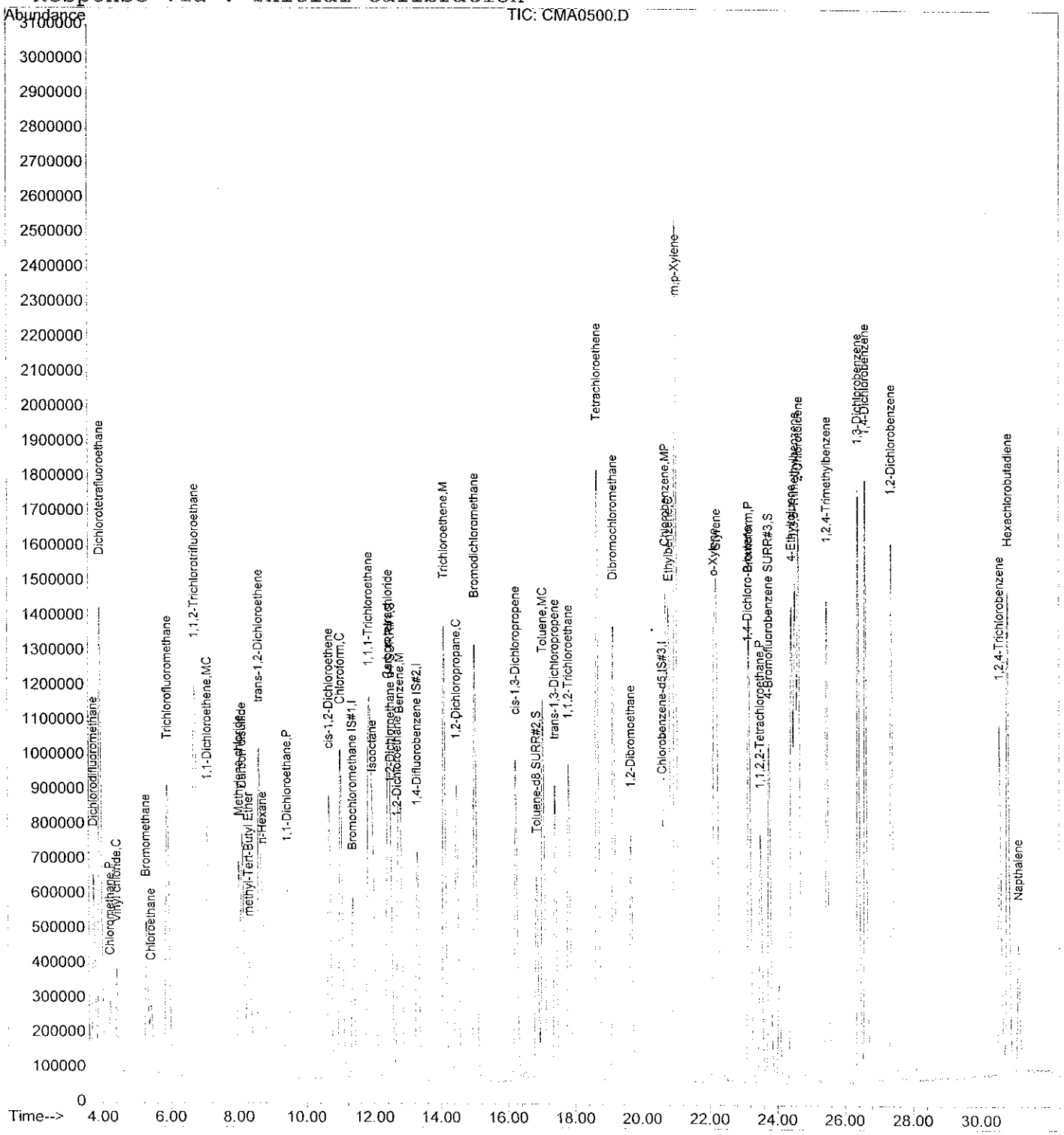
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	1432364	514.74 ng		96
29)	1,2-Dichloropropane	14.49	63	1071754	504.26 ng		97
30)	Bromodichloromethane	15.02	83	2739984	504.58 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	1690648	505.74 ng		97
33)	Toluene	17.05	92	1703256	520.16 ng		97
34)	trans-1,3-Dichloropropene	17.41	75	1409734	495.90 ng		95
35)	1,1,2-Trichloroethane	17.81	97	941430	448.37 ng		97
37)	Tetrachloroethene	18.66	164	1469307	545.87 ng		92
38)	Dibromochloromethane	19.15	127	1812921	479.34 ng		98
39)	Chlorobenzene	20.72	112	2433163	515.97 ng		96
40)	Ethylbenzene	20.82	106	1004604	523.75 ng		100
41)	m,p-Xylene	21.01	106	2571729	1044.70 ng		98
42)	o-Xylene	22.16	106	1250748	521.41 ng		99
43)	Styrene	22.24	104	2177929	522.77 ng		97
44)	Bromoform	23.18	173	1748129	468.44 ng		100
45)	1,1,2,2-Tetrachloroethane	23.51	83	1291894	412.18 ng		100
47)	1,4-Dichloro-2-butene	23.15	75	289125	428.59 ng		98
48)	4-Ethyltoluene	24.44	105	3264969	515.49 ng		92
49)	1,3,5-Trimethylbenzene	24.54	105	2348158	478.21 ng	#	81
50)	2-Chlorotoluene	24.64	91	3348047	518.72 ng		100
51)	1,2,4-Trimethylbenzene	25.48	105	2630210	511.79 ng		100
52)	1,3-Dichlorobenzene	26.40	146	2100877	501.27 ng		96
53)	1,4-Dichlorobenzene	26.62	146	2137944	491.21 ng		96
54)	1,2-Dichlorobenzene	27.38	146	1851673	476.57 ng		96
55)	1,2,4-Trichlorobenzene	30.56	180	1023646	382.56 ng		100
56)	Napthalene	31.12	128	1045942	328.70 ng	#	91
57)	Hexachlorobutadiene	30.81	225	830293	355.90 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA0500.D Vial: 1
Acq On : 20 May 2002 17:18 Operator: BDH
Sample : 500ng/20uL/100ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 17:50 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	394554	250.00	ng	-0.02 94.56%
26) 1,4-Difluorobenzene IS#2	13.31	114	1652129	250.00	ng	0.00 96.73%
36) Chlorobenzene-d5 IS#3	20.62	117	1259470	250.00	ng	0.00 94.27%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	534557	267.82	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 107.13%						
32) Toluene-d8 SURR#2	16.86	98	1259913	245.87	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.35%						
46) 4-Bromofluorobenzene SURR#	23.77	95	1200446	259.07	ng	0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.63%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.71	85	2472279	1308.90	ng		100
3) Dichlorotetrafluoroethane	3.91	135	2705137	1166.88	ng	#	44
4) Chloromethane	4.20	50	1203446	989.42	ng		96
5) Vinyl chloride	4.39	62	1292403	1110.60	ng		97
6) Bromomethane	5.26	94	1798871	1011.36	ng		99
7) Chloroethane	5.38	64	916308	1122.05	ng		98
8) Trichlorofluoromethane	5.88	101	5148169	1467.91	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	3425426	1159.77	ng		84
10) 1,1-Dichloroethene	7.06	96	1745693	1068.74	ng		99
12) Methylene chloride	7.99	49	2349215	1087.99	ng		98
13) Carbon disulfide	8.10	76	5052330	1120.62	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	3152644	1195.75	ng		95
15) trans-1,2-Dichloroethene	8.58	96	2073926	1105.08	ng		97
16) n-Hexane	8.69	57	1824641	1053.38	ng	#	1
17) 1,1-Dichloroethane	9.42	63	3628464	1159.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	2985062	1175.64	ng		98
19) Chloroform	10.99	83	4584005	1141.87	ng		99
20) Isooctane	11.95	57	6258676	1089.67	ng		98
21) 1,1,1-Trichloroethane	11.85	97	4402790	1222.43	ng		92
22) Carbon tetrachloride	12.42	117	4572900	1224.76	ng		99
24) 1,2-Dichloroethane	12.70	62	2508634	1175.00	ng		98
25) 1,2-Dibromoethane	19.67	107	3439109	1077.57	ng		100
27) Benzene	12.78	78	4836746	1050.53	ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

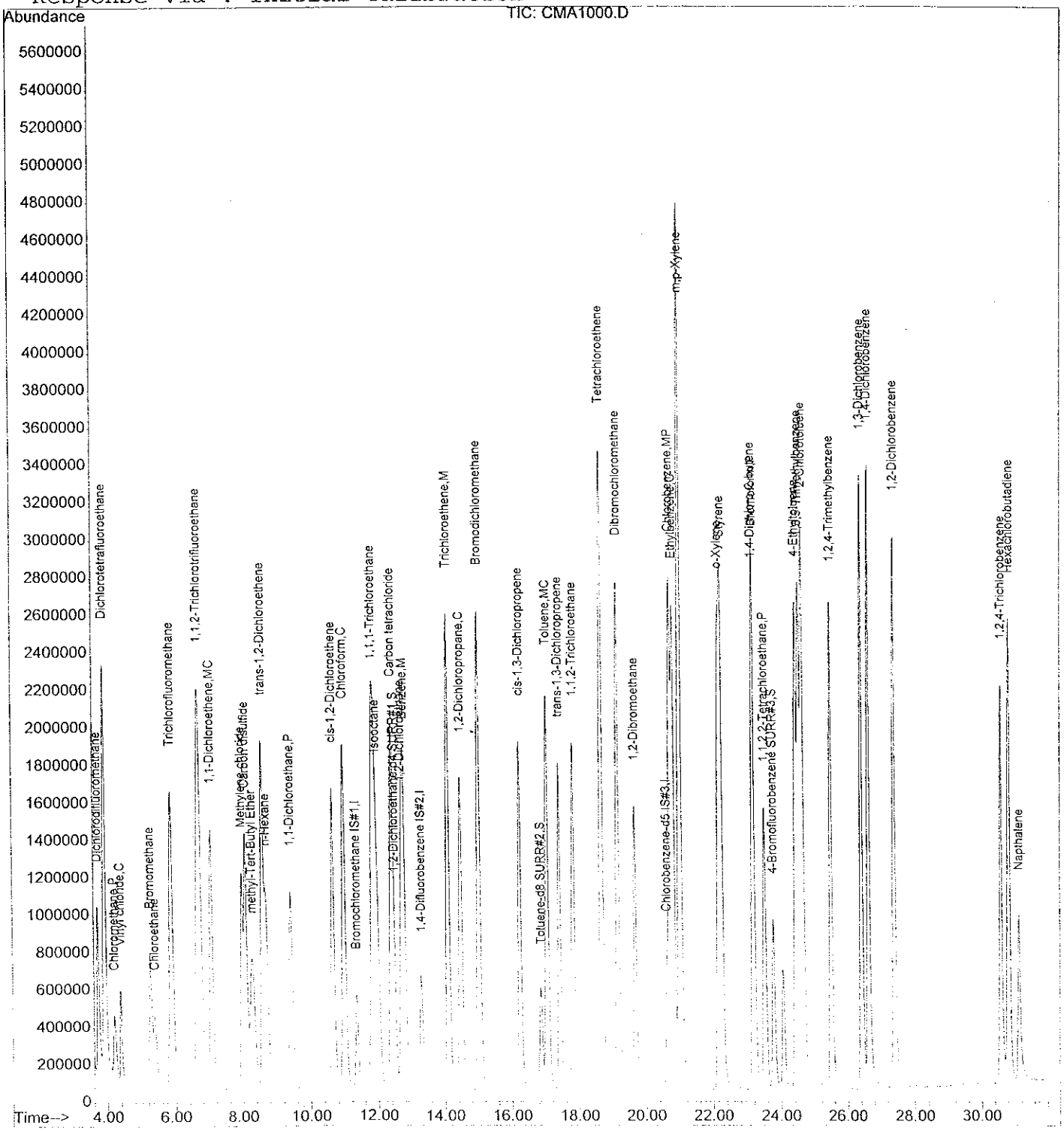
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	2777041	1082.70 ng		96
29)	1,2-Dichloropropane	14.49	63	2111962	1078.04 ng		97
30)	Bromodichloromethane	15.01	83	5508218	1100.49 ng		99
31)	cis-1,3-Dichloropropene	16.24	75	3365587	1092.27 ng		97
33)	Toluene	17.05	92	3290004	1090.04 ng		98
34)	trans-1,3-Dichloropropene	17.41	75	2914397	1112.24 ng		96
35)	1,1,2-Trichloroethane	17.83	97	1957001	1011.18 ng		97
37)	Tetrachloroethene	18.66	164	2844548	1141.42 ng		92
38)	Dibromochloromethane	19.16	127	3731352	1065.60 ng		98
39)	Chlorobenzene	20.73	112	4748532	1087.61 ng		95
40)	Ethylbenzene	20.82	106	1914168	1077.87 ng		100
41)	m,p-Xylene	21.03	106	4979844	2184.96 ng		97
42)	o-Xylene	22.17	106	2441444	1099.31 ng		96
43)	Styrene	22.25	104	4204219	1089.96 ng		98
44)	Bromoform	23.20	173	3680732	1065.31 ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	2758607	950.63 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	657970	1053.47 ng		98
48)	4-Ethyltoluene	24.46	105	6304262	1075.06 ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	4302298	946.35 ng	#	80
50)	2-Chlorotoluene	24.66	91	6282472	1051.32 ng		99
51)	1,2,4-Trimethylbenzene	25.50	105	4938539	1037.92 ng		99
52)	1,3-Dichlorobenzene	26.41	146	3971818	1023.57 ng		97
53)	1,4-Dichlorobenzene	26.63	146	4133586	1025.80 ng		95
54)	1,2-Dichlorobenzene	27.39	146	3553735	987.88 ng		97
55)	1,2,4-Trichlorobenzene	30.58	180	2164954	873.89 ng		100
56)	Napthalene	31.12	128	2376885	806.78 ng	#	92
57)	Hexachlorobutadiene	30.81	225	1453336	672.85 ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1000.D Vial: 3
Acq On : 20 May 2002 18:12 Operator: BDH
Sample : 1000ng/40uL/200ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 18:44 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



Quantification Report

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

BH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	384814	250.00	ng	-0.02 92.23%
26) 1,4-Difluorobenzene IS#2	13.29	114	1659953	250.00	ng	-0.02 97.19%
36) Chlorobenzene-d5 IS#3	20.62	117	1234109	250.00	ng	0.00 92.38%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	505438	259.64	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.86%						
32) Toluene-d8 SURR#2	16.85	98	1257252	244.19	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.68%						
46) 4-Bromofluorobenzene SURR#	23.78	95	1091145	240.32	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.13%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.71	85	3538177	1920.63	ng		99
3) Dichlorotetrafluoroethane	3.93	135	4007266	1772.31	ng	#	53
4) Chloromethane	4.21	50	1807253	1523.46	ng		95
5) Vinyl chloride	4.39	62	1921485	1692.99	ng		97
6) Bromomethane	5.25	94	2704264	1558.87	ng		99
7) Chloroethane	5.39	64	1413667	1774.89	ng		97
8) Trichlorofluoromethane	5.88	101	7613753	2225.87	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	5177281	1797.28	ng		83
10) 1,1-Dichloroethene	7.06	96	2636659	1655.05	ng		98
12) Methylene chloride	7.99	49	3470726	1648.08	ng		98
13) Carbon disulfide	8.10	76	7525988	1711.53	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	4266479	1659.17	ng		96
15) trans-1,2-Dichloroethene	8.59	96	3103467	1695.53	ng		97
16) n-Hexane	8.69	57	2825624	1672.55	ng	#	1
17) 1,1-Dichloroethane	9.42	63	5388402	1765.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	4423007	1786.05	ng		98
19) Chloroform	10.99	83	6791788	1734.65	ng		100
20) Isooctane	11.96	57	9085470	1621.86	ng		98
21) 1,1,1-Trichloroethane	11.85	97	6476682	1843.76	ng		92
22) Carbon tetrachloride	12.42	117	6721298	1845.72	ng		99
24) 1,2-Dichloroethane	12.70	62	3511462	1686.34	ng		98
25) 1,2-Dibromoethane	19.67	107	4643985	1491.91	ng		100
27) Benzene	12.78	78	7167425	1549.41	ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: TO14S.RES

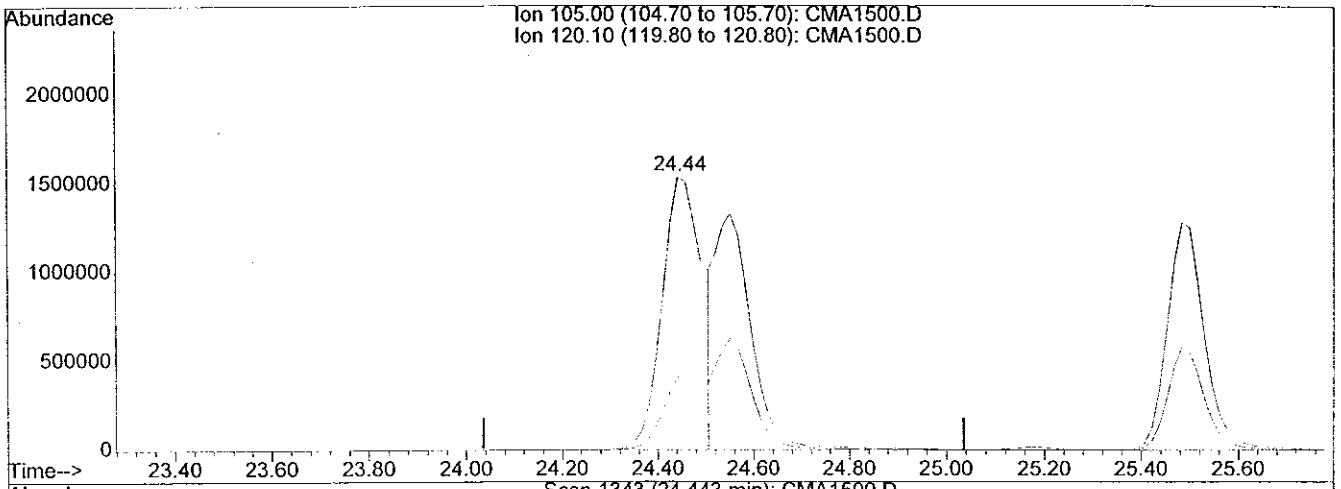
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

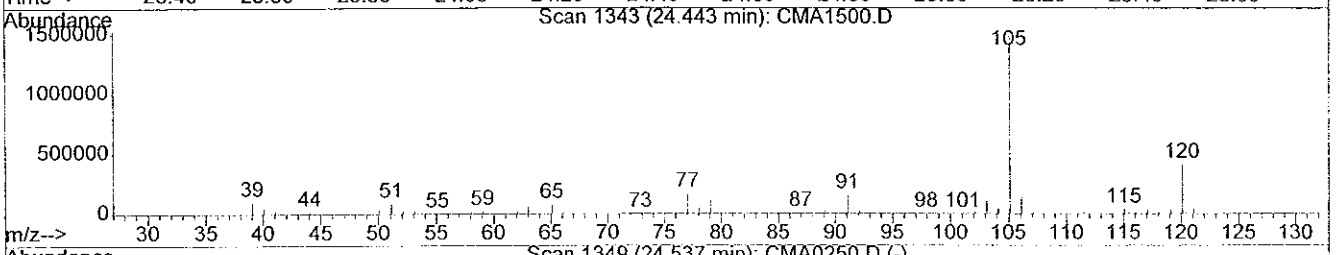
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.10	130	4129346	1602.35 ng		96
29)	1,2-Dichloropropane	14.49	63	3091310	1570.51 ng		97
30)	Bromodichloromethane	15.02	83	7968064	1584.43 ng		99
31)	cis-1,3-Dichloropropene	16.23	75	4903870	1584.00 ng		97
33)	Toluene	17.05	92	4832913	1593.69 ng		98
34)	trans-1,3-Dichloropropene	17.41	75	4032681	1531.76 ng		96
35)	1,1,2-Trichloroethane	17.83	97	2679218	1377.83 ng		97
37)	Tetrachloroethene	18.67	164	4172961	1708.88 ng		92
38)	Dibromochloromethane	19.16	127	5156431	1502.84 ng		97
39)	Chlorobenzene	20.73	112	6933813	1620.77 ng		95
40)	Ethylbenzene	20.82	106	2789207	1602.88 ng		98
41)	m,p-Xylene	21.03	106	7153023	3202.96 ng		97
42)	o-Xylene	22.18	106	3524637	1619.65 ng		95
43)	Styrene	22.25	104	5995630	1586.34 ng		97
44)	Bromoform	23.19	173	4699838	1388.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	3406981	1198.19 ng		99
47)	1,4-Dichloro-2-butene	23.17	75	813503	1329.26 ng		98
48)	4-Ethyltoluene	24.44	105	8912492	1551.07 ng		92
49)	1,3,5-Trimethylbenzene	24.55	105	6810996m	1528.96 ng	#	67
50)	2-Chlorotoluene	24.65	91	8724683	1490.01 ng		99
51)	1,2,4-Trimethylbenzene	25.48	105	6772432	1452.59 ng		99
52)	1,3-Dichlorobenzene	26.42	146	5433868	1429.13 ng		96
53)	1,4-Dichlorobenzene	26.63	146	5648009	1430.43 ng		96
54)	1,2-Dichlorobenzene	27.39	146	4686133	1329.44 ng		96
55)	1,2,4-Trichlorobenzene	30.58	180	2755935	1135.30 ng		99
56)	Napthalene	31.12	128	2939930	1018.40 ng	#	93
57)	Hexachlorobutadiene	30.81	225	1951302	921.96 ng		100

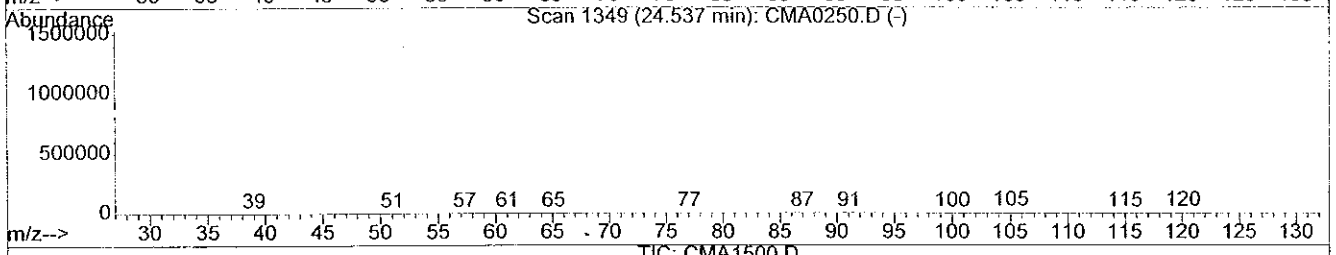
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 08:47:26 2002
Response via : Multiple Level Calibration







TIC: CMA1500.D

(49) 1,3,5-Trimethylbenzene

24.44min 2000.71ng

response 8912492

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	24.77#
0.00	0.00	0.00
0.00	0.00	0.00

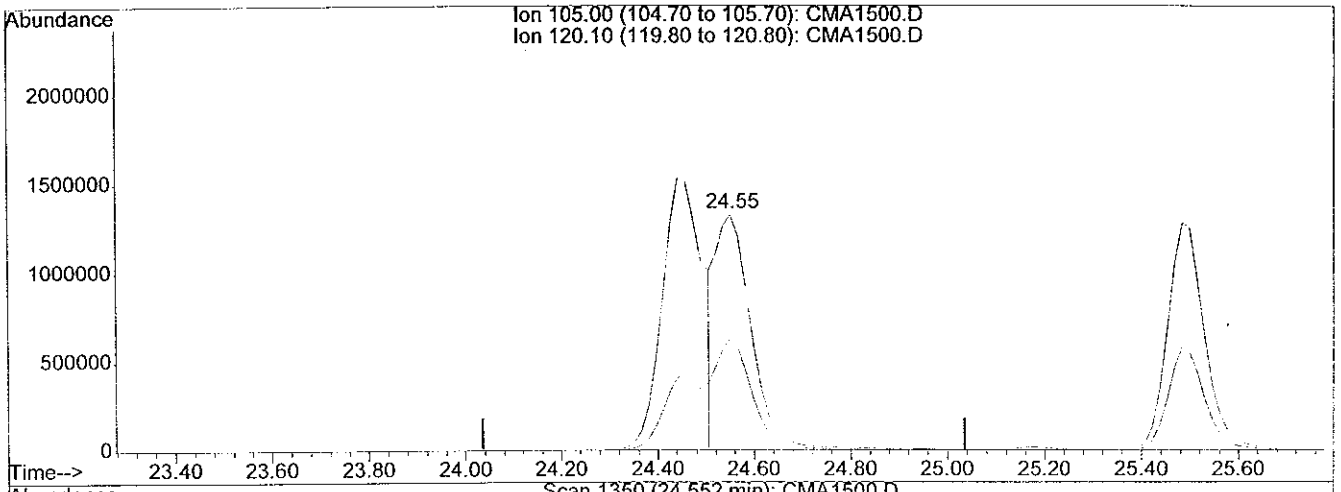
before (W.P.)

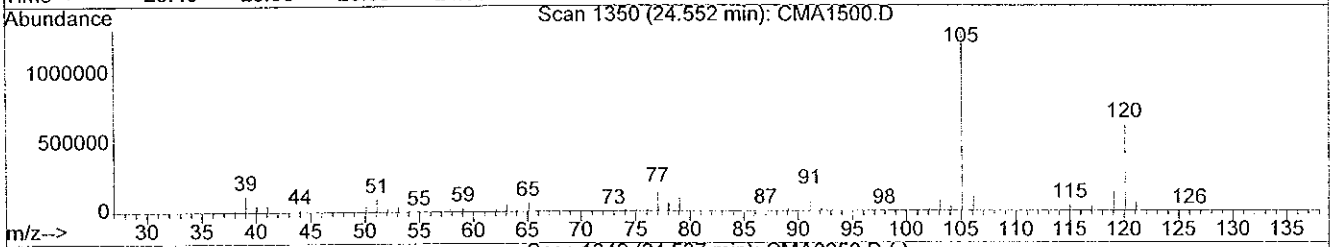
CMA1500.D TO14S.M Tue May 21 08:48:59 2002

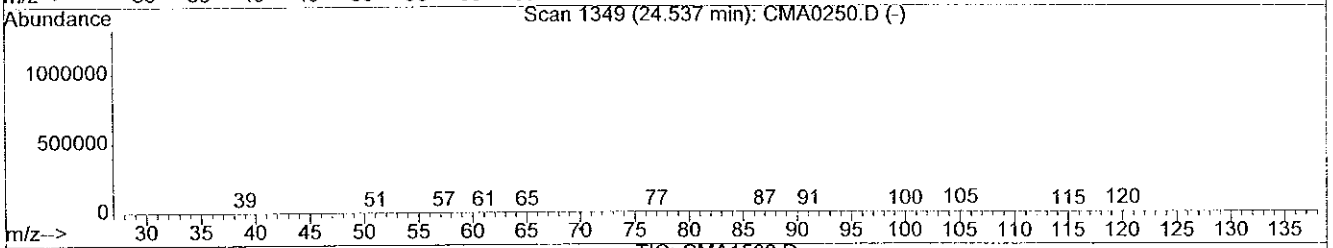
Quantitation Report (QedIt)

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 8:49 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 08:47:26 2002
Response via : Multiple Level Calibration







(49) 1,3,5-Trimethylbenzene

24.55min 1528.96ng m

response 6810996

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	32.42#
0.00	0.00	0.00
0.00	0.00	0.00

after BDH 5/21/02

TM 5-22-02

CMA1500.D TO14S.M Tue May 21 08:49:07 2002

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.35	128	384814	250.00	ng	-0.02 92.23%
26) 1,4-Difluorobenzene IS#2	13.29	114	1659953	250.00	ng	-0.02 97.19%
36) Chlorobenzene-d5 IS#3	20.62	117	1234109	250.00	ng	0.00 92.38%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	505438	259.64	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 103.86%						
32) Toluene-d8 SURR#2	16.85	98	1257252	244.19	ng	-0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.68%						
46) 4-Bromofluorobenzene SURR#	23.78	95	1091145	240.32	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.13%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.71	85	3538177	1920.63	ng		99
3) Dichlorotetrafluoroethane	3.93	135	4007266	1772.31	ng	#	53
4) Chloromethane	4.21	50	1807253	1523.46	ng		95
5) Vinyl chloride	4.39	62	1921485	1692.99	ng		97
6) Bromomethane	5.25	94	2704264	1558.87	ng		99
7) Chloroethane	5.39	64	1413667	1774.89	ng		97
8) Trichlorofluoromethane	5.88	101	7613753	2225.87	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.69	151	5177281	1797.28	ng		83
10) 1,1-Dichloroethene	7.06	96	2636659	1655.05	ng		98
12) Methylene chloride	7.99	49	3470726	1648.08	ng		98
13) Carbon disulfide	8.10	76	7525988	1711.53	ng		100
14) methyl-Tert-Butyl Ether	8.29	73	4266479	1659.17	ng		96
15) trans-1,2-Dichloroethene	8.59	96	3103467	1695.53	ng		97
16) n-Hexane	8.69	57	2825624	1672.55	ng	#	1
17) 1,1-Dichloroethane	9.42	63	5388402	1765.54	ng		98
18) cis-1,2-Dichloroethene	10.67	61	4423007	1786.05	ng		98
19) Chloroform	10.99	83	6791788	1734.65	ng		100
20) Isooctane	11.96	57	9085470	1621.86	ng		98
21) 1,1,1-Trichloroethane	11.85	97	6476682	1843.76	ng		92
22) Carbon tetrachloride	12.42	117	6721298	1845.72	ng		99
24) 1,2-Dichloroethane	12.70	62	3511462	1686.34	ng		98
25) 1,2-Dibromoethane	19.67	107	4643985	1491.91	ng		100
27) Benzene	12.78	78	7167425	1549.41	ng		98

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: TO14S.RES

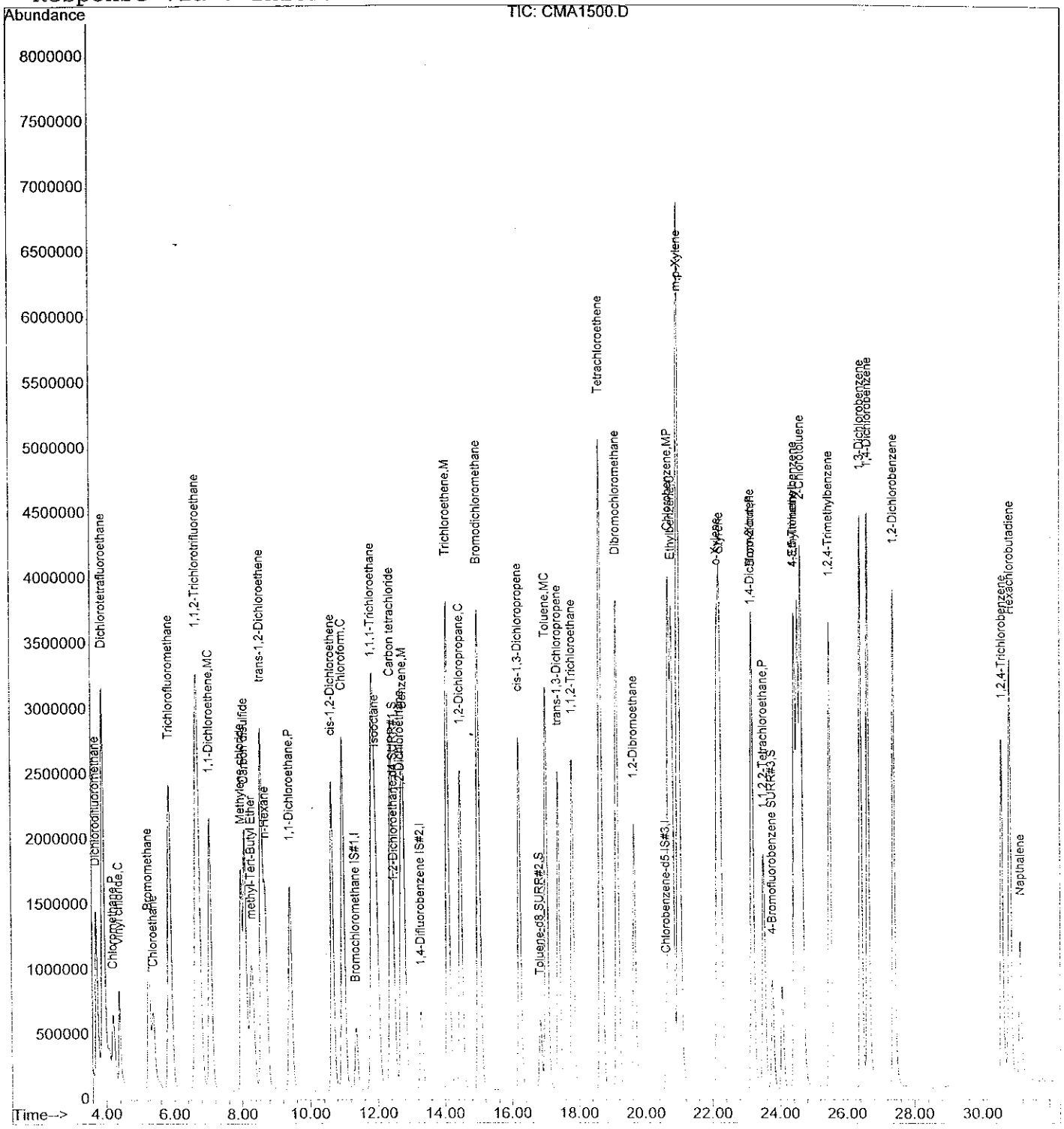
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.10	130	4129346	1602.35	ng		96
29)	1,2-Dichloropropane	14.49	63	3091310	1570.51	ng		97
30)	Bromodichloromethane	15.02	83	7968064	1584.43	ng		99
31)	cis-1,3-Dichloropropene	16.23	75	4903870	1584.00	ng		97
33)	Toluene	17.05	92	4832913	1593.69	ng		98
34)	trans-1,3-Dichloropropene	17.41	75	4032681	1531.76	ng		96
35)	1,1,2-Trichloroethane	17.83	97	2679218	1377.83	ng		97
37)	Tetrachloroethene	18.67	164	4172961	1708.88	ng		92
38)	Dibromochloromethane	19.16	127	5156431	1502.84	ng		97
39)	Chlorobenzene	20.73	112	6933813	1620.77	ng		95
40)	Ethylbenzene	20.82	106	2789207	1602.88	ng		98
41)	m,p-Xylene	21.03	106	7153023	3202.96	ng		97
42)	o-Xylene	22.18	106	3524637	1619.65	ng		95
43)	Styrene	22.25	104	5995630	1586.34	ng		97
44)	Bromoform	23.19	173	4699838	1388.22	ng		100
45)	1,1,2,2-Tetrachloroethane	23.53	83	3406981	1198.19	ng		99
47)	1,4-Dichloro-2-butene	23.17	75	813503	1329.26	ng		98
48)	4-Ethyltoluene	24.44	105	8912492	1551.07	ng		92
49)	1,3,5-Trimethylbenzene	24.44	105	8912492	2000.71	ng	#	67
50)	2-Chlorotoluene	24.65	91	8724683	1490.01	ng		99
51)	1,2,4-Trimethylbenzene	25.48	105	6772432	1452.59	ng		99
52)	1,3-Dichlorobenzene	26.42	146	5433868	1429.13	ng		96
53)	1,4-Dichlorobenzene	26.63	146	5648009	1430.43	ng		96
54)	1,2-Dichlorobenzene	27.39	146	4686133	1329.44	ng		96
55)	1,2,4-Trichlorobenzene	30.58	180	2755935	1135.30	ng		99
56)	Napthalene	31.12	128	2939930	1018.40	ng	#	93
57)	Hexachlorobutadiene	30.81	225	1951302	921.96	ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0520P\CMA1500.D Vial: 5
Acq On : 20 May 2002 19:05 Operator: BDH
Sample : 1500ng/60uL/300ppb INITIAL CALIB. Inst : MARILYN
Misc : Pi/Pf=1 MAB91ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 20 19:38 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon May 20 17:25:22 2002
Response via : Initial Calibration



STL Pensacola / GCMS Volatiles Run Log

Date 5-21-02
Batch MAB092 (1) 2 3
S# 8 -MSW- 34 - 1
FB 8 -MSW- 34 - 1

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- -

Method : (TO14) /8260AIR /8260WATER /624MOD
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

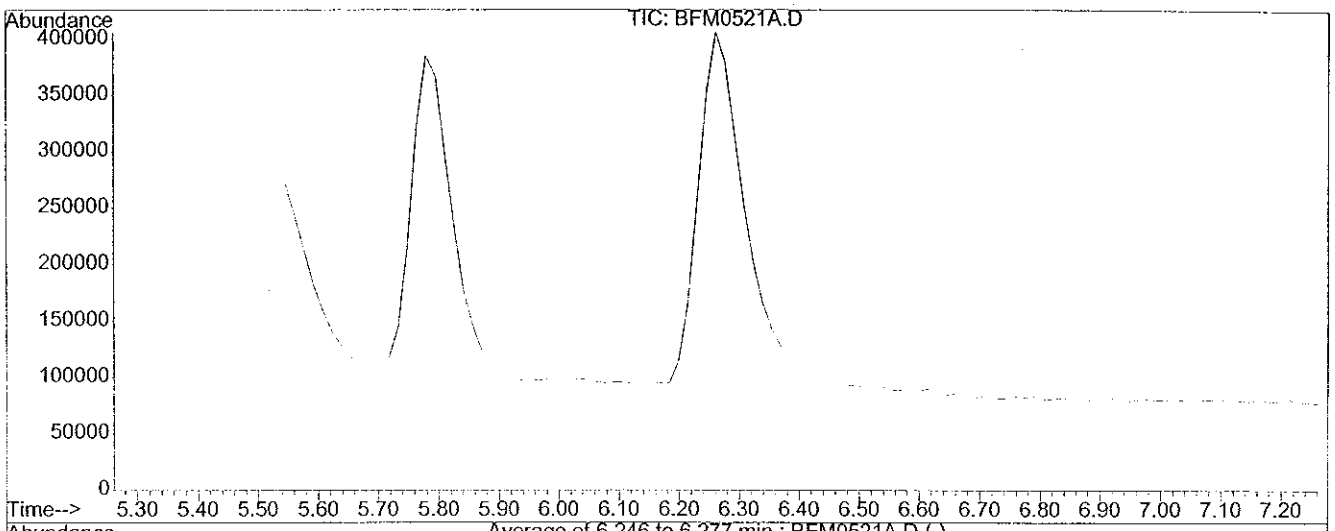
Maint. _____

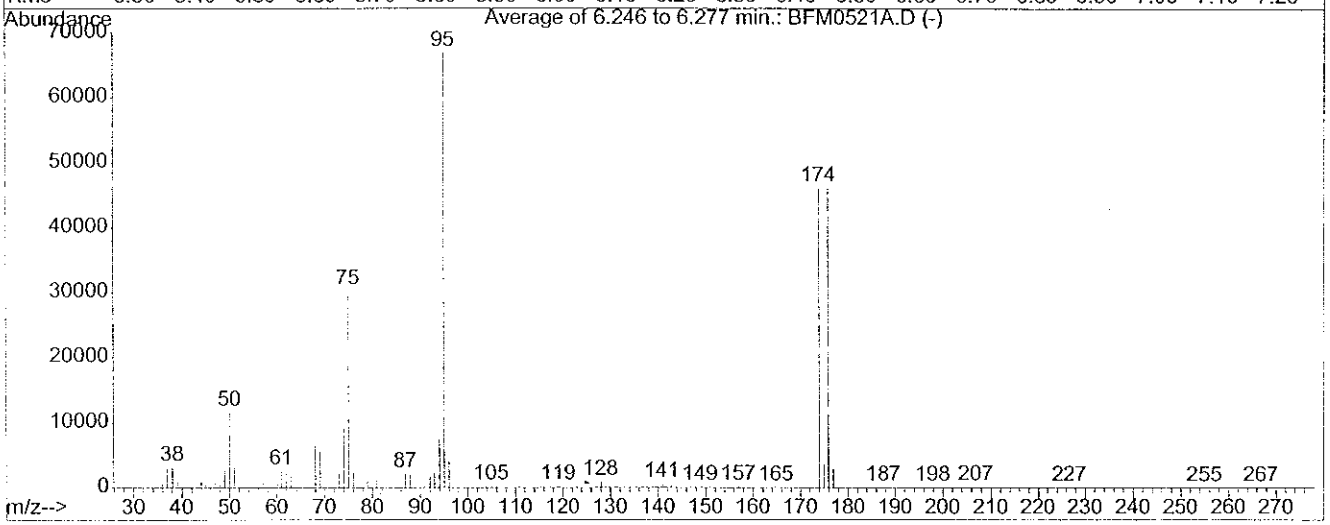
TIME	POS	METH	FILE NAME/ SAMPLE ID	DIL.	RR	PRES	MATRIX	QC PASS***	*INIT	COMMENTS
09:48	#13	BFBSTL	BFM0521A	50ppb			W			Daily 12hr. BFB tune check
10:08	14	TO14S.m	CM 0521A	250ng			W	Yes	BDH	Daily Cal Check / ~~BFB tune~~
11:02	15		M AB92A BK	ST						Daily Method Blank
11:36	16		M AB92 LCS	50ppb						Batch# 092 LCS
12:09	1		5132-4RR	ST,	✓✓	Y N	A(TO14)			500mls
12:44	1		↓ -5R		✓	Y N				
13:18	1		QC067			Y N				QC can check #067 - passes
13:55	1		5175-1R		✓	Y N				
:	1		QC149			Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis
d relinquished sample(s) back to the sample storage refrigerator.
Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\BFM0521A.D Vial: 13
Acq On : 21 May 2002 9:48 am Operator: BDH
Sample : BFB050\ DAILY 12 HOUR TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integr
Title : TO14





Peak Apex is scan: 47 (6.26 min)
Average of 3 scans: 46,47,48 minus background scan 27 (5.95 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	11654	PASS
75	95	30	60	45.2	30291	PASS
95	95	100	100	100.0	66953	PASS
96	95	5	9	6.1	4052	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	69.0	46192	PASS
175	174	5	9	7.9	3658	PASS
176	174	95	101	100.0	46179	PASS
177	176	5	9	6.4	2955	PASS

BFM0521A.D TO14S.M Wed May 22 08:38:12 2002

Average of 6.246 to 6.277 min.: BFM0521A.D
BFB050\ DAILY 12 HOUR TUNE CHECK
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	725	56.05	902	75.05	30291	128.05	957
37.00	3074	57.05	1676	76.05	2411	140.90	624
38.05	3233	60.05	644	78.95	1199	142.80	401
39.05	1018	60.95	2648	80.90	1198	174.00	46192
44.05	980	61.95	2366	86.95	2173	175.00	3658
44.95	548	63.00	1833	87.95	2157	175.90	46179
47.00	846	64.00	374	92.00	1767	176.90	2955
48.00	566	68.00	6577	92.95	2385		
49.00	2715	69.00	5779	94.00	7465		
50.05	11654	73.00	2197	95.00	66953		
51.00	3576	74.00	9284	96.00	4052		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

BH 5/21/02 passes

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	85	0.00
2		Dichlorodifluoromethane	1.560	1.554	0.4	83	0.00
3		Dichlorotetrafluoroethane	1.617	1.592	1.5	81	0.00
4	P	Chloromethane	0.783	0.688	12.1#	71	0.00
5	C	Vinyl chloride	0.793	0.772	2.6#	78	0.00
6		Bromomethane	1.138	1.158	-1.8	85	0.00
7		Chloroethane	0.543	0.560	-3.1#	82	0.00
8		Trichlorofluoromethane	3.075	3.313	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	2.020	2.223	-10.0#	92	0.00
10	MC	1,1-Dichloroethene	1.048	1.143	-9.1#	92	0.00
11		Iodomethane	0.000	0.000	0.0	0#	-7.70#
12		Methylene chloride	1.389	1.508	-8.6#	87	0.00
13		Carbon disulfide	2.992	3.318	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	1.854	1.967	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	1.236	1.358	-9.9#	92	0.00
16		n-Hexane	1.141	1.219	-6.8#	95	0.00
17	P	1,1-Dichloroethane	2.126	2.326	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	1.733	1.909	-10.2#	91	0.00
19	C	Chloroform	2.734	3.022	-10.5#	92	0.00
20		Isooctane	3.807	4.118	-8.2#	87	0.00
21		1,1,1-Trichloroethane	2.613	2.961	-13.3#	95	0.00
22		Carbon tetrachloride	2.679	3.045	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.356	1.377	-1.5	85	0.00
24		1,2-Dichloroethane	1.454	1.583	-8.9#	87	0.00
25		1,2-Dibromoethane	1.967	2.107	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	88	0.00
27	M	Benzene	0.687	0.751	-9.3#	93	0.00
28	M	Trichloroethene	0.386	0.426	-10.4#	93	0.00
29	C	1,2-Dichloropropane	0.294	0.320	-8.8#	91	0.00
30		Bromodichloromethane	0.776	0.844	-8.8#	92	0.00
31		cis-1,3-Dichloropropene	0.470	0.515	-9.6#	91	0.00
32	S	Toluene-d8 SURR#2	0.765	0.765	0.0	87	0.00
33	MC	Toluene	0.462	0.500	-8.2#	91	0.00
34		trans-1,3-Dichloropropene	0.398	0.434	-9.0#	88	0.00
35		1,1,2-Trichloroethane	0.270	0.291	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	86	0.00
37		Tetrachloroethene	0.524	0.576	-9.9#	91	0.00
38		Dibromochloromethane	0.681	0.735	-7.9#	87	0.00
39	MP	Chlorobenzene	0.874	0.956	-9.4#	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.358	0.385	-7.5#	89	0.00
41		m,p-Xylene	0.460	0.513	-11.5#	89	0.00
42		o-Xylene	0.452	0.493	-9.1#	89	0.00
43		Styrene	0.774	0.851	-9.9#	87	0.00
44	P	Bromoform	0.662	0.721	-8.9#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	0.507	0.545	-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	0.939	0.948	-1.0	83	0.00
47		1,4-Dichloro-2-butene	0.114	0.123	-7.9#	80	0.00
48		4-Ethyltoluene	1.191	1.321	-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	0.887	1.090	-22.9#	88	0.00
50		2-Chlorotoluene	1.201	1.317	-9.7#	86	0.00
51		1,2,4-Trimethylbenzene	0.943	1.085	-15.1#	87	0.00
52		1,3-Dichlorobenzene	0.761	0.850	-11.7#	83	0.00
53		1,4-Dichlorobenzene	0.782	0.873	-11.6#	83	0.00
54		1,2-Dichlorobenzene	0.684	0.785	-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	0.435	0.550	-26.4#	84	0.00
56		Napthalene	0.460	0.564	-22.6#	87	0.00
57		Hexachlorobutadiene	0.381	0.491	-28.9#	77	0.00

see OCCE

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D
Acq On : 21 May 2002 10:08
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA092ABK 250ng
MS Integration Params: rteint.p

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

for ~~last 2 analytes~~ #55, #56 (linear + quadratic) BH 5/21/02

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

		Compound	Amount	Calc.	%~~Dev~~ drift	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	85	0.00
2		Dichlorodifluoromethane	250.000	248.908	0.4	83	0.00
3		Dichlorotetrafluoroethane	250.000	246.195	1.5	81	0.00
4	P	Chloromethane	250.000	219.708	12.1#	71	0.00
5	C	Vinyl chloride	250.000	243.509	2.6#	78	0.00
6		Bromomethane	250.000	254.511	-1.8	85	0.00
7		Chloroethane	250.000	258.091	-3.2#	82	0.00
8		Trichlorofluoromethane	250.000	269.374	-7.7#	89	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	275.152	-10.1#	92	0.00
10	MC	1,1-Dichloroethene	250.000	272.718	-9.1#	92	0.00
11		Iodomethane	-1.000	0.000	0.0	0	-7.70#
12		Methylene chloride	250.000	271.420	-8.6#	87	0.00
13		Carbon disulfide	250.000	277.229	-10.9#	93	0.00
14		methyl-Tert-Butyl Ether	250.000	265.221	-6.1#	83	0.00
15		trans-1,2-Dichloroethene	250.000	274.734	-9.9#	92	0.00
16		n-Hexane	250.000	267.221	-6.9#	95	0.00
17	P	1,1-Dichloroethane	250.000	273.541	-9.4#	90	0.00
18		cis-1,2-Dichloroethene	250.000	275.380	-10.2#	91	0.00
19	C	Chloroform	250.000	276.393	-10.6#	92	0.00
20		Isooctane	250.000	270.427	-8.2#	87	0.00
21		1,1,1-Trichloroethane	250.000	283.278	-13.3#	95	0.00
22		Carbon tetrachloride	250.000	284.168	-13.7#	94	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	253.890	-1.6	85	0.00
24		1,2-Dichloroethane	250.000	272.240	-8.9#	87	0.00
25		1,2-Dibromoethane	250.000	267.778	-7.1#	82	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	88	0.00
27	M	Benzene	250.000	273.393	-9.4#	93	0.00
28	M	Trichloroethene	250.000	275.563	-10.2#	93	0.00
29	C	1,2-Dichloropropane	250.000	272.666	-9.1#	91	0.00
30		Bromodichloromethane	250.000	271.663	-8.7#	92	0.00
31		cis-1,3-Dichloropropene	250.000	273.664	-9.5#	91	0.00
32	S	Toluene-d8 SURR#2	250.000	250.177	-0.1	87	0.00
33	MC	Toluene	250.000	270.191	-8.1#	91	0.00
34		trans-1,3-Dichloropropene	250.000	272.338	-8.9#	88	0.00
35		1,1,2-Trichloroethane	250.000	269.506	-7.8#	87	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	86	0.00
37		Tetrachloroethene	250.000	274.820	-9.9#	91	0.00
38		Dibromochloromethane	250.000	269.861	-7.9#	87	0.00
39	MP	Chlorobenzene	250.000	273.364	-9.3#	89	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:45 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	268.818		-7.5#	89	0.00
41		m,p-Xylene	500.000	557.565		-11.5#	89	0.00
42		o-Xylene	250.000	272.877		-9.2#	89	0.00
43		Styrene	250.000	274.867		-9.9#	87	0.00
44	P	Bromoform	250.000	272.402		-9.0#	82	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	268.843		-7.5#	81	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	252.317		-0.9	83	0.00
47		1,4-Dichloro-2-butene	250.000	268.884		-7.6#	80	0.00
48		4-Ethyltoluene	250.000	277.261		-10.9#	88	0.00
49		1,3,5-Trimethylbenzene	250.000	307.281		-22.9#	88	0.00
50		2-Chlorotoluene	250.000	274.123		-9.6#	86	0.00
51		1,2,4-Trimethylbenzene	250.000	287.815		-15.1#	87	0.00
52		1,3-Dichlorobenzene	250.000	279.334		-11.7#	83	0.00
53		1,4-Dichlorobenzene	250.000	278.985		-11.6#	83	0.00
54		1,2-Dichlorobenzene	250.000	287.000		-14.8#	82	0.00
55		1,2,4-Trichlorobenzene	250.000	322.960	L	-29.2#	84	0.00
56		Napthalene	250.000	315.236	L	-26.1#	87	0.00
57		Hexachlorobutadiene	250.000	321.742		-28.7#	77	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0520P\CMA0250.D (20 May 2002 16:42)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	356653	250.00	ng	0.04 85.48%
26) 1,4-Difluorobenzene IS#2	13.37	114	1510179	250.00	ng	0.06 88.42%
36) Chlorobenzene-d5 IS#3	20.70	117	1145206	250.00	ng	0.07 85.72%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	491147	253.89	ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 101.56%						
32) Toluene-d8 SURR#2	16.91	98	1155820	250.18	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.07%						
46) 4-Bromofluorobenzene SURR#	23.85	95	1085343	252.32	ng	0.09
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.93%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	3.74	85	554120	248.91	ng		99
3) Dichlorotetrafluoroethane	3.94	135	567873	246.20	ng	#	44
4) Chloromethane	4.23	50	245342	219.71	ng	#	95
5) Vinyl chloride	4.42	62	275487	243.51	ng		97
6) Bromomethane	5.29	94	413168	254.51	ng		96
7) Chloroethane	5.43	64	199874	258.09	ng		97
8) Trichlorofluoromethane	5.93	101	1181755	269.37	ng		98
9) 1,1,2-Trichlorotrifluoroet	6.73	151	792863	275.15	ng		84
10) 1,1-Dichloroethene	7.11	96	407641	272.72	ng		98
12) Methylene chloride	8.04	49	537763	271.42	ng		98
13) Carbon disulfide	8.15	76	1183224	277.23	ng		99
14) methyl-Tert-Butyl Ether	8.33	73	701466	265.22	ng		98
15) trans-1,2-Dichloroethene	8.63	96	484378	274.73	ng		95
16) n-Hexane	8.74	57	434787	267.22	ng	#	1
17) 1,1-Dichloroethane	9.47	63	829490	273.54	ng		99
18) cis-1,2-Dichloroethene	10.73	61	680916	275.38	ng		97
19) Chloroform	11.05	83	1077864	276.39	ng		100
20) Isooctane	12.01	57	1468727	270.43	ng		99
21) 1,1,1-Trichloroethane	11.91	97	1055990	283.28	ng		92
22) Carbon tetrachloride	12.48	117	1086170	284.17	ng		99
24) 1,2-Dichloroethane	12.76	62	564746	272.24	ng		99
25) 1,2-Dibromoethane	19.73	107	751578	267.78	ng		99
27) Benzene	12.84	78	1134770	273.39	ng		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 09:23:29 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

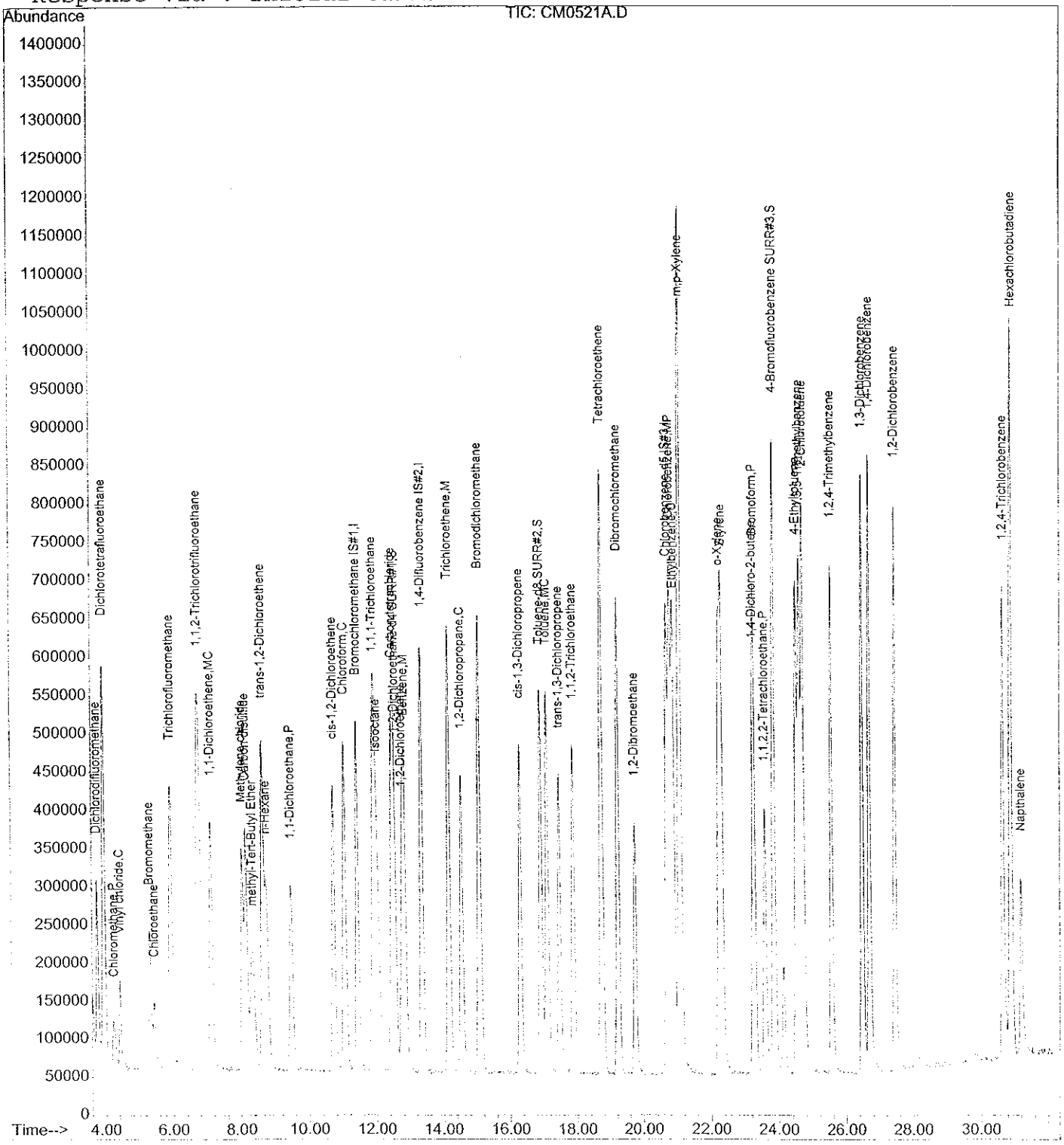
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28) Trichloroethene	14.16	130	642924	275.56	ng		96
29) 1,2-Dichloropropane	14.53	63	483792	272.67	ng		95
30) Bromodichloromethane	15.07	83	1274118	271.66	ng		100
31) cis-1,3-Dichloropropene	16.29	75	777205	273.66	ng		96
33) Toluene	17.11	92	754839	270.19	ng		99
34) trans-1,3-Dichloropropene	17.47	75	655155	272.34	ng		95
35) 1,1,2-Trichloroethane	17.87	97	439075	269.51	ng		97
37) Tetrachloroethene	18.72	164	659807	274.82	ng		91
38) Dibromochloromethane	19.22	127	841340	269.86	ng		98
39) Chlorobenzene	20.79	112	1095067	273.36	ng		96
40) Ethylbenzene	20.90	106	440588	268.82	ng		100
41) m,p-Xylene	21.08	106	1174700	557.56	ng		97
42) o-Xylene	22.23	106	564456	272.88	ng		98
43) Styrene	22.31	104	975010	274.87	ng		98
44) Bromoform	23.26	173	825796	272.40	ng		99
45) 1,1,2,2-Tetrachloroethane	23.59	83	623794	268.84	ng		100
47) 1,4-Dichloro-2-butene	23.23	75	141004	268.88	ng		98
48) 4-Ethyltoluene	24.52	105	1512399	277.26	ng		92
49) 1,3,5-Trimethylbenzene	24.61	105	1248613	307.28	ng		93
50) 2-Chlorotoluene	24.72	91	1508500	274.12	ng		99
51) 1,2,4-Trimethylbenzene	25.54	105	1243102	287.81	ng		99
52) 1,3-Dichlorobenzene	26.47	146	973197	279.33	ng		97
53) 1,4-Dichlorobenzene	26.68	146	999316	278.98	ng		95
54) 1,2-Dichlorobenzene	27.44	146	899325	287.00	ng		95
55) 1,2,4-Trichlorobenzene	30.64	180	630172	322.96	ng		100
56) Napthalene	31.18	128	646249	315.24	ng	#	92
57) Hexachlorobutadiene	30.89	225	562175	321.74	ng		100

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\CM0521A.D Vial: 14
Acq On : 21 May 2002 10:08 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 10:41 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92ABK.D Vial: 15
Acq On : 21 May 2002 11:02 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 11:38 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.41	128	327818	250.00 ng	0.00 91.92%
26) 1,4-Difluorobenzene IS#2	13.36	114	1407692	250.00 ng	0.00 93.21%
36) Chlorobenzene-d5 IS#3	20.69	117	1036578	250.00 ng	0.00 90.51%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	451480	253.91 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.56%		
32) Toluene-d8 SURR#2	16.92	98	1062277	246.67 ng	0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.67%		
46) 4-Bromofluorobenzene SURR#	23.85	95	946065	242.99 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.20%		

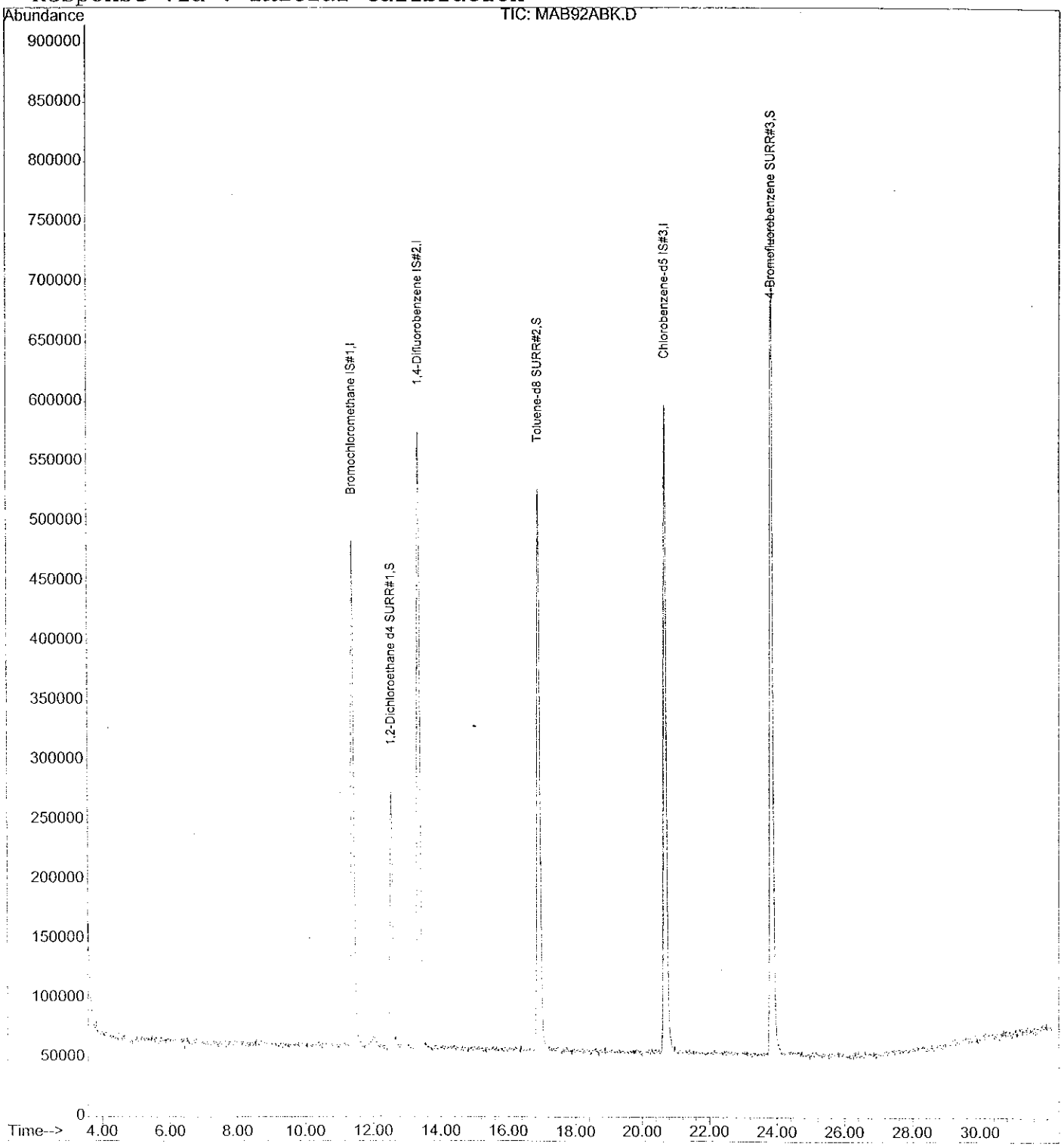
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB92ABK.D TO14S.M Wed May 22 08:42:07 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92ABK.D Vial: 15
Acq On : 21 May 2002 11:02 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 11:38 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	239.08	250.00	95.63	58 to 138%	[ ]
27)	M	Benzene	252.88	250.00	101.15	87 to 116%	[ ]
28)	M	Trichloroethene	255.74	250.00	102.29	85 to 116%	[ ]
33)	MC	Toluene	258.15	250.00	103.26	86 to 113%	[ ]
39)	MP	Chlorobenzene	255.34	250.00	102.13	88 to 111%	[ ]

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 12:12 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.42	128	410452	250.00	ng	0.01 115.08%
26) 1,4-Difluorobenzene IS#2	13.38	114	1694799	250.00	ng	0.01 112.22%
36) Chlorobenzene-d5 IS#3	20.70	117	1311586	250.00	ng	0.00 114.53%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.57	65	568505	255.36	ng	0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 102.14%						
32) Toluene-d8 SURR#2	16.94	98	1306748	252.03	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.81%						
46) 4-Bromofluorobenzene SURR#	23.85	95	1225320	248.72	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.49%						

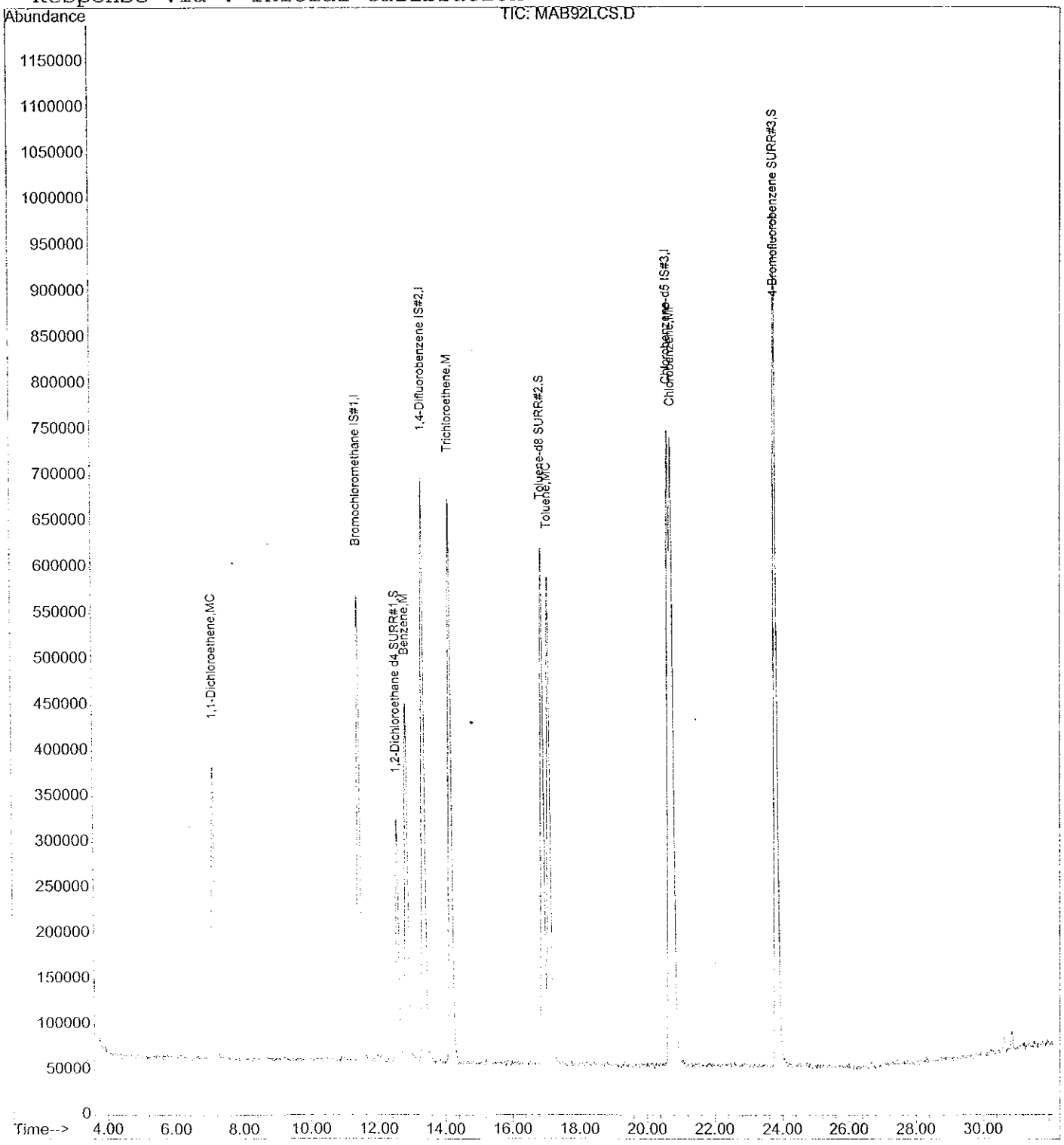
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.12	96	411262	239.08	ng	97
27) Benzene	12.85	78	1177953	252.88	ng	98
28) Trichloroethene	14.17	130	669611	255.74	ng	97
33) Toluene	17.12	92	809369	258.15	ng	98
39) Chlorobenzene	20.80	112	1171450	255.34	ng	88

(#) = qualifier out of range (m) = manual integration
MAB92LCS.D TO14S.M Wed May 22 08:42:50 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0521A\MAB92LCS.D Vial: 16
Acq On : 21 May 2002 11:36 am Operator: BDH
Sample : VLCSMA\ BATCH #092 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA092ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 12:12 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV052002 TO14\TO14S.M (RTE Inte
Title : TO14
Last Update : Wed May 22 08:39:25 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51761R.D
Acq On : 21 May 2002 15:33
Sample : 062SVEEA05060228\5176-1 ST. 500mls
Misc : Pi/Pf=2 CAN MAB09~~1~~2ABK
MS Integration Params: rteint.p

Vial: 1
Operator: BDH
Inst : ~~MARILYN~~
Multiplr: 0.004

Quant Time: May 21 16:14 2002
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

BAH 5/21/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	360207	250.00 ng	-0.01 101.00%
26) 1,4-Difluorobenzene IS#2	13.34	114	1585973	250.00 ng	-0.03 105.02%
36) Chlorobenzene-d5 IS#3	20.65	117	1192691	250.00 ng	-0.04 104.15%

mg/m3 report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.55	65	494095	252.89 ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.16%		
32) Toluene-d8 SURR#2	16.90	98	1235727	254.69 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.88%		
46) 4-Bromofluorobenzene SURR#	23.79	95	1071834	239.26 ng	-0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.70%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
51761R.D TO14S.M Tue May 21 16:15:10 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51761R.D Vial: 1
Acq On : 21 May 2002 15:33 Operator: BDH
Sample : 062SVEEA05060228\5176-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB091ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 16:05 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator) original (w/proper file name)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0521A\CM0521A.D (21 May 2002 10:08)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.40	128	360207	250.00 ng	-0.01 101.00%
26) 1,4-Difluorobenzene IS#2	13.34	114	1585973	250.00 ng	-0.03 105.02%
36) Chlorobenzene-d5 IS#3	20.65	117	1192691	250.00 ng	-0.04 104.15%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.55	65	494095	252.89 ng	-0.01
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.16%		
32) Toluene-d8 SURR#2	16.90	98	1235727	254.69 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.88%		
46) 4-Bromofluorobenzene SURR#	23.79	95	1071834	239.26 ng	-0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 95.70%		

Target Compounds					Qvalue
20) Isooctane	12.00	57	10416	1.90 ng	# 61
35) 1,1,2-Trichloroethane	17.64	97	1365	0.80 ng	# 14
57) Hexachlorobutadiene	30.81	225	4611	2.53 ng	# 19

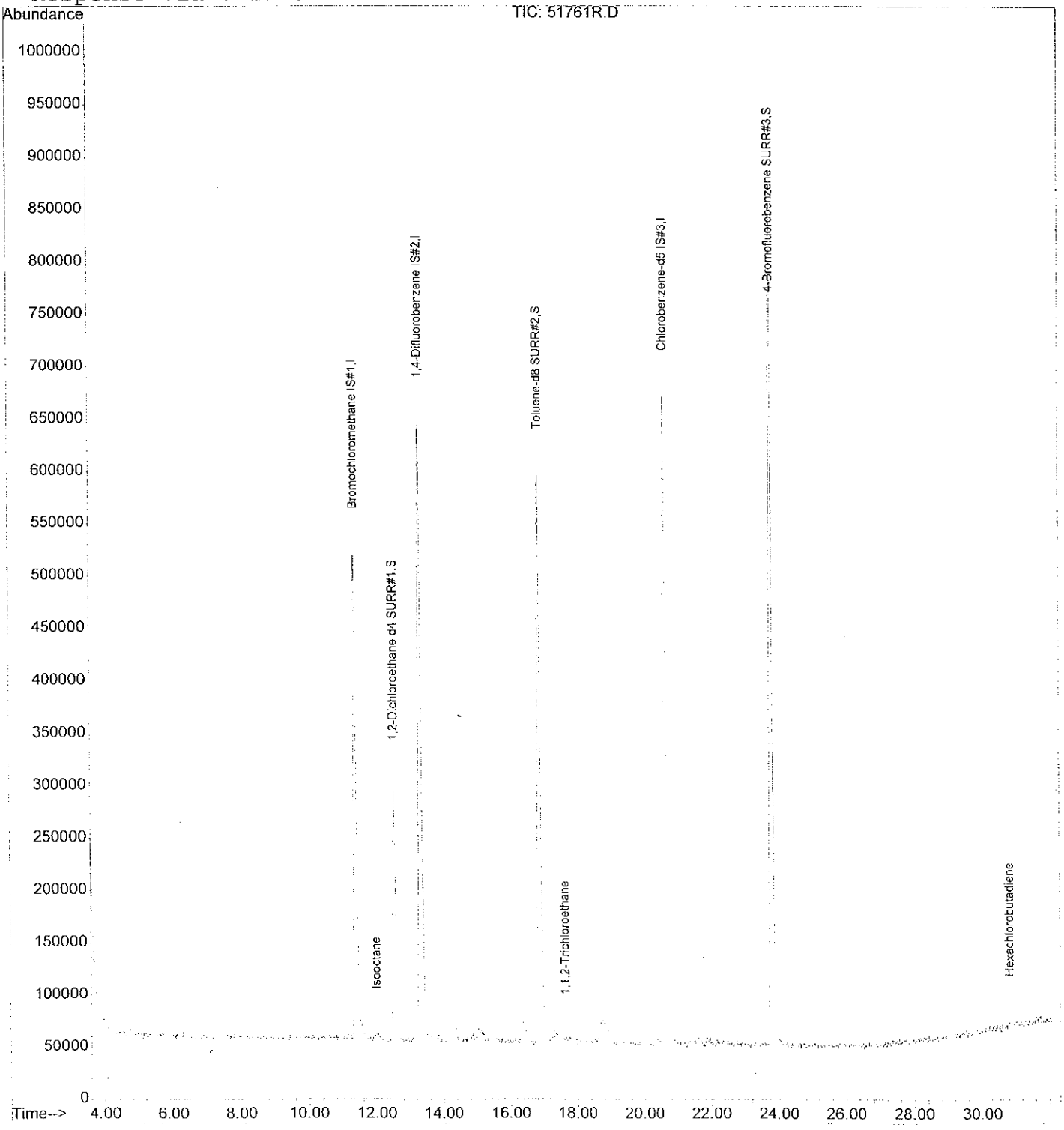
CRL/<MDL/NR/NSF

(#) = qualifier out of range (m) = manual integration
51761R.D TO14S.M Tue May 21 16:14:37 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0521A\51761R.D Vial: 1
Acq On : 21 May 2002 15:33 Operator: BDH
Sample : 062SVEEA05060228\5176-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB091ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 21 16:05 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Tue May 21 10:42:47 2002
Response via : Initial Calibration



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	RC'D DATE	EXP. DATE	# of AMPULES	LOG I.D.
Iso-octane	B0110734	Accu STD	2000 µg/ml	11/16/01	12/31/02	5	8-VN 4-1
Custom 8260 short list	LA-95178	Supelco	5000 µg/ml	11/20/01	11/20/02	3	8-VN 4-2
Dichloroflouroethane		Pall Memb.	99+ %				8-VN 4-3
ASAHIKLIN AK-225	NA	Pall Menbrane	99+ %	12/18/01	12/18/02	1	8-VN 4-4
Custom TO14 STD. MIX	LB01782	Supelco	2500 µg/ml	1/7/02	1/2/03	4	8-VN 4-5
8260 IS	A21640	Restek	2500 µg/ml	3/7/02	4/05	10	8-VN 4-6
Vol's Mix 6	LB02915	Supelco	2000 µg/ml	3/21/02	5/03	3	8-VN 4-7
Freon 113	LB02626	Supelco	2000 µg/ml	3/21/02	2/05	2	8-VN 4-8
502/524 Mix	LB02048	Supelco	2000 µg/ml	3/21/02	5/04	3	8-VN 4-9
8260 Keytone	LA97428	Supelco	2000-2000 µg/ml	3/21/02	9/03	3	8-VN 4-10
Iodomethane	LB00103	Supelco	2000 µg/ml	3/21/02	12/02	3	8-VN 4-11
8260 Kit	Various	Restek	Various	3/21/02	Various	2	8-VN 4-12
Freon 113	A021343	Restek	2000 µg/ml	3/21/02	3/03	3	8-VN 4-13
VOA IS (TO14)	A018019	Restek	2500 µg/ml	3/21/02	3/05	3	8-VN 4-14
VOA Sum (TO14)	A021561	Restek	2500 µg/ml	3/21/02	4/06	2	8-VN 4-15
8260 Keytone	LB03079	Supelco	2000-2000 µg/ml	3/22	8/04	3	8-VN 4-16
Custom Mix	LB03455	Supelco	2000-4000 µg/ml	3/25	3/25/03	3	8-VN 4-17
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -
							-VN -

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	DATE OPENED * (# Ampules)	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike (Short List)	LA84166	Supelco	2500 µg/ml	7/2002 (Not Open)	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77277~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 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	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/various	10/2001 (6 months)	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90443	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016395	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90724	Supelco	2500 µg/ml	7/1/2001	4 (Diff 6/13/05)	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

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

Run 7/5 4/13

001

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: 1014 IS/Surr
Date: 4-11-02
Analyst: BDH

Standard I.D.: 8 -MSW34-1
Location: GC/MS Freezer MS018
Solvent: Methanol

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN4-14 (IS)	A018019	3/05	2500 ug/ml	500 uls	50 mls	25 ppm
8-VN4-15 (Surr)	A021561	4/06	↓	↓	↓	↓

Comments: expires 10-11-02

Sol. Name: IS/SURR
Date: 4-15-02
Analyst: NB

Standard I.D.: 8 -MSW34-2
Location: GC/MS Freezer MS018
Solvent: MeOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VW2-21 (IS)	A018631	06/04	2500 ug/ml	500 uls	50 ml	25 ug/ml
8-VW3-1 (Surr)	A017474	08/04	2500 ug/ml	500 uls	50 ml	25 ug/ml

Comments: Expires 10-15-02

Sol. Name: Matrix Spike
Date: 4/16/02
Analyst: Ng

Standard I.D.: 8 -MSW34-3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
Custom Mix 8-VW4-17	LB03455	3/03	2000	625	50	25 ug/ml
Iodomethane 8-VW4-11	LB00103	12/02	↓	↓	↓	↓
Mix 6 8-VW-3-14	LA99456	11/02				
502/504 8-VW-3-15	LA98534	10/03				
Freon 113 8-VW-3-13	LA98546	6/04				
Keytones 8-VW-3-16	LA97408	9/30/02		1250		

Comments: expires 9/30/02

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32- 1
Location: MS018-Std Freezer
Solvent: MeOH- Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	4/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: expires 6/25/02 expires 7/25/02 8 # 2/5/02

Sol. Name: 8 IS/Surr
Date: 2-18-02
Analyst: [illegible]

Standard I.D.: 8 -MSW32-2
Location: MS018-Std Freezer
Solvent: MeOH Lot # V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN2-21 (IS)	A018631	06/04	2500 µg/ml	500 µl	50 ml	25 µg/ml
8-VN3-1 (Surr)	A019474	08/04	↓	↓	↓	↓

Comments: Expires 8-18-02

Sol. Name: IS/SUMA
Date: 3/1/02
Analyst: [illegible]

Standard I.D.: 8-MSW32-3
Location: KAF-freezer
Solvent: V30E40 MeOH

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-2-21 IS	A018631	6/04	2500	500	10	125 µg/ml
8-VN-3-1 Surr	A019474	8/04	2500	500	10	

Comments: expires 9/1/02

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb
Sol. Name: APPIX-B
Date: 12-12-01
Analyst: [illegible]

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-UN2-21 (IS)~~						
~~8-UN3-1 (S~~						
8-UN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-79	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/20/02

Sol. Name: ASAHI KLIN AK-225 Stock
Date: 12-28-01
Analyst: KM

Standard I.D.: 8 -MSW30-3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/28/02	1000 000	100	10	10 000

Comments: exp 6/28/02

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C204243
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field, Field Day Tank 1

Client Sample ID	STL Sample ID
062-SVE-E-A-0408-02-27	C204243-1

The above-referenced sample was received in good condition at STL Pensacola on April 10, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes
Senior Project Manager

4/24/02

CGI NAVY RAC PMO
APR 25 2002

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04243-1	062-SVE-E-A-0408-02-27	04-08-02/10:50

PARAMETER	04243-1
Volatile Organic Compounds in Air (MOD-TO14)	
Benzene, mg/m3	0.060U
Bromodichloromethane, mg/m3	0.060U
Bromoform, mg/m3	0.060U
Bromomethane (Methyl bromide), mg/m3	0.060U
Carbon disulfide, mg/m3	0.060U
Carbon tetrachloride, mg/m3	0.060U
Chlorobenzene, mg/m3	0.060U
Chloroethane, mg/m3	0.060U
Chloroform, mg/m3	0.060U
Chloromethane (Methyl chloride), mg/m3	0.060U
2-Chlorotoluene, mg/m3	0.060U
Dibromochloromethane, mg/m3	0.060U
1,2-Dibromoethane (EDB), mg/m3	0.060U
1,2-Dichlorobenzene, mg/m3	0.060U
1,3-Dichlorobenzene, mg/m3	0.060U
1,4-Dichlorobenzene, mg/m3	0.060U
trans-1,4-Dichloro-2-butene, mg/m3	0.060U
Dichlorodifluoromethane, mg/m3	0.060U
1,1-Dichloroethane, mg/m3	0.060U
1,2-Dichloroethane, mg/m3	0.060U
1,1-Dichloroethene, mg/m3	0.060U
cis-1,2-Dichloroethene, mg/m3	0.060U
trans-1,2-Dichloroethene, mg/m3	0.060U
1,2-Dichloropropane, mg/m3	0.060U
cis-1,3-Dichloropropene, mg/m3	0.060U

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04243-1	062-SVE-E-A-0408-02-27	04-08-02/10:50

PARAMETER	04243-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.060U
Hexane, mg/m3	0.06J
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	0.07
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	110 %
Surrogate - Toluene-d8	101 %
Surrogate - 4-Bromofluorobenzene	103 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
04243-1	062-SVE-E-A-0408-02-27	04-08-02/10:50

PARAMETER	04243-1
Dilution Factor	1
Prep Date	04.11.02
Prep Time	17:08
Analysis Date	04.11.02
Analysis Time	17:21
Batch ID	MAB068
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
04243-2	Method Blank
04243-3	Lab Control Standard True Value
04243-4	Lab Control Standard Result
04243-5	Lab Control Standard % Recovery
04243-6	LCS Accuracy Control Limit (%R)

PARAMETER	04243-2	04243-3	04243-4	04243-5	04243-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4892	98 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5379	108 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
04243-2	Method Blank
04243-3	Lab Control Standard True Value
04243-4	Lab Control Standard Result
04243-5	Lab Control Standard % Recovery
04243-6	LCS Accuracy Control Limit (%R)

PARAMETER	04243-2	04243-3	04243-4	04243-5	04243-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4463	89 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5246	105 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
04243-2	Method Blank
04243-3	Lab Control Standard True Value
04243-4	Lab Control Standard Result
04243-5	Lab Control Standard % Recovery
04243-6	LCS Accuracy Control Limit (%R)

PARAMETER	04243-2	04243-3	04243-4	04243-5	04243-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.5081	102 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	107 %	0.5000	0.5314	106 %	61-140
Surrogate - Toluene-d8	98 %	0.5000	0.4990	100 %	90-109
Surrogate - 4-Bromofluorobenzene	98 %	0.5000	0.4821	96 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	04.11.02	---	04.11.02	---	---
Prep Time	11:51	---	12:25	---	---
Analysis Date	04.11.02	---	04.11.02	---	---
Analysis Time	12:04	---	12:38	---	---
Batch ID	MAB068	MAB068	MAB068	MAB068	MAB068
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-04243
Received: 10 APR 02
Reported: 23 APR 02

Ms. Tatiana Romanova
CH2M Hill Constructors, Inc. (CCI)
115 Perimeter Center Place, NE Suite 700
Atlanta, GA 30346

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 130320423

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
04243-2	Method Blank
04243-3	Lab Control Standard True Value
04243-4	Lab Control Standard Result
04243-5	Lab Control Standard % Recovery
04243-6	LCS Accuracy Control Limit (%R)

PARAMETER	04243-2	04243-3	04243-4	04243-5	04243-6

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

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C204243 Date Received: 4-10-02

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

Airbill Number(s): 7905 0665 2665

Shipped By: Fed Ex

Cooler Number(s): Box

Shipping Charges: N/A

Cooler Weight(s): 16 H

Cooler Temp(s) (°C): AS IS

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 4-10-02 Logged By: PEG Date: 4/10/02

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

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

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

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

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

C204243

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-038

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

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by TO-14										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-SVE-E-A-0408-02-27	SVE Effluent	AIR	04/08/02	10:50	III/C	14 Day	1										Grab	Summa Canister	171
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7905 0665 2665.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	4/8/02	15:00	Federal Express	4/8/02	15:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon Sandra A Dixon	4-10-02	09:20
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

NAS Cecil Field, CTO-0062

STL Pensacola

6

C 204243

FedEx | Ship Manager | Label7905 0665 2665

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 32514

SHIP DATE: 08APR02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7905 0665 2665 FORM 0201

BFM

WED
AA
Deliver by:
10APR02

32514-FL-US

F3 PNSA

10
STL Pensacola

NAS Cecil Field, CTO-0062

Attach one file Label here

CH2M-CONST-GA C204243
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: PC
Labeled by: X
Delivered by: X

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	0	1	x	4-10-01	1419
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

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

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

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

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

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

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

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

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

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

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

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

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

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

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

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

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

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

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

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

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

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004 Participant in AIHA sponsored Laborat PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002

United States Army Corps of Engineers (USACEL MRD) expires July 5, 2002

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States Permit No. S-32599

certlistcondcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 204243
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Apr. 10, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0408-02-27	204243-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Apr. 22, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0411A.D Date Analyzed : 11 Apr 2002
Instrument ID : MARILYN Time Analyzed : 11:10 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
42431R	062SVEEA0408022	110	101	103	0	0	0	0
MAB68ABK	VBLKMA\ DAILY M	107	98	98	0	0	0	0
MAB68LCS	VLCSMA\ BATCH #	106	100	96	0	0	0	0

		QC Limits
SMC1	= 1,2-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\2M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 pm Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	223.16	250.00	89.27	58 to 138%	[ ]
27)	M	Benzene	244.58	250.00	97.83	87 to 116%	[ ]
28)	M	Trichloroethene	254.06	250.00	101.63	85 to 116%	[ ]
33)	MC	Toluene	262.31	250.00	104.92	86 to 113%	[ ]
39)	MP	Chlorobenzene	268.97	250.00	107.59	88 to 111%	[ ]

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	204243					
Batch	MAB068	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		244.58	0.5000	0.4892	98%	87-116%
Chlorobenzene		268.97	0.5000	0.5379	108%	88-111%
1,1-Dichloroethene		223.16	0.5000	0.4463	89%	58-138%
Toluene		262.31	0.5000	0.5246	105%	86-113%
Trichloroethene		254.06	0.5000	0.5081	102%	85-116%
1,2-Dichloroethane-d4		265.68	0.5000	0.5314	106%	61-140%
Toluene-d8		249.49	0.5000	0.4990	100%	90-109%
4-Bromofluorobenzene		241.04	0.5000	0.4821	96%	87-112%

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204243

Lab File ID: MAB68ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 4/11/02 Time Analyzed: 12:04

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #068 L	MAB68LCS.D	12:38
02	SVEEA	062SVEEA04080227\424	42431R.D	17:21

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.: C204243

Lab File ID: CM0125A.D BFB Injection Date: 1/25/02

Instrument ID: MARILYN BFB Injection Time: 11:34

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	43.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.4
175	4.0 - 9.0% of mass 174	4.9 (6.9)1
176	93.0 - 101.0% of mass 174	68.3 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250	VSTD0250 250NG	0250M125.D	1/25/02	14:33
02	VSTD0500	VSTD0500 500NG	0500M125.D	1/25/02	15:09
03	VSTD1000	VSTD1000 1000NG	1000M125.D	1/25/02	15:46
04	VSTD1500	VSTD1500 1500NG	1500M125.D	1/25/02	16:24
05	VSTD0025	VSTD0025 25NG	0025R125.D	1/25/02	17:43
06	VSTD0100	VSTD0100 100NG	0100R125.D	1/25/02	18:20

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204243

Lab File ID: BFM0411A.D BFB Injection Date: 4/11/02

Instrument ID: MARILYN BFB Injection Time: 10:49

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.7
75	30.0 - 66.0% of mass 95	47.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.1
175	4.0 - 9.0% of mass 174	4.9 (7.1)1
176	93.0 - 101.0% of mass 174	66.6 (97.7)1
177	5.0 - 9.0% of mass 176	4.3 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0411A.D	4/11/02	11:10
02	VBLKMA	VBLKMA\ DAILY METHO	MAB68ABK.D	4/11/02	12:04
03	LCS AND 2ND	VLCSMA\ BATCH #068 L	MAB68LCS.D	4/11/02	12:38
04	SVEEA	062SVEEA04080227\424	42431R.D	4/11/02	17:21

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 10:19:43 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

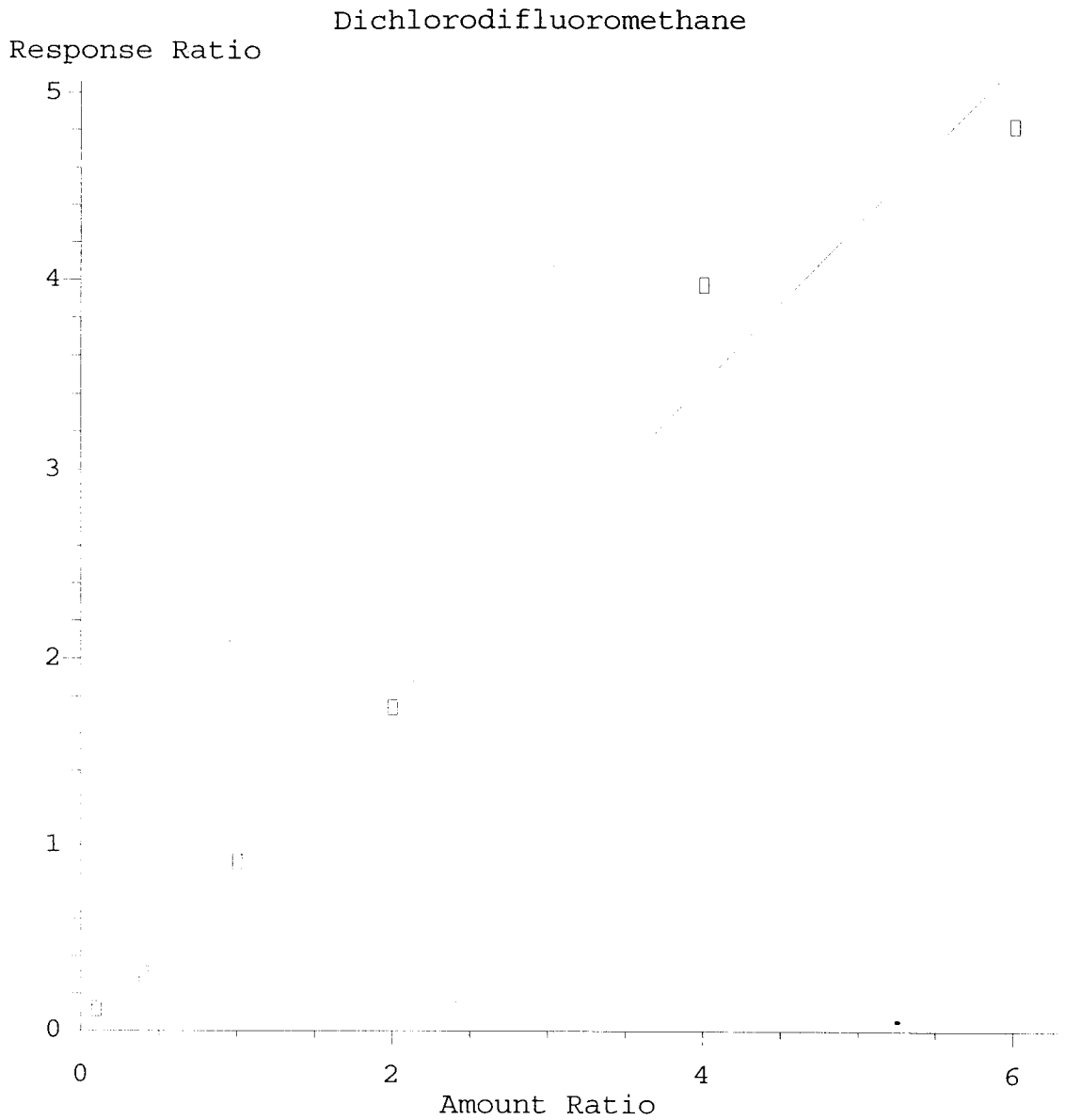
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 10:19:43 2002
Response via : Initial Calibration

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

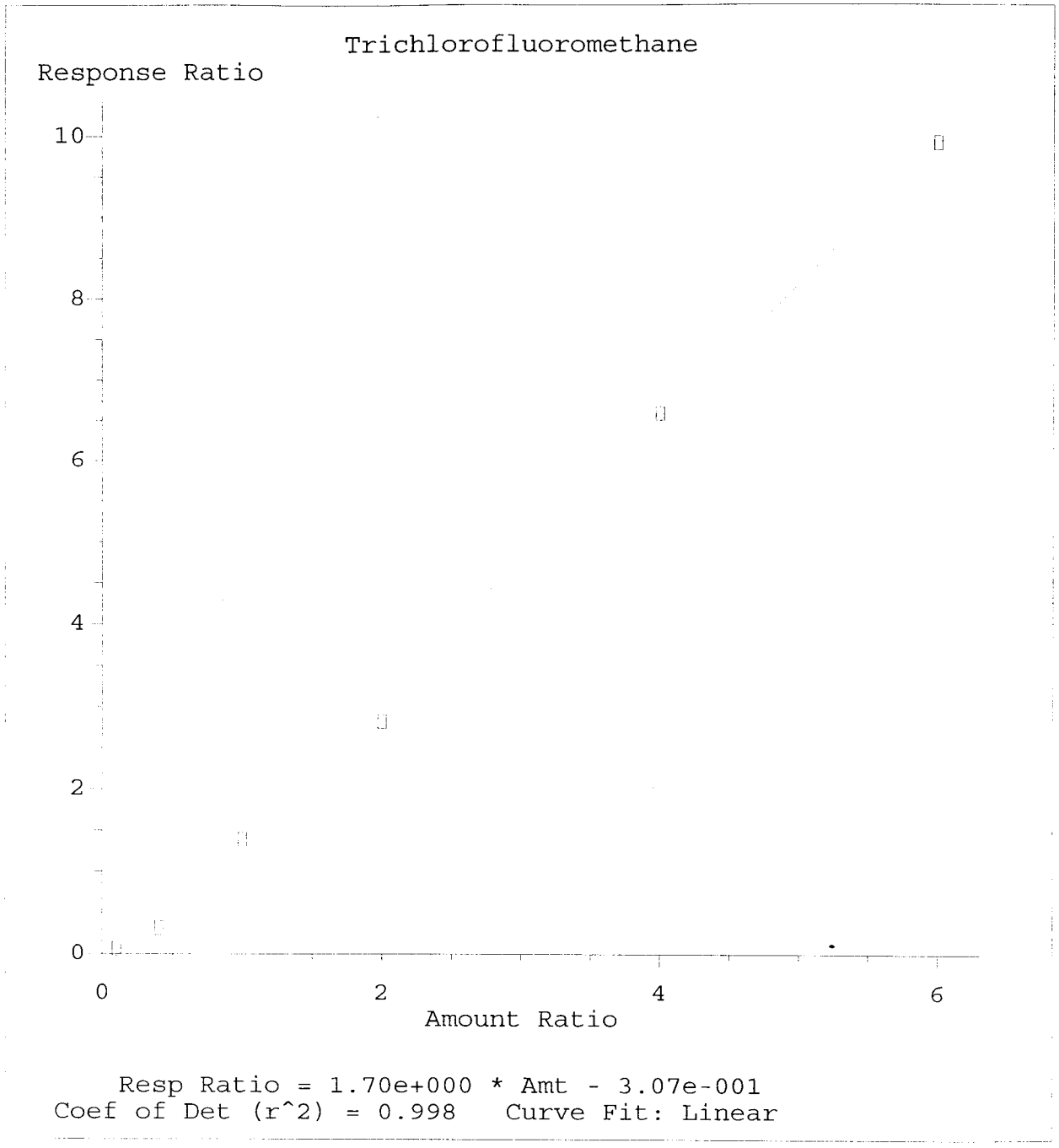
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
							.	B= 0.645		
								C= -0.066		

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###
TO14S.M Mon Apr 22 10:19:53 2002

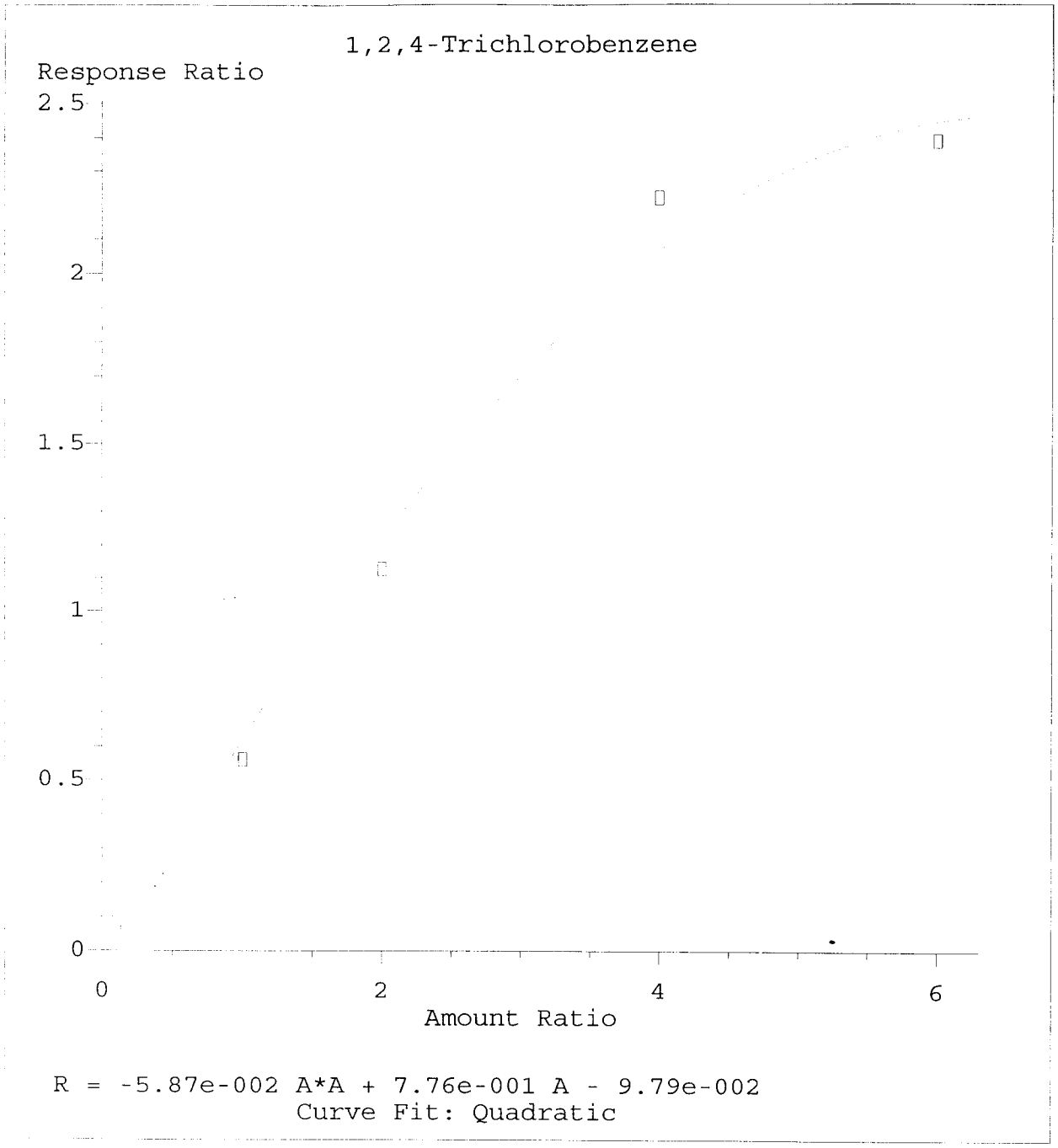


Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

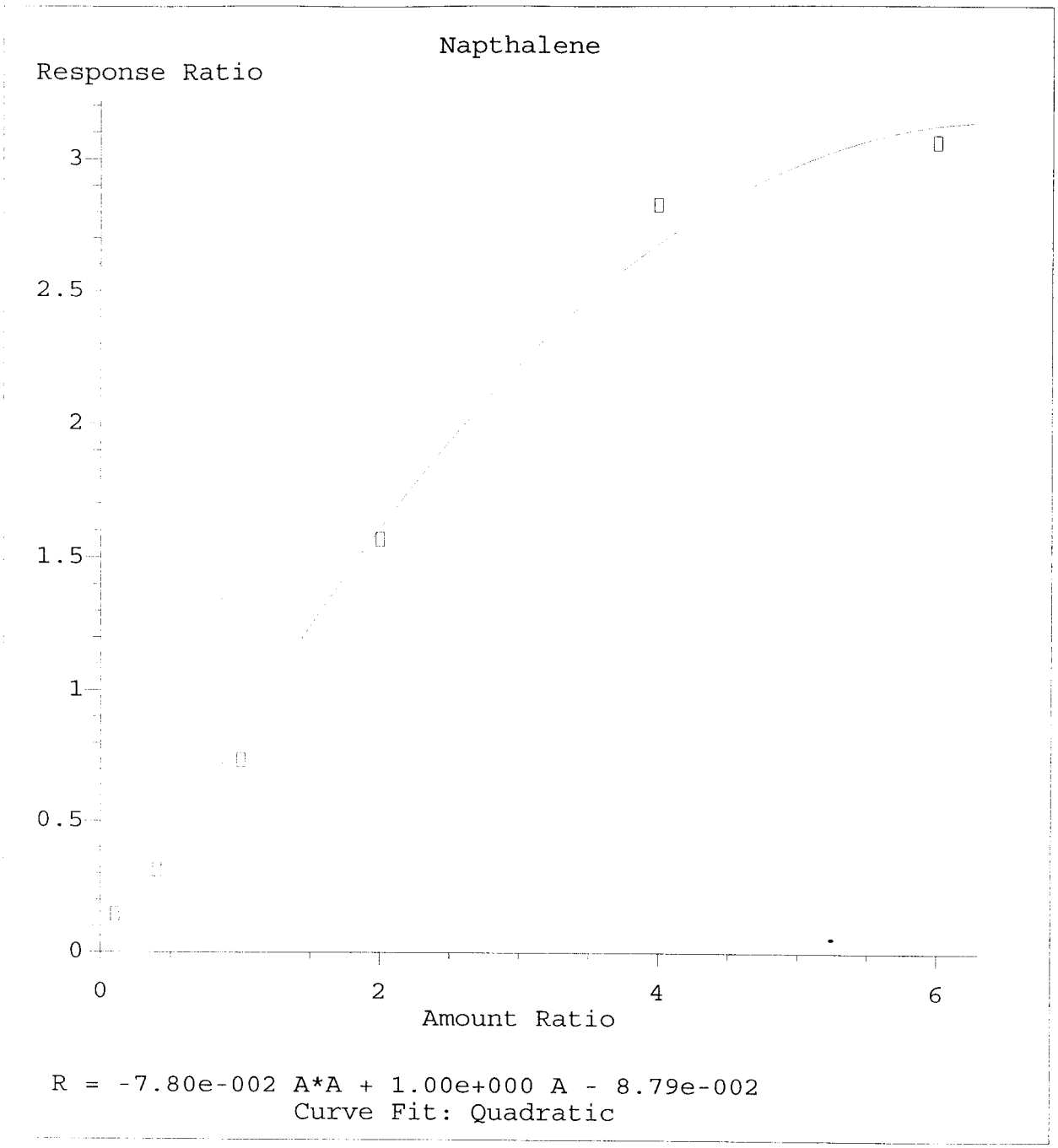
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 10:19:45 2002



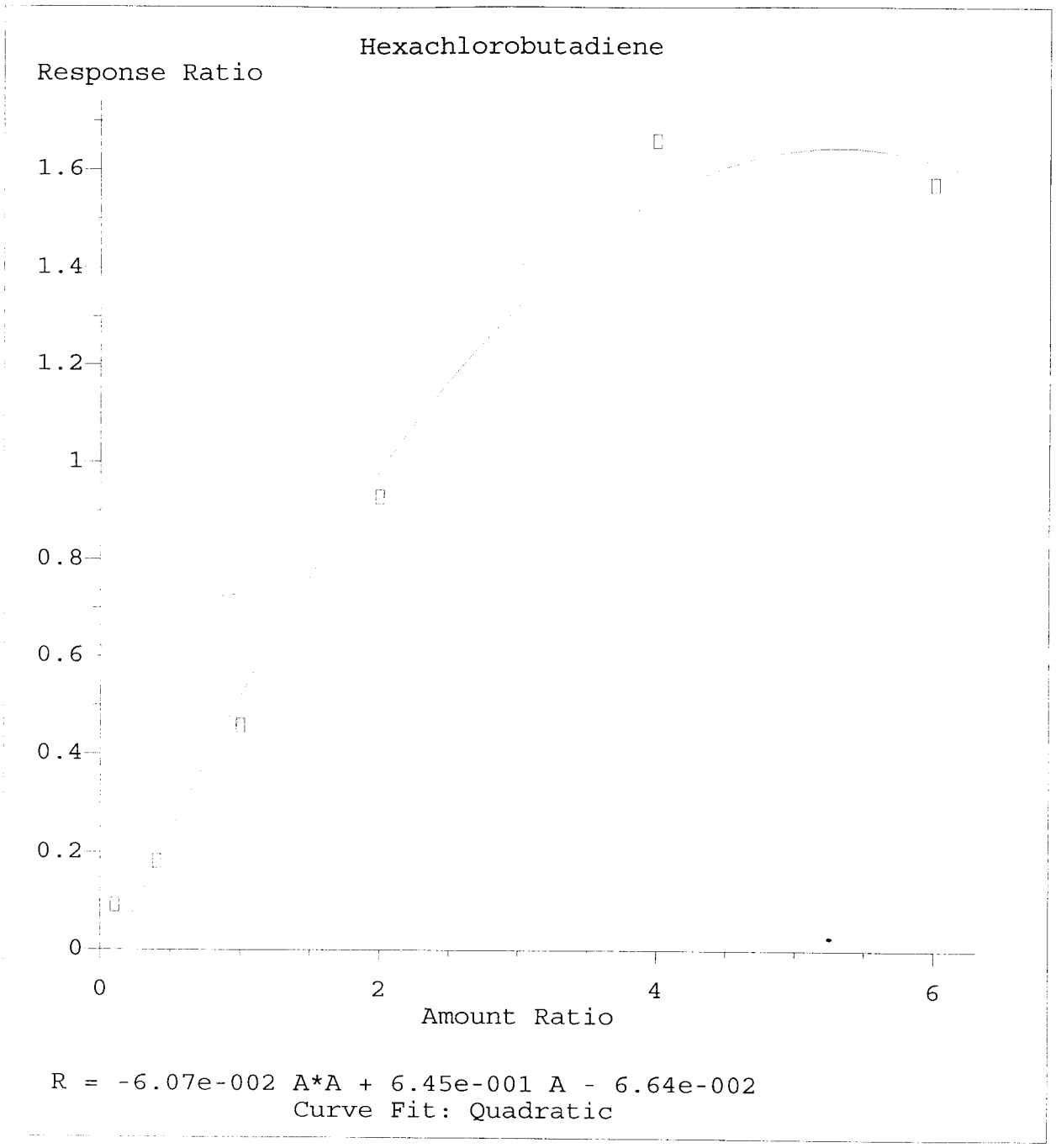
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 10:19:45 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 10:19:45 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 10:19:45 2002



Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 10:19:45 2002

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 10:20:41 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	88	0.00
2		Dichlorodifluoromethane	0.919	0.804	12.5#	77	0.00
3		Dichlorotetrafluoroethane	1.446	1.180	18.4#	68	0.00
4	P	Chloromethane	0.788	0.615	22.0#	70	0.00
5	C	Vinyl chloride	0.727	0.686	5.6#	79	0.00
6		Bromomethane	1.180	1.042	11.7#	82	0.00
7		Chloroethane	0.530	0.494	6.8#	81	0.00
8		Trichlorofluoromethane	1.261	0.589	53.3#	37#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.809	3.2#	84	0.00
10	MC	1,1-Dichloroethene	1.064	0.987	7.2#	80	0.00
11		Iodomethane	0.000	0.000	0.0	59	0.00
12		Methylene chloride	1.431	1.406	1.7	82	0.00
13		Carbon disulfide	2.862	2.771	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	1.551	1.679	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	1.194	1.150	3.7#	84	0.00
16		n-Hexane	1.089	1.036	4.9#	82	0.00
17	P	1,1-Dichloroethane	1.944	1.955	-0.6	86	0.00
18		cis-1,2-Dichloroethene	1.576	1.601	-1.6	86	0.00
19	C	Chloroform	2.454	2.570	-4.7#	88	0.00
20		Isooctane	3.653	3.326	9.0#	79	0.00
21		1,1,1-Trichloroethane	2.085	2.155	-3.4#	87	0.00
22		Carbon tetrachloride	2.195	2.277	-3.7#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.238	-5.3#	86	0.00
24		1,2-Dichloroethane	1.321	1.398	-5.8#	85	0.00
25		1,2-Dibromoethane	2.124	2.108	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	89	0.00
27	M	Benzene	0.733	0.718	2.0#	87	0.00
28	M	Trichloroethene	0.407	0.412	-1.2	88	0.00
29	C	1,2-Dichloropropane	0.310	0.312	-0.6#	86	0.00
30		Bromodichloromethane	0.755	0.793	-5.0#	87	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.781	0.777	0.5	87	0.00
33	MC	Toluene	0.463	0.474	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	0.402	0.414	-3.0#	87	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	85	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	87	0.00
37		Tetrachloroethene	0.488	0.498	-2.0#	89	0.00
38		Dibromochloromethane	0.722	0.755	-4.6#	88	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 10:20:41 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.367	-3.1#	87	0.00
41		m,p-Xylene	0.459	0.469	-2.2#	87	0.00
42		o-Xylene	0.439	0.453	-3.2#	87	0.00
43		Styrene	0.771	0.800	-3.8#	88	0.00
44	P	Bromoform	0.713	0.722	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.648	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.882	1.0	85	0.00
47		1,4-Dichloro-2-butene	0.130	0.123	5.4#	84	0.00
48		4-Ethyltoluene	1.157	1.209	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	0.912	0.883	3.2#	85	0.00
50		2-Chlorotoluene	1.191	1.227	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	0.961	0.990	-3.0#	85	0.00
52		1,3-Dichlorobenzene	0.782	0.800	-2.3#	84	0.00
53		1,4-Dichlorobenzene	0.825	0.839	-1.7	82	0.00
54		1,2-Dichlorobenzene	0.758	0.760	-0.3	83	0.00
55		1,2,4-Trichlorobenzene	0.568	0.559	1.6	87	0.00
56		Napthalene	0.830	0.775	6.6#	91	0.00
57		Hexachlorobutadiene	0.495	0.420	15.2#	80	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 10:20:41 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	88	0.00
2		Dichlorodifluoromethane	250.000	215.243	13.9#	77	0.00
3		Dichlorotetrafluoroethane	250.000	204.086	18.4#	68	0.00
4	P	Chloromethane	250.000	195.128	21.9#	70	0.00
5	C	Vinyl chloride	250.000	235.800	5.7#	79	0.00
6		Bromomethane	250.000	220.728	11.7#	82	0.00
7		Chloroethane	250.000	233.061	6.8#	81	0.00
8		Trichlorofluoromethane	250.000	131.623	47.4#	37	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	242.054	3.2#	84	0.00
10	MC	1,1-Dichloroethene	250.000	231.964	7.2#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	59	0.00
12		Methylene chloride	250.000	245.700	1.7	82	0.00
13		Carbon disulfide	250.000	242.076	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	250.000	270.749	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	250.000	240.723	3.7#	84	0.00
16		n-Hexane	250.000	237.789	4.9#	82	0.00
17	P	1,1-Dichloroethane	250.000	251.501	-0.6	86	0.00
18		cis-1,2-Dichloroethene	250.000	253.934	-1.6	86	0.00
19	C	Chloroform	250.000	261.818	-4.7#	88	0.00
20		Isooctane	250.000	227.657	8.9#	79	0.00
21		1,1,1-Trichloroethane	250.000	258.358	-3.3#	87	0.00
22		Carbon tetrachloride	250.000	259.402	-3.8#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	263.045	-5.2#	86	0.00
24		1,2-Dichloroethane	250.000	264.593	-5.8#	85	0.00
25		1,2-Dibromoethane	250.000	248.092	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	89	0.00
27	M	Benzene	250.000	244.839	2.1#	87	0.00
28	M	Trichloroethene	250.000	253.048	-1.2	88	0.00
29	C	1,2-Dichloropropane	250.000	251.194	-0.5#	86	0.00
30		Bromodichloromethane	250.000	262.696	-5.1#	87	0.00
31		cis-1,3-Dichloropropene	250.000	255.290	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	248.675	0.5	87	0.00
33	MC	Toluene	250.000	256.035	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	250.000	257.665	-3.1#	87	0.00
35		1,1,2-Trichloroethane	250.000	247.540	1.0	85	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	87	0.00
37		Tetrachloroethene	250.000	255.395	-2.2#	89	0.00
38		Dibromochloromethane	250.000	261.550	-4.6#	88	0.00
39	MP	Chlorobenzene	250.000	260.706	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 10:20:41 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	257.656	-3.1#	87	0.00
41		m,p-Xylene	500.000	511.186	-2.2#	87	0.00
42		o-Xylene	250.000	258.378	-3.4#	87	0.00
43		Styrene	250.000	259.399	-3.8#	88	0.00
44	P	Bromoform	250.000	253.212	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	253.251	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	247.508	1.0	85	0.00
47		1,4-Dichloro-2-butene	250.000	236.425	5.4#	84	0.00
48		4-Ethyltoluene	250.000	261.162	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	250.000	242.080	3.2#	85	0.00
50		2-Chlorotoluene	250.000	257.528	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	250.000	257.485	-3.0#	85	0.00
52		1,3-Dichlorobenzene	250.000	255.894	-2.4#	84	0.00
53		1,4-Dichlorobenzene	250.000	254.390	-1.8	82	0.00
54		1,2-Dichlorobenzene	250.000	250.376	-0.2	83	0.00
55		1,2,4-Trichlorobenzene	250.000	222.057	11.2#	87	0.00
56		Napthalene	250.000	224.549	10.2#	91	0.00
57		Hexachlorobutadiene	250.000	197.882	20.8#	80	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C204243

Lab File ID (Standard): CM0411A.D Date Analyzed: 4/11/02

Instrument ID: MARILYN Time Analyzed: 11:10

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	704990	11.27	2774490	13.21	2093241	20.54
	UPPER LIMIT	1409980	11.77	5548980	13.71	4186482	21.04
	LOWER LIMIT	352495	10.77	1387245	12.71	1046621	20.04
	EPA SAMPLE NO.						
01	VBLKMA	678548	11.31	2678826	13.27	1981178	20.58
02	LCS AND 2ND	654946	11.36	2691609	13.30	1998510	20.61
03	SVEEA	463907	11.32	1885878	13.26	1406640	20.56

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

ate [illegible]
atch MAB010 1 2 3
S# 8 -MSW- 26 - 3
FB 8 -MSW- 26 - 3

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 32 - 1
8260 -MSW- -

Method (: TO14 >8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint.
Sequen cont.
on pag

TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:34	14		CM0125A	50ppb		Y N				Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
13:18	14		0025M125			Y N		X		bad 5ul syringe reshoot
13:56	15		0100M125			Y N		Y		
14:33	16		0250m125			Y N		✓		used a 25ul syring also tune
15:09	14		0500m125			Y N				
15:46	15		1000m125			Y N		✓		
16:24	16		1500m125			Y N		✓		
17:43	14		0025R125			Y N		✓		used a 10ul syring
18:20	15		0100R125			Y N		✓		
19:22	15		MA010ABK			Y N		✓		
19:59	16		MA010LCS			Y N		✓		LCS + 2nd
20:36	16		01299-1X	X100		Y N		✓		P./PF = 2 X50 Min St
21:10	2		01493-2			Y N		✓		
1:14	2		01299-1			Y N		✓		high Inventory
2:20	2		01493-1			Y N		✓		
2:56	2	out 8/1/26	01493-1A			Y N		✓		rerun ST - ~~out of 12 hrs~~ 8/1/26
3:31	9		01546-2	X10		Y N		✓		re-run ST 8/1/26 - 326
:07 :44	10 11		-4 -1	X10 X10		Y N		✓		
:21 :58	12 13		-3 -1X	X10 X50		Y N		✓ ✓		Fails B.C. not worked / X10 worked
:35 - 12 -	out 14 out 15		-3X -2X	X50 X50		Y N				re-run X50 / out of time time
3:49	out 16		-4X	X50		Y N				not worked - X50 worked ✓ ✓ ✓

The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis
d relinquished sample(s) back to the sample storage refrigerator.
Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

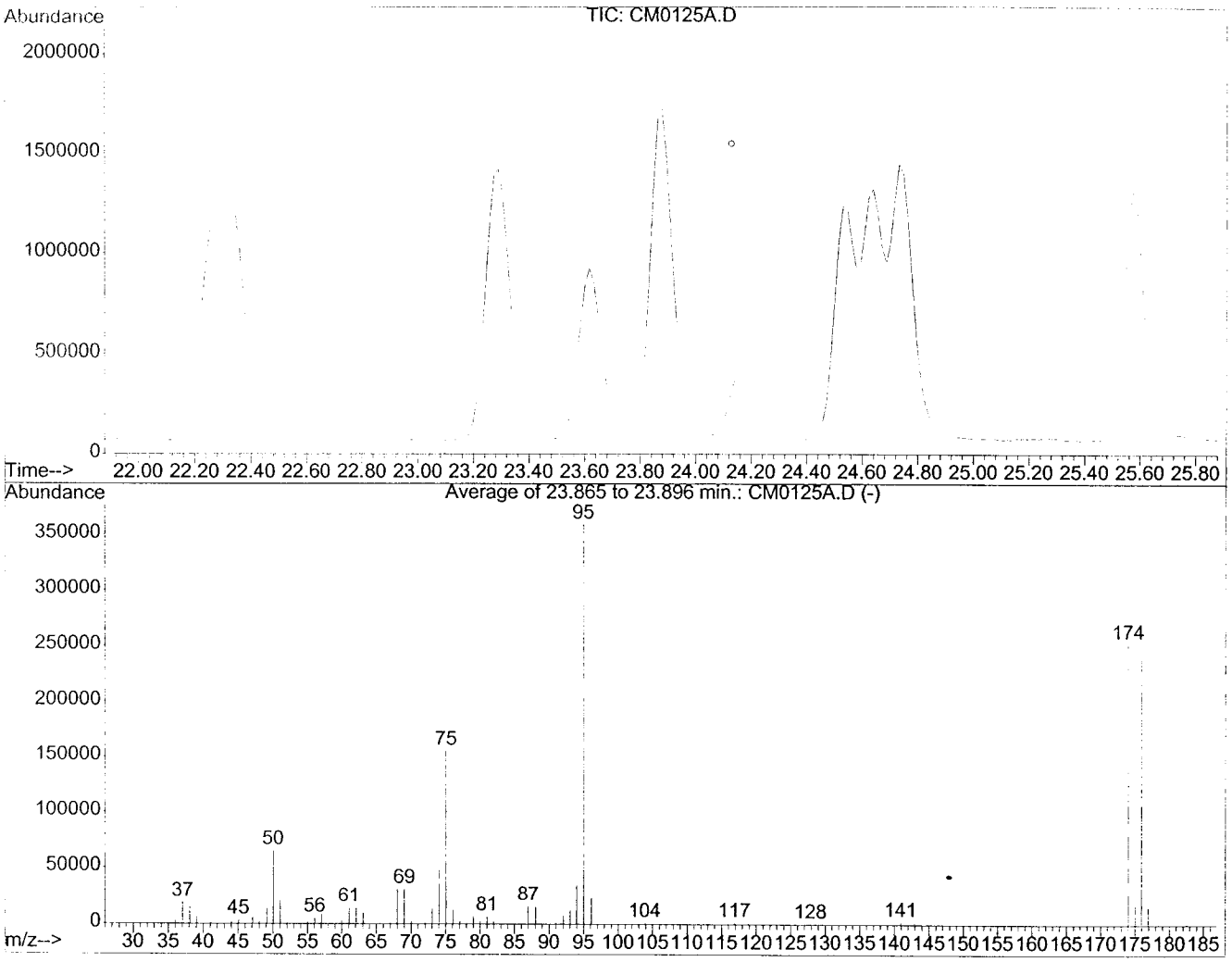
35
STL Pensacola

NAS Cecil Field, CTO-0062

80

BFB

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 am Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14



Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	65477	PASS
75	95	30	60	43.3	155648	PASS
95	95	100	100	100.0	359211	PASS
96	95	5	9	6.6	23659	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	252779	PASS
175	174	5	9	6.9	17428	PASS
176	174	95	101	97.1	245504	PASS
177	176	5	9	6.6	16210	PASS

CM0125A.D TO14S.M Mon Apr 22 09:33:15 2002

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

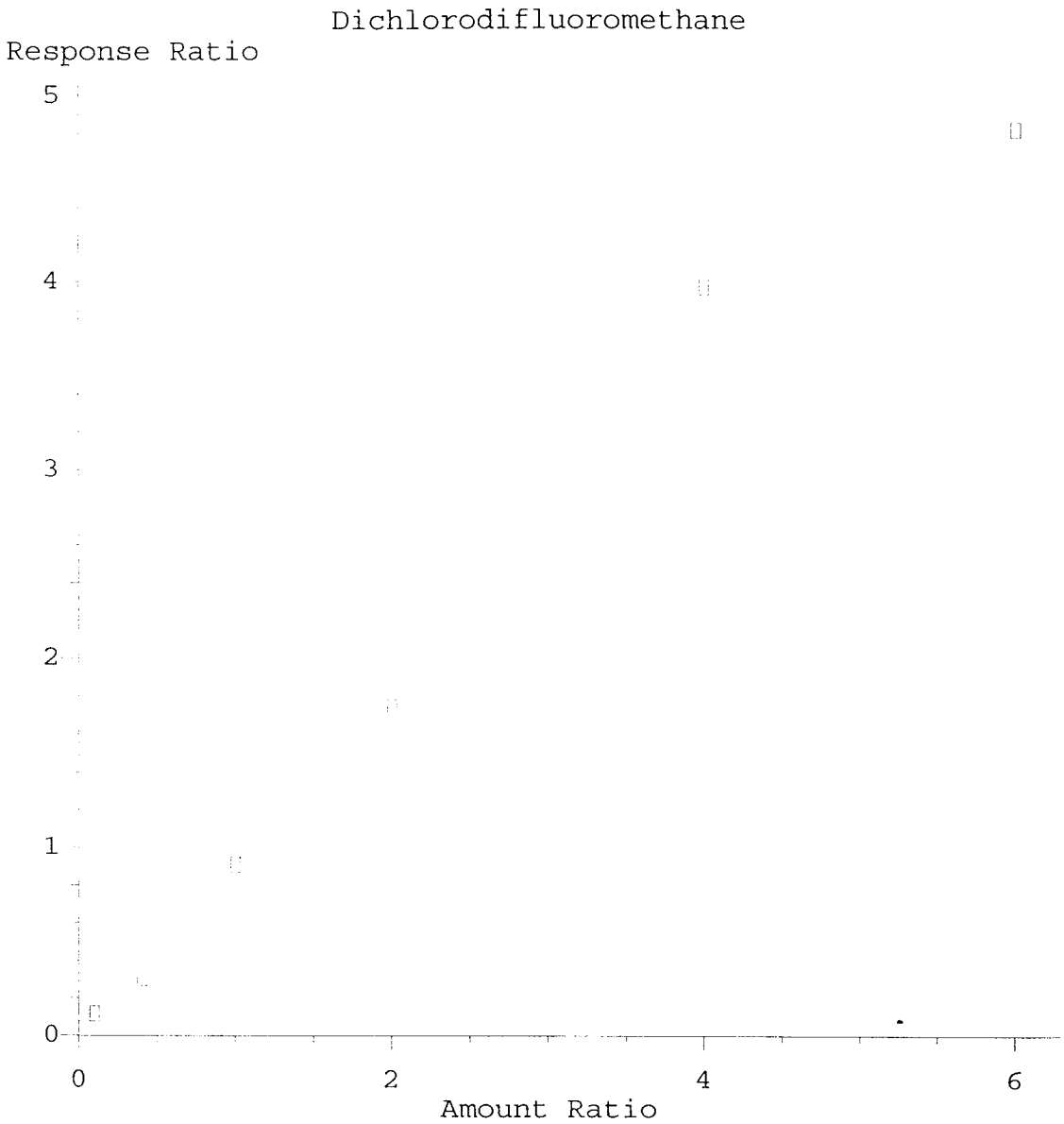
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Apr 22 09:29:13 2002
Response via : Initial Calibration

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

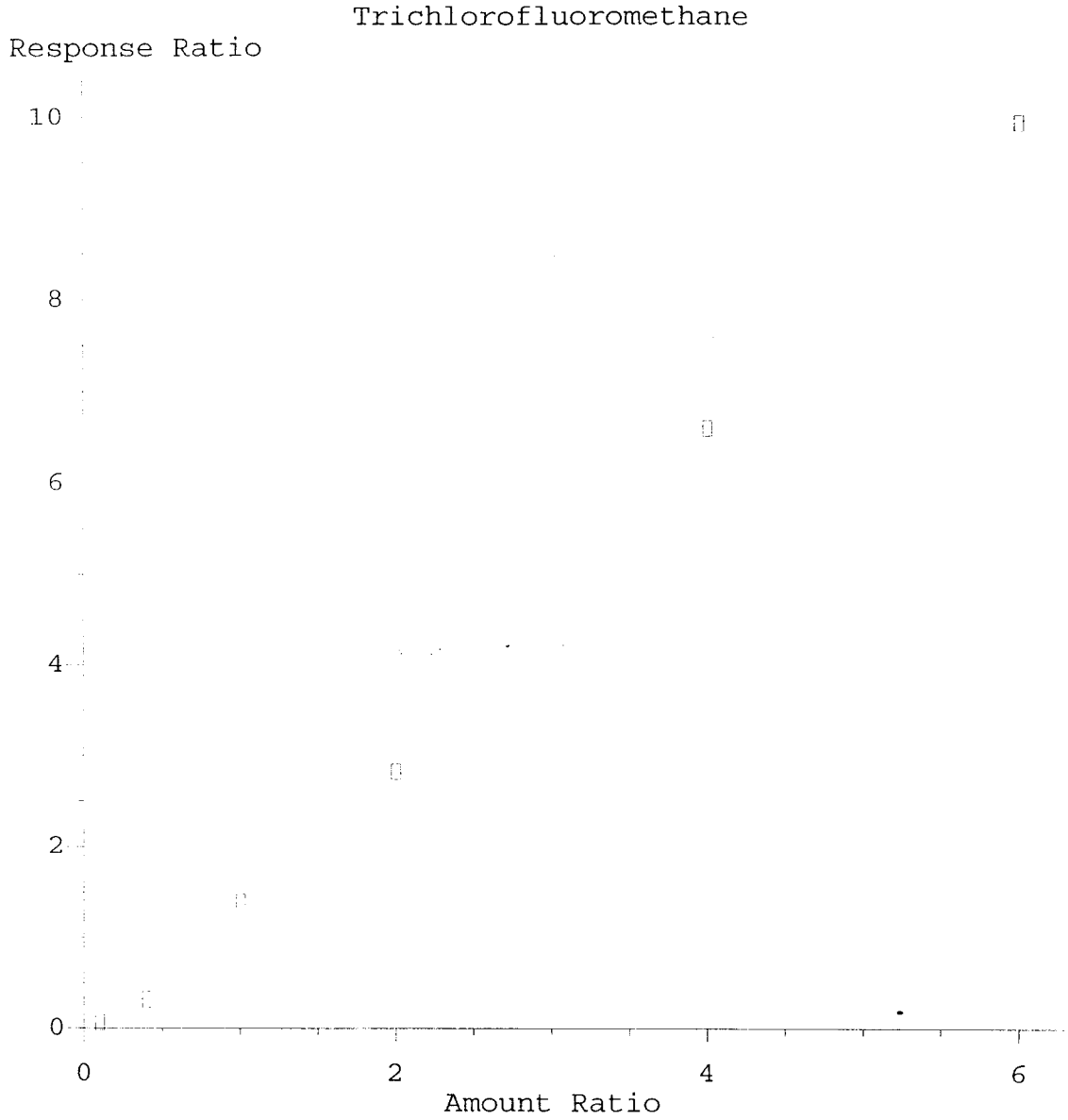
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

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



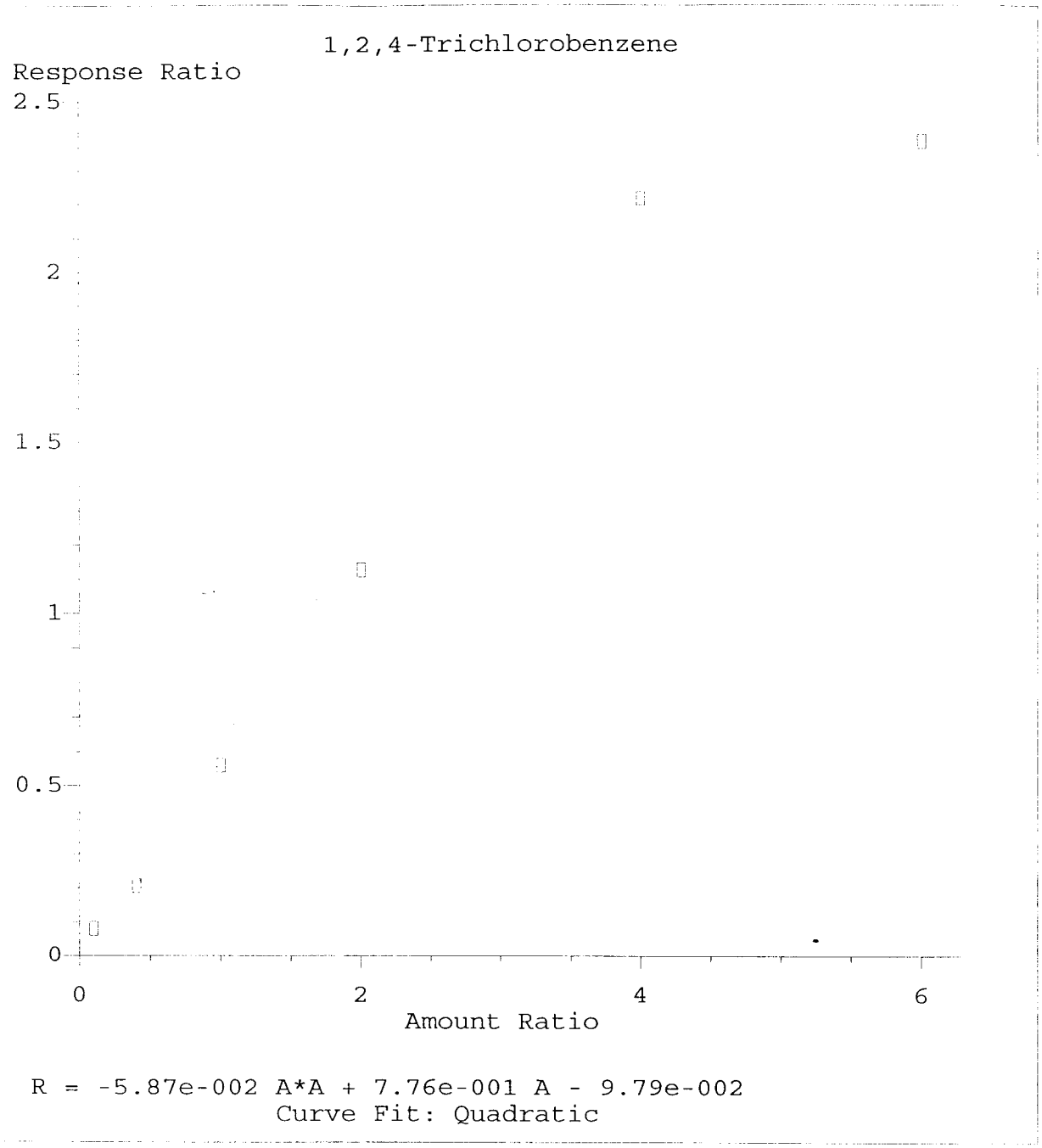
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

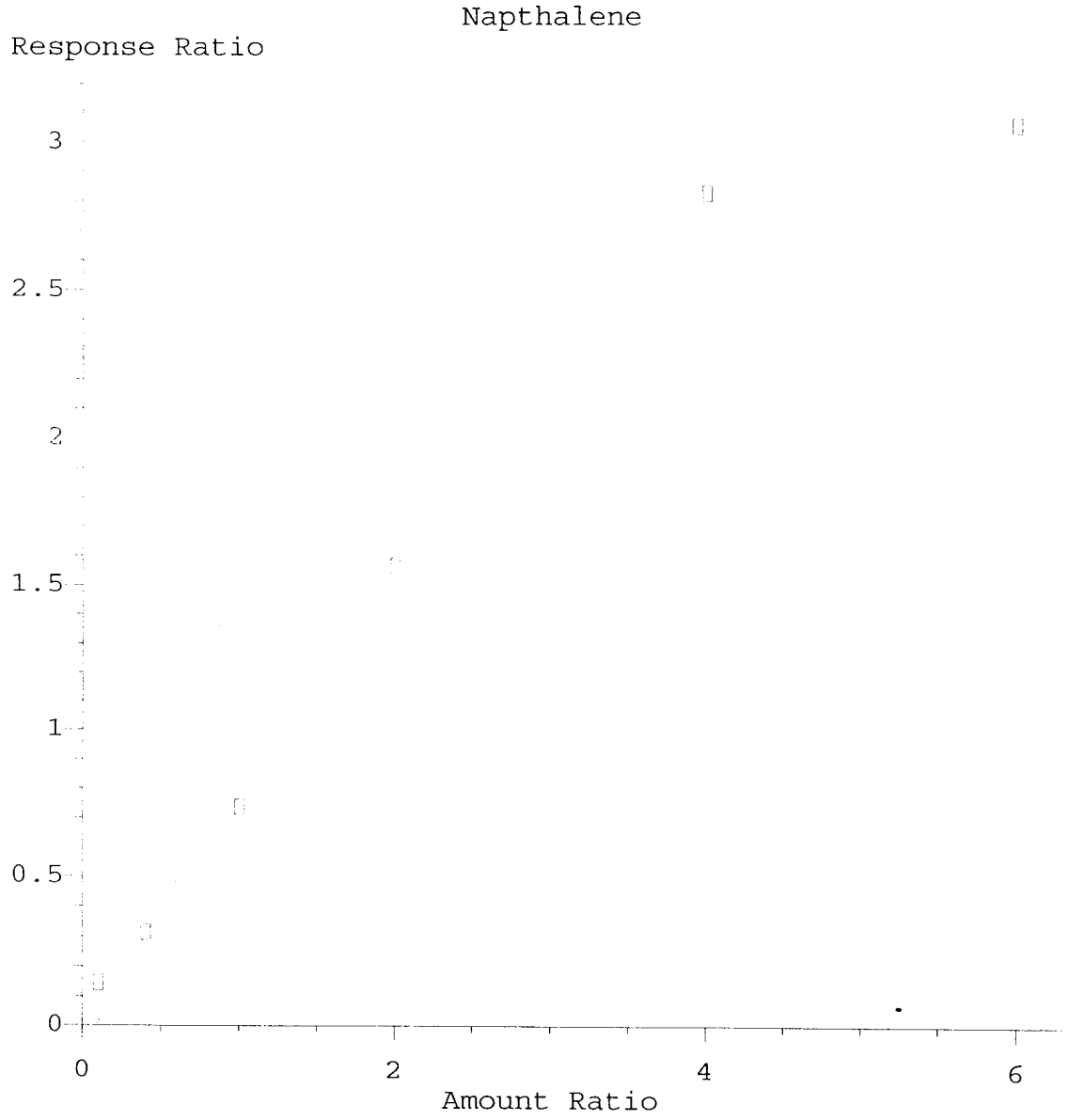


Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

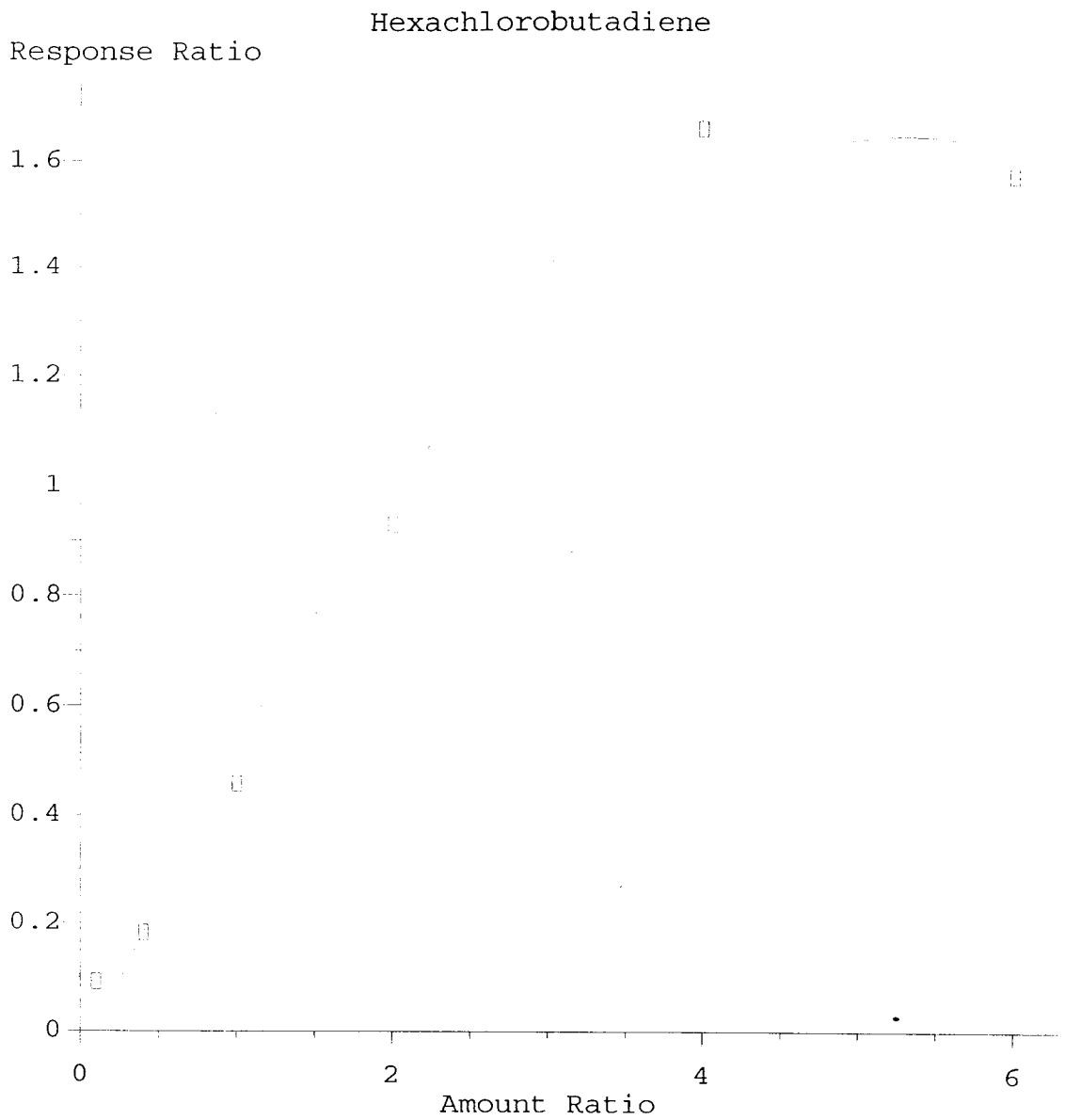


Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Apr 22 09:29:15 2002

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.60%					
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.58%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.86%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	82
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		97
20) Isooctane	12.03	57	301718	45.51 ng		98
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

(#) = qualifier out of range (m) = manual integration
0025R125.D TO14S.M Fri Jan 25 18:22:16 2002 Page 1

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	116164	39.83 ng		97
29)	1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30)	Bromodichloromethane	15.11	83	210160	37.15 ng		98
31)	cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33)	Toluene	17.13	92	132700	40.00 ng		95
34)	trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35)	1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37)	Tetrachloroethene	18.73	164	107951	42.67 ng		95
38)	Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39)	Chlorobenzene	20.81	112	191266	40.04 ng		93
40)	Ethylbenzene	20.88	106	77354	42.58 ng		99
41)	m,p-Xylene	21.09	106	199516	83.10 ng		96
42)	o-Xylene	22.23	106	92327	40.91 ng		93
43)	Styrene	22.30	104	161761	40.88 ng		95
44)	Bromoform	23.26	173	153138	40.51 ng		99
45)	1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47)	1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48)	4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49)	1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50)	2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52)	1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53)	1,4-Dichlorobenzene	26.67	146	171427	36.21 ng		98
54)	1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55)	1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56)	Napthalene	31.18	128	311685	67.28 ng	#	92
57)	Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

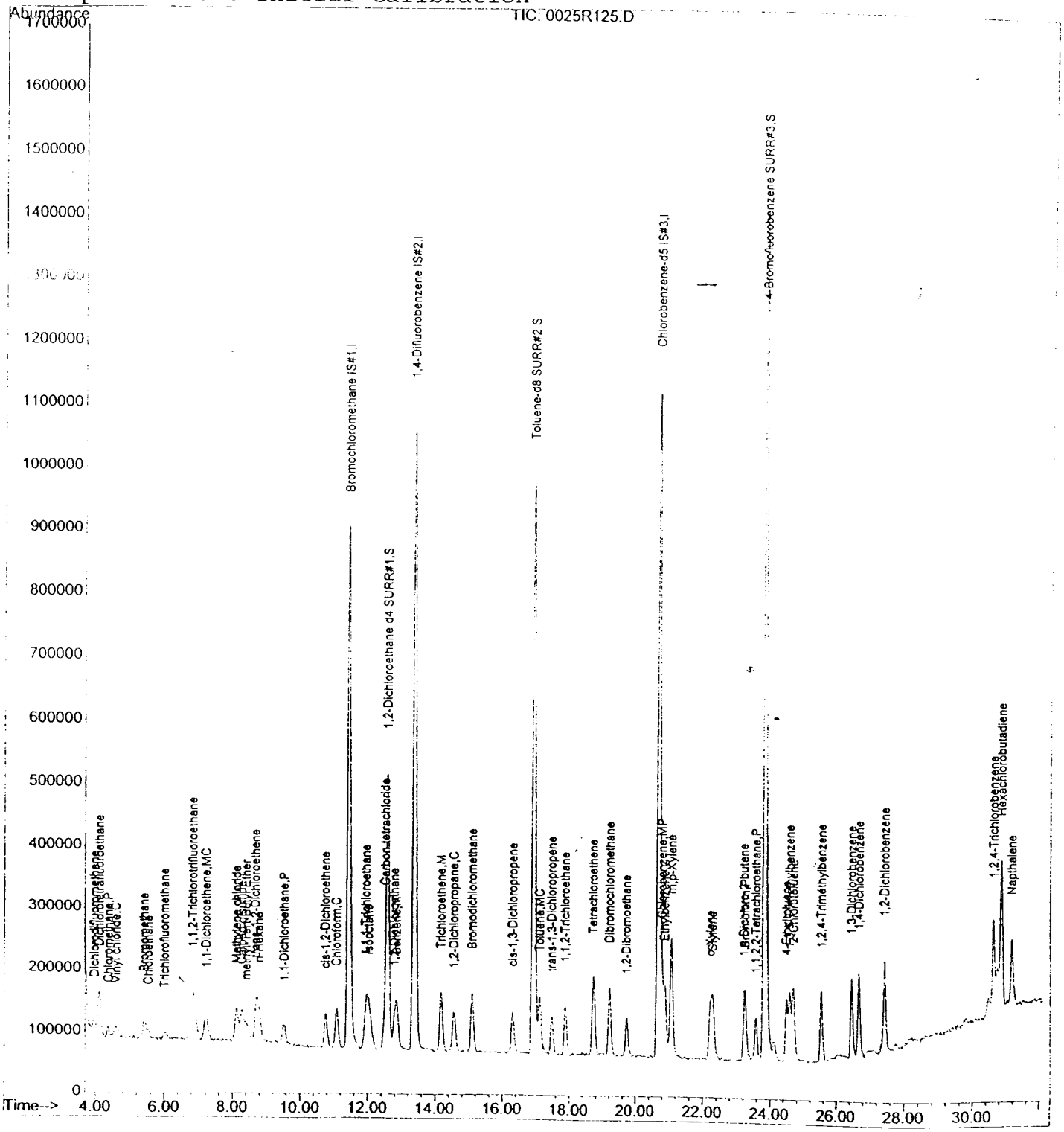
(#) = qualifier out of range (m) = manual integration

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

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

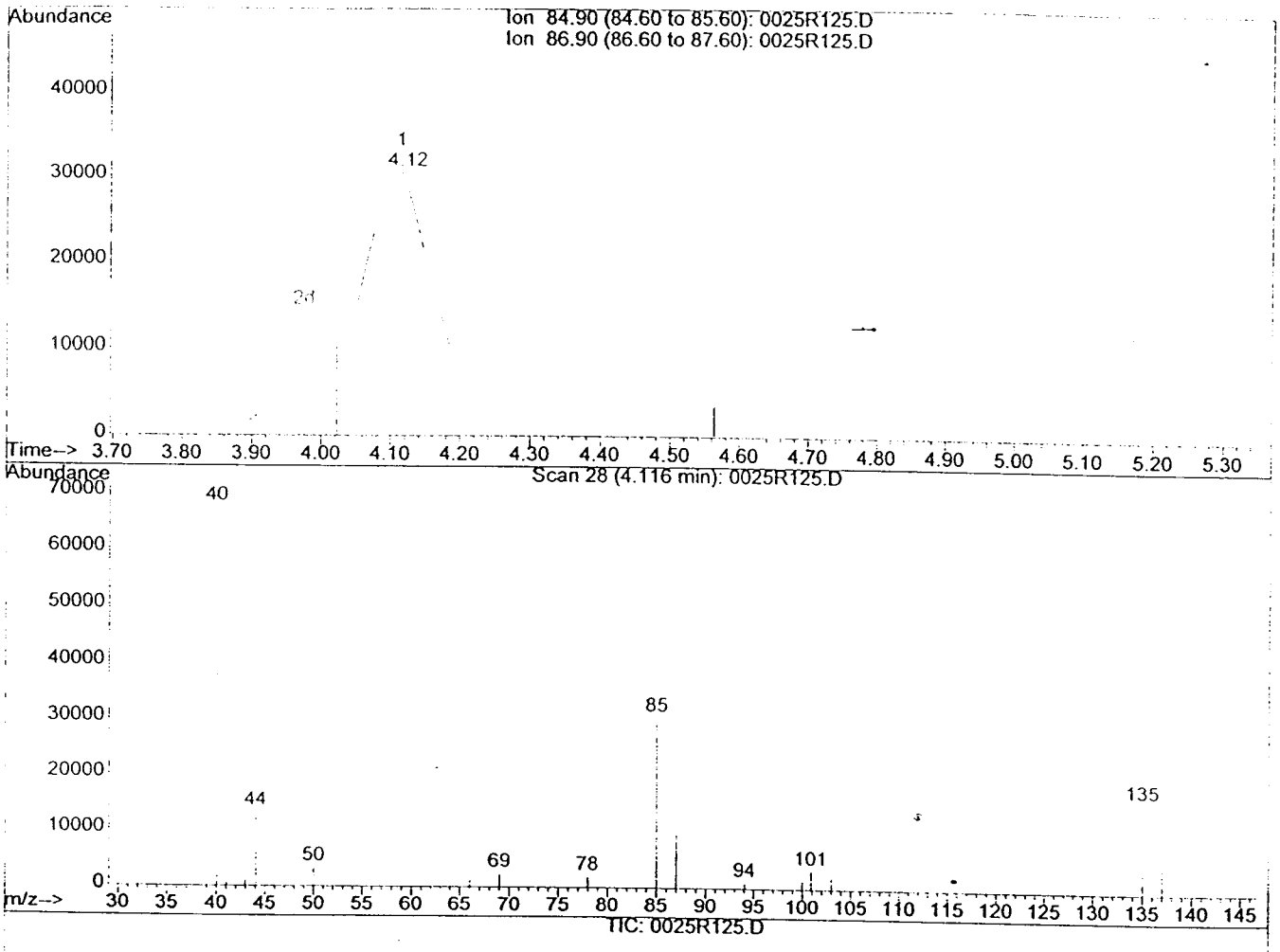


0025R125.D TO14S.M Fri Jan 25 18:22:19 2002

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

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

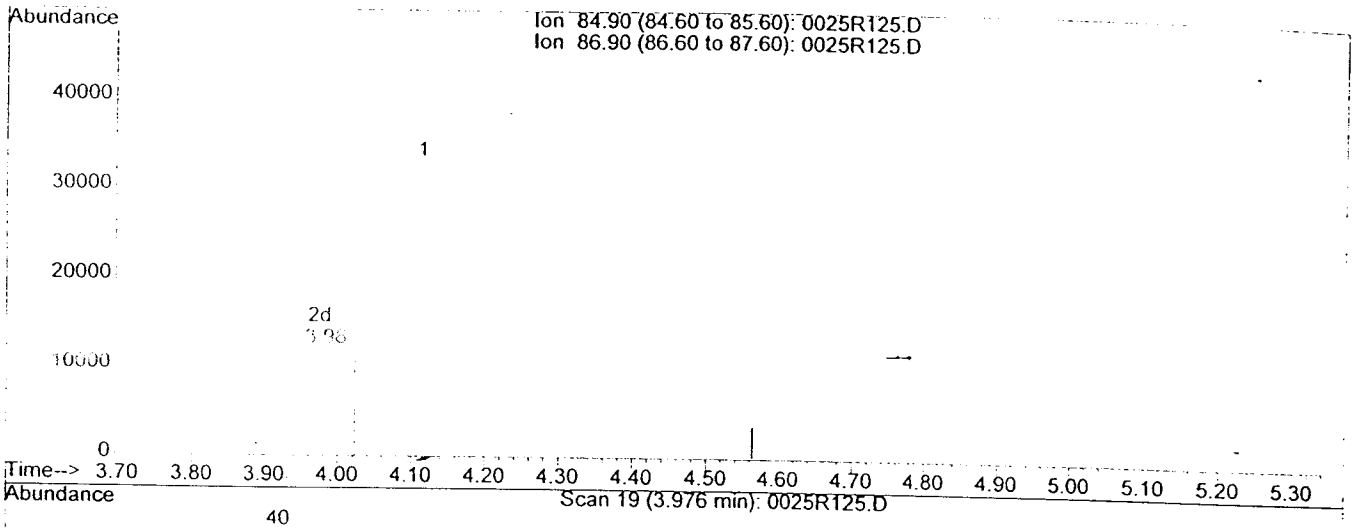
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

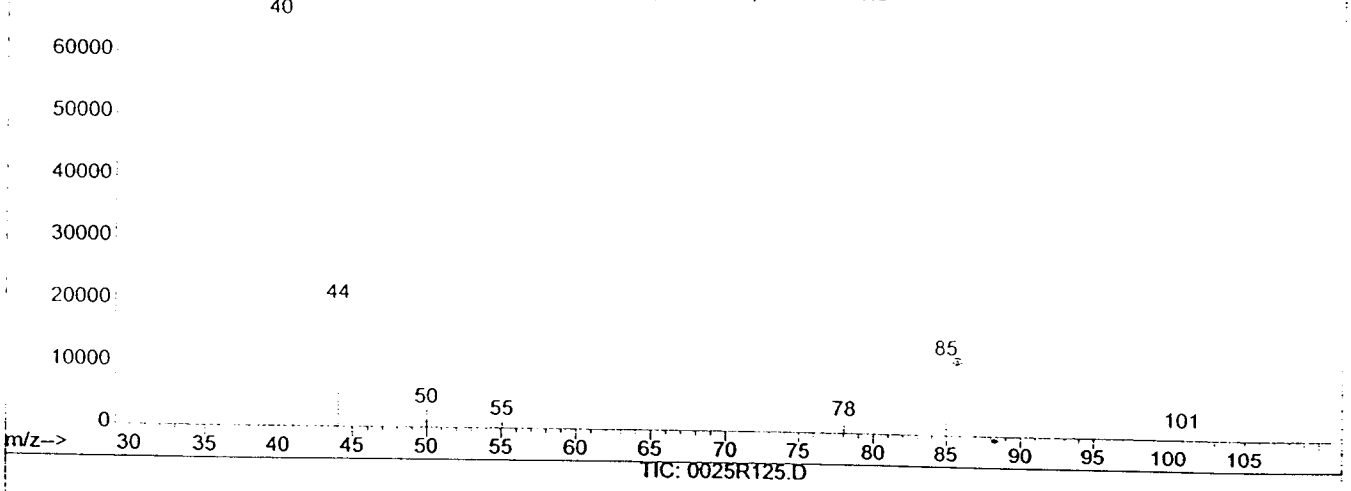
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.re

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

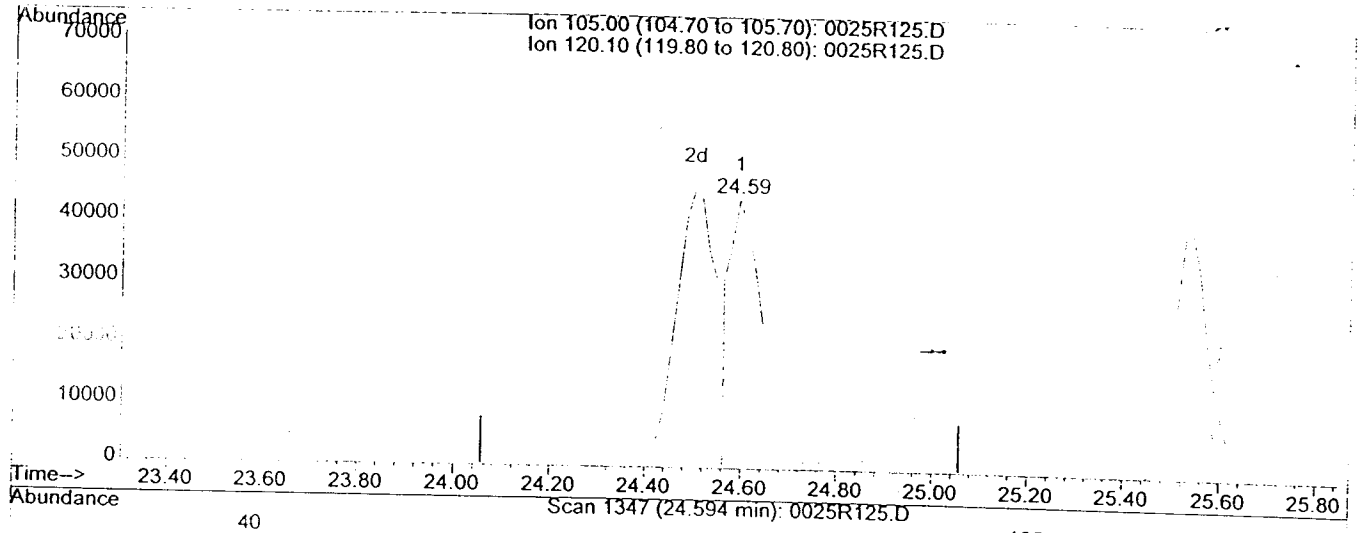
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

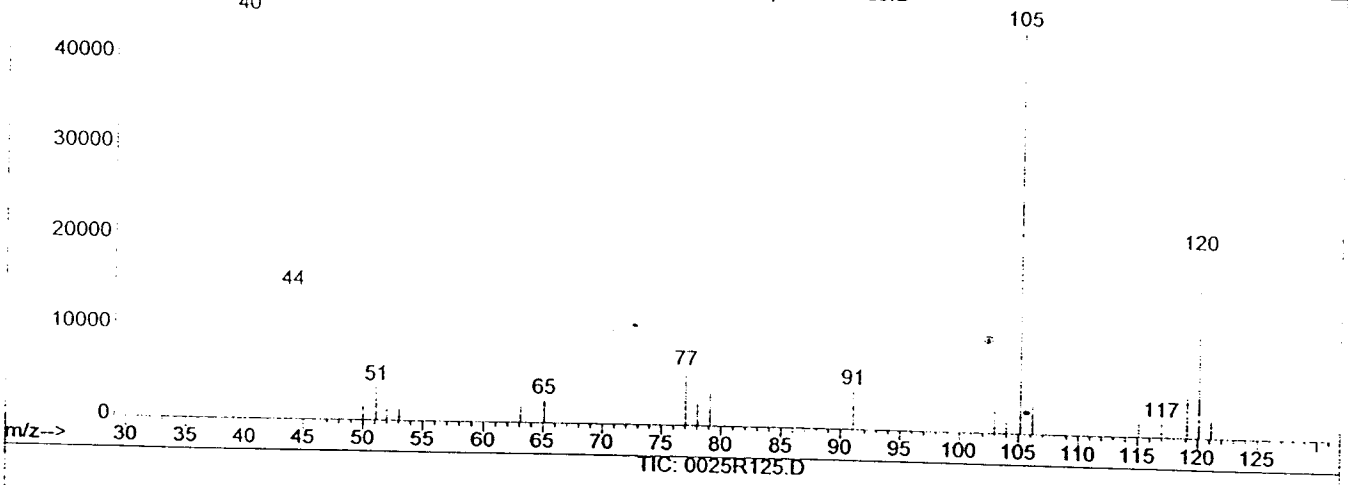
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

response 208705

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

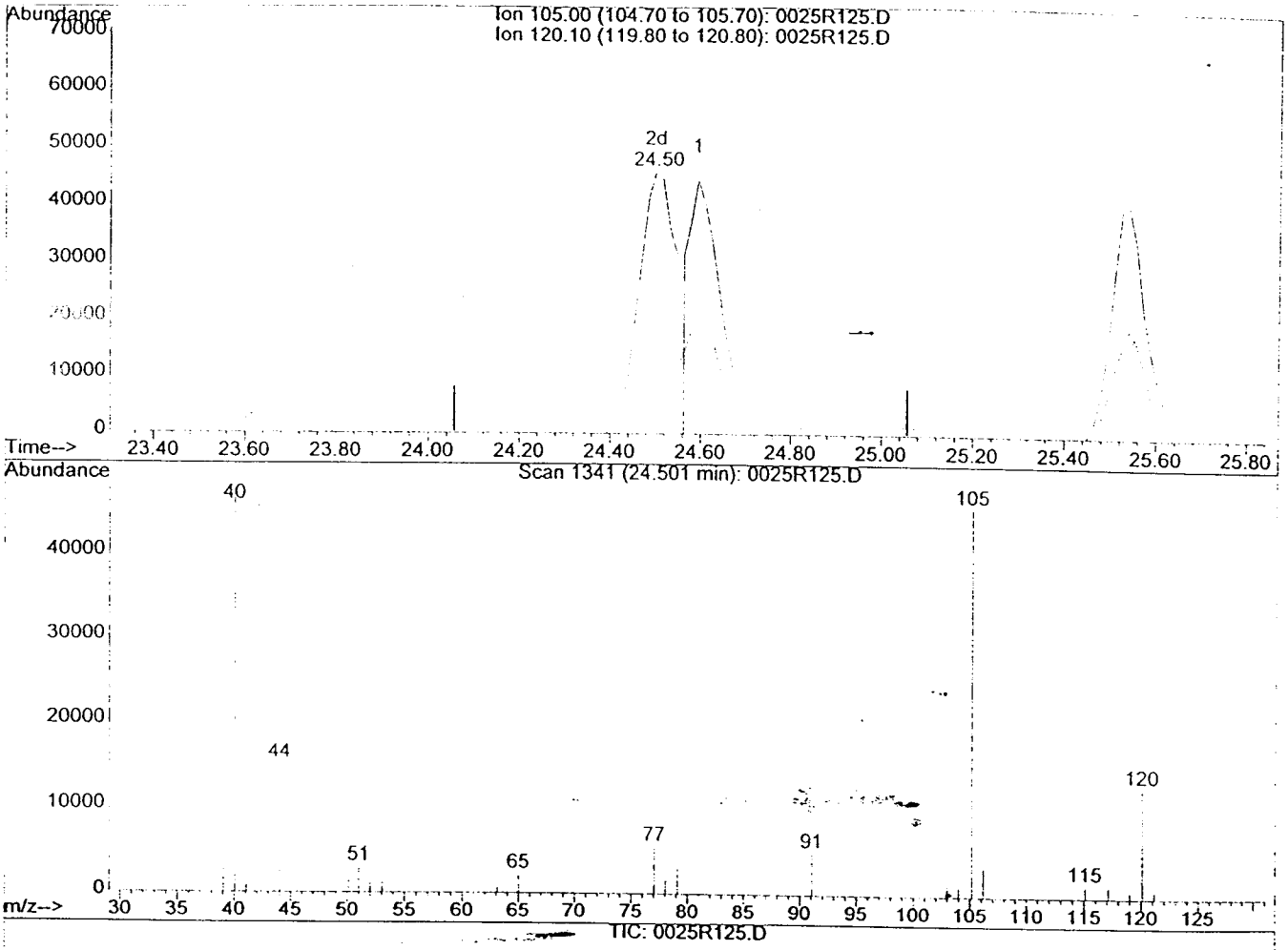
0025R125.D TO14S.M Fri Jan 25 18:18:12 2002

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00 ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00 ng	-0.06 96.67%
46) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00 ng	-0.05 95.76%

ng reprod

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%					
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11 ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%					
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03 ng	#	99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54 ng	#	40
4) Chloromethane	4.41	50	230623	128.25 ng	#	95
5) Vinyl chloride	4.62	62	197828	123.13 ng		99
6) Bromomethane	5.46	94	343058	125.48 ng	#	95
7) Chloroethane	5.56	64	147945	134.89 ng		99
8) Trichlorofluoromethane	6.08	101	258267	122.07 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53 ng		87
10) 1,1-Dichloroethene	7.25	96	312183	142.33 ng		83
12) Methylene chloride	8.15	49	406623	130.28 ng		97
13) Carbon disulfide	8.32	76	785720	130.09 ng		97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26 ng		97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25 ng		87
16) n-Hexane	8.82	57	320526	148.87 ng	#	1
17) 1,1-Dichloroethane	9.55	63	548504	135.74 ng		100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39 ng		91
19) Chloroform	11.10	83	704271	136.93 ng		98
20) Isooctane	12.05	57	1160036	162.95 ng		98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36 ng		91
22) Carbon tetrachloride	12.53	117	617093	137.29 ng		98
24) 1,2-Dichloroethane	12.79	62	386406	132.71 ng		98
25) 1,2-Dibromoethane	19.75	107	625053	145.43 ng		99
27) Benzene	12.87	78	806884	143.11 ng		100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

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

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.19	130	448788	144.70 ng		96
29) 1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30) Bromodichloromethane	15.10	83	843245	140.20 ng		99
31) cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33) Toluene	17.12	92	496011	140.63 ng		98
34) trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35) 1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37) Tetrachloroethene	18.74	164	406137	149.07 ng		96
38) Dibromochloromethane	19.22	127	618919	147.64 ng		99
39) Chlorobenzene	20.79	112	747778	145.37 ng		96
40) Ethylbenzene	20.90	106	291472	148.99 ng		100
41) m,p-Xylene	21.08	106	760694	294.22 ng		98
42) o-Xylene	22.23	106	361372	148.70 ng		98
43) Styrene	22.31	104	629732	147.78 ng		99
44) Bromoform	23.26	173	626335	153.87 ng		100
45) 1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48) 4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49) 1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50) 2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51) 1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52) 1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53) 1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54) 1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55) 1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56) Napthalene	31.19	128	724021	145.13 ng	#	92
57) Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

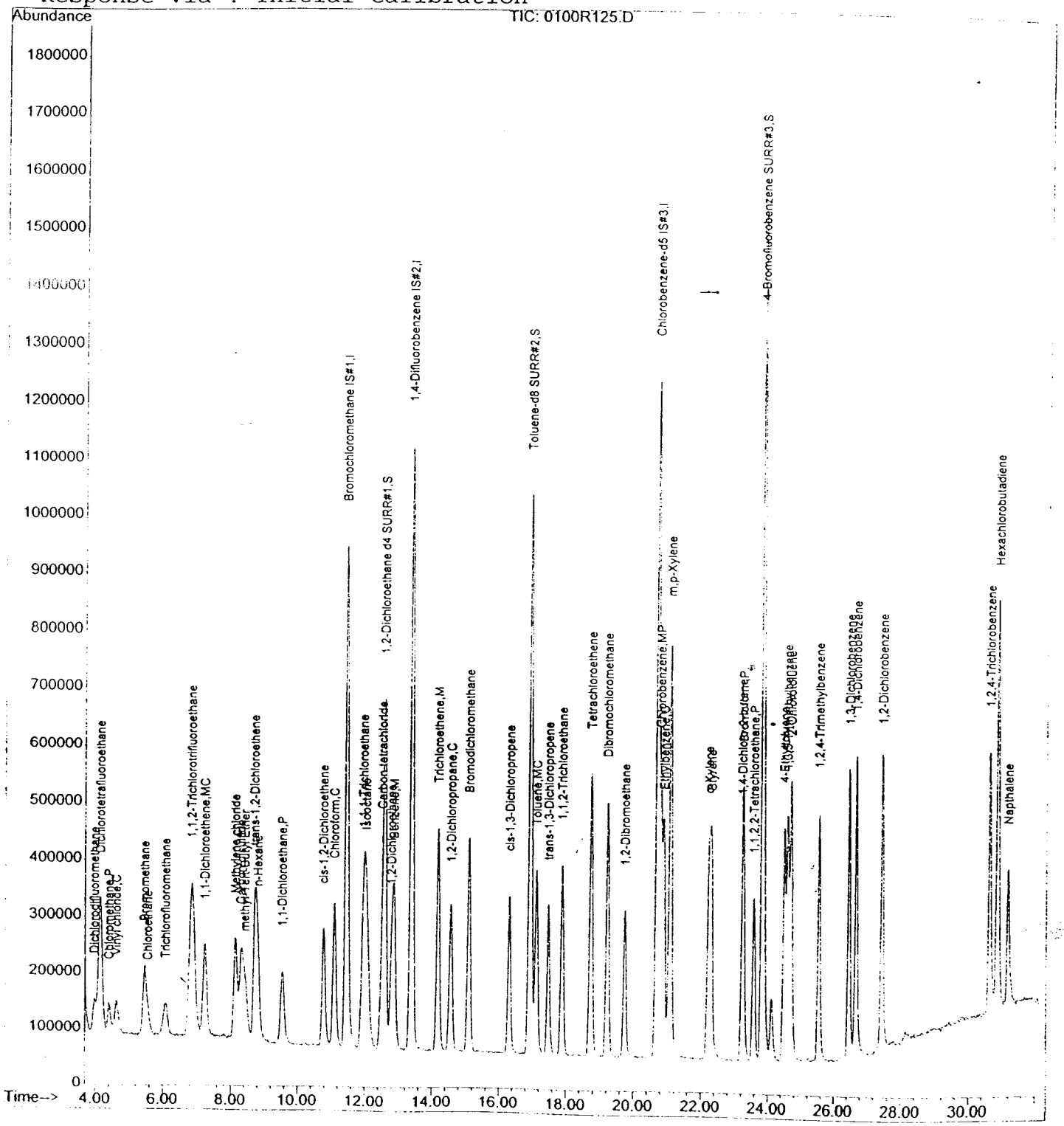
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

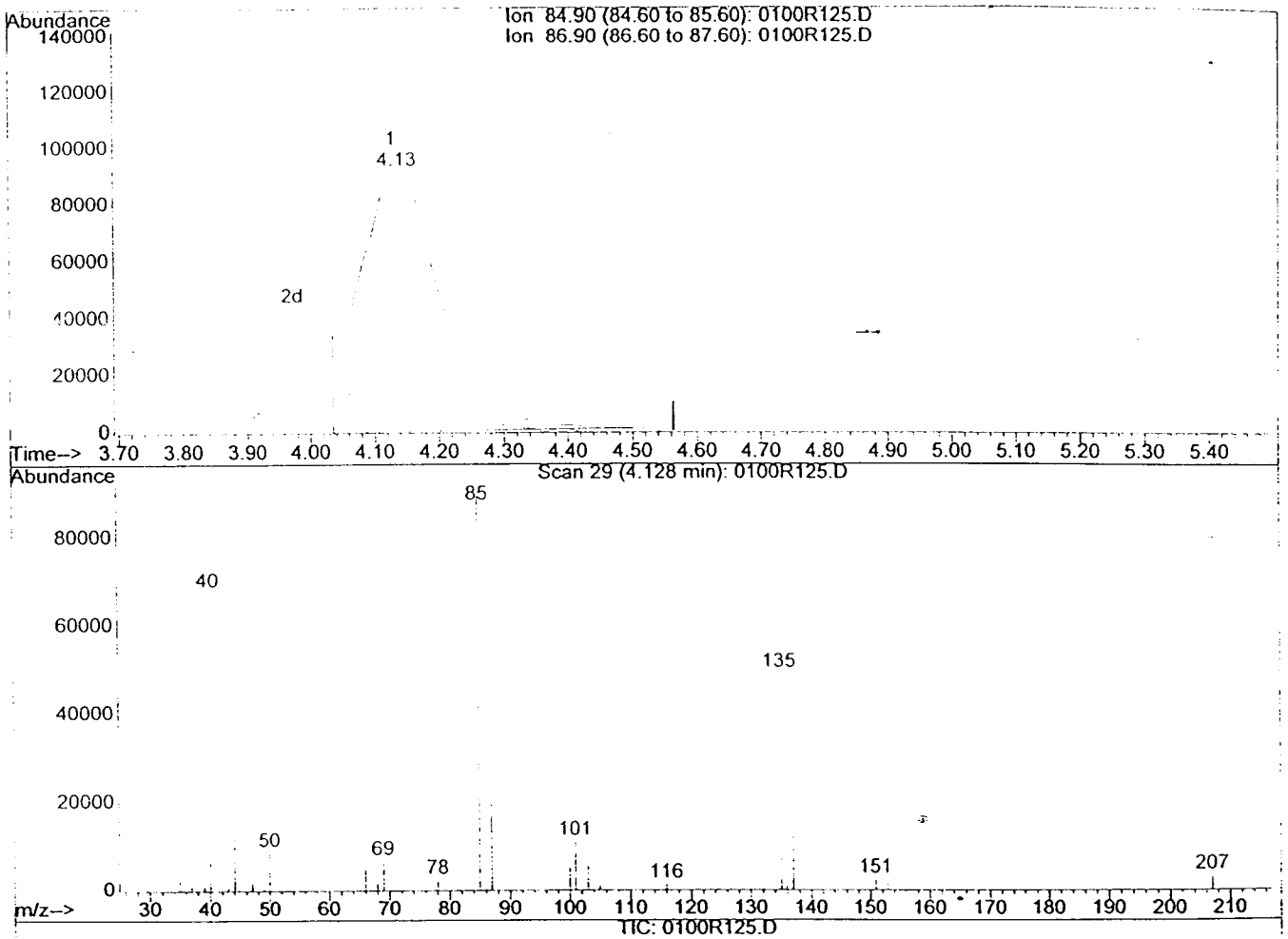
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

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



(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

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

coelution
wrong peak

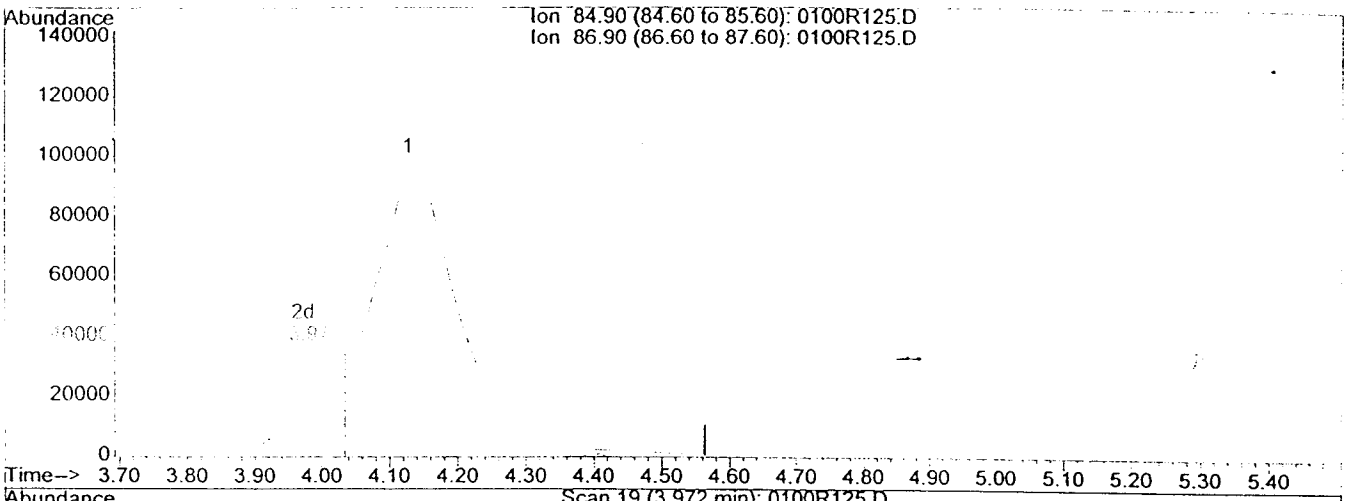
0100R125.D TO14S.M Fri Jan 25 18:54:32 2002

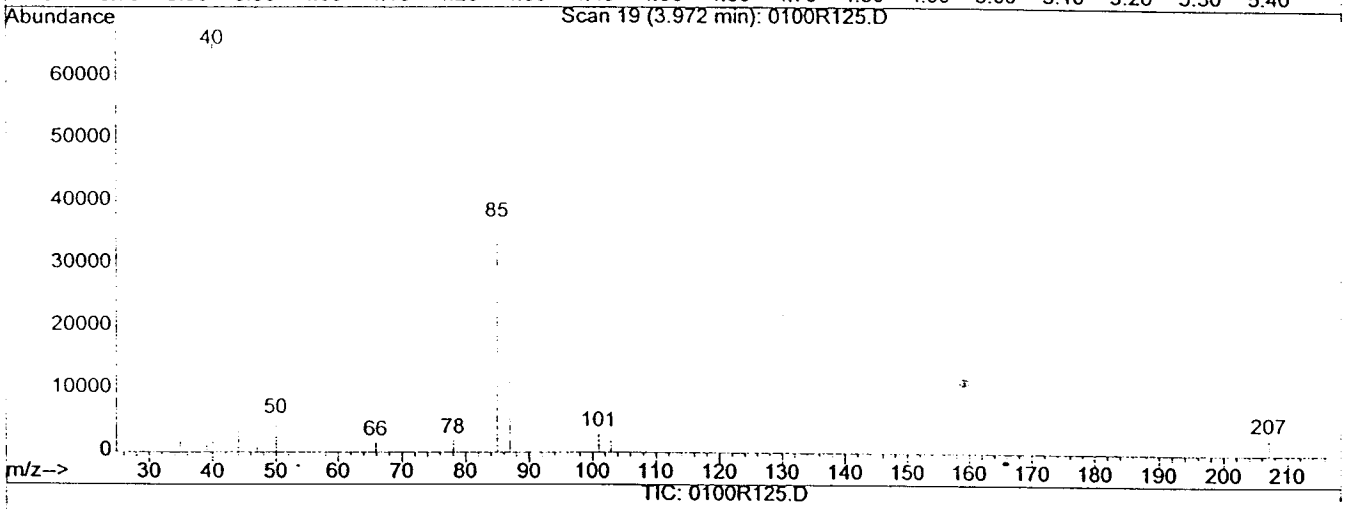
Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

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





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

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

1-25-02

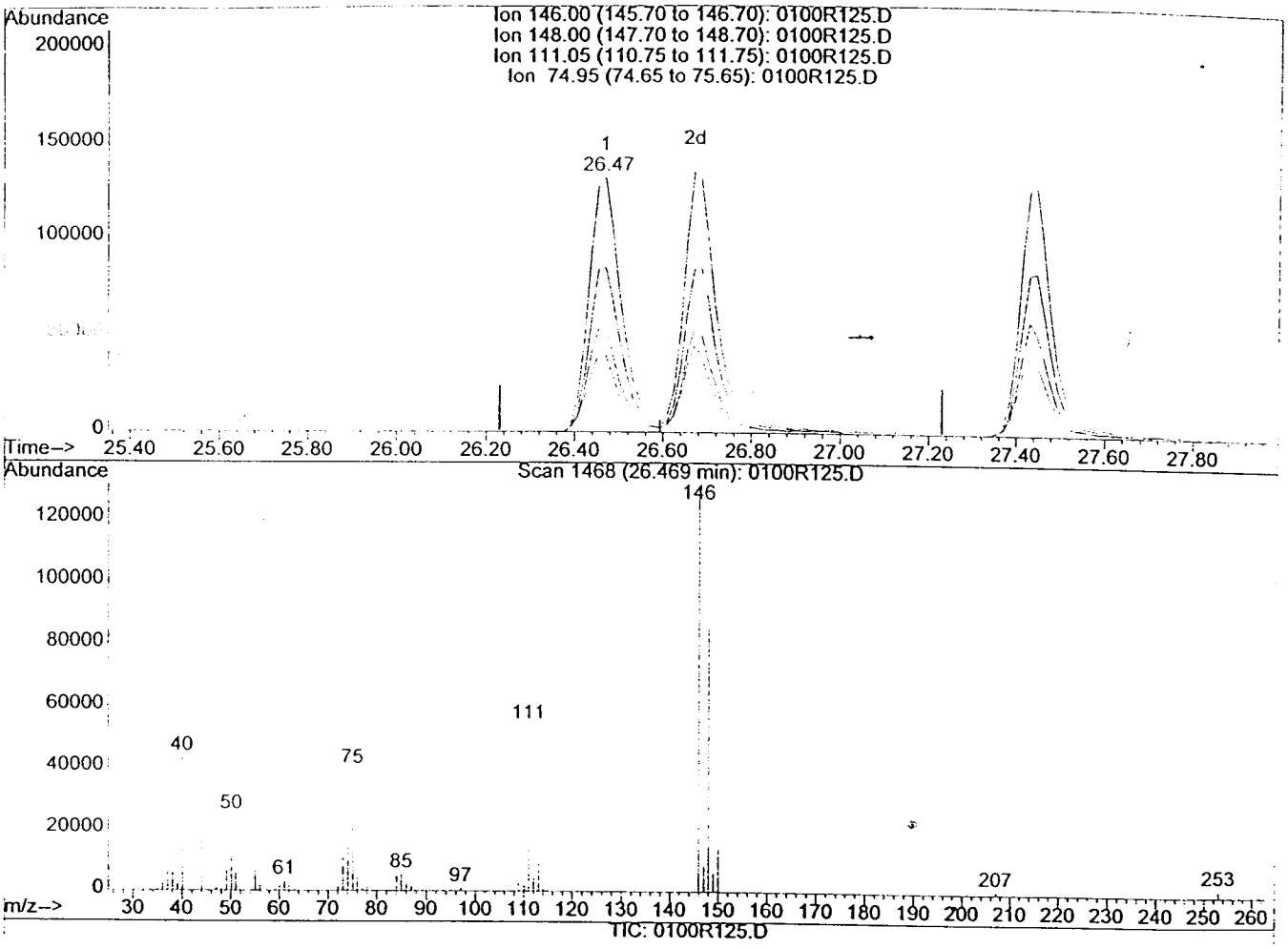
0100R125.D TO14S.M Fri Jan 25 18:54:37 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

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



(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

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

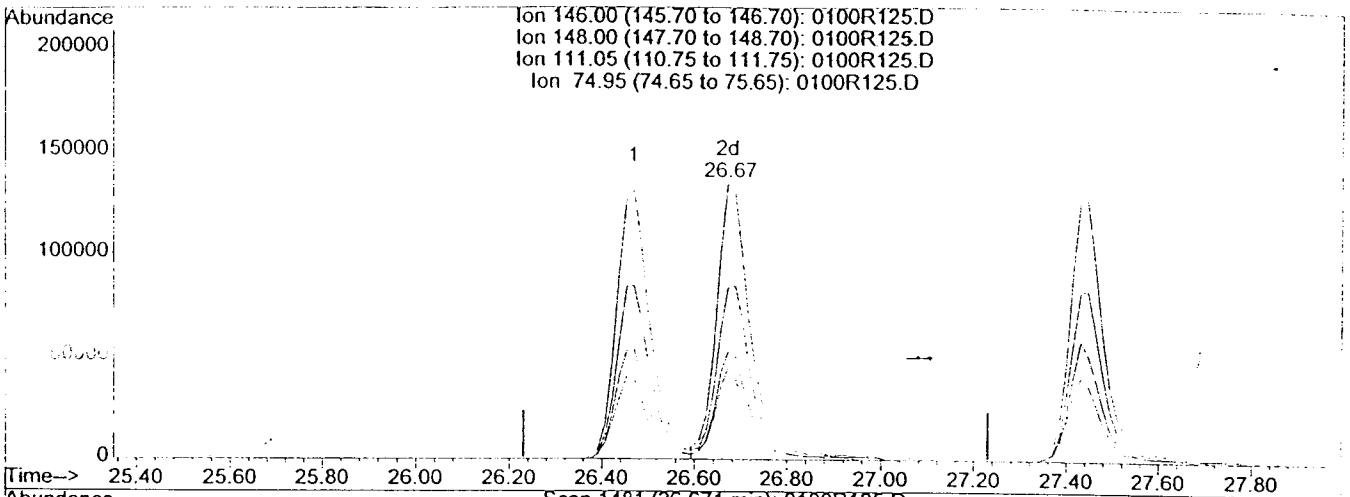
wrong peak

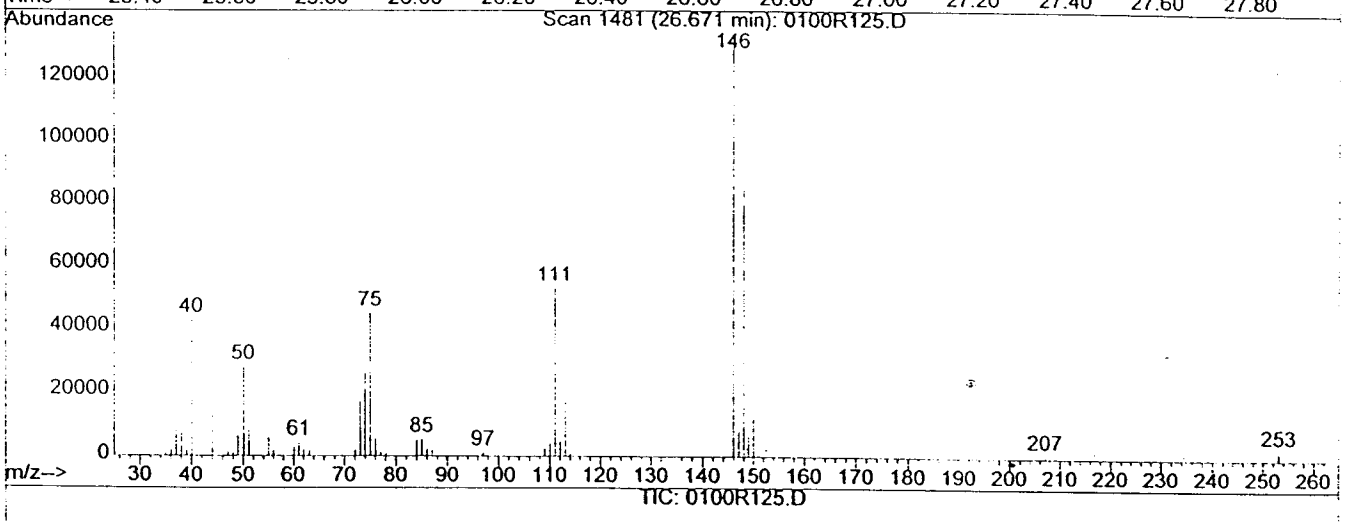
0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

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





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-25-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

TB 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00 ng	0.04
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00 ng	99.81% 0.04
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00 ng	100.02% 0.02

99.67%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71 ng	0.04
Spiked Amount 250.000	Range 61 - 140		Recovery = 118.28%		
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.29%		
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 102.25%		

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97 ng	#	98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25 ng	#	26
4) Chloromethane	4.44	50	621320	222.28 ng		99
5) Vinyl chloride	4.65	62	614874	229.48 ng		97
6) Bromomethane	5.49	94	897640	198.84 ng		98
7) Chloroethane	5.60	64	431748	238.96 ng		98
8) Trichlorofluoromethane	6.13	101	1119931	239.23 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47 ng		87
10) 1,1-Dichloroethene	7.29	96	864615	239.44 ng		92
12) Methylene chloride	8.18	49	1205948	258.58 ng		96
13) Carbon disulfide	8.36	76	2260074	232.41 ng		100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18 ng		97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60 ng		95
16) n-Hexane	8.86	57	892820	241.08 ng	#	1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39 ng		98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57 ng		96
19) Chloroform	11.16	83	2068510	256.77 ng		99
20) Isooctane	12.11	57	2982558	239.27 ng		99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23 ng		91
22) Carbon tetrachloride	12.59	117	1861531	257.08 ng		98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59 ng		99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52 ng		98
27) Benzene	12.93	78	2293017	257.50 ng		99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14.2002
Response via : Initial Calibration
DataAcq Meth : TO14S

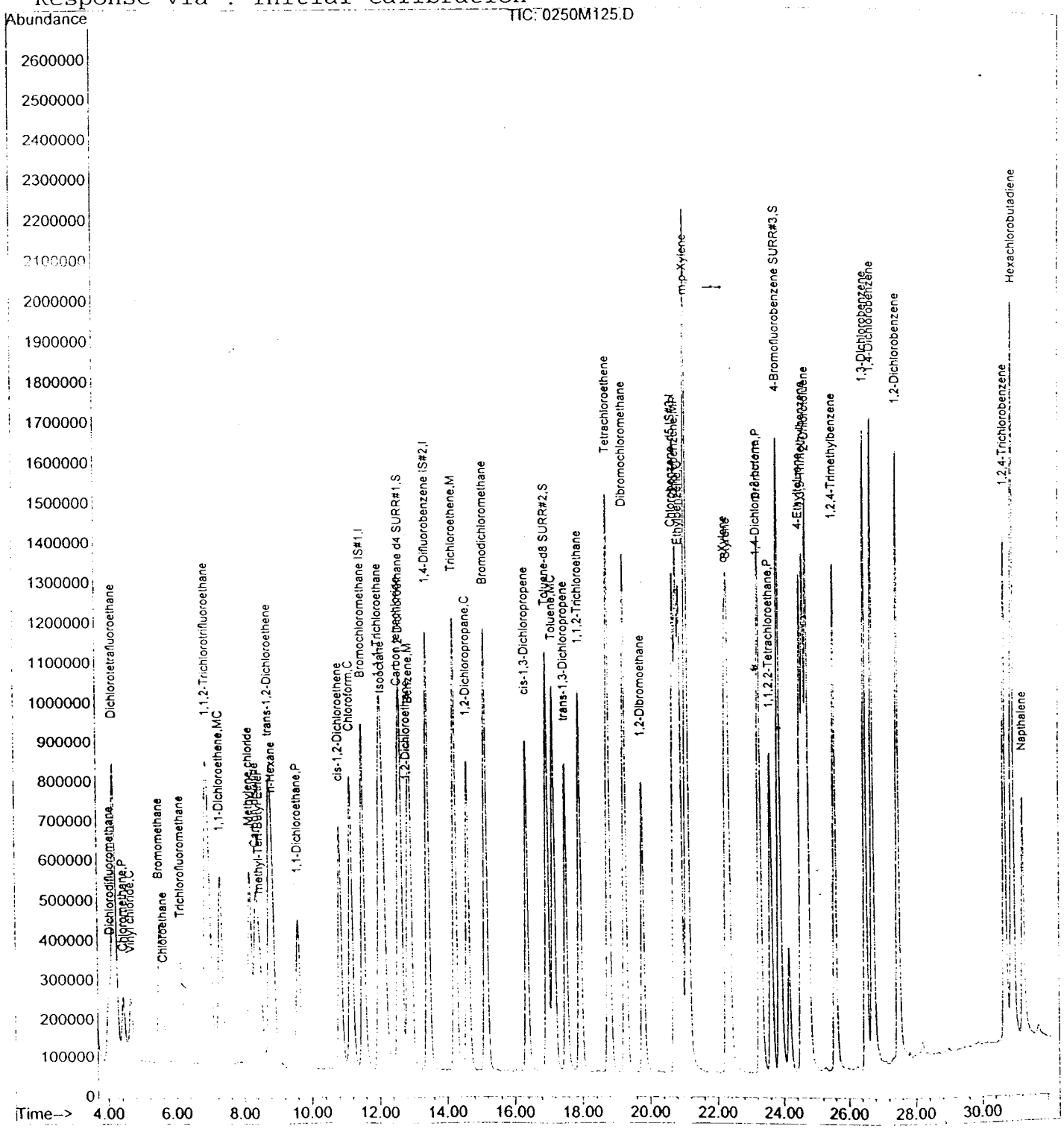
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 ng		98
34)	trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35)	1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37)	Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38)	Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39)	Chlorobenzene	20.85	112	2203630	260.18 ng		96
40)	Ethylbenzene	20.94	106	882384	259.46 ng		99
41)	m,p-Xylene	21.13	106	2264418	517.69 ng		99
42)	o-Xylene	22.29	106	1090444	256.51 ng		100
43)	Styrene	22.37	104	1906972	288.65 ng		97
44)	Bromoform	23.32	173	1752285	313.35 ng		99
45)	1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47)	1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48)	4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49)	1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50)	2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51)	1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52)	1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53)	1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54)	1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56)	Napthalene	31.25	128	1772393	306.50 ng	#	92
57)	Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

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

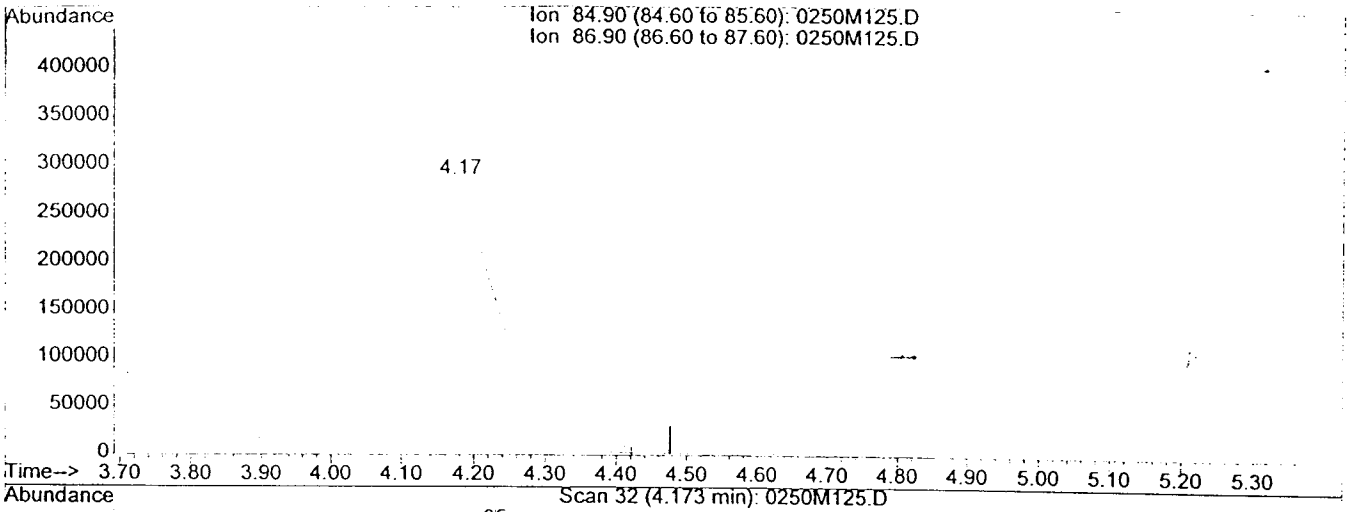


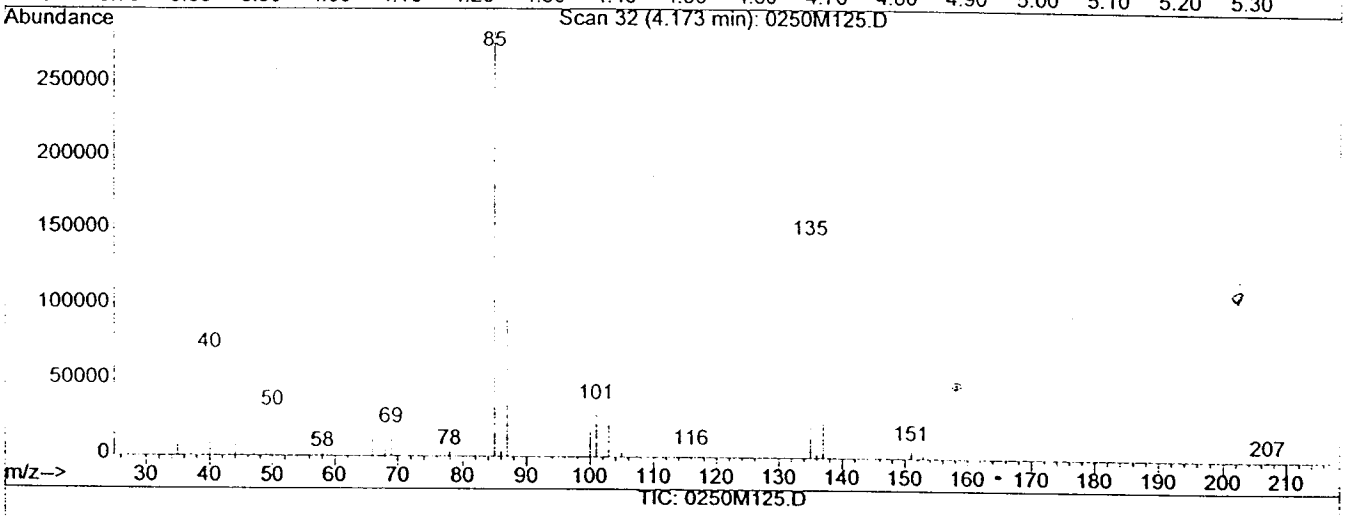
Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

response 3299163

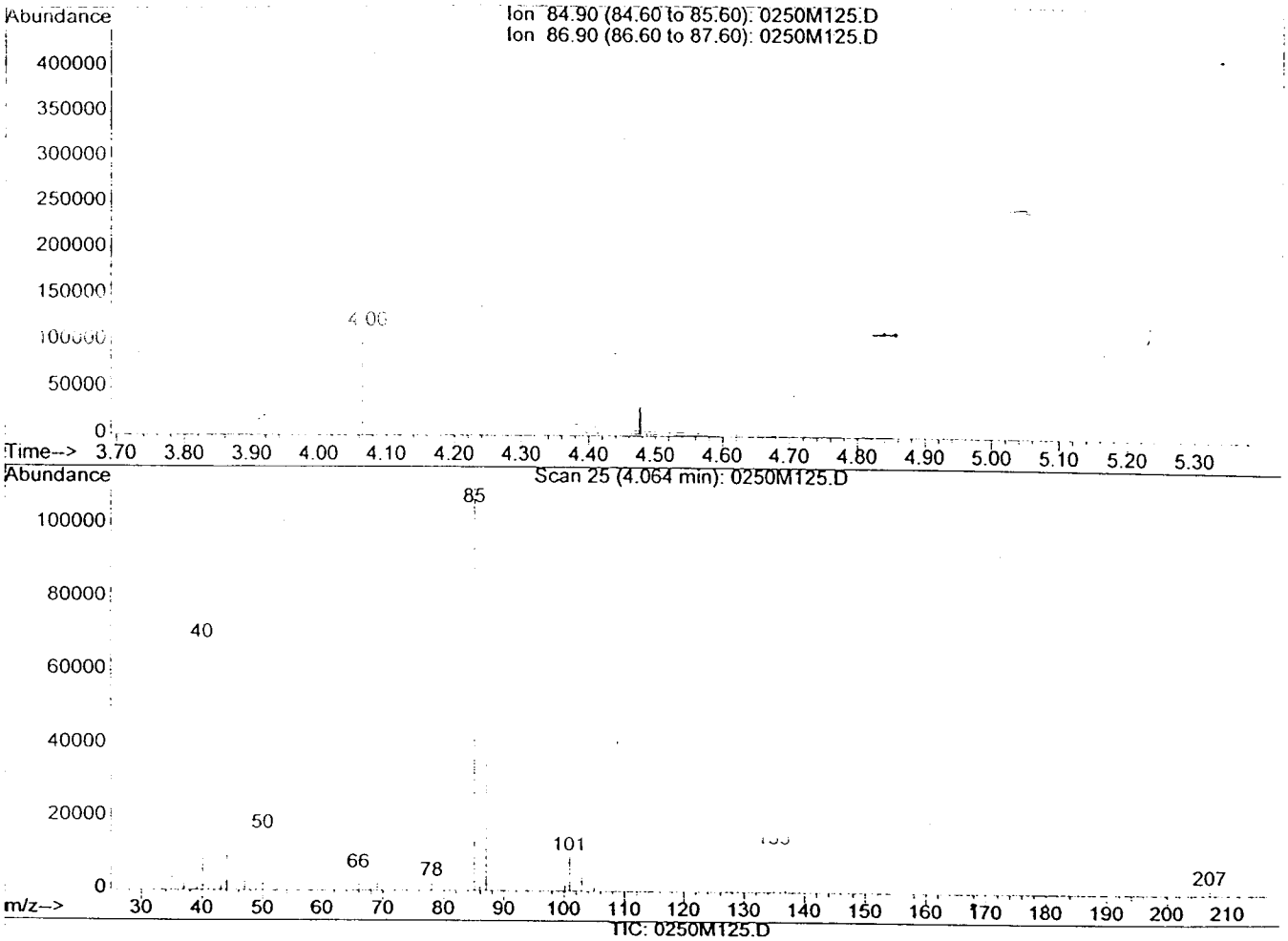
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

4.06min 187.97ng m

response 732577

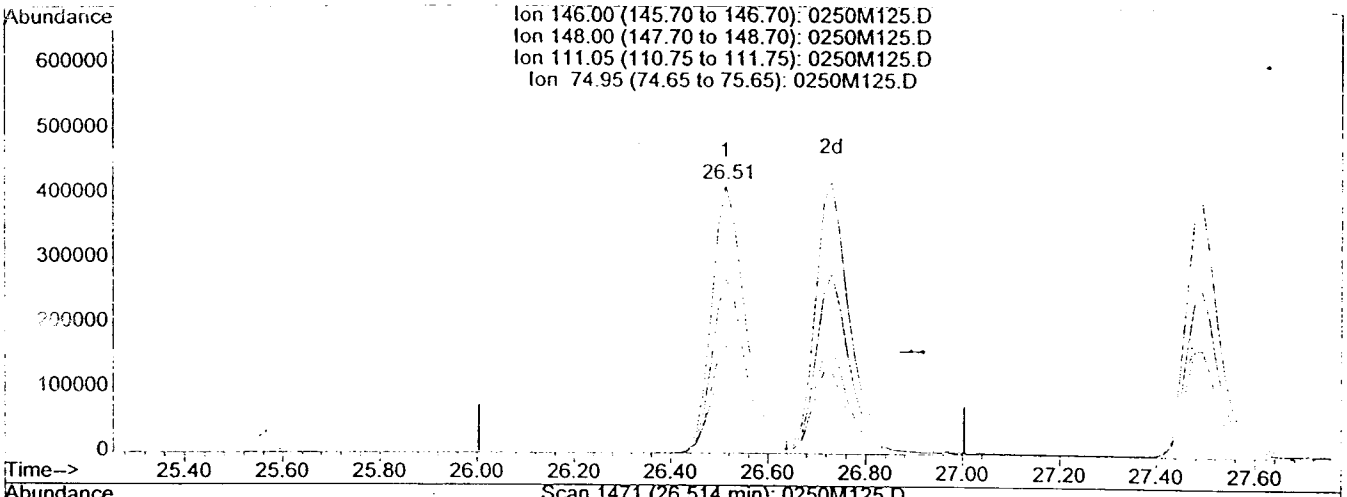
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

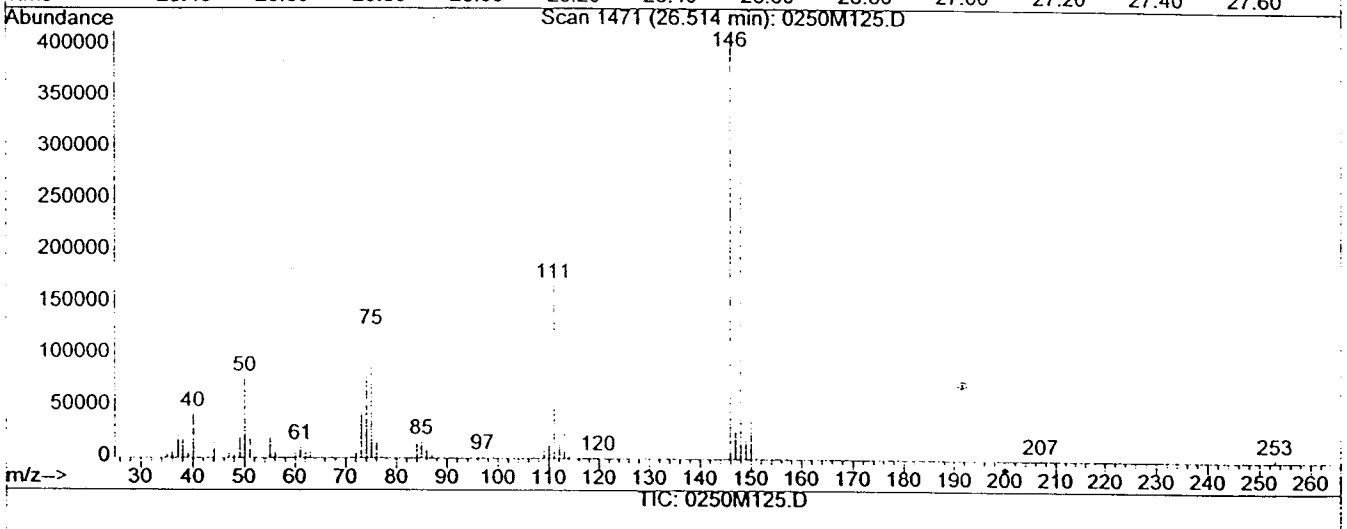
0250M125.D TO14S.M Fri Jan 25 15:10:05 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

response 2001409

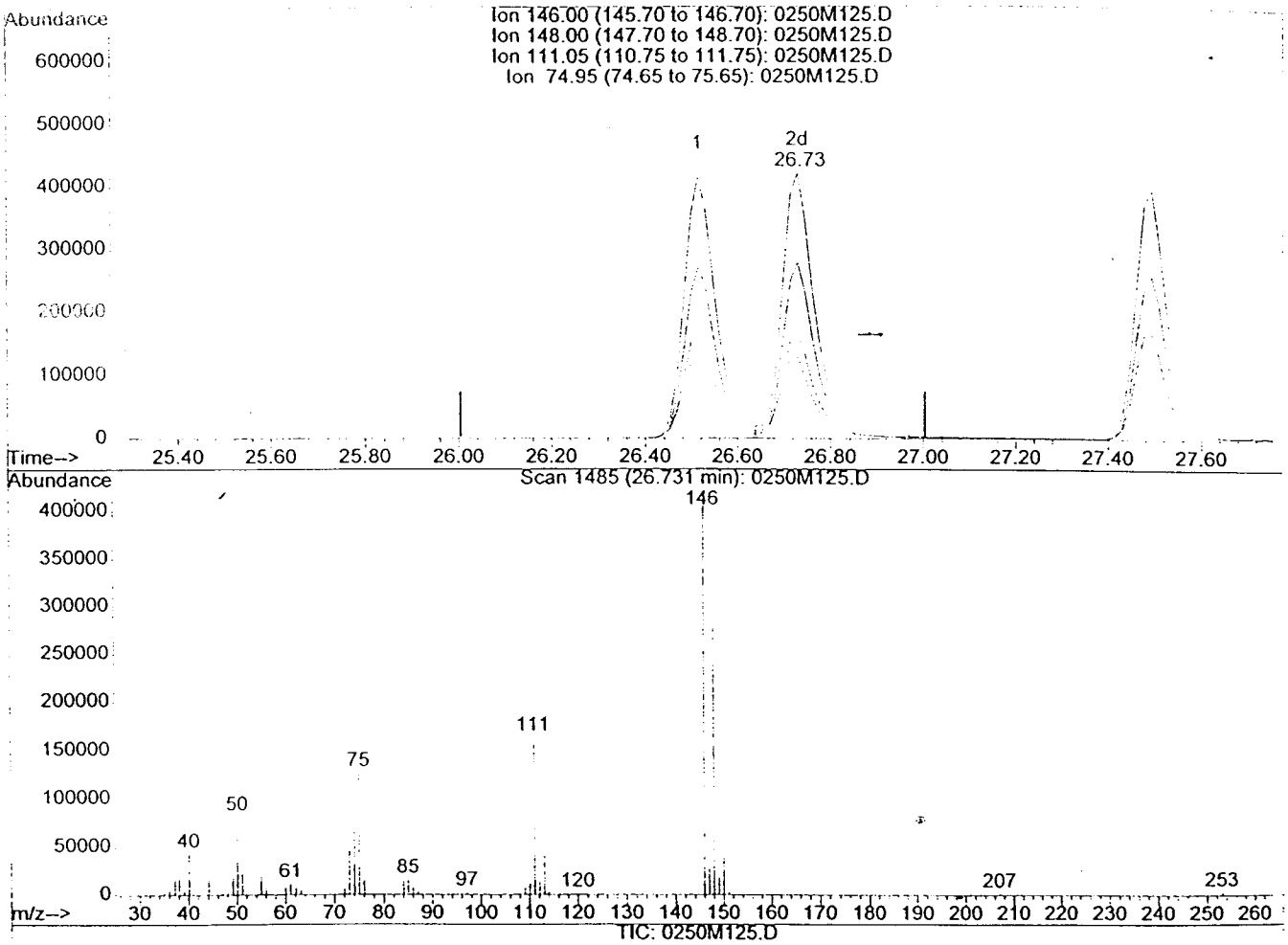
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration



(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

my 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00	ng	0.02
						85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00
						86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02
						85.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

(#) = qualifier out of range (m) = manual integration
0500M125.D TO14S.M Fri Jan 25 15:41:51 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

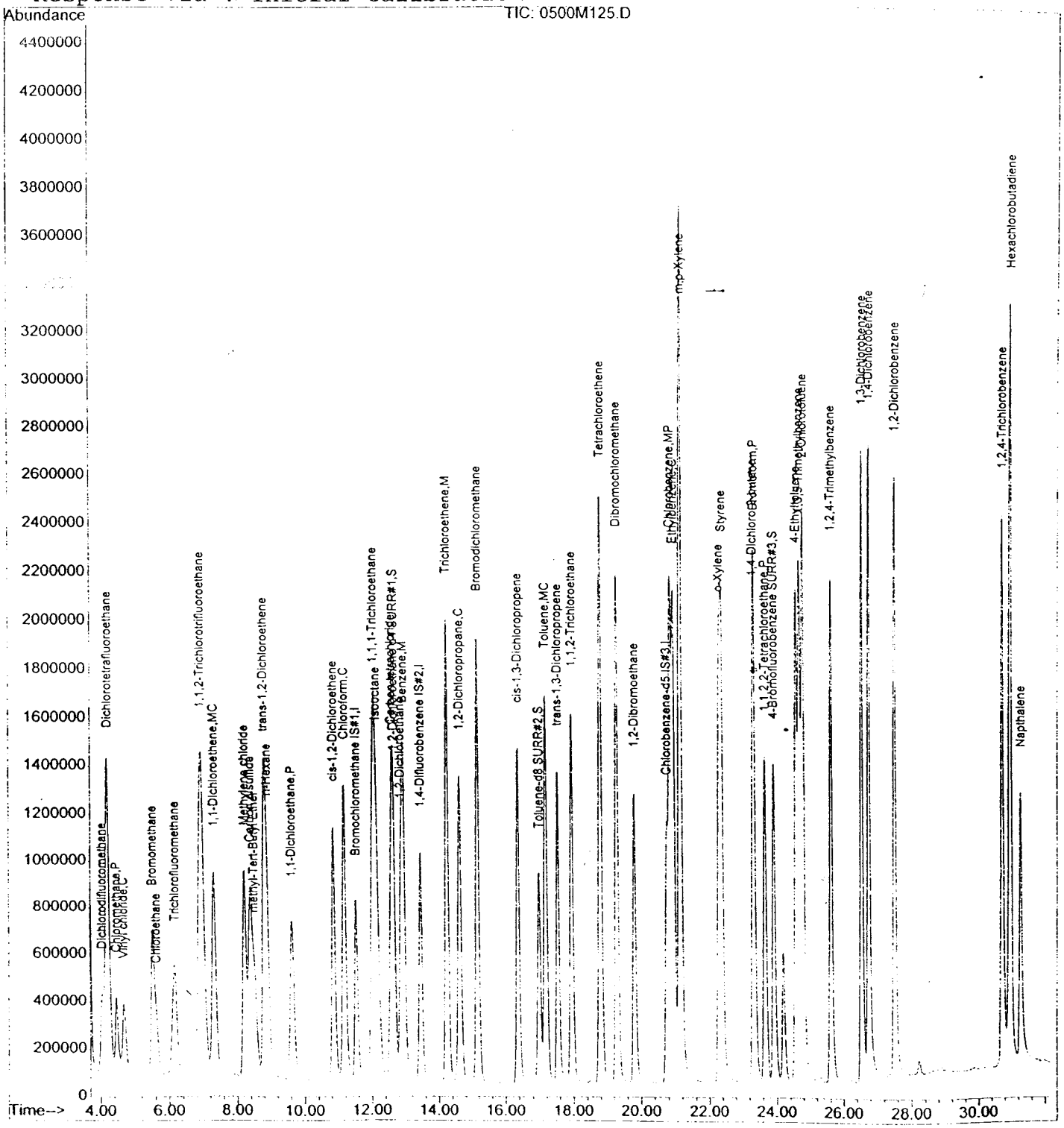
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74	ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79	ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42	ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07	ng		97
33)	Toluene	17.17	92	2501469	791.62	ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39	ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67	ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03	ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68	ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98	ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70	ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12	ng		99
42)	o-Xylene	22.29	106	1850077	851.14	ng		97
43)	Styrene	22.37	104	3243356	851.00	ng		97
44)	Bromoform	23.33	173	2899555	796.41	ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60	ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67	ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21	ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52	ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48	ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53	ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21	ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31	ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02	ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99	ng		99
56)	Napthalene	31.27	128	3229812	723.84	ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39	ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

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



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TB 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00 ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00 ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00 ng	0.02 87.32%

ng reported

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%					
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%					
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22 ng		92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80 ng	#	41
4) Chloromethane	4.44	50	2133139	1351.49 ng	#	97
5) Vinyl chloride	4.66	62	2033802	1442.19 ng		96
6) Bromomethane	5.51	94	3162736	1317.96 ng	#	99
7) Chloroethane	5.60	64	1530589	1589.88 ng		97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80 ng		84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95 ng		90
12) Methylene chloride	8.20	49	3993235	1457.56 ng		99
13) Carbon disulfide	8.37	76	8129818	1533.56 ng		100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43 ng		99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83 ng		93
16) n-Hexane	8.88	57	2940178	1555.79 ng	#	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80 ng		98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54 ng		93
19) Chloroform	11.18	83	6940397	1537.33 ng		99
20) Isooctane	12.12	57	9654037	1544.96 ng		97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27 ng		91
22) Carbon tetrachloride	12.60	117	6221350	1576.85 ng		97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57 ng		98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41 ng		98
27) Benzene	12.95	78	7976775	1559.00 ng		99

(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.25	130	4575596	1625.70	ng		95
29)	1,2-Dichloropropane	14.64	63	3433997	1602.51	ng		99
30)	Bromodichloromethane	15.17	83	8317168	1523.76	ng		99
31)	cis-1,3-Dichloropropene	16.38	75	5257738	1594.05	ng		100
33)	Toluene	17.18	92	5201962	1625.17	ng		98
34)	trans-1,3-Dichloropropene	17.54	75	4452773	1571.31	ng		97
35)	1,1,2-Trichloroethane	17.96	97	3562654	1567.40	ng		97
37)	Tetrachloroethene	18.81	164	4172815	1679.65	ng		96
38)	Dibromochloromethane	19.30	127	6195563	1620.78	ng		99
39)	Chlorobenzene	20.86	112	7610942	1622.57	ng		94
40)	Ethylbenzene	20.96	106	3027780	1697.32	ng		97
41)	m,p-Xylene	21.16	106	7796610	3306.99	ng		98
42)	o-Xylene	22.31	106	3789454	1709.97	ng		96
43)	Styrene	22.39	104	6680678	1719.31	ng		96
44)	Bromoform	23.33	173	6162140	1660.10	ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32	ng		99
47)	1,4-Dichloro-2-butene	23.30	75	1122181	1853.77	ng		92
48)	4-Ethyltoluene	24.57	105	9946500	1655.36	ng		94
49)	1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09	ng		91
50)	2-Chlorotoluene	24.78	91	10066562	1622.59	ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44	ng		98
52)	1,3-Dichlorobenzene	26.52	146	6680148	1570.30	ng		96
53)	1,4-Dichlorobenzene	26.73	146	7097933	1526.81	ng		95
54)	1,2-Dichlorobenzene	27.49	146	6319656	1565.43	ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63	ng		99
56)	Napthalene	31.25	128	5947012	1307.26	ng	#	93
57)	Hexachlorobutadiene	30.94	225	3486286	1420.92	ng		100

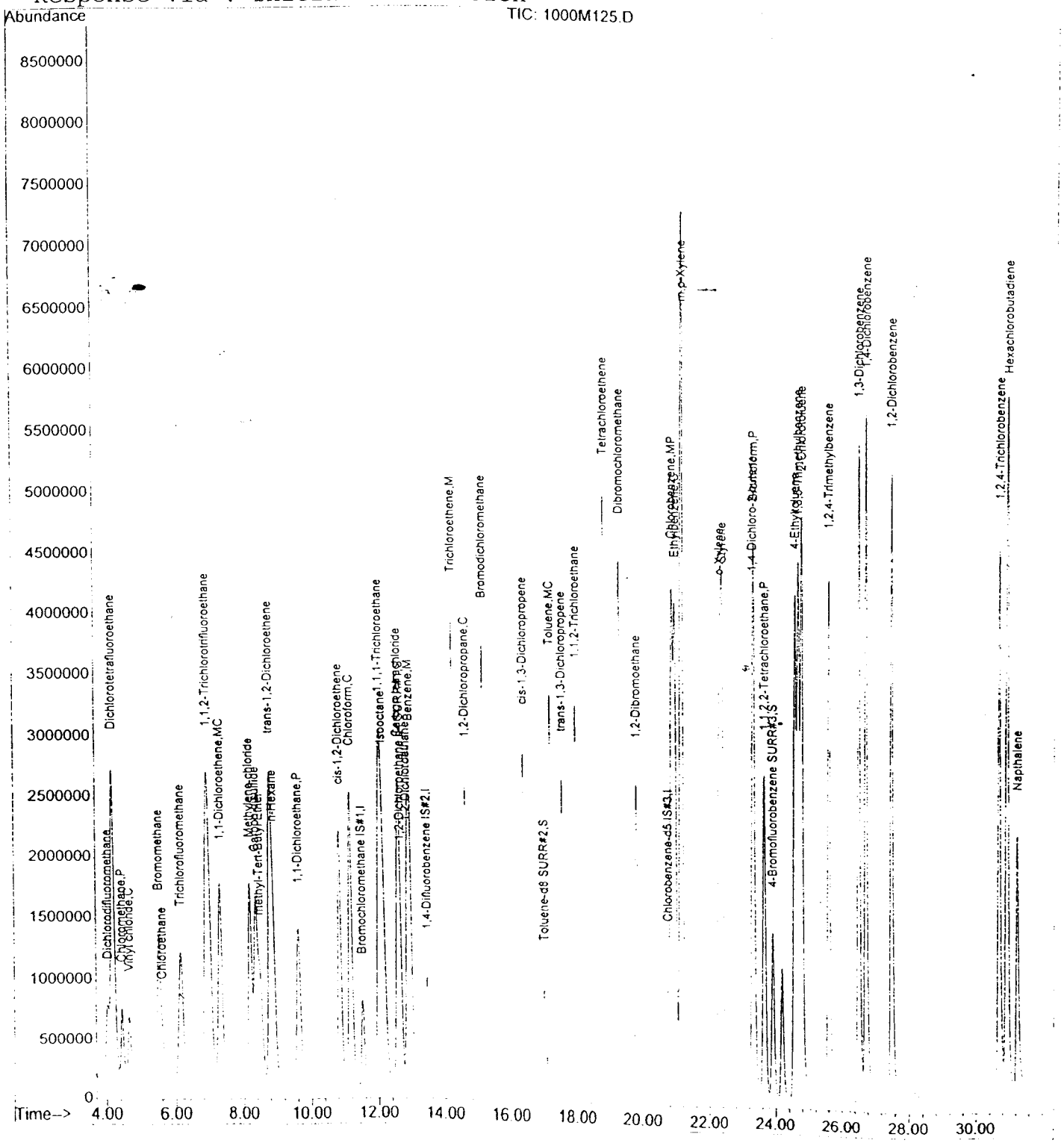
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration

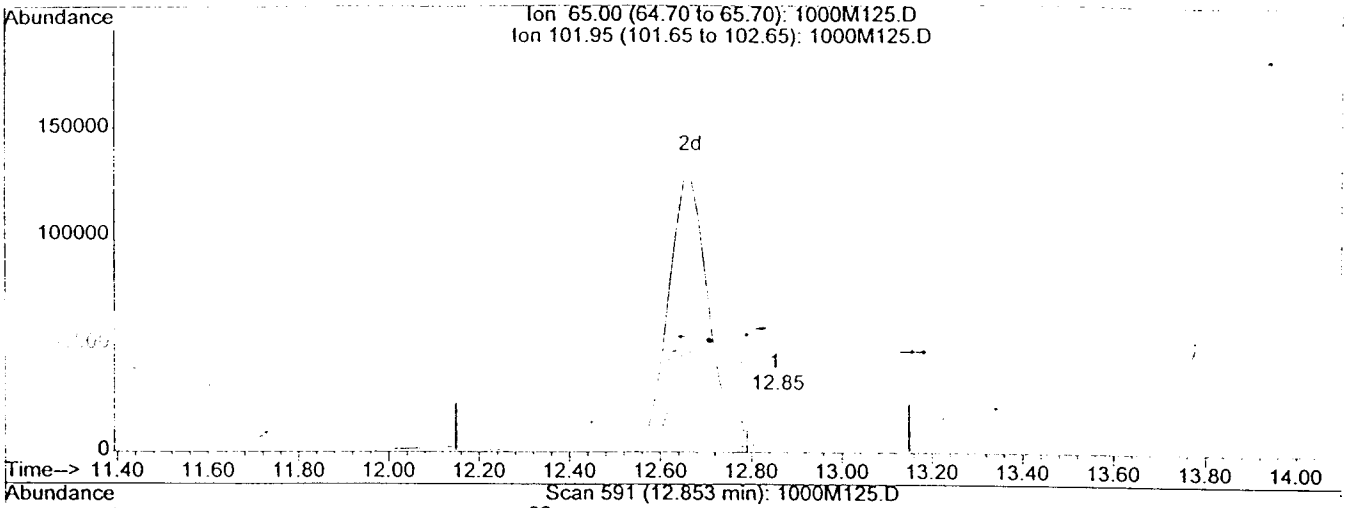


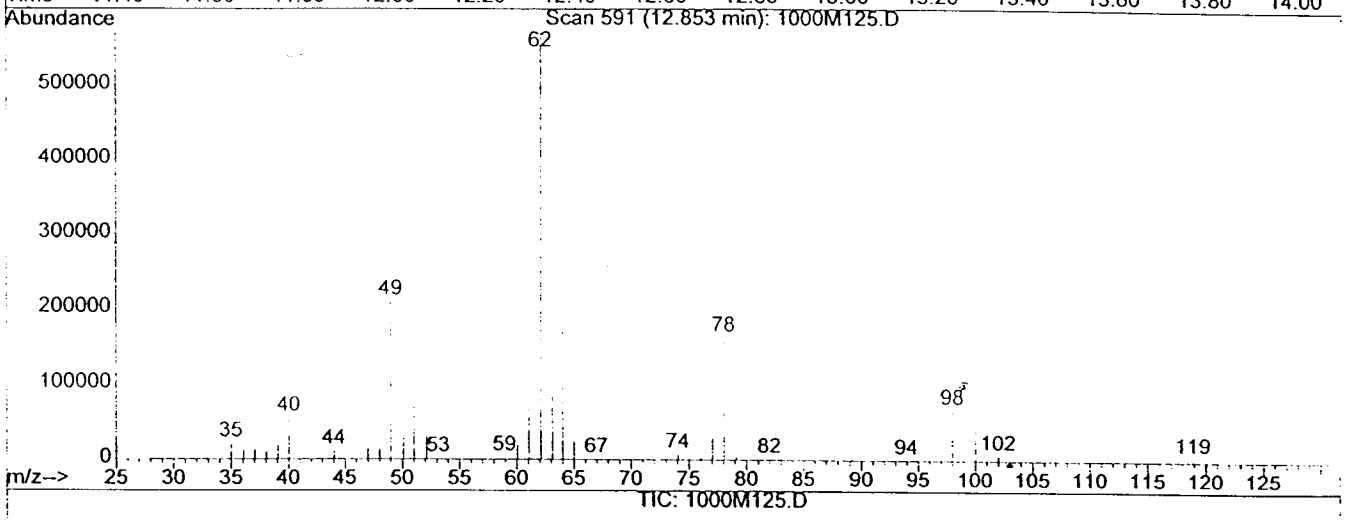
1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

response 171340

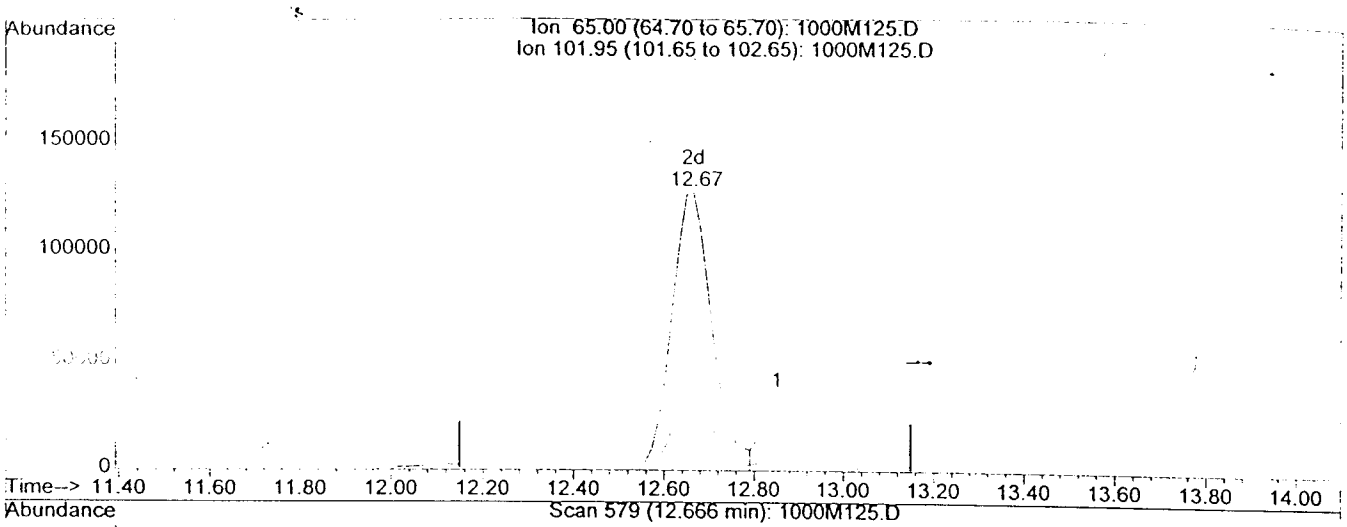
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

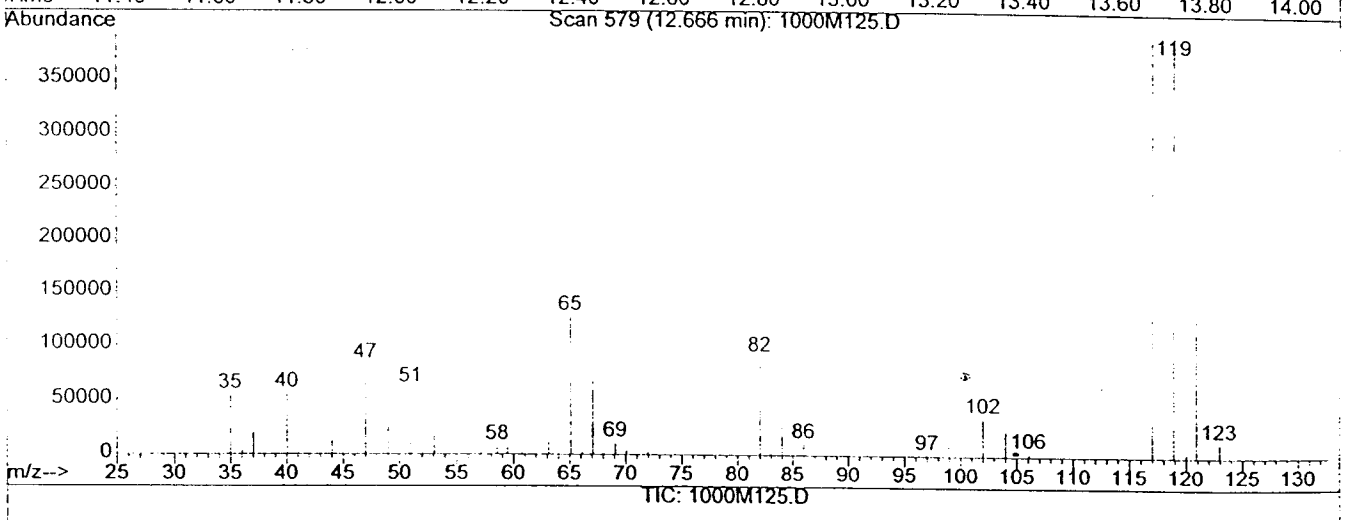
1000M125.D TO14S.M Fri Jan 25 16:59:40 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

Vial: 15
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TO 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng		91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng	#	40
4) Chloromethane	4.44	50	3972848	2058.56	ng	#	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng		98
6) Bromomethane	5.48	94	5976813	2036.94	ng	#	99
7) Chloroethane	5.59	64	2892614	2457.35	ng		98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng		84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng		90
12) Methylene chloride	8.18	49	7493461	2236.94	ng		99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng		99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng		99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng		93
16) n-Hexane	8.85	57	5552938	2403.09	ng	#	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng		98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng		92
19) Chloroform	11.15	83	13101131	2373.35	ng		99
20) Isooctane	12.11	57	17221498	2253.97	ng		96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng		91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng		97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng	#	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng		99
27) Benzene	12.92	78	15415352	2393.38	ng		99

(#) = qualifier out of range (m) = manual integration
1500M125.D TO14S.M Fri Jan 25 16:56:33 2002 Page 1

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42	ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72	ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57	ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62	ng		99
33)	Toluene	17.17	92	10065682	2498.13	ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11	ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75	ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18	ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49	ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67	ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11	ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22	ng		98
42)	o-Xylene	22.28	106	7218929	2597.06	ng		97
43)	Styrene	22.35	104	12826497	2631.72	ng		96
44)	Bromoform	23.32	173	11319346	2431.22	ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15	ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77	ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41	ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21	ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51	ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99	ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88	ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22	ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022666	2176.84	ng		95
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98	ng		99
56)	Napthalene	31.24	128	8081624	1416.32	ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62	ng		100

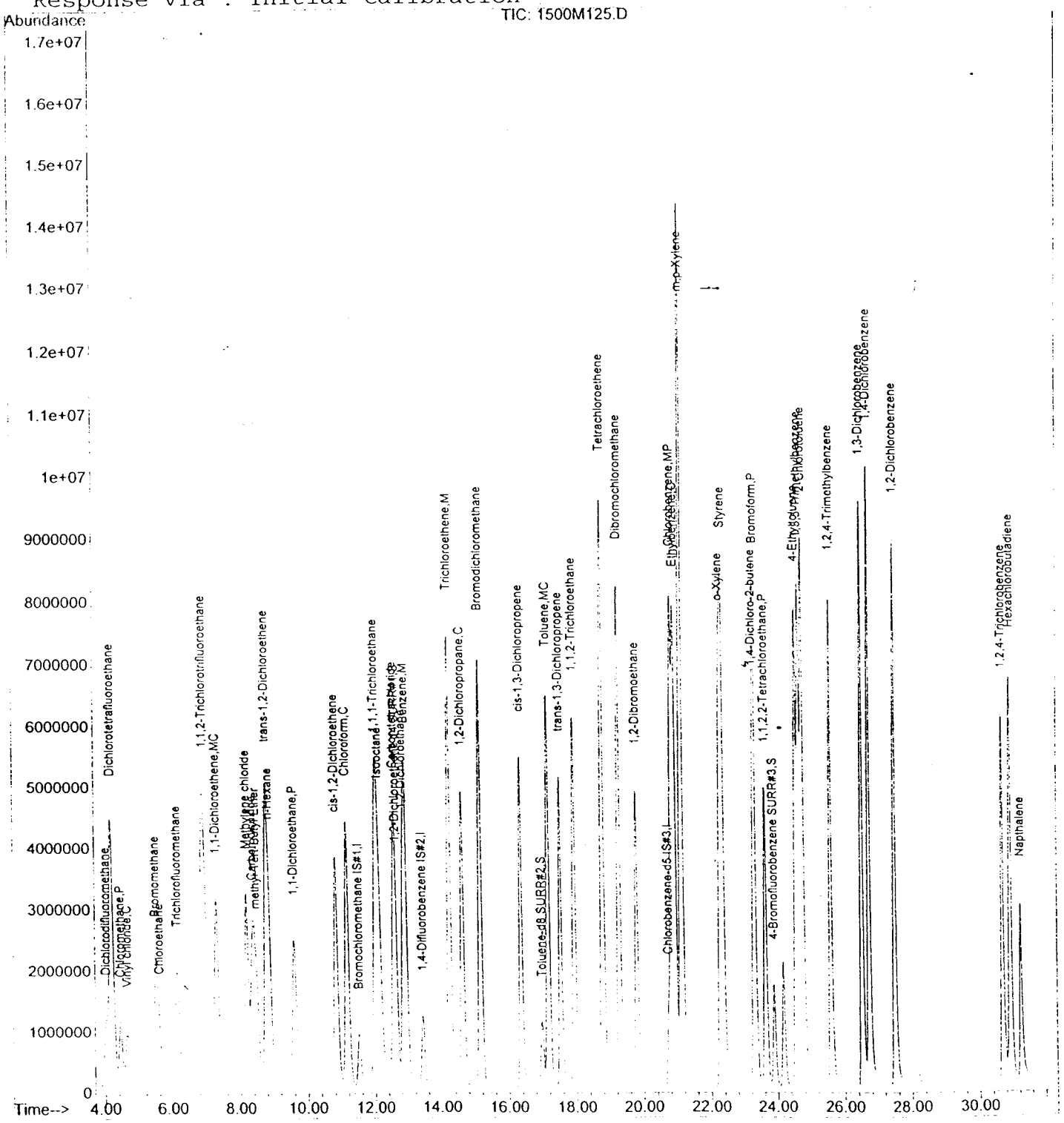
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

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



STL Pensacola / GCMS Volatiles Run Log

Date 4-11-02
Batch MAB068 1 2 3
IS# 8 -MSW- 34 - 1
BFB 8 -MSW- 34 - 1

Instrument ID : MARILYN
Batch _____ 1 2 3
TO14 8 -MSW- 27 - 1
8260 -MSW- -

Method : TO14 /8260AIR /8260WATER /624MOD
Batch _____ 1 2 3
AIR-SPK 8 -MSW- 30 - 2
W-SPK -MSW- -

Maint. ___
Sequence cont. on page

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
10:49	13	~~BFBSTL~~	~~BFM0444A~~	~~50ppb~~			W	~~Yes~~	~~BDH~~	Daily 12hr BFB Tune
11:10	14	TO14S.m	CM 0411A	250ng 50ppb		Y N	W	Yes	BDH	Daily Cal Check/bfb tune/95 ion area = 827,000
12:04	15		MAB68A BK	ST		Y N				Daily Method Blank
12:38	16		MAB68 LCS	50ppb		Y N				Batch# 068 LCS
13:15	1		4115 - 1	X100		Y N	A(TO14)			5mls . re-run ST.
13:53	2		↓ -2	↓		Y N				
14:26	3		4242 - 1	X100		Y N				
14:59	4		4243 - 1	X100		Y N				
~~15:33~~	5 BDH	4/10	4241 - 1	X100		Y N		↓		Not RUN
~~16:07~~	6 BDH		↓ -2	↓		Y N		—		Not run
~~16:07~~ 15:33	2 4/10		4115 - 1R	ST.	✓	Y N		Yes		500mls
16:07	2		↓ -2R	↓	✓	Y N				
16:43	2		4242 - 1R	ST	✓	Y N				
17:21	2	↓	4243 - 1R	↓	✓	Y N	↓	↓	↓	
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BDH 4/11/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.
** Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder

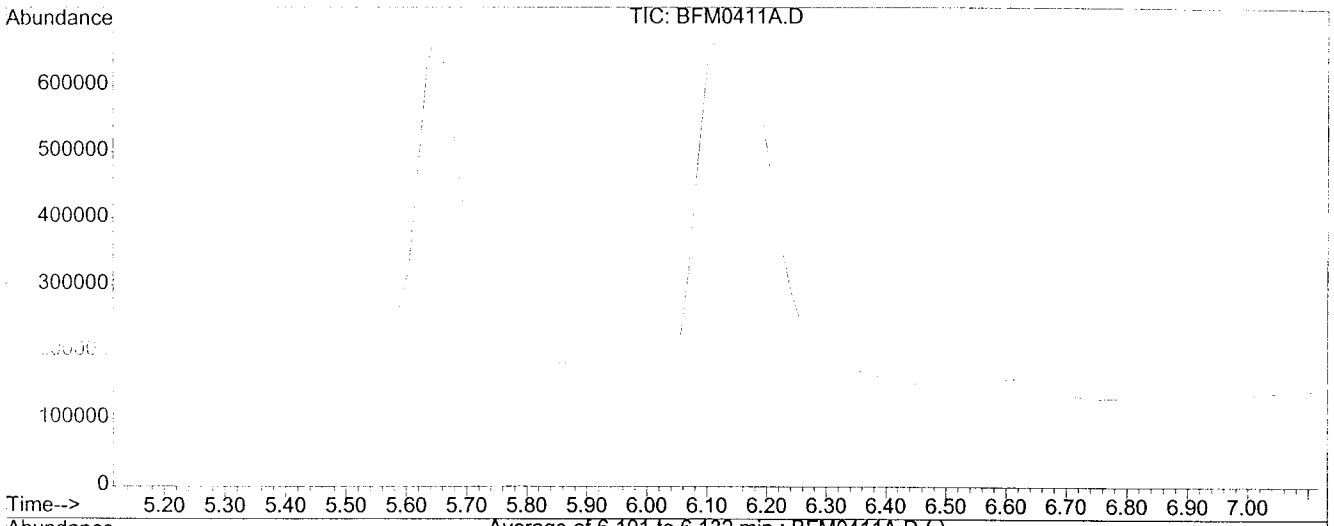
Screening (with)

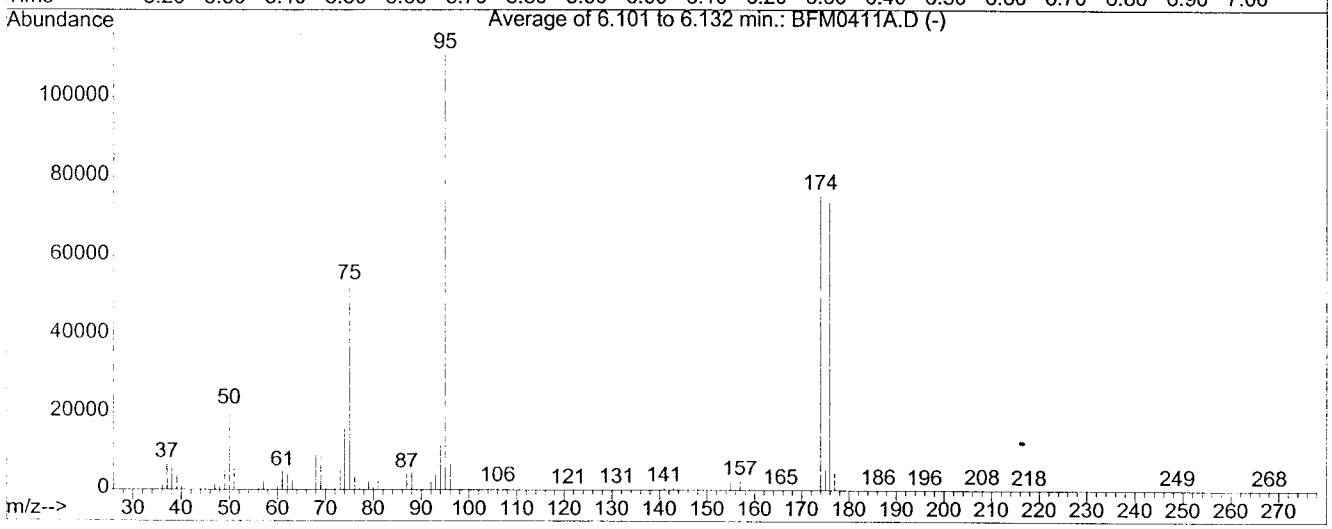
STL Pensacola

NAS Cecil Field, CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\BFM0411A.D Vial: 13
Acq On : 11 Apr 2002 10:49 am Operator: BDH
Sample : DAILY 12 HOUR BFB TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 38 (6.12 min)
Average of 3 scans: 37,38,39 minus background scan 18 (5.81 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	20672	PASS
75	95	30	60	47.3	52368	PASS
95	95	100	100	100.0	110648	PASS
96	95	5	9	6.1	6782	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	68.1	75388	PASS
175	174	5	9	7.1	5373	PASS
176	174	95	101	97.7	73689	PASS
177	176	5	9	6.4	4746	PASS

BFM0411A.D TO14S.M Mon Apr 22 09:37:51 2002

Average of 6.101 to 6.132 min.: BFM0411A.D

DAILY 12 HOUR BFB TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1347	56.05	1040	75.05	52368	95.05	110648
37.05	6849	57.05	2309	76.05	4123	96.05	6782
38.05	5695	59.95	809	77.05	731	106.00	611
39.05	3789	61.00	4748	79.00	2137	141.00	703
40.05	1061	62.10	4076	79.95	854	142.90	649
45.00	998	63.05	2640	81.00	2394	154.90	2049
47.00	1547	68.00	9740	87.00	4294	156.95	2477
47.95	776	69.00	9549	88.00	4623	158.95	602
49.00	4982	71.95	714	92.05	2352	174.05	75388
50.00	20672	73.05	5070	93.00	4007	175.00	5373
51.05	5861	74.00	15998	94.00	11783	175.95	73689

Average of 6.101 to 6.132 min.: BFM0411A.D

DAILY 12 HOUR BFB TUNE CHECK

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
176.95	4746						

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	88	0.00
2		Dichlorodifluoromethane	0.919	0.804	12.5#	77	0.00
3		Dichlorotetrafluoroethane	1.446	1.180	18.4#	68	0.00
4	P	Chloromethane	0.788	0.615	22.0#	70	0.00
5	C	Vinyl chloride	0.727	0.686	5.6#	79	0.00
6		Bromomethane	1.180	1.042	11.7#	82	0.00
7		Chloroethane	0.530	0.494	6.8#	81	0.00
8		Trichlorofluoromethane	1.261	0.589	53.3#	37#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.809	3.2#	84	0.00
10	MC	1,1-Dichloroethene	1.064	0.987	7.2#	80	0.00
11		Iodomethane	0.000	0.000	0.0	59	0.00
12		Methylene chloride	1.431	1.406	1.7	82	0.00
13		Carbon disulfide	2.862	2.771	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	1.551	1.679	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	1.194	1.150	3.7#	84	0.00
16		n-Hexane	1.089	1.036	4.9#	82	0.00
17	P	1,1-Dichloroethane	1.944	1.955	-0.6	86	0.00
18		cis-1,2-Dichloroethene	1.576	1.601	-1.6	86	0.00
19	C	Chloroform	2.454	2.570	-4.7#	88	0.00
20		Isooctane	3.653	3.326	9.0#	79	0.00
21		1,1,1-Trichloroethane	2.085	2.155	-3.4#	87	0.00
22		Carbon tetrachloride	2.195	2.277	-3.7#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.238	-5.3#	86	0.00
24		1,2-Dichloroethane	1.321	1.398	-5.8#	85	0.00
25		1,2-Dibromoethane	2.124	2.108	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	89	0.00
27	M	Benzene	0.733	0.718	2.0#	87	0.00
28	M	Trichloroethene	0.407	0.412	-1.2	88	0.00
29	C	1,2-Dichloropropane	0.310	0.312	-0.6#	86	0.00
30		Bromodichloromethane	0.755	0.793	-5.0#	87	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	0.781	0.777	0.5	87	0.00
33	MC	Toluene	0.463	0.474	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	0.402	0.414	-3.0#	87	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	85	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	87	0.00
37		Tetrachloroethene	0.488	0.498	-2.0#	89	0.00
38		Dibromochloromethane	0.722	0.755	-4.6#	88	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.367	-3.1#	87	0.00
41		m,p-Xylene	0.459	0.469	-2.2#	87	0.00
42		o-Xylene	0.439	0.453	-3.2#	87	0.00
43		Styrene	0.771	0.800	-3.8#	88	0.00
[illegible]		[illegible]	0.713	0.722	-1.3	86	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.648	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.882	1.0	85	0.00
47		1,4-Dichloro-2-butene	0.130	0.123	5.4#	84	0.00
48		4-Ethyltoluene	1.157	1.209	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	0.912	0.883	3.2#	85	0.00
50		2-Chlorotoluene	1.191	1.227	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	0.961	0.990	-3.0#	85	0.00
52		1,3-Dichlorobenzene	0.782	0.800	-2.3#	84	0.00
53		1,4-Dichlorobenzene	0.825	0.839	-1.7	82	0.00
54		1,2-Dichlorobenzene	0.758	0.760	-0.3	83	0.00
55		1,2,4-Trichlorobenzene	0.568	0.559	1.6	87	0.00
56		Napthalene	0.830	0.775	6.6#	91	0.00
57		Hexachlorobutadiene	0.495	0.420	15.2#	80	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	88	0.00
2		Dichlorodifluoromethane	250.000	215.243	13.9#	77	0.00
3		Dichlorotetrafluoroethane	250.000	204.086	18.4#	68	0.00
4	P	Chloromethane	250.000	195.128	21.9#	70	0.00
5	C	Vinyl chloride	250.000	235.800	5.7#	79	0.00
6		Bromomethane	250.000	220.728	11.7#	82	0.00
7		Chloroethane	250.000	233.061	6.8#	81	0.00
8		Trichlorofluoromethane	250.000	131.623	47.4#	37	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	242.054	3.2#	84	0.00
10	MC	1,1-Dichloroethene	250.000	231.964	7.2#	80	0.00
11		Iodomethane	-1.000	0.000	0.0	59	0.00
12		Methylene chloride	250.000	245.700	1.7	82	0.00
13		Carbon disulfide	250.000	242.076	3.2#	86	0.00
14		methyl-Tert-Butyl Ether	250.000	270.749	-8.3#	91	0.00
15		trans-1,2-Dichloroethene	250.000	240.723	3.7#	84	0.00
16		n-Hexane	250.000	237.789	4.9#	82	0.00
17	P	1,1-Dichloroethane	250.000	251.501	-0.6	86	0.00
18		cis-1,2-Dichloroethene	250.000	253.934	-1.6	86	0.00
19	C	Chloroform	250.000	261.818	-4.7#	88	0.00
20		Isooctane	250.000	227.657	8.9#	79	0.00
21		1,1,1-Trichloroethane	250.000	258.358	-3.3#	87	0.00
22		Carbon tetrachloride	250.000	259.402	-3.8#	86	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	263.045	-5.2#	86	0.00
24		1,2-Dichloroethane	250.000	264.593	-5.8#	85	0.00
25		1,2-Dibromoethane	250.000	248.092	0.8	85	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	89	0.00
27	M	Benzene	250.000	244.839	2.1#	87	0.00
28	M	Trichloroethene	250.000	253.048	-1.2	88	0.00
29	C	1,2-Dichloropropane	250.000	251.194	-0.5#	86	0.00
30		Bromodichloromethane	250.000	262.696	-5.1#	87	0.00
31		cis-1,3-Dichloropropene	250.000	255.290	-2.1#	87	0.00
32	S	Toluene-d8 SURR#2	250.000	248.675	0.5	87	0.00
33	MC	Toluene	250.000	256.035	-2.4#	88	0.00
34		trans-1,3-Dichloropropene	250.000	257.665	-3.1#	87	0.00
35		1,1,2-Trichloroethane	250.000	247.540	1.0	85	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	87	0.00
37		Tetrachloroethene	250.000	255.395	-2.2#	89	0.00
38		Dibromochloromethane	250.000	261.550	-4.6#	88	0.00
39	MP	Chlorobenzene	250.000	260.706	-4.3#	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Apr 22 09:41:43 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	257.656	-3.1#	87	0.00
41		m,p-Xylene	500.000	511.186	-2.2#	87	0.00
42		o-Xylene	250.000	258.378	-3.4#	87	0.00
43		Styrene	250.000	259.399	-3.8#	88	0.00
[illegible]		Bromoform	250.000	253.212	-1.3	86	0.00
45	I	1,1,2,2-Tetrachloroethane	250.000	253.251	-1.3	87	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	247.508	1.0	85	0.00
47		1,4-Dichloro-2-butene	250.000	236.425	5.4#	84	0.00
48		4-Ethyltoluene	250.000	261.162	-4.5#	90	0.00
49		1,3,5-Trimethylbenzene	250.000	242.080	3.2#	85	0.00
50		2-Chlorotoluene	250.000	257.528	-3.0#	87	0.00
51		1,2,4-Trimethylbenzene	250.000	257.485	-3.0#	85	0.00
52		1,3-Dichlorobenzene	250.000	255.894	-2.4#	84	0.00
53		1,4-Dichlorobenzene	250.000	254.390	-1.8	82	0.00
54		1,2-Dichlorobenzene	250.000	250.376	-0.2	83	0.00
55		1,2,4-Trichlorobenzene	250.000	222.057	11.2#	87	0.00
56		Napthalene	250.000	224.549	10.2#	91	0.00
57		Hexachlorobutadiene	250.000	197.882	20.8#	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6
CM0411A.D TO14S.M Mon Apr 22 09:43:11 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq Dt : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0408A\CM0408A.D (8 Apr 2002 9:38)

BA 4/11/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	704990	250.00	ng	0.03
						95.90%
[illegible] 1,4-Difluorobenzene IS#2	13.21	114	2774490	250.00	ng	0.01
						94.93%
36) Chlorobenzene-d5 IS#3	20.54	117	2093241	250.00	ng	0.03
						95.74%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.42	65	872550	263.05	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 105.22%						
32) Toluene-d8 SURR#2	16.76	98	2155590	248.68	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.47%						
46) 4-Bromofluorobenzene SURR#	23.69	95	1847220	247.51	ng	0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.00%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.86	85	567140m	215.24	ng	# 99
3) Dichlorotetrafluoroethane	3.99	135	831959	204.09	ng	# 27
4) Chloromethane	4.23	50	433429	195.13	ng	95
5) Vinyl chloride	4.48	62	483637	235.80	ng	96
6) Bromomethane	5.23	94	734469	220.73	ng	95
7) Chloroethane	5.34	64	348012	233.06	ng	98
8) Trichlorofluoromethane	5.83	101	415143	131.62	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.64	151	1275286	242.05	ng	86
10) 1,1-Dichloroethene	7.01	96	695762	231.96	ng	94
12) Methylene chloride	7.93	49	991523	245.70	ng	99
13) Carbon disulfide	8.13	76	1953851	242.08	ng	97
14) methyl-Tert-Butyl Ether	8.22	73	1184012	270.75	ng	95
15) trans-1,2-Dichloroethene	8.52	96	810520	240.72	ng	94
16) n-Hexane	8.61	57	730091	237.79	ng	# 1
17) 1,1-Dichloroethane	9.36	63	1378498	251.50	ng	98
18) cis-1,2-Dichloroethene	10.58	61	1128657	253.93	ng	94
19) Chloroform	10.91	83	1811769	261.82	ng	99
20) Isooctane	11.87	57	2344969	227.66	ng	98
21) 1,1,1-Trichloroethane	11.78	97	1519006	258.36	ng	92
22) Carbon tetrachloride	12.35	117	1605518	259.40	ng	97
24) 1,2-Dichloroethane	12.62	62	985468	264.59	ng	98
25) 1,2-Dibromoethane	19.59	107	1485829	248.09	ng	99
27) Benzene	12.70	78	1992505	244.84	ng	100

(#) = qualifier out of range (m) = manual integration
CM0411A.D TO14S.M Thu Apr 11 12:15:37 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

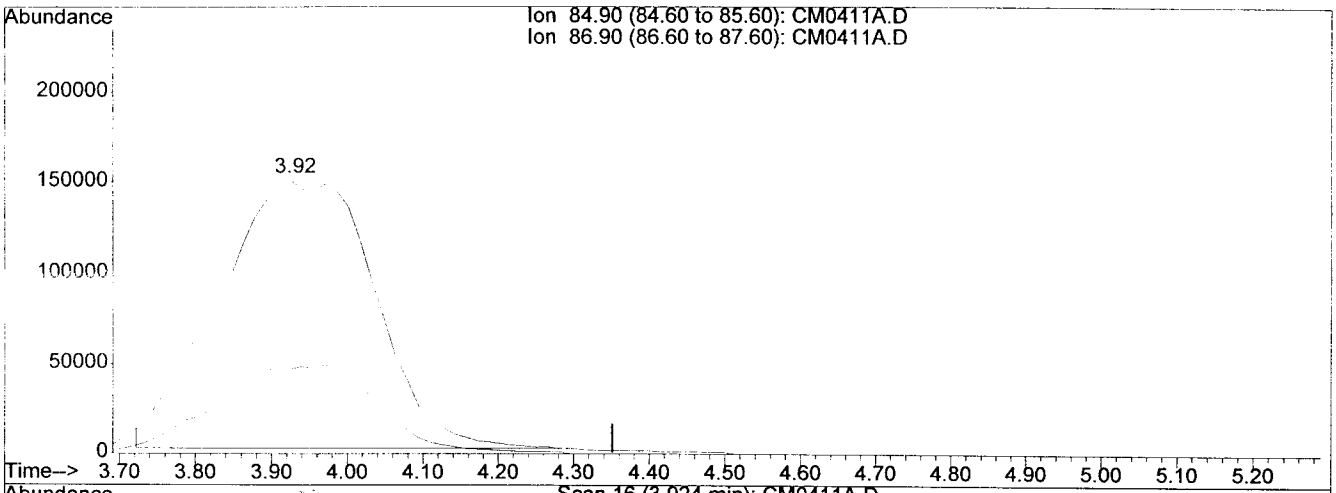
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.02	130	1143874	253.05 ng		95
29)	1,2-Dichloropropane	14.39	63	864836	251.19 ng		97
30)	Bromodichloromethane	14.93	83	2200260	262.70 ng		100
31)	cis-1,3-Dichloropropene	16.14	75	1329900	255.29 ng		97
33)	Toluene	16.97	92	1315984	256.04 ng		98
34)	trans-1,3-Dichloropropene	17.32	75	1148608	257.66 ng		95
35)	1,1,2-Trichloroethane	17.73	97	885036	247.54 ng		97
37)	Tetrachloroethene	18.58	164	1042603	255.39 ng		97
38)	Dibromochloromethane	19.06	127	1580870	261.55 ng		99
39)	Chlorobenzene	20.63	112	1945163	260.71 ng		95
40)	Ethylbenzene	20.74	106	768874	257.66 ng		100
41)	m,p-Xylene	20.92	106	1964476	511.19 ng		100
42)	o-Xylene	22.07	106	949168	258.38 ng		99
43)	Styrene	22.15	104	1673724	259.40 ng		97
44)	Bromoform	23.11	173	1510617	253.21 ng		100
45)	1,1,2,2-Tetrachloroethane	23.44	83	1356458	253.25 ng		99
47)	1,4-Dichloro-2-butene	23.08	75	258030	236.42 ng		99
48)	4-Ethyltoluene	24.37	105	2530259	261.16 ng		93
49)	1,3,5-Trimethylbenzene	24.46	105	1848470	242.08 ng	#	79
50)	2-Chlorotoluene	24.57	91	2567790	257.53 ng		96
51)	1,2,4-Trimethylbenzene	25.41	105	2071424	257.49 ng		98
52)	1,3-Dichlorobenzene	26.34	146	1674906	255.89 ng		96
53)	1,4-Dichlorobenzene	26.56	146	1756548	254.39 ng		96
54)	1,2-Dichlorobenzene	27.32	146	1589878	250.38 ng		97
55)	1,2,4-Trichlorobenzene	30.50	180	1169101	222.06 ng		100
56)	Napthalene	31.05	128	1621416	224.55 ng	#	93
57)	Hexachlorobutadiene	30.75	225	878921	197.88 ng		99

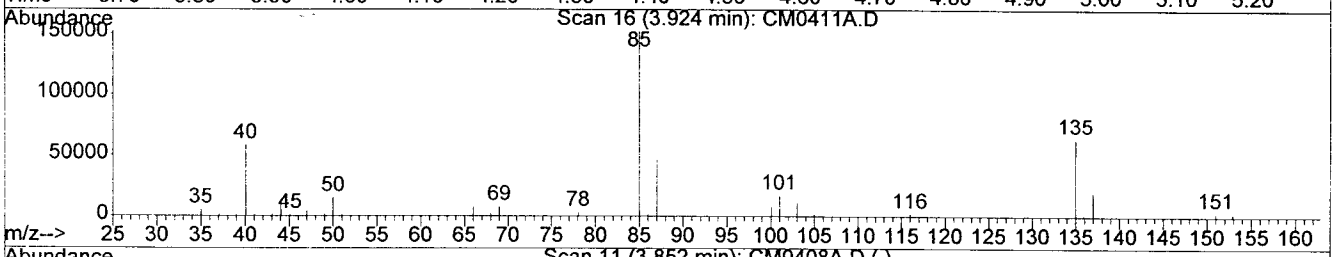
(#) = qualifier out of range (m) = manual integration

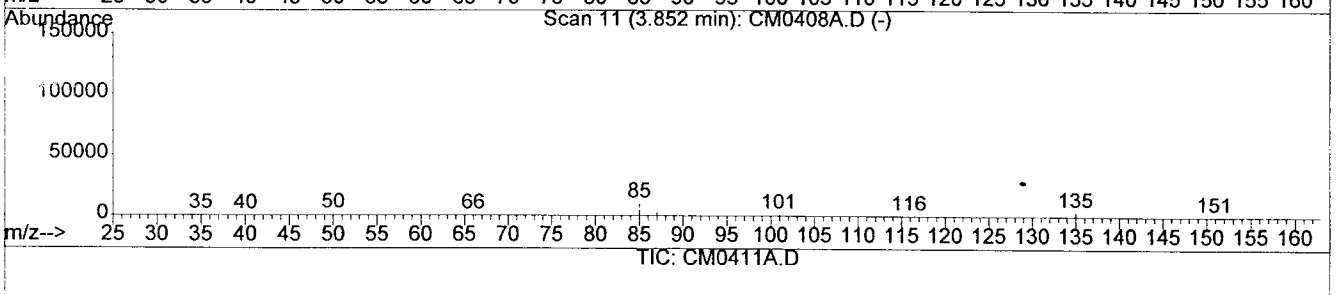
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 11:42 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Multiple Level Calibration







TIC: CM0411A.D

(2) Dichlorodifluoromethane

3.92min 867.41ng

response 2120448

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	34.23
0.00	0.00	0.00
0.00	0.00	0.00

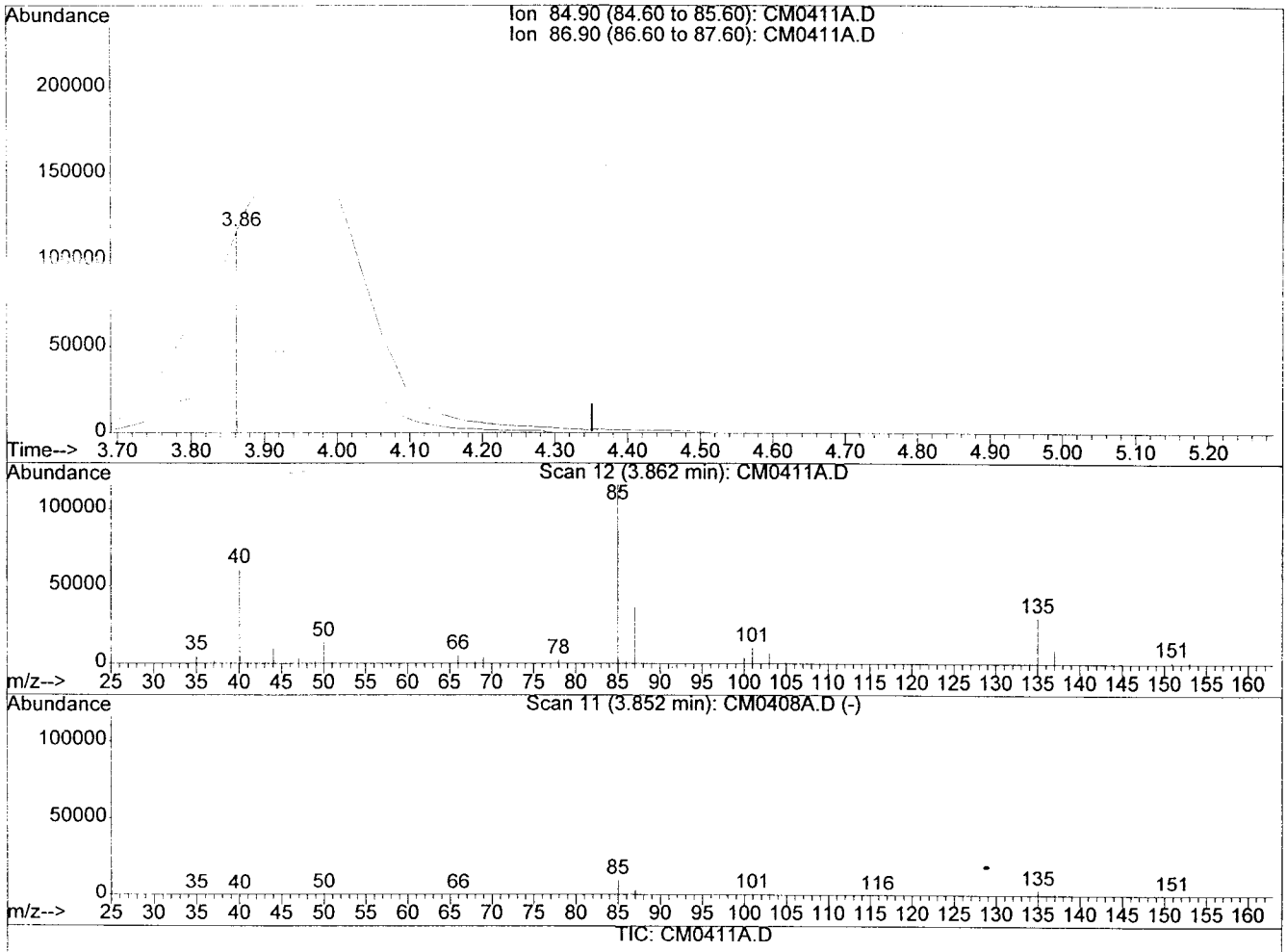
before
co-elutes
w/ #3

CM0411A.D TO14S.M Thu Apr 11 12:13:37 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D Vial: 14
Acq On : 11 Apr 2002 11:10 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:13 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Apr 08 10:37:06 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.86min 215.24ng m

response 567140

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	127.98#
0.00	0.00	0.00
0.00	0.00	0.00

after BLK
4/11/02

CM0411A.D TO14S.M Thu Apr 11 12:13:47 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:39 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

BH 4/11/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	678548	250.00	ng	0.05 96.25%
26) 1,4-Difluorobenzene IS#2	13.27	114	2678826	250.00	ng	0.06 96.55%
36) Chlorobenzene-d5 IS#3	20.58	117	1981178	250.00	ng	0.05 94.65%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.46	65	855125	267.84	ng	0.05
Spiked Amount 250.000	Range 61 - 140		Recovery = 107.14%			
32) Toluene-d8 SURR#2	16.83	98	2053373	245.34	ng	0.06
Spiked Amount 250.000	Range 90 - 109		Recovery = 98.14%			
46) 4-Bromofluorobenzene SURR#	23.74	95	1737578	245.99	ng	0.05
Spiked Amount 250.000	Range 87 - 112		Recovery = 98.40%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB68ABK.D TO14S.M Thu Apr 11 12:40:01 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:36 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.31	128	678548	250.00	ng	0.05 96.25%
26) 1,4-Difluorobenzene IS#2	13.27	114	2678826	250.00	ng	0.06 96.55%
36) Chlorobenzene-d5 IS#3	20.58	117	1981178	250.00	ng	0.05 94.65%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.46	65	855125	267.84	ng	0.05
Spiked Amount 250.000 Range 61 - 140 Recovery = 107.14%						
32) Toluene-d8 SURR#2	16.83	98	2053373	245.34	ng	0.06
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.14%						
46) 4-Bromofluorobenzene SURR#	23.74	95	1737578	245.99	ng	0.05
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.40%						

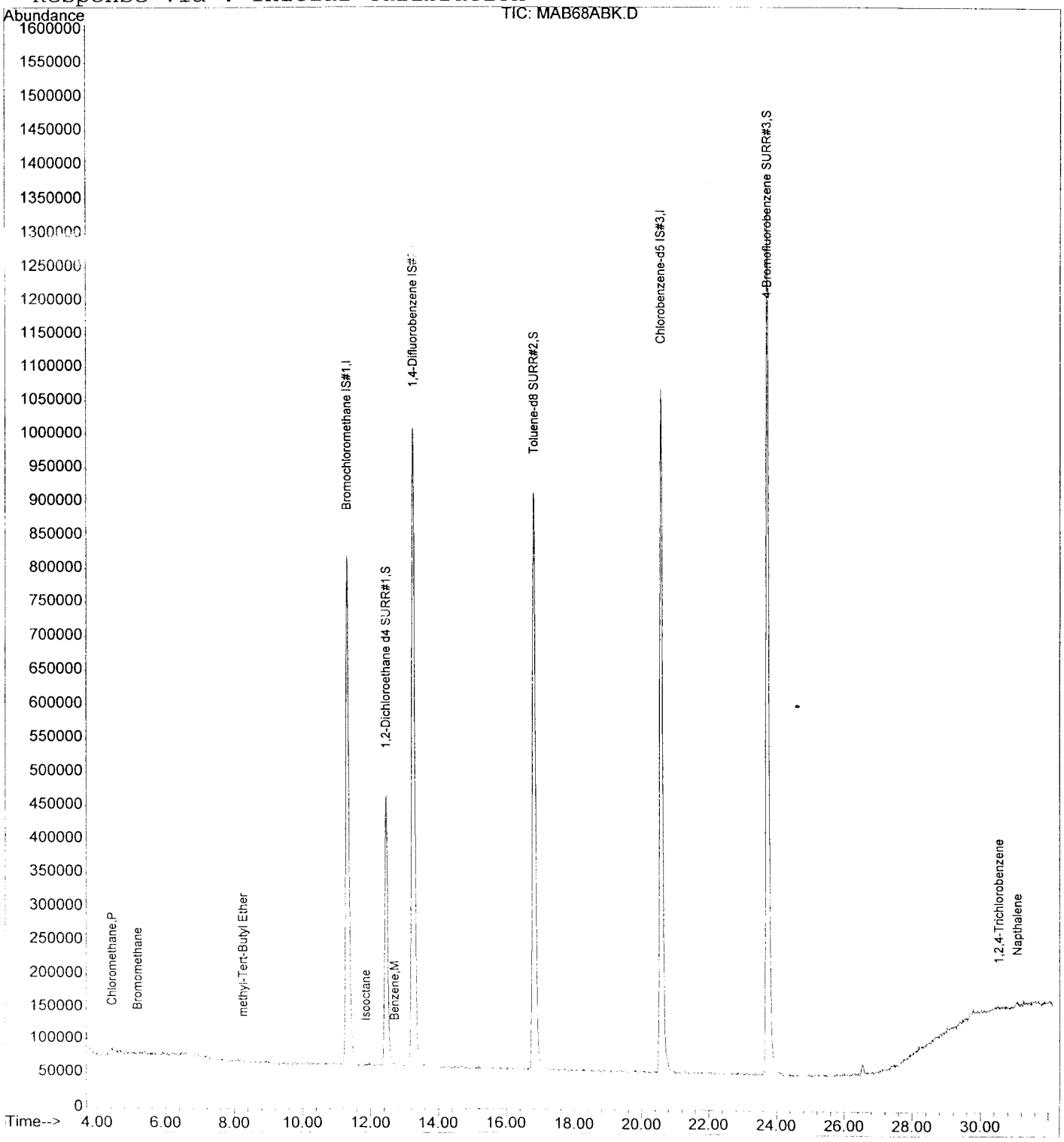
Target Compounds						Qvalue
4) Chloromethane	4.44	50	2045	0.96	ng	# 77
6) Bromomethane	5.18	94	2111	0.66	ng	# 9
14) methyl tert-Butyl Ether	8.26	73	1993	0.47	ng	# 47
20) Isooctane	11.86	57	965	0.10	ng	# 42
27) Benzene	12.71	78	1083	0.14	ng NSF	# 54
55) 1,2,4-Trichlorobenzene	30.54	180	4754 NSF	28.64	ng	# 12
56) Napthalene	31.08	128	14044	18.47	ng NR	# 64

(#) = qualifier out of range (m) = manual integration
MAB68ABK.D TO14S.M Thu Apr 11 12:36:32 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68ABK.D Vial: 15
Acq On : 11 Apr 2002 12:04 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 12:36 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 14:04 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

BH 4/11/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	654946	250.00 ng	0.09 92.90%
26) 1,4-Difluorobenzene IS#2	13.30	114	2691609	250.00 ng	0.09 97.01%
36) Chlorobenzene-d5 IS#3	20.61	117	1998510	250.00 ng	0.08 95.47%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.51	65	818738	265.68 ng	0.09
Spiked Amount 250.000 Range 61 - 140 Recovery = 106.27%					
32) Toluene-d8 SURR#2	16.86	98	2098034	249.49 ng	0.09
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.80%					
46) 4-Bromofluorobenzene SURR#	23.75	95	1717508	241.04 ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.42%					

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.11	96	621847	223.16 ng	92
27) Benzene	12.77	78	1930974	244.58 ng	99
28) Trichloroethene	14.11	130	1114163	254.06 ng	94
33) Toluene	17.04	92	1307946	262.31 ng	97
39) Chlorobenzene	20.71	112	1916037	268.97 ng #	86

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 14:04:27 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	654946	250.00	ng	0.09 92.90%
26) 1,4-Difluorobenzene IS#2	13.30	114	2691609	250.00	ng	0.09 97.01%
36) Chlorobenzene-d5 IS#3	20.61	117	1998510	250.00	ng	0.08 95.47%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.51	65	818738	265.68	ng	0.09
Spiked Amount 250.000 Range 61 - 140 Recovery = 106.27%						
32) Toluene-d8 SURR#2	16.86	98	2098034	249.49	ng	0.09
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.80%						
46) 4-Bromofluorobenzene SURR#	23.75	95	1717508	241.04	ng	0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.42%						

Target Compounds						Qvalue
4) Chloromethane	4.39	50	3048	1.48	ng	# 7
6) Bromomethane	5.21	94	933	0.30	ng	# 9
10) 1,1-Dichloroethene	7.11	96	621847	223.16	ng	92
15) trans-1,2-Dichloroethene	8.64	96	1006	0.32	ng	# 1
16) n-Hexane	8.68	57	2210	0.77	ng	# 87
24) 1,2-Dichloroethane	12.77	62	13691	3.96	ng	# 49
25) 1,2-Dibromoethane	19.67	107	3251	0.58	ng	94
27) Benzene	12.77	78	1930974	244.58	ng	99
28) Trichloroethene	14.11	130	1114163	254.06	ng	94
33) Toluene	17.04	92	1307946	262.31	ng	97
34) trans-1,3-Dichloropropene	17.04	75	10641	2.46	ng	# 1
39) Chlorobenzene	20.71	112	1916037	268.97	ng	# 86
44) Bromoform	23.18	173	10197	1.79	ng	# 63
45) 1,1,2,2-Tetrachloroethane	23.49	83	35617	6.96	ng	# 90
48) 4-Ethyltoluene	24.53	105	6240	0.67	ng	# 46
49) 1,3,5-Trimethylbenzene	24.53	105	6240	0.86	ng	# 30
50) 2-Chlorotoluene	24.64	91	7709	0.81	ng	# 47
51) 1,2,4-Trimethylbenzene	25.47	105	8364	1.09	ng	# 49
52) 1,3-Dichlorobenzene	26.41	146	6231	1.00	ng	# 46
53) 1,4-Dichlorobenzene	26.61	146	7029	1.07	ng	# 75
54) 1,2-Dichlorobenzene	27.37	146	9313	1.54	ng	# 60
55) 1,2,4-Trichlorobenzene	30.57	180	29630	32.70	ng	# 85
56) Napthalene	31.09	128	112912	30.91	ng	# 91

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 13:10:21 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

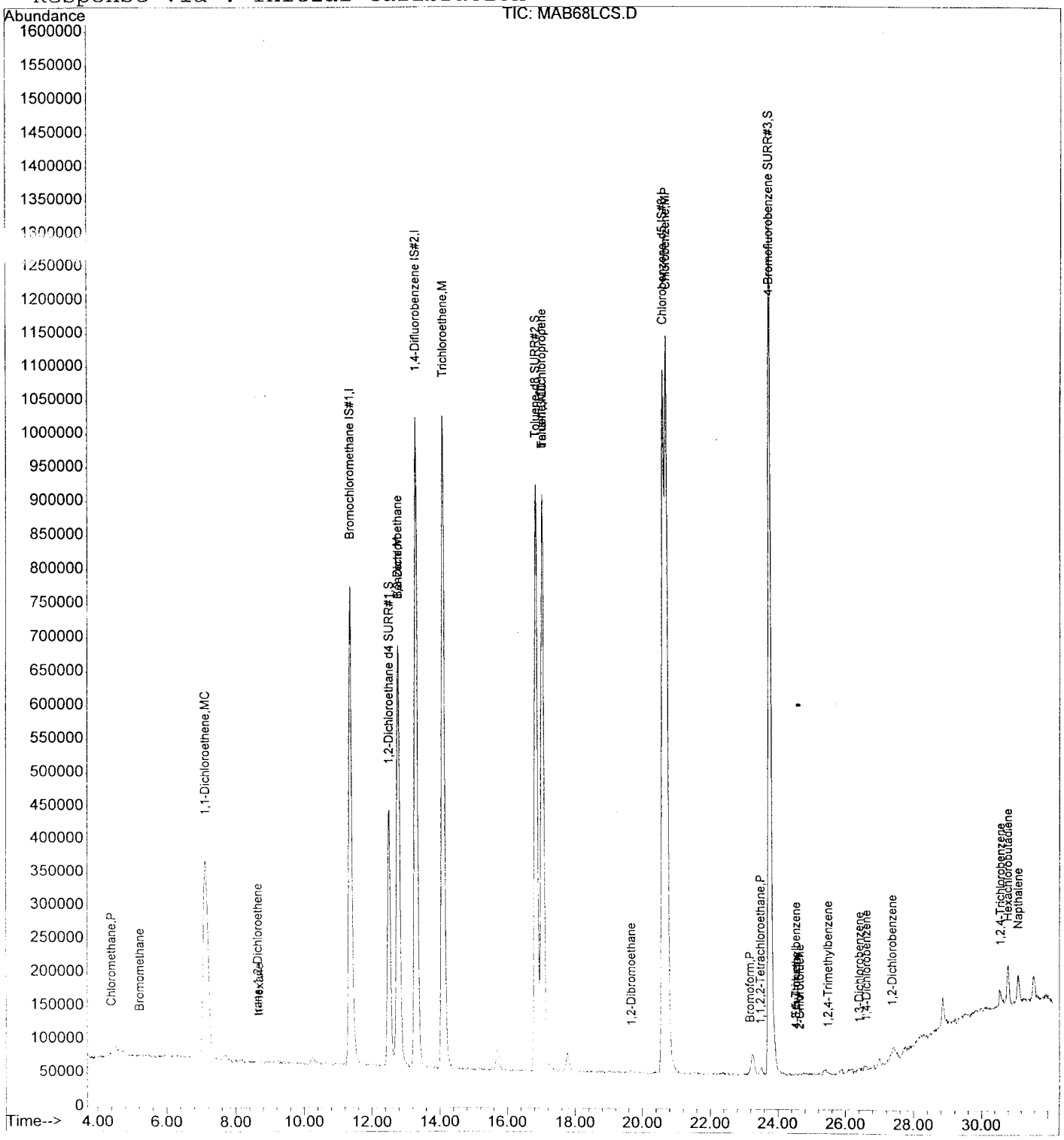
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
57) Hexachlorobutadiene	30.78	225	33783	27.74	ng	#	90

(#) = qualifier out of range (m) = manual integration
MAB68LCS.D TO14S.M Thu Apr 11 13:10:21 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\MAB68LCS.D Vial: 16
Acq On : 11 Apr 2002 12:38 Operator: BDH
Sample : VLCSMA\ BATCH #068 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA068ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 13:10 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration



MAB68LCS.D TO14S.M Thu Apr 11 13:10:22 2002 Page 3

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42431R.D Vial: 2
Acq On : 11 Apr 2002 17:21 Operator: BDH
Sample : 062SVEEA04080227\4243-1 ST. 500mls Inst : ~~MARILYN~~
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Apr 12 8:39 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

BH 4/12/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	463907	250.00 ng	0.05 65.80%
26) 1,4-Difluorobenzene IS#2	13.26	114	1885878	250.00 ng	0.05 67.97%
36) Chlorobenzene-d5 IS#3	20.56	117	1406640	250.00 ng	0.02 67.20%

mg/m³ report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.45	65	602879	276.20 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.48%					
32) Toluene-d8 SURR#2	16.80	98	1481491	251.44 ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.58%					
46) 4-Bromofluorobenzene SURR#	23.71	95	1293560	257.93 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.17%					

rounding issue

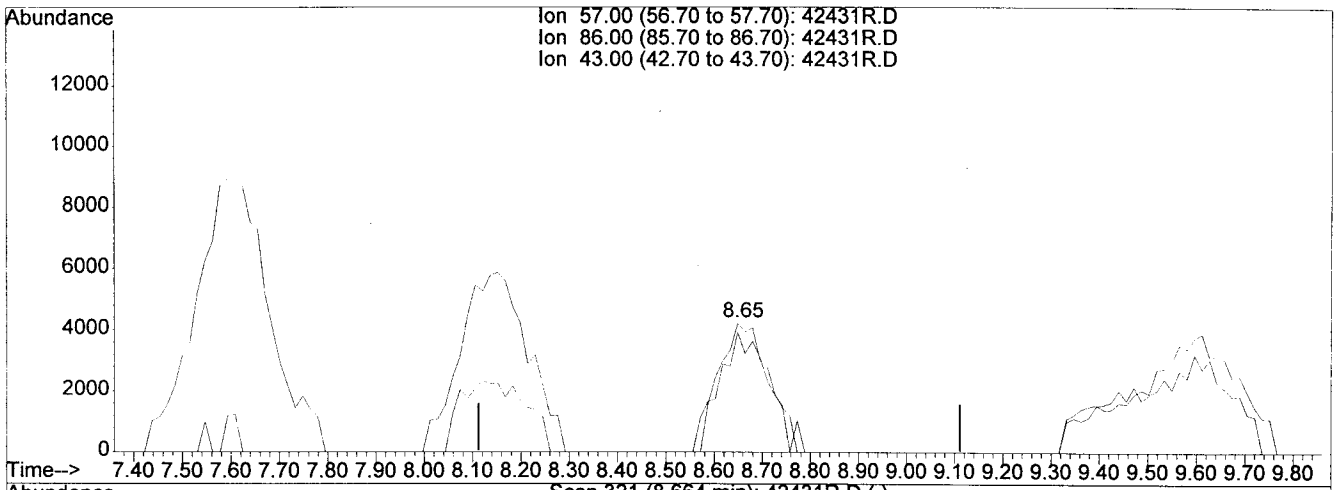
Target Compounds					Qvalue
16) n-Hexane	8.65	57	30658m	0.06 ng -J #	1
41) m,p-Xylene	20.95	106	26871	0.04 ng <RL-ng 5	83
48) 4-Ethyltoluene	24.35	105	49143	0.03 ng	95
49) 1,3,5-Trimethylbenzene	24.48	105	92533	0.07 ng	97

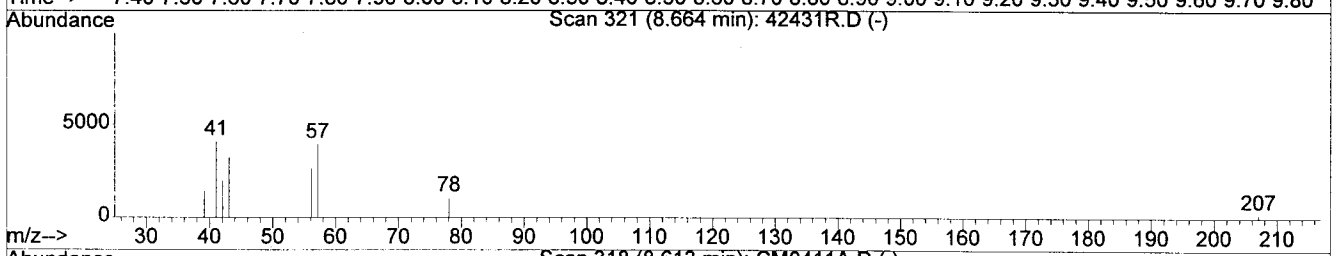
(#) = qualifier out of range (m) = manual integration
42431R.D TO14S.M Fri Apr 12 08:41:05 2002

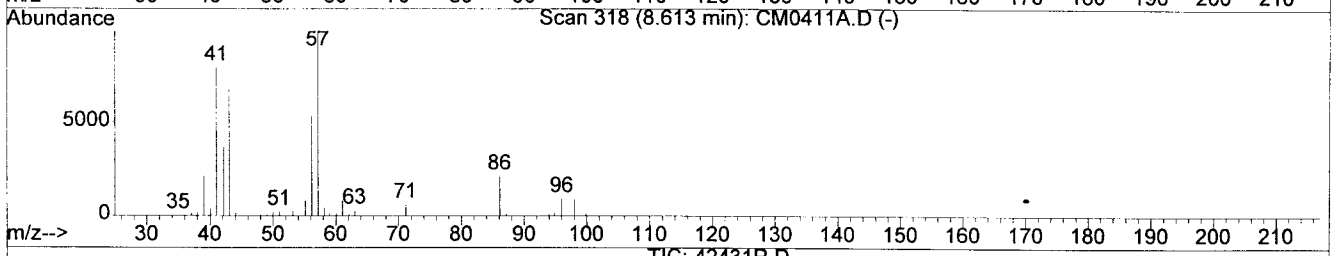
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\42431R.D Vial: 2
Acq On : 11 Apr 2002 17:21 Operator: BDH
Sample : 062SVEEA04080227\4243-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Apr 12 8:39 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Multiple Level Calibration







TIC: 42431R.D

(16) n-Hexane

8.65min 0.06ng m

response 30658

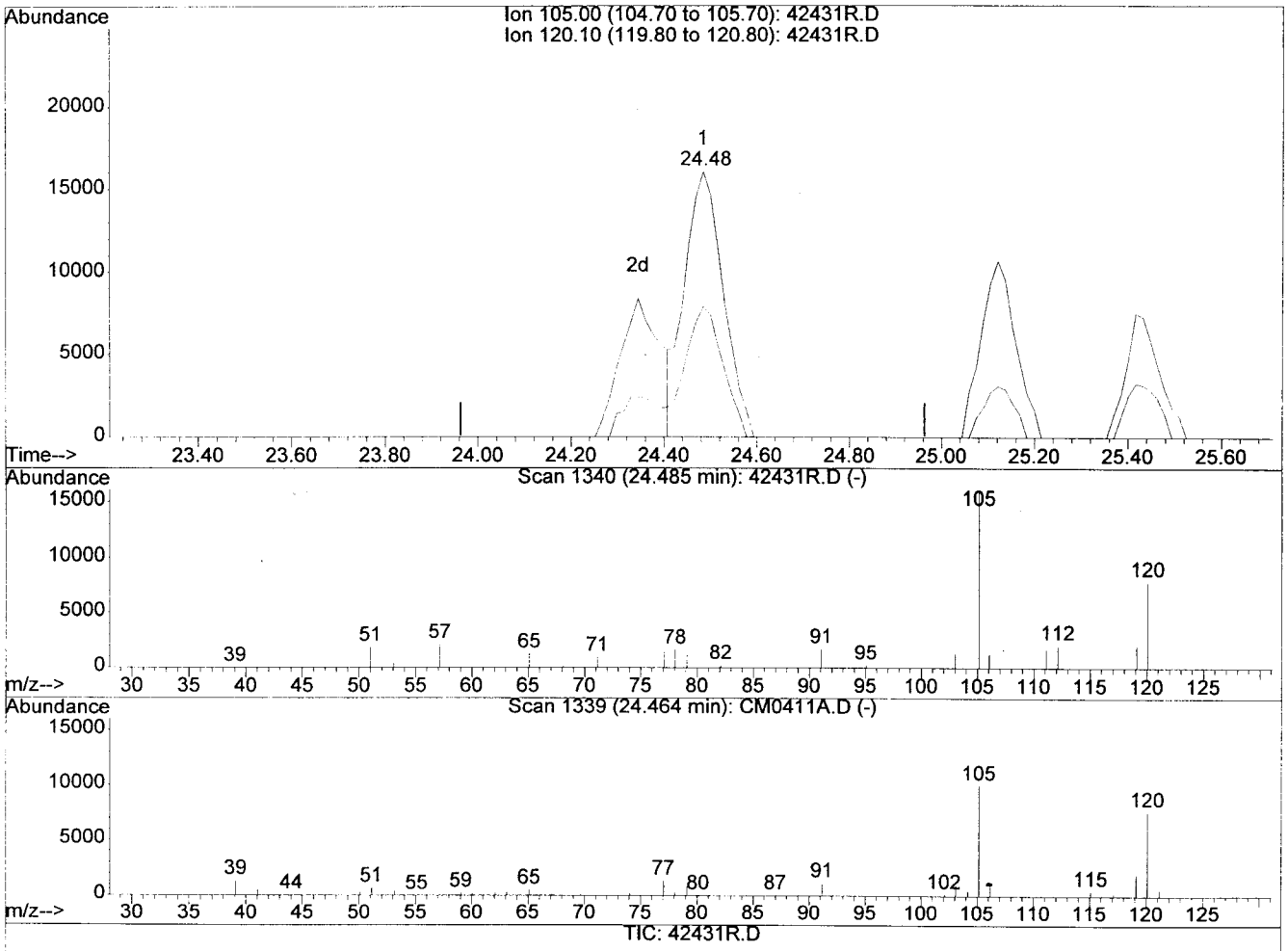
Ion	Exp%	Act%
57.00	100	100
86.00	25.00	0.00#
43.00	325.00	93.95#
0.00	0.00	0.00

42431R.D TO14S.M Fri Apr 12 08:39:40 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0411A\42431R.D Vial: 2
Acq On : 11 Apr 2002 17:21 Operator: BDH
Sample : 062SVEEA04080227\4243-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 12 8:35 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.48min 18.03ng

response 92533

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	48.97
0.00	0.00	0.00
0.00	0.00	0.00

42431R.D TO14S.M Fri Apr 12 08:35:22 2002

Quantification Report

Data File : D:\HPCHEM\1\DATA02\M0411A\42431R.D Vial: 2
Acq On : 11 Apr 2002 17:21 Operator: BDH
Sample : 062SVEEA04080227\4243-1 ST. 500mls Inst : MARILYN
Misc : Pi/Pf=2 CAN MAB068ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 11 17:53 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Apr 11 12:13:57 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0411A\CM0411A.D (11 Apr 2002 11:10)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.32	128	463907	250.00	ng	0.05 65.80%
26) 1,4-Difluorobenzene IS#2	13.26	114	1885878	250.00	ng	0.05 67.97%
36) Chlorobenzene-d5 IS#3	20.56	117	1406640	250.00	ng	0.02 67.20%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.45	65	602879	276.20	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.48%						
32) Toluene-d8 SURR#2	16.80	98	1481491	251.44	ng	0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.58%						
46) 4-Bromofluorobenzene SURR#	23.71	95	1293560	257.93	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 103.17%						

Target Compounds						Qvalue
4) Chloromethane	4.39	50	1041	0.71	ng #	46
6) Bromomethane	5.42	94	1133	0.52	ng #	9
16) n-Hexane	8.65	57	30658	15.17	ng #	1
20) Isooctane	11.92	57	31885	4.70	ng #	1
27) Benzene	12.73	78	4390	0.79	ng #	54
30) Bromodichloromethane	14.80	83	4104	0.72	ng #	25
35) 1,1,2-Trichloroethane	17.54	97	90457	37.22	ng #	18
40) Ethylbenzene	20.77	106	1888	0.94	ng #	1
41) m,p-Xylene	20.95	106	26871	10.41	ng	83
42) o-Xylene	22.09	106	15226	6.17	ng	75
45) 1,1,2,2-Tetrachloroethane	23.52	83	53717	14.92	ng #	30
48) 4-Ethyltoluene	24.35	105	49143	7.55	ng	95
49) 1,3,5-Trimethylbenzene	24.48	105	92533	18.03	ng	97
50) 2-Chlorotoluene	24.50	91	13674	2.04	ng #	47
51) 1,2,4-Trimethylbenzene	25.42	105	36926	6.83	ng	96

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

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: TO-14 Calibration Std
Date: 1-25-02
Analyst: [illegible]

Standard I.D.: 8 -MSW 32- 1
Location: MSW 18-Std Freezer
Solvent: MeOH - lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01730	1/2/03	2500 ug/ml	250 ul	25 ml	25 ug/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 BH 2/5/02

Sol. Name:
Date:
Analyst:

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

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

Comments:

Sol. Name:
Date:
Analyst:

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

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

Comments:

STL - PENSACOLA, FL / GCMS

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

Sol. Name: APPIX - B
Date: 12-12-01
Analyst:

Standard I.D.: 8 -MSW30 - 1
Location: MS018
Solvent: MEOH (U30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-UN2-21 (IS)~~						
~~8-UN3-1 (S~~						
8-UN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

Sol. Name: AIR-SPIKE
Date: 12-20-01
Analyst: BDH

Standard I.D.: ~~8~~ 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	675	25 mls	75 ppm

Comments: Expired 6/20/01

Sol. Name: ASAHIKLIN AK-225 Stock
Date: 12-28-01
Analyst: LAD

Standard I.D.: 8 -MSW30 - 3
Location: MS018
Solvent: MeOH V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc. ppm
8-VN-4-4	NA	12/28/02	1000 000	100	10	10 000

Comments: exp 6/28/02

GC/MS WORKING STANDARDS LOG

ug/ml = ppm
ug/l = ppb

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

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

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/SurT
Date: 10-12-01
Analyst: SAH

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
7-VN-3-6(IS)	A017265	11/01	2500ug/ml	500uls	50mls	25ppm
7-VN-2-16	A017264	↓	↓	↓	↓	↓

Comments: 4-10-02 expires

AEN - PENSACOLA / GCMS

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst/Date ~~* DATE OPENED~~	LOG I.D.
502C	A304036	Acc STD	2000 µg/ml	7/1999	DBH 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DBH 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	AM 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	LAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	AM 6/16/98	7-VN 2-6
Custom To14 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/24/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 µg/ml	3/2000	~~BH~~ 7/29/98	7-VN 2-9
8260 SURR	A1174	Restek	2500 µg/ml	8/2001	AM 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	AM 10/6/98	7-VN 2-11
Matrix Spike	LA76210	Supelco	25 µg/ml	8/2000	AM 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supelco	2000 µg/ml	6/1999	AM 10/7/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	AM 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	BD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	AM 3/9/99	7-VN 2-19
Custom Keytones Mix	A011115	Restek	2000 µg/ml	3/2000	AM 3/10/99	7-VN 2-20
8260 Volatile Kit	Varies	Restek	Varies	6/2001	AM 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	AM 5/10/99	7-VN 2-22
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	AM 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	AM 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	AM 5/18/99	7-VN 2-25
~~Custom To14 Voa Mix~~	~~LA82949~~	~~Supelco~~	~~2500 µg/ml~~	~~6/2000~~	~~BDH 6/3/99~~	~~7-VN 2-26~~
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	AM 6/9/99	7-VN 2-27
Iodomethane	LA81867	Supelco	2000	4/2000	AM 6/29/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst Date Recd	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWS 6/19/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/19/99	7 -VN 3 - 2	1
Custom Keytone	A014022	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	DWS 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83933	Supelco	2000 µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8-VN 1-4
8240 Short List Matrix Spike	LA84166	Supelco	2500 µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000 µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000 µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8-VN 1-9
8260 Surr	A014225	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	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	A015880	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	LA90443	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016359	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90774	Supelco	2500 µg/ml	7/1/2001	6/13/02 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8-VN 1-27

Run 75 4-13

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

Appendix B

Laboratory Analytical Reports for Groundwater Samples

1010000 1000101 1100110

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	6-5-02; 10:00 AM
Date Reported:	6-17-02
PEL Submission Number:	2204184
Project:	Cecil Field CTO 062

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA methods: 8021, 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 apparentlyidentical or similar materials.

4420 Pendola Point Road • Tampa, Florida 33619
(813) 247-2805 • FAX: (813) 248-1537

Cross-Reference sheet for SDG 2204184-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2204184	0612BLK31	MB	0612BLK31	0612BLK31
Cecil Field	2204184	0612LCS31	BS	0612LCS31	0612LCS31
Cecil Field	2204184	609BLK	MB	70794	609BLK
Cecil Field	2204184	609LCS	BS	70796	609LCS
Cecil Field	2204184	EQBQ20229	EB	220418411	062-EQB-Q2-02-29
Cecil Field	2204184	MW13Q20229	N	220418402	062-MW13-Q2-02-29
Cecil Field	2204184	MW20Q20229	N	220418403	062-MW20-Q2-02-29
Cecil Field	2204184	MW20Q20229MS	MS	220418404	062-MW20-Q2-02-29
Cecil Field	2204184	MW20Q20229SD	SD	220418405	062-MW20-Q2-02-29
Cecil Field	2204184	MW22Q20229	N	220418406	062-MW22-Q2-02-29
Cecil Field	2204184	MW4Q20229	N	220418401	062-MW4-Q2-02-29
Cecil Field	2204184	TB1Q20229	TB	220418412	062-TB1-Q2-02-29
Cecil Field	2204184	VEW3Q20229	N	220418407	062-VEW3-Q2-02-29
Cecil Field	2204184	VEW4Q20229	N	220418408	062-VEW4-Q2-02-29
Cecil Field	2204184	VEW5Q20229	N	220418409	062-VEW5-Q2-02-29
Cecil Field	2204184	VEW6Q20229	N	220418410	062-VEW6-Q2-02-29

Organics **1**
METHOD 8021 GC VOLATILE ORGANICS 4
Sample Data 8
QC Summary 19
Standards Data 29
METHOD 8310 HPLC PAH ORGANICS 39
Sample Data 43
QC Summary 53
Standards Data 62

Chain of Custody Documentation **72**

Addendum **77**

Organics

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Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" qualifier.

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

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC VOLATILE ORGANICS

METHOD 8021

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CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204184

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by SW846/5030 for EPA8021 volatiles analysis.
All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met with the exception of:
MS - MW20Q20229MS was analyzed with the water samples on 06/12/02. The following analyte(s) were recovered above criteria: p,m-Xylene at 116.5 % with criteria of (94-116). No further action is necessary. These results are within the PEL 10% limits. Samples coded accordingly.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204184

Client: CH2M Hill

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specified reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 06-17-02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Method: **8021**

EPA Sample No	Lab Sample ID
MW4Q20229	220418401
MW13Q20229	220418402
MW20Q20229	220418403
MW22Q20229	220418406
VEW3Q20229	220418407
VEW4Q20229	220418408
VEW5Q20229	220418409
VEW6Q20229	220418410
EQBQ20229	220418411
TB1Q20229	220418412

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Sample Data

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1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW4Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418401

Lab File ID: 184-1.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1618

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-293-4

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW13Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418402

Lab File ID: 184-2.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1701

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-293-13

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.44	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.3	J

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW20Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418403

Lab File ID: 184-3.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 0901

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-293-20

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	0.77	J
1634-04-4	MTBE	1	U
108-88-3	Toluene	0.47	J
100-41-4	Ethylbenzene	0.39	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.48	J

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW22Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418406

Lab File ID: 184-6.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1744

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-293-22

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.92	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.6	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW3Q20229

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Matrix: WATER Lab Sample ID: 220418407 Lab File ID: 184-7.D

Sample wt/vol: 5 Units: ML Date Received: 06/05/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 06/12/02 Time: 1534

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-3 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW4Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418408

Lab File ID: 184-8.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1402

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: VEW-4

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW5Q20229

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Matrix: WATER Lab Sample ID: 220418409 Lab File ID: 184-9.D

Sample wt/vol: 5 Units: ML Date Received: 06/05/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 06/12/02 Time: 1318

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-5 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW6Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418410

Lab File ID: 184-10.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1236

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: VEW-6

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418411

Lab File ID: 184-11.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1153

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Equipment Blank

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB1Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418412

Lab File ID: 184-12.D

Sample wt/vol: 5

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1111

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank #1

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

QC Summary

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1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0612BLK31

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 0612BLK31

Lab File ID: BLK31.D

Sample wt/vol: 5

Units: ML

Date Received: 06/12/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 0819

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID:

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

0612BLK31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Lab File ID: BLK31.D Lab Sample ID: 0612BLK31

Instrument ID: VGC3 Date Extracted:

Matrix: WATER Date Analyzed: 06/12/02

Level:(low/med) LOW Time Analyzed: 0819

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	0612LCS31	0612LCS31	LCS31.D	06/12/02	0737
2	MW20Q20229	220418403	184-3.D	06/12/02	0901
3	MW20Q20229MS	220418404	184-4MS.D	06/12/02	0943
4	MW20Q20229SD	220418405	184-5SD.D	06/12/02	1025
5	TB1Q20229	220418412	184-12.D	06/12/02	1111
6	EQBQ20229	220418411	184-11.D	06/12/02	1153
7	VEW6Q20229	220418410	184-10.D	06/12/02	1236
8	VEW5Q20229	220418409	184-9.D	06/12/02	1318
9	VEW4Q20229	220418408	184-8.D	06/12/02	1402
10	VEW3Q20229	220418407	184-7.D	06/12/02	1534
11	MW4Q20229	220418401	184-1.D	06/12/02	1618
12	MW13Q20229	220418402	184-2.D	06/12/02	1701
13	MW22Q20229	220418406	184-6.D	06/12/02	1744

COMMENTS:

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Form IV

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204184

Column(1): RTX-502.2 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0612BLK31	97.0						0
0612LCS31	91.7						0
EQBQ20229	110.7						0
MW13Q20229	111.7						0
MW20Q20229	100.0						0
MW20Q20229MS	107.3						0
MW20Q20229SD	95.0						0
MW22Q20229	104.0						0
MW4Q20229	105.3						0
TB1Q20229	105.3						0
VEW3Q20229	100.3						0
VEW4Q20229	110.0						0
VEW5Q20229	114.7						0
VEW6Q20229	110.7						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

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8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Lab File ID (Standard): 30PPB.D Date Analyzed: 6/3/2002

Instrument ID: VGC3 Time Analyzed: 20:10

GC Column: RTX-502.2 ID: 0.53 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	742702		14.48						
	UPPER LIMIT	1485404		14.98						
	LOWER LIMIT	371351		13.98						
	EPA SAMPLE NO.									
1	0612LCS31	712585		14.48						
2	0612BLK31	675334		14.48						
3	MW20Q20229	648530		14.49						
4	MW20Q20229MS	650738		14.49						
5	MW20Q20229SD	688547		14.49						
6	TB1Q20229	626965		14.50						
7	EQBQ20229	614096		14.51						
8	VEW6Q20229	616304		14.52						
9	VEW5Q20229	569077		14.53						
10	VEW4Q20229	597431		14.53						
11	VEW3Q20229	687250		14.55						
12	MW4Q20229	688228		14.54						
13	MW13Q20229	597174		14.54						
14	MW22Q20229	600959		14.53						

IS1 = Fluorobenzene

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 06/04/02

Instrument ID: VGC3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.97 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD27121	2PPB	06/03/02	1722	29.01	
2	STD27126	5PPB	06/03/02	1804	28.99	
3	STD27098	10PPB	06/03/02	1846	28.97	
4	STD27100	20PPB	06/03/02	1928	28.96	
5	STD27122	30PPB	06/03/02	2010	28.95	
6	STD27123	40PPB	06/03/02	2051	28.96	
7	STD27125	50PPB	06/03/02	2133	28.96	
8	STD27097	100PPB	06/03/02	2215	28.96	
9	STD27099	1PPB	06/04/02	0823	28.95	
10	SSC27128	SEC35	06/04/02	1013	28.96	
11	CCV27090	0612CCV31	06/12/02	0646	28.91	
12	0612LCS31	0612LCS31	06/12/02	0737	28.95	
13	0612BLK31	0612BLK31	06/12/02	0819	28.96	
14	MW20Q20229	220418403	06/12/02	0901	28.96	
15	MW20Q20229MS	220418404	06/12/02	0943	28.96	
16	MW20Q20229SD	220418405	06/12/02	1025	28.97	
17	TB1Q20229	220418412	06/12/02	1111	28.97	
18	EQBQ20229	220418411	06/12/02	1153	28.98	
19	VEW6Q20229	220418410	06/12/02	1236	29	
20	VEW5Q20229	220418409	06/12/02	1318	29.01	
21	VEW4Q20229	220418408	06/12/02	1402	29.01	
22	CCV27091	0612CCV32	06/12/02	1445	29.02	
23	VEW3Q20229	220418407	06/12/02	1534	29.03	
24	MW4Q20229	220418401	06/12/02	1618	29.02	
25	MW13Q20229	220418402	06/12/02	1701	29.02	
26	MW22Q20229	220418406	06/12/02	1744	29.01	

QC LIMITS

S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

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VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 06/04/02

Instrument ID: VGC3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.97 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	06/12/02	1826		
28	ZZZZZZ	ZZZZZZ	06/12/02	1908		
29	ZZZZZZ	ZZZZZZ	06/12/02	1950		
30	ZZZZZZ	ZZZZZZ	06/12/02	2032		
31	ZZZZZZ	ZZZZZZ	06/12/02	2114		
32	ZZZZZZ	ZZZZZZ	06/12/02	2156		
33	ZZZZZZ	ZZZZZZ	06/12/02	2237		
34	CCV27092	0612CCV33	06/12/02	2319	28.95	
35	ZZZZZZ	ZZZZZZ	06/13/02	0001		
36	ZZZZZZ	ZZZZZZ	06/13/02	0043		
37	ZZZZZZ	ZZZZZZ	06/13/02	0125		
38	ZZZZZZ	ZZZZZZ	06/13/02	0207		
39	ZZZZZZ	ZZZZZZ	06/13/02	0248		

QC LIMITS
S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

170602 1553 FORM VIII

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0612LCS31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	9.4	94.0	65 - 134
MTBE	10	9.9	99.0	80 - 135
Toluene	10	9.9	99.0	82 - 124
Ethylbenzene	10	10.5	105.0	86 - 122
p,m-Xylene	20	21.4	107.0	88 - 124
o-Xylene	10	10.8	108.0	92 - 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:

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Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q20229MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Benzene	10	0.77	10.7	99.3	66 - 132
MTBE	10	0	10.4	104.0	81 - 129
Toluene	10	0.47	11.1	106.3	86 - 120
Ethylbenzene	10	0.39	11.6	112.1	87 - 120
p,m-Xylene	20	0	23.3	116.5 *	94 - 116
o-Xylene	10	0.48	11.9	114.2	93 - 122

Spike Recovery: 1 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field MW20Q20229SD

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	10.1	93.3	5.9	20	66 - 132
MTBE	10	10	100.0	4.0	24	81 - 129
Toluene	10	10.5	100.3	6.1	22	86 - 120
Ethylbenzene	10	10.9	105.1	6.2	23	87 - 120
p,m-Xylene	20	22	110.0	5.7	16	94 - 116
o-Xylene	10	11.3	108.2	5.7	28	93 - 122

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

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6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RRF1 =1PPBR2.D
RRF2 =2PPB.D RRF5 =5PPB.D RRF10 =10PPB.D

COMPOUND		RRF1	RRF2	RRF5	RRF10
Benzene		1.449	2.355	1.839	1.662
MTBE		0.522	1.041	0.722	0.658
Toluene		1.458	2.005	1.617	1.495
Ethylbenzene		1.294	1.341	1.269	1.301
p,m-Xylene		1.422	1.606	1.453	1.461
o-Xylene		1.149	1.333	1.187	1.218
==========					
4-Bromofluorobenzene(SURR)		1.263	1.317	1.184	1.292

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FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D
RRF40 =40PPB.D RRF50 =50PPB.D RRF100 =100PPB.D

COMPOUND	RRF20	RRF30	RRF40	RRF50	RRF100
Benzene	1.553	1.530	1.421	1.414	1.343
MTBE	0.585	0.558	0.523	0.518	0.480
Toluene	1.425	1.408	1.314	1.305	1.240
Ethylbenzene	1.298	1.290	1.219	1.204	1.140
p,m-Xylene	1.445	1.437	1.347	1.328	1.258
o-Xylene	1.214	1.217	1.142	1.131	1.068
==========					
4-Bromofluorobenzene(SURR)	1.347	1.329	1.268	1.272	1.178

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2	
Benzene	AVRG		1.6184034797	19.4	
MTBE	AVRG		0.6229291188	28	<-
Toluene	AVRG		1.4742539561	15.5	
Ethylbenzene	AVRG		1.2617731239	4.9	
p,m-Xylene	AVRG		1.4173606545	7	
o-Xylene	AVRG		1.1842217153	6.3	
==========					
4-Bromofluorobenzene(SURR)	AVRG		1.2723775853	4.6	

Average Used: 12.2

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RT2: 1PPBR2.D
RT3: 2PPB.D RT4: 5PPB.D RT5: 10PPB.D

COMPOUND		RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Benzene		14.057	14.103	14.083	14.073			
MTBE		9.537	9.570	9.553	9.540			
Toluene		18.957	19.027	19.000	18.980			
Ethylbenzene		25.070	25.140	25.113	25.097			
p,m-Xylene		25.367	25.433	25.410	25.390			
o-Xylene		26.930	26.997	26.977	26.963			
==========								
4-Bromofluorobenzene(SURR)		28.950	29.007	28.990	28.973			

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D
RT8: 40PPB.D RT9: 50PPB.D RT10: 100PPB.D

COMPOUND	RT6	RT7	RT8	RT9	RT10	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Benzene	14.057	14.047	14.050	14.047	14.047	14.063	13.857	14.257
MTBE	9.527	9.523	9.523	9.520	9.533	9.536	9.337	9.737
Toluene	18.963	18.953	18.957	18.953	18.953	18.971	18.757	19.157
Ethylbenzene	25.077	25.070	25.070	25.073	25.070	25.087	24.870	25.270
p,m-Xylene	25.377	25.367	25.370	25.370	25.373	25.384	25.167	25.567
o-Xylene	26.943	26.937	26.937	26.940	26.940	26.952	26.730	27.130
==========								
4-Bromofluorobenzene(SURR)	28.960	28.953	28.957	28.957	28.957	28.967	28.750	29.150

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 CalibrationDate: 06/04/02 Time: 1013

Lab File ID: SEC35.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF0	%D	
Benzene	1.6184	1.44	11.0	
MTBE	0.62293	0.5084	18.4	<-
Toluene	1.47425	1.367	7.3	
Ethylbenzene	1.26177	1.221	3.2	
p,m-Xylene	1.41736	1.392	1.8	
o-Xylene	1.18422	1.172	1.0	
==========				
4-Bromofluorobenzene	1.27238	1.278	0.4	

Average Used: 6.2

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FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 0646

Lab File ID: CCV31.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.467	9.4
MTBE	0.62293	0.6073	2.5
Toluene	1.47425	1.368	7.2
Ethylbenzene	1.26177	1.275	1.0
p,m-Xylene	1.41736	1.402	1.1
o-Xylene	1.18422	1.184	0.0
==========			
4-Bromofluorobenzene	1.27238	1.266	0.5

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 1445

Lab File ID: CCV32.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.523	5.9
MTBE	0.62293	0.6164	1.0
Toluene	1.47425	1.424	3.4
Ethylbenzene	1.26177	1.339	6.1
p,m-Xylene	1.41736	1.477	4.2
o-Xylene	1.18422	1.245	5.1
==========			
4-Bromofluorobenzene	1.27238	1.31	3.0

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 2319

Lab File ID: CCV33.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.639	1.3
MTBE	0.62293	0.6866	10.2
Toluene	1.47425	1.533	4.0
Ethylbenzene	1.26177	1.425	12.9
p,m-Xylene	1.41736	1.563	10.3
o-Xylene	1.18422	1.34	13.2
==========			
4-Bromofluorobenzene	1.27238	1.344	5.6

HPLC PAH ORGANICS

METHOD 8310

170602 1553

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204184

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met.

E. Internal Standards:

This method does not require the use of internal standards.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204184

Client: CH2M Hill

F. Samples:

Sample analysis proceeded normally.

Project specific Reporting Limits were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6-17-02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Method: **8310**

EPA Sample No	Lab Sample ID
MW4Q20229	220418401
MW13Q20229	220418402
MW20Q20229	220418403
MW22Q20229	220418406
VEW3Q20229	220418407
VEW4Q20229	220418408
VEW5Q20229	220418409
VEW6Q20229	220418410
EQBQ20229	220418411

170602 1553

Sample Data

170602 1553

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW4Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418401

Lab File ID: 184-1.D

Sample wt/vol: 935

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 1716

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-293-4

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW13Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418402

Lab File ID: 184-2.D

Sample wt/vol: 970

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 1751

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-293-13

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.63	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.26	
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW20Q20229

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204184
Matrix: WATER
Lab Sample ID: 220418403
Lab File ID: 184-3.D
Sample wt/vol: 930
Units: ML
Date Received: 06/05/02
Concentrated Extract Volume: 1
Date Extracted: 06/09/02
Level:(low/med) LOW
Date Analyzed: 06/10/02
Time: 1825
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-293-20
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.99	
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.24	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW22Q20229

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204184
Matrix: WATER
Lab Sample ID: 220418406
Lab File ID: 184-6.D
Sample wt/vol: 925
Units: ML
Date Received: 06/05/02
Concentrated Extract Volume: 1
Date Extracted: 06/09/02
Level:(low/med) LOW
Date Analyzed: 06/10/02
Time: 1900
PercentSolids: 0
decanted :
Dilution Factor: 1
Extraction: SEPF
Station ID: CEF-293-22
Method: 8310
GPC Cleanup : (Y/N) N
pH:
Column(1): Vydac 201TP54
ID: 4.6
(mm)
CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	20.5	
208-96-8	Acenaphthylene	0.28	
90-12-0	1-Methylnaphthalene	21.6	
91-57-6	2-Methylnaphthalene	26.2	
83-32-9	Acenaphthene	0.19	J
86-73-7	Fluorene	0.63	
85-01-8	Phenanthrene	2.3	
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW3Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418407

Lab File ID: 184-7.D

Sample wt/vol: 960

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 2044

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-3

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.22	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW4Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418408

Lab File ID: 184-8.D

Sample wt/vol: 930

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 2118

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-4

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW5Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418409

Lab File ID: 184-9.D

Sample wt/vol: 965

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 2153

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-5

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW6Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418410

Lab File ID: 184-10.D

Sample wt/vol: 935

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 2228

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-6

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 220418411

Lab File ID: 184-11.D

Sample wt/vol: 920

Units: ML

Date Received: 06/05/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02

Time: 2302

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

170602 1553

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

609BLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204184

Matrix: WATER

Lab Sample ID: 70794

Lab File ID: 609BLK.D

Sample wt/vol: 1000 Units: ML

Date Received: 06/09/02

Concentrated Extract Volume: 1

Date Extracted: 06/09/02

Level:(low/med) LOW

Date Analyzed: 06/10/02 Time: 1349

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.2	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

609BLK

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Lab File ID: 609BLK.D Lab Sample ID: 70794

Instrument ID: SLC01 Date Extracted: 06/09/02

Matrix: WATER Date Analyzed: 06/10/02

Level:(low/med) LOW Time Analyzed: 1349

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	609LCS	70796	609LCS.D	06/10/02	1458
2	MW20Q20229MS	220418404	184-4MS.D	06/10/02	1607
3	MW20Q20229SD	220418405	184-5SD.D	06/10/02	1642
4	MW4Q20229	220418401	184-1.D	06/10/02	1716
5	MW13Q20229	220418402	184-2.D	06/10/02	1751
6	MW20Q20229	220418403	184-3.D	06/10/02	1825
7	MW22Q20229	220418406	184-6.D	06/10/02	1900
8	VEW3Q20229	220418407	184-7.D	06/10/02	2044
9	VEW4Q20229	220418408	184-8.D	06/10/02	2118
10	VEW5Q20229	220418409	184-9.D	06/10/02	2153
11	VEW6Q20229	220418410	184-10.D	06/10/02	2228
12	EQBQ20229	220418411	184-11.D	06/10/02	2302

COMMENTS:

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Form IV

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204184

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
609BLK	84.0						0
609LCS	71.5						0
EQBQ20229	56.2						0
MW13Q20229	85.9						0
MW20Q20229	86.5						0
MW20Q20229MS	86.9						0
MW20Q20229SD	87.9						0
MW22Q20229	86.6						0
MW4Q20229	85.5						0
VEW3Q20229	83.7						0
VEW4Q20229	83.3						0
VEW5Q20229	75.4						0
VEW6Q20229	86.9						0

Control Limits

S1 = p-Terphenyl-d14 39 - 107

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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8

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 06/05/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.73 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD27068	sv4940	06/05/02	1746	18.71	
2	STD27067	sv4941	06/05/02	1820	18.72	
3	STD27064	sv4942	06/05/02	1855	18.73	
4	STD27063	sv4943	06/05/02	1929	18.74	
5	STD27069	sv4944	06/05/02	2004	18.74	
6	STD27065	sv4945	06/05/02	2039	18.74	
7	STD27066	sv4946	06/05/02	2113	18.74	
8	SSC27070	sv4948	06/05/02	2148	18.74	
9	ZZZZZZ	ZZZZZZ	06/10/02	1240		
10	CCV26734	SV4942	06/10/02	1314	18.79	
11	609BLK	70794	06/10/02	1349	18.73	
12	ZZZZZZ	ZZZZZZ	06/10/02	1423		
13	609LCS	70796	06/10/02	1458	18.72	
14	ZZZZZZ	ZZZZZZ	06/10/02	1533		
15	MW20Q20229MS	220418404	06/10/02	1607	18.72	
16	MW20Q20229SD	220418405	06/10/02	1642	18.73	
17	MW4Q20229	220418401	06/10/02	1716	18.73	
18	MW13Q20229	220418402	06/10/02	1751	18.72	
19	MW20Q20229	220418403	06/10/02	1825	18.72	
20	MW22Q20229	220418406	06/10/02	1900	18.72	
21	CCV26735	SV4942	06/10/02	1935	18.73	
22	ZZZZZZ	ZZZZZZ	06/10/02	2009		
23	VEW3Q20229	220418407	06/10/02	2044	18.73	
24	VEW4Q20229	220418408	06/10/02	2118	18.73	
25	VEW5Q20229	220418409	06/10/02	2153	18.73	
26	VEW6Q20229	220418410	06/10/02	2228	18.74	

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 06/05/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.73 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	EQBQ20229	220418411	06/10/02	2302	18.74	
28	ZZZZZZ	ZZZZZZ	06/10/02	2337		
29	ZZZZZZ	ZZZZZZ	06/11/02	0011		
30	ZZZZZZ	ZZZZZZ	06/11/02	0046		
31	ZZZZZZ	ZZZZZZ	06/11/02	0121		
32	ZZZZZZ	ZZZZZZ	06/11/02	0155		
33	CCV26737	SV4942	06/11/02	0230	18.75	
34	ZZZZZZ	ZZZZZZ	06/11/02	0304		
35	ZZZZZZ	ZZZZZZ	06/11/02	0339		
36	ZZZZZZ	ZZZZZZ	06/11/02	0414		
37	ZZZZZZ	ZZZZZZ	06/11/02	0448		
38	ZZZZZZ	ZZZZZZ	06/11/02	0523		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

609LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	6.9	69.0	45 - 78
Acenaphthylene	10	7.7	77.0	50 - 91
1-Methylnaphthalene	10	6.3	63.0	48 - 92
2-Methylnaphthalene	10	7	70.0	52 - 88
Acenaphthene	10	7.1	71.0	52 - 86
Fluorene	10	7.9	79.0	51 - 92
Phenanthrene	10	8	80.0	52 - 98
Anthracene	10	8.9	89.0	44 - 105
Fluoranthene	10	8.6	86.0	58 - 99
Pyrene	10	9.2	92.0	56 - 102
Benzo(a)anthracene	10	8.5	85.0	59 - 103
Chrysene	10	8.4	84.0	58 - 104
Benzo(b)fluoranthene	10	6.9	69.0	53 - 108
Benzo(k)fluoranthene	10	6.4	64.0	52 - 107
Benzo(a)pyrene	10	6.3	63.0	56 - 101
Dibenz(a,h)anthracene	10	4.4	44.0	41 - 114
Benzo(g,h,i)perylene	10	4.8	48.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	4.9	49.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q20229MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10.7	0.99	6.8	54.3	45 - 78
Acenaphthylene	10.7	0	7.2	67.3	50 - 91
1-Methylnaphthalene	10.7	0	5.6	52.3	48 - 92
2-Methylnaphthalene	10.7	0.24	6.4	57.6	52 - 88
Acenaphthene	10.7	0	6.5	60.7	52 - 86
Fluorene	10.7	0	7.5	70.1	51 - 92
Phenanthrene	10.7	0	8.5	79.4	52 - 98
Anthracene	10.7	0	9.4	87.9	44 - 105
Fluoranthene	10.7	0	9.5	88.8	58 - 99
Pyrene	10.7	0	9.3	86.9	56 - 102
Benzo(a)anthracene	10.7	0	9.6	89.7	59 - 103
Chrysene	10.7	0	9.5	88.8	58 - 104
Benzo(b)fluoranthene	10.7	0	9.5	88.8	53 - 108
Benzo(k)fluoranthene	10.7	0	9.7	90.7	52 - 107
Benzo(a)pyrene	10.7	0	9.1	85.0	56 - 101
Dibenz(a,h)anthracene	10.7	0	8.8	82.2	41 - 114
Benzo(g,h,i)perylene	10.7	0	9.2	86.0	41 - 109
Indeno(1,2,3-cd)pyrene	10.7	0	9.4	87.9	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q20229SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10.8	7.6	61.2	10.6	27	45 - 78
Acenaphthylene	10.8	8	74.1	10.7	34	50 - 91
1-Methylnaphthalene	10.8	6.5	60.2	13.1	29	48 - 92
2-Methylnaphthalene	10.8	7.2	64.4	11.3	34	52 - 88
Acenaphthene	10.8	7.4	68.5	12.4	37	52 - 86
Fluorene	10.8	8.4	77.8	10.0	28	51 - 92
Phenanthrene	10.8	8.8	81.5	3.8	32	52 - 98
Anthracene	10.8	9.8	90.7	2.9	34	44 - 105
Fluoranthene	10.8	9.7	89.8	1.2	28	58 - 99
Pyrene	10.8	9.4	87.0	1.4	30	56 - 102
Benzo(a)anthracene	10.8	9.8	90.7	1.2	28	59 - 103
Chrysene	10.8	9.6	88.9	1.3	21	58 - 104
Benzo(b)fluoranthene	10.8	9.7	89.8	0.8	21	53 - 108
Benzo(k)fluoranthene	10.8	9.8	90.7	0.8	20	52 - 107
Benzo(a)pyrene	10.8	9.2	85.2	0.6	22	56 - 101
Dibenz(a,h)anthracene	10.8	8.7	80.6	1.5	21	41 - 114
Benzo(g,h,i)perylene	10.8	9.3	86.1	0.1	21	41 - 109
Indeno(1,2,3-cd)pyrene	10.8	9.4	87.0	0.2	28	42 - 105

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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Standards Data

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6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RRF0.2 =200PPT.D RRF1 =1PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF15 =15PPB.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	4810.000	4577.000	4867.000	4483.000	4619.200
Acenaphthylene	3455.000	4312.000	3766.600	3742.200	3442.733
1-Methylnaphthalene	13685.000	17324.000	25147.200	27379.500	28018.867
2-Methylnaphthalene	4790.000	4394.000	4162.200	4136.100	4104.000
Acenaphthene	31575.000	33019.000	46922.200	49396.800	49845.733
Fluorene	22865.000	22982.000	22520.400	22535.200	22317.067
Phenanthrene	93705.000	143365.000	164311.600	167565.500	165713.867
Anthracene	179410.000	182470.000	178999.400	175028.200	167492.800
Fluoranthene	18370.000	17606.000	16830.600	16403.100	15946.200
Pyrene	13365.000	13632.000	13950.200	12774.400	12781.867
Benzo(a)anthracene	37775.000	39507.000	36903.400	36592.900	35665.867
Chrysene	342165.000	432706.000	449278.400	449945.800	431264.133
Benzo(b)fluoranthene	39175.000	40436.000	40367.400	40096.900	39670.533
Benzo(k)fluoranthene	51680.000	39656.000	36612.200	36270.800	35434.933
Benzo(a)pyrene	182830.000	261306.000	281657.200	285323.500	280913.400
Dibenz(a,h)anthracene	203960.000	290815.000	311670.600	315758.700	309495.267
Benzo(g,h,i)perylene	16535.000	15020.000	14752.200	14668.600	14390.600
Indeno(1,2,3-cd)pyrene	44890.000	48107.000	46885.200	46736.300	45699.733
==========					
p-Terphenyl-d14(SURR)		13957.000	13092.000	12912.600	11973.867

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D

COMPOUND	RRF20	RRF30			
Naphthalene	4579.100	4507.833			
Acenaphthylene	3669.050	3687.000			
1-Methylnaphthalene	28548.500	29344.733			
2-Methylnaphthalene	4102.400	4131.533			
Acenaphthene	50752.650	51836.567			
Fluorene	22379.800	22601.967			
Phenanthrene	169398.850	172256.267			
Anthracene	165982.200	159449.133			
Fluoranthene	16410.150	16519.533			
Pyrene	13787.350	12745.500			
Benzo(a)anthracene	36154.700	36429.467			
Chrysene	446480.150	450901.600			
Benzo(b)fluoranthene	39991.950	40340.767			
Benzo(k)fluoranthene	35863.700	36030.867			
Benzo(a)pyrene	286018.800	288753.833			
Dibenz(a,h)anthracene	314096.300	315952.367			
Benzo(g,h,i)perylene	14737.150	14846.967			
Indeno(1,2,3-cd)pyrene	46418.350	46540.400			
==========					
p-Terphenyl-d14(SURR)	12801.250	12846.567			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	LINR		0.0002200196	0.9996
Acenaphthylene	LINR		0.0002734945	0.99867
1-Methylnaphthalene	LINR		3.471722E-05	0.99812
2-Methylnaphthalene	LINR		0.000242618	0.99996
Acenaphthene	LINR		1.957261E-05	0.99894
Fluorene	LINR		4.443478E-05	0.99994
Phenanthrene	LINR		5.872401E-06	0.99946
Anthracene	LINR		6.115006E-06	0.99786
Fluoranthene	LINR		6.091742E-05	0.99966
Pyrene	LINR		7.669056E-05	0.99714
Benzo(a)anthracene	LINR		2.756327E-05	0.99985
Chrysene	LINR		2.236363E-06	0.9995
Benzo(b)fluoranthene	LINR		2.490534E-05	0.99992
Benzo(k)fluoranthene	LINR		2.78265E-05	0.99988
Benzo(a)pyrene	LINR		3.487764E-06	0.99977
Dibenz(a,h)anthracene	LINR		3.17919E-06	0.99987
Benzo(g,h,i)perylene	LINR		6.780739E-05	0.99975
Indeno(1,2,3-cd)pyrene	LINR		2.154421E-05	0.9999
==========				
p-Terphenyl-d14(SURR)	LINR		7.854084E-05	0.99833

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RT1: 200PPT.D RT2: 1PPB.D
RT3: 5PPB.D RT4: 10PPB.D RT5: 15PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.807	11.803	11.803	11.800	11.803			
Acenaphthylene	13.000	13.010	13.017	13.013	13.013			
1-Methylnaphthalene	13.723	13.713	13.723	13.719	13.722			
2-Methylnaphthalene	13.993	13.990	13.997	13.993	13.993			
Acenaphthene	14.390	14.383	14.390	14.384	14.387			
Fluorene	14.693	14.687	14.693	14.690	14.690			
Phenanthrene	15.578	15.574	15.582	15.579	15.577			
Anthracene	16.283	16.283	16.287	16.283	16.280			
Fluoranthene	17.093	17.093	17.097	17.093	17.090			
Pyrene	17.670	17.663	17.663	17.660	17.657			
Benzo(a)anthracene	19.523	19.520	19.520	19.517	19.513			
Chrysene	20.055	20.048	20.050	20.042	20.040			
Benzo(b)fluoranthene	21.373	21.357	21.360	21.350	21.350			
Benzo(k)fluoranthene	22.083	22.063	22.067	22.047	22.050			
Benzo(a)pyrene	22.792	22.766	22.775	22.751	22.758			
Dibenz(a,h)anthracene	23.868	23.819	23.838	23.787	23.815			
Benzo(g,h,i)perylene	24.470	24.433	24.450	24.407	24.430			
Indeno(1,2,3-cd)pyrene	25.067	25.017	25.033	24.983	25.003			
==========								
p-Terphenyl-d14(SURR)		18.737	18.740	18.737	18.733			

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PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.800	11.780				11.799	11.573	12.033
Acenaphthylene	13.007	12.997				13.008	12.783	13.243
1-Methylnaphthalene	13.716	13.707				13.717	13.492	13.952
2-Methylnaphthalene	13.987	13.980				13.990	13.763	14.223
Acenaphthene	14.379	14.373				14.383	14.157	14.617
Fluorene	14.683	14.677				14.688	14.460	14.920
Phenanthrene	15.572	15.565				15.575	15.347	15.807
Anthracene	16.273	16.267				16.279	16.050	16.510
Fluoranthene	17.083	17.077				17.089	16.860	17.320
Pyrene	17.650	17.640				17.658	17.427	17.887
Benzo(a)anthracene	19.503	19.493				19.513	19.283	19.743
Chrysene	20.026	20.013				20.039	19.810	20.270
Benzo(b)fluoranthene	21.337	21.320				21.350	21.120	21.580
Benzo(k)fluoranthene	22.033	22.010				22.050	21.820	22.280
Benzo(a)pyrene	22.741	22.715				22.757	22.528	22.988
Dibenz(a,h)anthracene	23.786	23.757				23.810	23.585	24.045
Benzo(g,h,i)perylene	24.397	24.370				24.422	24.200	24.660
Indeno(1,2,3-cd)pyrene	24.963	24.927				24.999	24.773	25.233
==========								
p-Terphenyl-d14(SURR)	18.723	18.710				18.730	18.503	18.963

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PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 CalibrationDate: 06/10/02 Time: 1314

Lab File ID: CCV12.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.9	15	LINR	6.0	15.0
Acenaphthylene	16.1	15	LINR	7.3	15.0
1-Methylnaphthalene	16.1	15	LINR	7.3	15.0
2-Methylnaphthalene	15.6	15	LINR	4.0	15.0
Acenaphthene	15.6	15	LINR	4.0	15.0
Fluorene	15.6	15	LINR	4.0	15.0
Phenanthrene	15.4	15	LINR	2.7	15.0
Anthracene	16.5	15	LINR	10.0	15.0
Fluoranthene	15.7	15	LINR	4.7	15.0
Pyrene	16.9	15	LINR	12.7	15.0
Benzo(a)anthracene	15.8	15	LINR	5.3	15.0
Chrysene	15.8	15	LINR	5.3	15.0
Benzo(b)fluoranthene	15.7	15	LINR	4.7	15.0
Benzo(k)fluoranthene	16	15	LINR	6.7	15.0
Benzo(a)pyrene	15.5	15	LINR	3.3	15.0
Dibenz(a,h)anthracene	15.7	15	LINR	4.7	15.0
Benzo(g,h,i)perylene	15.6	15	LINR	4.0	15.0
Indeno(1,2,3-cd)pyrene	15.6	15	LINR	4.0	15.0
==========					
p-Terphenyl-d14	15.9	15	LINR	6.0	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 CalibrationDate: 06/10/02 Time: 1935

Lab File ID: CCV21.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	16.1	15	LINR	7.3	15.0
Acenaphthylene	16	15	LINR	6.7	15.0
1-Methylnaphthalene	15.2	15	LINR	1.3	15.0
2-Methylnaphthalene	15.8	15	LINR	5.3	15.0
Acenaphthene	15.3	15	LINR	2.0	15.0
Fluorene	15.8	15	LINR	5.3	15.0
Phenanthrene	15.4	15	LINR	2.7	15.0
Anthracene	16.6	15	LINR	10.7	15.0
Fluoranthene	15.9	15	LINR	6.0	15.0
Pyrene	16.8	15	LINR	12.0	15.0
Benzo(a)anthracene	15.8	15	LINR	5.3	15.0
Chrysene	15.6	15	LINR	4.0	15.0
Benzo(b)fluoranthene	15.8	15	LINR	5.3	15.0
Benzo(k)fluoranthene	16	15	LINR	6.7	15.0
Benzo(a)pyrene	15.3	15	LINR	2.0	15.0
Dibenz(a,h)anthracene	15.5	15	LINR	3.3	15.0
Benzo(g,h,i)perylene	15.8	15	LINR	5.3	15.0
Indeno(1,2,3-cd)pyrene	15.6	15	LINR	4.0	15.0
==========					
p-Terphenyl-d14	15.9	15	LINR	6.0	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 CalibrationDate: 06/11/02 Time: 0230

Lab File ID: CCV31.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	16.1	15	LINR	7.3	15.0
Acenaphthylene	16.1	15	LINR	7.3	15.0
1-Methylnaphthalene	15	15	LINR	0.0	15.0
2-Methylnaphthalene	15.8	15	LINR	5.3	15.0
Acenaphthene	15.2	15	LINR	1.3	15.0
Fluorene	15.8	15	LINR	5.3	15.0
Phenanthrene	15.2	15	LINR	1.3	15.0
Anthracene	16.6	15	LINR	10.7	15.0
Fluoranthene	15.8	15	LINR	5.3	15.0
Pyrene	16.7	15	LINR	11.3	15.0
Benzo(a)anthracene	15.8	15	LINR	5.3	15.0
Chrysene	15.6	15	LINR	4.0	15.0
Benzo(b)fluoranthene	15.8	15	LINR	5.3	15.0
Benzo(k)fluoranthene	16	15	LINR	6.7	15.0
Benzo(a)pyrene	15.2	15	LINR	1.3	15.0
Dibenz(a,h)anthracene	15.5	15	LINR	3.3	15.0
Benzo(g,h,i)perylene	15.7	15	LINR	4.7	15.0
Indeno(1,2,3-cd)pyrene	15.9	15	LINR	6.0	15.0
==========					
p-Terphenyl-d14	15.9	15	LINR	6.0	15.0

7SSC

PAH ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204184

Instrument ID: SLC01 CalibrationDate: 06/05/02 Time: 2148

Lab File ID: SECCCV.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.8	15	LINR	5.3	15.0
Acenaphthylene	14.9	15	LINR	0.7	15.0
1-Methylnaphthalene	15.5	15	LINR	3.3	15.0
2-Methylnaphthalene	15.1	15	LINR	0.7	15.0
Acenaphthene	15.1	15	LINR	0.7	15.0
Fluorene	15.4	15	LINR	2.7	15.0
Phenanthrene	15.1	15	LINR	0.7	15.0
Anthracene	15.4	15	LINR	2.7	15.0
Fluoranthene	14.8	15	LINR	1.3	15.0
Pyrene	14.1	15	LINR	6.0	15.0
Benzo(a)anthracene	15.1	15	LINR	0.7	15.0
Chrysene	15.1	15	LINR	0.7	15.0
Benzo(b)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(k)fluoranthene	15.3	15	LINR	2.0	15.0
Benzo(a)pyrene	16.7	15	LINR	11.3	15.0
Dibenz(a,h)anthracene	15.2	15	LINR	1.3	15.0
Benzo(g,h,i)perylene	15.1	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15.2	15	LINR	1.3	15.0
==========					
p-Terphenyl-d14	14.7	15	LINR	2.0	15.0

Chain of Custody Documentation

170602 1553

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

2204-184

COC NUMBER
163151-045 Page 1 of 1

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
Day Tank 1 2nd 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 8021	PAHs&1,1-Naphthalene&1,2-Naphthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW4-Q2-02-29	CEF-293-4	W	06/04/02	14:00	III/C	14	3	2					Grab		01
2	062-MW13-Q2-02-29	CEF-293-13	W	06/04/02	14:55	III/C	14	3	2					Grab		02
3	062-MW20-Q2-02-29	CEF-293-20	W	06/04/02	9:40	III/C	14	9	6					Grab	MS / MSD	03,04,05
4	062-MW22-Q2-02-29	CEF-293-22	W	06/04/02	11:35	III/C	14	3	2					Grab		06
5	062-VEW3-Q2-02-29	VEW-3	W	06/04/02	17:05	III/C	14	3	2					Grab		07
6	062-VEW4-Q2-02-29	VEW-4	W	06/04/02	12:25	III/C	14	3	2					Grab		08
7	062-VEW5-Q2-02-29	VEW-5	W	06/04/02	16:25	III/C	14	3	2					Grab		09
8	062-VEW6-Q2-02-29	VEW-6	W	06/04/02	15:40	III/C	14	3	2					Grab		10
9	062-EQB-Q2-02-29	Equipment Blank	W	06/04/02	13:00	III/C	14	3	2					Grab		11
10	062-TB1-Q2-02-29	Trip Blank #1	W	NA	NA	III/C	14	3						Grab		12
11	NA	Temperature Blank	W	NA	NA	III/C	14			2				Grab		

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7927 2973 7369, 7918 5367 1134. (2 Coolers)	Temp upon rect 4°C / pH<2 (8021) Extra 8310 ambers rec'd

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
R.Dumaop	6/4/02	18:00	Federal Express	6/4/02	18:00
Printed Name and Signature:			Printed Name and Signature:		
			[illegible] Brenner PEL	06/05/02	10:00
Printed Name and Signature			Printed Name and Signature:		

Form CC1001, Rev 02/00

PEL LABS SAMPLE LOG IN SHEET

Project # 2204-184

Client Information

Client: CH2M Hill	Date Rec'd: 6/5/02
Project: Cecil Field CTO-62	Due Date: —
Log In Tech: ZYK	Rec'd via: Client Crosstown FedEx
Comments:	Other:

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4C		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	✓		Correct Sample Containers?	✓	
Soil Origin Domestic? NA			Soil Origin Foreign? NA		

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH		
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?		✓
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?		✓
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2204 -184

By [illegible]

Client/Project CH2M Hill / Cecil Field

Date 6/5/02

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC NaOH pH>9	HCL pH<2	Other ____ pH ____
2204-184-01					(3) pH<2	
-02						
-03						
-04						
-05						
-06						
-07						
-08						
-09						
-10						
-11						
-12						

CHAM Hill / Cecil Field CTO-062 2204-184

Sample #	Parameter	Rel'd	Rec'd	Date	Time
1-12	8021(w)	[illegible]	MWJ	6/11/02	8:50
1-12	8021(w)	MWJ	[illegible]	6/11/02	14:50
1-11	8310(w)	[illegible]	Out	6/9/02	0943
1-11	8310(w)		Consumed		
1-12	8021 w	[illegible]	MWJ	6/12/02	8:30
1-12	8021 w	MWJ	[illegible]	6/12/02	16:05

Addendum

170602 1553

Letter of Acceptance

Customer Name:	CH2M Hill
Date and Time Received:	6/5/02 10:00:00 AM
Date to be Reported:	6/26/02
Laboratory Submission Number/SDG:	2204184
Project:	Cecil Field CTO 062

Samples: The submission consisted of 12 samples with sample identification shown in the attached data tables.

Tests: The Samples will be analyzed for EPA methods: 8021, 8310.

Sample Custody/COC discrepancies:

None.

Notes:

Distribution of Report to:

CH2M Hill
Attn: Bill Canelos
Phone: W (904)-777-4812
F (904)-777-4262

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our Letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials

Log-in Report

Level: 4

Total of: 23 analyses on 12 samples (including QC) *06-Jun-02*

Report/SDG #: 2204184

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW4Q20229	220418401	CEF-293-4	W	6/4/02 2:00:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW13Q20229	220418402	CEF-293-13	W	6/4/02 2:55:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q20229	220418403	CEF-293-20	W	6/4/02 9:40:00 AM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q20229MS	220418404	CEF-293-20	WQ	6/4/02 9:40:00 AM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q20229SD	220418405	CEF-293-20	WQ	6/4/02 9:40:00 AM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

Report/SDG #: 2204184

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW22Q20229	220418406	CEF-293-22	W	6/4/02 11:35:00 AM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW3Q20229	220418407	VEW-3	W	6/4/02 5:05:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW4Q20229	220418408	VEW-4	W	6/4/02 12:25:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW5Q20229	220418409	VEW-5	W	6/4/02 4:25:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW6Q20229	220418410	VEW-6	W	6/4/02 3:40:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
EQBQ20229	220418411	Equipment	WQ	6/4/02 1:00:00 PM	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

Report/SDG #: 2204184

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TB1Q20229	220418412	Trip Blank #1	WQ	6/5/02	6/5/02 10:00:00 AM
Method					
8021	VOH			8021	

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	6-6-02; 10:15 AM
Date Reported:	6-19-02
PEL Submission Number:	2204197
Project:	Cecil Field CTO 062

Samples: The submission consisted of 6 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA methods: 8021, 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 2204197-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2204197	0612BLK31	MB	0612BLK31	0612BLK31
Cecil Field	2204197	0612LCS31	BS	0612LCS31	0612LCS31
Cecil Field	2204197	612BLK	MB	70995	612BLK
Cecil Field	2204197	612BLKMS	BS	70997	612BLK
Cecil Field	2204197	612BLKSD	BD	70998	612BLK
Cecil Field	2204197	612LCS	BS	70996	612LCS
Cecil Field	2204197	DUPQ20229	FD	220419706	062-DUP-Q2-02-29
Cecil Field	2204197	MW9Q20229	N	220419701	062-MW9-Q2-02-29
Cecil Field	2204197	TB2Q20229	TB	220419705	062-TB2-Q2-02-29
Cecil Field	2204197	VEW2Q20229	N	220419702	062-VEW2-Q2-02-29
Cecil Field	2204197	VEW7Q20229	N	220419703	062-VEW7-Q2-02-29
Cecil Field	2204197	VEW8Q20229	N	220419704	062-VEW8-Q2-02-29

Organics **1**
METHOD 8021 GC VOLATILE ORGANICS 4
Sample Data 8
QC Summary 15
Standards Data 25
METHOD 8310 HPLC PAH ORGANICS 35
Sample Data 39
QC Summary 45
Standards Data 53

Chain of Custody Documentation **62**

Addendum **67**

Organics

190602 952

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns. The lower of the two values is reported on Form 1 with a "P" qualifier.

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

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

190602 952

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

GC VOLATILE ORGANICS

METHOD 8021

190602 952

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204197

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by SW846/5030 for EPA8021 volatiles analysis.
All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

An MS/SD set (not requested by client) was analyzed. The Form 3 is included for your review. All percent recovery and relative percent difference (RPD) criteria were met with the exception of:
MS - MW20Q20229MS was analyzed with the water samples on 06/12/02. The following analyte(s) were recovered above criteria: p,m-Xylene at 116.5 % with criteria of (94-116). No further action is necessary. These results are within the PEL 10% limits.
Samples coded accordingly.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204197

Client: CH2M Hill

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally. Client specified reporting limits were used.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 06-18-02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Method: **8021**

EPA Sample No	Lab Sample ID
MW9Q20229	220419701
VEW2Q20229	220419702
VEW7Q20229	220419703
VEW8Q20229	220419704
TB2Q20229	220419705
DUPQ20229	220419706

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Sample Data

190602 952

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW9Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419701

Lab File ID: 197-1.D

Sample wt/vol: 5

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1950

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: CEF-293-9

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW2Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419702

Lab File ID: 197-2.D

Sample wt/vol: 5

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 2032

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: VEW-2

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.45	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.62	J

190602 953

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW7Q20229

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Matrix: WATER Lab Sample ID: 220419703 Lab File ID: 197-3.D

Sample wt/vol: 5 Units: ML Date Received: 06/06/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 06/12/02 Time: 2114

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-7 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW8Q20229

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Matrix: WATER Lab Sample ID: 220419704 Lab File ID: 197-4.D

Sample wt/vol: 5 Units: ML Date Received: 06/06/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 06/12/02 Time: 2156

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: VEW-8 Method: 8021

GPC Cleanup : (Y/N) pH:

Column(1): RTX-502.2 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1.7	
511-39-00	p,m-Xylene	1.7	J
95-47-6	o-Xylene	0.37	J

190602 953

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

TB2Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419705

Lab File ID: 197-5.D

Sample wt/vol: 5

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 1908

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank #2

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419706

Lab File ID: 197-6.D

Sample wt/vol: 5

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 2237

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: FIELD DUP

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

QC Summary

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1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0612BLK31

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 0612BLK31

Lab File ID: BLK31.D

Sample wt/vol: 5

Units: ML

Date Received: 06/12/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 06/12/02

Time: 0819

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID:

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	1	U
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

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Form I

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 0612BLK31

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204197

Lab File ID: BLK31.D
Lab Sample ID: 0612BLK31

Instrument ID: VGC3
Date Extracted:

Matrix: WATER
Date Analyzed: 06/12/02

Level:(low/med) LOW
Time Analyzed: 0819

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	0612LCS31	0612LCS31	LCS31.D	06/12/02	0737
2	MW20Q20229	220418403	184-3.D	06/12/02	0901
3	MW20Q20229MS	220418404	184-4MS.D	06/12/02	0943
4	MW20Q20229SD	220418405	184-5SD.D	06/12/02	1025
5	TB2Q20229	220419705	197-5.D	06/12/02	1908
6	MW9Q20229	220419701	197-1.D	06/12/02	1950
7	VEW2Q20229	220419702	197-2.D	06/12/02	2032
8	VEW7Q20229	220419703	197-3.D	06/12/02	2114
9	VEW8Q20229	220419704	197-4.D	06/12/02	2156
10	DUPQ20229	220419706	197-6.D	06/12/02	2237

COMMENTS:

Page 1 of 1

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Form IV

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204197

Column(1): RTX-502.2 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0612BLK31	97.0						0
0612LCS31	91.7						0
DUPQ20229	109.0						0
MW9Q20229	111.0						0
TB2Q20229	115.3						0
VEW2Q20229	107.7						0
VEW7Q20229	110.3						0
VEW8Q20229	112.7						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

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8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Lab File ID (Standard): 30PPB.D Date Analyzed: 6/3/2002

Instrument ID: VGC3 Time Analyzed: 20:10

GC Column: RTX-502.2 ID: 0.53 (mm)

Matrix: (soil/water) WATER Heated Purge: (Y/N) NO

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	742702		14.48						
	UPPER LIMIT	1485404		14.98						
	LOWER LIMIT	371351		13.98						
	EPA SAMPLE NO.									
1	0612LCS31	712585		14.48						
2	0612BLK31	675334		14.48						
3	MW20Q20229	648530		14.49						
4	MW20Q20229MS	650738		14.49						
5	MW20Q20229SD	688547		14.49						
6	TB2Q20229	601682		14.49						
7	MW9Q20229	571078		14.49						
8	VEW2Q20229	607468		14.48						
9	VEW7Q20229	586535		14.49						
10	VEW8Q20229	576436		14.48						
11	DUPQ20229	583558		14.48						

IS1 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

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FORM VIII

8

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 06/04/02

Instrument ID: VGC3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.97 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD27121	2PPB	06/03/02	1722	29.01	
2	STD27126	5PPB	06/03/02	1804	28.99	
3	STD27098	10PPB	06/03/02	1846	28.97	
4	STD27100	20PPB	06/03/02	1928	28.96	
5	STD27122	30PPB	06/03/02	2010	28.95	
6	STD27123	40PPB	06/03/02	2051	28.96	
7	STD27125	50PPB	06/03/02	2133	28.96	
8	STD27097	100PPB	06/03/02	2215	28.96	
9	STD27099	1PPB	06/04/02	0823	28.95	
10	SSC27128	SEC35	06/04/02	1013	28.96	
11	CCV27090	0612CCV31	06/12/02	0646	28.91	
12	0612LCS31	0612LCS31	06/12/02	0737	28.95	
13	0612BLK31	0612BLK31	06/12/02	0819	28.96	
14	MW20Q20229	220418403	06/12/02	0901	28.96	
15	MW20Q20229MS	220418404	06/12/02	0943	28.96	
16	MW20Q20229SD	220418405	06/12/02	1025	28.97	
17	ZZZZZZ	ZZZZZZ	06/12/02	1111		
18	ZZZZZZ	ZZZZZZ	06/12/02	1153		
19	ZZZZZZ	ZZZZZZ	06/12/02	1236		
20	ZZZZZZ	ZZZZZZ	06/12/02	1318		
21	ZZZZZZ	ZZZZZZ	06/12/02	1402		
22	CCV27091	0612CCV32	06/12/02	1445	29.02	
23	ZZZZZZ	ZZZZZZ	06/12/02	1534		
24	ZZZZZZ	ZZZZZZ	06/12/02	1618		
25	ZZZZZZ	ZZZZZZ	06/12/02	1701		
26	ZZZZZZ	ZZZZZZ	06/12/02	1744		

QC LIMITS

S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

190602 953 FORM VIII

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 06/04/02

Instrument ID: VGC3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.97 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	ZZZZZZ	ZZZZZZ	06/12/02	1826		
28	TB2Q20229	220419705	06/12/02	1908	28.96	
29	MW9Q20229	220419701	06/12/02	1950	28.96	
30	VEW2Q20229	220419702	06/12/02	2032	28.96	
31	VEW7Q20229	220419703	06/12/02	2114	28.95	
32	VEW8Q20229	220419704	06/12/02	2156	28.95	
33	DUPQ20229	220419706	06/12/02	2237	28.95	
34	CCV27092	0612CCV33	06/12/02	2319	28.95	
35	ZZZZZZ	ZZZZZZ	06/13/02	0001		
36	ZZZZZZ	ZZZZZZ	06/13/02	0043		
37	ZZZZZZ	ZZZZZZ	06/13/02	0125		
38	ZZZZZZ	ZZZZZZ	06/13/02	0207		
39	ZZZZZZ	ZZZZZZ	06/13/02	0248		

QC LIMITS
S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

190602 953 FORM VIII

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0612LCS31

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	9.4	94.0	65 - 134
MTBE	10	9.9	99.0	80 - 135
Toluene	10	9.9	99.0	82 - 124
Ethylbenzene	10	10.5	105.0	86 - 122
p,m-Xylene	20	21.4	107.0	88 - 124
o-Xylene	10	10.8	108.0	92 - 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:

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Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q20229MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Benzene	10	0.77	10.7	99.3	66 - 132
MTBE	10	0	10.4	104.0	81 - 129
Toluene	10	0.47	11.1	106.3	86 - 120
Ethylbenzene	10	0.39	11.6	112.1	87 - 120
p,m-Xylene	20	0	23.3	116.5 *	94 - 116
o-Xylene	10	0.48	11.9	114.2	93 - 122

Spike Recovery: 1 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

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3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field MW20Q20229SD

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	10.1	93.3	5.9	20	66 - 132
MTBE	10	10	100.0	4.0	24	81 - 129
Toluene	10	10.5	100.3	6.1	22	86 - 120
Ethylbenzene	10	10.9	105.1	6.2	23	87 - 120
p,m-Xylene	20	22	110.0	5.7	16	94 - 116
o-Xylene	10	11.3	108.2	5.7	28	93 - 122

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 6 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

190602 953

Standards Data

190602 953

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RRF1 =1PPBR2.D
RRF2 =2PPB.D RRF5 =5PPB.D RRF10 =10PPB.D

COMPOUND		RRF1	RRF2	RRF5	RRF10
Benzene		1.449	2.355	1.839	1.662
MTBE		0.522	1.041	0.722	0.658
Toluene		1.458	2.005	1.617	1.495
Ethylbenzene		1.294	1.341	1.269	1.301
p,m-Xylene		1.422	1.606	1.453	1.461
o-Xylene		1.149	1.333	1.187	1.218
==========					
4-Bromofluorobenzene(SURR)		1.263	1.317	1.184	1.292

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FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D
RRF40 =40PPB.D RRF50 =50PPB.D RRF100 =100PPB.D

COMPOUND	RRF20	RRF30	RRF40	RRF50	RRF100
Benzene	1.553	1.530	1.421	1.414	1.343
MTBE	0.585	0.558	0.523	0.518	0.480
Toluene	1.425	1.408	1.314	1.305	1.240
Ethylbenzene	1.298	1.290	1.219	1.204	1.140
p,m-Xylene	1.445	1.437	1.347	1.328	1.258
o-Xylene	1.214	1.217	1.142	1.131	1.068
==========					
4-Bromofluorobenzene(SURR)	1.347	1.329	1.268	1.272	1.178

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FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2	
Benzene	AVRG		1.6184034797	19.4	
MTBE	AVRG		0.6229291188	28	<-
Toluene	AVRG		1.4742539561	15.5	
Ethylbenzene	AVRG		1.2617731239	4.9	
p,m-Xylene	AVRG		1.4173606545	7	
o-Xylene	AVRG		1.1842217153	6.3	
==========					
4-Bromofluorobenzene(SURR)	AVRG		1.2723775853	4.6	

Average Used: 12.2

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RT2: 1PPBR2.D
RT3: 2PPB.D RT4: 5PPB.D RT5: 10PPB.D

COMPOUND		RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	TO
Benzene		14.057	14.103	14.083	14.073			
MTBE		9.537	9.570	9.553	9.540			
Toluene		18.957	19.027	19.000	18.980			
Ethylbenzene		25.070	25.140	25.113	25.097			
p,m-Xylene		25.367	25.433	25.410	25.390			
o-Xylene		26.930	26.997	26.977	26.963			
==========								
4-Bromofluorobenzene(SURR)		28.950	29.007	28.990	28.973			

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 Calibration Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 0823

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D
RT8: 40PPB.D RT9: 50PPB.D RT10: 100PPB.D

COMPOUND	RT6	RT7	RT8	RT9	RT10	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Benzene	14.057	14.047	14.050	14.047	14.047	14.063	13.857	14.257
MTBE	9.527	9.523	9.523	9.520	9.533	9.536	9.337	9.737
Toluene	18.963	18.953	18.957	18.953	18.953	18.971	18.757	19.157
Ethylbenzene	25.077	25.070	25.070	25.073	25.070	25.087	24.870	25.270
p,m-Xylene	25.377	25.367	25.370	25.370	25.373	25.384	25.167	25.567
o-Xylene	26.943	26.937	26.937	26.940	26.940	26.952	26.730	27.130
==========								
4-Bromofluorobenzene(SURR)	28.960	28.953	28.957	28.957	28.957	28.967	28.750	29.150

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 CalibrationDate: 06/04/02 Time: 1013

Lab File ID: SEC35.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF0	%D	
Benzene	1.6184	1.44	11.0	
MTBE	0.62293	0.5084	18.4	<-
Toluene	1.47425	1.367	7.3	
Ethylbenzene	1.26177	1.221	3.2	
p,m-Xylene	1.41736	1.392	1.8	
o-Xylene	1.18422	1.172	1.0	
==========				
4-Bromofluorobenzene	1.27238	1.278	0.4	

Average Used: 6.2

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FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 0646

Lab File ID: CCV31.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.467	9.4
MTBE	0.62293	0.6073	2.5
Toluene	1.47425	1.368	7.2
Ethylbenzene	1.26177	1.275	1.0
p,m-Xylene	1.41736	1.402	1.1
o-Xylene	1.18422	1.184	0.0
==========			
4-Bromofluorobenzene	1.27238	1.266	0.5

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 1445

Lab File ID: CCV32.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.523	5.9
MTBE	0.62293	0.6164	1.0
Toluene	1.47425	1.424	3.4
Ethylbenzene	1.26177	1.339	6.1
p,m-Xylene	1.41736	1.477	4.2
o-Xylene	1.18422	1.245	5.1
==========			
4-Bromofluorobenzene	1.27238	1.31	3.0

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: VGC3 CalibrationDate: 06/12/02 Time: 2319

Lab File ID: CCV33.D Init. Calib. Date: 06/04/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.6184	1.639	1.3
MTBE	0.62293	0.6866	10.2
Toluene	1.47425	1.533	4.0
Ethylbenzene	1.26177	1.425	12.9
p,m-Xylene	1.41736	1.563	10.3
o-Xylene	1.18422	1.34	13.2
==========			
4-Bromofluorobenzene	1.27238	1.344	5.6

HPLC PAH ORGANICS

METHOD 8310

190602 953

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204197

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

SW846/EPA 8310

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8310 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A reagent MS/SD set was analyzed.
All percent recovery and relative percent difference(RPD) criteria were met with the exception of:
SD - 612BLKSD was analyzed with the water samples extracted on 06/12/02. The following analyte(s) exceeded rpd criteria: Dibenz(a,h)anthracene at 22.4 % with criteria of (21).

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2204197

Client: CH2M Hill

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.

Analysis indicates the possibility that sample MW9Q20229 is a duplicate of sample DUPQ20229.

Project specific Reporting Limits were used per client request.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 6-18-02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Method: **8310**

EPA Sample No	Lab Sample ID
MW9Q20229	220419701
VEW2Q20229	220419702
VEW7Q20229	220419703
VEW8Q20229	220419704
DUPQ20229	220419706

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Sample Data

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1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW9Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419701

Lab File ID: 197-1.D

Sample wt/vol: 950 Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 1

Date Extracted: 06/10/02

Level:(low/med) LOW

Date Analyzed: 06/13/02 Time: 1533

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-293-9 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW2Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419702

Lab File ID: 197-2.D

Sample wt/vol: 955

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 1

Date Extracted: 06/10/02

Level:(low/med) LOW

Date Analyzed: 06/13/02

Time: 1607

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-2

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.39	
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.42	
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW7Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419703

Lab File ID: 197-3.D

Sample wt/vol: 960

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 1

Date Extracted: 06/10/02

Level:(low/med) LOW

Date Analyzed: 06/13/02

Time: 1642

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-7

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW8Q20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419704

Lab File ID: 197-4.D

Sample wt/vol: 960 Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 1

Date Extracted: 06/10/02

Level:(low/med) LOW

Date Analyzed: 06/13/02 Time: 1717

PercentSolids: 0 decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-8 Method: 8310

GPC Cleanup : (Y/N) N pH:

Column(1): Vydac 201TP54 ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	2.1	
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	1.6	
91-57-6	2-Methylnaphthalene	2	
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.29	
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ20229

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 220419706

Lab File ID: 197-6.D

Sample wt/vol: 950

Units: ML

Date Received: 06/06/02

Concentrated Extract Volume: 1

Date Extracted: 06/10/02

Level:(low/med) LOW

Date Analyzed: 06/13/02

Time: 1751

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: FIELD DUP

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.27	
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.

612BLK

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2204197

Matrix: WATER

Lab Sample ID: 70995

Lab File ID: 612BLK.D

Sample wt/vol: 1000

Units: ML

Date Received: 06/12/02

Concentrated Extract Volume: 1

Date Extracted: 06/12/02

Level:(low/med) LOW

Date Analyzed: 06/13/02

Time: 1315

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID:

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.2	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 612BLK

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field

Lab Code : PEL
Case No.
SAS No:
SDG No.: 2204197

Lab File ID: 612BLK.D
Lab Sample ID: 70995

Instrument ID: SLC01
Date Extracted: 06/12/02

Matrix: WATER
Date Analyzed: 06/13/02

Level:(low/med) LOW
Time Analyzed: 1315

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	612LCS	70996	612LCS.D	06/13/02	1349
2	612BLKMS	70997	612BLKMS.D	06/13/02	1424
3	612BLKSD	70998	612BLKSD.D	06/13/02	1458
4	MW9Q20229	220419701	197-1.D	06/13/02	1533
5	VEW2Q20229	220419702	197-2.D	06/13/02	1607
6	VEW7Q20229	220419703	197-3.D	06/13/02	1642
7	VEW8Q20229	220419704	197-4.D	06/13/02	1717
8	DUPQ20229	220419706	197-6.D	06/13/02	1751

COMMENTS:

2A

WATER PAH ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2204197

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
612BLK	85.5						0
612BLKMS	80.5						0
612BLKSD	79.0						0
612LCS	82.0						0
DUPQ20229	75.2						0
MW9Q20229	58.1						0
VEW2Q20229	72.2						0
VEW7Q20229	74.0						0
VEW8Q20229	62.5						0

Control Limits

S1 = p-Terphenyl-d14 39 - 107

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

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PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 06/05/02

Instrument ID: SLC01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.73 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
1	STD27068	sv4940	06/05/02	1746	18.71			
2	STD27067	sv4941	06/05/02	1820	18.72			
3	STD27064	sv4942	06/05/02	1855	18.73			
4	STD27063	sv4943	06/05/02	1929	18.74			
5	STD27069	sv4944	06/05/02	2004	18.74			
6	STD27065	sv4945	06/05/02	2039	18.74			
7	STD27066	sv4946	06/05/02	2113	18.74			
8	SSC27070	sv4948	06/05/02	2148	18.74			
9	ZZZZZZ	ZZZZZZ	06/13/02	1205				
10	CCV27722	SV4942	06/13/02	1240	18.78			
11	612BLK	70995	06/13/02	1315	18.73			
12	612LCS	70996	06/13/02	1349	18.72			
13	612BLKMS	70997	06/13/02	1424	18.72			
14	612BLKSD	70998	06/13/02	1458	18.73			
15	MW9Q20229	220419701	06/13/02	1533	18.73			
16	VEW2Q20229	220419702	06/13/02	1607	18.72			
17	VEW7Q20229	220419703	06/13/02	1642	18.71			
18	VEW8Q20229	220419704	06/13/02	1717	18.71			
19	DUPQ20229	220419706	06/13/02	1751	18.71			
20	ZZZZZZ	ZZZZZZ	06/13/02	1826				
21	CCV27723	SV4942	06/13/02	1900	18.71			
22	ZZZZZZ	ZZZZZZ	06/13/02	1935				

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

Page 1 of 1

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3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

612LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.3	53.0	45 - 78
Acenaphthylene	10	5.7	57.0	50 - 91
1-Methylnaphthalene	10	4.8	48.0	48 - 92
2-Methylnaphthalene	10	5.4	54.0	52 - 88
Acenaphthene	10	5.2	52.0	52 - 86
Fluorene	10	5.8	58.0	51 - 92
Phenanthrene	10	5.9	59.0	52 - 98
Anthracene	10	6.5	65.0	44 - 105
Fluoranthene	10	7	70.0	58 - 99
Pyrene	10	7.6	76.0	56 - 102
Benzo(a)anthracene	10	8.2	82.0	59 - 103
Chrysene	10	8.2	82.0	58 - 104
Benzo(b)fluoranthene	10	8.2	82.0	53 - 108
Benzo(k)fluoranthene	10	8.2	82.0	52 - 107
Benzo(a)pyrene	10	7.8	78.0	56 - 101
Dibenz(a,h)anthracene	10	5.9	59.0	41 - 114
Benzo(g,h,i)perylene	10	6.6	66.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	6.9	69.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

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Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

612BLKMS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10	0	5.7	57.0	45 - 78
Acenaphthylene	10	0	6.2	62.0	50 - 91
1-Methylnaphthalene	10	0	5.2	52.0	48 - 92
2-Methylnaphthalene	10	0	5.8	58.0	52 - 88
Acenaphthene	10	0	5.6	56.0	52 - 86
Fluorene	10	0	6.2	62.0	51 - 92
Phenanthrene	10	0	6.2	62.0	52 - 98
Anthracene	10	0	6.8	68.0	44 - 105
Fluoranthene	10	0	6.6	66.0	58 - 99
Pyrene	10	0	7.4	74.0	56 - 102
Benzo(a)anthracene	10	0	8.2	82.0	59 - 103
Chrysene	10	0	8.2	82.0	58 - 104
Benzo(b)fluoranthene	10	0	8	80.0	53 - 108
Benzo(k)fluoranthene	10	0	7.7	77.0	52 - 107
Benzo(a)pyrene	10	0	7.5	75.0	56 - 101
Dibenz(a,h)anthracene	10	0	4.7	47.0	41 - 114
Benzo(g,h,i)perylene	10	0	5.5	55.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	0	5.9	59.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

190602 953

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

612BLKSD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10	5.3	53.0	7.5	27	45 - 78
Acenaphthylene	10	5.7	57.0	9.7	34	50 - 91
1-Methylnaphthalene	10	4.8	48.0	8.3	29	48 - 92
2-Methylnaphthalene	10	5.4	54.0	7.3	34	52 - 88
Acenaphthene	10	5.2	52.0	6.9	37	52 - 86
Fluorene	10	5.7	57.0	7.8	28	51 - 92
Phenanthrene	10	5.8	58.0	6.3	32	52 - 98
Anthracene	10	6.5	65.0	5.0	34	44 - 105
Fluoranthene	10	6.4	64.0	3.5	28	58 - 99
Pyrene	10	6.9	69.0	6.5	30	56 - 102
Benzo(a)anthracene	10	7.9	79.0	3.3	28	59 - 103
Chrysene	10	8	80.0	2.6	21	58 - 104
Benzo(b)fluoranthene	10	7.9	79.0	0.9	21	53 - 108
Benzo(k)fluoranthene	10	8	80.0	3.9	20	52 - 107
Benzo(a)pyrene	10	7.6	76.0	1.7	22	56 - 101
Dibenz(a,h)anthracene	10	5.9	59.0	22.4 *	21	41 - 114
Benzo(g,h,i)perylene	10	6.6	66.0	17.7	21	41 - 109
Indeno(1,2,3-cd)pyrene	10	6.8	68.0	14.7	28	42 - 105

RPD: 1 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

190602 953

Standards Data

190602 953

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RRF0.2 =200PPT.D RRF1 =1PPB.D
RRF5 =5PPB.D RRF10 =10PPB.D RRF15 =15PPB.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	4810.000	4577.000	4867.000	4483.000	4619.200
Acenaphthylene	3455.000	4312.000	3766.600	3742.200	3442.733
1-Methylnaphthalene	13685.000	17324.000	25147.200	27379.500	28018.867
2-Methylnaphthalene	4790.000	4394.000	4162.200	4136.100	4104.000
Acenaphthene	31575.000	33019.000	46922.200	49396.800	49845.733
Fluorene	22865.000	22982.000	22520.400	22535.200	22317.067
Phenanthrene	93705.000	143365.000	164311.600	167565.500	165713.867
Anthracene	179410.000	182470.000	178999.400	175028.200	167492.800
Fluoranthene	18370.000	17606.000	16830.600	16403.100	15946.200
Pyrene	13365.000	13632.000	13950.200	12774.400	12781.867
Benzo(a)anthracene	37775.000	39507.000	36903.400	36592.900	35665.867
Chrysene	342165.000	432706.000	449278.400	449945.800	431264.133
Benzo(b)fluoranthene	39175.000	40436.000	40367.400	40096.900	39670.533
Benzo(k)fluoranthene	51680.000	39656.000	36612.200	36270.800	35434.933
Benzo(a)pyrene	182830.000	261306.000	281657.200	285323.500	280913.400
Dibenz(a,h)anthracene	203960.000	290815.000	311670.600	315758.700	309495.267
Benzo(g,h,i)perylene	16535.000	15020.000	14752.200	14668.600	14390.600
Indeno(1,2,3-cd)pyrene	44890.000	48107.000	46885.200	46736.300	45699.733
==========					
p-Terphenyl-d14(SURR)		13957.000	13092.000	12912.600	11973.867

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RRF20 =20PPB.D RRF30 =30PPB.D

COMPOUND	RRF20	RRF30			
Naphthalene	4579.100	4507.833			
Acenaphthylene	3669.050	3687.000			
1-Methylnaphthalene	28548.500	29344.733			
2-Methylnaphthalene	4102.400	4131.533			
Acenaphthene	50752.650	51836.567			
Fluorene	22379.800	22601.967			
Phenanthrene	169398.850	172256.267			
Anthracene	165982.200	159449.133			
Fluoranthene	16410.150	16519.533			
Pyrene	13787.350	12745.500			
Benzo(a)anthracene	36154.700	36429.467			
Chrysene	446480.150	450901.600			
Benzo(b)fluoranthene	39991.950	40340.767			
Benzo(k)fluoranthene	35863.700	36030.867			
Benzo(a)pyrene	286018.800	288753.833			
Dibenz(a,h)anthracene	314096.300	315952.367			
Benzo(g,h,i)perylene	14737.150	14846.967			
Indeno(1,2,3-cd)pyrene	46418.350	46540.400			
==========					
p-Terphenyl-d14(SURR)	12801.250	12846.567			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	LINR		0.0002200196	0.9996
Acenaphthylene	LINR		0.0002734945	0.99867
1-Methylnaphthalene	LINR		3.471722E-05	0.99812
2-Methylnaphthalene	LINR		0.000242618	0.99996
Acenaphthene	LINR		1.957261E-05	0.99894
Fluorene	LINR		4.443478E-05	0.99994
Phenanthrene	LINR		5.872401E-06	0.99946
Anthracene	LINR		6.115006E-06	0.99786
Fluoranthene	LINR		6.091742E-05	0.99966
Pyrene	LINR		7.669056E-05	0.99714
Benzo(a)anthracene	LINR		2.756327E-05	0.99985
Chrysene	LINR		2.236363E-06	0.9995
Benzo(b)fluoranthene	LINR		2.490534E-05	0.99992
Benzo(k)fluoranthene	LINR		2.78265E-05	0.99988
Benzo(a)pyrene	LINR		3.487764E-06	0.99977
Dibenz(a,h)anthracene	LINR		3.17919E-06	0.99987
Benzo(g,h,i)perylene	LINR		6.780739E-05	0.99975
Indeno(1,2,3-cd)pyrene	LINR		2.154421E-05	0.9999
==========				
p-Terphenyl-d14(SURR)	LINR		7.854084E-05	0.99833

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RT1: 200PPT.D RT2: 1PPB.D
RT3: 5PPB.D RT4: 10PPB.D RT5: 15PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.807	11.803	11.803	11.800	11.803			
Acenaphthylene	13.000	13.010	13.017	13.013	13.013			
1-Methylnaphthalene	13.723	13.713	13.723	13.719	13.722			
2-Methylnaphthalene	13.993	13.990	13.997	13.993	13.993			
Acenaphthene	14.390	14.383	14.390	14.384	14.387			
Fluorene	14.693	14.687	14.693	14.690	14.690			
Phenanthrene	15.578	15.574	15.582	15.579	15.577			
Anthracene	16.283	16.283	16.287	16.283	16.280			
Fluoranthene	17.093	17.093	17.097	17.093	17.090			
Pyrene	17.670	17.663	17.663	17.660	17.657			
Benzo(a)anthracene	19.523	19.520	19.520	19.517	19.513			
Chrysene	20.055	20.048	20.050	20.042	20.040			
Benzo(b)fluoranthene	21.373	21.357	21.360	21.350	21.350			
Benzo(k)fluoranthene	22.083	22.063	22.067	22.047	22.050			
Benzo(a)pyrene	22.792	22.766	22.775	22.751	22.758			
Dibenz(a,h)anthracene	23.868	23.819	23.838	23.787	23.815			
Benzo(g,h,i)perylene	24.470	24.433	24.450	24.407	24.430			
Indeno(1,2,3-cd)pyrene	25.067	25.017	25.033	24.983	25.003			
==========								
p-Terphenyl-d14(SURR)		18.737	18.740	18.737	18.733			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 Calibration Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 2113

LAB FILE ID: RT6: 20PPB.D RT7: 30PPB.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.800	11.780				11.799	11.573	12.033
Acenaphthylene	13.007	12.997				13.008	12.783	13.243
1-Methylnaphthalene	13.716	13.707				13.717	13.492	13.952
2-Methylnaphthalene	13.987	13.980				13.990	13.763	14.223
Acenaphthene	14.379	14.373				14.383	14.157	14.617
Fluorene	14.683	14.677				14.688	14.460	14.920
Phenanthrene	15.572	15.565				15.575	15.347	15.807
Anthracene	16.273	16.267				16.279	16.050	16.510
Fluoranthene	17.083	17.077				17.089	16.860	17.320
Pyrene	17.650	17.640				17.658	17.427	17.887
Benzo(a)anthracene	19.503	19.493				19.513	19.283	19.743
Chrysene	20.026	20.013				20.039	19.810	20.270
Benzo(b)fluoranthene	21.337	21.320				21.350	21.120	21.580
Benzo(k)fluoranthene	22.033	22.010				22.050	21.820	22.280
Benzo(a)pyrene	22.741	22.715				22.757	22.528	22.988
Dibenz(a,h)anthracene	23.786	23.757				23.810	23.585	24.045
Benzo(g,h,i)perylene	24.397	24.370				24.422	24.200	24.660
Indeno(1,2,3-cd)pyrene	24.963	24.927				24.999	24.773	25.233
==========								
p-Terphenyl-d14(SURR)	18.723	18.710				18.730	18.503	18.963

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 CalibrationDate: 06/13/02 Time: 1240

Lab File ID: CCV12.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.4	15	LINR	2.7	15.0
Acenaphthylene	15.4	15	LINR	2.7	15.0
1-Methylnaphthalene	15.1	15	LINR	0.7	15.0
2-Methylnaphthalene	15	15	LINR	0.0	15.0
Acenaphthene	14.9	15	LINR	0.7	15.0
Fluorene	15	15	LINR	0.0	15.0
Phenanthrene	14.8	15	LINR	1.3	15.0
Anthracene	16	15	LINR	6.7	15.0
Fluoranthene	15.2	15	LINR	1.3	15.0
Pyrene	16.4	15	LINR	9.3	15.0
Benzo(a)anthracene	15.1	15	LINR	0.7	15.0
Chrysene	15.2	15	LINR	1.3	15.0
Benzo(b)fluoranthene	15.1	15	LINR	0.7	15.0
Benzo(k)fluoranthene	15.3	15	LINR	2.0	15.0
Benzo(a)pyrene	15	15	LINR	0.0	15.0
Dibenz(a,h)anthracene	15	15	LINR	0.0	15.0
Benzo(g,h,i)perylene	15.1	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15.2	15	LINR	1.3	15.0
==========					
p-Terphenyl-d14	15.3	15	LINR	2.0	15.0

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 CalibrationDate: 06/13/02 Time: 1900

Lab File ID: CCV21.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.6	15	LINR	4.0	15.0
Acenaphthylene	15.3	15	LINR	2.0	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	15.2	15	LINR	1.3	15.0
Acenaphthene	14.8	15	LINR	1.3	15.0
Fluorene	15.2	15	LINR	1.3	15.0
Phenanthrene	14.9	15	LINR	0.7	15.0
Anthracene	15.9	15	LINR	6.0	15.0
Fluoranthene	15.6	15	LINR	4.0	15.0
Pyrene	16.2	15	LINR	8.0	15.0
Benzo(a)anthracene	15.3	15	LINR	2.0	15.0
Chrysene	15.3	15	LINR	2.0	15.0
Benzo(b)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(k)fluoranthene	15.4	15	LINR	2.7	15.0
Benzo(a)pyrene	14.8	15	LINR	1.3	15.0
Dibenz(a,h)anthracene	15.1	15	LINR	0.7	15.0
Benzo(g,h,i)perylene	15.1	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15.3	15	LINR	2.0	15.0
==========					
p-Terphenyl-d14	15.4	15	LINR	2.7	15.0

7SSC

PAH ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2204197

Instrument ID: SLC01 CalibrationDate: 06/05/02 Time: 2148

Lab File ID: SECCCV.D Init. Calib. Date: 06/05/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.8	15	LINR	5.3	15.0
Acenaphthylene	14.9	15	LINR	0.7	15.0
1-Methylnaphthalene	15.5	15	LINR	3.3	15.0
2-Methylnaphthalene	15.1	15	LINR	0.7	15.0
Acenaphthene	15.1	15	LINR	0.7	15.0
Fluorene	15.4	15	LINR	2.7	15.0
Phenanthrene	15.1	15	LINR	0.7	15.0
Anthracene	15.4	15	LINR	2.7	15.0
Fluoranthene	14.8	15	LINR	1.3	15.0
Pyrene	14.1	15	LINR	6.0	15.0
Benzo(a)anthracene	15.1	15	LINR	0.7	15.0
Chrysene	15.1	15	LINR	0.7	15.0
Benzo(b)fluoranthene	15.2	15	LINR	1.3	15.0
Benzo(k)fluoranthene	15.3	15	LINR	2.0	15.0
Benzo(a)pyrene	16.7	15	LINR	11.3	15.0
Dibenz(a,h)anthracene	15.2	15	LINR	1.3	15.0
Benzo(g,h,i)perylene	15.1	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15.2	15	LINR	1.3	15.0
==========					
p-Terphenyl-d14	14.7	15	LINR	2.0	15.0

Chain of Custody Documentation

190602 953

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

2204-197

COC NUMBER
163151-046 Page 1 of 1

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
N.A.S. Cecil Field Day Tank 1	163151	PEL / Darcy Wiseman	Bill Canelos / J.A Jones Env. Services	6219 Authority Ave. Building 1 Jacksonville, FL 32222 (904) 7774812 FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
Day Tank 1 2nd 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 (Includ : Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL	TAT (calendar days)	Volatiles by 8021	PAHs&1,1-Naphthalene&1,2-Naphthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-MW9-Q2-02-29	CEF-293-9	W	06/05/02	9:15	III/C	14	3	2					Grab		01
2	062-VEW2-Q2-02-29	VEW-2	W	06/05/02	11:25	III/C	14	3	2					Grab		02
3	062-VEW7-Q2-02-29	VEW-7	W	06/05/02	10:45	III/C	14	3	2					Grab		03
4	062-VEW8-Q2-02-29	VEW-8	W	06/05/02	10:00	III/C	14	3	2					Grab		04
5	062-TB2-Q2-02-29	Trip Blank #2	W	NA	NA	III/C	14	3						Grab	Prepared by Lab	05
6	NA	Temperature Blank	W	NA	NA	III/C	14			1				Grab	Prepared by Lab	
7	062-DUP-Q2-02-29	Field DUP	W	6/5/02	—	III/C	14	3	2					*Rec'd but not on COC		06
8																
9																
10																

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7818 5413 0137.(1 Cooler)	Temp upon rec't 4°C (Extra 1L amber rec'd for 8310 HC2 (8021's)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: R.Dumaop	6/5/02	12:00	Printed Name and Signature: Federal Express	6/5/02	12:00
Printed Name and Signature:			Printed Name and Signature: Keith W. Brenner		
			Keith W. Brenner - PEL	06/06/02	10:15
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC001 Rev 02/00

PEL LABS SAMPLE LOG IN SHEET

Project # 2204 - 197

Client Information

Client:	CH2M Hill	Date Rec'd:	6/6/02
Project:	Cecil Field CTO-062	Due Date:	
Log In Tech:	[illegible]	Rec'd via: Client Crosstown FedEx	
Comments:		Other:	

Sample Verification

	YES	NO		YES	NO
Samples/Cooler Secure?	✓		All Smples on COC Accounted For?	✓	
Samples Rec'd on Ice?	✓		All Samples Rec'd Intact?	✓	
Temperature WNL?	✓		Sample Vol. Suff. For Analysis?	✓	
Temperature of Samples(°C)	4		Samples Rec'd W/I Hold Time?	✓	
pH Verified?	✓		Are All Samples to be Analyzed?	✓	
pH WNL?	✓		Correct Sample Containers?	✓	
Soil Origin Domestic? NA			Soil Origin Foreign? NA		

COC Verification

	YES	NO		YES	NO
Site Location/Project on COC?	✓		Samplers Initials on COC?	✓	
Client Project # on COC?	✓		Sample Time/Date Indicated?	✓	
Project Mgr. Indicated on COC?	✓		TAT requested: STD / RUSH		
COC Relinquished/Dated by Client?	✓		Client Requests Verbal Results?		✓
COC Received/Dated by PEL?	✓		Client Requests Faxed Results?		✓
			PEL to Conduct ALL Analyses?	✓	
			Specific Subcontract Indicated?		

Subcontracted Analysis

Subcontractor:	Subcontractor:	Subcontractor:
Due Date:	Due Date:	Due Date:
Parameter:	Parameter:	Parameter:
Via: Crosstown FedEx	Via: Crosstown FedEx	Via: Crosstown FedEx
Tracking #:	Tracking #:	Tracking #:

pH LOG SHEET

WO# 2204-197 By ZMK

Client/Project CH2M Hill / Cecil Field CTO 062 Date

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other pH
2204-197-01					(3) pH<2	
-02						
-03						
-04						
-05						
-06						

CH2M Hill / Cecil Field CTO-062 2204-197

Sample #	Parameter	Rel'd	Rec'd	Date	Time
1-6	8021 (w)	[illegible]	MWJ	6-12-02	13:59
1-6	8021 (w)	MWJ	[illegible]	6-12-02	16:05
1-4, 6	8310 (w)	[illegible]	Art	6/10/02	0811
1-4, 6	8310 (w)		consumed		
1-4, 6	8310 (w)	[illegible]	LAC	6/12/02	0850
1-4, 6	8310 (w)		consumed		

Addendum

190602 953

Letter of Acceptance

Customer Name:	CH2M Hill
Date and Time Received:	6/6/02 10:15:00 AM
Date to be Reported:	6/20/02
Laboratory Submission Number/SDG:	2204197
Project:	Cecil Field CTO062

Samples: The submission consisted of 6 samples with sample identification shown in the attached data tables.

Tests: The Samples will be analyzed for EPA methods: 8021, 8310.

Sample Custody/COC discrepancies:

062-DUP-Q2-02-29 was received but not on COC. We will add and proceed with analysis unless otherwise instructed.

Notes: None.

Distribution of Report to:

CH2M Hill
Attn: Bill Canelos
Phone: W (904)-777-4812

CH2M Hill
Attn: Tatiana Romanova
Phone: W (770)-604-9182

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our Letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials

Log-in Report

Level: 4

Total of: 11 analyses on 6 samples (including QC) *07-Jun-02*

Report/SDG #: 2204197

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW9Q20229	220419701	CEF-293-9	W	6/5/02 9:15:00 AM	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW2Q20229	220419702	VEW-2	W	6/5/02 11:25:00 AM	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW7Q20229	220419703	VEW-7	W	6/5/02 10:45:00 AM	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW8Q20229	220419704	VEW-8	W	6/5/02 10:00:00 AM	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TB2Q20229	220419705	Trip Blank #2	WQ	6/6/02	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	

Report/SDG #: 2204197

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DUPQ20229	220419706	FIELD DUP	W	6/5/02	6/6/02 10:15:00 AM
Method					
8021	VOH			8021	
8310	PAH			8310	

2204-197
Raw Data
GC Volatile Organics
(Method 8021)

VGC3 8021 V3060302 6/3/02 MWJ

New Ni tube + Trap

7	100PPB	
8	BLK	IS 6137
11 ~~10~~	500 PPT	SURR 6135, 6136
11	500 PPTR ✓	CCV (ALL) 6097 6098
12	1 PPB	QC ~~8017~~ 8/3/02, 6170, 6172
13	2 PPB ✓	
14	5 PPB ✓	
15	10 PPB ✓	
16	20 PPB ✓	
1	30 PPB ✓	
2	40 PPB ✓	
3	50 PPB ✓	
4	100 PPB ✓	
5	SEC31	
6	SEC32	
7	SEC32	
8	1 PPBR	
8	1 PPB R2 ✓	
8	SEC34	
9	SEC35 ✓	
10	SEC36	

6/3/02

MWJ

8021 V6C3 V3061202 6/12/02 MWJ

73

5	CCV31	
5	LCS31	IS 6137
5	BLK31	SURR 6135
5	2204184-3	QC 6170, 6172
6	-4MS	CCV 6097
14	-5MSD	
6	-12	
7	-11	
8	-10	
9	-9	
10	-8	
11	CCV32	
11	2204184-7	
12	-1	
13	-2	
14	-6	
15	CBL4	
16	2204197-5	
1	-1	
2	-2	
3	-3	
4	-4	
5	-6	
6	CCV33	
7	CCV34	
8	CCV35	
9	2204213-3 1/2	
10	2204225-4	
11	CCV36	

6/12/02

VOS#	Date Prep.	By	Description	Origin/Lot #	Date Rec'd	Dilutent/Lot #	Amt. for Dil.	Final Vol.	Final Conc.	Discarded
6089	3/4/02	LM	8260 Ketone/Acrl Cal mix	6075 6076		MeOH B+J CE113	500µL each	50mL	100µg/mL	
6090	3/4/02	LM	8260 CAL VA, MTBE IM, CS_2	6074		MeOH B+J CE113	1.25mL each	50mL	~~100~~ 50 µg/mL	
6091	3/4/02	LM	8260 ALL CAL Mix	6073-9 6011C 6036A		MeOH B+J CE113	6075/6076 100µL each All others 250µL each	10mL	Ketones Acrl 100µg/mL all others 50µg/mL LM	
6092	3/5/02	LM	8260-SURR	5974C	11/2/01	MeOH B+J CE113	1.0mL	100mL	250µg/mL	
6093 A-C	3/12/02	LM								
6094	3/13/02	LM	8260 main QC	6081, 6080 6084, 6085 6086		MeOH B+J CE1113	1.25mL each	50mL	50µg/mL APM - various	
6095	3/13/02	LM	8260 Ket/Acrol QC	6082 6083		MeOH B+J CE1113	.500µL each	50mL	100µg/mL	
6096	3/13/02	LM	8260 Gases QC	5736C 5713A		MeOH B+J CE1113	1.25mL each	50mL	50µg/mL	
6097	3/18/02	LM	8021 Cal mix	5816C 6032A 6036C 6035A 5815C 6034B 5817C 6033 6030A		MeOH B+J CE1113	500µL each	100mL	10µg/mL	
6098	3/18/02	LM	8021 low Cal mix	6097		MeOH B+J CE1113	2.5mL	25mL	1µg/mL	

AccuStandard, Inc. 125 Market Street • New Haven, CT 06513 Phone 800-442-5290 • 203-786-5290

FOR LABORATORY USE ONLY

1 mL

M-502-11-10X
Chlorobenzene
2.0 mg/mL in MeOH
Lot: B1080111
Exp. Mar 5.2005

STORAGE AMBIENT

POISON

VOS#	Date Prep.	By	Description	Origin/Lot #	Date Rec'd	Diluent/Lot #	Amt. for Dil.	Final Vol.	Final Conc.	Discarded
6129 A-D	4/8/02	KM	Cat.#30225 Bromochloromethane Standard Lot# A019960 Expires:6/04 Storage:Freezer 2000 ug/ml in purge and trap methanol FOR LABORATORY USE ONLY Restek Corporation • 110 Benner Circle • Bellefonte, PA 16823		Rec'd 4/8/02		—		2000 ug/ml	KM 6/10/02
6130 A-D	4/8/02	KM	Cat.#30030 Fluorobenzene Mix Lot# A019571 Expires:5/04 Storage:Freezer 2000 ug/ml in purge and trap methanol FOR LABORATORY USE ONLY Restek Corporation • 110 Benner Circle • Bellefonte, PA 16823		Rec'd 4/8/02		-		2000 ug/ml	6/10/02 KM
6131	4/16/02	MST	8260 SURR	V05974D	11/2/01	Meoh B&J Brand *CE113	1.0 ml	100 ml	25 ug/ml ~~250 ug/ml~~ MST 4/16/02	
6132	4/16/02	MST	TCE NEAT (99.5%)	25864A	4/12/02	—	5g	—	NEAT	— exp 02/05
6133	4/16/02	MST	TCE	6132	4/12/02	Meoh B&J CE113	.1000g	10 ml	10,000 ppm	— exp 10/16/02
6134	4/16/02	MST	TCE	6133	4/12/02	Meoh B&J CE113	50 ml	10 ml	50 ppm	
6135	4/17/02	MWJ	8021 SURR	6068B - BFB 6067A - 140XA	-	Meoh B+J CE113	1.0 ml Each	100 ml	20 ug/ml	
6136	4/18/02	MWJ	8021 Low SURR	6135	—	Meoh B+J CE113	500 ul	10 ml	1 ug/ml	
6137	4/18/02	MWJ	8021 IS	5983-D - BCM 6120-B Fluorobenz		Meoh B+J CE113	1.5 ml Each	100 ml	30 ug/ml	
6138	4/19/02	LM	ECS 1° 8260 main mix	524MM12					2000 ppm	

VOS#	Date Prep.	By	Description	Origin/Lot #	Date Rec'd	Dilutent/Lot #	Amt. for Dil.	Final Vol.	Final Conc.	Discarded
6169	5/28/02	MJT	8260 SVRR	VOS61023	3/22/02	B&J CE113 MeOH	1.0ml	100ml	25ppm	
6170	6/3/02	AMH	8021 GAS QC	VOS6165D VOS5573D	—	MeOH B&J CE113	500µL EACH	100ml	10µg/ml	
6171	6/3/02	AMH	8021 MAIN QC	VOS 6027C VOS 6023A VOS 6024B VOS6026C	—	MeOH B&J CE 113	500µl each	100ml	10µg/ml	FW 6/3/02
6172	6/3/02	AMH	8021 MAIN QC	VOS5735D VOS6024A VOS6023B VOS6027B	—	MeOH B&J CE 113	500µl each	100ml	10µg/ml	
6173	6/5/02	MJT	8021 CAL MIX LOW @10ug/mL	6097	—	MeOH B&J CE113	1.0mL	10mL	1ug/mL	
6174	6/10/02	JW	8021 Anchor IS	~~VOS5983~~ ~~VOS5983~~ ~~VOS6103~~	6130A-C 6120A 6129A-D	MeOH B+J CE113	~~3.75ml~~ ~~3.75ml~~ ~~4.5 (each)~~	50ml	240µl/ml ~~150µl/ml~~	
6175	6/10/02	JW	8021 Anchor IS	6130A-C 6120A 6129A-D		MeOH BTJ CE113	6.25ml	10ml	150µl/ml	

PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\2PPB.D
Lab Smp Id: 2PPB Client Smp ID: 2PPB
Inj Date : 03-JUN-2002 17:22
Operator : Inst ID: vgc3.i
Smp Info : 2PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:16 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 13 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
	1 dichlorodifluoromethane	AIB1A	4.720	4.720	(0.372)	87242	2.00000	0.94(aM)	MJ
	2 chloromethane	AIB1A	5.236	5.236	(0.413)	166478	2.00000	1.3	
	3 vinyl chloride	AIB1A	5.506	5.506	(0.435)	194284	2.00000	1.5	
	4 bromomethane	AIB1A	6.503	6.503	(0.513)	137842	2.00000	1.4	
	5 chloroethane	AIB1A	6.706	6.706	(0.529)	355818	2.00000	1.8	
	6 trichlorofluoromethane	AIB1A	7.166	7.166	(0.565)	154939	2.00000	1.4	
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.110	8.110	(0.640)	400619	2.00000	1.9	
	8 1,1-dichloroethene	AIB1A	8.443	8.443	(0.666)	616229	2.00000	1.9	
	9 methylene chloride	AIB1A	9.440	9.440	(0.745)	885982	2.00000	2.5	
	10 MTBE	FID2B	9.570	9.570	(0.658)	55355	2.00000	3.3	
	11 trans 1,2-dichloroethene	AIB1A	9.893	9.893	(0.781)	628706	2.00000	2.0	
M	12 1,2-Dichloroethene (tot)	AIB1A				1279101	4.00000	4.1	
	13 1,1-dichloroethane	AIB1A	10.736	10.736	(0.847)	665132	2.00000	2.1	
	14 cis-1,2-dichloroethene	AIB1A	11.986	11.986	(0.946)	650395	2.00000	2.1	
	15 chloroform	AIB1A	12.320	12.320	(0.972)	870478	2.00000	2.2	
*	16 Bromochloromethane	AIB1A	12.673	12.673	(1.000)	7362116	30.0000		
	17 1,1,1-trichloroethane	AIB1A	13.180	13.180	(1.040)	661299	2.00000	2.1	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.776	13.776	(1.087)	777377	2.00000	2.1
	19 1,2-dichloroethane	AIB1A	14.036	14.036	(1.108)	749712	2.00000	2.3
	20 Benzene	FID2B	14.103	14.103	(0.970)	125228	2.00000	2.9
*	21 Fluorobenzene	FID2B	14.536	14.536	(1.000)	797498	30.0000	
	22 trichloroethene	AIB1A	15.476	15.476	(1.221)	850950	2.00000	2.3
	23 1,2-dichloropropane	AIB1A	15.876	15.876	(1.253)	634707	2.00000	2.2
	24 bromodichloromethane	AIB1A	16.470	16.470	(1.300)	635497	2.00000	2.2
	25 cis-1,3-dichloropropene	AIB1A	17.950	17.950	(1.416)	626746	2.00000	2.2
	26 Toluene	FID2B	19.026	19.026	(1.309)	106614	2.00000	2.7
	27 trans-1,3-dichloropropene	AIB1A	19.583	19.583	(1.545)	571499	2.00000	2.3
	28 1,1,2-trichlorethane	AIB1A	20.186	20.186	(1.593)	730148	2.00000	2.3
	29 tetrachloroethene	AIB1A	21.573	21.573	(1.702)	942310	2.00000	2.3
	30 dibromochloromethane	AIB1A	22.396	22.396	(1.767)	476585	2.00000	2.2
	31 chlorobenzene	AIB1A	24.940	24.940	(1.968)	357756	2.00000	2.2
	32 Ethylbenzene	FID2B	25.140	25.140	(1.729)	71286	2.00000	2.1
	33 m,p-xylene	FID2B	25.433	25.433	(1.750)	170741	4.00000	4.5
M	34 Xylene (tot)	FID2B				241599	6.00000	6.8
	35 o-xylene	FID2B	26.996	26.996	(1.857)	70858	2.00000	2.2
	36 bromoform	AIB1A	28.216	28.216	(2.226)	311633	2.00000	2.2
$	37 1,4-dichlorobutane	AIB1A	28.526	28.526	(2.251)	531580	2.00000	2.5
	38 1,1,2,2-tetrachloroethane	AIB1A	28.770	28.770	(2.270)	533769	2.00000	2.4
$	39 4-bromofluorobenzene	FID2B	29.006	29.006	(1.995)	70042	2.00000	2.1
	40 1,3-dichlorobenzene	AIB1A	31.370	31.370	(2.475)	468395	2.00000	2.4
	41 1,4-dichlorobenzene	AIB1A	31.530	31.530	(2.488)	517680	2.00000	2.5
	42 1,2-dichlorobenzene	AIB1A	32.050	32.050	(2.529)	463916	2.00000	2.5

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 2PPB.D
Lab Smp Id: 2PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 2PPB
Level: LOW
Sample Type: WATER

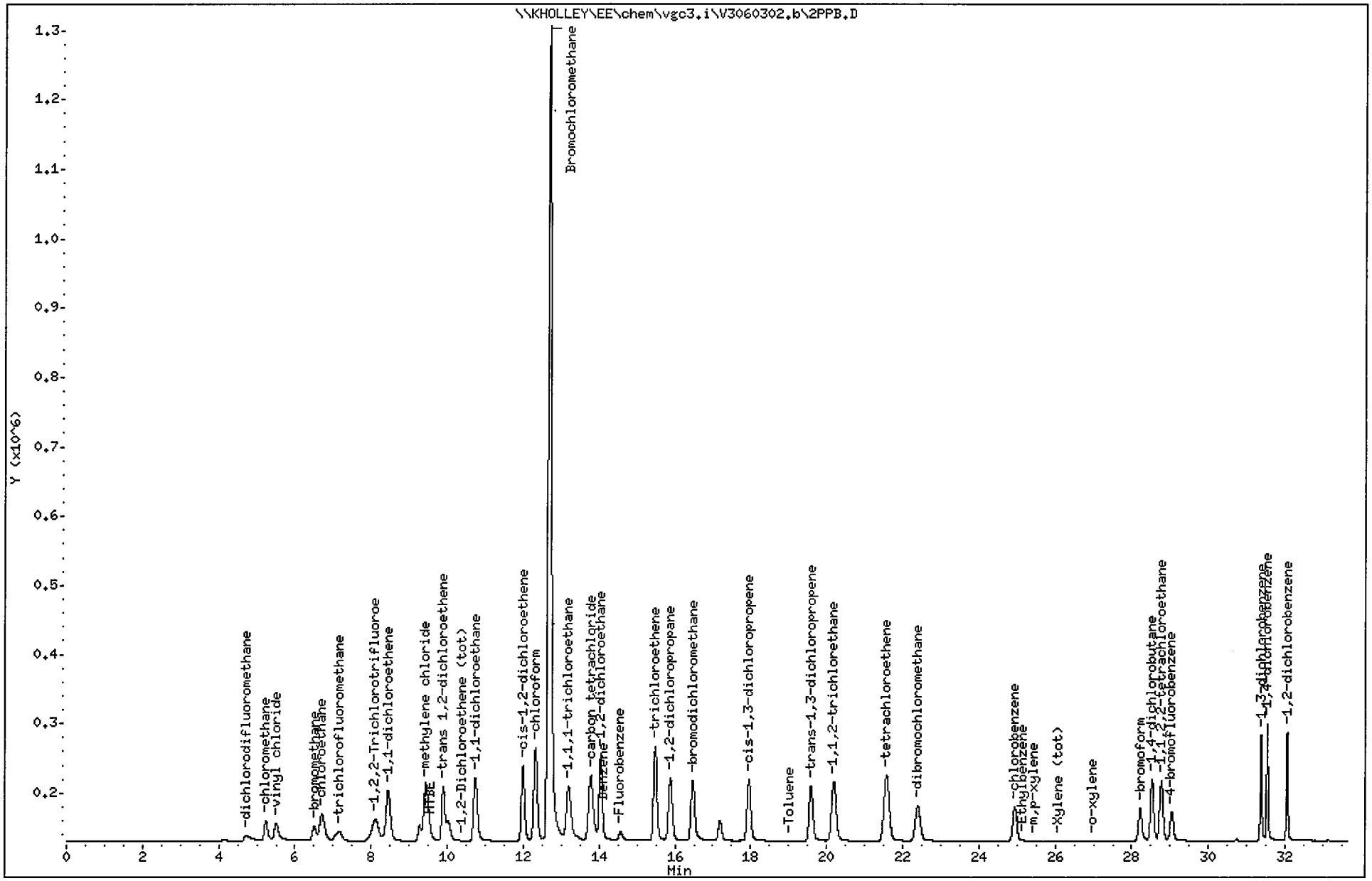
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7362116	2.90
21 Fluorobenzene	742702	371351	1485404	797498	7.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.67	0.42
21 Fluorobenzene	14.48	13.98	14.98	14.54	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\vgc3.i\V3060302.b\2PPB.D
Date : 03-JUN-2002 17:22
Client ID: 2PPB
Sample Info: 2PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\5PPB.D
Lab Smp Id: 5PPB Client Smp ID: 5PPB
Inj Date : 03-JUN-2002 18:04
Operator : Inst ID: vgc3.i
Smp Info : 5PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:16 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 14 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.696	4.696	(0.371)	596889	5.00000	6.4
	2 chloromethane	AIB1A	5.220	5.220	(0.412)	783058	5.00000	6.0
	3 vinyl chloride	AIB1A	5.486	5.486	(0.434)	792492	5.00000	6.2
	4 bromomethane	AIB1A	6.486	6.486	(0.513)	580166	5.00000	5.9
	5 chloroethane	AIB1A	6.680	6.680	(0.528)	1170551	5.00000	5.9
	6 trichlorofluoromethane	AIB1A	7.143	7.143	(0.564)	580408	5.00000	5.0
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.090	8.090	(0.639)	1200141	5.00000	5.8
	8 1,1-dichloroethene	AIB1A	8.423	8.423	(0.666)	1875532	5.00000	5.8
	9 methylene chloride	AIB1A	9.420	9.420	(0.744)	2081603	5.00000	5.8
	10 MTBE	FID2B	9.553	9.553	(0.658)	96716	5.00000	5.8
	11 trans 1,2-dichloroethene	AIB1A	9.873	9.873	(0.780)	1806074	5.00000	5.8
M	12 1,2-Dichloroethene (tot)	AIB1A				3522445	10.0000	11.3
	13 1,1-dichloroethane	AIB1A	10.716	10.716	(0.847)	1783402	5.00000	5.5
	14 cis-1,2-dichloroethene	AIB1A	11.970	11.970	(0.946)	1716371	5.00000	5.5
	15 chloroform	AIB1A	12.300	12.300	(0.972)	2163285	5.00000	5.5
*	16 Bromochloromethane	AIB1A	12.656	12.656	(1.000)	7412984	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.180	13.180	(1.041)	1743386	5.00000	5.4

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.753	13.753	(1.087)	2089450	5.00000	5.6
	19 1,2-dichloroethane	AIB1A	14.020	14.020	(1.108)	1805652	5.00000	5.5
	20 Benzene	FID2B	14.083	14.083	(0.970)	246113	5.00000	5.7
*	21 Fluorobenzene	FID2B	14.516	14.516	(1.000)	803187	30.0000	
	22 trichloroethene	AIB1A	15.453	15.453	(1.221)	2141008	5.00000	5.9
	23 1,2-dichloropropane	AIB1A	15.853	15.853	(1.253)	1564969	5.00000	5.4
	24 bromodichloromethane	AIB1A	16.446	16.446	(1.299)	1546322	5.00000	5.2
	25 cis-1,3-dichloropropene	AIB1A	17.923	17.923	(1.416)	1519426	5.00000	5.3
	26 Toluene	FID2B	19.000	19.000	(1.309)	216487	5.00000	5.5
	27 trans-1,3-dichloropropene	AIB1A	19.556	19.556	(1.545)	1338071	5.00000	5.3
	28 1,1,2-trichlorethane	AIB1A	20.160	20.160	(1.593)	1699388	5.00000	5.3
	29 tetrachloroethene	AIB1A	21.543	21.543	(1.702)	2369955	5.00000	5.8
	30 dibromochloromethane	AIB1A	22.366	22.366	(1.767)	1146881	5.00000	5.2
	31 chlorobenzene	AIB1A	24.913	24.913	(1.968)	847569	5.00000	5.2
	32 Ethylbenzene	FID2B	25.113	25.113	(1.730)	169919	5.00000	5.0
	33 m,p-xylene	FID2B	25.410	25.410	(1.750)	388995	10.0000	10.2
M	34 Xylene (tot)	FID2B				547882	15.0000	15.3
	35 o-xylene	FID2B	26.976	26.976	(1.858)	158887	5.00000	5.0
	36 bromoform	AIB1A	28.193	28.193	(2.228)	723823	5.00000	5.0
$	37 1,4-dichlorobutane	AIB1A	28.506	28.506	(2.252)	1129040	5.00000	5.2
	38 1,1,2,2-tetrachloroethane	AIB1A	28.746	28.746	(2.271)	1189329	5.00000	5.2
$	39 4-bromofluorobenzene	FID2B	28.990	28.990	(1.997)	158542	5.00000	4.6
	40 1,3-dichlorobenzene	AIB1A	31.356	31.356	(2.477)	1078660	5.00000	5.5
	41 1,4-dichlorobenzene	AIB1A	31.520	31.520	(2.490)	1156506	5.00000	5.5
	42 1,2-dichlorobenzene	AIB1A	32.040	32.040	(2.531)	1045857	5.00000	5.5

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 5PPB.D
Lab Smp Id: 5PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 5PPB
Level: LOW
Sample Type: WATER

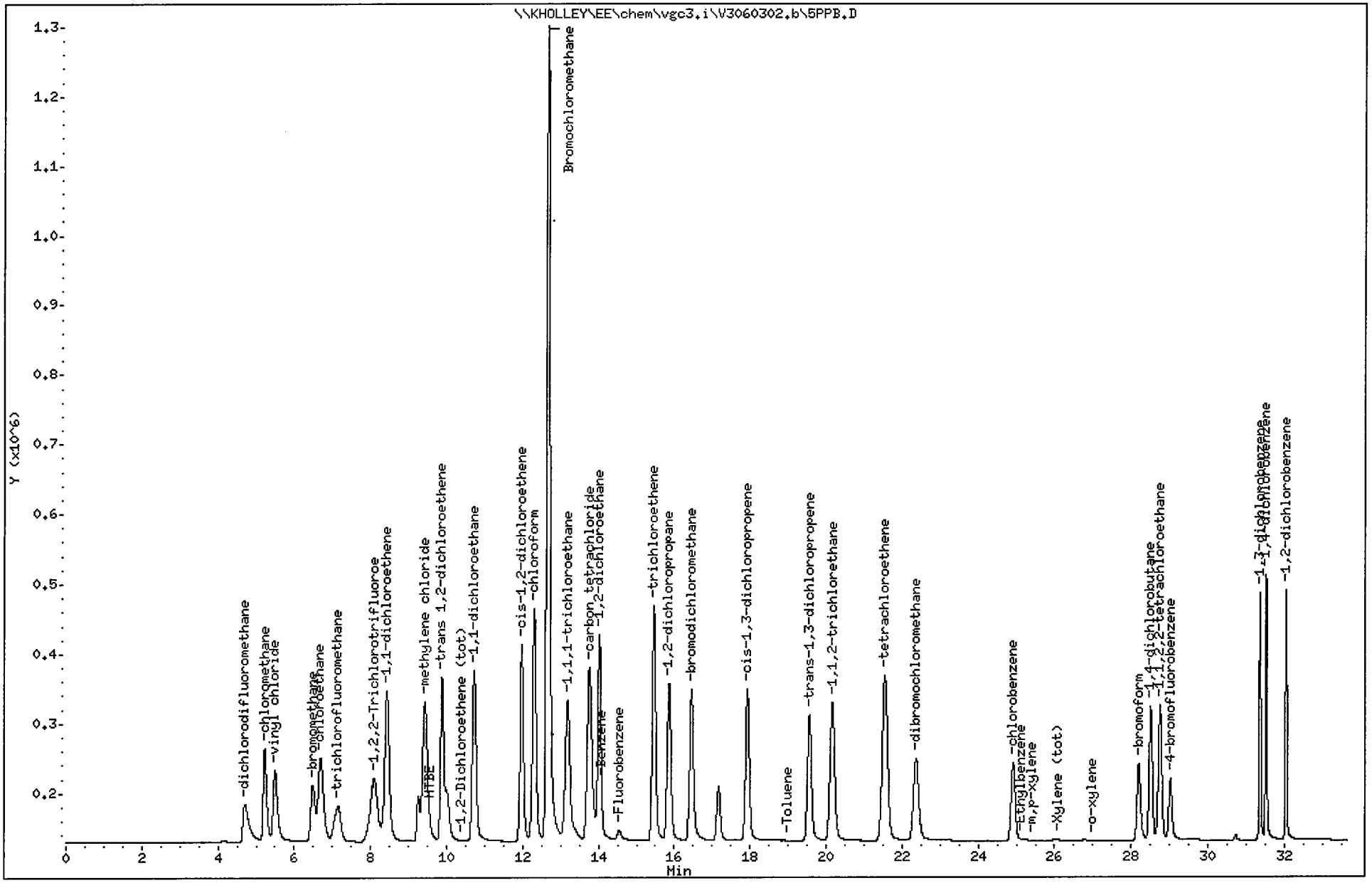
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7412984	3.61
21 Fluorobenzene	742702	371351	1485404	803187	8.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.66	0.29
21 Fluorobenzene	14.48	13.98	14.98	14.52	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\vgc3.i\V3060302.b\5PPB.D
Date : 03-JUN-2002 18:04
Client ID: 5PPB
Sample Info: 5PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\10PPB.D
Lab Smp Id: 10PPB Client Smp ID: 10PPB
Inj Date : 03-JUN-2002 18:46
Operator : Inst ID: vgc3.i
Smp Info : 10PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:16 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 15 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.696	4.696	(0.371)	1073125	10.0000	12.1
	2 chloromethane	AIB1A	5.220	5.220	(0.413)	1428170	10.0000	11.6
	3 vinyl chloride	AIB1A	5.506	5.506	(0.436)	1409607	10.0000	11.6
	4 bromomethane	AIB1A	6.480	6.480	(0.513)	1088758	10.0000	11.6
	5 chloroethane	AIB1A	6.680	6.680	(0.528)	2176807	10.0000	11.5
	6 trichlorofluoromethane	AIB1A	7.143	7.143	(0.565)	1067205	10.0000	9.8
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.083	8.083	(0.639)	2096465	10.0000	10.6
	8 1,1-dichloroethene	AIB1A	8.416	8.416	(0.666)	3254161	10.0000	10.7
	9 methylene chloride	AIB1A	9.406	9.406	(0.744)	3590751	10.0000	10.6
	10 MTBE	FID2B	9.540	9.540	(0.658)	160209	10.0000	10.6
	11 trans 1,2-dichloroethene	AIB1A	9.863	9.863	(0.780)	3209245	10.0000	11.0
M	12 1,2-Dichloroethene (tot)	AIB1A				6256568	20.0000	21.2
	13 1,1-dichloroethane	AIB1A	10.706	10.706	(0.847)	3207145	10.0000	10.5
	14 cis-1,2-dichloroethene	AIB1A	11.960	11.960	(0.946)	3047323	10.0000	10.3
	15 chloroform	AIB1A	12.290	12.290	(0.972)	3836070	10.0000	10.3
*	16 Bromochloromethane	AIB1A	12.643	12.643	(1.000)	7030795	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.163	13.163	(1.041)	3130274	10.0000	10.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.743	13.743	(1.087)	3574745	10.0000	10.2
	19 1,2-dichloroethane	AIB1A	14.006	14.006	(1.108)	3200701	10.0000	10.3
	20 Benzene	FID2B	14.073	14.073	(0.970)	404398	10.0000	10.3
*	21 Fluorobenzene	FID2B	14.503	14.503	(1.000)	729929	30.0000	
	22 trichloroethene	AIB1A	15.443	15.443	(1.221)	3435936	10.0000	9.9
	23 1,2-dichloropropane	AIB1A	15.843	15.843	(1.253)	2806520	10.0000	10.1
	24 bromodichloromethane	AIB1A	16.430	16.430	(1.299)	2797343	10.0000	10.0
	25 cis-1,3-dichloropropene	AIB1A	17.906	17.906	(1.416)	2704378	10.0000	10.0
	26 Toluene	FID2B	18.980	18.980	(1.309)	363744	10.0000	10.1
	27 trans-1,3-dichloropropene	AIB1A	19.536	19.536	(1.545)	2471154	10.0000	10.3
	28 1,1,2-trichlorethane	AIB1A	20.143	20.143	(1.593)	3142264	10.0000	10.2
	29 tetrachloroethene	AIB1A	21.520	21.520	(1.702)	3878403	10.0000	10
	30 dibromochloromethane	AIB1A	22.340	22.340	(1.767)	2170465	10.0000	10.4
	31 chlorobenzene	AIB1A	24.896	24.896	(1.969)	1570832	10.0000	10.1
	32 Ethylbenzene	FID2B	25.096	25.096	(1.730)	316623	10.0000	10.3
	33 m,p-xylene	FID2B	25.390	25.390	(1.751)	711101	20.0000	20.6
M	34 Xylene (tot)	FID2B				1007502	30.0000	30.9
	35 o-xylene	FID2B	26.963	26.963	(1.859)	296401	10.0000	10.3
	36 bromoform	AIB1A	28.173	28.173	(2.228)	1385338	10.0000	10.2
$	37 1,4-dichlorobutane	AIB1A	28.490	28.490	(2.253)	2104420	10.0000	10.2
	38 1,1,2,2-tetrachloroethane	AIB1A	28.733	28.733	(2.273)	2187689	10.0000	10.1
$	39 4-bromofluorobenzene	FID2B	28.973	28.973	(1.998)	314395	10.0000	10.2
	40 1,3-dichlorobenzene	AIB1A	31.350	31.350	(2.480)	1906171	10.0000	10.2
	41 1,4-dichlorobenzene	AIB1A	31.510	31.510	(2.492)	2006587	10.0000	10.1
	42 1,2-dichlorobenzene	AIB1A	32.036	32.036	(2.534)	1833147	10.0000	10.2

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 10PPB.D
Lab Smp Id: 10PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 10PPB
Level: LOW
Sample Type: WATER

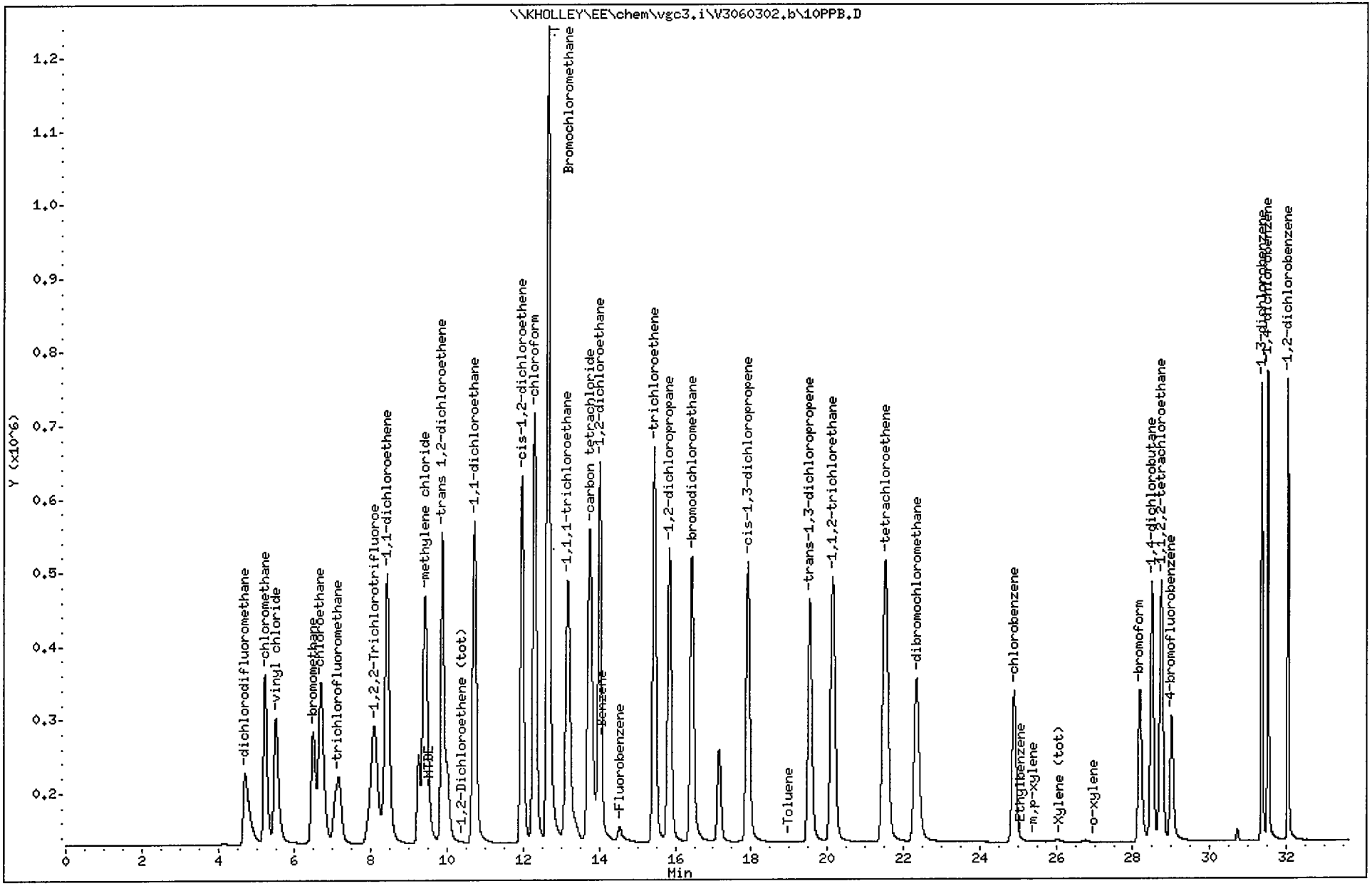
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7030795	-1.73
21 Fluorobenzene	742702	371351	1485404	729929	-1.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.64	0.18
21 Fluorobenzene	14.48	13.98	14.98	14.50	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.

Data File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\10PPB.D
Date : 03-JUN-2002 18:46
Client ID: 10PPB
Sample Info: 10PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\20PPB.D
Lab Smp Id: 20PPB Client Smp ID: 20PPB
Inj Date : 03-JUN-2002 19:28
Operator : Inst ID: vgc3.i
Smp Info : 20PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:17 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 16 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.690	4.690	(0.371)	2018206	20.0000	22.6
	2 chloromethane	AIB1A	5.206	5.206	(0.412)	2744491	20.0000	22.2
	3 vinyl chloride	AIB1A	5.493	5.493	(0.435)	2618970	20.0000	21.4
	4 bromomethane	AIB1A	6.470	6.470	(0.512)	2081937	20.0000	22.1
	5 chloroethane	AIB1A	6.663	6.663	(0.528)	4014453	20.0000	21.1
	6 trichlorofluoromethane	AIB1A	7.133	7.133	(0.565)	2094497	20.0000	19.0
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.070	8.070	(0.639)	4035736	20.0000	20.2
	8 1,1-dichloroethene	AIB1A	8.403	8.403	(0.665)	6133356	20.0000	20.0
	9 methylene chloride	AIB1A	9.393	9.393	(0.744)	6766496	20.0000	19.7
	10 MTBE	FID2B	9.526	9.526	(0.657)	289942	20.0000	18.8
	11 trans 1,2-dichloroethene	AIB1A	9.850	9.850	(0.780)	5952918	20.0000	20.2
M	12 1,2-Dichloroethene (tot)	AIB1A				11475699	40.0000	38.6
	13 1,1-dichloroethane	AIB1A	10.693	10.693	(0.847)	5785653	20.0000	18.8
	14 cis-1,2-dichloroethene	AIB1A	11.943	11.943	(0.946)	5522781	20.0000	18.4
	15 chloroform	AIB1A	12.273	12.273	(0.972)	6970688	20.0000	18.6
*	16 Bromochloromethane	AIB1A	12.630	12.630	(1.000)	7088916	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.146	13.146	(1.041)	5791502	20.0000	18.8

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.726	13.726	(1.087)	6671870	20.0000	18.8
	19 1,2-dichloroethane	AIB1A	13.990	13.990	(1.108)	5848484	20.0000	18.7
	20 Benzene	FID2B	14.056	14.056	(0.970)	770268	20.0000	19.2
*	21 Fluorobenzene	FID2B	14.490	14.490	(1.000)	743939	30.0000	
	22 trichloroethene	AIB1A	15.426	15.426	(1.221)	6364811	20.0000	18.2
	23 1,2-dichloropropane	AIB1A	15.826	15.826	(1.253)	5231932	20.0000	18.8
	24 bromodichloromethane	AIB1A	16.416	16.416	(1.300)	5323549	20.0000	18.9
	25 cis-1,3-dichloropropene	AIB1A	17.890	17.890	(1.416)	5171001	20.0000	19.0
	26 Toluene	FID2B	18.963	18.963	(1.309)	706945	20.0000	19.3
	27 trans-1,3-dichloropropene	AIB1A	19.520	19.520	(1.546)	4583277	20.0000	18.9
	28 1,1,2-trichlorethane	AIB1A	20.123	20.123	(1.593)	5792011	20.0000	18.7
	29 tetrachloroethene	AIB1A	21.500	21.500	(1.702)	7174008	20.0000	18.3
	30 dibromochloromethane	AIB1A	22.316	22.316	(1.767)	4248813	20.0000	20.3
	31 chlorobenzene	AIB1A	24.876	24.876	(1.970)	3068938	20.0000	19.6
	32 Ethylbenzene	FID2B	25.076	25.076	(1.731)	643738	20.0000	20.6
	33 m,p-xylene	FID2B	25.376	25.376	(1.751)	1433036	40.0000	40.8
M	34 Xylene (tot)	FID2B				2034943	60.0000	61.3
	35 o-xylene	FID2B	26.943	26.943	(1.859)	601907	20.0000	20.5
	36 bromoform	AIB1A	28.156	28.156	(2.229)	2728341	20.0000	19.9
$	37 1,4-dichlorobutane	AIB1A	28.480	28.480	(2.255)	3953446	20.0000	19.1
	38 1,1,2,2-tetrachloroethane	AIB1A	28.716	28.716	(2.274)	3997924	20.0000	18.3
$	39 4-bromofluorobenzene	FID2B	28.960	28.960	(1.999)	668199	20.0000	21.2
	40 1,3-dichlorobenzene	AIB1A	31.343	31.343	(2.482)	3646845	20.0000	19.4
	41 1,4-dichlorobenzene	AIB1A	31.503	31.503	(2.494)	3896939	20.0000	19.5
	42 1,2-dichlorobenzene	AIB1A	32.026	32.026	(2.536)	3502646	20.0000	19.3

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 20PPB.D
Lab Smp Id: 20PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 20PPB
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7088916	-0.92
21 Fluorobenzene	742702	371351	1485404	743939	0.17

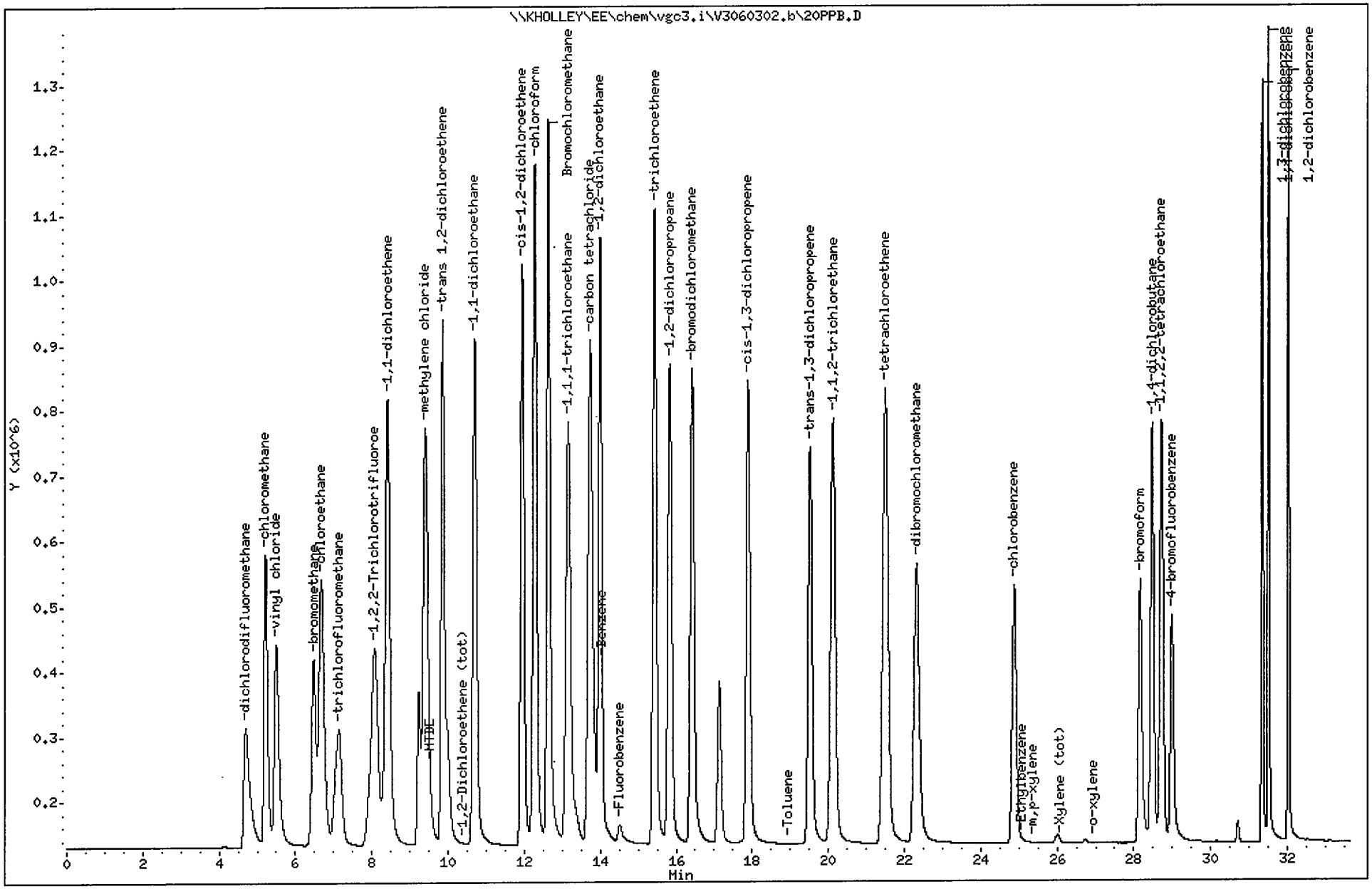
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.63	0.08
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.05

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.

Data File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\20PPB.D
Date : 03-JUN-2002 19:28
Client ID: 20PPB
Sample Info: 20PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i

Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\30PPB.D
Lab Smp Id: 30PPB Client Smp ID: 30PPB
Inj Date : 03-JUN-2002 20:10
Operator : Inst ID: vgc3.i
Smp Info : 30PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:17 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.683	4.683	(0.371)	3113226	30.0000	34.5
	2 chloromethane	AIB1A	5.193	5.193	(0.412)	4049697	30.0000	32.4
	3 vinyl chloride	AIB1A	5.480	5.480	(0.434)	3985940	30.0000	32.3
	4 bromomethane	AIB1A	6.453	6.453	(0.511)	3164571	30.0000	33.3
	5 chloroethane	AIB1A	6.653	6.653	(0.527)	6102345	30.0000	31.7
	6 trichlorofluoromethane	AIB1A	7.123	7.123	(0.564)	3489728	30.0000	31.4
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.060	8.060	(0.639)	5917865	30.0000	29.4
	8 1,1-dichloroethene	AIB1A	8.390	8.390	(0.665)	8761900	30.0000	28.4
	9 methylene chloride	AIB1A	9.386	9.386	(0.744)	9335723	30.0000	27.0
	10 MTBE	FID2B	9.523	9.523	(0.658)	414270	30.0000	26.9
	11 trans 1,2-dichloroethene	AIB1A	9.840	9.840	(0.780)	8552982	30.0000	28.7
M	12 1,2-Dichloroethene (tot)	AIB1A				16673175	60.0000	55.6
	13 1,1-dichloroethane	AIB1A	10.683	10.683	(0.847)	8412893	30.0000	27.0
	14 cis-1,2-dichloroethene	AIB1A	11.933	11.933	(0.946)	8120193	30.0000	26.9
	15 chloroform	AIB1A	12.266	12.266	(0.972)	10059663	30.0000	26.7
*	16 Bromochloromethane	AIB1A	12.620	12.620	(1.000)	7154740	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.143	13.143	(1.041)	8413772	30.0000	27.1

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.720	13.720	(1.087)	9436591	30.0000	26.4
	19 1,2-dichloroethane	AIB1A	13.983	13.983	(1.108)	8088281	30.0000	25.6
	20 Benzene	FID2B	14.046	14.046	(0.970)	1136143	30.0000	28.4
*	21 Fluorobenzene	FID2B	14.483	14.483	(1.000)	742702	30.0000	
	22 trichloroethene	AIB1A	15.416	15.416	(1.222)	8809037	30.0000	25.0
	23 1,2-dichloropropane	AIB1A	15.820	15.820	(1.254)	7250139	30.0000	25.8
	24 bromodichloromethane	AIB1A	16.406	16.406	(1.300)	7410642	30.0000	26.1
	25 cis-1,3-dichloropropene	AIB1A	17.880	17.880	(1.417)	7251240	30.0000	26.4
	26 Toluene	FID2B	18.953	18.953	(1.309)	1045668	30.0000	28.6
	27 trans-1,3-dichloropropene	AIB1A	19.510	19.510	(1.546)	6425147	30.0000	26.3
	28 1,1,2-trichlorethane	AIB1A	20.106	20.106	(1.593)	8207666	30.0000	26.3
	29 tetrachloroethene	AIB1A	21.486	21.486	(1.703)	10112126	30.0000	25.6
	30 dibromochloromethane	AIB1A	22.306	22.306	(1.768)	6048181	30.0000	28.6
	31 chlorobenzene	AIB1A	24.866	24.866	(1.970)	4456267	30.0000	28.2
	32 Ethylbenzene	FID2B	25.070	25.070	(1.731)	958227	30.0000	30.7
	33 m,p-xylene	FID2B	25.366	25.366	(1.751)	2133926	60.0000	60.8
M	34 Xylene (tot)	FID2B				3037789	90.0000	91.6
	35 o-xylene	FID2B	26.936	26.936	(1.860)	903863	30.0000	30.8
	36 bromoform	AIB1A	28.153	28.153	(2.231)	3927890	30.0000	28.4
$	37 1,4-dichlorobutane	AIB1A	28.470	28.470	(2.256)	5519194	30.0000	26.4
	38 1,1,2,2-tetrachloroethane	AIB1A	28.713	28.713	(2.275)	5540561	30.0000	25.1
$	39 4-bromofluorobenzene	FID2B	28.953	28.953	(1.999)	987052	30.0000	31.3
	40 1,3-dichlorobenzene	AIB1A	31.340	31.340	(2.483)	5081245	30.0000	26.7
	41 1,4-dichlorobenzene	AIB1A	31.503	31.503	(2.496)	5369661	30.0000	26.6
	42 1,2-dichlorobenzene	AIB1A	32.023	32.023	(2.538)	4839490	30.0000	26.4

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 30PPB.D
Lab Smp Id: 30PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 30PPB
Level: LOW
Sample Type: WATER

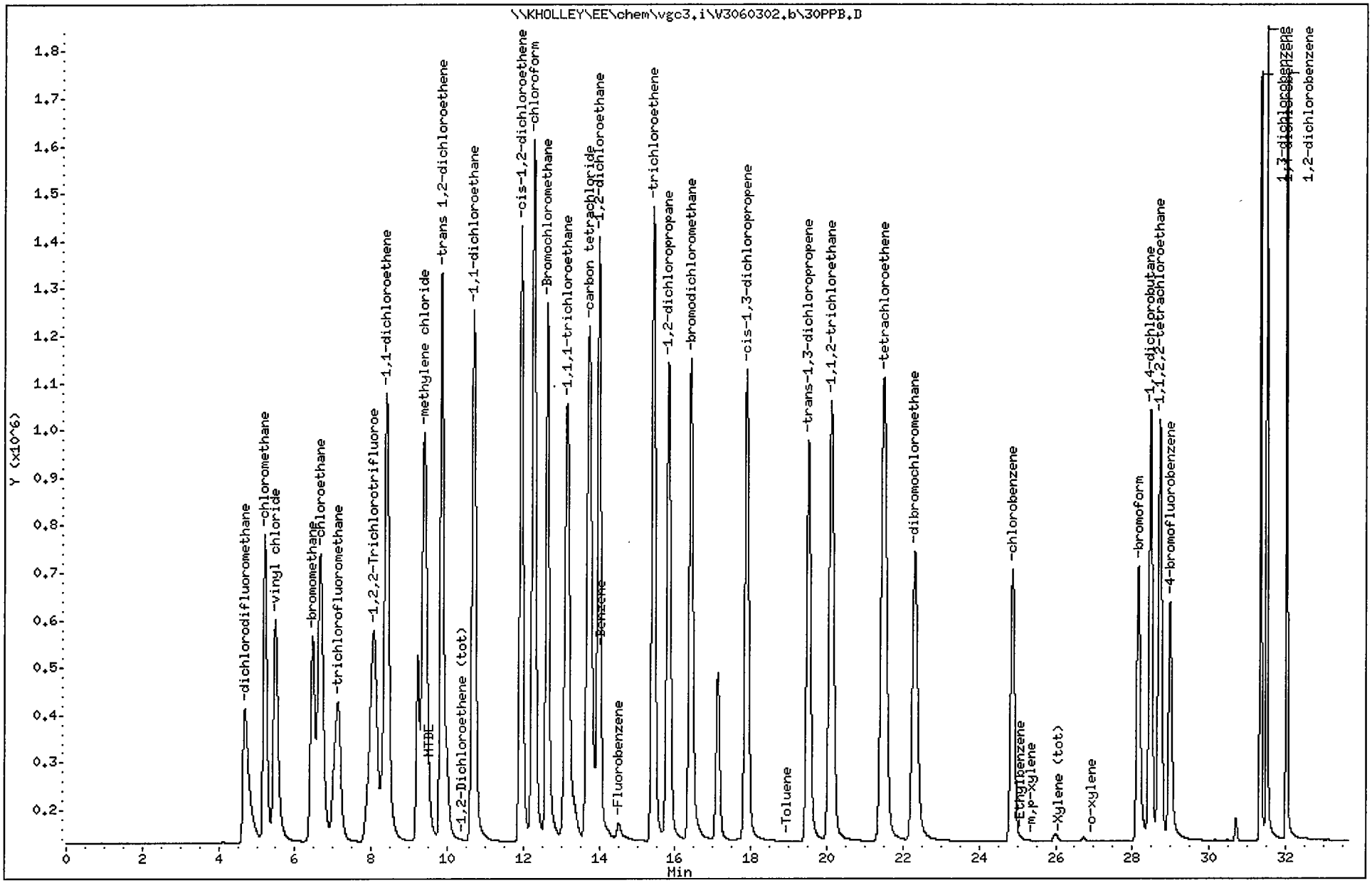
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7154740	0.00
21 Fluorobenzene	742702	371351	1485404	742702	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.62	0.00
21 Fluorobenzene	14.48	13.98	14.98	14.48	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\vgc3.i\V3060302.b\30PPB.D
Date : 03-JUN-2002 20:10
Client ID: 30PPB
Sample Info: 30PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\40PPB.D
Lab Smp Id: 40PPB Client Smp ID: 40PPB
Inj Date : 03-JUN-2002 20:51
Operator : Inst ID: vgc3.i
Smp Info : 40PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:17 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 2 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.680	4.680	(0.371)	3978769	40.0000	44.7
	2 chloromethane	AIB1A	5.196	5.196	(0.412)	5071373	40.0000	41.2
	3 vinyl chloride	AIB1A	5.470	5.470	(0.433)	4980444	40.0000	41.0
	4 bromomethane	AIB1A	6.450	6.450	(0.511)	3965950	40.0000	42.3
	5 chloroethane	AIB1A	6.653	6.653	(0.527)	7420889	40.0000	39.1
	6 trichlorofluoromethane	AIB1A	7.123	7.123	(0.564)	4455088	40.0000	40.7
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.056	8.056	(0.638)	7327505	40.0000	36.9
	8 1,1-dichloroethene	AIB1A	8.390	8.390	(0.665)	10701198	40.0000	35.1
	9 methylene chloride	AIB1A	9.386	9.386	(0.744)	11615144	40.0000	34.0
	10 MTBE	FID2B	9.523	9.523	(0.658)	525780	40.0000	33.6
	11 trans 1,2-dichloroethene	AIB1A	9.840	9.840	(0.780)	10582232	40.0000	36.0
M	12 1,2-Dichloroethene (tot)	AIB1A				20352623	80.0000	68.8
	13 1,1-dichloroethane	AIB1A	10.686	10.686	(0.847)	10256221	40.0000	33.4
	14 cis-1,2-dichloroethene	AIB1A	11.936	11.936	(0.946)	9770391	40.0000	32.8
	15 chloroform	AIB1A	12.266	12.266	(0.972)	12110926	40.0000	32.6
*	16 Bromochloromethane	AIB1A	12.623	12.623	(1.000)	7056101	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.146	13.146	(1.041)	10172405	40.0000	33.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.720	13.720	(1.087)	11735750	40.0000	33.2
	19 1,2-dichloroethane	AIB1A	13.983	13.983	(1.108)	9973879	40.0000	32.0
	20 Benzene	FID2B	14.050	14.050	(0.970)	1429744	40.0000	35.1
*	21 Fluorobenzene	FID2B	14.483	14.483	(1.000)	754647	30.0000	
	22 trichloroethene	AIB1A	15.420	15.420	(1.222)	11110310	40.0000	32.0
	23 1,2-dichloropropane	AIB1A	15.820	15.820	(1.253)	9187297	40.0000	33.1
	24 bromodichloromethane	AIB1A	16.410	16.410	(1.300)	9369869	40.0000	33.5
	25 cis-1,3-dichloropropene	AIB1A	17.883	17.883	(1.417)	8883556	40.0000	32.8
	26 Toluene	FID2B	18.956	18.956	(1.309)	1322138	40.0000	35.6
	27 trans-1,3-dichloropropene	AIB1A	19.510	19.510	(1.546)	8020635	40.0000	33.3
	28 1,1,2-trichlorethane	AIB1A	20.113	20.113	(1.593)	10068246	40.0000	32.7
	29 tetrachloroethene	AIB1A	21.493	21.493	(1.703)	12535684	40.0000	32.2
	30 dibromochloromethane	AIB1A	22.306	22.306	(1.767)	7551666	40.0000	36.2
	31 chlorobenzene	AIB1A	24.873	24.873	(1.970)	5409569	40.0000	34.8
	32 Ethylbenzene	FID2B	25.070	25.070	(1.731)	1226618	40.0000	38.6
	33 m,p-xylene	FID2B	25.370	25.370	(1.752)	2711038	80.0000	76.0
M	34 Xylene (tot)	FID2B				3859938	120.000	115
	35 o-xylene	FID2B	26.936	26.936	(1.860)	1148900	40.0000	38.6
	36 bromoform	AIB1A	28.153	28.153	(2.230)	5027852	40.0000	36.9
$	37 1,4-dichlorobutane	AIB1A	28.470	28.470	(2.255)	7000301	40.0000	33.9
	38 1,1,2,2-tetrachloroethane	AIB1A	28.713	28.713	(2.275)	7090511	40.0000	32.6
$	39 4-bromofluorobenzene	FID2B	28.956	28.956	(1.999)	1275434	40.0000	39.8
	40 1,3-dichlorobenzene	AIB1A	31.340	31.340	(2.483)	6078518	40.0000	32.4
	41 1,4-dichlorobenzene	AIB1A	31.503	31.503	(2.496)	6441510	40.0000	32.3
	42 1,2-dichlorobenzene	AIB1A	32.026	32.026	(2.537)	5847580	40.0000	32.4

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 40PPB.D
Lab Smp Id: 40PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 40PPB
Level: LOW
Sample Type: WATER

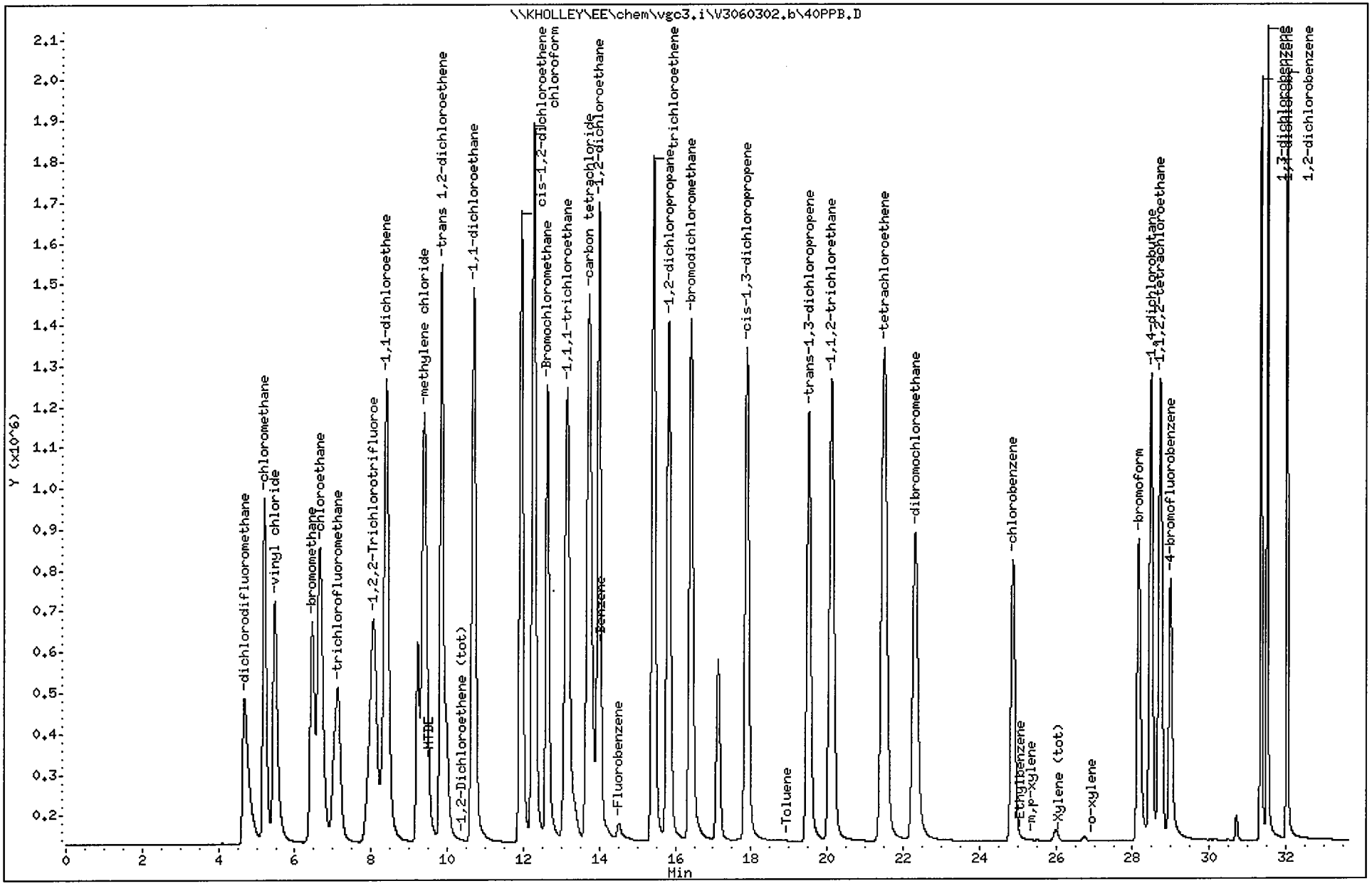
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7056101	-1.38
21 Fluorobenzene	742702	371351	1485404	754647	1.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.62	0.03
21 Fluorobenzene	14.48	13.98	14.98	14.48	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\vgc3.i\V3060302.b\40PPB.D
Date : 03-JUN-2002 20:51
Client ID: 40PPB
Sample Info: 40PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\50PPB.D
Lab Smp Id: 50PPB Client Smp ID: 50PPB
Inj Date : 03-JUN-2002 21:33
Operator : Inst ID: vgc3.i
Smp Info : 50PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:17 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 3 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.676	4.676	(0.371)	4844438	50.0000	53.5
	2 chloromethane	AIB1A	5.193	5.193	(0.412)	6137473	50.0000	49.0
	3 vinyl chloride	AIB1A	5.470	5.470	(0.433)	5880202	50.0000	47.6
	4 bromomethane	AIB1A	6.450	6.450	(0.511)	4630624	50.0000	48.5
	5 chloroethane	AIB1A	6.650	6.650	(0.527)	8884268	50.0000	46.1
	6 trichlorofluoromethane	AIB1A	7.120	7.120	(0.564)	5417252	50.0000	48.6
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.043	8.043	(0.637)	8709754	50.0000	43.1
	8 1,1-dichloroethene	AIB1A	8.390	8.390	(0.665)	13083504	50.0000	42.2
	9 methylene chloride	AIB1A	9.386	9.386	(0.744)	13890685	50.0000	40.0
	10 MTBE	FID2B	9.520	9.520	(0.657)	652316	50.0000	41.6
	11 trans 1,2-dichloroethene	AIB1A	9.836	9.836	(0.779)	12630648	50.0000	42.2
M	12 1,2-Dichloroethene (tot)	AIB1A				24367467	100.000	81.0
	13 1,1-dichloroethane	AIB1A	10.680	10.680	(0.846)	12590040	50.0000	40.4
	14 cis-1,2-dichloroethene	AIB1A	11.936	11.936	(0.946)	11736819	50.0000	38.7
	15 chloroform	AIB1A	12.263	12.263	(0.972)	14564382	50.0000	38.5
*	16 Bromochloromethane	AIB1A	12.620	12.620	(1.000)	7176837	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.140	13.140	(1.041)	12633807	50.0000	40.5

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.716	13.716	(1.087)	14417985	50.0000	40.2
	19 1,2-dichloroethane	AIB1A	13.983	13.983	(1.108)	12088093	50.0000	38.1
	20 Benzene	FID2B	14.046	14.046	(0.970)	1780513	50.0000	43.7
*	21 Fluorobenzene	FID2B	14.480	14.480	(1.000)	755358	30.0000	
	22 trichloroethene	AIB1A	15.416	15.416	(1.222)	13158749	50.0000	37.2
	23 1,2-dichloropropane	AIB1A	15.816	15.816	(1.253)	11326315	50.0000	40.1
	24 bromodichloromethane	AIB1A	16.403	16.403	(1.300)	11547160	50.0000	40.6
	25 cis-1,3-dichloropropene	AIB1A	17.880	17.880	(1.417)	10935920	50.0000	39.6
	26 Toluene	FID2B	18.953	18.953	(1.309)	1643093	50.0000	44.3
	27 trans-1,3-dichloropropene	AIB1A	19.510	19.510	(1.546)	9550792	50.0000	39.0
	28 1,1,2-trichlorethane	AIB1A	20.113	20.113	(1.594)	12130236	50.0000	38.8
	29 tetrachloroethene	AIB1A	21.490	21.490	(1.703)	14982014	50.0000	37.8
	30 dibromochloromethane	AIB1A	22.303	22.303	(1.767)	9148255	50.0000	43.1
	31 chlorobenzene	AIB1A	24.870	24.870	(1.971)	6540055	50.0000	41.3
	32 Ethylbenzene	FID2B	25.073	25.073	(1.732)	1515188	50.0000	47.7
	33 m,p-xylene	FID2B	25.370	25.370	(1.752)	3342692	100.000	93.7
M	34 Xylene (tot)	FID2B				4765969	150.000	141
	35 o-xylene	FID2B	26.940	26.940	(1.860)	1423277	50.0000	47.7
	36 bromoform	AIB1A	28.153	28.153	(2.231)	5911912	50.0000	42.6
$	37 1,4-dichlorobutane	AIB1A	28.470	28.470	(2.256)	8234357	50.0000	39.2
	38 1,1,2,2-tetrachloroethane	AIB1A	28.713	28.713	(2.275)	8207998	50.0000	37.1
$	39 4-bromofluorobenzene	FID2B	28.956	28.956	(2.000)	1601771	50.0000	50.0
	40 1,3-dichlorobenzene	AIB1A	31.336	31.336	(2.483)	6926610	50.0000	36.3
	41 1,4-dichlorobenzene	AIB1A	31.500	31.500	(2.496)	7391476	50.0000	36.5
	42 1,2-dichlorobenzene	AIB1A	32.016	32.016	(2.537)	6780457	50.0000	36.9

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 50PPB.D
Lab Smp Id: 50PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 50PPB
Level: LOW
Sample Type: WATER

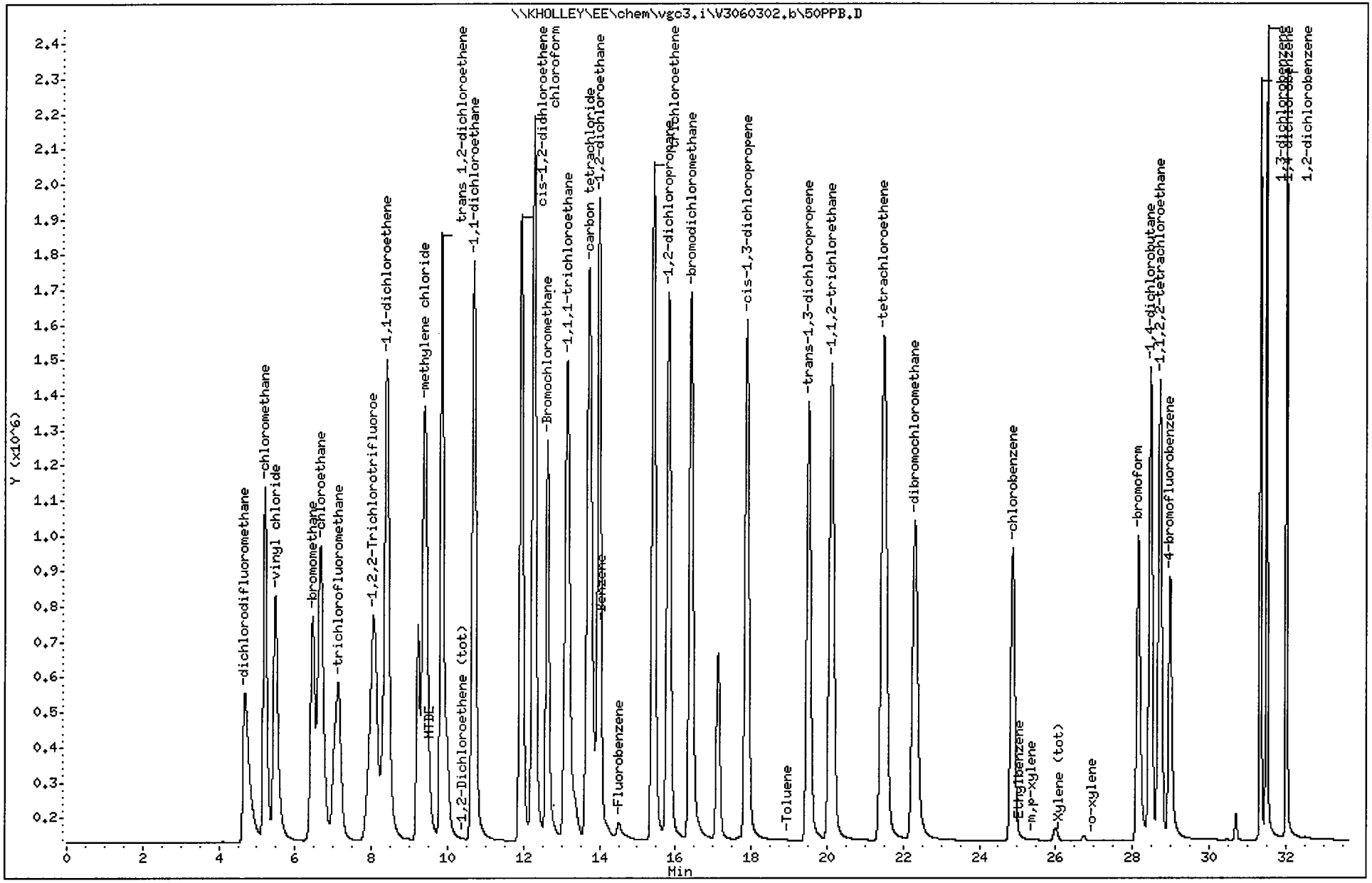
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7176837	0.31
21 Fluorobenzene	742702	371351	1485404	755358	1.70

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.62	0.00
21 Fluorobenzene	14.48	13.98	14.98	14.48	-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\vgc3.i\V3060302.b\50PPB.D
Date : 03-JUN-2002 21:33
Client ID: 50PPB
Sample Info: 50PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\100PPB.D
Lab Smp Id: 100PPB Client Smp ID: 100PPB
Inj Date : 03-JUN-2002 22:15
Operator : Inst ID: vgc3.i
Smp Info : 100PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:17 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 4 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
1 dichlorodifluoromethane	AIB1A	4.666	4.666	(0.370)	9351960	100.000	104(A)
2 chloromethane	AIB1A	5.183	5.183	(0.411)	11109925	100.000	89.0(A)
3 vinyl chloride	AIB1A	5.456	5.456	(0.432)	9810396	100.000	79.6(A)
4 bromomethane	AIB1A	6.423	6.423	(0.509)	8799756	100.000	92.6(A)
5 chloroethane	AIB1A	6.626	6.626	(0.525)	15988209	100.000	83.2(A)
6 trichlorofluoromethane	AIB1A	7.100	7.100	(0.563)	10618109	100.000	95.6(A)
7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.040	8.040	(0.637)	16330744	100.000	81.1
8 1,1-dichloroethene	AIB1A	8.380	8.380	(0.664)	22946899	100.000	74.3(A)
9 methylene chloride	AIB1A	9.380	9.380	(0.743)	24312242	100.000	70.3(A)
10 MTBE	FID2B	9.533	9.533	(0.659)	1258545	100.000	77.0
11 trans 1,2-dichloroethene	AIB1A	9.830	9.830	(0.779)	22041512	100.000	74.0(A)
M 12 1,2-Dichloroethene (tot)	AIB1A				41997985	200.000	140
13 1,1-dichloroethane	AIB1A	10.680	10.680	(0.846)	21384379	100.000	68.8(A)
14 cis-1,2-dichloroethene	AIB1A	11.930	11.930	(0.945)	19956473	100.000	66.1(A)
15 chloroform	AIB1A	12.263	12.263	(0.972)	25194046	100.000	66.8(A)
* 16 Bromochloromethane	AIB1A	12.620	12.620	(1.000)	7151683	30.0000	
17 1,1,1-trichloroethane	AIB1A	13.140	13.140	(1.041)	21993430	100.000	70.8(A)

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.713	13.713	(1.087)	24088891	100.000	67.3(A)
	19 1,2-dichloroethane	AIB1A	13.983	13.983	(1.108)	20542732	100.000	65.0(A)
	20 Benzene	FID2B	14.046	14.046	(0.970)	3524031	100.000	83.0
*	21 Fluorobenzene	FID2B	14.476	14.476	(1.000)	787358	30.0000	
	22 trichloroethene	AIB1A	15.416	15.416	(1.222)	22119728	100.000	62.8(A)
	23 1,2-dichloropropane	AIB1A	15.816	15.816	(1.253)	18658112	100.000	66.3(A)
	24 bromodichloromethane	AIB1A	16.403	16.403	(1.300)	19751603	100.000	69.6(A)
	25 cis-1,3-dichloropropene	AIB1A	17.880	17.880	(1.417)	18544658	100.000	67.5(A)
	26 Toluene	FID2B	18.953	18.953	(1.309)	3254801	100.000	84.1
	27 trans-1,3-dichloropropene	AIB1A	19.506	19.506	(1.546)	16893074	100.000	69.2(A)
	28 1,1,2-trichlorethane	AIB1A	20.110	20.110	(1.594)	20951678	100.000	67.2(A)
	29 tetrachloroethene	AIB1A	21.490	21.490	(1.703)	25847558	100.000	65.5(A)
	30 dibromochloromethane	AIB1A	22.300	22.300	(1.767)	16703642	100.000	79.0(A)
	31 chlorobenzene	AIB1A	24.870	24.870	(1.971)	11714620	100.000	74.2
	32 Ethylbenzene	FID2B	25.070	25.070	(1.732)	2991247	100.000	90.3
	33 m,p-xylene	FID2B	25.373	25.373	(1.753)	6605208	200.000	178
M	34 Xylene (tot)	FID2B				9407540	300.000	268
	35 o-xylene	FID2B	26.940	26.940	(1.861)	2802332	100.000	90.2
	36 bromoform	AIB1A	28.150	28.150	(2.231)	11211596	100.000	81.1(A)
$	37 1,4-dichlorobutane	AIB1A	28.470	28.470	(2.256)	14028693	100.000	67.1(A)
	38 1,1,2,2-tetrachloroethane	AIB1A	28.713	28.713	(2.275)	14232183	100.000	64.5(A)
$	39 4-bromofluorobenzene	FID2B	28.956	28.956	(2.000)	3092044	100.000	92.6(A)
	40 1,3-dichlorobenzene	AIB1A	31.340	31.340	(2.483)	12189067	100.000	64.2
	41 1,4-dichlorobenzene	AIB1A	31.500	31.500	(2.496)	13079688	100.000	64.8
	42 1,2-dichlorobenzene	AIB1A	32.023	32.023	(2.538)	11756075	100.000	64.2

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 100PPB.D
Lab Smp Id: 100PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 100PPB
Level: LOW
Sample Type: WATER

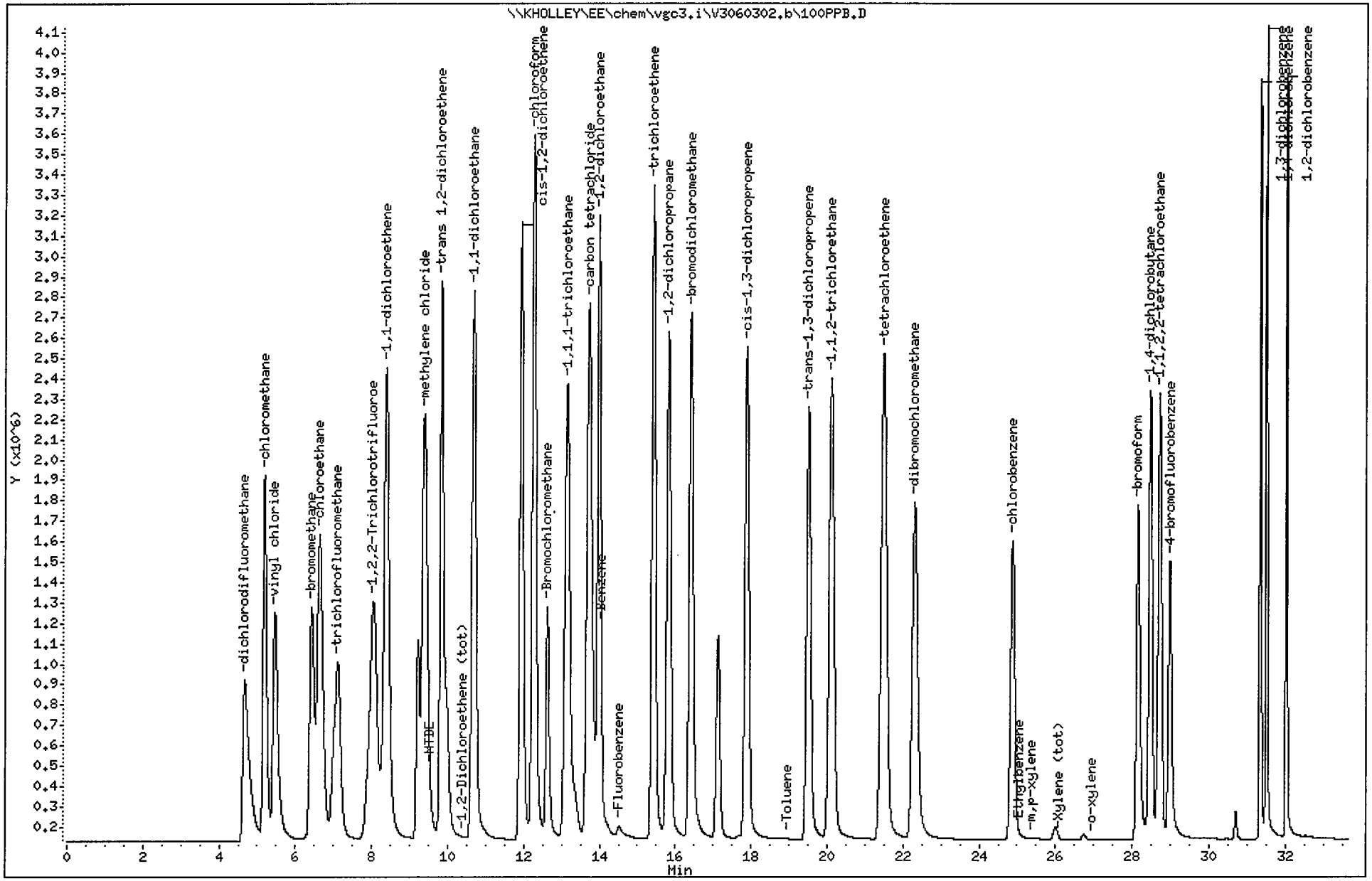
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7151683	-0.04
21 Fluorobenzene	742702	371351	1485404	787358	6.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.62	0.00
21 Fluorobenzene	14.48	13.98	14.98	14.48	-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.

Data File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\100PPB.D
Date : 03-JUN-2002 22:15
Client ID: 100PPB
Sample Info: 100PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\1PPBR2.D
Lab Smp Id: 1PPB Client Smp ID: 1PPB
Inj Date : 04-JUN-2002 08:23
Operator : Inst ID: vgc3.i
Smp Info : 1PPB
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:18 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 7 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.706	4.706	(0.373)	53355	1.00000	0.57(aM) MJ
	2 chloromethane	AIB1A	5.213	5.213	(0.413)	100453	1.00000	0.78(a)
	3 vinyl chloride	AIB1A	5.480	5.480	(0.434)	117481	1.00000	0.92(a)
	4 bromomethane	AIB1A	6.473	6.473	(0.513)	69880	1.00000	0.71(a)
	5 chloroethane	AIB1A	6.676	6.676	(0.529)	188599	1.00000	0.95(a)
	6 trichlorofluoromethane	AIB1A	7.140	7.140	(0.565)	154584	1.00000	1.3
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.073	8.073	(0.639)	224734	1.00000	1.1
	8 1,1-dichloroethene	AIB1A	8.410	8.410	(0.666)	356620	1.00000	1.1
	9 methylene chloride	AIB1A	9.403	9.403	(0.745)	502426	1.00000	1.4(a)
	10 MTBE	FID2B	9.536	9.536	(0.658)	14240	1.00000	0.84(a)
	11 trans 1,2-dichloroethene	AIB1A	9.856	9.856	(0.780)	370648	1.00000	1.2
M	12 1,2-Dichloroethene (tot)	AIB1A				759190	2.00000	2.4
	13 1,1-dichloroethane	AIB1A	10.696	10.696	(0.847)	390191	1.00000	1.2
	14 cis-1,2-dichloroethene	AIB1A	11.946	11.946	(0.946)	388542	1.00000	1.2
	15 chloroform	AIB1A	12.266	12.266	(0.971)	518255	1.00000	1.3
*	16 Bromochloromethane	AIB1A	12.630	12.630	(1.000)	7384434	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.153	13.153	(1.041)	401707	1.00000	1.2

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	18 carbon tetrachloride	AIB1A	13.730	13.730	(1.087)	453674	1.00000	1.2
	19 1,2-dichloroethane	AIB1A	13.993	13.993	(1.108)	383367	1.00000	1.2
	20 Benzene	FID2B	14.056	14.056	(0.970)	39552	1.00000	0.90(a)
*	21 Fluorobenzene	FID2B	14.490	14.490	(1.000)	818973	30.0000	
	22 trichloroethene	AIB1A	15.423	15.423	(1.221)	498313	1.00000	1.4
	23 1,2-dichloropropane	AIB1A	15.830	15.830	(1.253)	363635	1.00000	1.2
	24 bromodichloromethane	AIB1A	16.416	16.416	(1.300)	363144	1.00000	1.2
	25 cis-1,3-dichloropropene	AIB1A	17.890	17.890	(1.416)	347290	1.00000	1.2
	26 Toluene	FID2B	18.956	18.956	(1.308)	39807	1.00000	0.99(a)
	27 trans-1,3-dichloropropene	AIB1A	19.516	19.516	(1.545)	299814	1.00000	1.2
	28 1,1,2-trichlorethane	AIB1A	20.116	20.116	(1.593)	383381	1.00000	1.2
	29 tetrachloroethene	AIB1A	21.490	21.490	(1.702)	549507	1.00000	1.3
	30 dibromochloromethane	AIB1A	22.313	22.313	(1.767)	233847	1.00000	1.1
	31 chlorobenzene	AIB1A	24.870	24.870	(1.969)	189546	1.00000	1.2
	32 Ethylbenzene	FID2B	25.070	25.070	(1.730)	35325	1.00000	1.0
	33 m,p-xylene	FID2B	25.366	25.366	(1.751)	77630	2.00000	2.0
M	34 Xylene (tot)	FID2B				109007	3.00000	3.0
	35 o-xylene	FID2B	26.930	26.930	(1.859)	31377	1.00000	0.97(a)
	36 bromoform	AIB1A	28.156	28.156	(2.229)	150177	1.00000	1.0
$	37 1,4-dichlorobutane	AIB1A	28.466	28.466	(2.254)	267000	1.00000	1.2
	38 1,1,2,2-tetrachloroethane	AIB1A	28.710	28.710	(2.273)	258765	1.00000	1.1
$	39 4-bromofluorobenzene	FID2B	28.950	28.950	(1.998)	34483	1.00000	0.99(a)
	40 1,3-dichlorobenzene	AIB1A	31.336	31.336	(2.481)	252220	1.00000	1.3(M)
	41 1,4-dichlorobenzene	AIB1A	31.503	31.503	(2.494)	258580	1.00000	1.2(M)
	42 1,2-dichlorobenzene	AIB1A	32.023	32.023	(2.535)	236874	1.00000	1.2(M)

MJ

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: 1PPBR2.D
Lab Smp Id: 1PPB
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: 1PPB
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7384434	3.21
21 Fluorobenzene	742702	371351	1485404	818973	10.27

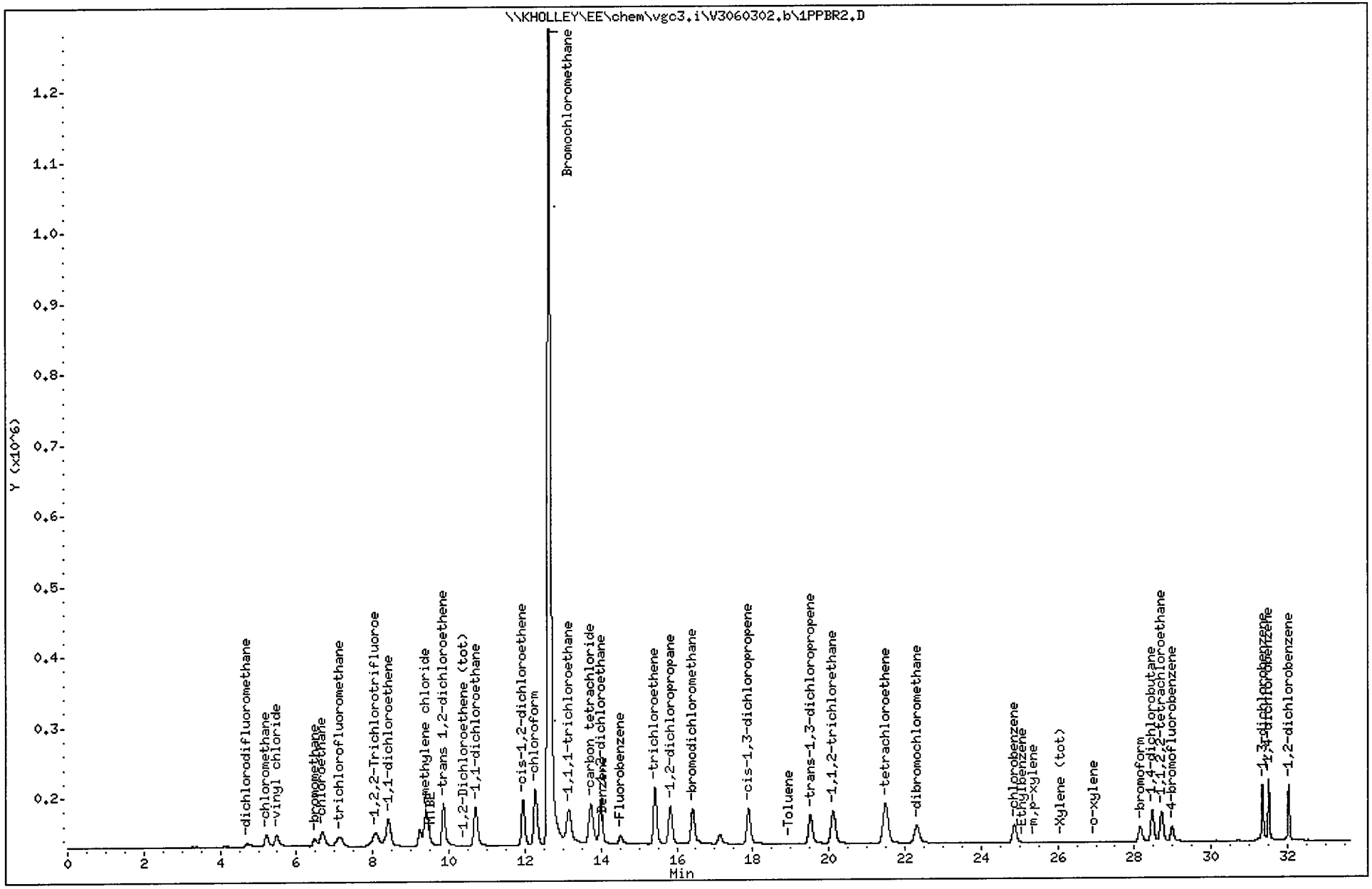
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.63	0.08
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.05

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.

Data File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\1PPBR2.D
Date : 04-JUN-2002 08:23
Client ID: 1PPB
Sample Info: 1PPB
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i

Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\SEC35.D
Lab Smp Id: SEC35 Client Smp ID: SEC35
Inj Date : 04-JUN-2002 10:13
Operator : Inst ID: vgc3.i
Smp Info : SEC35
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Meth Date : 13-Jun-2002 11:18 mjacobs Quant Type: ISTD
Cal Date : 04-JUN-2002 08:23 Cal File: 1PPBR2.D
Als bottle: 6 QC Sample: SSC
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	1 dichlorodifluoromethane	AIB1A	4.686	4.706	(0.371)	2174782	22.7561	22.8
	2 chloromethane	AIB1A	5.206	5.213	(0.412)	3522962	26.6228	26.6
	3 vinyl chloride	AIB1A	5.470	5.480	(0.433)	3727216	28.5453	28.5(Q)
	4 bromomethane	AIB1A	6.466	6.473	(0.512)	2990037	29.6706	29.7
	5 chloroethane	AIB1A	6.673	6.676	(0.528)	5964728	29.2863	29.3
	6 trichlorofluoromethane	AIB1A	7.140	7.140	(0.565)	4306294	36.5874	36.6
	7 1,2,2-Trichlorotrifluoroethan	AIB1A	8.086	8.073	(0.640)	736614	3.45111	3.4
	8 1,1-dichloroethene	AIB1A	8.410	8.410	(0.666)	10166811	31.0551	31.0(Q)
	9 methylene chloride	AIB1A	9.413	9.403	(0.745)	11385570	31.0595	31.0(M) MJ
	10 MTBE	FID2B	9.540	9.536	(0.658)	408319	24.4863	24.5
	11 trans 1,2-dichloroethene	AIB1A	9.853	9.856	(0.780)	9616341	30.4476	30.4(Q)
M	12 1,2-Dichloroethene (tot)	AIB1A				18628289	58.5993	58.6
	13 1,1-dichloroethane	AIB1A	10.700	10.696	(0.847)	9545380	28.9702	29.0
	14 cis-1,2-dichloroethene	AIB1A	11.950	11.946	(0.946)	9011948	28.1517	28.2(Q)
	15 chloroform	AIB1A	12.283	12.266	(0.972)	10508877	26.2948	26.3
*	16 Bromochloromethane	AIB1A	12.636	12.630	(1.000)	7580805	30.0000	
	17 1,1,1-trichloroethane	AIB1A	13.156	13.153	(1.041)	9548921	29.0046	29.0

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	18 carbon tetrachloride	AIB1A	13.733	13.730	(1.087)	11144033	29.3864	29.4
	19 1,2-dichloroethane	AIB1A	13.996	13.993	(1.108)	8981343	26.8016	26.8
	20 Benzene	FID2B	14.063	14.056	(0.970)	1156161	26.6866	26.7
*	21 Fluorobenzene	FID2B	14.496	14.490	(1.000)	803081	30.0000	
	22 trichloroethene	AIB1A	15.433	15.423	(1.221)	10390143	27.8380	27.8(Q)
	23 1,2-dichloropropane	AIB1A	15.833	15.830	(1.253)	8270098	27.7324	27.7
	24 bromodichloromethane	AIB1A	16.423	16.416	(1.300)	7793816	25.9128	25.9
	25 cis-1,3-dichloropropene	AIB1A	17.893	17.890	(1.416)	8401732	28.8395	28.8
	26 Toluene	FID2B	18.970	18.956	(1.309)	1098188	27.8270	27.8
	27 trans-1,3-dichloropropene	AIB1A	19.523	19.516	(1.545)	7207896	27.8654	27.9
	28 1,1,2-trichlorethane	AIB1A	20.123	20.116	(1.592)	8834856	26.7415	26.7
	29 tetrachloroethene	AIB1A	21.506	21.490	(1.702)	11560647	27.6396	27.6(Q)
	30 dibromochloromethane	AIB1A	22.323	22.313	(1.767)	5967027	26.6340	26.6
	31 chlorobenzene	AIB1A	24.880	24.870	(1.969)	4765395	28.4936	28.5(Q)
	32 Ethylbenzene	FID2B	25.080	25.070	(1.730)	980482	29.0282	29.0
	33 m,p-xylene	FID2B	25.383	25.366	(1.751)	2235412	58.9168	58.9
M	34 Xylene (tot)	FID2B				3176289	88.5966	88.6
	35 o-xylene	FID2B	26.946	26.930	(1.859)	940877	29.6799	29.7
	36 bromoform	AIB1A	28.160	28.156	(2.228)	3639770	24.8371	24.8
$	37 1,4-dichlorobutane	AIB1A	28.480	28.466	(2.254)	5488936	24.7541	24.8
	38 1,1,2,2-tetrachloroethane	AIB1A	28.720	28.710	(2.273)	5617339	24.0263	24.0
$	39 4-bromofluorobenzene	FID2B	28.960	28.950	(1.998)	1026505	30.1375	30.1(Q)
	40 1,3-dichlorobenzene	AIB1A	31.343	31.336	(2.480)	5445614	27.0543	27.0(Q)
	41 1,4-dichlorobenzene	AIB1A	31.503	31.503	(2.493)	5612112	26.2240	26.2(Q)
	42 1,2-dichlorobenzene	AIB1A	32.030	32.023	(2.535)	5281657	27.2234	27.2(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: SEC35.D
Lab Smp Id: SEC35
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\8021.m
Misc Info:

Calibration Date: 03-JUN-2002
Calibration Time: 20:10
Client Smp ID: SEC35
Level: LOW
Sample Type: WATER

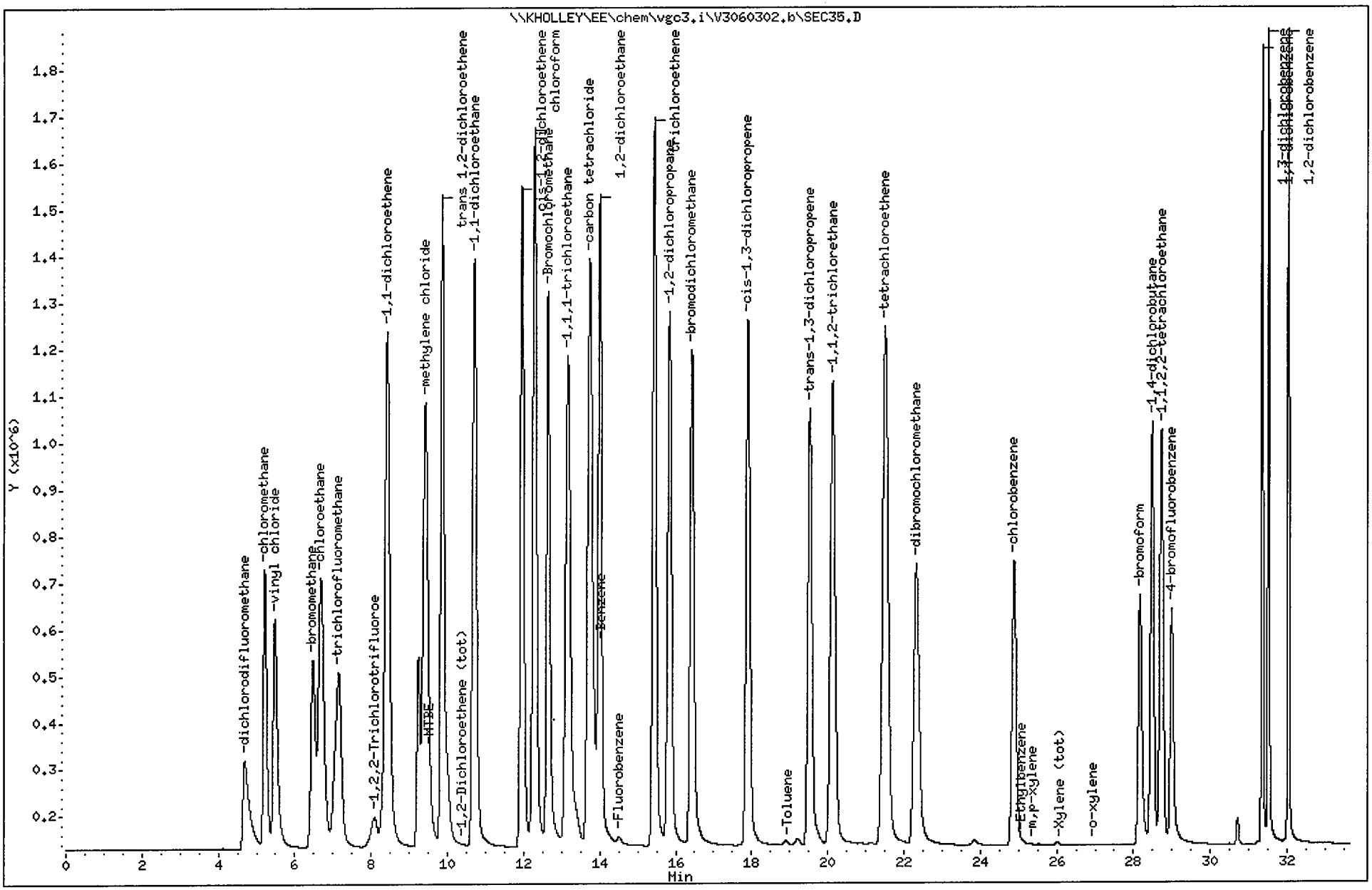
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	7154740	3577370	14309480	7580805	5.96
21 Fluorobenzene	742702	371351	1485404	803081	8.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
16 Bromochloromethan	12.62	12.12	13.12	12.64	0.13
21 Fluorobenzene	14.48	13.98	14.98	14.50	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.

Data File: \\KHOLLEY\EE\chem\vgc3.i\V3060302.b\SEC35.D
Date : 04-JUN-2002 10:13
Client ID: SEC35
Sample Info: SEC35
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i
Operator:
Column diameter: 0.53



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\CCV31.D
Lab Smp Id: 0612CCV31 Client Smp ID: 0612CCV31
Inj Date : 12-JUN-2002 06:46
Operator : Inst ID: vgc3.i
Smp Info : 0612CCV31
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.496	9.513	(0.657)	401918	29.2489	29.2
20 Benzene	FID2B	14.020	14.043	(0.970)	970587	27.1868	27.2
* 21 Fluorobenzene	FID2B	14.450	14.476	(1.000)	661775	30.0000	
26 Toluene	FID2B	18.903	18.943	(1.308)	905233	27.8355	27.8
32 Ethylbenzene	FID2B	25.023	25.063	(1.732)	844025	30.3239	30.3(H) MJ
33 m,p-xylene	FID2B	25.316	25.363	(1.752)	1856222	59.3691	59.4
35 o-xylene	FID2B	26.890	26.930	(1.861)	783562	29.9952	30.0
M 34 Xylene (tot)	FID2B				2639784	89.3643	89.4
$ 39 4-bromofluorobenzene	FID2B	28.913	28.946	(2.001)	837947	29.8546	29.8

QC Flag Legend

H - Operator selected an alternate compound hit.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: vgc3.i
Lab File ID: CCV31.D
Lab Smp Id: 0612CCV31
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: 0612CCV31
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	661775	7.15

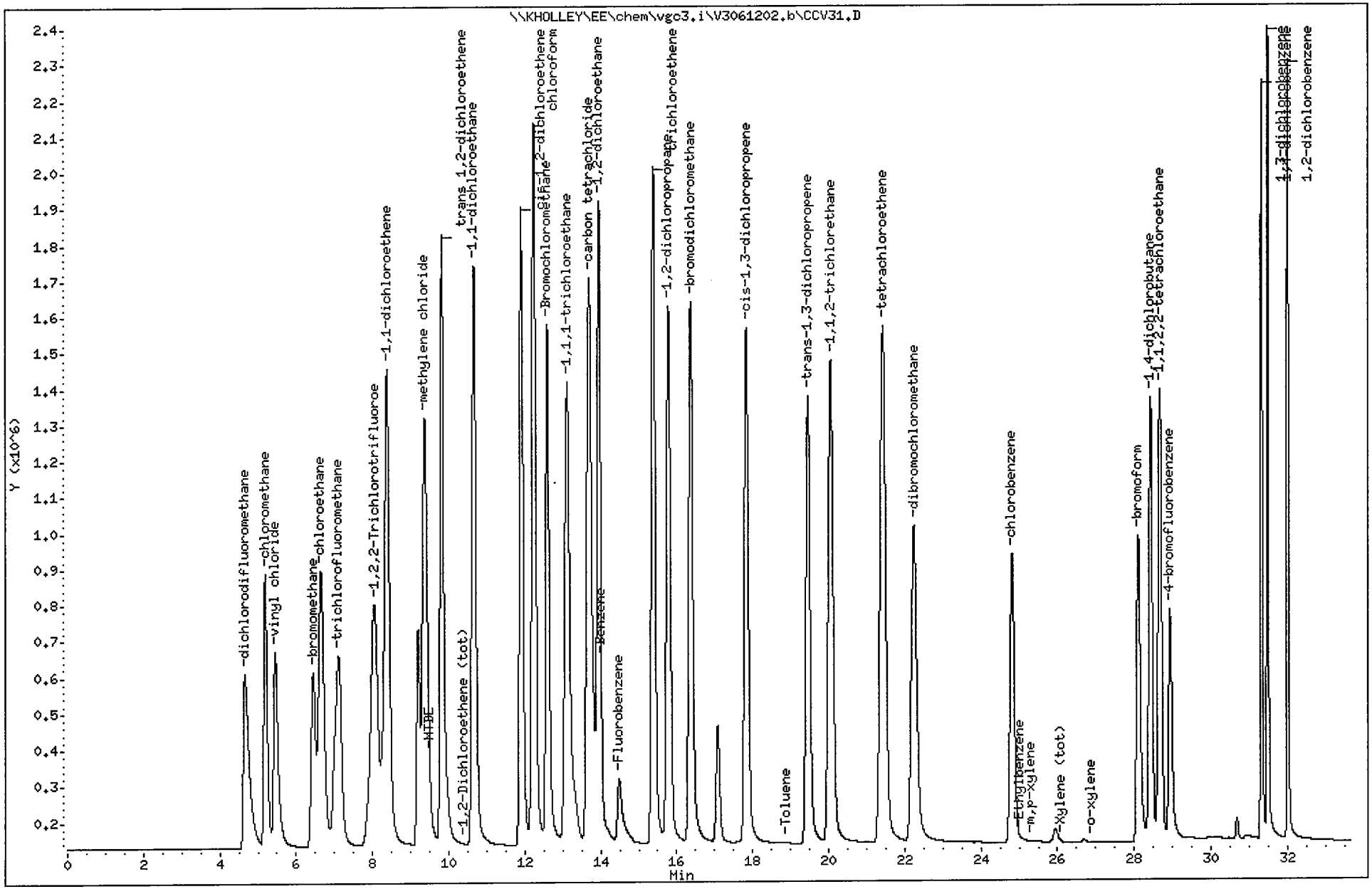
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.45	-0.18

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.

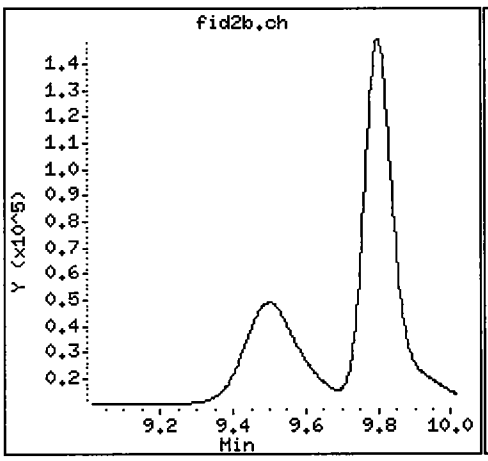
Data File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\CCV31.D
Date : 12-JUN-2002 06:46
Client ID: 0612CCV31
Sample Info: 0612CCV31
Purge Volume: 5.0
Column phase: RTX- 502.2

Instrument: vgc3.i

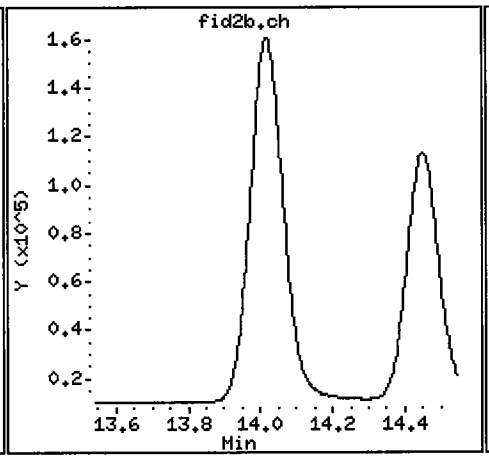
Operator:
Column diameter: 0.53



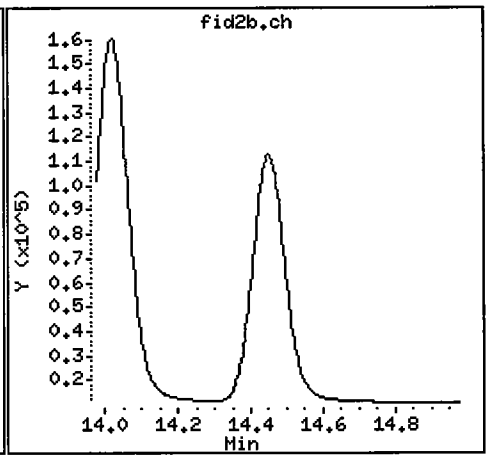
10 MTBE



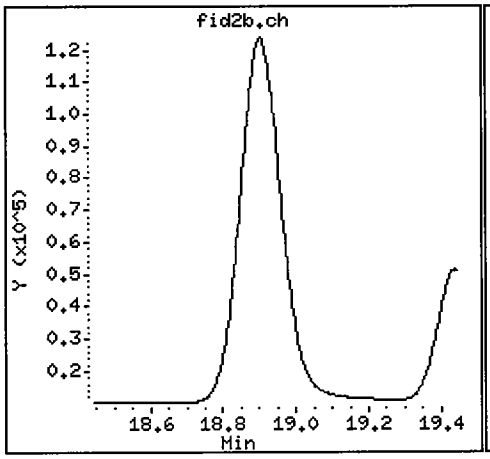
20 Benzene



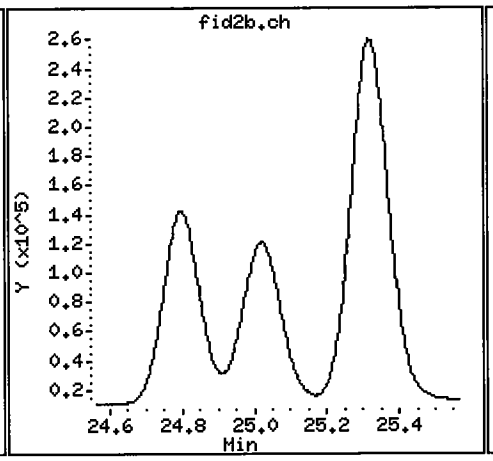
* 21 Fluorobenzene



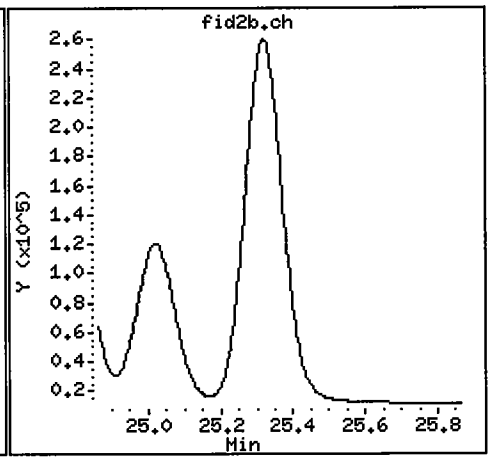
26 Toluene



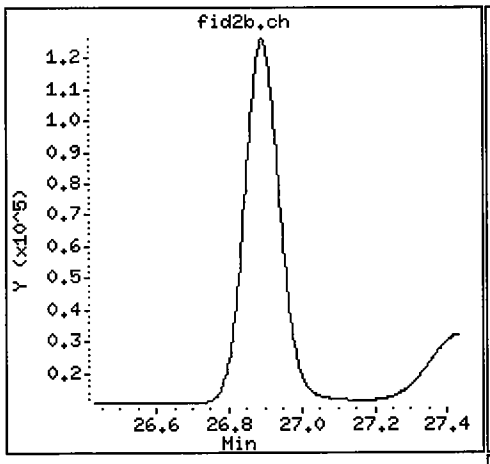
32 Ethylbenzene



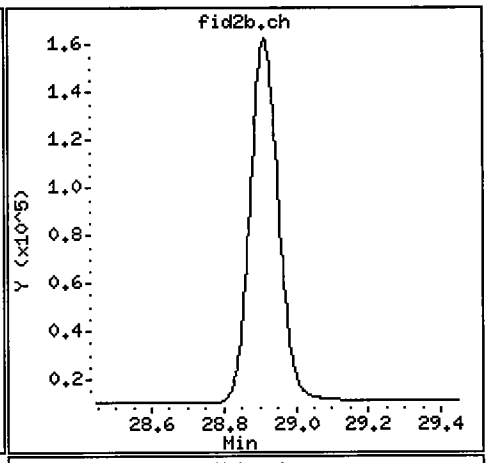
33 m,p-xylene

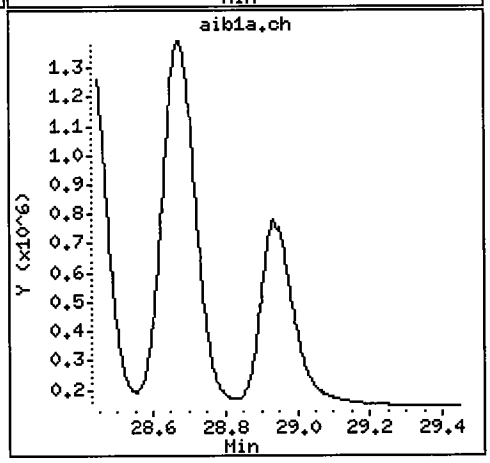


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\LCS31.D
Lab Smp Id: 0612LCS31 Client Smp ID: 0612LCS31
Inj Date : 12-JUN-2002 07:37
Operator : Inst ID: vgc3.i
Smp Info : 0612LCS31
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.523	9.513	(0.658)	146962	9.93233	9.9
20 Benzene	FID2B	14.043	14.043	(0.970)	360478	9.37727	9.4
* 21 Fluorobenzene	FID2B	14.476	14.476	(1.000)	712585	30.0000	
26 Toluene	FID2B	18.940	18.943	(1.308)	348182	9.94303	9.9
32 Ethylbenzene	FID2B	25.060	25.063	(1.731)	316112	10.5474	10.5
33 m,p-xylene	FID2B	25.356	25.363	(1.752)	719920	21.3840	21.4
35 o-xylene	FID2B	26.926	26.930	(1.860)	302520	10.7549	10.8
M 34 Xylene (tot)	FID2B				1022440	32.1389	32.1
$ 39 4-bromofluorobenzene	FID2B	28.946	28.946	(2.000)	830388	27.4758	27.5

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

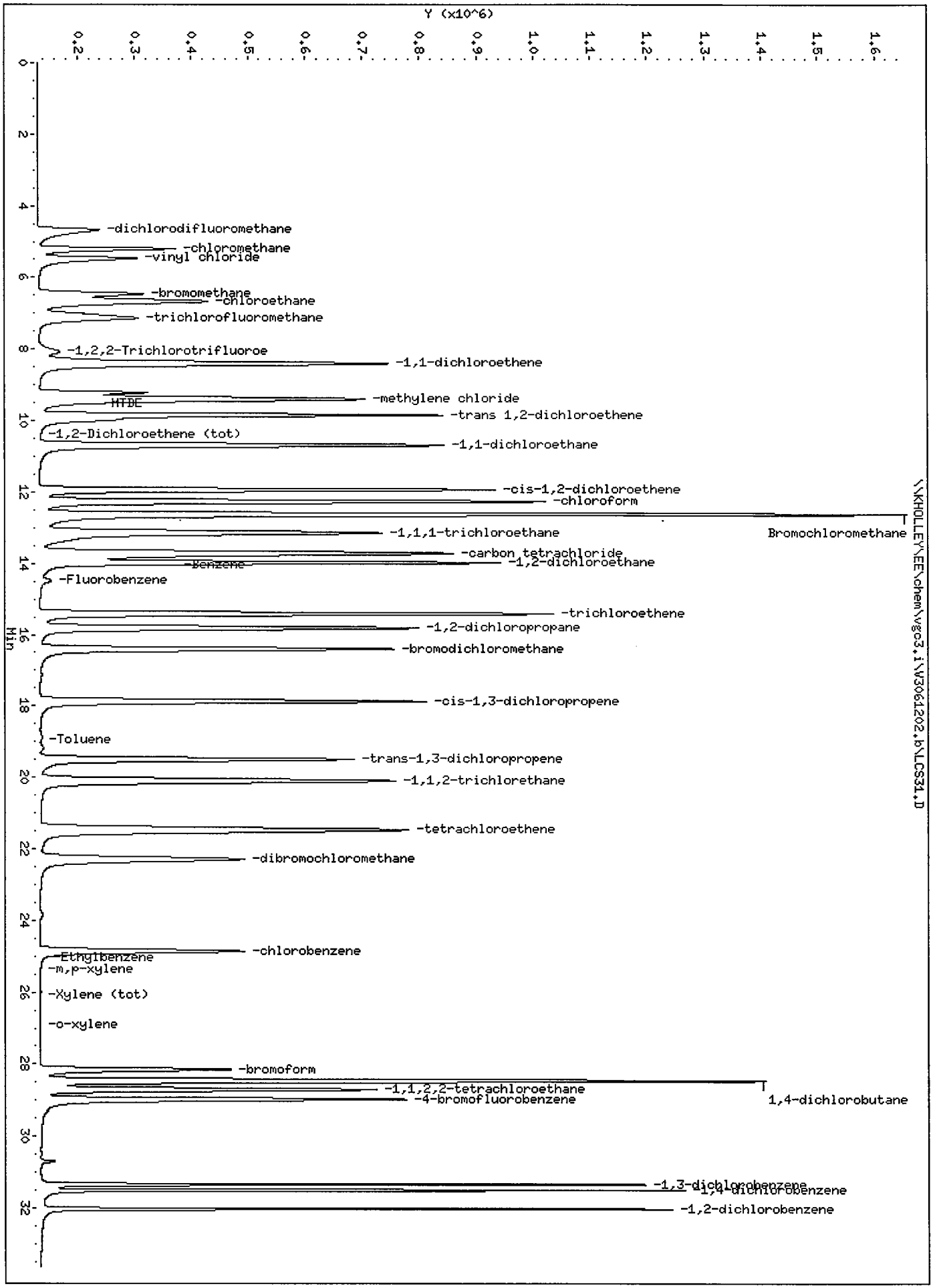
Instrument ID: vgc3.i
Lab File ID: LCS31.D
Lab Smp Id: 0612LCS31
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: 0612LCS31
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	712585	15.38

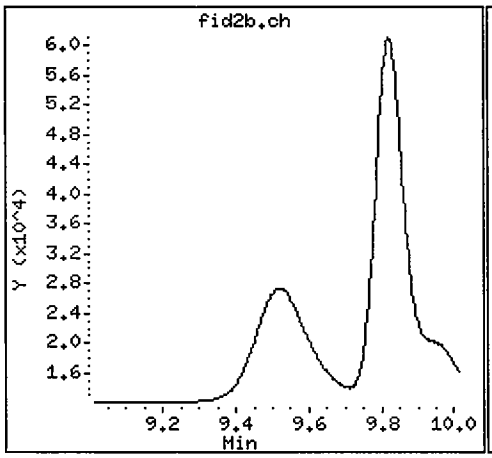
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.00

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.

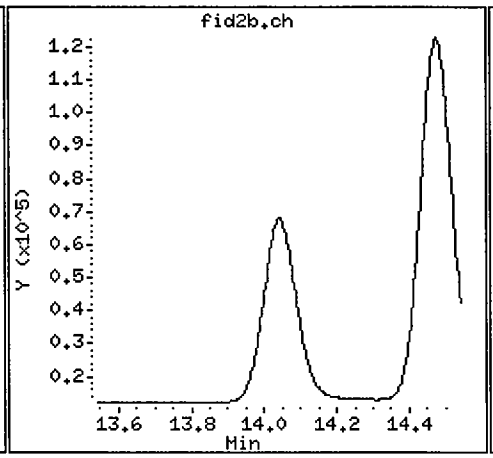


\\KHOLLEY\EE\chem\vgc3.i\W3061202.b\LCS31.D

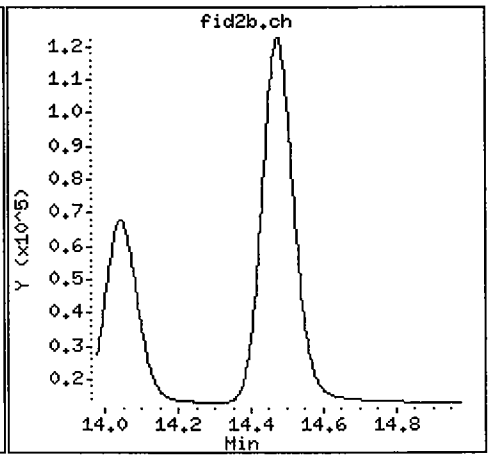
10 MTBE



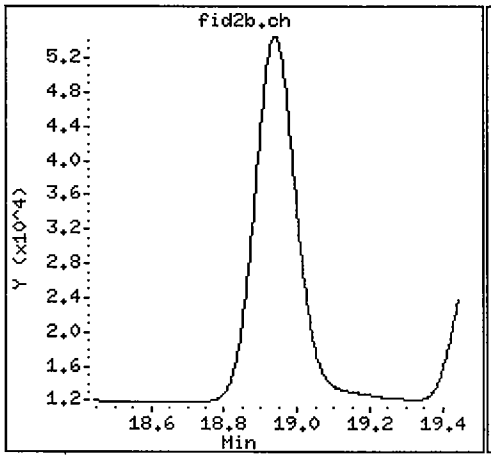
20 Benzene



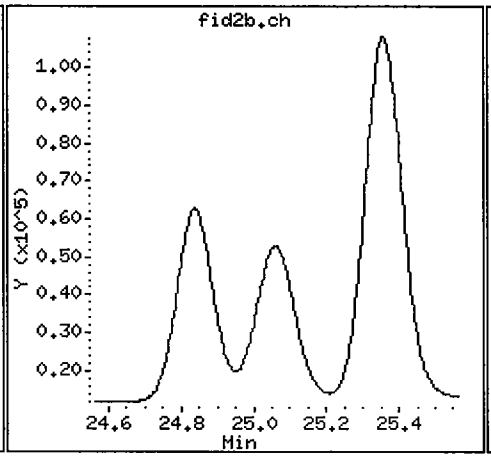
* 21 Fluorobenzene



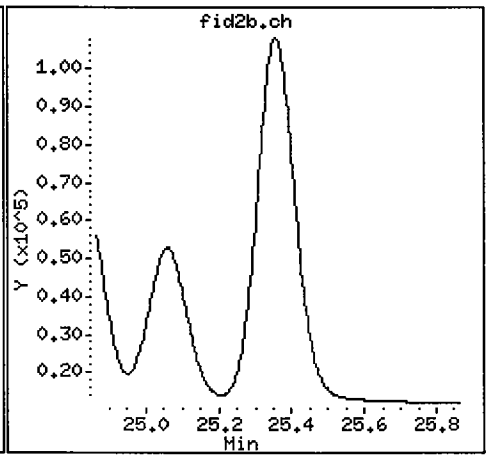
26 Toluene



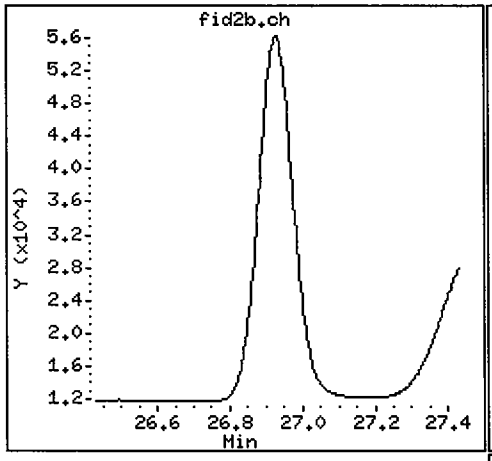
32 Ethylbenzene



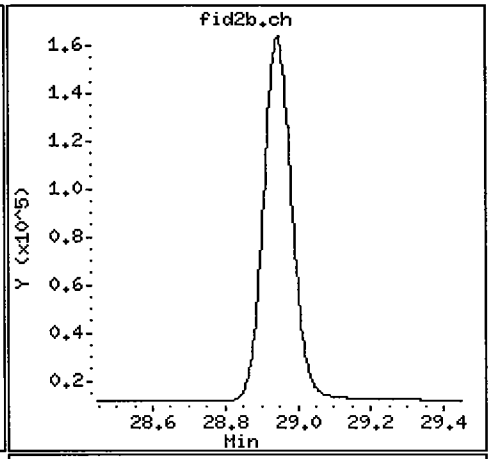
33 m,p-xylene

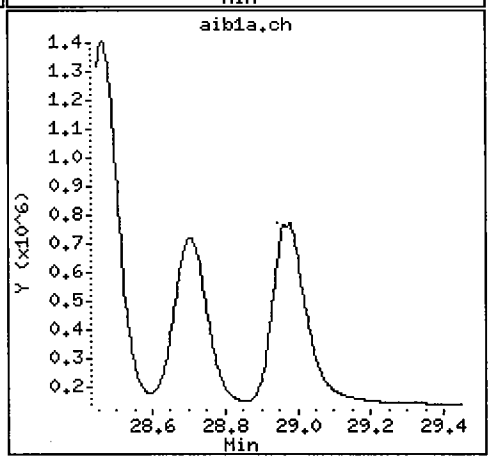


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\BLK31.D
Lab Smp Id: 0612BLK31 Client Smp ID: 0612BLK31
Inj Date : 12-JUN-2002 08:19
Operator : Inst ID: vgc3.i
Smp Info : 0612BLK31
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.480	14.476	(1.000)	675334	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.956	28.946	(2.000)	833323	29.0938	29.1(Q)

QC Flag Legend

Q - Qualifier signal failed the ratio test.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

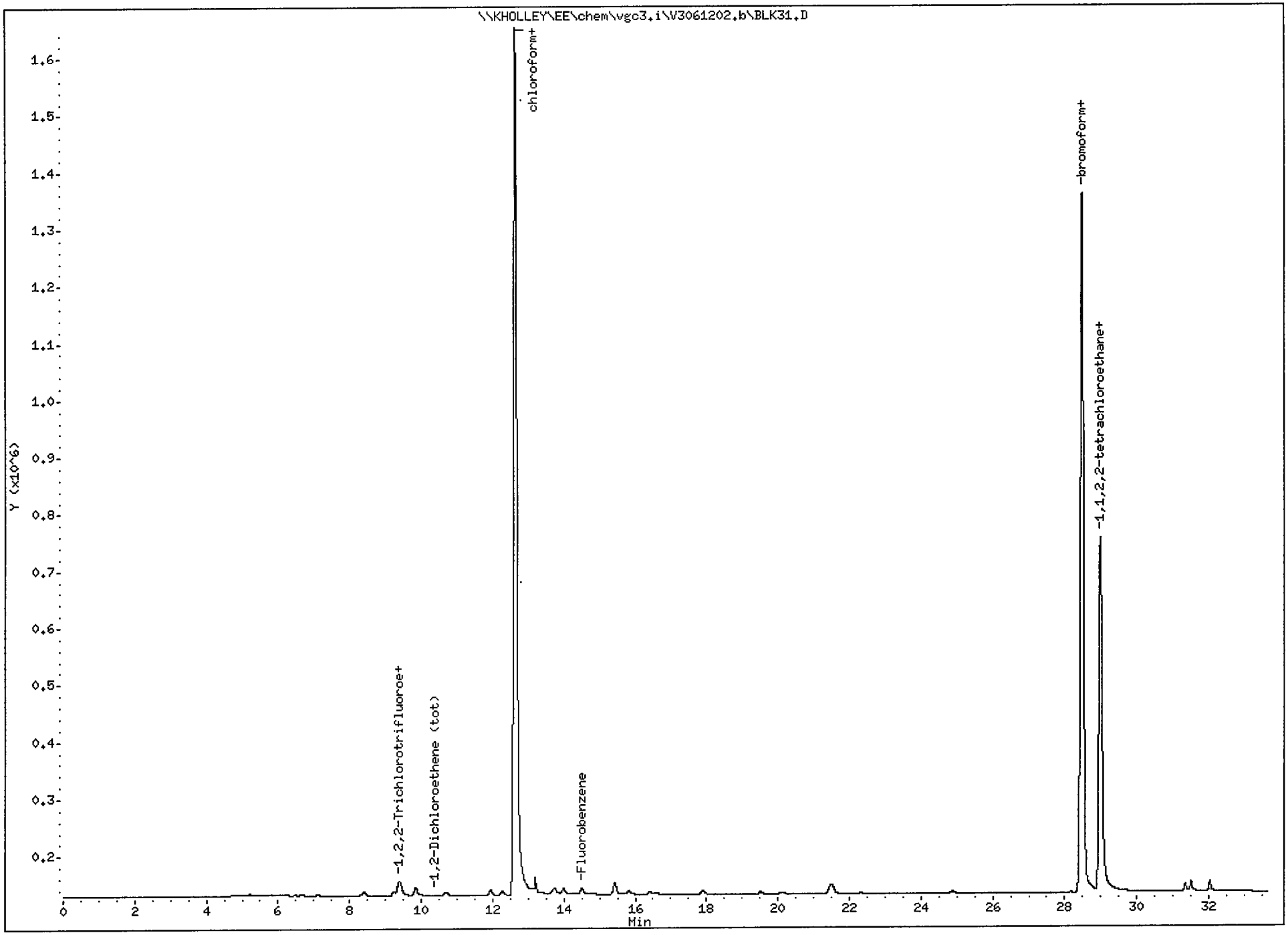
Instrument ID: vgc3.i
Lab File ID: BLK31.D
Lab Smp Id: 0612BLK31
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: 0612BLK31
Level: LOW
Sample Type: WATER

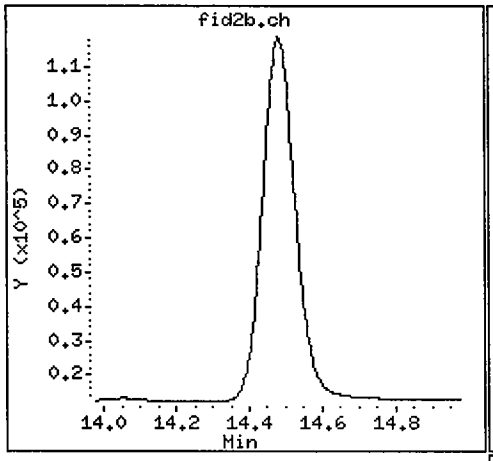
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	675334	9.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.02

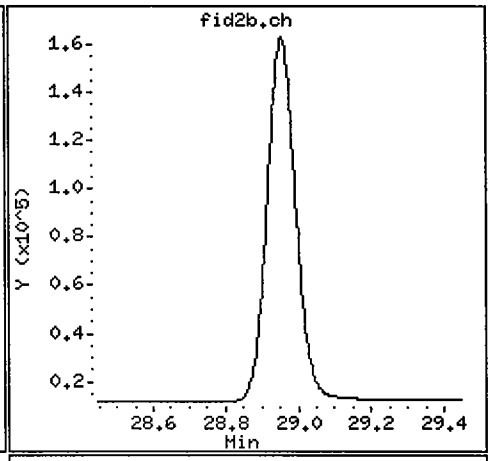
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

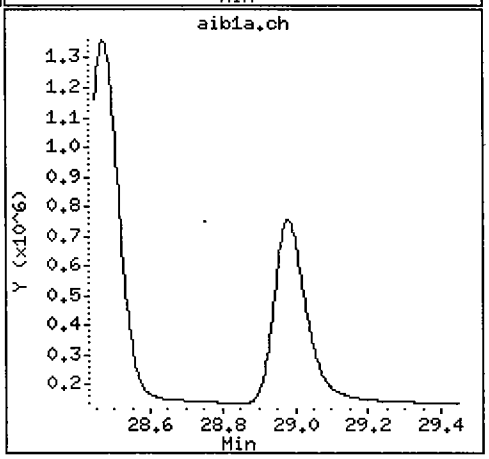

\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\BLK31.D
Y (x10^6)
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-1,2,2-Trichlorotrifluoroe+
-1,2-Dichloroethene (tot)
chloroform+
-Fluorobenzene
-bromoform+
-1,1,2,2-tetrachloroethane+
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\Kholley\EE\chem\vgc3.i\V3061202.b\184-3.D
Lab Smp Id: 220418403 Client Smp ID: MW20Q20229
Inj Date : 12-JUN-2002 09:01
Operator : Inst ID: vgc3.i
Smp Info : 220418403
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: LOANER01

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
20 Benzene	FID2B	14.056	14.043	(0.970)	26992	0.77151	0.77(a)
* 21 Fluorobenzene	FID2B	14.486	14.476	(1.000)	648530	30.0000	
26 Toluene	FID2B	18.966	18.943	(1.309)	14968	0.46966	0.47(a)
32 Ethylbenzene	FID2B	25.083	25.063	(1.731)	10769	0.39481	0.39(a)
35 o-xylene	FID2B	26.943	26.930	(1.860)	12418	0.48508	0.48(a)
M 34 Xylene (tot)	FID2B				12418	0.48508	0.48(a)
$ 39 4-bromofluorobenzene	FID2B	28.963	28.946	(1.999)	826307	30.0412	30.0

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

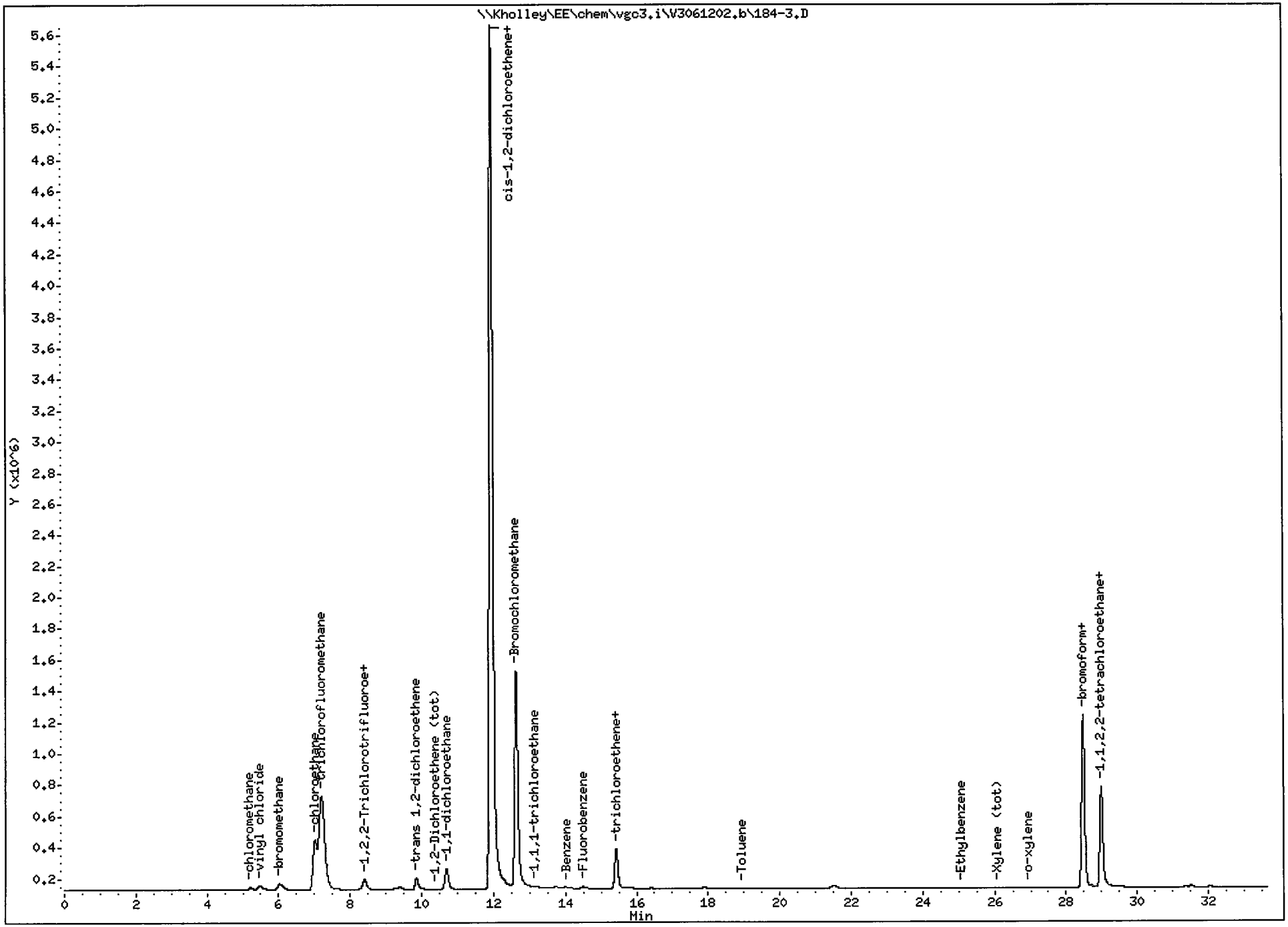
Instrument ID: vgc3.i
Lab File ID: 184-3.D
Lab Smp Id: 220418403
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: MW20Q20229
Level: LOW
Sample Type: WATER

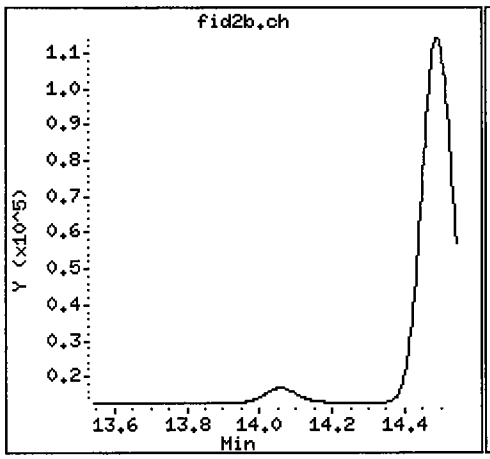
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	648530	5.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.07

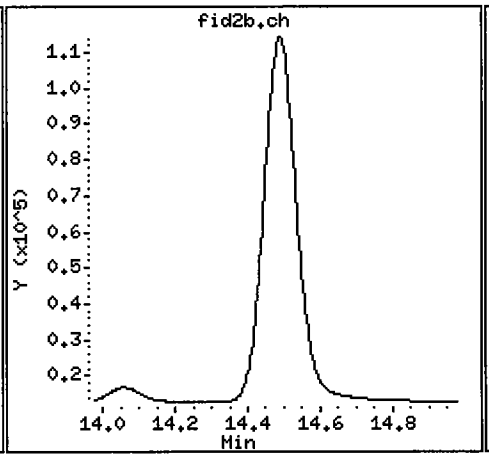
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\Kholley\EE\chem\vgc3.i\V3061202.b\184-3.D
Y (x10^6)
Min
-chloromethane
-vinyl chloride
-bromomethane
-chloroethane
-Trichlorofluoromethane
-1,2,2-Trichlorotrifluoroe+
-trans 1,2-dichloroethene
-1,2-Dichloroethene (tot)
-1,1-dichloroethane
cis-1,2-dichloroethene+
-Bromochloromethane
-1,1,1-trichloroethane
-Benzene
-Fluorobenzene
-trichloroethene+
-Toluene
-Ethylbenzene
-Xylene (tot)
-o-xylene
-bromoform+
-1,1,2,2-tetrachloroethane+

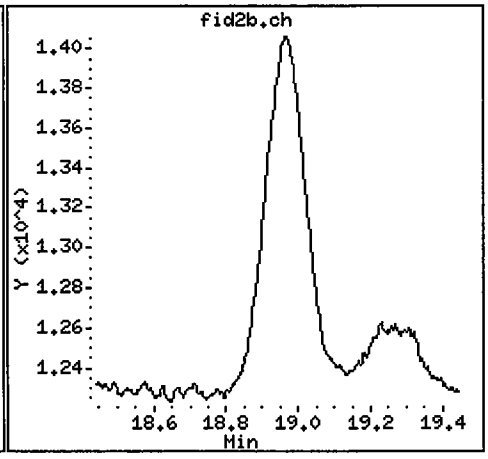
20 Benzene



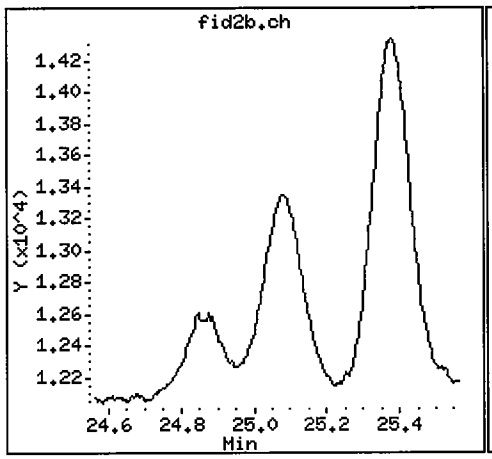
* 21 Fluorobenzene



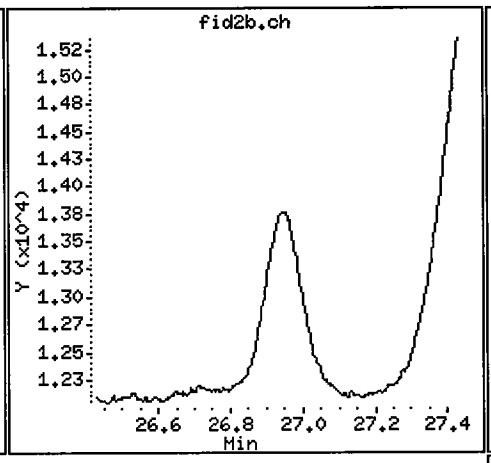
26 Toluene



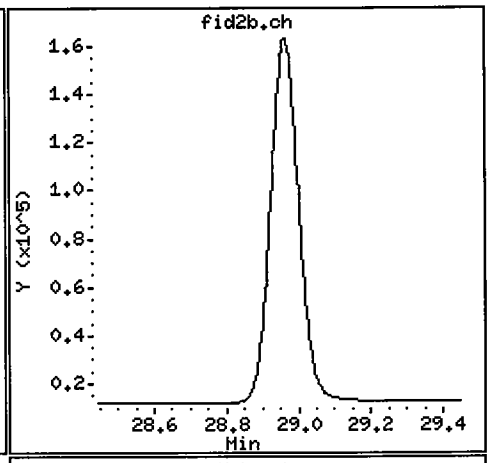
32 Ethylbenzene

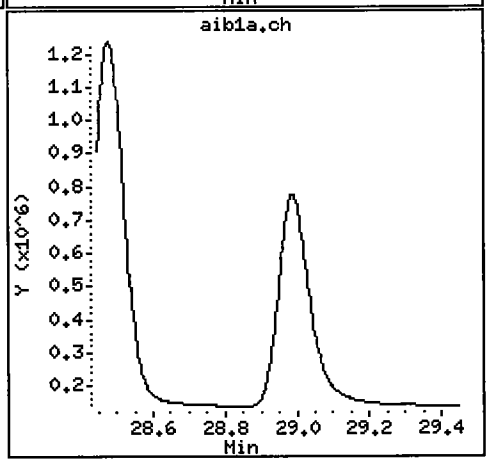


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\Kholley\EE\chem\vgc3.i\V3061202.b\184-4MS.D
Lab Smp Id: 220418404 Client Smp ID: MW20Q20229MS
Inj Date : 12-JUN-2002 09:43
Operator : Inst ID: vgc3.i
Smp Info : 220418404
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: LOANER01

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.533	9.513	(0.658)	140154	10.3725	10.4
20 Benzene	FID2B	14.056	14.043	(0.970)	376292	10.7190	10.7
* 21 Fluorobenzene	FID2B	14.486	14.476	(1.000)	650738	30.0000	
26 Toluene	FID2B	18.966	18.943	(1.309)	356511	11.1485	11.1
32 Ethylbenzene	FID2B	25.080	25.063	(1.731)	318009	11.6191	11.6
33 m,p-xylene	FID2B	25.380	25.363	(1.752)	715204	23.2629	23.3(R)
35 o-xylene	FID2B	26.950	26.930	(1.860)	306418	11.9288	11.9
M 34 Xylene (tot)	FID2B				1021622	35.1917	35.2
$ 39 4-bromofluorobenzene	FID2B	28.963	28.946	(1.999)	888351	32.1872	32.2

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

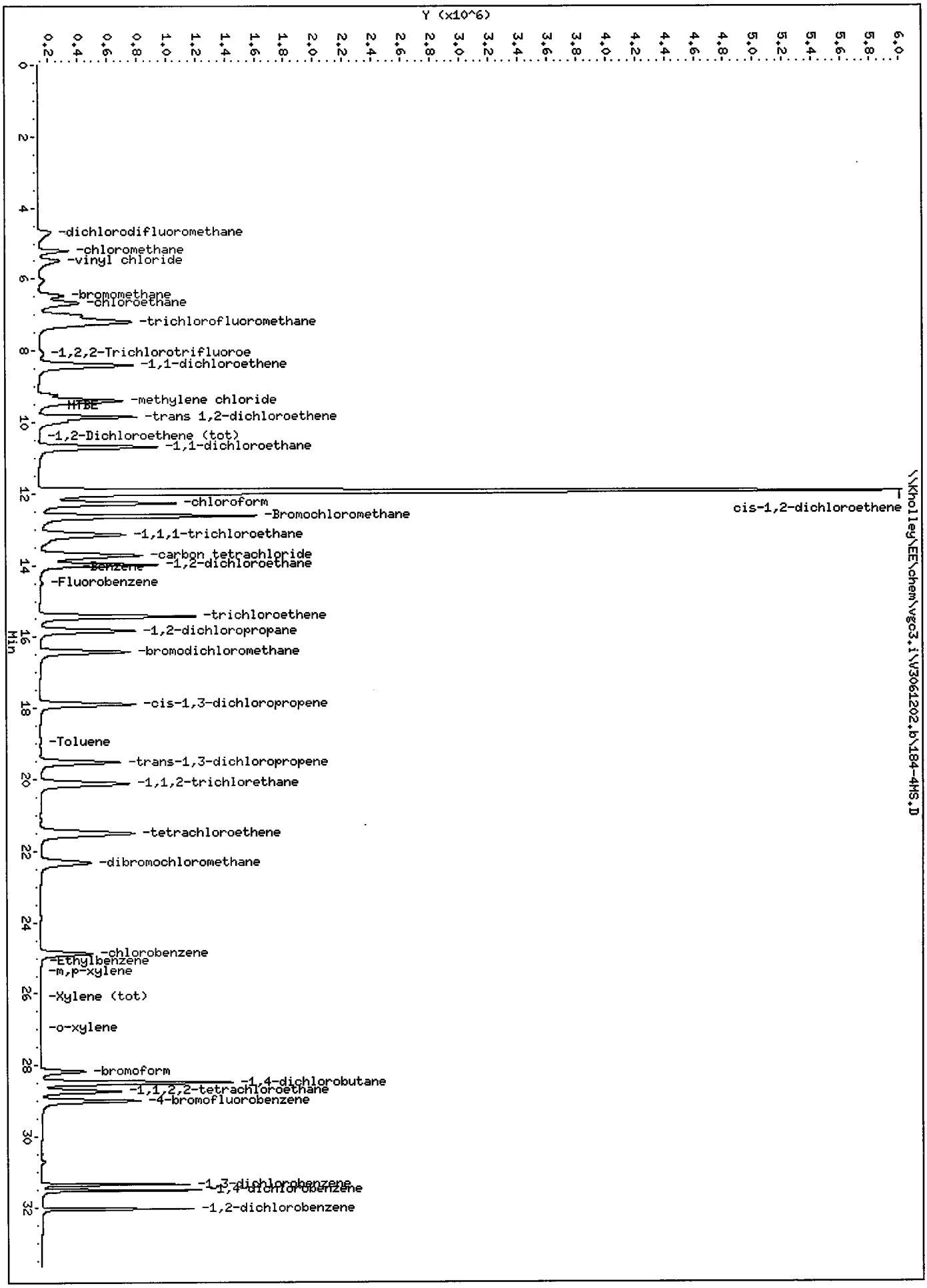
Instrument ID: vgc3.i
Lab File ID: 184-4MS.D
Lab Smp Id: 220418404
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: MW20Q20229MS
Level: LOW
Sample Type: WATER

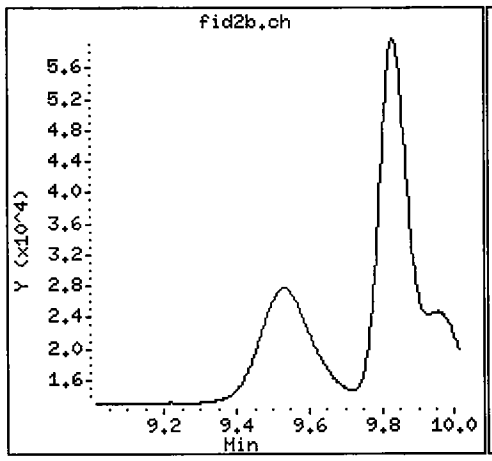
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	650738	5.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.07

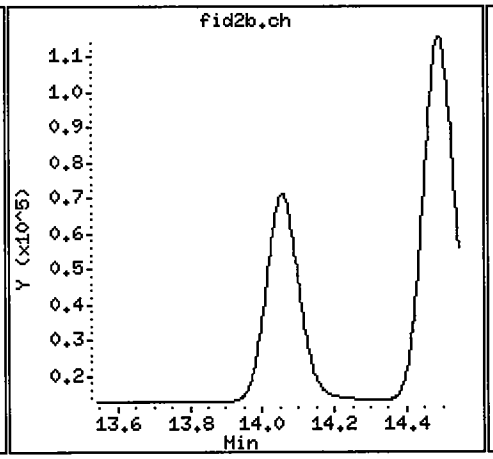
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


Y (x10^6)
Min
-dichlorodifluoromethane
-chloromethane
-vinyl chloride
-bromomethane
-chloroethane
-trichlorofluoromethane
-1,2,2-Trichlorotrifluoroe
-1,1-dichloroethene
-methylene chloride
MTBE
-trans 1,2-dichloroethene
-1,2-Dichloroethene (tot)
-1,1-dichloroethane
cis-1,2-dichloroethene
-chloroform
-Bromochloromethane
-1,1,1-trichloroethane
-carbon tetrachloride
-1,2-dichloroethane
-Benzene
-Fluorobenzene
-trichloroethene
-1,2-dichloropropane
-bromodichloromethane
-cis-1,3-dichloropropene
-Toluene
-trans-1,3-dichloropropene
-1,1,2-trichlorethane
-tetrachloroethene
-dibromochloromethane
-chlorobenzene
-Ethylbenzene
-m,p-xylene
-Xylene (tot)
-o-xylene
-bromoform
-1,4-dichlorobutane
-1,1,2,2-tetrachloroethane
-4-bromofluorobenzene
-1,3-dichlorobenzene
-1,4-dichlorobenzene
-1,2-dichlorobenzene
\\Kholley\EE\chem\vgc3.i\W3061202.b\184-4MS.D

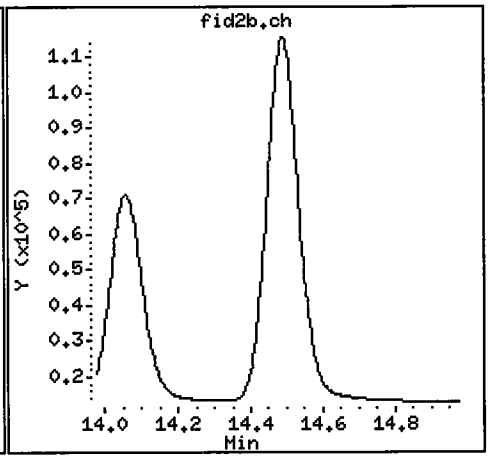
10 MTBE



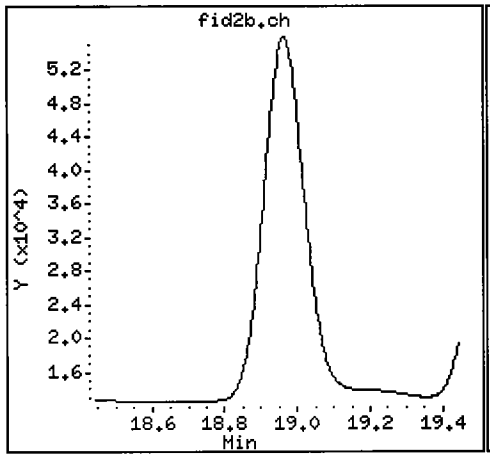
20 Benzene



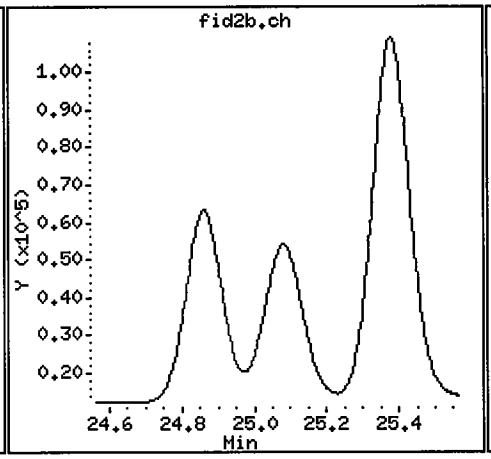
* 21 Fluorobenzene



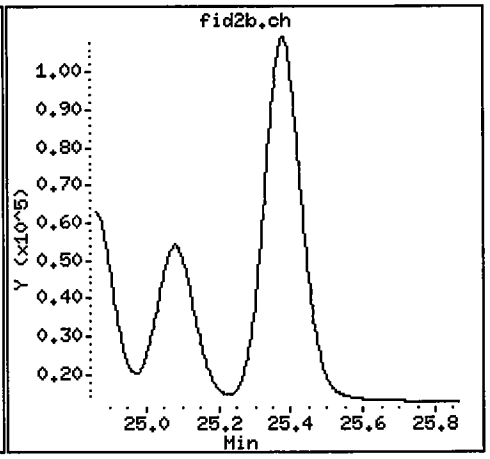
26 Toluene



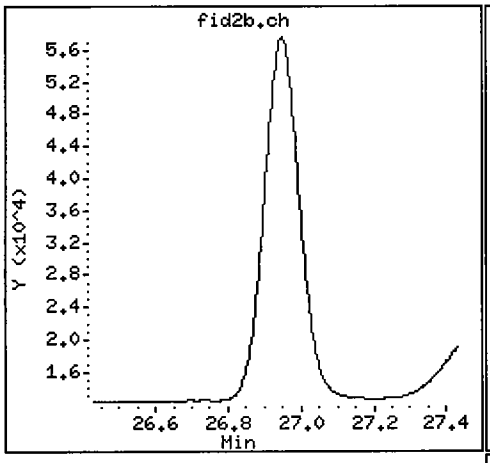
32 Ethylbenzene



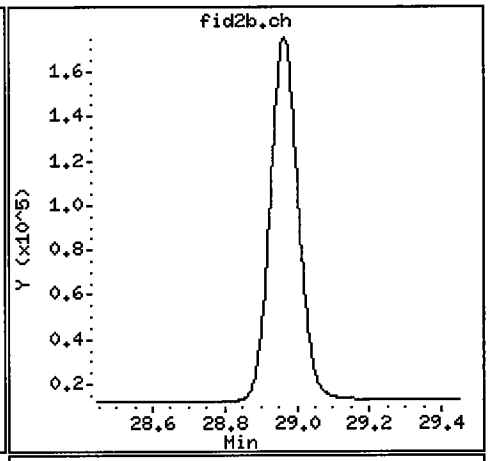
33 m,p-xylene

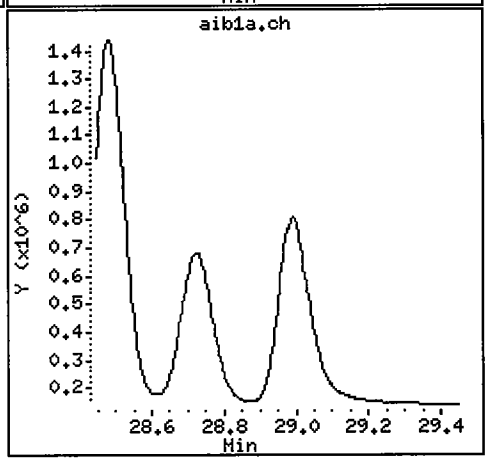


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\Kholley\EE\chem\vgc3.i\V3061202.b\184-5SD.D
Lab Smp Id: 220418405 Client Smp ID: MW20Q20229SD
Inj Date : 12-JUN-2002 10:25
Operator : Inst ID: vgc3.i
Smp Info : 220418405
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: LOANER01

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.533	9.513	(0.658)	142505	9.96734	10
20 Benzene	FID2B	14.063	14.043	(0.970)	375335	10.1046	10.1
* 21 Fluorobenzene	FID2B	14.493	14.476	(1.000)	688547	30.0000	
26 Toluene	FID2B	18.970	18.943	(1.309)	354817	10.4862	10.5
32 Ethylbenzene	FID2B	25.086	25.063	(1.731)	316367	10.9244	10.9
33 m,p-xylene	FID2B	25.386	25.363	(1.752)	715093	21.9821	22.0
35 o-xylene	FID2B	26.950	26.930	(1.859)	306178	11.2649	11.3
M 34 Xylene (tot)	FID2B				1021271	33.2471	33.2
$ 39 4-bromofluorobenzene	FID2B	28.970	28.946	(1.999)	831720	28.4806	28.5

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

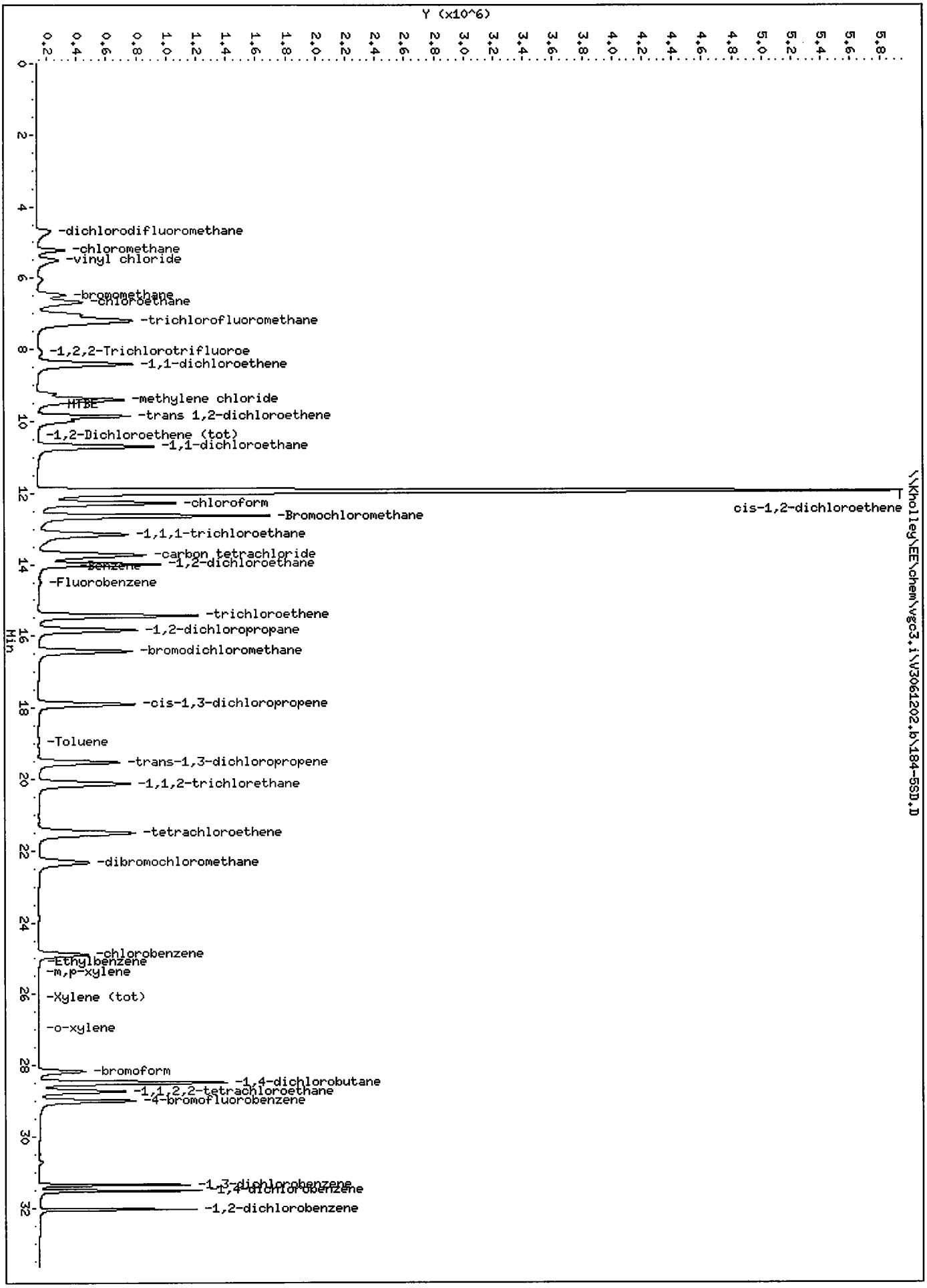
Instrument ID: vgc3.i
Lab File ID: 184-5SD.D
Lab Smp Id: 220418405
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: MW20Q20229SD
Level: LOW
Sample Type: WATER

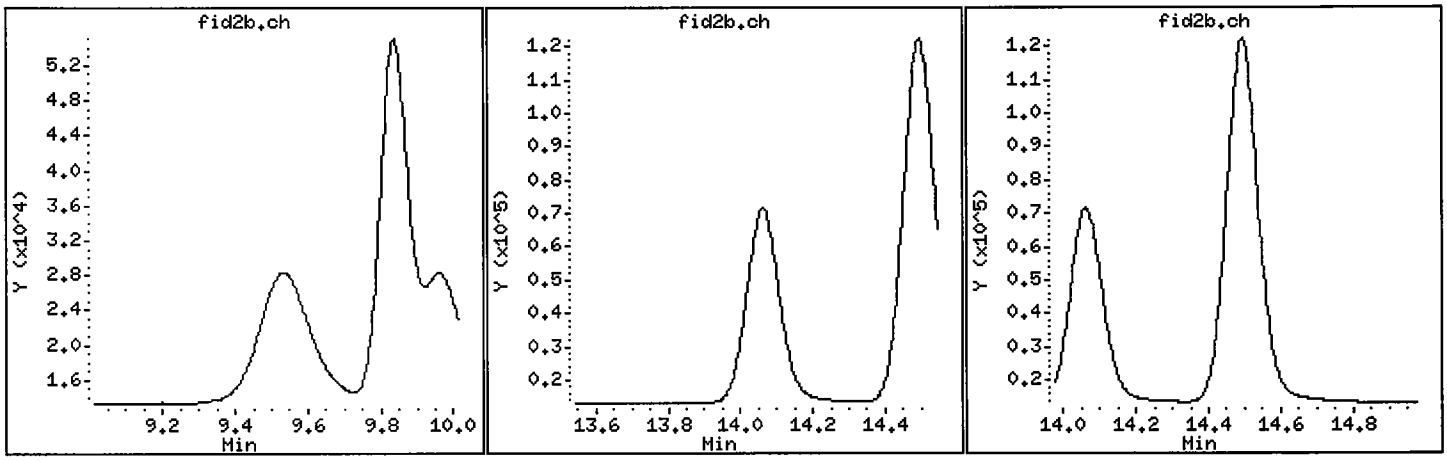
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	688547	11.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.12

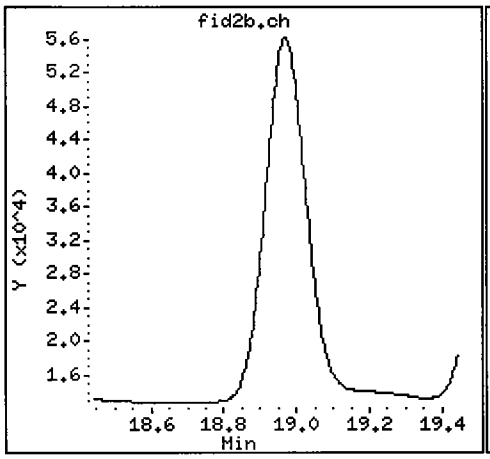
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


Y (x10^6)
0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8
Min
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
-dichlorodifluoromethane
-chloromethane
-vinyl chloride
-bromomethane
-chloroethane
-trichlorofluoromethane
-1,2,2-Trichlorotrifluoroe
-1,1-dichloroethene
-methylene chloride
MTBE
-trans 1,2-dichloroethene
-1,2-Dichloroethene (tot)
-1,1-dichloroethane
cis-1,2-dichloroethene
-chloroform
-Bromochloromethane
-1,1,1-trichloroethane
-carbon tetrachloride
-1,2-dichloroethane
-Benzene
-Fluorobenzene
-trichloroethene
-1,2-dichloropropane
-bromodichloromethane
-cis-1,3-dichloropropene
-Toluene
-trans-1,3-dichloropropene
-1,1,2-trichlorethane
-tetrachloroethene
-dibromochloromethane
-chlorobenzene
-Ethylbenzene
-m,p-xylene
-Xylene (tot)
-o-xylene
-bromoform
-1,4-dichlorobutane
-1,1,2,2-tetrachloroethane
-4-bromofluorobenzene
-1,3-dichlorobenzene
-1,4-dichlorobenzene
-1,2-dichlorobenzene
\\Kholley\EE\chem\vgc3.i\W3061202.b\184-5SD.D

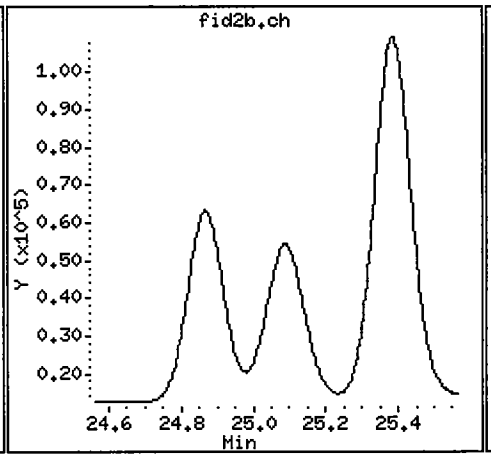
10 MTBE 20 Benzene × 21 Fluorobenzene



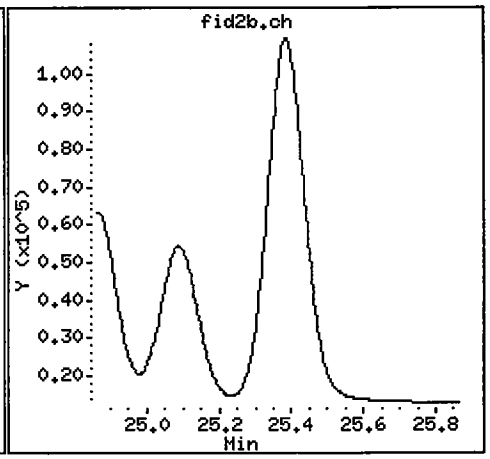
26 Toluene



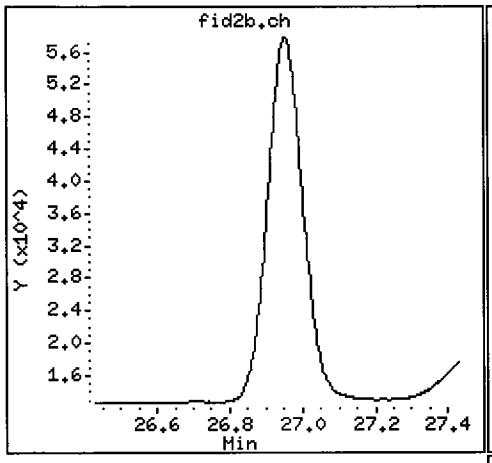
32 Ethylbenzene



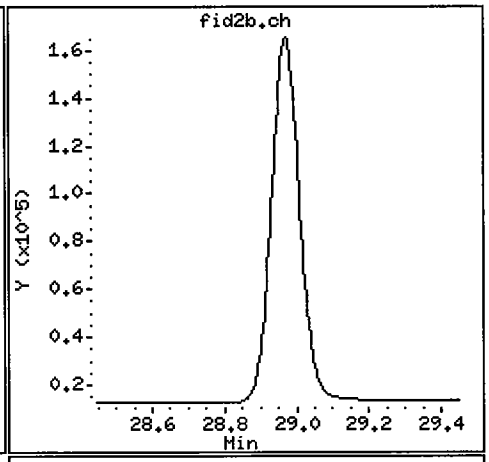
33 m,p-xylene

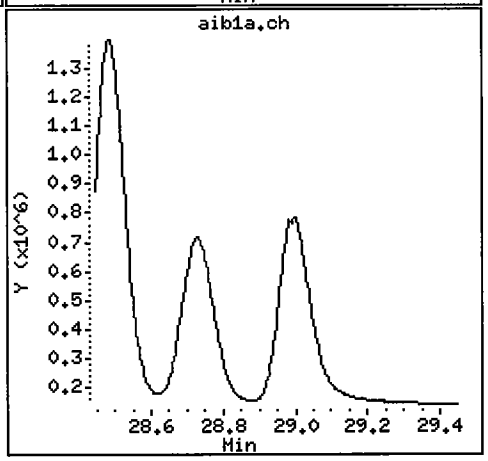


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\CCV32.D
Lab Smp Id: 0612CCV32 Client Smp ID: 0612CCV32
Inj Date : 12-JUN-2002 14:45
Operator : Inst ID: vgc3.i
Smp Info : 0612CCV32
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

	Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	10 MTBE	FID2B	9.570	9.513	(0.658)	421778	29.6877	29.7
	20 Benzene	FID2B	14.106	14.043	(0.970)	1041986	28.2297	28.2
*	21 Fluorobenzene	FID2B	14.536	14.476	(1.000)	684211	30.0000	
	26 Toluene	FID2B	19.030	18.943	(1.309)	974352	28.9784	29.0
	32 Ethylbenzene	FID2B	25.146	25.063	(1.730)	916484	31.8475	31.8
	33 m,p-xylene	FID2B	25.443	25.363	(1.750)	2020596	62.5072	62.5
	35 o-xylene	FID2B	27.003	26.930	(1.858)	851945	31.5435	31.5
M	34 Xylene (tot)	FID2B				2872541	94.0507	94.0
$	39 4-bromofluorobenzene	FID2B	29.016	28.946	(1.996)	896591	30.8965	30.9

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

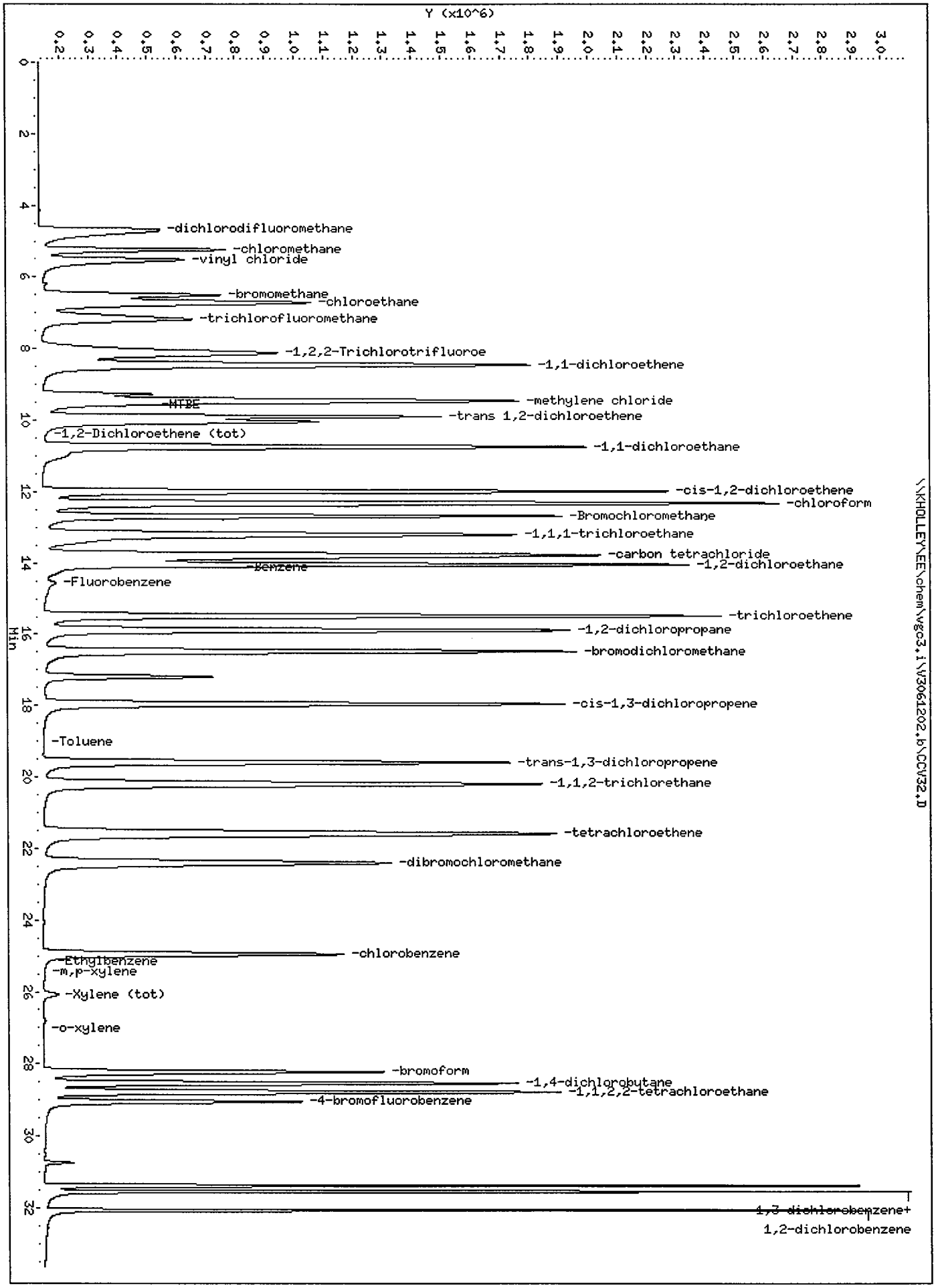
Instrument ID: vgc3.i
Lab File ID: CCV32.D
Lab Smp Id: 0612CCV32
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: 0612CCV32
Level: LOW
Sample Type: WATER

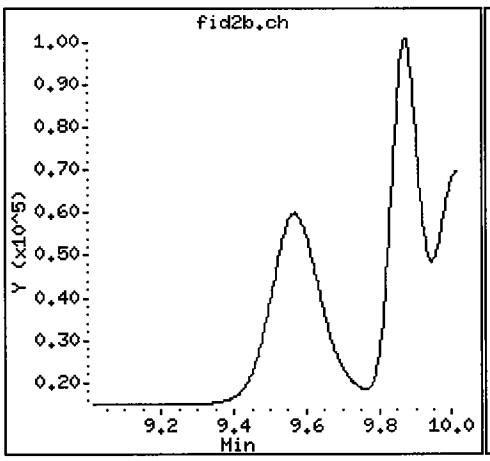
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	684211	10.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.54	0.41

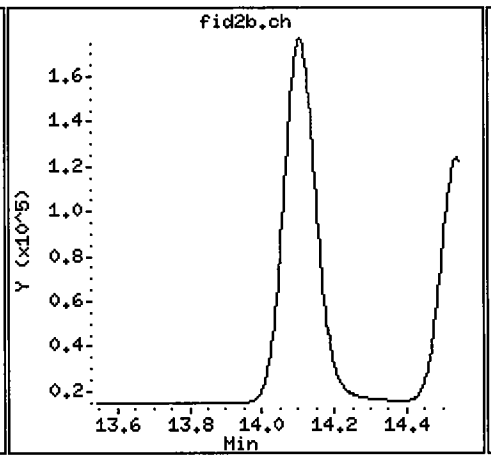
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


Y (x10^6)
0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
Min
-dichlorodifluoromethane
-chloromethane
-vinyl chloride
-bromomethane
-chloroethane
-trichlorofluoromethane
-1,2,2-Trichlorotrifluoroe
-1,1-dichloroethene
-methylene chloride
-MTBE
-trans 1,2-dichloroethene
-1,2-Dichloroethene (tot)
-1,1-dichloroethane
-cis-1,2-dichloroethene
-chloroform
-Bromochloromethane
-1,1,1-trichloroethane
-carbon tetrachloride
-Benzene
-1,2-dichloroethane
-Fluorobenzene
-trichloroethene
-1,2-dichloropropane
-bromodichloromethane
-cis-1,3-dichloropropene
-Toluene
-trans-1,3-dichloropropene
-1,1,2-trichlorethane
-tetrachloroethene
-dibromochloromethane
-chlorobenzene
-Ethylbenzene
-m,p-xylene
-Xylene (tot)
-o-xylene
-bromoform
-1,4-dichlorobutane
-1,1,2,2-tetrachloroethane
-4-bromofluorobenzene
1,3-dichlorobenzene+
1,2-dichlorobenzene

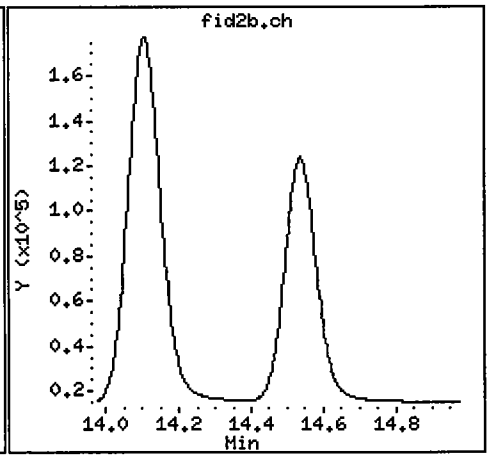
10 MTBE



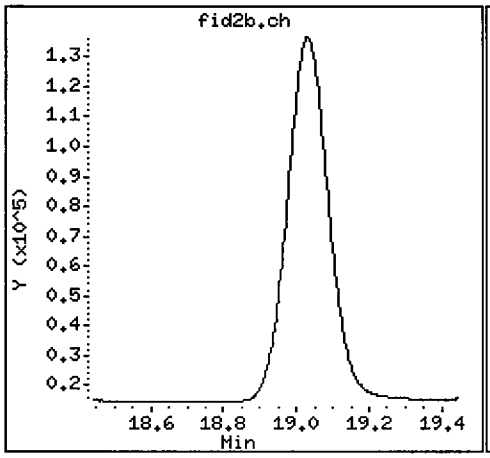
20 Benzene



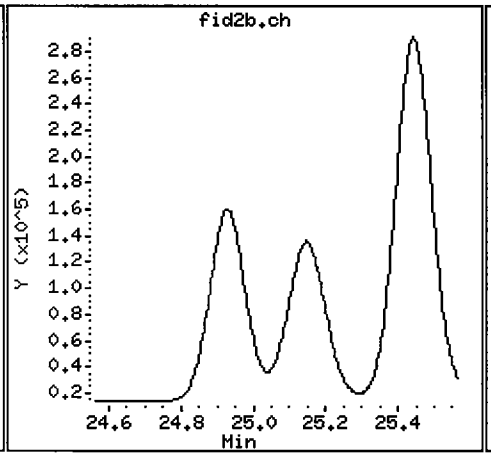
* 21 Fluorobenzene



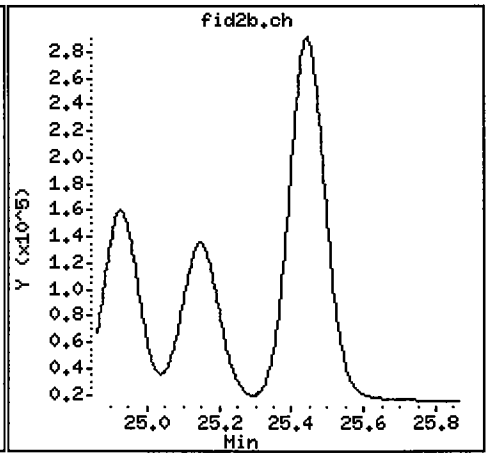
26 Toluene



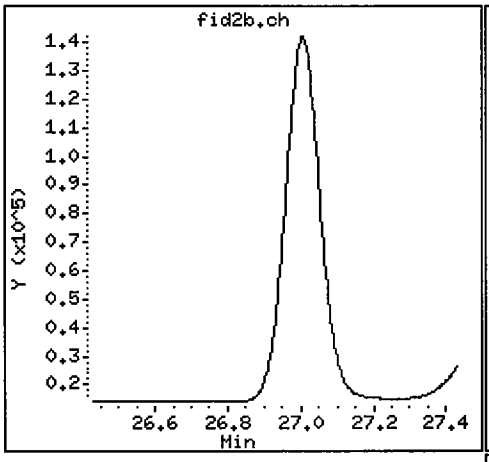
32 Ethylbenzene



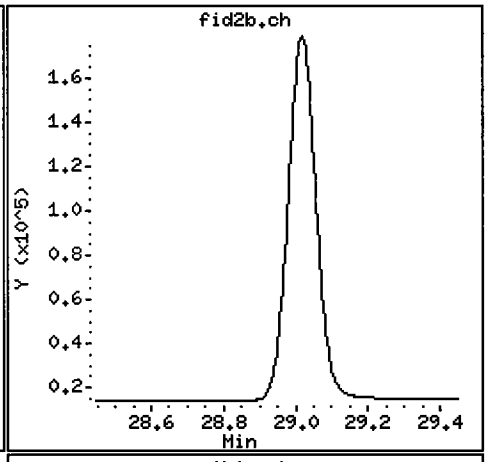
33 m,p-xylene

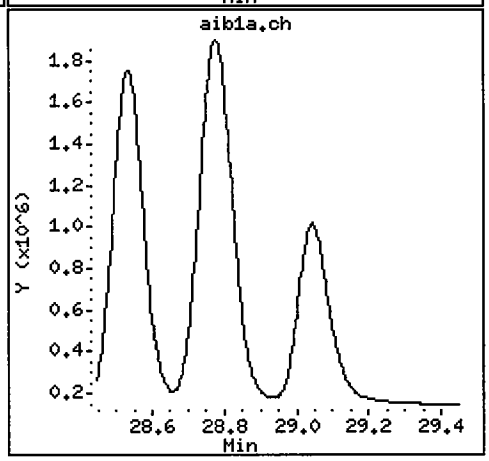


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-5.D
Lab Smp Id: 220419705 Client Smp ID: TB2Q20229
Inj Date : 12-JUN-2002 19:08
Operator : Inst ID: vgc3.i
Smp Info : 220419705
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.493	14.476	(1.000)	601682	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.963	28.946	(1.998)	882741	34.5917	34.6

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

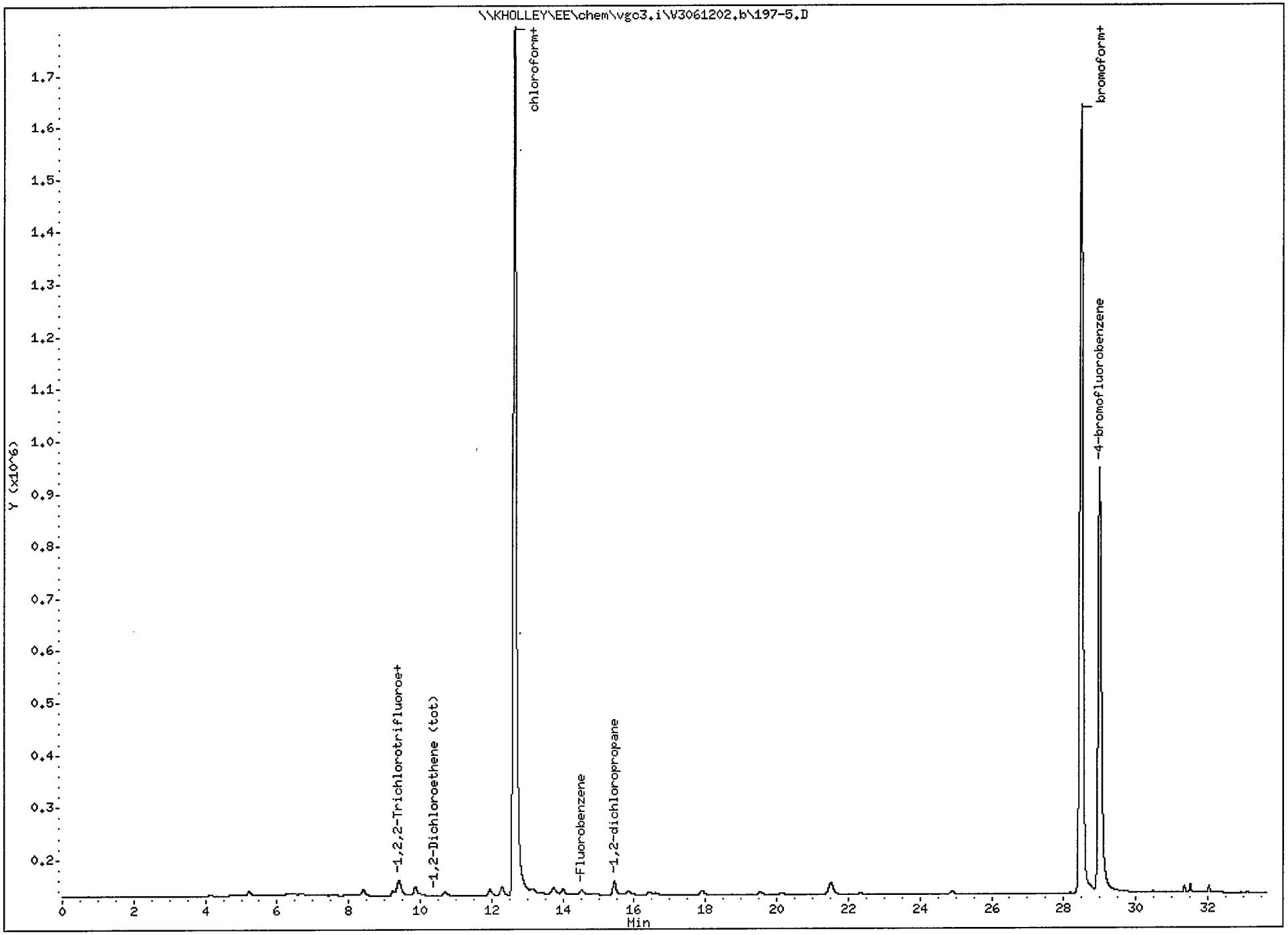
Instrument ID: vgc3.i
Lab File ID: 197-5.D
Lab Smp Id: 220419705
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: TB2Q20229
Level: LOW
Sample Type: WATER

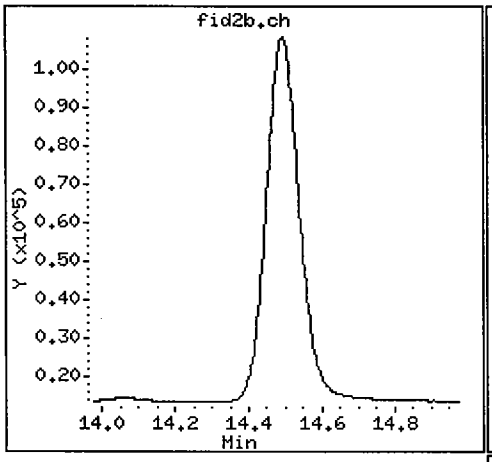
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	601682	-2.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.12

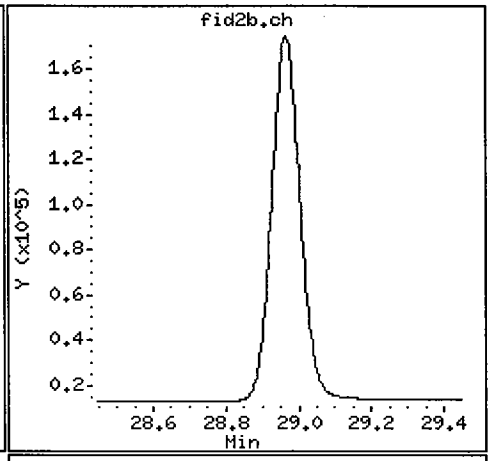
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

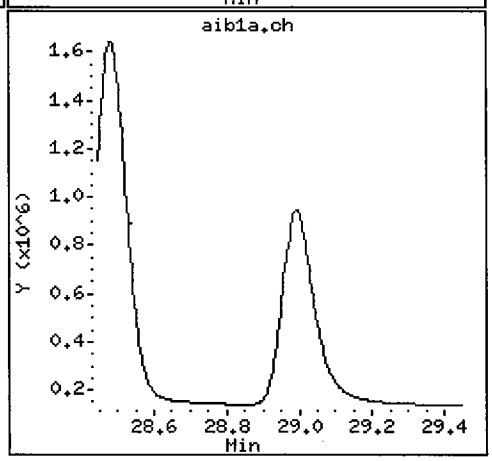

\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-5.D
Y (x10^6)
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min
-1,2,2-Trichlorotrifluoroe+
-1,2-Dichloroethene (tot)
chloroform+
-Fluorobenzene
-1,2-dichloropropane
bromoform+
-4-bromofluorobenzene

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-1.D
Lab Smp Id: 220419701 Client Smp ID: MW9Q20229
Inj Date : 12-JUN-2002 19:50
Operator : Inst ID: vgc3.i
Smp Info : 220419701
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.486	14.476	(1.000)	571078	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.960	28.946	(1.999)	805622	33.2614	33.3

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

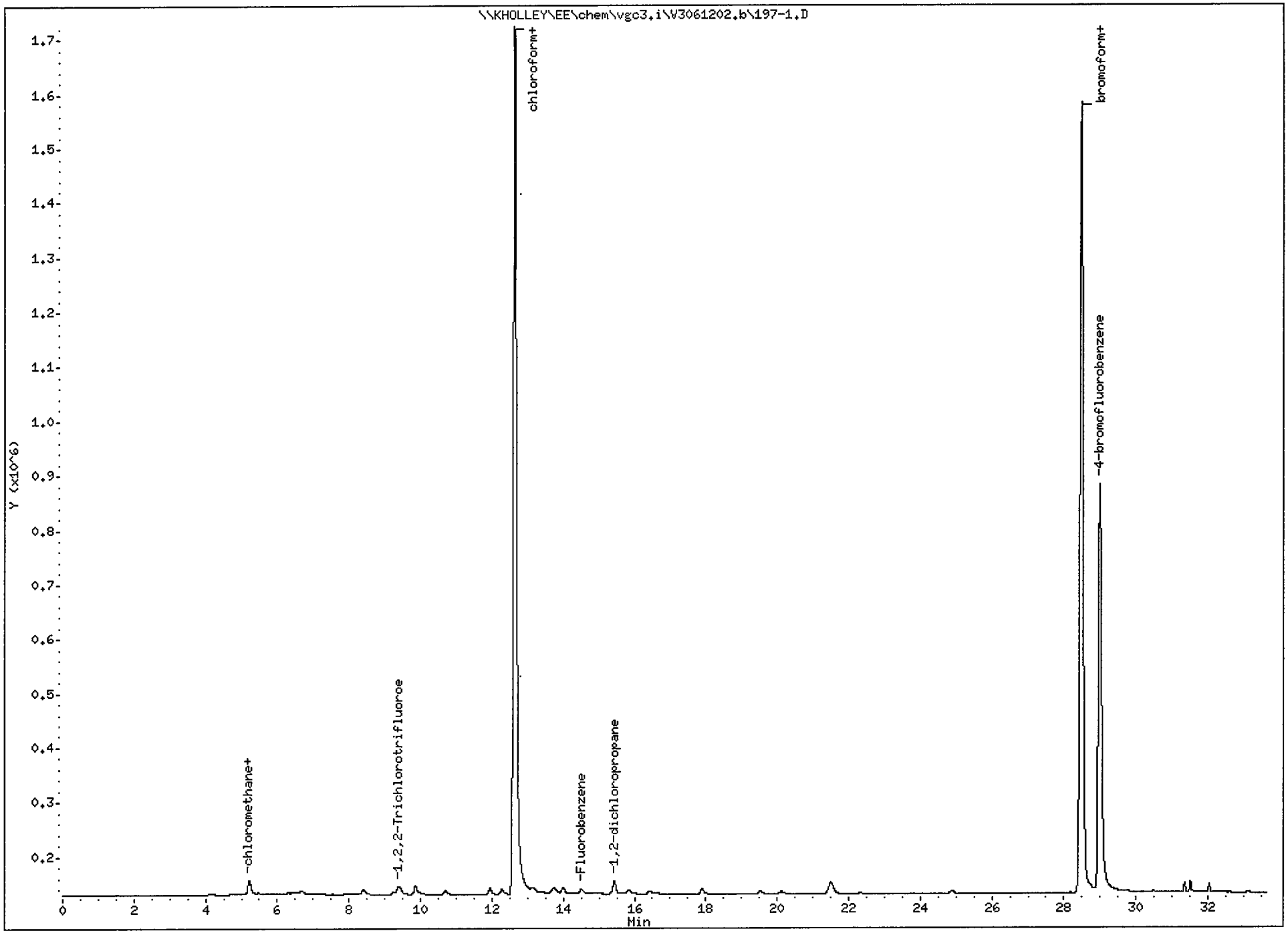
Instrument ID: vgc3.i
Lab File ID: 197-1.D
Lab Smp Id: 220419701
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: MW9Q20229
Level: LOW
Sample Type: WATER

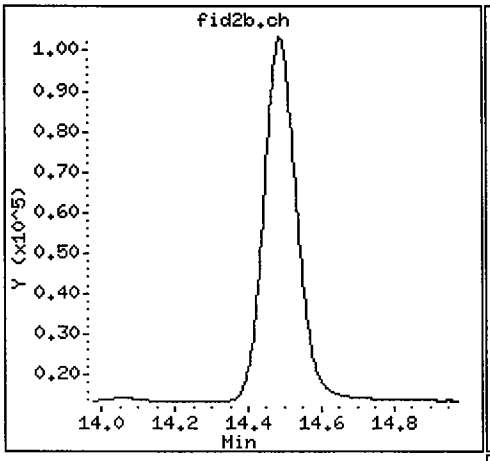
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	571078	-7.53

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.07

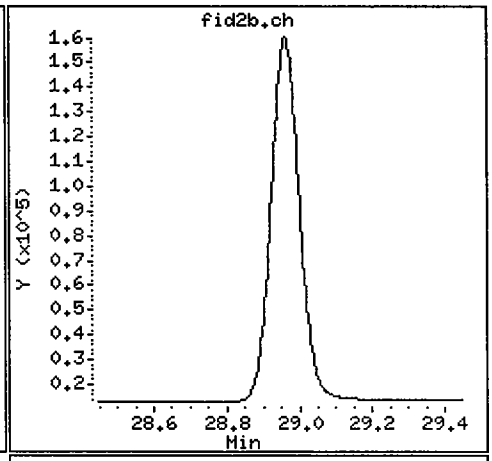
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

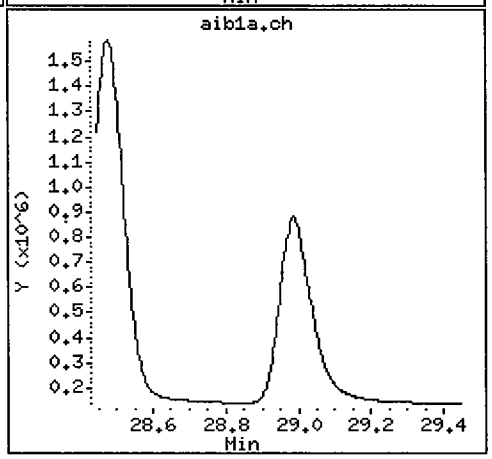

\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-1.D
Y (x10^6)
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-chloromethane+
-1,2,2-Trichlorotrifluoroe
chloroform+
-Fluorobenzene
-1,2-dichloropropane
bromoform+
-4-bromofluorobenzene
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-2.D
Lab Smp Id: 220419702 Client Smp ID: VEW2Q20229
Inj Date : 12-JUN-2002 20:32
Operator : Inst ID: vgc3.i
Smp Info : 220419702
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.483	14.476	(1.000)	607468	30.0000	
32 Ethylbenzene	FID2B	25.070	25.063	(1.731)	11522	0.45097	0.45(a)
35 o-xylene	FID2B	26.946	26.930	(1.861)	14932	0.62271	0.62(a)
M 34 Xylene (tot)	FID2B				14932	0.62271	0.62(a)
$ 39 4-bromofluorobenzene	FID2B	28.960	28.946	(2.000)	831464	32.2720	32.3

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

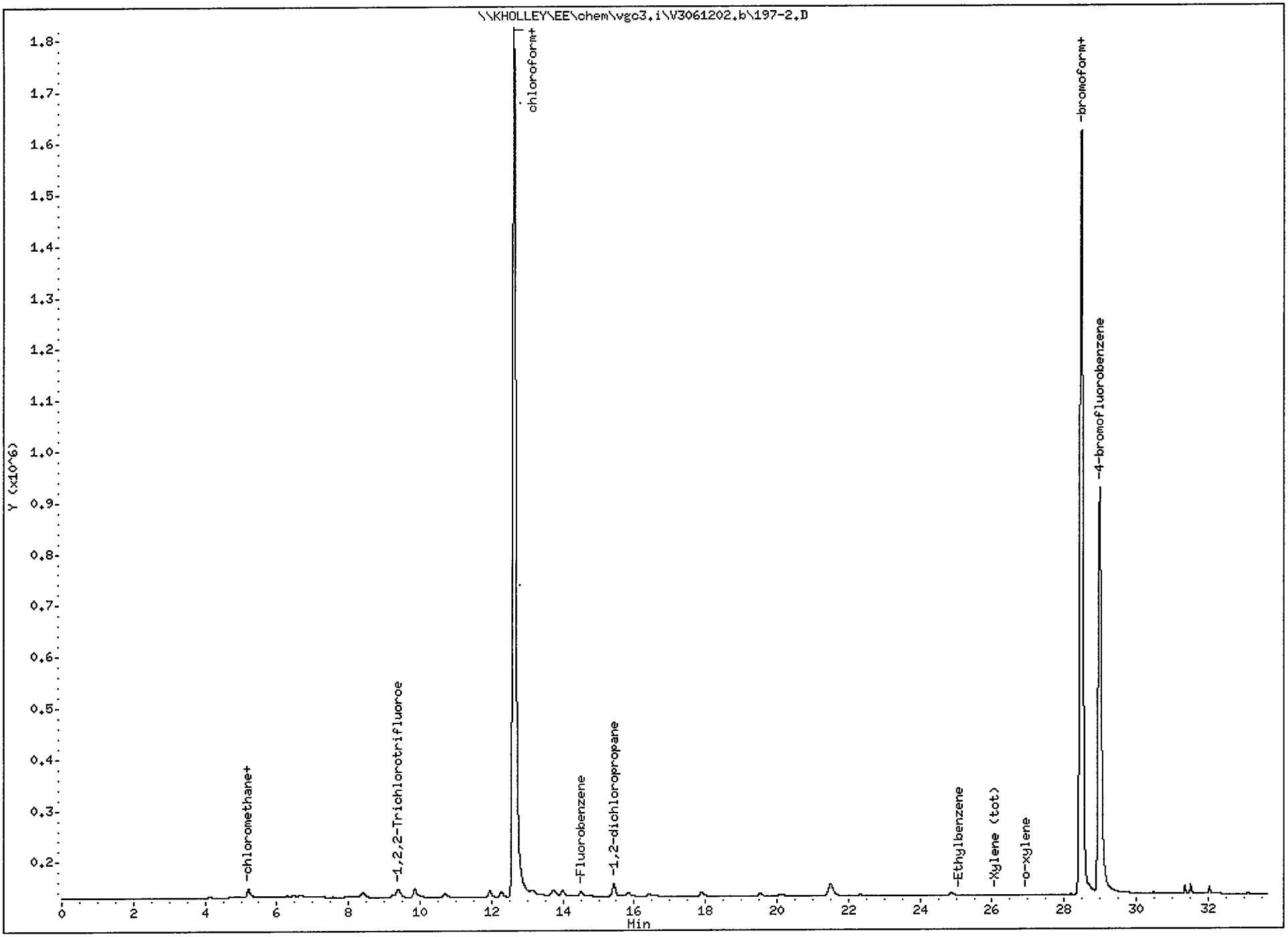
Instrument ID: vgc3.i
Lab File ID: 197-2.D
Lab Smp Id: 220419702
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: VEW2Q20229
Level: LOW
Sample Type: WATER

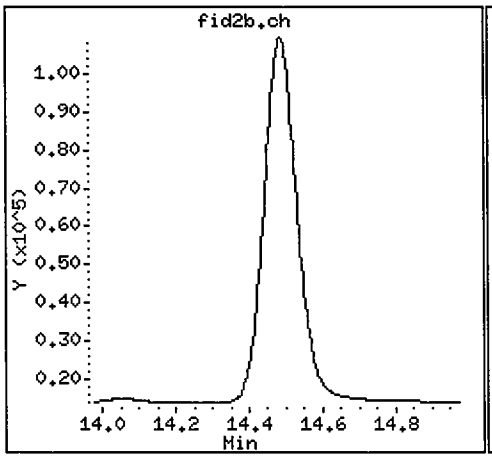
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	607468	-1.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.05

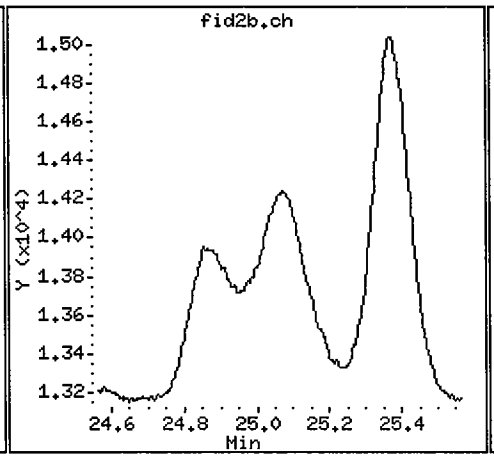
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-2.D
Y (x10^6)
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-chloromethane+
-1,2,2-Trichlorotrifluoroe
chloroform+
-Fluorobenzene
-1,2-dichloropropane
-Ethylbenzene
-Xylene (tot)
-o-xylene
-bromoform+
-4-bromofluorobenzene
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min

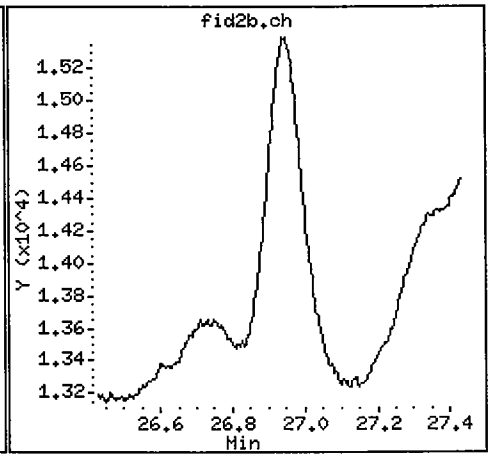
× 21 Fluorobenzene



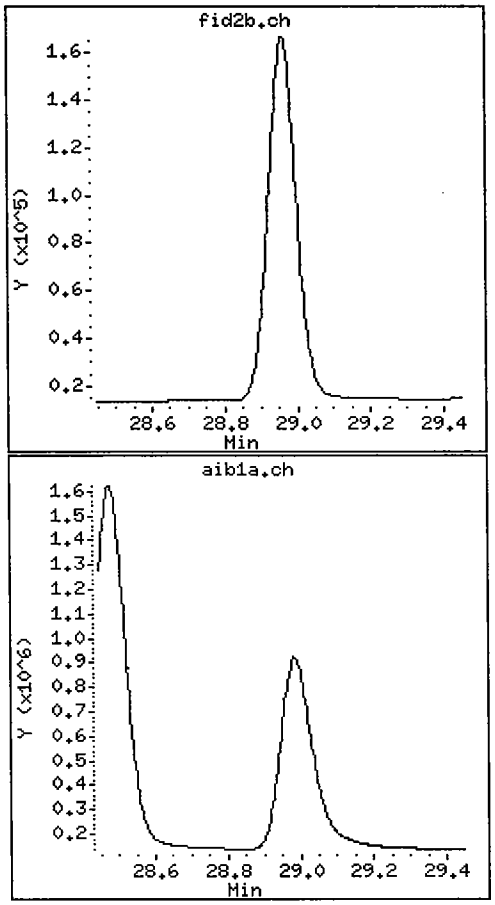
32 Ethylbenzene



35 o-xylene



$ 39 4-bromofluorobenzene



PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-3.D
Lab Smp Id: 220419703 Client Smp ID: VEW7Q20229
Inj Date : 12-JUN-2002 21:14
Operator : Inst ID: vgc3.i
Smp Info : 220419703
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.486	14.476	(1.000)	586535	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.953	28.946	(1.999)	822620	33.0682	33.1

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

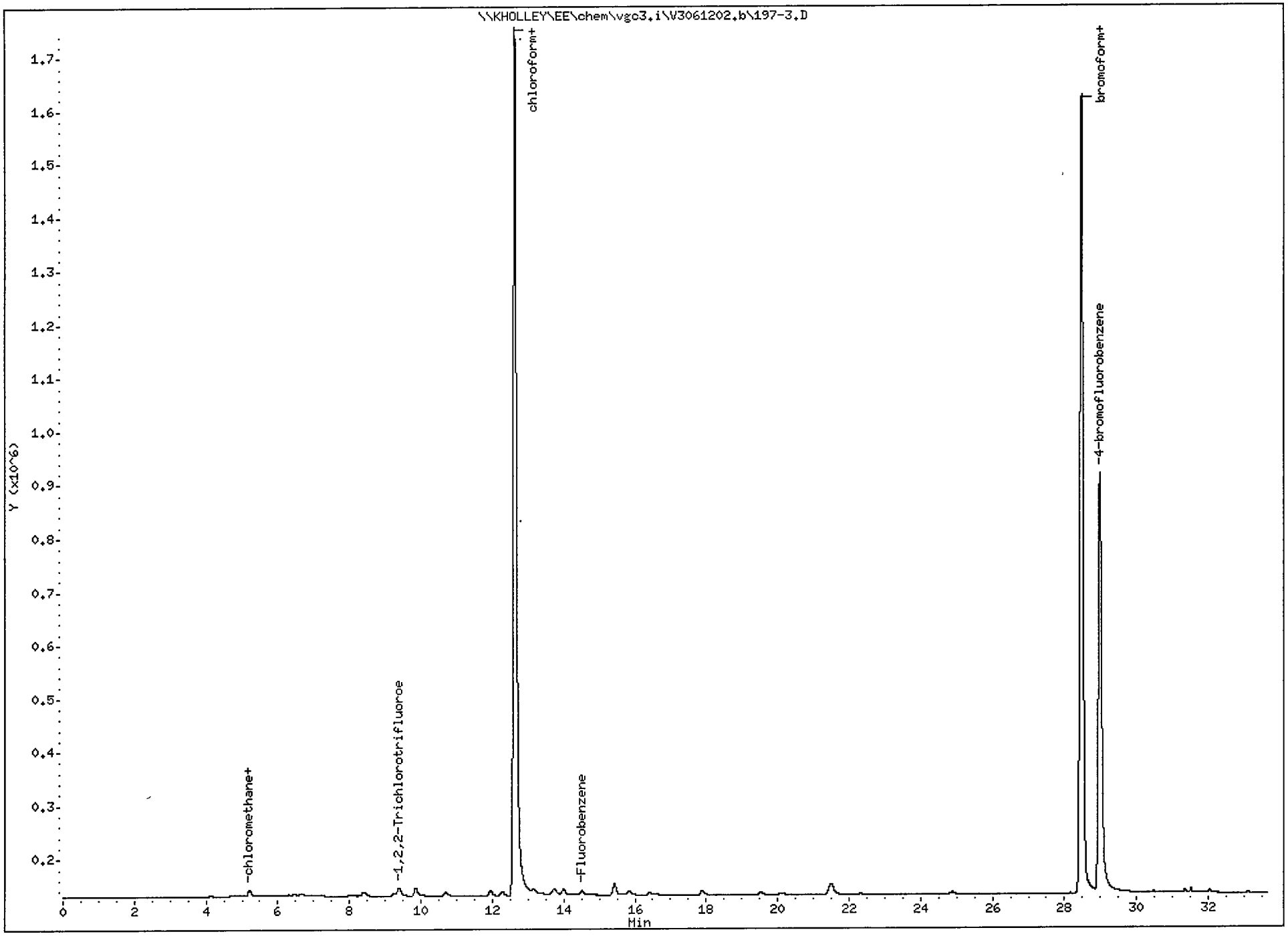
Instrument ID: vgc3.i
Lab File ID: 197-3.D
Lab Smp Id: 220419703
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: VEW7Q20229
Level: LOW
Sample Type: WATER

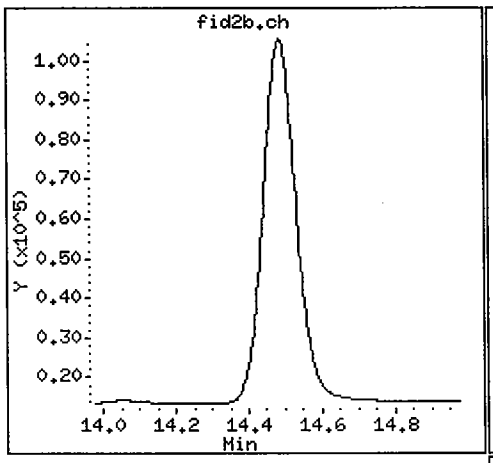
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	586535	-5.03

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.49	0.07

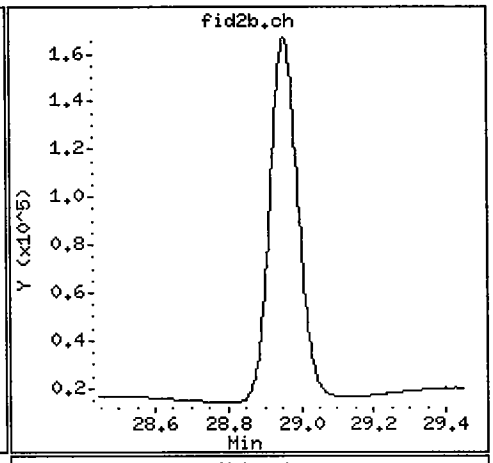
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

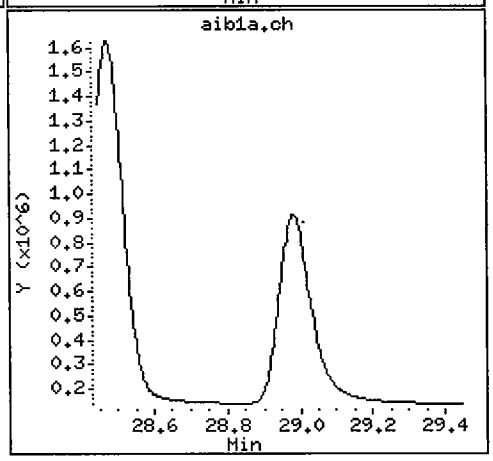

\\KHOLLEY\EE\chem\vgc3.i\W3061202.b\197-3.D
Y (x10^6)
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-chloromethane+
-1,2,2-Trichlorotrifluoroe
chloroform+
-Fluorobenzene
bromoform+
-4-bromofluorobenzene
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-4.D
Lab Smp Id: 220419704 Client Smp ID: VEW8Q20229
Inj Date : 12-JUN-2002 21:56
Operator : Inst ID: vgc3.i
Smp Info : 220419704
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.483	14.476	(1.000)	576436	30.0000	
32 Ethylbenzene	FID2B	25.063	25.063	(1.730)	41677	1.71904	1.7(M)
33 m,p-xylene	FID2B	25.363	25.363	(1.751)	46450	1.70559	1.7(a)
35 o-xylene	FID2B	26.946	26.930	(1.861)	8385	0.36850	0.37(a)
M 34 Xylene (tot)	FID2B				54835	2.07410	2.1
$ 39 4-bromofluorobenzene	FID2B	28.950	28.946	(1.999)	826581	33.8096	33.8

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

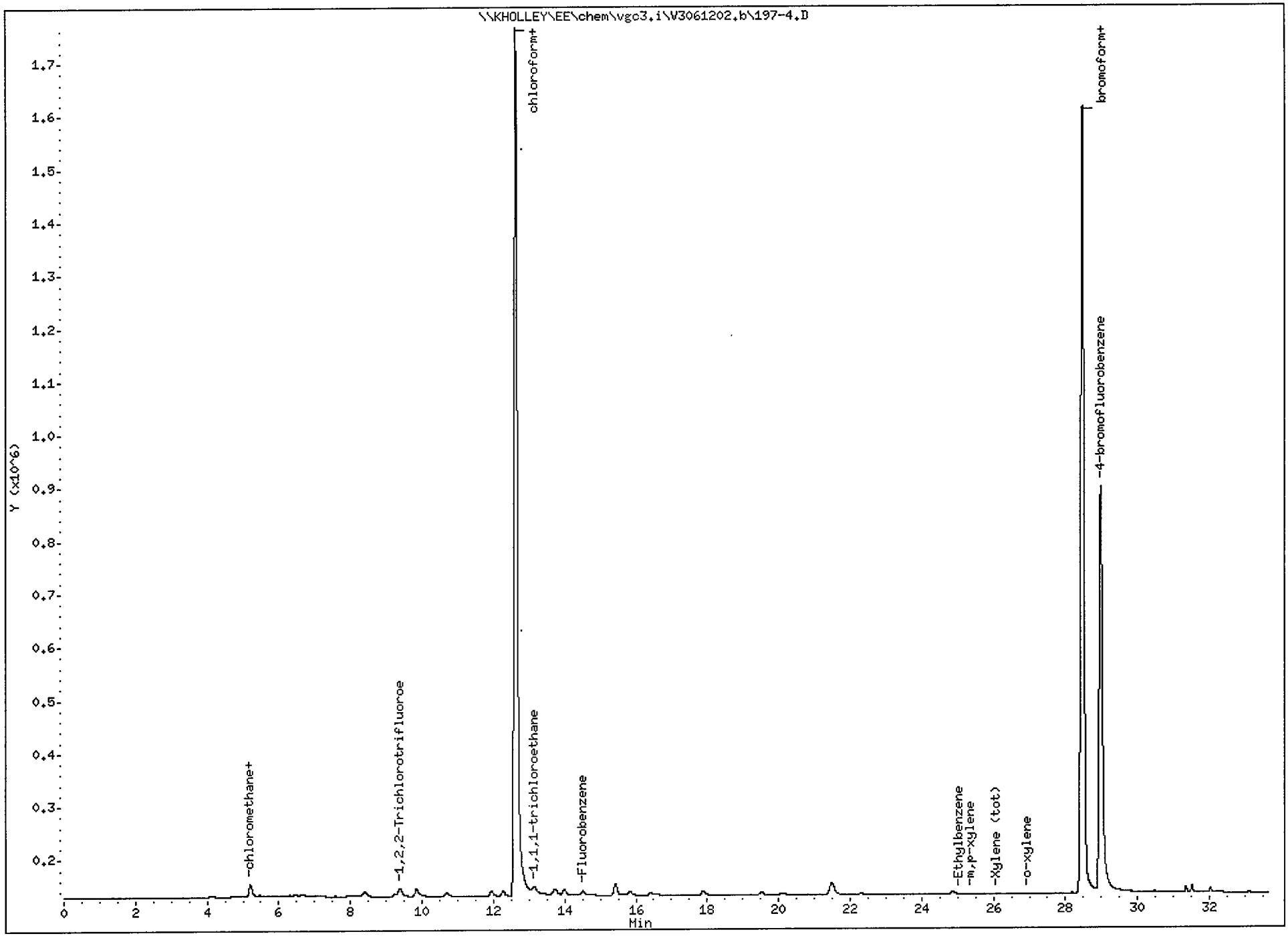
Instrument ID: vgc3.i
Lab File ID: 197-4.D
Lab Smp Id: 220419704
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: VEW8Q20229
Level: LOW
Sample Type: WATER

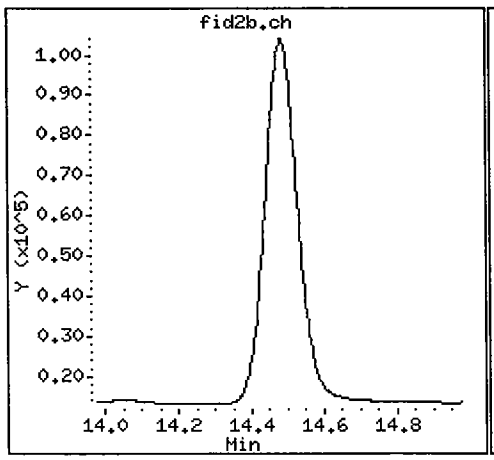
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	576436	-6.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.05

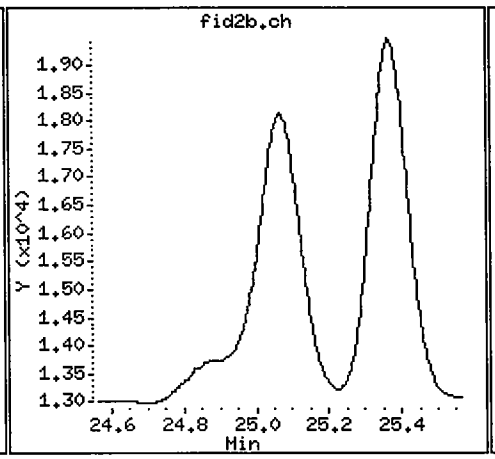
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-4.D
Y (x10^6)
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min
-chloromethane+
-1,2,2-Trichlorotrifluoro
chloroform+
-1,1,1-trichloroethane
-Fluorobenzene
-Ethylbenzene
-m,p-xylene
-Xylene (tot)
-o-xylene
bromoform+
-4-bromofluorobenzene

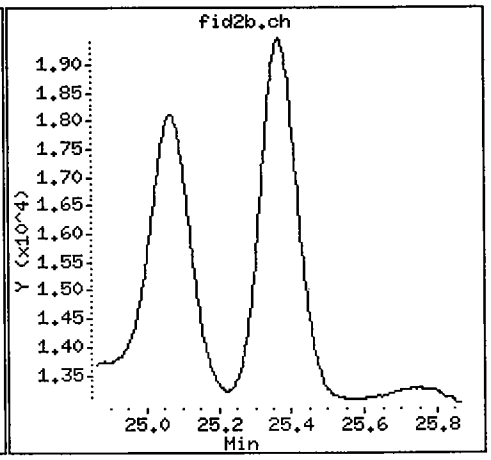
* 21 Fluorobenzene



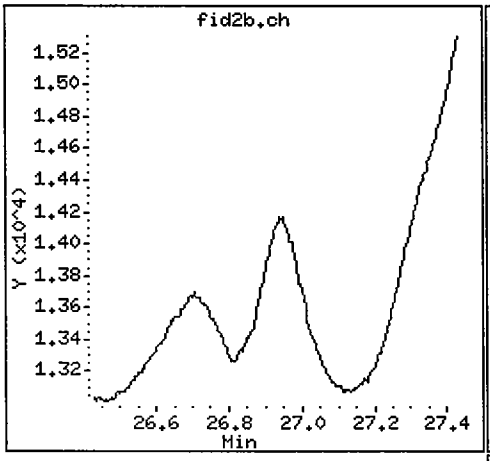
32 Ethylbenzene



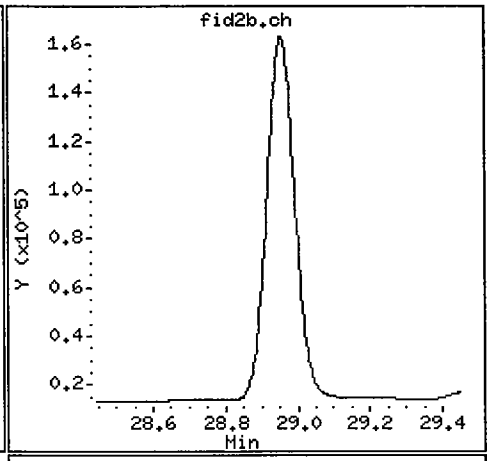
33 m,p-xylene

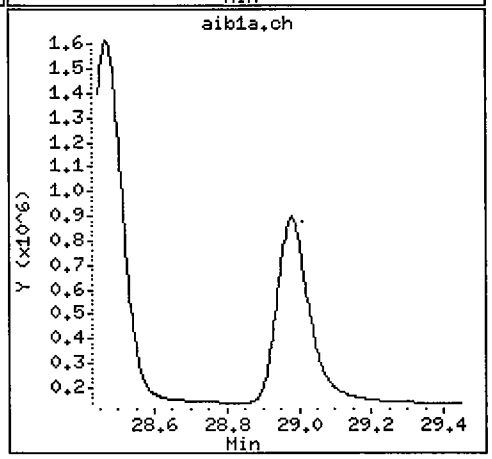


35 o-xylene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-6.D
Lab Smp Id: 220419706 Client Smp ID: DUPQ20229
Inj Date : 12-JUN-2002 22:37
Operator : Inst ID: vgc3.i
Smp Info : 220419706
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 21 Fluorobenzene	FID2B	14.483	14.476	(1.000)	583558	30.0000	
$ 39 4-bromofluorobenzene	FID2B	28.953	28.946	(1.999)	809246	32.6965	32.7

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

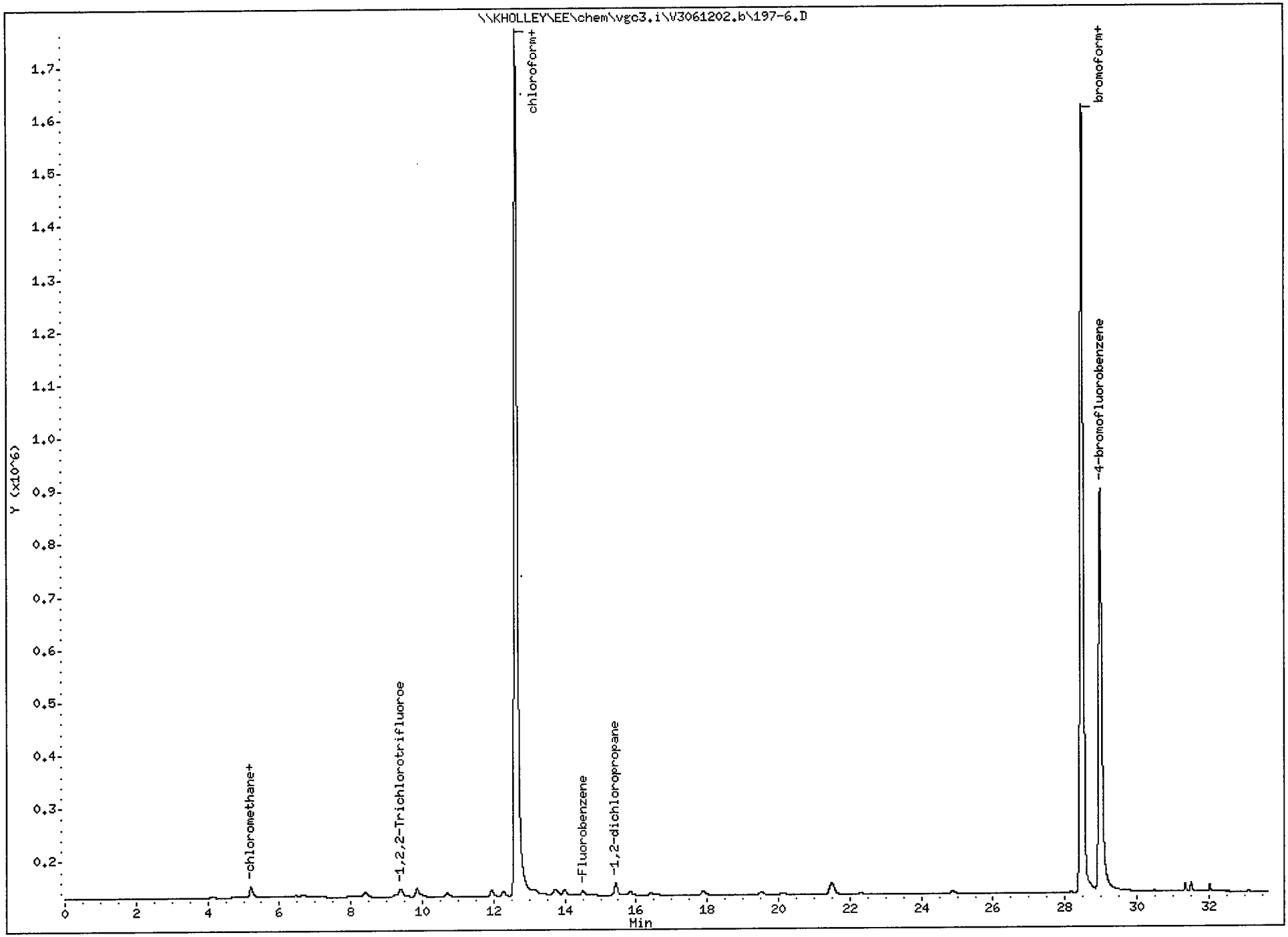
Instrument ID: vgc3.i
Lab File ID: 197-6.D
Lab Smp Id: 220419706
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: DUPQ20229
Level: LOW
Sample Type: WATER

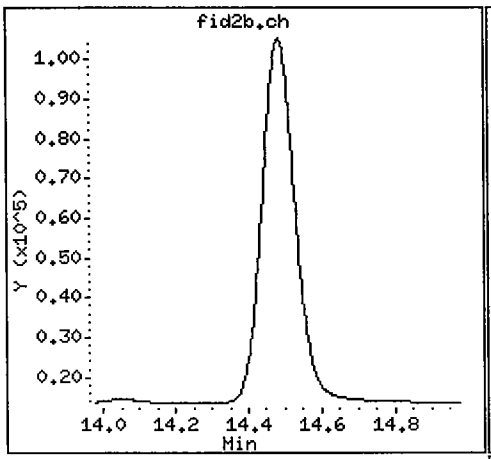
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	583558	-5.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.05

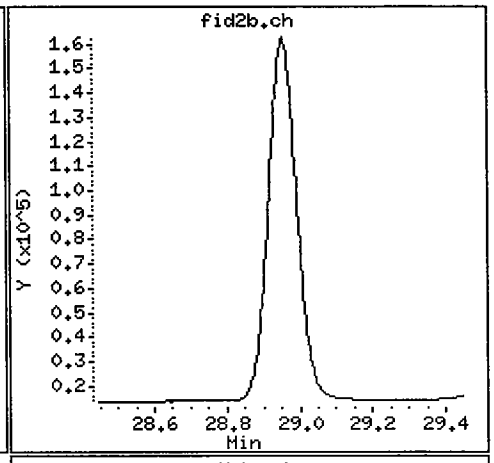
AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

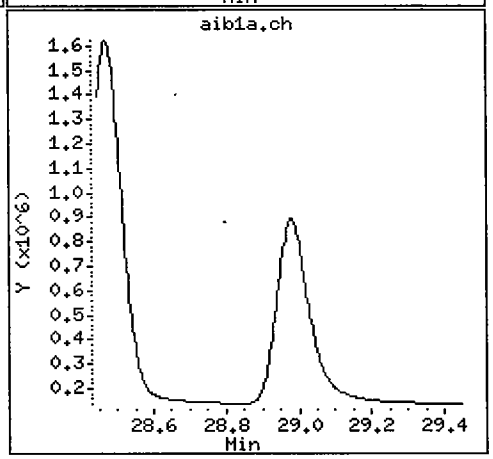

\\KHOLLEY\EE\chem\vgc3.i\V3061202.b\197-6.D
Y (x10^6)
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
-chloromethane+
-1,2,2-Trichlorotrifluoroe
chloroform+
-Fluorobenzene
-1,2-dichloropropane
bromoform+
-4-bromofluorobenzene
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Min

* 21 Fluorobenzene



$ 39 4-bromofluorobenzene





PEL Laboratories, Inc.

Data file : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\CCV33.D
Lab Smp Id: 0612CCV33 Client Smp ID: 0612CCV33
Inj Date : 12-JUN-2002 23:19
Operator : Inst ID: vgc3.i
Smp Info : 0612CCV33
Misc Info :
Comment :
Method : \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Meth Date : 13-Jun-2002 10:06 mjacobs Quant Type: ISTD
Cal Date : 03-JUN-2002 15:56 Cal File: 500PPTR.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mbtex.sub
Target Version: 4.04
Processing Host: REINHARD

Concentration Formula: Amt * DF * Vf/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	

Compounds	QUANT SIG DET	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
10 MTBE	FID2B	9.520	9.513	(0.657)	395167	33.0664	33.1
20 Benzene	FID2B	14.050	14.043	(0.970)	943397	30.3845	30.4
* 21 Fluorobenzene	FID2B	14.480	14.476	(1.000)	575541	30.0000	
26 Toluene	FID2B	18.950	18.943	(1.309)	882332	31.1964	31.2
32 Ethylbenzene	FID2B	25.066	25.063	(1.731)	819936	33.8722	33.9
33 m,p-xylene	FID2B	25.363	25.363	(1.752)	1798702	66.1491	66.1
35 o-xylene	FID2B	26.933	26.930	(1.860)	771171	33.9440	33.9
M 34 Xylene (tot)	FID2B				2569873	100.093	100
$ 39 4-bromofluorobenzene	FID2B	28.950	28.946	(1.999)	773647	31.6936	31.7

PEL Laboratories, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

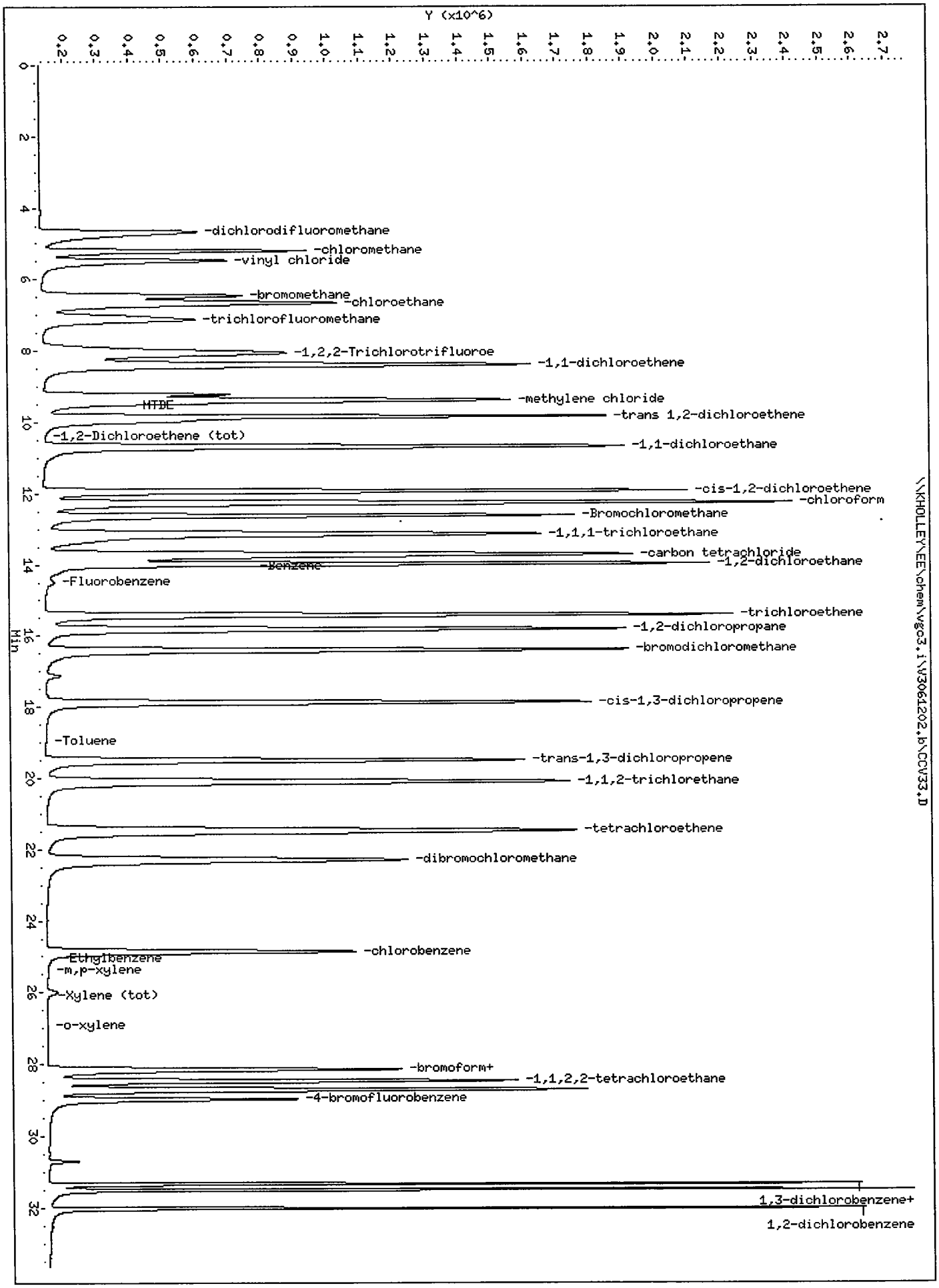
Instrument ID: vgc3.i
Lab File ID: CCV33.D
Lab Smp Id: 0612CCV33
Analysis Type: VOA
Quant Type: ISTD
Operator:
Method File: \\KHOLLEY\EE\chem\vgc3.i\V3061202.b\8021.m
Misc Info:

Calibration Date: 13-JUN-2002
Calibration Time: 02:48
Client Smp ID: 0612CCV33
Level: LOW
Sample Type: WATER

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	617601	308801	1235202	575541	-6.81

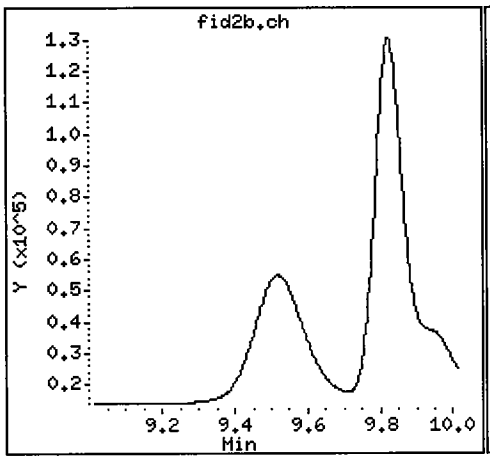
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
21 Fluorobenzene	14.48	13.98	14.98	14.48	0.02

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.

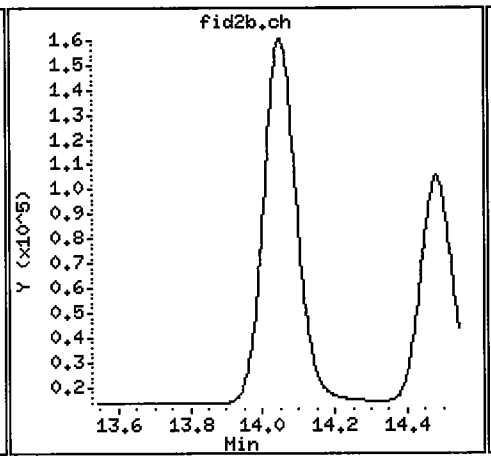


\\KHOLLEY\EE\chem\vgc3.i\W3061202.b\CCV33.D

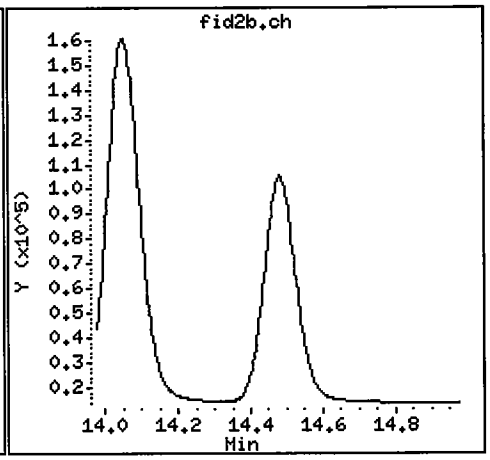
10 MTBE



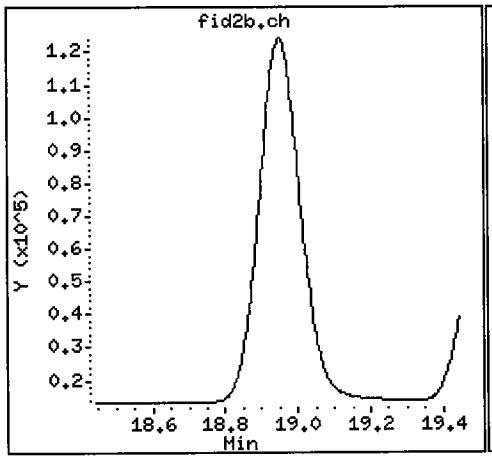
20 Benzene



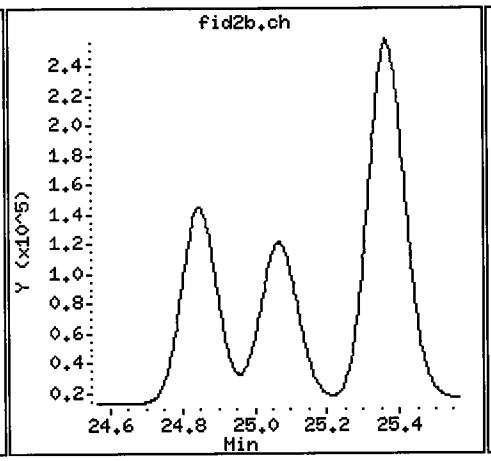
* 21 Fluorobenzene



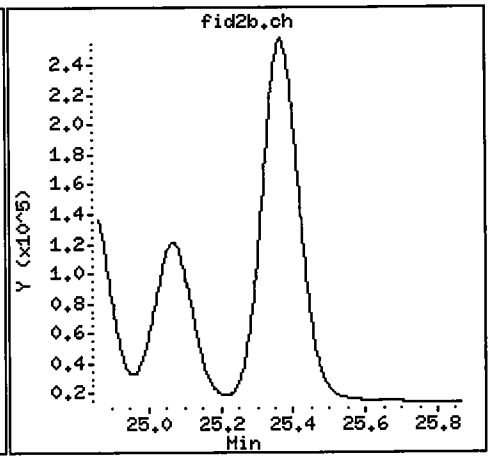
26 Toluene



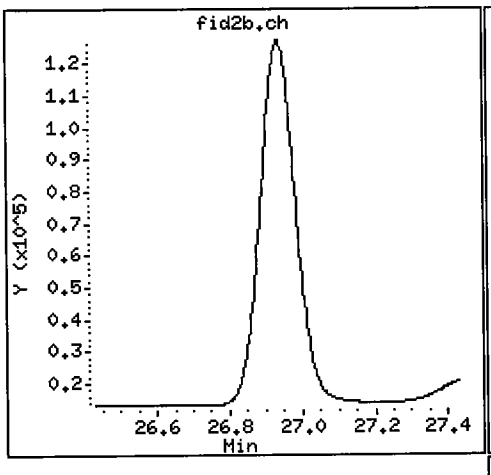
32 Ethylbenzene



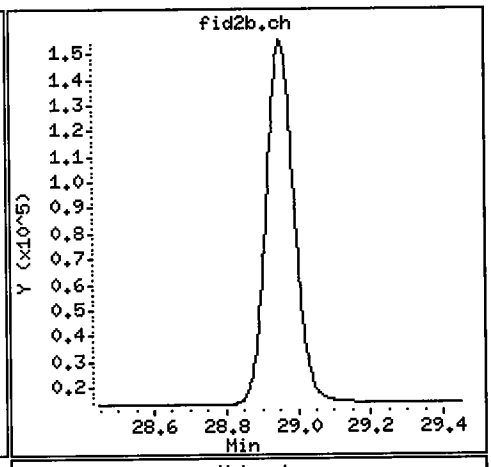
33 m,p-xylene

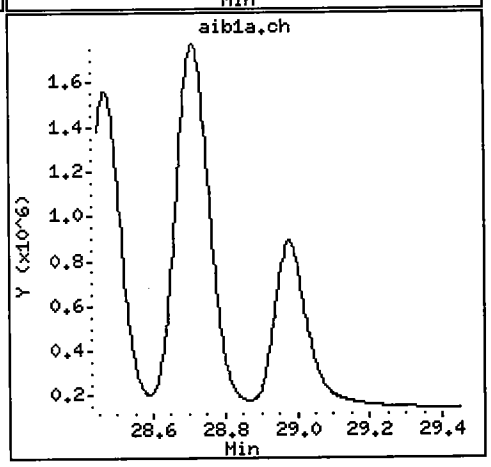


35 o-xylene



$ 39 4-bromofluorobenzene





2204-197
Raw Data
HPLC PAH Organics
(Method 8310)

02 8310 AE + SE CALaq 605.b

LC 1 ~~8021 AE~~ TS L10608 of 6/5/02 TS

6/5/02

1	SV4940
2	SV4941
3	SV4942
4	SV4943
5	SV4944
6	SV4945
7	SV4946
8	SV4948 SECCCV
21	SHOT

GOD

TS 6/6/02

LC1	8310
21	SV4
1	607
2	607
3	607
4	607
5	2204
6	
7	
8	
9	
10	
21	SV4
11	2204
12	
13	
14	
15	
16	
17	
18	
21	SV4
21	SH

2 TS

LC1 WATERS 8310 L1061302 6/13/02 TS

21 SV4942 CCV 11 + CCV12
1 610 BLK
2 610 LCS
3 610 BLK MS
4 610 BLK MSD
5 2204 197 01
6 02
7 03
8 04
9 06
10 224 12
21 SV4942 CCV 21 + CCV 22
21 SHUT

TS 6/14/02

3510 8310-H_2O

Batch #4570

6/12/02 (MD)

Sample Number	BLK	LCS	RWMS	RWMSD	2204197 -1	-2	-3	-4	-6	2204224 -12
Sample Date					6/5/02					6/7/02
Description					CH2MHill VEW 8Q 20229	VEW 2Q 20229	VEW 7Q 20229	VEW 8Q 20229	DUP Q 20229	CH2MHill 1021 EB1
Odor					None					
Color					Yellow Tint	Yellow Tint	Yellow Tint	Yellow Tint	Yellow Tint	Clear
Sed.					None	None	None	None	None	None
Vol./ Wt.	1000				~~1~~950	955	960	960	950	960
pH	7.0				7.0					
Surrogate ID Art Witnessed	OSS0 1F 1mL @ 20µg/mL									
Spike ID	N/A	SVS224 1mL @ 10µg/ml			N/A					
ISTD	N/A									
Final Solvent	ACN									
Final Vol. (ml)	1.0 mL									
Date Completed/By:	(MD) 6/12/02									
Remarks						medium Emulsion	medium Emulsion	medium Emulsion	Slight White* Residue Present (Inside of Turbovap Tube) when Cooled Down	
Stock Loc. Box/Row	F 12	/	/	/	/	/	/	/	/	/
Spike Witness	N/A	Art Witnessed			N/A					

Base Lot # N/A
Acid Lot# N/A
Extraction Lot # DCM: CE890 B+J

Final Solvent Lot # ACN: CE823

T.V. 61071-241

Bath Temp 51 °C

Organic Standards Log

SV #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV4932	5/1/02	LP	8270 STD CLP	Lot: SV4930 Man:	Rec'd: — Exp:	CH_2Cl_2 B&J 10SE02	50ul	1ml	5ug/ml.	
SV4938	↓	↓	8270 15 COMP SECONDARY	Lot: SV3168A Man:	Rec'd: — Exp:	↓	22.5ul ~~20ml~~ LP	1ml	45ug/ml	
SV4939	5/1/02	TS	8310 CAL. STD [TOP STD]	Lot: MIX#5 SV4108A 1-M SV3407G 2-M SV4718B ATS-160 SV4255B Man:	Rec'd: 2000ug/ml 2000ug/ml 2000ug/ml 2000ug/ml Exp:	ALN B&J L0840	250ul EA	5ML	100ug/ML	
SV4940	5/1/02	TS	8310 CAL. STD. @ 30PPB	Lot: SV4939 Man:	Rec'd: Exp:		1.5ML		30ug/ML	
SV4941	5/1/02	TS	8310 CAL. STD. @ 20PPB	Lot: Man:	Rec'd: Exp:		1ML		20ug/ML	
SV4942	5/1/02	TS	8310 CAL. STD. @ 15 ~~10~~PPB TS 5/1/02	Lot: Man:	Rec'd: Exp:		750ul		15ug/ML	
SV4943	5/1/02	TS	8310 CAL. STD. @ 10PPB	Lot: Man:	Rec'd: Exp:		500ul		10ug/ML	
SV4944	5/1/02	TS	8310 CAL. STD. @ 5PPB	Lot: Man:	Rec'd: Exp:		250ul		5ug/ML	
SV4945	5/1/02	TS	8310 CAL. STD @ ~~1.2~~ 1PPB TS 5/1/02	Lot: Man:	Rec'd: Exp:		50ul		1ug/ML	

Organic Standards Log

SV #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV4946	5/1/02	TS	8310 CAL. STD 0.2 PPB	Lot: SV4939 Man:	Rec'd: — Exp:	CD840 ACN B+J	10ul	5 ml	0.2ug/ml	
SV4947 A-H	5/1/02	JmD	P-terphenyl	Lot: 51237 Man: ultra	Rec'd: 11/5 Exp:	—	—	—	2000 ug/ml	
SV4948	5/1/02	TS	8310 SEC STD	Lot: ATS-160 SV4858 AB-44 Rec SV4852A 1-MeDPHNAP SV3100B Man:	Rec'd: 2000 ug/ml 1000 ug/ml 1000 ug/ml Exp:	ACN B+J CD840	37.5ul 75ul 75ul	5 ml	15ug/ml	
SV4949	5-1-02	CG	8082 SEC IM	Lot: SV4329D SV4175 Man: SV4179	Rec'd: — Exp:	B+J Hex V33E49	50ml 100ml 100ml	10 ml	10ug/ml	
SV4950	↓	↓	8082 SEC	Lot: SV4949 Man:	Rec'd: — Exp:	↓	100ml	1 ml	1 ug/ml	
SV4951 A-D	5-2-02	LM	NSI FLPRO C-39 SCUT	Lot: 1339-16 01 Man:	Rec'd: 5/2/02 Exp: 3/04				6001 ug/ml	
SV4952	5-2-02	SGA	8330 Working Spike	Lot: SV2866A SV2550C Man:	Rec'd: 11-2-02 Exp:	Acetonitrile CD840	500ul 500ul	25 ml	20ug/ml	
SV4953	5-3-02	LM	FLPRO STD 5 CCV	Lot: 4811A 4812E 4706 Man:	Rec'd: 11-3-02 Exp:	CH2Cl2 Lot X05E07 B+J	75uL 25uL 300uL	1mL	150ug/mL	
~~SV46~~ SGA SV4954	5-3-02	SGA	8330 CCV	Lot: SV3814 SV4433 Man:	Rec'd: — Exp:	CuCl2	500ul 10ul	1 ml	2.5ug/ml	

Lot D 6742

5-3-02 LDC

Organic Standards Log

SV #	Date prpd.	By	Description	Origin-Lot No. / Manufacturer	Date stock rec'd / Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV4107A	2/4/02	[illegible]		Lot:	Rec'd:		—	1 ml	[illegible] ug/ml	
SV4107B	↓	↓		Man:	Exp:		—	↓	↓	
SV4108 A,B,C	2/4/02	JDD					—	1 ml	200 ug/ml	
SV4109 ABCDEFGH										[illegible] 2/12
SV4110 ABCDEFGH										↓
SV4111	2/5/02	SGA	FLPRO Cal7	Lot: SV3767D SV3766A Man: SV4083	Rec'd: — Exp:	DCM V42466	200ul 25ul 300ul	1ml	400ug/ml	
SV4112	2/5/02	SGA	FLPRO Cal6	Lot: Man:	Rec'd: — Exp:	↓	150ul 25ul 300ul	↓	300ug/ml	
SV4113	2/5/02	SGA	FLPRO Cal5	Lot: Man:	Rec'd: — Exp:	↓	75ul 25ul 300ul	↓	150ug/ml	
SV4114	2/5/02	SGA	FLPRO Cal4	Lot: Man:	Rec'd: — Exp:	↓	50ul 25ul 300ul	↓	100ug/ml	

Cat.#31011 SV Calibration Mix #5
Lot# A020543 Expires:10/04 Storage:Refrigerate
2000 ug/ml each in methylene chloride
FOR LABORATORY USE ONLY
Restek Corporation • 110 Benner Circle • Bellefonte, PA 16823

Cat.#31011 SV Calibration Mix #5
Lot# A020543 Expires:10/04 Storage:Refrigerate
2000 ug/ml each in methylene chloride
SV4108 A,B,C
FOR LABORATORY USE ONLY
Restek Corporation • 110 Benner Circle • Bellefonte, PA 16823

ULTRA SCIENTIFIC 250 Smith St., North Kingstown, RI 02852 401-294-9400

ULTRA SCIENTIFIC 250 Smith St., North Kingstown, RI 02852 401-294-9400

LAB USE ONLY

LAB USE ONLY

Lot No. [illegible]-0793 Exp. Date [illegible]

Organic St. ,ards Log

OS #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV3407 E	11/13/01						—	1 ml	2000 ug/ml	
SV3407 F				Man:	Exp:		—			
SV3407 G				Lot: Man:	Rec'd: Exp:		—			
SV3407 H	✓	✓	✓	Lot: Man: ✓	Rec'd: Exp: ✓		—	✓	✓	
SV3408A	11/13/01		F1052S EXP:03/03 5ml			—	—	5ml	100 ug/ml	
SV3408B	✓	✓				—	—	✓	✓	
[illegible]	[illegible]	[illegible]	[illegible]	Lot: SV2691B Man:	Rec'd: Exp:	[illegible]	[illegible]	5	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	Lot: Man:	Rec'd: Exp:		[illegible]	[illegible]	[illegible]	
				Lot: Man:	Rec'd: Exp:					

AccuStandard, Inc. 125 Market Street • New Haven, CT 06513 Phone 800-442-5290 • 203-786-5290

FOR LABORATORY USE ONLY

S-518A
1-Methylnaphthalene
2.0 mg/mL in MeOH
Lot: B0090131-1A
Exp. Oct 1,2002

1 mL

STORAGE AMBIENT

POISON

CHEM SERVICE
P.O. BOX 1135 WEST CHESTER, PA 19381 800-[illegible]

Retene Solution
100ug/ml in Toluene
Lot: 270-143B

FLAMMABLE-HARMFUL-IRRITANT

WARNING!! READ your MSDS before HANDLING chemical.

SV #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV4713	3/22/02	LK	8082 Cal 1	Lot: Sr 3989 Man:	Rec'd: — Exp:	Bt) Hex V339419	5µL	1mL	0.05 µg/mL	
SV4714	↓	↓	8082 20	Lot: Sr4075 Man:	Rec'd: — Exp:		1mL	1mL	10 µg/mL	
SV 4715 A.B.C	3/25/02	JJD	OTP - Working surr.	Lot: SV 3[illegible] SV 4093C [illegible] 3 7[illegible] Man:	Rec'd: — Exp:	Dcm 10E417	[illegible]	[illegible]	100 [illegible]	
SV 4716 A.B	↓	↓	C-39 Working surr.	Lot: SV 4097 70-77 73-81 Man:	Rec'd: — Exp:	↓	15 mL	50 mL	600µg/L	
SV4717 A,B,C,D	3/25/02	JDD	1-M Naphth STK	Lot: B0090131-1A Man: AccuStd	Rec'd: 3/25/02 Exp: 11/1/02				2.0mg/mL	
SV4718 A,B,C,D	3/25/02	JDD	2-M Naph STK	Lot: B0040334 Man: Accustd	Rec'd: 3/25/02 Exp: 4/20/05				2.0mg/mL	
SV17A	3/25/02	LK	1221 Intermediate	Lot: Sr 2545D Man:	Rec'd: 9/25/02 Exp:	PTA Dilute Hex V339419	1mL	10mL	10 µg/mL	
Sv4720	3/25/02	LK	1221/1254 Cal 6	Lot: Sr4719 Sv4726 Man:	Rec'd: — Exp: 11/25/02	↓	250µL 250µL	1mL	2.5 µg/mL	
Sv4721	↓	↓	1221/1254 Cal 5	Lot: Sv4719 Sv4726 Man:	Rec'd: — Exp: 11/25/02	↓	200µL 200µL	↓	2.0 µg/mL	

SV #	Date prpd.	By	Description	Origin-Lot No. / Manufacturer	Date stock rec'd / Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV4832			AccuStandard 125 Market St. New Haven, CT M-507C Lot: B1090226-1A Exp: Mar 29,2004 1.0 mg/mL in MtBE	Man:	Date opened: Exp:	STORAGE AMBIENT				
SV4833			AccuStandard 125 Market St. New Haven, CT M-507D Lot: B1090183-2B Exp: Mar 29,2004 1.0 mg/mL in MtBE	Man:	Date opened: Exp:	STORAGE AMBIENT				
SV4834			AccuStandard 125 Market St. New Haven, CT M-507E Lot: A9080196-3C Exp: Feb 14,2004 1.0 mg/mL in MtBE		Date opened:	STORAGE AMBIENT				
SV4835 A → M	4/17/02	AP	ULTRA SCIENTIFIC 250 Smith St., North Kingstown, RI 02852 401-294-9400 p-Terphenyl-d14 Solution 2000 ug/mL in Methylene Chloride ATS-160 1 mL Lot No. S-1237 Exp. Date 11/2005 LAB USE ONLY	Man:	Exp:					
	—									
SV4836 A → L	4/17/02	AP	ULTRA SCIENTIFIC 250 Smith St., North Kingstown, RI 02852 401-294-9400 TRPH Surrogate Standard (FL) 2000 ug/mL in Carbon Disulfide IST-680 1 mL Lot No. T-0130 Exp. Date 02/2007 LAB USE ONLY	Man:	Exp:					
SV 4837 A-C	4/17/02	[illegible]	8310 working surrogate	Lot: SV 4340 G Man:	Rec'd: Exp:	ACN CD840	1 mL	100 mL	20 ug/mL	
				Lot: Man:	Rec'd: Exp:					

Organic Standards Log

SV #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV 4050	1/24/02	Rad	0.10 1ml	Lot: 4044 Man:	Rec'd: Exp: 072502	Ren C2052	0.050	5.0	1 ug/mL	
4051			0.2 ml	Lot: Man:	Rec'd: Exp:		0.010		0.2 ug/mL	
SV4051 A,B,C	Recd 1/29/02	JDD	SV Calibration mix #5 A020543 2000ug/mL	Lot: A020543 Man: 10/04	Rec'd: 1/29/02 Exp: 10/04					
SV4052 A,B	Recd 1/29/02	JDD	Aromatic Hydrocarbon Mix Stock 1000ug/mL	Lot: A020919 Man: 11/04	Rec'd: 1/29/02 Exp: 11/04					
SV 4053	1/29/02	JMD	FL PRO CAL 7	Lot: ~~OTP~~ SV3891 I OTP SV3908C C39 SV 3621 Man:	Rec'd: — Exp:	DCM 9624-03	200 uL 25 uL 300 uL	1 mL	400 ug/mL	
SV 4054			FL PRO CAL 6	Lot: SV 3891 I SV 3908C Man: SV 3621	Rec'd: — Exp:		150 uL 25 uL 300 uL		300 ug/mL	
SV 4055			FL PRO CAL 5	Lot: SV 3891 I SV 3908C Man: SV 3621	Rec'd: — Exp:		75 uL 25 uL 300 uL		150 ug/mL	
SV 4056			FL PRO CAL 4	Lot: SV 3891 I SV 3908C Man: SV 3621	Rec'd: — Exp:		50 uL 25 uL 300 uL		100 ug/mL	
SV 4057			FL PRO CAL 3	Lot: SV 3891 I SV 3908C Man: SV 3621	Rec'd: — Exp:		25 uL 25 uL 300 uL		50 ug/mL	

SV #	Date prpd.	By	Description	Manufacturer							
SV3758B	1/3/02	[illegible]	Custom 1279 mix	Lot: [illegible] 8-2572 Man:	Exp: 2/03	—	—	—	[illegible]	—	
SV3758C				Lot: Man:	Exp:	—	—	—		—	
SV3758D				Lot: Man:	Exp:	—	—	—		—	
SV3758E				Lot: Man:	Exp:	—	—	—		—	
SV3759A	1/3/02	[illegible]				—		—	1000 µg/mL	—	
SV3759B				Man:		—		—		—	
SV3759C				Lot: Man:	Exp:	—	—	—		—	
SV3759D				Lot: Man:	Exp:					—	
SV3760 A & B	1/3/02	JMD	1-Methylnaphth.	Lot: A02 0779 Man: Rostek	Exp: 6/6				1000 µg/mL		

AccuStandard, Inc. 125 Market Street • New Haven, CT 06513 Phone 800-442-5290 • 203-786-5290

FOR LABORATORY USE ONLY

A-020S-5X
3,4-Dichlorophenol
1.0 mg/mL in MeOH
Lot: B1060430
Exp. Dec 28,2004

1 mL

POISON

STORAGE AMBIENT

Organic Standards Log

SV #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Date stock rec'd Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Discarded
SV 5223	6/5/02	TS	8310 ATLEE SVER	Lot: SV4340 D SV3709 A Man:	Rec'd: — Exp:	ACN CE 823 B+J	100uL 100.0uL	10 mL	20ug/mL	
SV5224	6/5/02	TS	8310 WORKING SPIKE	Lot: SV3407G SV 4108B SV 4718B Man:	Rec'd: — Exp:	ACN CE 823 B+J	500uL EACH	100 mL	10ug/mL	
SV5225	6/5/02	LK	1016/1260 CAL 4	Lot: SV4901 Man:	Rec'd: Exp:	HEX VUWER	100uL	1mL	1ug/mL	
SV5226	6/6/02	LK	1248 Cal 6	Lot: SV4773 Man:	Rec'd: — Exp:	HEX VUWER	250uL	1mL	2.5ug/mL	
SV5227			1248 Cal 5	Lot: Man:	Rec'd: Exp:		200uL		2.0ug/mL	
SV5228			1248 Cal 4	Lot: Man:	Rec'd: Exp:		100uL		1.0ug/mL	
SV5229			1248 Cal 3	Lot: Man:	Rec'd: Exp:		50uL		0.5ug/mL	
SV5230			1248 Cal 2	Lot: Man:	Rec'd: Exp:		10uL		0.1ug/mL	
SV5231			~~LK 6/6/02 1248~~ LK 6/6/02 CAL 1 ~~Cal 6~~	Lot: ~~LK 6/6/02 SV4726~~ SV4773 Man:	Rec'd: Exp:		5uL		0.05ug/mL	

Organic Standards Log

OS #	Date prpd.	By	Description	Origin-Lot No. Manufacturer	Expiration Date	Diluent-Lot No.	Amount for Dil.	Final Vol.	Final Conc.	Tested	Discarded
OS501F	6/7/02	AC	8310 working surrogate	Lot: ATS-160 (SV4997D) Man: ultra	Exp: 8/7/02	CE823	1 ml	100ml ACN	20ug/ml	✓	
OS502F	6/10/02	AC HM	1° EDB Working Spike	Lot: OS381F Man:	Exp: 6/11/02	MeOH X18E18 J.T.B.	50µl	5mL	0.02 µg/mL	NO	AC 6-11-02
OS503F	6/10/02	AC HM	2° EDB Working Spike	Lot: OS382F Man:	Exp: 6/11/02	MeOH X18E18 J.T.B.	50µl	5mL	0.02 µg/mL	NO	AC 6-11-02
OS504F	6/11/02	AC	8141 working surrogate	Lot: M-4282 PPS-110 Man: ultra	Exp: 8-11-02	Acetone CE544	2.5 ml	25ml	50ug/ml	no	
OS505F	6/12/02	AC HM	8151 working Surrogate	Lot: SV4733D SV4733C SV4733B Man: Ultra	Exp: 8/12/02	Acetone CE544	2.5ml	25ml	10µg/mL	no	
OS506f	6/12/02	AC	8151 2° working spike	Lot: SV3481B Man:	Exp: 8/12/02	ACE CE544	500ml	5ml	10µg/ml	no	
OS507F	6/12/02	SGA	C-39 Working Surrogate	Lot: SV5135A-D Man: NSI	Exp: 8/12/02	CH_2Cl_2	5.0ml	50ml	600ug/ml	No	6-17-02 Consumed AC
OS508F	6/12/02	SGA	FLPRO Working Spike	Lot: SV3137A,B Man: NSI	Exp: 8/12/02	CH_2Cl_2	2.5ml	25ml	200ug/ml	No	
OS509F	6/13/02	JCM	Acetonitrile	Lot: CE823 Man: B+J	Exp: 6/13/04	NA					

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Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\30PPB.D
Lab Smp Id: sv4940 Client Smp ID: 30PPB
Inj Date : 05-JUN-2002 17:46
Operator : Scott Inst ID: slc01.i
Smp Info : sv4940
Misc Info :
Comment :
Method : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\8310AE.m
Meth Date : 17-Jun-2002 12:00 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

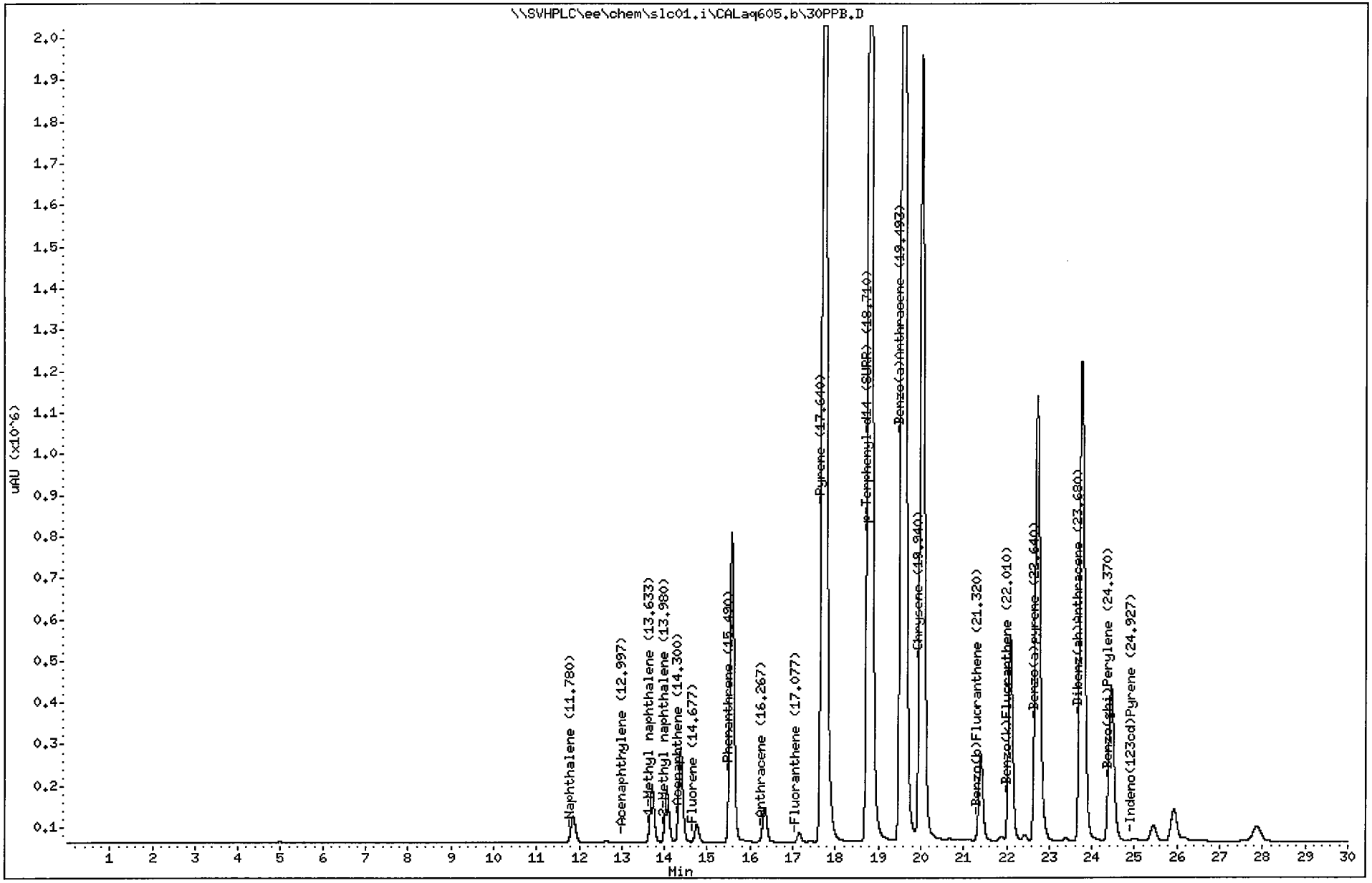
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.780	11.780	(0.000)	VWD1A	135235	30.0000	29.8	80.00- 120.00	100.00
11.858	11.858	(0.000)	ADC1A	467315			276.45- 414.67	345.56
3 Acenaphthylene						CAS #: 208-96-8		
12.996	12.996	(0.000)	VWD1A	110610	30.0000	30.2		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.633	13.633	(0.000)	VWD1A	86478			80.00- 120.00	100.00
13.706	13.706	(0.000)	ADC1A	880342	30.0000	30.6	814.40-1221.59	1018.00
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.980	13.980	(0.000)	VWD1A	123946	30.0000	30.1	80.00- 120.00	100.00
14.055	14.055	(0.000)	ADC1A	835008			538.95- 808.42	673.69

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.300	14.300	(0.000)	VWD1A	52661			80.00- 120.00	100.00
14.373	14.373	(0.000)	ADC1A	1555097	30.0000	30.4	2362.43-3543.64	2953.03
7 Fluorene							CAS #: 86-73-7	
14.676	14.676	(0.000)	VWD1A	678059	30.0000	30.1		
8 Phenanthrene							CAS #: 85-01-8	
15.490	15.490	(0.000)	VWD1A	2152959			80.00- 120.00	100.00
15.565	15.565	(0.000)	ADC1A	5167688	30.0000	30.3	192.02- 288.03	240.03
9 Anthracene							CAS #: 120-12-7	
16.266	16.266	(0.000)	VWD1A	4783474	30.0000	29.2	80.00- 120.00	100.00
16.340	16.340	(0.000)	ADC1A	576985			9.65- 14.47	12.06
10 Fluoranthene							CAS #: 206-44-0	
17.076	17.076	(0.000)	VWD1A	495586	30.0000	30.2		
11 Pyrene							CAS #: 129-00-0	
17.640	17.640	(0.000)	VWD1A	382365	30.0000	29.3	80.00- 120.00	100.00
17.751	17.751	(0.000)	ADC1A	19623462			4105.70-6158.55	5132.13
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.710	18.710	(0.000)	VWD1A	385397	30.0000	30.3	80.00- 120.00	100.00
18.826	18.826	(0.000)	ADC1A	19629181			4074.59-6111.88	5093.24
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.493	19.493	(0.000)	VWD1A	1092884	30.0000	30.1	80.00- 120.00	100.00
19.618	19.618	(0.000)	ADC1A	21102368			1544.71-2317.07	1930.89
14 Chrysene							CAS #: 218-01-9	
19.940	19.940	(0.000)	VWD1A	1383591			80.00- 120.00	100.00
20.013	20.013	(0.000)	ADC1A	13527048	30.0000	30.2	782.14-1173.21	977.68
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.320	21.320	(0.000)	VWD1A	1210223	30.0000	30.1	80.00- 120.00	100.00
21.393	21.393	(0.000)	ADC1A	1464710			96.82- 145.23	121.03
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.010	22.010	(0.000)	VWD1A	1080926	30.0000	30.1	80.00- 120.00	100.00
22.086	22.086	(0.000)	ADC1A	3535790			261.69- 392.53	327.11
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.640	22.640	(0.000)	VWD1A	1105191			80.00- 120.00	100.00
22.715	22.715	(0.000)	ADC1A	8662615	30.0000	30.2	627.05- 940.57	783.81

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene							CAS #: 53-70-3	
23.680	23.680	(0.000)	VWD1A	246904			80.00- 120.00	100.00
23.756	23.756	(0.000)	ADC1A	9478571	30.0000	30.1	3071.18-4606.76	3838.97
19 Benzo(ghi)Perylene							CAS #: 191-24-2	
24.370	24.370	(0.000)	VWD1A	445409	30.0000	30.2	80.00- 120.00	100.00
24.446	24.446	(0.000)	ADC1A	3292430			591.35- 887.03	739.19
20 Indeno(123cd)Pyrene							CAS #: 193-39-5	
24.926	24.926	(0.000)	VWD1A	1396212	30.0000	30.1		

Data File: \\SVHPLC\ee\chem\slc01.i\CALaq605.b\30PPB.D
Date : 05-JUN-2002 17:46
Client ID: 30PPB
Sample Info: sv4940
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



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Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\20PPB.D
Lab Smp Id: sv4941 Client Smp ID: 20PPB
Inj Date : 05-JUN-2002 18:20
Operator : Scott Inst ID: slc01.i
Smp Info : sv4941
Misc Info :
Comment :
Method : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\8310AE.m
Meth Date : 17-Jun-2002 12:00 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
Als bottle: 2 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

AMOUNTS

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.800	11.800	(0.000)	VWD1A	91582	20.0000	20.1	80.00- 120.00	100.00
11.874	11.874	(0.000)	ADC1A	302909			264.60- 396.90	330.75
3 Acenaphthylene						CAS #: 208-96-8		
13.006	13.006	(0.000)	VWD1A	73381	20.0000	20.1		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.640	13.640	(0.000)	VWD1A	57151			80.00- 120.00	100.00
13.715	13.715	(0.000)	ADC1A	570970	20.0000	19.8	799.24-1198.87	999.06
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.986	13.986	(0.000)	VWD1A	82048	20.0000	19.9	80.00- 120.00	100.00
14.062	14.062	(0.000)	ADC1A	541061			527.56- 791.33	659.44

AMOUNTS

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.306	14.306	(0.000)	VWD1A	34995			80.00- 120.00	100.00
14.379	14.379	(0.000)	ADC1A	1015053	20.0000	19.9	2320.45-3480.68	2900.57
7 Fluorene							CAS #: 86-73-7	
14.683	14.683	(0.000)	VWD1A	447596	20.0000	19.9		
8 Phenanthrene							CAS #: 85-01-8	
15.496	15.496	(0.000)	VWD1A	1428073			80.00- 120.00	100.00
15.572	15.572	(0.000)	ADC1A	3387977	20.0000	19.9	189.79- 284.69	237.24
9 Anthracene							CAS #: 120-12-7	
16.273	16.273	(0.000)	VWD1A	3319644	20.0000	20.3	80.00- 120.00	100.00
16.345	16.345	(0.000)	ADC1A	378924			9.13- 13.70	11.41
10 Fluoranthene							CAS #: 206-44-0	
17.083	17.083	(0.000)	VWD1A	328203	20.0000	20.0		
11 Pyrene							CAS #: 129-00-0	
17.650	17.650	(0.000)	VWD1A	275747	20.0000	21.1	80.00- 120.00	100.00
17.729	17.729	(0.000)	ADC1A	15686483			4550.98-6826.47	5688.72
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.723	18.723	(0.000)	VWD1A	256025	20.0000	20.1	80.00- 120.00	100.00
18.817	18.817	(0.000)	ADC1A	16399095			5124.22-7686.33	6405.27
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.503	19.503	(0.000)	VWD1A	723094	20.0000	19.9	80.00- 120.00	100.00
19.609	19.609	(0.000)	ADC1A	18054682			1997.49-2996.24	2496.87
14 Chrysene							CAS #: 218-01-9	
19.953	19.953	(0.000)	VWD1A	917743			80.00- 120.00	100.00
20.025	20.025	(0.000)	ADC1A	8929603	20.0000	20.0	778.40-1167.60	973.00
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.336	21.336	(0.000)	VWD1A	799839	20.0000	19.9	80.00- 120.00	100.00
21.410	21.410	(0.000)	ADC1A	959375			95.96- 143.94	119.95
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.033	22.033	(0.000)	VWD1A	717274	20.0000	20.0	80.00- 120.00	100.00
22.109	22.109	(0.000)	ADC1A	2332688			260.17- 390.26	325.22
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.663	22.663	(0.000)	VWD1A	733279			80.00- 120.00	100.00
22.740	22.740	(0.000)	ADC1A	5720376	20.0000	20.0	624.09- 936.13	780.11

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.710	23.710	(0.000)	VWD1A	163244			80.00- 120.00	100.00
23.785	23.785	(0.000)	ADC1A	6281926	20.0000	20.0	3078.55-4617.82	3848.18
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.396	24.396	(0.000)	VWD1A	294743	20.0000	20.0	80.00- 120.00	100.00
24.474	24.474	(0.000)	ADC1A	2129179			577.91- 866.86	722.38
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.963	24.963	(0.000)	VWD1A	928367	20.0000	20.0		

Data File: \\SVHPLC\ee\chem\slc01.i\CALaq605.b\20PPB.D

Date : 05-JUN-2002 18:20

Client ID: 20PPB

Instrument: slc01.i

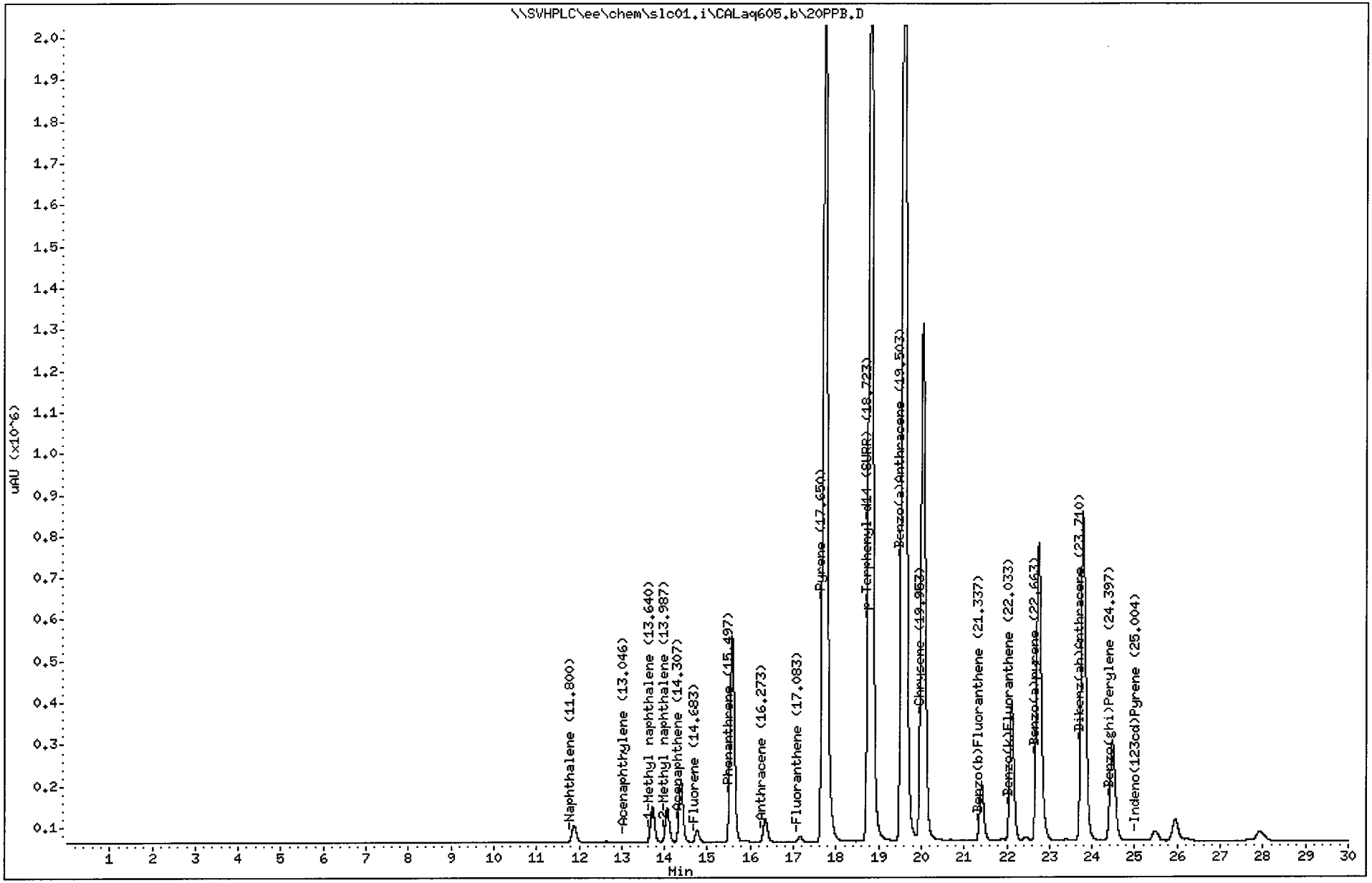
Sample Info: sv4941

Purge Volume: 1000.0

Operator: Scott

Column phase: Vydac 201TP54

Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\15PPB.D
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Inj Date : 05-JUN-2002 18:55
Operator : Scott Inst ID: slc01.i
Smp Info : sv4942
Misc Info :
Comment :
Method : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\8310AE.m
Meth Date : 17-Jun-2002 12:00 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
Als bottle: 3 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO	
2 Naphthalene						CAS #: 91-20-3			
11.803	11.803	(0.000)	VWD1A	69288	15.0000	15.2	80.00- 120.00	100.00	(M) TS
11.878	11.878	(0.000)	ADC1A	217572			251.21- 376.81	314.01	
3 Acenaphthylene						CAS #: 208-96-8			
13.013	13.013	(0.000)	VWD1A	51641	15.0000	14.1			(M) TS
4 1-Methyl naphthalene						CAS #: 90-12-0			
13.646	13.646	(0.000)	VWD1A	43046			80.00- 120.00	100.00	
13.721	13.721	(0.000)	ADC1A	420283	15.0000	14.6	781.09-1171.63	976.36	
5 2-Methyl naphthalene						CAS #: 91-57-6			
13.993	13.993	(0.000)	VWD1A	61560	15.0000	14.9	80.00- 120.00	100.00	
14.069	14.069	(0.000)	ADC1A	395836			514.41- 771.61	643.01	

```
                                                AMOUNTS
                                              CAL-AMT   ON-COL
   RT    EXP RT  DLT RT  SIGNAL RESPONSE (ug/ml)  (ug/ml)   TARGET RANGE    RATIO
   ==    ====== ======== ====== ======== =======  =======   ============    =====

    6 Acenaphthene                                     CAS #: 83-32-9
14.310  14.310  (0.000) VWD1A     26439                     80.00- 120.00   100.00
14.386  14.386  (0.000) ADC1A    747686 15.0000     14.6 2262.37-3393.56  2827.97
-------------------------------------------------------------------------------
    7 Fluorene                                         CAS #: 86-73-7
14.690  14.690  (0.000) VWD1A    334756 15.0000     14.9
-------------------------------------------------------------------------------
    8 Phenanthrene                                     CAS #: 85-01-8
15.503  15.503  (0.000) VWD1A   1056859                     80.00- 120.00   100.00(M) TS
15.576  15.576  (0.000) ADC1A   2485708 15.0000     14.6 188.16- 282.24   235.20
-------------------------------------------------------------------------------
    9 Anthracene                                       CAS #: 120-12-7
16.280  16.280  (0.000) VWD1A   2512392 15.0000     15.4  80.00- 120.00   100.00(M) TS
16.353  16.353  (0.000) ADC1A    266358                      8.48-  12.72    10.60
-------------------------------------------------------------------------------
   10 Fluoranthene                                     CAS #: 206-44-0
17.090  17.090  (0.000) VWD1A    239193 15.0000     14.6                          (M) TS
-------------------------------------------------------------------------------
   11 Pyrene                                           CAS #: 129-00-0
17.656  17.656  (0.000) VWD1A    191728 15.0000     14.7  80.00- 120.00   100.00(M) TS
17.729  17.729  (0.000) ADC1A  11947360                  4985.13-7477.69  6231.41
-------------------------------------------------------------------------------
$  12 p-Terphenyl-d14 (SURR)                          CAS #: 1718-51-0
18.733  18.733  (0.000) VWD1A    179608 15.0000     14.1  80.00- 120.00   100.00(M) TS
18.806  18.806  (0.000) ADC1A  13432757                  5983.14-8974.72  7478.93
-------------------------------------------------------------------------------
   13 Benzo(a)Anthracene                               CAS #: 56-55-3
19.513  19.513  (0.000) VWD1A    534988 15.0000     14.7  80.00- 120.00   100.00(M) TS
19.601  19.601  (0.000) ADC1A  15380301                  2299.91-3449.86  2874.89
-------------------------------------------------------------------------------
   14 Chrysene                                         CAS #: 218-01-9
19.963  19.963  (0.000) VWD1A    682481                     80.00- 120.00   100.00(M) TS
20.039  20.039  (0.000) ADC1A   6468962 15.0000     14.5 758.29-1137.43   947.86
-------------------------------------------------------------------------------
   15 Benzo(b)Fluoranthene                             CAS #: 205-99-2
21.350  21.350  (0.000) VWD1A    595058 15.0000     14.8  80.00- 120.00   100.00(M) TS
21.424  21.424  (0.000) ADC1A    681562                     91.63- 137.44   114.54
-------------------------------------------------------------------------------
   16 Benzo(k)Fluoranthene                             CAS #: 207-08-9
22.050  22.050  (0.000) VWD1A    531524 15.0000     14.8  80.00- 120.00   100.00(M) TS
22.121  22.121  (0.000) ADC1A   1672298                  251.70- 377.55   314.62
-------------------------------------------------------------------------------
   17 Benzo(a)pyrene                                   CAS #: 50-32-8
22.683  22.683  (0.000) VWD1A    539046                     80.00- 120.00   100.00(M) TS
22.758  22.758  (0.000) ADC1A   4213701 15.0000     14.7 625.36- 938.04   781.70
-------------------------------------------------------------------------------
```

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO	
18 Dibenz(ah)Anthracene						CAS #: 53-70-3			
23.740	23.740	(0.000)	VWD1A	119695			80.00- 120.00	100.00	(M) TS
23.814	23.814	(0.000)	ADC1A	4642429	15.0000	14.8	3102.84-4654.26	3878.55	
19 Benzo(ghi)Perylene						CAS #: 191-24-2			
24.430	24.430	(0.000)	VWD1A	215859	15.0000	14.6	80.00- 120.00	100.00	(M) TS
24.504	24.504	(0.000)	ADC1A	1538421			570.16- 855.24	712.70	
20 Indeno(123cd)Pyrene						CAS #: 193-39-5			
25.003	25.003	(0.000)	VWD1A	685496	15.0000	14.8			(M) TS

QC Flag Legend

M - Compound response manually integrated.

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Sample Info: sv4942
Purge Volume: 1000.0
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Instrument: slc01.i
Operator: Scott
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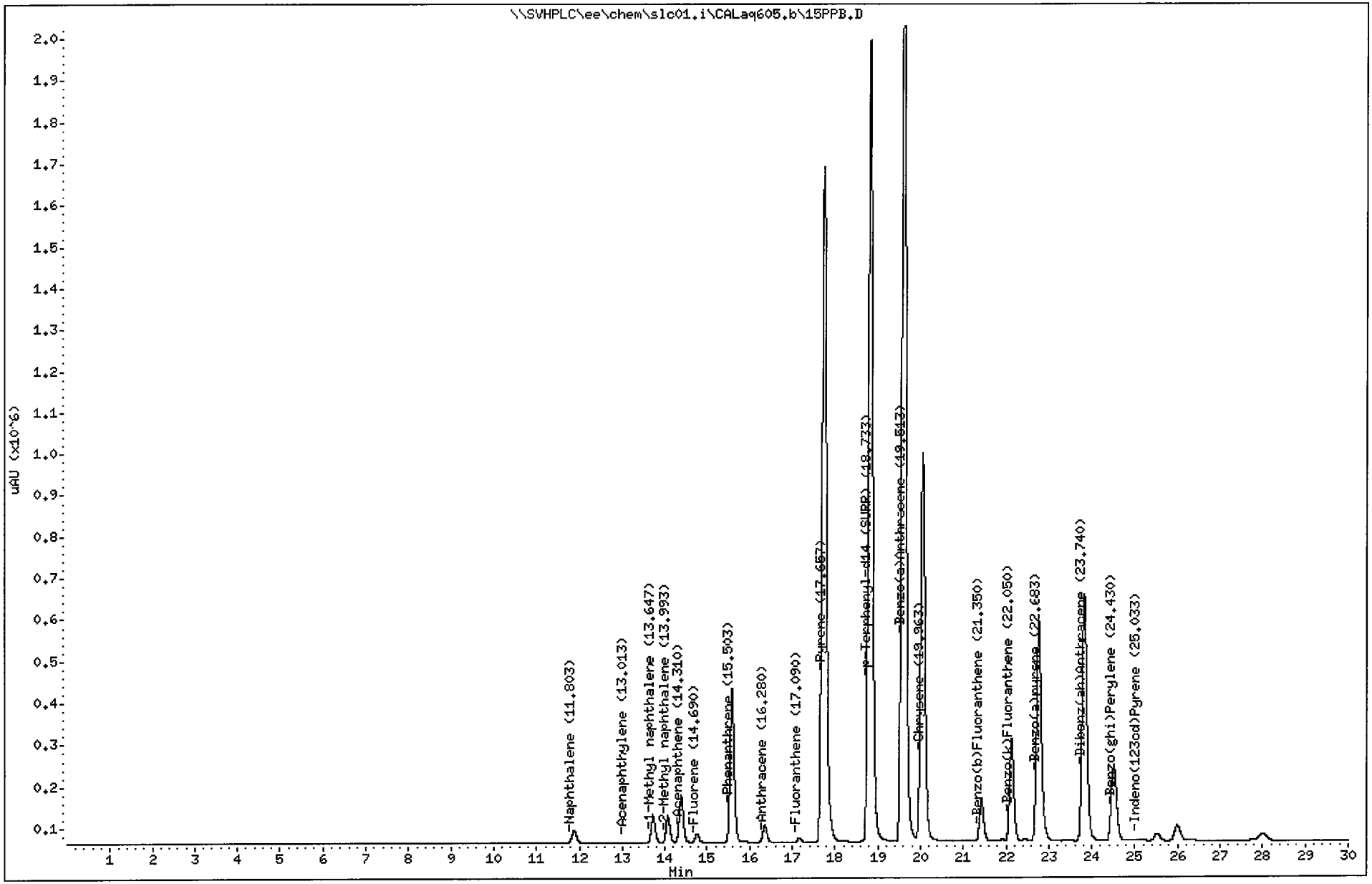

PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\10PPB.D
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Meth Date : 17-Jun-2002 12:00 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.800	11.800	(0.000)	VWD1A	44830	10.0000	9.9	80.00- 120.00	100.00
11.875	11.875	(0.000)	ADC1A	137061			244.59- 366.88	305.73
3 Acenaphthylene						CAS #: 208-96-8		
13.013	13.013	(0.000)	VWD1A	37422	10.0000	10.2		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.643	13.643	(0.000)	VWD1A	28898			80.00- 120.00	100.00
13.719	13.719	(0.000)	ADC1A	273795	10.0000	9.5	757.96-1136.94	947.45
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.993	13.993	(0.000)	VWD1A	41361	10.0000	10.0	80.00- 120.00	100.00
14.067	14.067	(0.000)	ADC1A	257046			497.18- 745.76	621.47

AMOUNTS

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.310	14.310	(0.000)	VWD1A	17793			80.00- 120.00	100.00
14.384	14.384	(0.000)	ADC1A	493968	10.0000	9.7	2220.95-3331.43	2776.19
7 Fluorene							CAS #: 86-73-7	
14.690	14.690	(0.000)	VWD1A	225352	10.0000	10.0		
8 Phenanthrene							CAS #: 85-01-8	
15.503	15.503	(0.000)	VWD1A	725463			80.00- 120.00	100.00
15.579	15.579	(0.000)	ADC1A	1675655	10.0000	9.8	184.78- 277.17	230.98
9 Anthracene							CAS #: 120-12-7	
16.283	16.283	(0.000)	VWD1A	1750282	10.0000	10.7	80.00- 120.00	100.00
16.357	16.357	(0.000)	ADC1A	185541			8.48- 12.72	10.60
10 Fluoranthene							CAS #: 206-44-0	
17.093	17.093	(0.000)	VWD1A	164031	10.0000	10		
11 Pyrene							CAS #: 129-00-0	
17.660	17.660	(0.000)	VWD1A	127744	10.0000	9.8	80.00- 120.00	100.00
17.730	17.730	(0.000)	ADC1A	8110754			5079.38-7619.07	6349.23
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.736	18.736	(0.000)	VWD1A	129126	10.0000	10.1	80.00- 120.00	100.00
18.810	18.810	(0.000)	ADC1A	9139395			5662.31-8493.47	7077.89
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.516	19.516	(0.000)	VWD1A	365929	10.0000	10.1	80.00- 120.00	100.00
19.592	19.592	(0.000)	ADC1A	10965518			2397.30-3595.95	2996.62
14 Chrysene							CAS #: 218-01-9	
19.970	19.970	(0.000)	VWD1A	465966			80.00- 120.00	100.00
20.042	20.042	(0.000)	ADC1A	4499458	10.0000	10.1	772.50-1158.74	965.62
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.350	21.350	(0.000)	VWD1A	400969	10.0000	10	80.00- 120.00	100.00
21.424	21.424	(0.000)	ADC1A	467479			93.27- 139.90	116.59
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.046	22.046	(0.000)	VWD1A	362708	10.0000	10.1	80.00- 120.00	100.00
22.122	22.122	(0.000)	ADC1A	1155954			254.96- 382.44	318.70
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.673	22.673	(0.000)	VWD1A	369622			80.00- 120.00	100.00
22.750	22.750	(0.000)	ADC1A	2853235	10.0000	10	617.55- 926.32	771.93

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.710	23.710	(0.000)	VWD1A	83024			80.00- 120.00	100.00
23.787	23.787	(0.000)	ADC1A	3157587	10.0000	10.0	3042.58-4563.87	3803.22
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.406	24.406	(0.000)	VWD1A	146686	10.0000	9.9	80.00- 120.00	100.00
24.484	24.484	(0.000)	ADC1A	1039028			566.67- 850.00	708.33
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.983	24.983	(0.000)	VWD1A	467363	10.0000	10.1		

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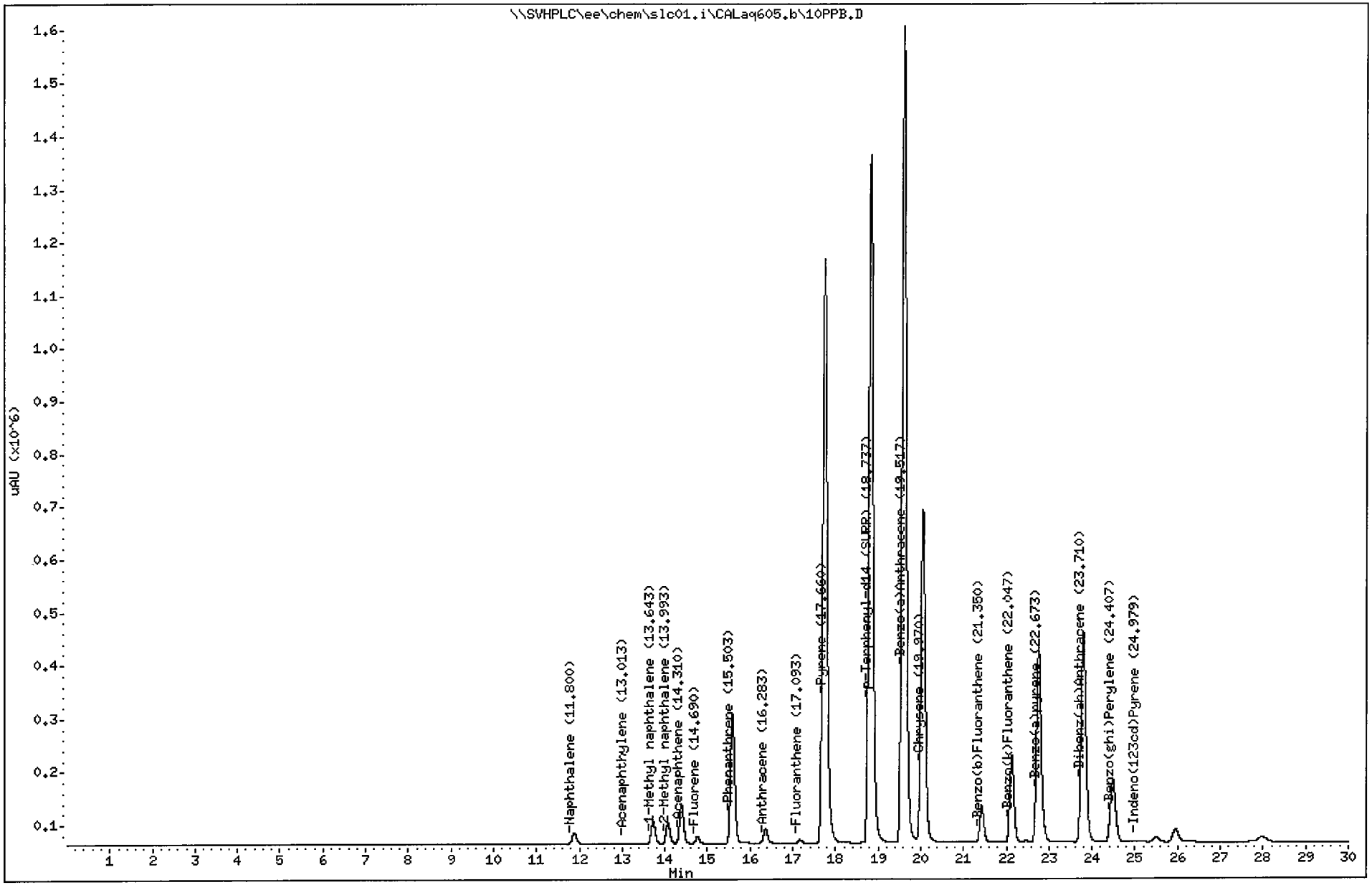
Client ID: 10PPB
Sample Info: sv4943
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\5PPB.D
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Smp Info : sv4944
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Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.803	11.803	(0.000)	VWD1A	24335	5.00000	5.4	80.00- 120.00	100.00
11.883	11.883	(0.000)	ADC1A	60777			199.80- 299.70	249.75
3 Acenaphthylene						CAS #: 208-96-8		
13.016	13.016	(0.000)	VWD1A	18833	5.00000	5.2		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.650	13.650	(0.000)	VWD1A	14502			80.00- 120.00	100.00
13.723	13.723	(0.000)	ADC1A	125736	5.00000	4.4	693.62-1040.43	867.03
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.996	13.996	(0.000)	VWD1A	20811	5.00000	5.0	80.00- 120.00	100.00
14.069	14.069	(0.000)	ADC1A	117917			453.29- 679.93	566.61

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                                                AMOUNTS
                                              CAL-AMT   ON-COL
   RT    EXP RT  DLT RT  SIGNAL RESPONSE (ug/ml)  (ug/ml)   TARGET RANGE    RATIO
   ==    ====== ======== ====== ======== =======  =======   ============    =====

    6 Acenaphthene                                     CAS #: 83-32-9
14.313  14.313  (0.000) VWD1A      8911                     80.00- 120.00   100.00
14.389  14.389  (0.000) ADC1A    234611 5.00000      4.6 2106.26-3159.39  2632.82
-------------------------------------------------------------------------------
    7 Fluorene                                         CAS #: 86-73-7
14.693  14.693  (0.000) VWD1A    112602 5.00000      5.0
-------------------------------------------------------------------------------
    8 Phenanthrene                                     CAS #: 85-01-8
15.506  15.506  (0.000) VWD1A    362828                     80.00- 120.00   100.00
15.581  15.581  (0.000) ADC1A    821558 5.00000      4.8 181.15- 271.72   226.43
-------------------------------------------------------------------------------
    9 Anthracene                                       CAS #: 120-12-7
16.286  16.286  (0.000) VWD1A    894997 5.00000      5.5  80.00- 120.00   100.00
16.358  16.358  (0.000) ADC1A     85293                      7.62-  11.44     9.53
-------------------------------------------------------------------------------
   10 Fluoranthene                                     CAS #: 206-44-0
17.096  17.096  (0.000) VWD1A     84153 5.00000      5.1
-------------------------------------------------------------------------------
   11 Pyrene                                           CAS #: 129-00-0
17.663  17.663  (0.000) VWD1A     69751 5.00000      5.3  80.00- 120.00   100.00
17.736  17.736  (0.000) ADC1A   4045731                   4640.20-6960.30  5800.25
-------------------------------------------------------------------------------
$  12 p-Terphenyl-d14 (SURR)                          CAS #: 1718-51-0
18.740  18.740  (0.000) VWD1A     65460 5.00000      5.1  80.00- 120.00   100.00
18.814  18.814  (0.000) ADC1A   4585365                   5603.87-8405.80  7004.84
-------------------------------------------------------------------------------
   13 Benzo(a)Anthracene                               CAS #: 56-55-3
19.520  19.520  (0.000) VWD1A    184517 5.00000      5.1  80.00- 120.00   100.00
19.596  19.596  (0.000) ADC1A   5515419                   2391.29-3586.93  2989.11
-------------------------------------------------------------------------------
   14 Chrysene                                         CAS #: 218-01-9
19.973  19.973  (0.000) VWD1A    235022                     80.00- 120.00   100.00
20.049  20.049  (0.000) ADC1A   2246392 5.00000      5.0 764.66-1146.99   955.82
-------------------------------------------------------------------------------
   15 Benzo(b)Fluoranthene                             CAS #: 205-99-2
21.360  21.360  (0.000) VWD1A    201837 5.00000      5.0  80.00- 120.00   100.00
21.433  21.433  (0.000) ADC1A    222524                     88.20- 132.30   110.25
-------------------------------------------------------------------------------
   16 Benzo(k)Fluoranthene                             CAS #: 207-08-9
22.066  22.066  (0.000) VWD1A    183061 5.00000      5.1  80.00- 120.00   100.00
22.139  22.139  (0.000) ADC1A    564063                   246.50- 369.75   308.13
-------------------------------------------------------------------------------
   17 Benzo(a)pyrene                                   CAS #: 50-32-8
22.700  22.700  (0.000) VWD1A    183999                     80.00- 120.00   100.00
22.774  22.774  (0.000) ADC1A   1408286 5.00000      4.9 612.30- 918.45   765.38
-------------------------------------------------------------------------------
```

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.763	23.763	(0.000)	VWD1A	41419			80.00- 120.00	100.00
23.838	23.838	(0.000)	ADC1A	1558353	5.00000	5.0	3009.93-4514.89	3762.41
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.450	24.450	(0.000)	VWD1A	73761	5.00000	5.0	80.00- 120.00	100.00
24.526	24.526	(0.000)	ADC1A	500241			542.55- 813.83	678.19
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
25.033	25.033	(0.000)	VWD1A	234426	5.00000	5.0		

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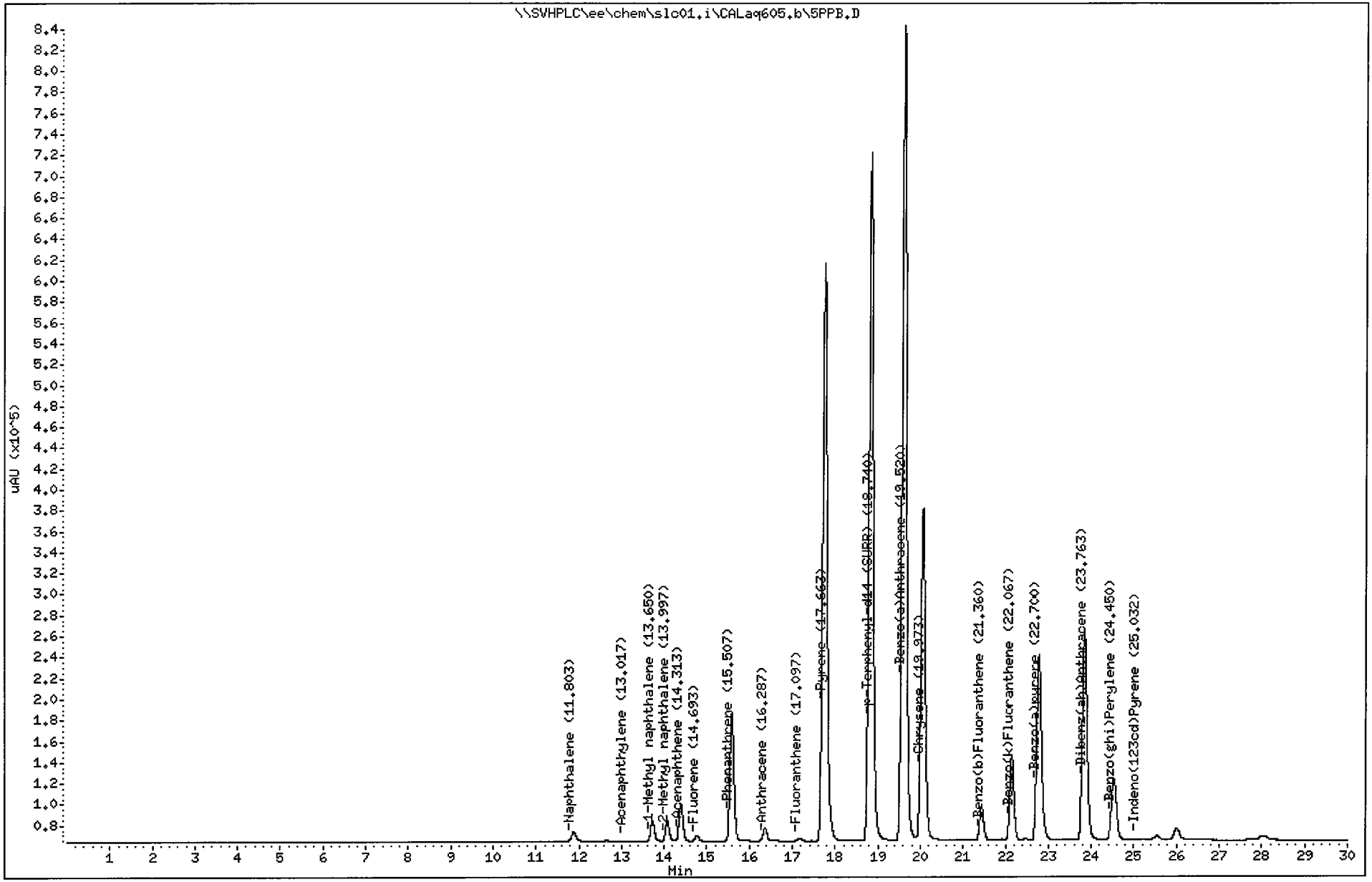
Sample Info: sv4944
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



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Cal Date : 05-JUN-2002 17:46 Cal File: 30PPB.D
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Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene							CAS #: 91-20-3	
11.803	11.803	(0.000)	VWD1A	4577	1.00000	1.0	80.00- 120.00	100.00
11.879	11.879	(0.000)	ADC1A	9067			158.48- 237.72	198.10
3 Acenaphthylene							CAS #: 208-96-8	
13.010	13.010	(0.000)	VWD1A	4312	1.00000	1.2		
4 1-Methyl naphthalene							CAS #: 90-12-0	
13.640	13.640	(0.000)	VWD1A	3101			80.00- 120.00	100.00
13.712	13.712	(0.000)	ADC1A	17324	1.00000	0.60	446.93- 670.39	558.66
5 2-Methyl naphthalene							CAS #: 91-57-6	
13.990	13.990	(0.000)	VWD1A	4394	1.00000	1.1	80.00- 120.00	100.00
14.059	14.059	(0.000)	ADC1A	15622			284.42- 426.64	355.53

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.306	14.306	(0.000)	VWD1A	2070			80.00- 120.00	100.00
14.382	14.382	(0.000)	ADC1A	33019	1.00000	0.65	1276.10-1914.14	1595.12
7 Fluorene							CAS #: 86-73-7	
14.686	14.686	(0.000)	VWD1A	22982	1.00000	1.0		
8 Phenanthrene							CAS #: 85-01-8	
15.503	15.503	(0.000)	VWD1A	72351			80.00- 120.00	100.00
15.574	15.574	(0.000)	ADC1A	143365	1.00000	0.84	158.52- 237.78	198.15
9 Anthracene							CAS #: 120-12-7	
16.283	16.283	(0.000)	VWD1A	182470	1.00000	1.1	80.00- 120.00	100.00
16.360	16.360	(0.000)	ADC1A	14990			6.57- 9.86	8.22
10 Fluoranthene							CAS #: 206-44-0	
17.093	17.093	(0.000)	VWD1A	17606	1.00000	1.1		
11 Pyrene							CAS #: 129-00-0	
17.663	17.663	(0.000)	VWD1A	13632	1.00000	1.0	80.00- 120.00	100.00
17.735	17.735	(0.000)	ADC1A	787644			4622.32-6933.49	5777.90
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.736	18.736	(0.000)	VWD1A	13957	1.00000	1.1	80.00- 120.00	100.00
18.812	18.812	(0.000)	ADC1A	915768			5249.08-7873.62	6561.35
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.520	19.520	(0.000)	VWD1A	39507	1.00000	1.1	80.00- 120.00	100.00
19.592	19.592	(0.000)	ADC1A	1090422			2208.06-3312.09	2760.07
14 Chrysene							CAS #: 218-01-9	
19.973	19.973	(0.000)	VWD1A	47766			80.00- 120.00	100.00
20.047	20.047	(0.000)	ADC1A	432706	1.00000	0.97	724.71-1087.06	905.89
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.356	21.356	(0.000)	VWD1A	40436	1.00000	1.0	80.00- 120.00	100.00
21.430	21.430	(0.000)	ADC1A	31577			62.47- 93.71	78.09
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.063	22.063	(0.000)	VWD1A	39656	1.00000	1.1	80.00- 120.00	100.00
22.137	22.137	(0.000)	ADC1A	96988			195.66- 293.49	244.57
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.690	22.690	(0.000)	VWD1A	36672			80.00- 120.00	100.00
22.765	22.765	(0.000)	ADC1A	261306	1.00000	0.91	570.04- 855.06	712.55

```
                                          AMOUNTS
                                        CAL-AMT   ON-COL
   RT   EXP RT  DLT RT  SIGNAL RESPONSE (ug/ml)  (ug/ml)   TARGET RANGE    RATIO
   ==   ====== ======== ====== ======== =======  =======   ============    =====

   18 Dibenz(ah)Anthracene                          CAS #: 53-70-3
23.743  23.743  (0.000) VWD1A      8759                     80.00- 120.00   100.00
23.819  23.819  (0.000) ADC1A    290815 1.00000     0.92 2656.15-3984.22  3320.18
-------------------------------------------------------------------------------
   19 Benzo(ghi)Perylene                            CAS #: 191-24-2
24.433  24.433  (0.000) VWD1A     15020 1.00000      1.0  80.00- 120.00   100.00
24.502  24.502  (0.000) ADC1A     81950                   436.48- 654.73   545.61
-------------------------------------------------------------------------------
   20 Indeno(123cd)Pyrene                           CAS #: 193-39-5
25.016  25.016  (0.000) VWD1A     48107 1.00000      1.0
-------------------------------------------------------------------------------
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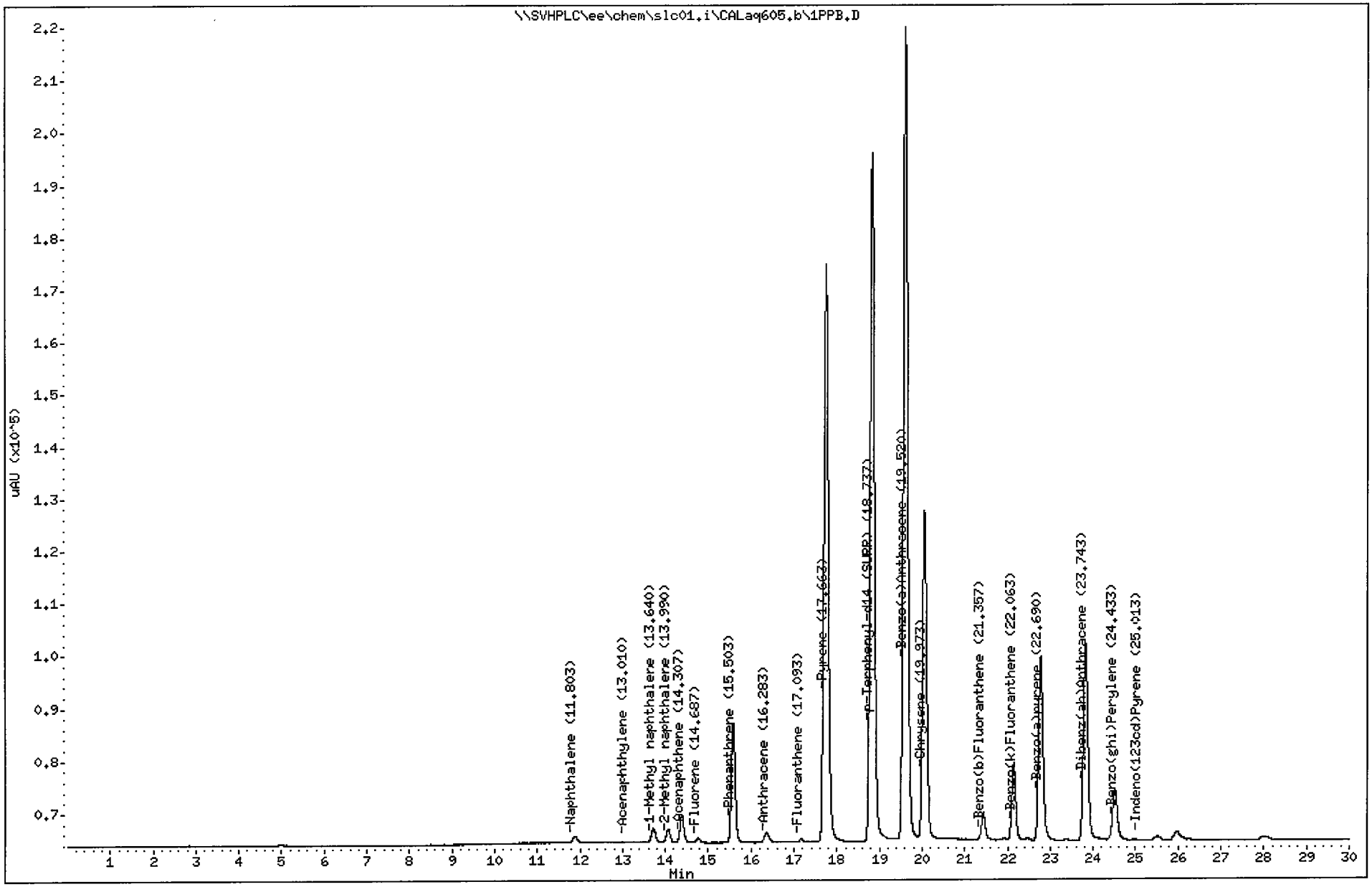
Data File: \\SVHPLC\ee\chem\slc01.i\CALaq605.b\1PPB.D
Date : 05-JUN-2002 20:39
Client ID: 1PPB
Sample Info: sv4945
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\200PPT.D
Lab Smp Id: sv4946 Client Smp ID: 200PPT
Inj Date : 05-JUN-2002 21:13
Operator : Scott Inst ID: slc01.i
Smp Info : sv4946
Misc Info :
Comment :
Method : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\8310AE.m
Meth Date : 17-Jun-2002 12:01 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 7 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.806	11.806	(0.000)	VWD1A	962	0.20000	0.21	80.00- 120.00	100.00(M) TS
11.803	11.803	(0.000)	ADC1A	0			0.00- 0.00	0.00
3 Acenaphthylene						CAS #: 208-96-8		
13.000	13.000	(0.000)	VWD1A	691	0.20000	0.19		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.643	13.643	(0.000)	VWD1A	544			80.00- 120.00	100.00(aM) TS
13.723	13.723	(0.000)	ADC1A	2737	0.20000	0.095	402.50- 603.75	503.13
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.993	13.993	(0.000)	VWD1A	958	0.20000	0.23	80.00- 120.00	100.00
14.076	14.076	(0.000)	ADC1A	3167			264.47- 396.70	330.58

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.303	14.303	(0.0)	VWD1A	407			80.00- 120.00	100.00(aM) TS
14.390	14.390	(0.0)	ADC1A	6315	0.20000	0.12	1241.28-1861.92	1551.60
7 Fluorene							CAS #: 86-73-7	
14.693	14.693	(0.0)	VWD1A	4573	0.20000	0.20		
8 Phenanthrene							CAS #: 85-01-8	
15.506	15.506	(0.0)	VWD1A	13379			80.00- 120.00	100.00(aM) TS
15.578	15.578	(0.0)	ADC1A	18741	0.20000	0.11	112.06- 168.09	140.08
9 Anthracene							CAS #: 120-12-7	
16.283	16.283	(0.0)	VWD1A	35882	0.20000	0.22	80.00- 120.00	100.00
16.361	16.361	(0.0)	ADC1A	5723			12.76- 19.14	15.95
10 Fluoranthene							CAS #: 206-44-0	
17.093	17.093	(0.0)	VWD1A	3674	0.20000	0.22		
11 Pyrene							CAS #: 129-00-0	
17.670	17.670	(0.0)	VWD1A	2673	0.20000	0.20	80.00- 120.00	100.00
17.736	17.736	(0.0)	ADC1A	134176			4015.74-6023.61	5019.68
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.743	18.743	(0.0)	VWD1A	2979	0.20000	0.23	80.00- 120.00	100.00
18.818	18.818	(0.0)	ADC1A	168599			4527.67-6791.50	5659.58
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.523	19.523	(0.0)	VWD1A	7555	0.20000	0.21	80.00- 120.00	100.00(M) TS
19.601	19.601	(0.0)	ADC1A	199283			2110.21-3165.32	2637.76
14 Chrysene							CAS #: 218-01-9	
19.983	19.983	(0.0)	VWD1A	9762			80.00- 120.00	100.00
20.055	20.055	(0.0)	ADC1A	68433	0.20000	0.15	560.81- 841.22	701.01
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.373	21.373	(0.0)	VWD1A	7835	0.20000	0.20	80.00- 120.00	100.00(M) TS
21.446	21.446	(0.0)	ADC1A	5888			60.12- 90.18	75.15
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.083	22.083	(0.0)	VWD1A	10336	0.20000	0.29	80.00- 120.00	100.00
22.155	22.155	(0.0)	ADC1A	14923			115.50- 173.25	144.38
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.720	22.720	(0.0)	VWD1A	7034			80.00- 120.00	100.00
22.791	22.791	(0.0)	ADC1A	36566	0.20000	0.13	415.88- 623.82	519.85

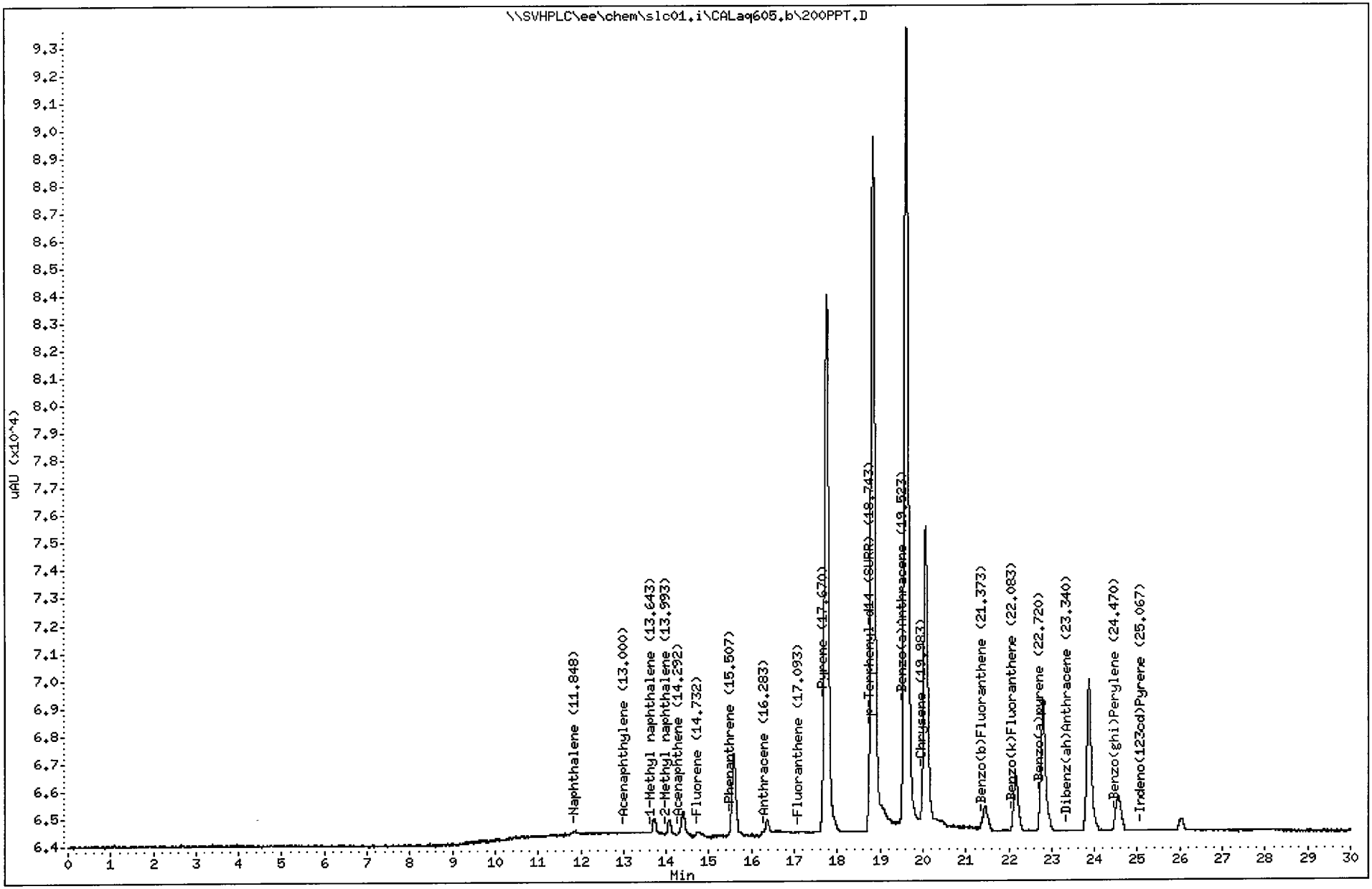
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO	
18 Dibenz(ah)Anthracene						CAS #: 53-70-3			
23.340	23.340	(0.000)	VWD1A	13023			80.00- 120.00	100.00	(aM) TS
23.868	23.868	(0.000)	ADC1A	40792	0.20000	0.13	250.58- 375.88	313.23	
19 Benzo(ghi)Perylene						CAS #: 191-24-2			
24.470	24.470	(0.000)	VWD1A	3307	0.20000	0.22	80.00- 120.00	100.00	
24.541	24.541	(0.000)	ADC1A	11720			283.52- 425.28	354.40	
20 Indeno(123cd)Pyrene						CAS #: 193-39-5			
25.066	25.066	(0.000)	VWD1A	8978	0.20000	0.19			(M) TS

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\SVHPLC\ee\chem\slc01.i\CALaq605.b\200PPT.D
Date : 05-JUN-2002 21:13
Client ID: 200PPT
Sample Info: sv4946
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\SECCCV.D
Lab Smp Id: sv4948 Client Smp ID: SECCCV
Inj Date : 05-JUN-2002 21:48
Operator : Scott Inst ID: slc01.i
Smp Info : sv4948
Misc Info :
Comment :
Method : \\SVHPLC\ee\chem\slc01.i\CALaq605.b\8310AE.m
Meth Date : 17-Jun-2002 12:01 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 8 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

AMOUNTS

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.806	11.806	(0.000)	VWD1A	71782	15.0000	15.8	80.00- 120.00	100.00(M) TS
11.881	11.881	(0.000)	ADC1A	226157			252.05- 378.07	315.06
3 Acenaphthylene						CAS #: 208-96-8		
13.020	13.020	(0.000)	VWD1A	54477	15.0000	14.9		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.650	13.650	(0.000)	VWD1A	45932			80.00- 120.00	100.00
13.724	13.724	(0.000)	ADC1A	447664	15.0000	15.5	779.70-1169.55	974.62
5 2-Methyl naphthalene						CAS #: 91-57-6		
13.996	13.996	(0.000)	VWD1A	62079	15.0000	15.1	80.00- 120.00	100.00
14.071	14.071	(0.000)	ADC1A	398911			514.07- 771.10	642.59

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                                          AMOUNTS
                                        CAL-AMT   ON-COL
   RT   EXP RT  DLT RT  SIGNAL RESPONSE (ug/ml)  (ug/ml)   TARGET RANGE    RATIO
   ==   ====== ======== ====== ======== =======  =======   ============    =====

    6 Acenaphthene                                  CAS #: 83-32-9
14.313  14.313  (0.000) VWD1A     27200                     80.00- 120.00   100.00
14.387  14.387  (0.000) ADC1A    772700 15.0000     15.1 2272.65-3408.97  2840.81
-------------------------------------------------------------------------------
    7 Fluorene                                      CAS #: 86-73-7
14.693  14.693  (0.000) VWD1A    346972 15.0000     15.4
-------------------------------------------------------------------------------
    8 Phenanthrene                                  CAS #: 85-01-8
15.506  15.506  (0.000) VWD1A   1081927                     80.00- 120.00   100.00(M) TS
15.582  15.582  (0.000) ADC1A   2570425 15.0000     15.1 190.06- 285.09   237.58
-------------------------------------------------------------------------------
    9 Anthracene                                    CAS #: 120-12-7
16.286  16.286  (0.000) VWD1A   2525002 15.0000     15.4  80.00- 120.00   100.00(M) TS
16.361  16.361  (0.000) ADC1A    239974                      7.60-  11.40     9.50
-------------------------------------------------------------------------------
   10 Fluoranthene                                  CAS #: 206-44-0
17.096  17.096  (0.000) VWD1A    243021 15.0000     14.8                          (M) TS
-------------------------------------------------------------------------------
   11 Pyrene                                        CAS #: 129-00-0
17.666  17.666  (0.000) VWD1A    184240 15.0000     14.1  80.00- 120.00   100.00(M) TS
17.741  17.741  (0.000) ADC1A  12200939                   5297.85-7946.77  6622.31
-------------------------------------------------------------------------------
$  12 p-Terphenyl-d14 (SURR)                        CAS #: 1718-51-0
18.743  18.743  (0.000) VWD1A    186946 15.0000     14.7  80.00- 120.00   100.00(M) TS
18.821  18.821  (0.000) ADC1A  13870608                   5935.66-8903.50  7419.58
-------------------------------------------------------------------------------
   13 Benzo(a)Anthracene                            CAS #: 56-55-3
19.526  19.526  (0.000) VWD1A    547936 15.0000     15.1  80.00- 120.00   100.00(M) TS
19.614  19.614  (0.000) ADC1A  15581158                   2274.89-3412.33  2843.61
-------------------------------------------------------------------------------
   14 Chrysene                                      CAS #: 218-01-9
19.980  19.980  (0.000) VWD1A    695225                     80.00- 120.00   100.00(M) TS
20.052  20.052  (0.000) ADC1A   6761398 15.0000     15.1 778.04-1167.06   972.55
-------------------------------------------------------------------------------
   15 Benzo(b)Fluoranthene                          CAS #: 205-99-2
21.363  21.363  (0.000) VWD1A    612195 15.0000     15.2  80.00- 120.00   100.00(M) TS
21.439  21.439  (0.000) ADC1A    707720                     92.48- 138.72   115.60
-------------------------------------------------------------------------------
   16 Benzo(k)Fluoranthene                          CAS #: 207-08-9
22.066  22.066  (0.000) VWD1A    551479 15.0000     15.3  80.00- 120.00   100.00(M) TS
22.144  22.144  (0.000) ADC1A   1754173                   254.47- 381.70   318.09
-------------------------------------------------------------------------------
   17 Benzo(a)pyrene                                CAS #: 50-32-8
22.700  22.700  (0.000) VWD1A    556914                     80.00- 120.00   100.00(M) TS
23.827  23.827  (0.000) ADC1A   4797446 15.0000     16.7 689.15-1033.72   861.43
-------------------------------------------------------------------------------
```

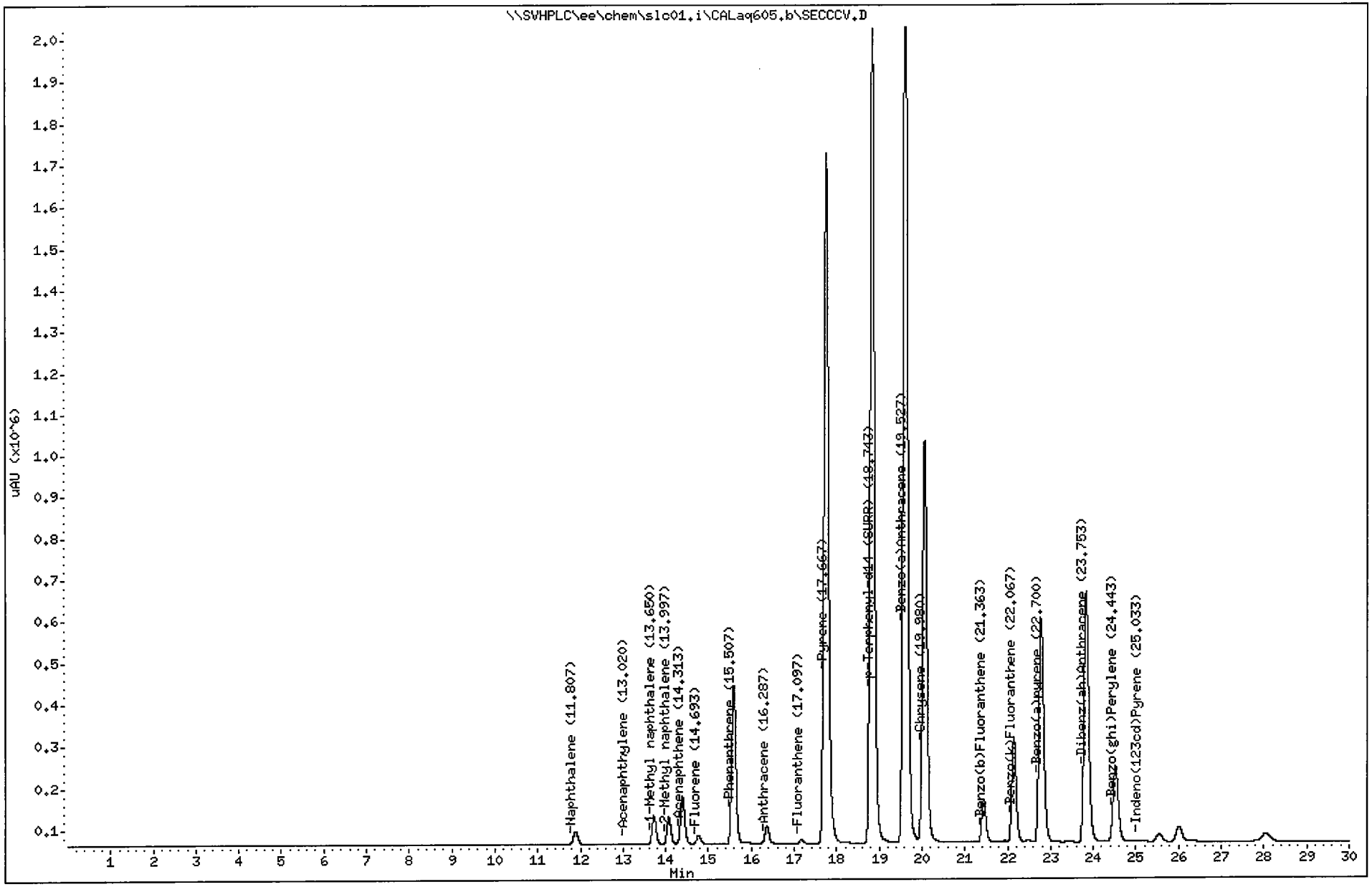
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO	
18 Dibenz(ah)Anthracene						CAS #: 53-70-3			
23.753	23.753	(0.000)	VWD1A	123214			80.00- 120.00	100.00	(M) TB
23.827	23.827	(0.000)	ADC1A	4785953	15.0000	15.2	3107.41-4661.11	3884.26	
19 Benzo(ghi)Perylene						CAS #: 191-24-2			
24.443	24.443	(0.000)	VWD1A	222904	15.0000	15.1	80.00- 120.00	100.00	(M) TB
24.521	24.521	(0.000)	ADC1A	1575822			565.56- 848.34	706.95	
20 Indeno(123cd)Pyrene						CAS #: 193-39-5			
25.023	25.023	(0.000)	VWD1A	704619	15.0000	15.2			(M) TB

QC Flag Legend

M - Compound response manually integrated.

Data File: \\SVHPLC\ee\chem\slc01.i\CALaq605.b\SECCCV.D
Date : 05-JUN-2002 21:48
Client ID: SECCCV
Sample Info: sv4948
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\CCV12.D
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Inj Date : 13-JUN-2002 12:40
Operator : Scott Inst ID: slc01.i
Smp Info : SV4942
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.890	11.890	(0.000)	VWD1A	69909	15.0000	15.4	80.00- 120.00	100.00
11.963	11.963	(0.000)	ADC1A	236884			271.08- 406.62	338.85
3 Acenaphthylene						CAS #: 208-96-8		
13.100	13.100	(0.000)	VWD1A	56504	15.0000	15.4		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.730	13.730	(0.000)	VWD1A	43227			80.00- 120.00	100.00
13.804	13.804	(0.000)	ADC1A	435064	15.0000	15.1	805.17-1207.76	1006.46
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.076	14.076	(0.000)	VWD1A	62010	15.0000	15.0	80.00- 120.00	100.00
14.151	14.151	(0.000)	ADC1A	404166			521.42- 782.13	651.78

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.393	14.393	(0.000)	VWD1A	26619			80.00- 120.00	100.00
14.469	14.469	(0.000)	ADC1A	759795	15.0000	14.9	2283.47-3425.20	2854.33
7 Fluorene							CAS #: 86-73-7	
14.773	14.773	(0.000)	VWD1A	338176	15.0000	15.0		
8 Phenanthrene							CAS #: 85-01-8	
15.583	15.583	(0.000)	VWD1A	1095385			80.00- 120.00	100.00
15.661	15.661	(0.000)	ADC1A	2521068	15.0000	14.8	184.12- 276.18	230.15
9 Anthracene							CAS #: 120-12-7	
16.353	16.353	(0.000)	VWD1A	2609927	15.0000	16.0	80.00- 120.00	100.00
16.428	16.428	(0.000)	ADC1A	319046			9.78- 14.67	12.22
10 Fluoranthene							CAS #: 206-44-0	
17.160	17.160	(0.000)	VWD1A	249593	15.0000	15.2		
11 Pyrene							CAS #: 129-00-0	
17.720	17.720	(0.000)	VWD1A	213717	15.0000	16.4	80.00- 120.00	100.00
17.793	17.793	(0.000)	ADC1A	11490940			4301.37-6452.05	5376.71
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.776	18.776	(0.000)	VWD1A	195214	15.0000	15.3	80.00- 120.00	100.00
18.851	18.851	(0.000)	ADC1A	13793017			5652.47-8478.71	7065.59
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.563	19.563	(0.000)	VWD1A	549512	15.0000	15.1	80.00- 120.00	100.00
19.651	19.651	(0.000)	ADC1A	15688325			2283.96-3425.95	2854.96
14 Chrysene							CAS #: 218-01-9	
20.013	20.013	(0.000)	VWD1A	694699			80.00- 120.00	100.00
20.086	20.086	(0.000)	ADC1A	6806349	15.0000	15.2	783.80-1175.71	979.76
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.376	21.376	(0.000)	VWD1A	607025	15.0000	15.1	80.00- 120.00	100.00
21.451	21.451	(0.000)	ADC1A	731485			96.40- 144.60	120.50
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.073	22.073	(0.000)	VWD1A	551476	15.0000	15.3	80.00- 120.00	100.00
22.149	22.149	(0.000)	ADC1A	1750739			253.97- 380.96	317.46
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.733	22.733	(0.000)	VWD1A	555790			80.00- 120.00	100.00
22.813	22.813	(0.000)	ADC1A	4293263	15.0000	15.0	617.97- 926.95	772.46

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene							CAS #: 53-70-3	
23.803	23.803	(0.000)	VWD1A	123282			80.00- 120.00	100.00
23.879	23.879	(0.000)	ADC1A	4714572	15.0000	15.0	3059.37-4589.06	3824.22
19 Benzo(ghi)Perylene							CAS #: 191-24-2	
24.483	24.483	(0.000)	VWD1A	222210	15.0000	15.1	80.00- 120.00	100.00
24.558	24.558	(0.000)	ADC1A	1540444			554.59- 831.89	693.24
20 Indeno(123cd)Pyrene							CAS #: 193-39-5	
25.046	25.046	(0.000)	VWD1A	706000	15.0000	15.2		

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\CCV12.D

Date : 13-JUN-2002 12:40

Client ID: CCV12

Instrument: slc01.i

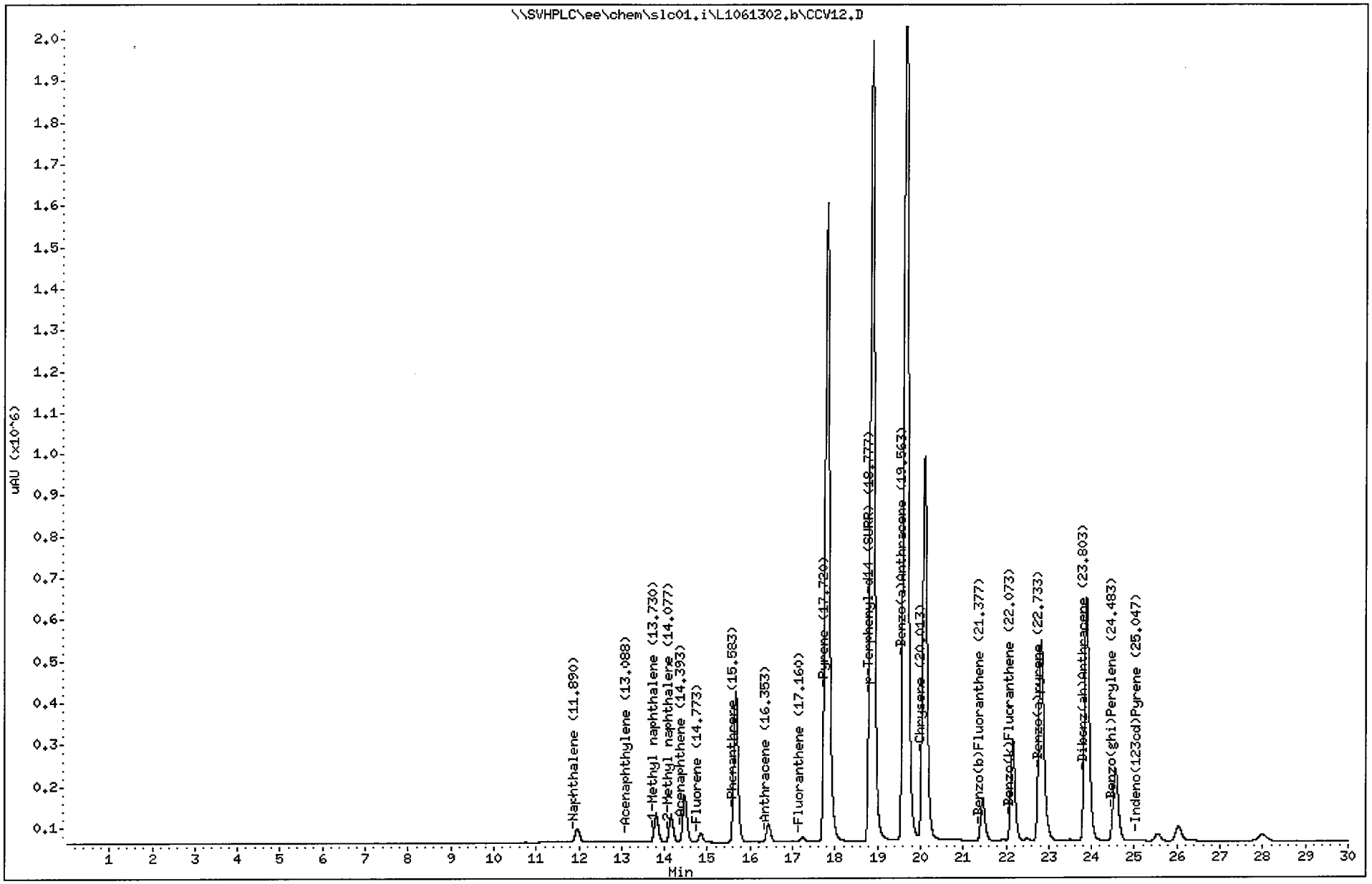
Sample Info: SV4942

Purge Volume: 1000.0

Operator: Scott

Column phase: Wydac 201TP54

Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLK.D
Lab Smp Id: 70995 Client Smp ID: 612BLK
Inj Date : 13-JUN-2002 13:15
Operator : Scott Inst ID: slc01.i
Smp Info : 70995
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.730	18.776	(-0.046)	VWD1A	218000	17.1219	17.1	80.00- 120.00	100.00
18.812	18.851	(-0.039)	ADC1A	15248997			5652.47-8478.71	6994.95

PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\612LCS.D
Lab Smp Id: 70996 Client Smp ID: 612LCS
Inj Date : 13-JUN-2002 13:49
Operator : Scott Inst ID: slc01.i
Smp Info : 70996
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

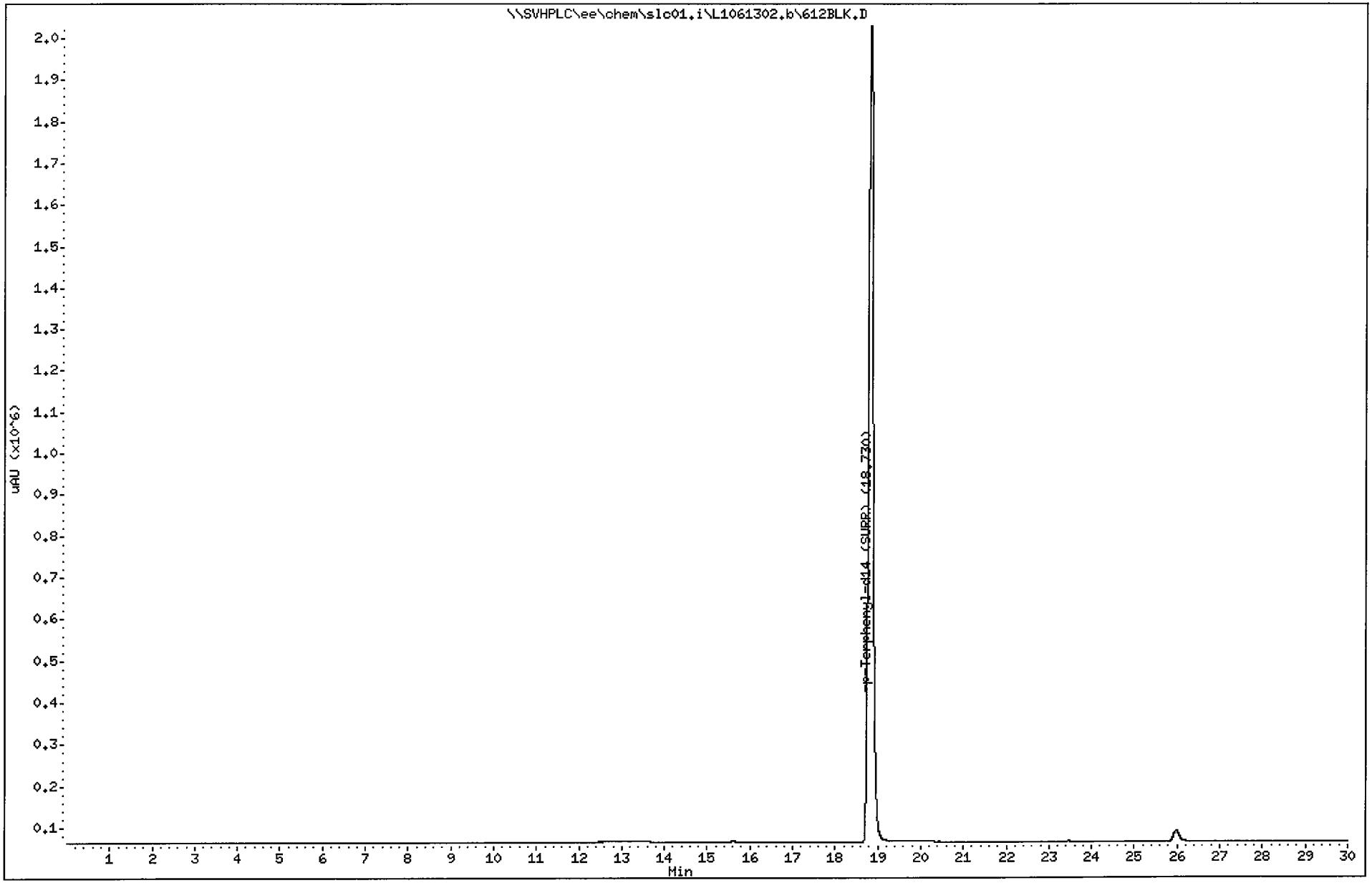
Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.840	11.890	(-0.050)	VWD1A	24099	5.30225	5.3	80.00- 120.00	100.00
11.915	11.963	(-0.048)	ADC1A	66287			271.08- 406.62	275.06
3 Acenaphthylene						CAS #: 208-96-8		
13.046	13.100	(-0.054)	VWD1A	20935	5.72561	5.7		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.673	13.730	(-0.057)	VWD1A	15882			80.00- 120.00	100.00
13.748	13.804	(-0.056)	ADC1A	137137	4.76101	4.8	805.17-1207.76	863.47
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.020	14.076	(-0.056)	VWD1A	22268	5.40262	5.4	80.00- 120.00	100.00
14.096	14.151	(-0.055)	ADC1A	126607			521.42- 782.13	568.56

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLK.D
Date : 13-JUN-2002 13:15
Client ID: 612BLK
Sample Info: 70995
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60

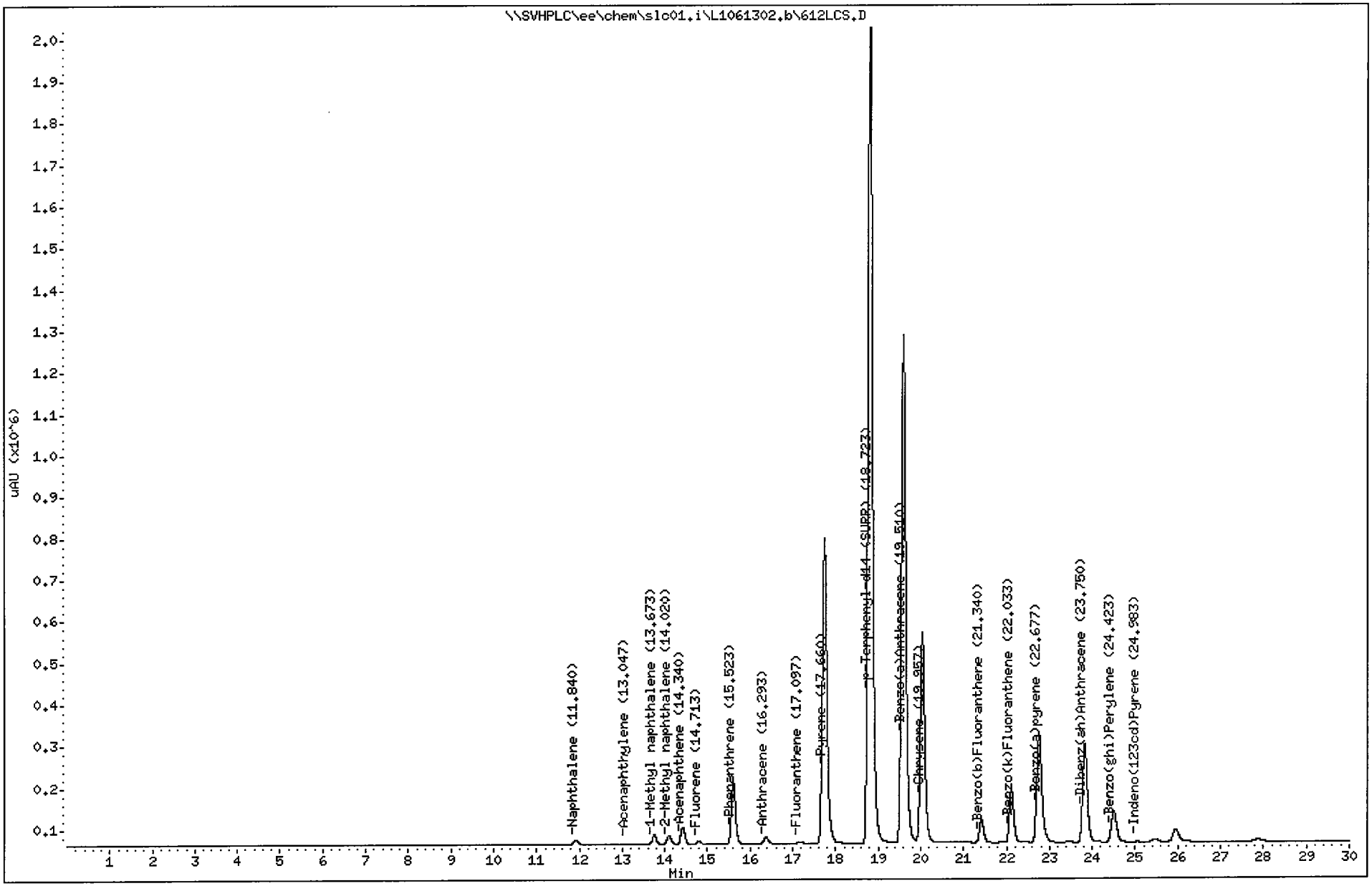


RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
6 Acenaphthene						CAS #: 83-32-9		
14.340	14.393	(-0.053)	VWD1A	10212			80.00- 120.00	100.00
14.411	14.469	(-0.058)	ADC1A	266672	5.21947	5.2	2283.47-3425.20	2611.36
7 Fluorene						CAS #: 86-73-7		
14.713	14.773	(-0.060)	VWD1A	129653	5.76110	5.8		
8 Phenanthrene						CAS #: 85-01-8		
15.523	15.583	(-0.060)	VWD1A	450170			80.00- 120.00	100.00
15.598	15.661	(-0.063)	ADC1A	1009393	5.92756	5.9	184.12- 276.18	224.22
9 Anthracene						CAS #: 120-12-7		
16.293	16.353	(-0.060)	VWD1A	1067933	6.53042	6.5	80.00- 120.00	100.00
16.366	16.428	(-0.062)	ADC1A	112951			9.78- 14.67	10.58
10 Fluoranthene						CAS #: 206-44-0		
17.096	17.160	(-0.064)	VWD1A	114538	6.97736	7.0		
11 Pyrene						CAS #: 129-00-0		
17.660	17.720	(-0.060)	VWD1A	98608	7.56230	7.6	80.00- 120.00	100.00
17.731	17.793	(-0.062)	ADC1A	5459176			4301.37-6452.05	5536.24
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.723	18.776	(-0.053)	VWD1A	208350	16.3640	16.4	80.00- 120.00	100.00
18.795	18.851	(-0.056)	ADC1A	14645166			5652.47-8478.71	7029.12
13 Benzo(a)Anthracene						CAS #: 56-55-3		
19.510	19.563	(-0.053)	VWD1A	297101	8.18907	8.2	80.00- 120.00	100.00
19.583	19.651	(-0.068)	ADC1A	8834618			2283.96-3425.95	2973.61
14 Chrysene						CAS #: 218-01-9		
19.956	20.013	(-0.057)	VWD1A	382606			80.00- 120.00	100.00
20.031	20.086	(-0.055)	ADC1A	3692615	8.25803	8.2	783.80-1175.71	965.12
15 Benzo(b)Fluoranthene						CAS #: 205-99-2		
21.340	21.376	(-0.036)	VWD1A	329944	8.21737	8.2	80.00- 120.00	100.00
21.413	21.451	(-0.038)	ADC1A	378170			96.40- 144.60	114.62
16 Benzo(k)Fluoranthene						CAS #: 207-08-9		
22.033	22.073	(-0.040)	VWD1A	295263	8.21614	8.2	80.00- 120.00	100.00
22.110	22.149	(-0.039)	ADC1A	913073			253.97- 380.96	309.24
17 Benzo(a)pyrene						CAS #: 50-32-8		
22.676	22.733	(-0.057)	VWD1A	302699			80.00- 120.00	100.00
22.755	22.813	(-0.058)	ADC1A	2234730	7.79421	7.8	617.97- 926.95	738.27

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.750	23.803	(-0.053)	VWD1A	56482			80.00- 120.00	100.00
23.820	23.879	(-0.059)	ADC1A	1857187	5.90435	5.9	3059.37-4589.06	3288.10
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.423	24.483	(-0.060)	VWD1A	97547	6.61441	6.6	80.00- 120.00	100.00
24.500	24.558	(-0.058)	ADC1A	645730			554.59- 831.89	661.97
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.983	25.046	(-0.063)	VWD1A	319076	6.87424	6.9		

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\612LCS.D
Date : 13-JUN-2002 13:49
Client ID: 612LCS
Sample Info: 70996
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLKMS.D
Lab Smp Id: 70997 Client Smp ID: 612BLKMS
Inj Date : 13-JUN-2002 14:24
Operator : Scott Inst ID: slc01.i
Smp Info : 70997
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 3 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.830	11.890	(-0.060)	VWD1A	26000	5.72051	5.7	80.00- 120.00	100.00(Q)
11.903	11.963	(-0.060)	ADC1A	69106			271.08- 406.62	265.79
3 Acenaphthylene						CAS #: 208-96-8		
13.040	13.100	(-0.060)	VWD1A	22858	6.25154	6.2		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.670	13.730	(-0.060)	VWD1A	16848			80.00- 120.00	100.00
13.743	13.804	(-0.061)	ADC1A	149703	5.19727	5.2	805.17-1207.76	888.55
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.016	14.076	(-0.060)	VWD1A	23880	5.79372	5.8	80.00- 120.00	100.00
14.093	14.151	(-0.058)	ADC1A	136650			521.42- 782.13	572.24

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
6 Acenaphthene						CAS #: 83-32-9		
14.333	14.393	(-0.060)	VWD1A	10952			80.00- 120.00	100.00
14.411	14.469	(-0.058)	ADC1A	287225	5.62174	5.6	2283.47-3425.20	2622.58
7 Fluorene						CAS #: 86-73-7		
14.713	14.773	(-0.060)	VWD1A	139199	6.18528	6.2		
8 Phenanthrene						CAS #: 85-01-8		
15.520	15.583	(-0.063)	VWD1A	468724			80.00- 120.00	100.00
15.596	15.661	(-0.065)	ADC1A	1048231	6.15563	6.2	184.12- 276.18	223.64
9 Anthracene						CAS #: 120-12-7		
16.290	16.353	(-0.063)	VWD1A	1121444	6.85764	6.8	80.00- 120.00	100.00
16.366	16.428	(-0.062)	ADC1A	117874			9.78- 14.67	10.51
10 Fluoranthene						CAS #: 206-44-0		
17.093	17.160	(-0.067)	VWD1A	108445	6.60619	6.6		
11 Pyrene						CAS #: 129-00-0		
17.656	17.720	(-0.064)	VWD1A	96247	7.38124	7.4	80.00- 120.00	100.00
17.730	17.793	(-0.063)	ADC1A	5104525			4301.37-6452.05	5303.57
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.720	18.776	(-0.056)	VWD1A	204832	16.0877	16.1	80.00- 120.00	100.00
18.795	18.851	(-0.056)	ADC1A	14442578			5652.47-8478.71	7050.94
13 Benzo(a)Anthracene						CAS #: 56-55-3		
19.503	19.563	(-0.060)	VWD1A	295751	8.15186	8.2	80.00- 120.00	100.00
19.580	19.651	(-0.071)	ADC1A	8790671			2283.96-3425.95	2972.32
14 Chrysene						CAS #: 218-01-9		
19.950	20.013	(-0.063)	VWD1A	378919			80.00- 120.00	100.00(M) TS
20.026	20.086	(-0.060)	ADC1A	3682002	8.23429	8.2	783.80-1175.71	971.71
15 Benzo(b)Fluoranthene						CAS #: 205-99-2		
21.330	21.376	(-0.046)	VWD1A	321896	8.01693	8.0	80.00- 120.00	100.00
21.405	21.451	(-0.046)	ADC1A	366564			96.40- 144.60	113.88
16 Benzo(k)Fluoranthene						CAS #: 207-08-9		
22.023	22.073	(-0.050)	VWD1A	277525	7.72255	7.7	80.00- 120.00	100.00
22.100	22.149	(-0.049)	ADC1A	863007			253.97- 380.96	310.97
17 Benzo(a)pyrene						CAS #: 50-32-8		
22.666	22.733	(-0.067)	VWD1A	280477			80.00- 120.00	100.00
22.741	22.813	(-0.072)	ADC1A	2142771	7.47348	7.5	617.97- 926.95	763.97

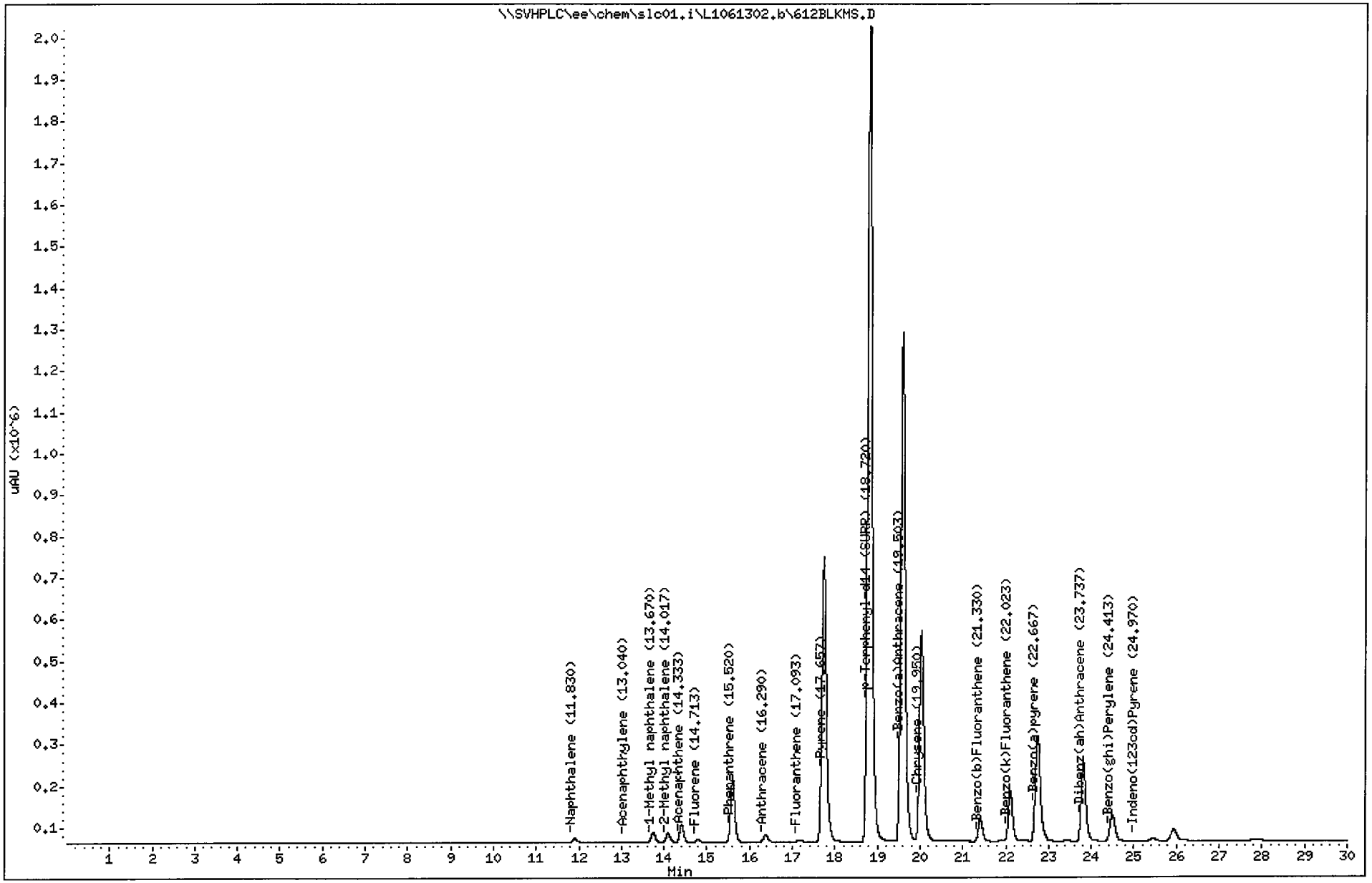
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.736	23.803	(-0.067)	VWD1A	39821			80.00- 120.00	100.00
23.813	23.879	(-0.066)	ADC1A	1491169	4.74071	4.7	3059.37-4589.06	3744.68
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.413	24.483	(-0.070)	VWD1A	81197	5.50576	5.5	80.00- 120.00	100.00
24.493	24.558	(-0.065)	ADC1A	542039			554.59- 831.89	667.56
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.970	25.046	(-0.076)	VWD1A	274475	5.91335	5.9		

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLKMS.D
Date : 13-JUN-2002 14:24
Client ID: 612BLKMS
Sample Info: 70997
Purge Volume: 1000.0
Column phase: Wydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLKSD.D
Lab Smp Id: 70998 Client Smp ID: 612BLKMSD
Inj Date : 13-JUN-2002 14:58
Operator : Scott Inst ID: slc01.i
Smp Info : 70998
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 4 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.843	11.890	(-0.047)	VWD1A	24127	5.30841	5.3	80.00- 120.00	100.00(Q)
11.920	11.963	(-0.043)	ADC1A	63060			271.08- 406.62	261.37
3 Acenaphthylene						CAS #: 208-96-8		
13.050	13.100	(-0.050)	VWD1A	20749	5.67474	5.7		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.680	13.730	(-0.050)	VWD1A	15828			80.00- 120.00	100.00
13.755	13.804	(-0.049)	ADC1A	137706	4.78077	4.8	805.17-1207.76	870.02
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.026	14.076	(-0.050)	VWD1A	22202	5.38660	5.4	80.00- 120.00	100.00
14.102	14.151	(-0.049)	ADC1A	127541			521.42- 782.13	574.46

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
6 Acenaphthene						CAS #: 83-32-9		
14.343	14.393	(-0.050)	VWD1A	10247			80.00- 120.00	100.00
14.418	14.469	(-0.051)	ADC1A	267985	5.24517	5.2	2283.47-3425.20	2615.25
7 Fluorene						CAS #: 86-73-7		
14.720	14.773	(-0.053)	VWD1A	128701	5.71880	5.7		
8 Phenanthrene						CAS #: 85-01-8		
15.526	15.583	(-0.057)	VWD1A	437857			80.00- 120.00	100.00
15.605	15.661	(-0.056)	ADC1A	984327	5.78036	5.8	184.12- 276.18	224.81
9 Anthracene						CAS #: 120-12-7		
16.296	16.353	(-0.057)	VWD1A	1066278	6.52030	6.5	80.00- 120.00	100.00
16.375	16.428	(-0.053)	ADC1A	110940			9.78- 14.67	10.40
10 Fluoranthene						CAS #: 206-44-0		
17.103	17.160	(-0.057)	VWD1A	104766	6.38207	6.4		
11 Pyrene						CAS #: 129-00-0		
17.666	17.720	(-0.054)	VWD1A	90159	6.91434	6.9	80.00- 120.00	100.00
17.740	17.793	(-0.053)	ADC1A	4979334			4301.37-6452.05	5522.84
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.733	18.776	(-0.043)	VWD1A	201137	15.7975	15.8	80.00- 120.00	100.00
18.808	18.851	(-0.043)	ADC1A	14256121			5652.47-8478.71	7087.77
13 Benzo(a)Anthracene						CAS #: 56-55-3		
19.516	19.563	(-0.047)	VWD1A	286084	7.88541	7.9	80.00- 120.00	100.00
19.592	19.651	(-0.059)	ADC1A	8536671			2283.96-3425.95	2983.97
14 Chrysene						CAS #: 218-01-9		
19.960	20.013	(-0.053)	VWD1A	371257			80.00- 120.00	100.00
20.035	20.086	(-0.051)	ADC1A	3587342	8.02260	8.0	783.80-1175.71	966.27
15 Benzo(b)Fluoranthene						CAS #: 205-99-2		
21.336	21.376	(-0.040)	VWD1A	319122	7.94784	7.9	80.00- 120.00	100.00
21.415	21.451	(-0.036)	ADC1A	366458			96.40- 144.60	114.83
16 Benzo(k)Fluoranthene						CAS #: 207-08-9		
22.030	22.073	(-0.043)	VWD1A	288638	8.03178	8.0	80.00- 120.00	100.00
22.107	22.149	(-0.042)	ADC1A	896316			253.97- 380.96	310.53
17 Benzo(a)pyrene						CAS #: 50-32-8		
22.666	22.733	(-0.067)	VWD1A	280116			80.00- 120.00	100.00(M)
22.742	22.813	(-0.071)	ADC1A	2179793	7.60260	7.6	617.97- 926.95	778.18

TS

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.730	23.803	(-0.073)	VWD1A	49912			80.00- 120.00	100.00
23.808	23.879	(-0.071)	ADC1A	1867378	5.93675	5.9	3059.37-4589.06	3741.34
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.406	24.483	(-0.077)	VWD1A	96960	6.57460	6.6	80.00- 120.00	100.00
24.483	24.558	(-0.075)	ADC1A	657420			554.59- 831.89	678.03
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.963	25.046	(-0.083)	VWD1A	317956	6.85011	6.8		

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\612BLKSD.D

Date : 13-JUN-2002 14:58

Client ID: 612BLKMSD

Instrument: slc01.i

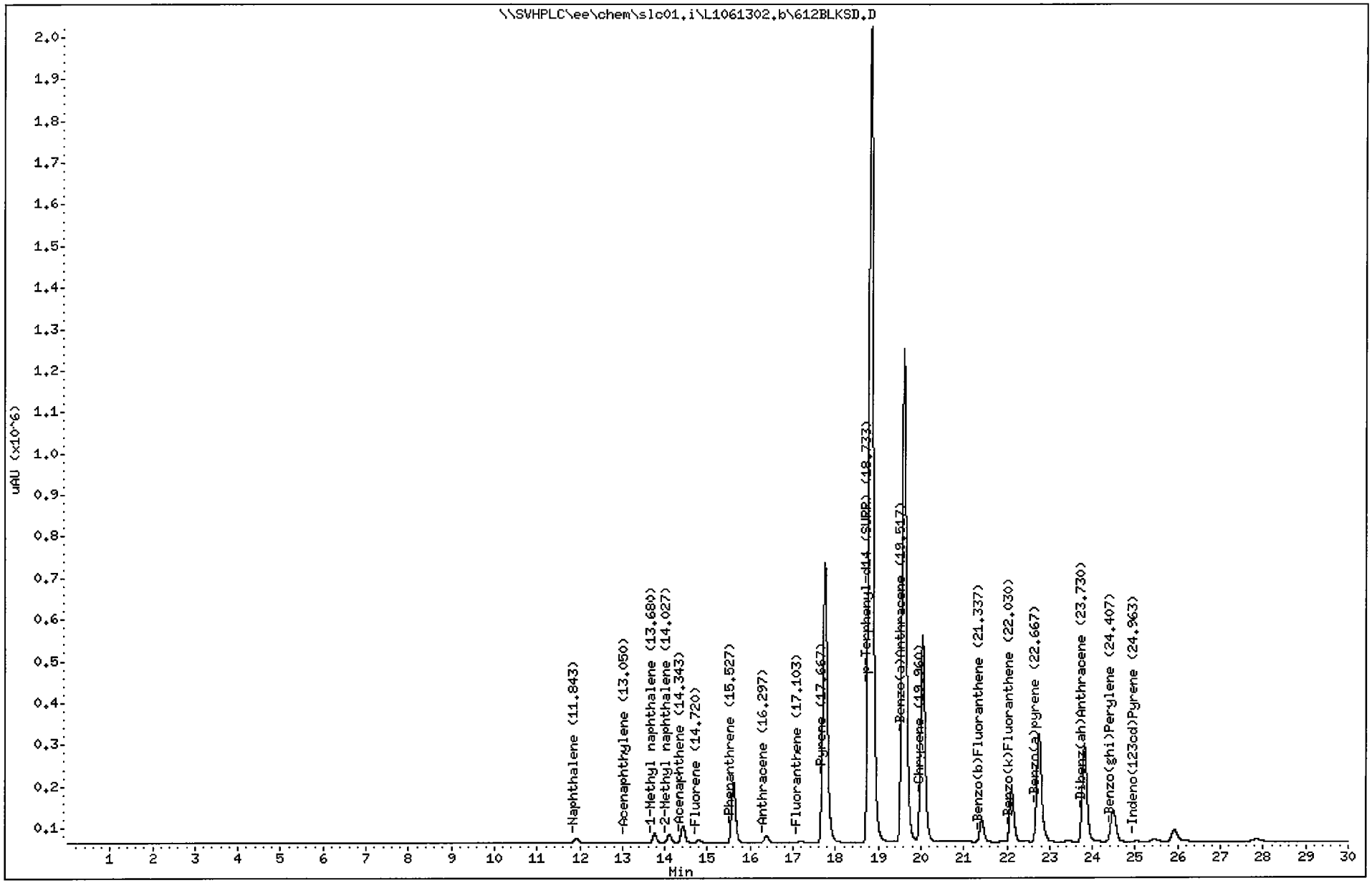
Sample Info: 70998

Purge Volume: 1000.0

Operator: Scott

Column phase: Vydac 201TP54

Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-1.D
Lab Smp Id: 220419701 Client Smp ID: MW9Q20229
Inj Date : 13-JUN-2002 15:33
Operator : Scott Inst ID: slc01.i
Smp Info : 220419701
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

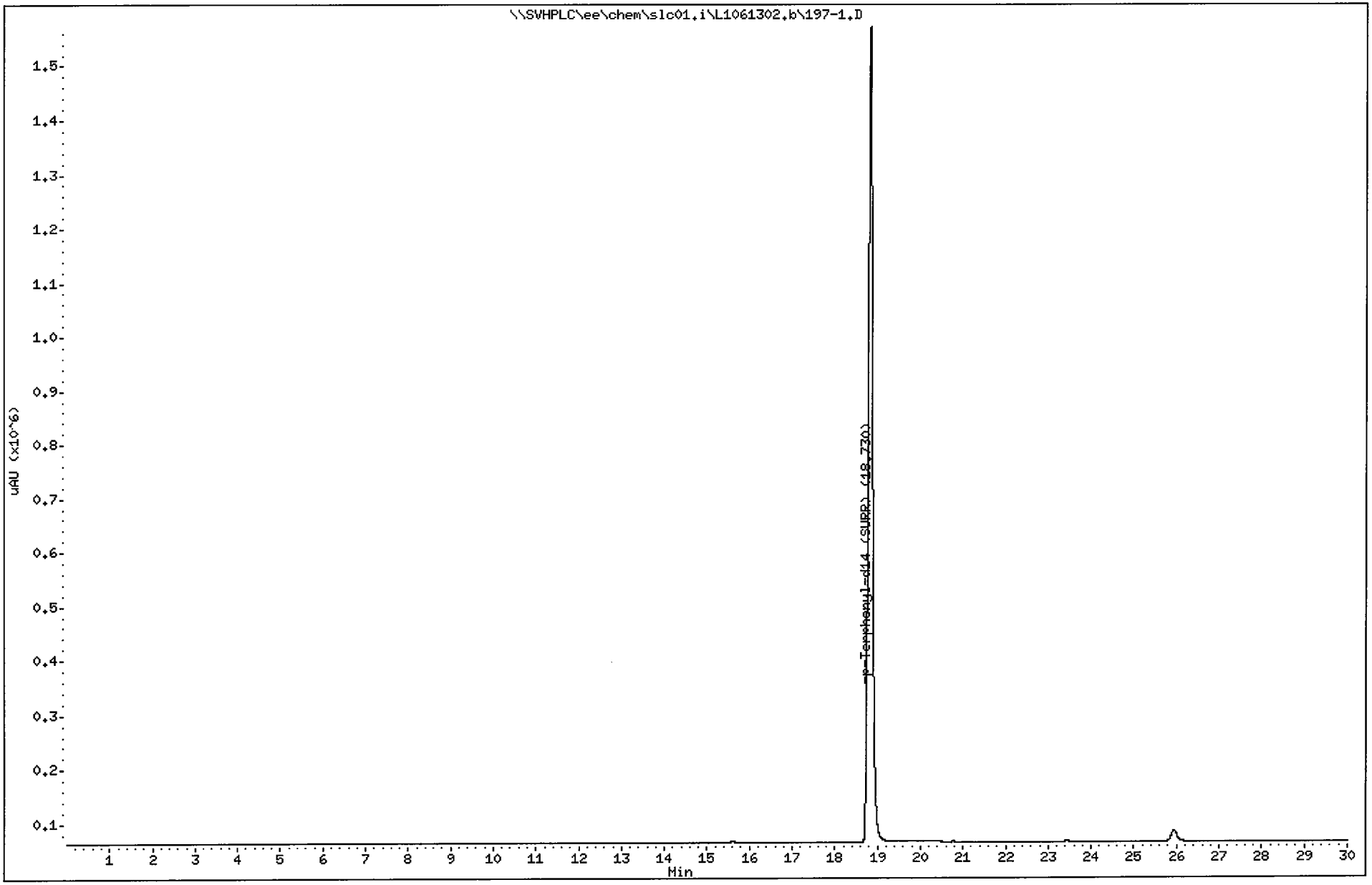
Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	940.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.730	18.776	(-0.046)	VWD1A	147427	11.5790	12.3	80.00- 120.00	100.00
18.805	18.851	(-0.046)	ADC1A	10671113			5652.47-8478.71	7238.24

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-1.D
Date : 13-JUN-2002 15:33
Client ID: MW9Q20229
Sample Info: 220419701
Purge Volume: 950.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-2.D
Lab Smp Id: 220419702 Client Smp ID: VEW2Q20229
Inj Date : 13-JUN-2002 16:07
Operator : Scott Inst ID: slc01.i
Smp Info : 220419702
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: lowcalwrl.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	960.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO	
3 Acenaphthylene						CAS #: 208-96-8			
12.983	13.100	(-0.117)	VWD1A	1920	0.52511	0.55			(M) TS
5 2-Methyl naphthalene						CAS #: 91-57-6			
14.076	14.076	(0.000)	VWD1A	1841	0.44666	0.46	80.00- 120.00	100.00	(QM) TS
14.111	14.151	(-0.040)	ADC1A	1626			521.42- 782.13	88.32	
8 Phenanthrene						CAS #: 85-01-8			
15.510	15.583	(-0.073)	VWD1A	22819			80.00- 120.00	100.00	(QM) TS
15.587	15.661	(-0.074)	ADC1A	69510	0.40819	0.42	184.12- 276.18	304.61	
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0			
18.716	18.776	(-0.060)	VWD1A	183358	14.4011	15.0	80.00- 120.00	100.00	
18.792	18.851	(-0.059)	ADC1A	13281897			5652.47-8478.71	7243.70	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-2.D

Date : 13-JUN-2002 16:07

Client ID: VEW2Q20229

Instrument: slc01.i

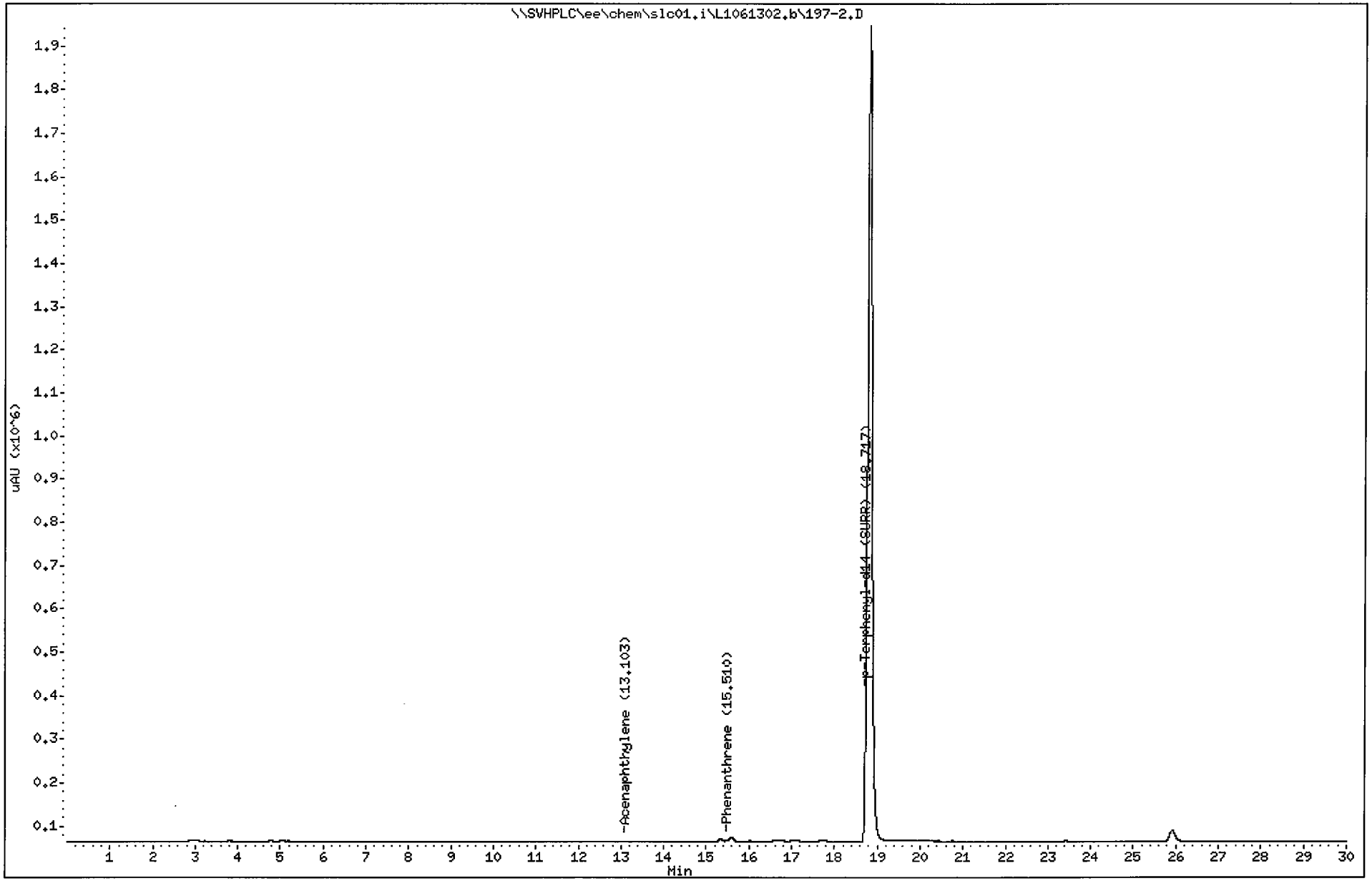
Sample Info: 220419702

Purge Volume: 955.0

Operator: Scott

Column phase: Vydac 201TP54

Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-3.D
Lab Smp Id: 220419703 Client Smp ID: VEW7Q20229
Inj Date : 13-JUN-2002 16:42
Operator : Scott Inst ID: slc01.i
Smp Info : 220419703
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	960.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.713	18.776	(-0.063)	VWD1A	188892	14.8357	15.4	80.00- 120.00	100.00
18.791	18.851	(-0.060)	ADC1A	13572416			5652.47-8478.71	7185.28

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-3.D

Date : 13-JUN-2002 16:42

Client ID: VEW7Q20229

Instrument: slc01.i

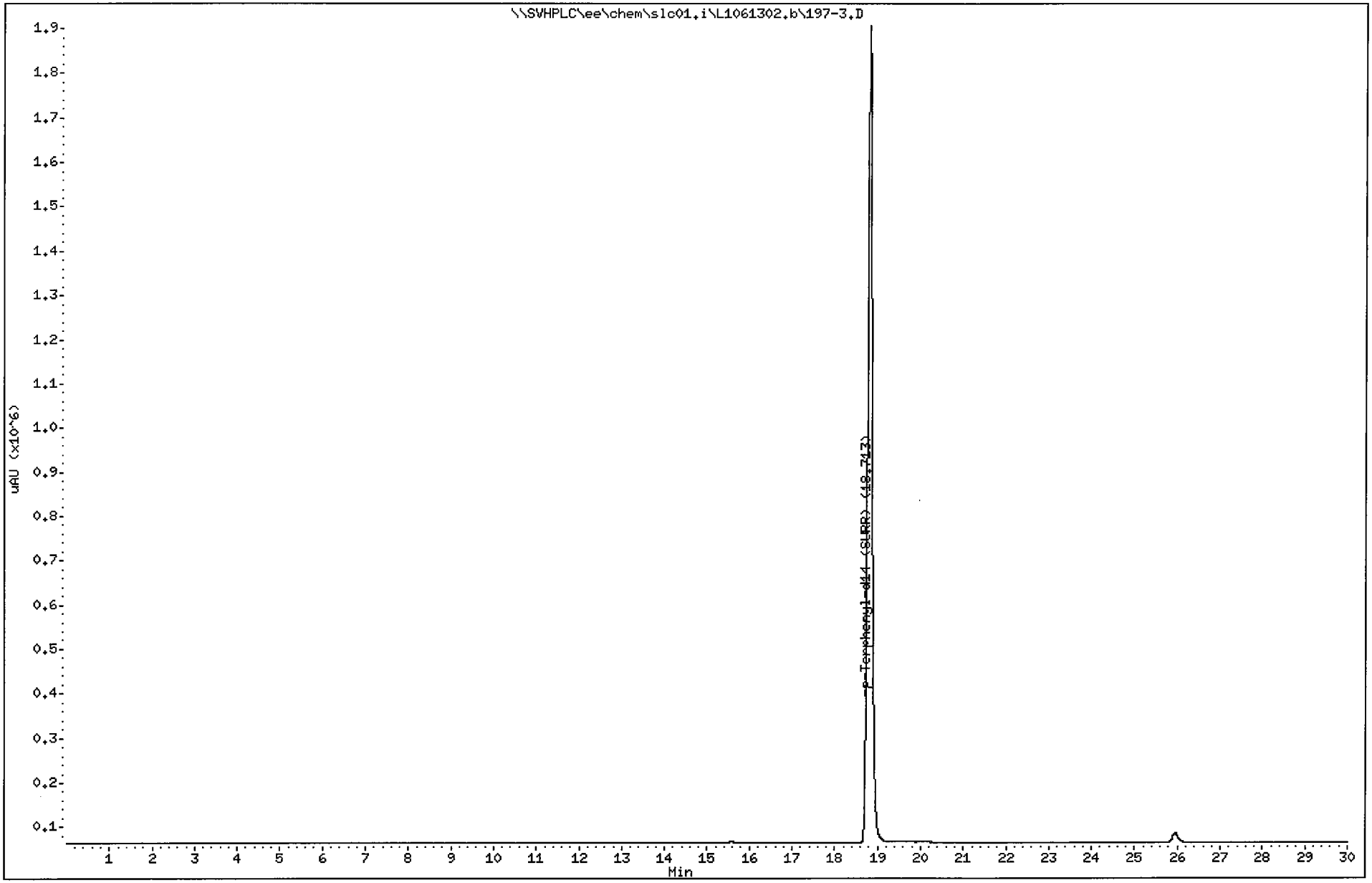
Sample Info: 220419703

Purge Volume: 960.0

Operator: Scott

Column phase: Vydac 201TP54

Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-4.D
Lab Smp Id: 220419704 Client Smp ID: VEW8Q20229
Inj Date : 13-JUN-2002 17:17
Operator : Scott Inst ID: slc01.i
Smp Info : 220419704
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	950.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	CONCENTRATIONS FINAL (ug/l)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.830	11.890	(-0.060)	VWD1A	9234	2.03166	2.1	80.00- 120.00	100.00(Q)
11.903	11.963	(-0.060)	ADC1A	23127			271.08- 406.62	250.45
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.666	13.730	(-0.064)	VWD1A	5805			80.00- 120.00	100.00(Q)
13.738	13.804	(-0.066)	ADC1A	43670	1.51610	1.6	805.17-1207.76	752.28
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.013	14.076	(-0.063)	VWD1A	7714	1.87155	2.0	80.00- 120.00	100.00(Q)
14.085	14.151	(-0.066)	ADC1A	30365			521.42- 782.13	393.63
8 Phenanthrene						CAS #: 85-01-8		
15.506	15.583	(-0.077)	VWD1A	12776			80.00- 120.00	100.00(Q)
15.578	15.661	(-0.083)	ADC1A	47509	0.27899	0.29	184.12- 276.18	371.86

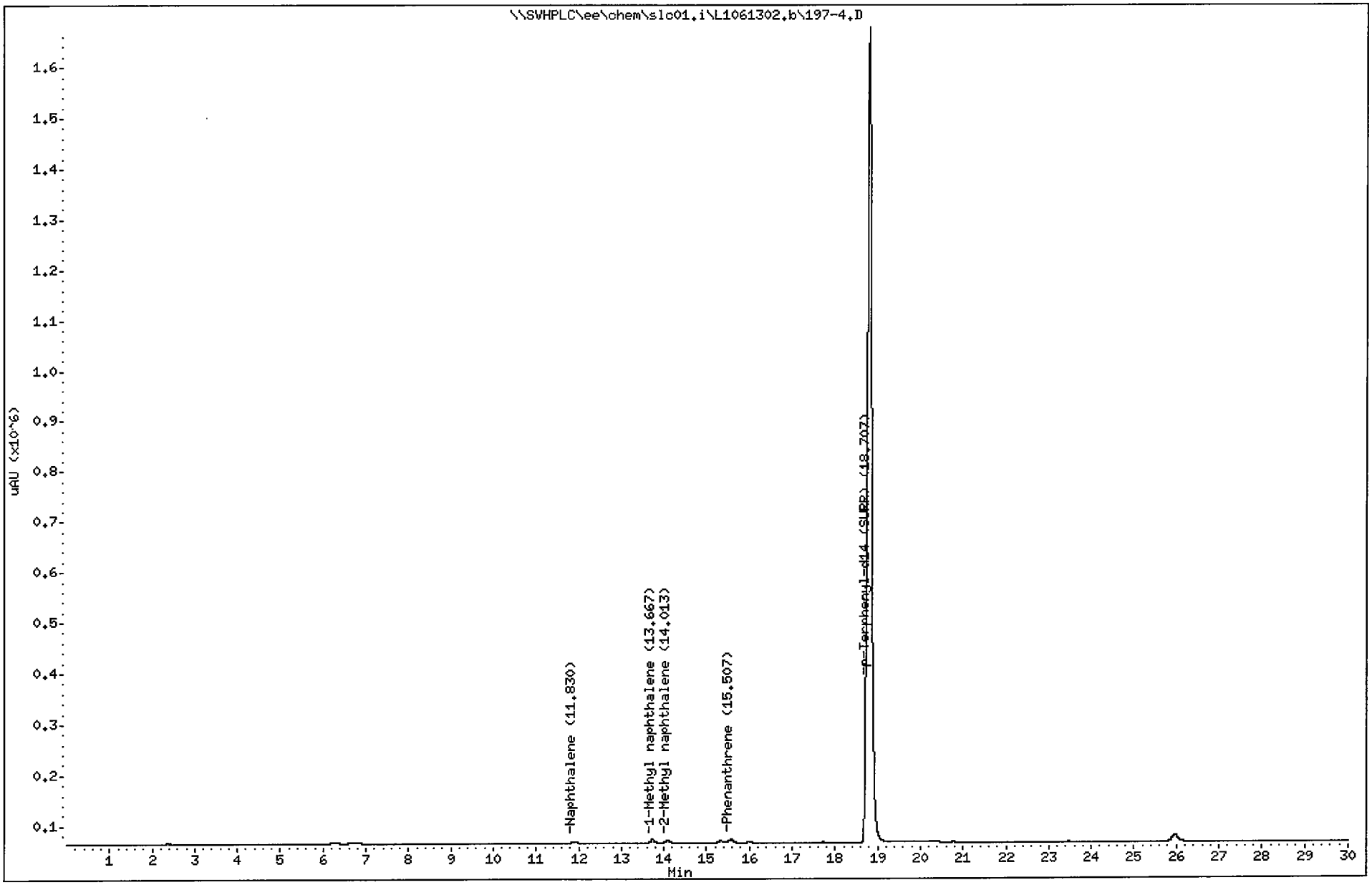
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.706	18.776	(-0.070)	VWD1A	159163	12.5008	13.2	80.00- 120.00	100.00
18.780	18.851	(-0.071)	ADC1A	11469219			5652.47-8478.71	7205.96

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-4.D
Date : 13-JUN-2002 17:17
Client ID: VEW8Q20229
Sample Info: 220419704
Purge Volume: 960.0
Column phase: Wydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-6.D
Lab Smp Id: 220419706 Client Smp ID: DUPQ20229
Inj Date : 13-JUN-2002 17:51
Operator : Scott Inst ID: slc01.i
Smp Info : 220419706
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 11:59 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	950.000	Volume Extracted
Vt	1.000	Final Volume

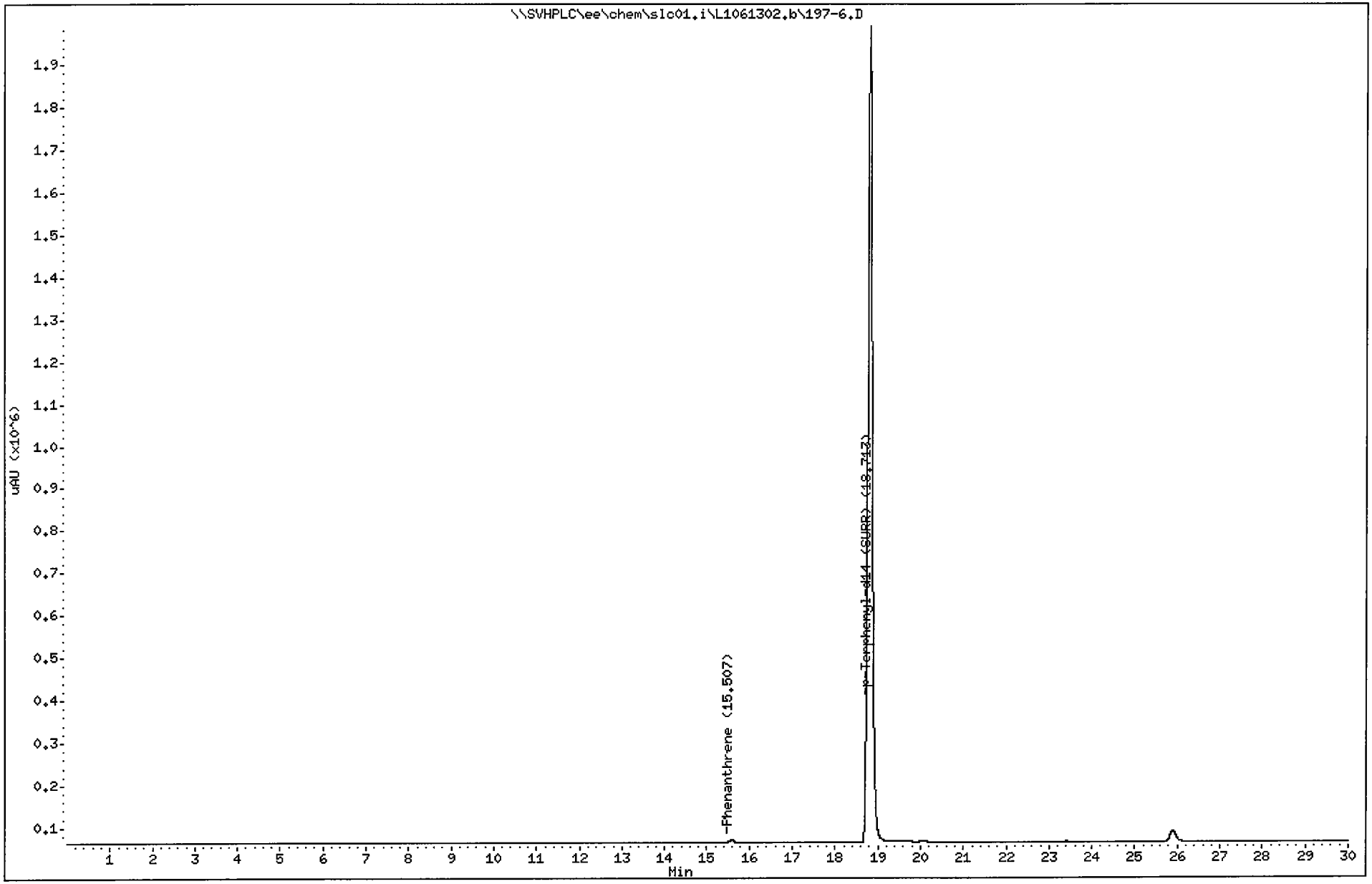
RT	EXP RT	DLT RT	SIGNAL	RESPONSE	CONCENTRATIONS ON-COL (ug/ml)	FINAL (ug/l)	TARGET RANGE	RATIO
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.086	14.076	(0.010)	VWD1A	1361	0.33020	0.35	80.00- 120.00	100.00(Q)
14.034	14.151	(-0.117)	ADC1A	245			521.42- 782.13	18.00
$ 12 p-Terphenyl-d14 (SURR)						CAS #: 1718-51-0		
18.713	18.776	(-0.063)	VWD1A	190732	14.9803	15.8	80.00- 120.00	100.00
18.789	18.851	(-0.062)	ADC1A	13695293			5652.47-8478.71	7180.39

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\197-6.D
Date : 13-JUN-2002 17:51
Client ID: DUPQ20229
Sample Info: 220419706
Purge Volume: 950.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60



PEL Laboratories, Inc.

Data file : \\SVHPLC\ee\chem\slc01.i\L1061302.b\CCV21.D
Lab Smp Id: SV4942 Client Smp ID: CCV21
Inj Date : 13-JUN-2002 19:00
Operator : Scott Inst ID: slc01.i
Smp Info : SV4942
Misc Info :
Comment :
Method : \\Svhplc\ee\chem\slc01.i\L1061302.b\8310AE.m
Meth Date : 17-Jun-2002 12:00 tscott Quant Type: ESTD
Cal Date : 05-JUN-2002 21:13 Cal File: 200PPT.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.04 Sample Matrix: WATER
Processing Host: SVHPLC

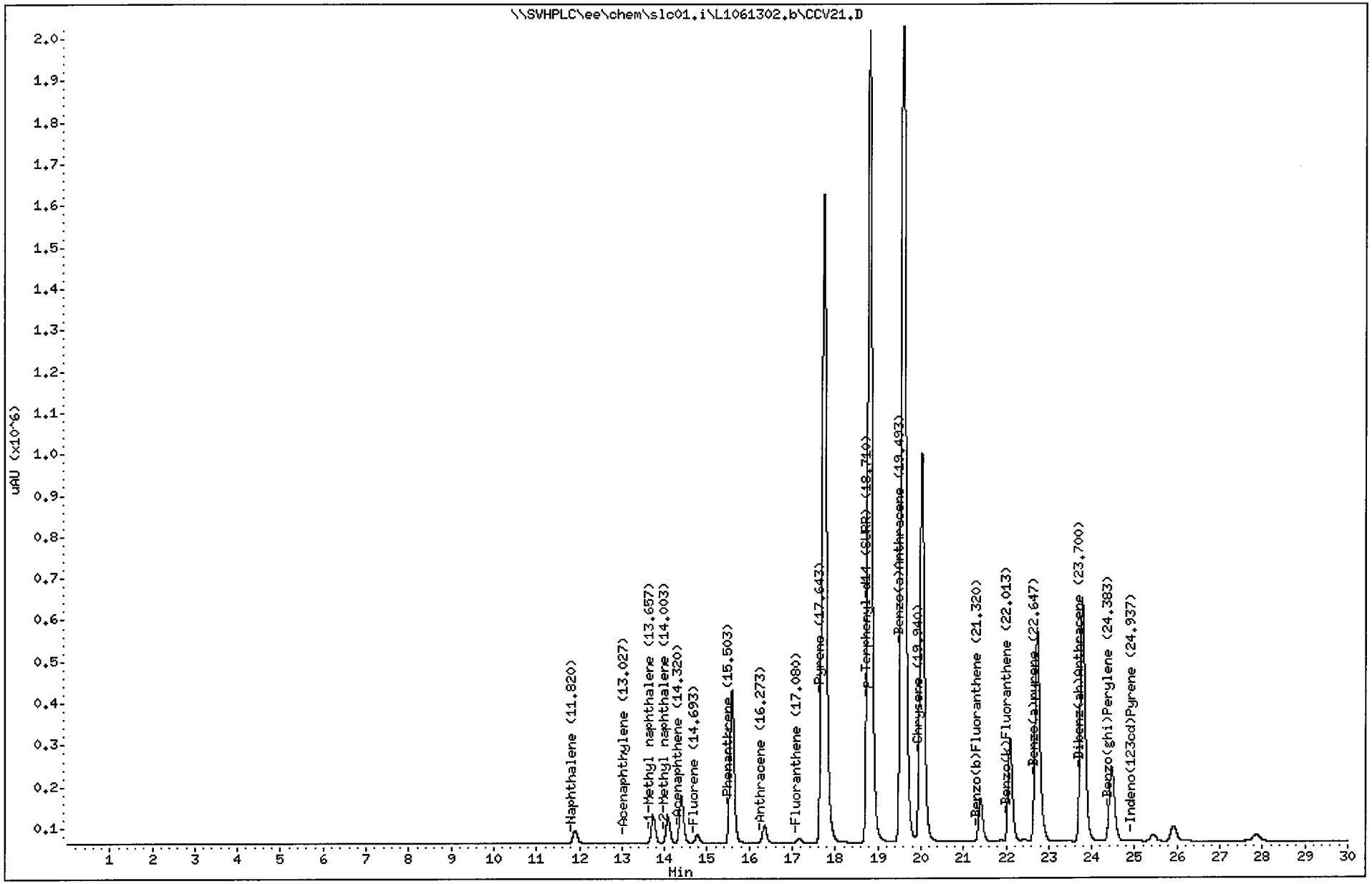
Concentration Formula: Amt * DF * 1/(Vo/1000)*Vt

Name	Value	Description
DF	1.000	Dilution Factor
Vo	1000.000	Volume Extracted
Vt	1.000	Final Volume

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
2 Naphthalene						CAS #: 91-20-3		
11.820	11.820	(0.000)	VWD1A	70716	15.0000	15.6	80.00- 120.00	100.00
11.895	11.895	(0.000)	ADC1A	223276			252.59- 378.88	315.74
3 Acenaphthylene						CAS #: 208-96-8		
13.026	13.026	(0.000)	VWD1A	55859	15.0000	15.3		
4 1-Methyl naphthalene						CAS #: 90-12-0		
13.656	13.656	(0.000)	VWD1A	43839			80.00- 120.00	100.00
13.731	13.731	(0.000)	ADC1A	422430	15.0000	14.7	770.88-1156.31	963.59
5 2-Methyl naphthalene						CAS #: 91-57-6		
14.003	14.003	(0.000)	VWD1A	62624	15.0000	15.2	80.00- 120.00	100.00
14.078	14.078	(0.000)	ADC1A	397897			508.30- 762.45	635.37

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
6 Acenaphthene							CAS #: 83-32-9	
14.320	14.320	(0.000)	VWD1A	26553			80.00- 120.00	100.00
14.393	14.393	(0.000)	ADC1A	755843	15.0000	14.8	2277.24-3415.85	2846.54
7 Fluorene							CAS #: 86-73-7	
14.693	14.693	(0.000)	VWD1A	342716	15.0000	15.2		
8 Phenanthrene							CAS #: 85-01-8	
15.503	15.503	(0.000)	VWD1A	1103087			80.00- 120.00	100.00
15.578	15.578	(0.000)	ADC1A	2537604	15.0000	14.9	184.04- 276.05	230.05
9 Anthracene							CAS #: 120-12-7	
16.273	16.273	(0.000)	VWD1A	2599512	15.0000	15.9	80.00- 120.00	100.00
16.348	16.348	(0.000)	ADC1A	284510			8.76- 13.13	10.94
10 Fluoranthene							CAS #: 206-44-0	
17.080	17.080	(0.000)	VWD1A	255814	15.0000	15.6		
11 Pyrene							CAS #: 129-00-0	
17.643	17.643	(0.000)	VWD1A	210705	15.0000	16.2	80.00- 120.00	100.00
17.716	17.716	(0.000)	ADC1A	11782342			4473.49-6710.24	5591.87
$ 12 p-Terphenyl-d14 (SURR)							CAS #: 1718-51-0	
18.710	18.710	(0.000)	VWD1A	195684	15.0000	15.4	80.00- 120.00	100.00
18.786	18.786	(0.000)	ADC1A	14058287			5747.34-8621.01	7184.18
13 Benzo(a)Anthracene							CAS #: 56-55-3	
19.493	19.493	(0.000)	VWD1A	553921	15.0000	15.3	80.00- 120.00	100.00
19.581	19.581	(0.000)	ADC1A	15889841			2294.89-3442.33	2868.61
14 Chrysene							CAS #: 218-01-9	
19.940	19.940	(0.000)	VWD1A	702529			80.00- 120.00	100.00
20.015	20.015	(0.000)	ADC1A	6828352	15.0000	15.3	777.57-1166.36	971.97
15 Benzo(b)Fluoranthene							CAS #: 205-99-2	
21.320	21.320	(0.000)	VWD1A	612002	15.0000	15.2	80.00- 120.00	100.00
21.396	21.396	(0.000)	ADC1A	731890			95.67- 143.51	119.59
16 Benzo(k)Fluoranthene							CAS #: 207-08-9	
22.013	22.013	(0.000)	VWD1A	554990	15.0000	15.4	80.00- 120.00	100.00
22.086	22.086	(0.000)	ADC1A	1789013			257.88- 386.82	322.35
17 Benzo(a)pyrene							CAS #: 50-32-8	
22.646	22.646	(0.000)	VWD1A	548972			80.00- 120.00	100.00
22.721	22.721	(0.000)	ADC1A	4254776	15.0000	14.8	620.04- 930.05	775.04

RT	EXP RT	DLT RT	SIGNAL	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	TARGET RANGE	RATIO
18 Dibenz(ah)Anthracene						CAS #: 53-70-3		
23.700	23.700	(0.000)	VWD1A	124756			80.00- 120.00	100.00
23.775	23.775	(0.000)	ADC1A	4742825	15.0000	15.1	3041.34-4562.02	3801.68
19 Benzo(ghi)Perylene						CAS #: 191-24-2		
24.383	24.383	(0.000)	VWD1A	223247	15.0000	15.1	80.00- 120.00	100.00
24.460	24.460	(0.000)	ADC1A	1577712			565.37- 848.05	706.71
20 Indeno(123cd)Pyrene						CAS #: 193-39-5		
24.936	24.936	(0.000)	VWD1A	709602	15.0000	15.3		

Data File: \\SVHPLC\ee\chem\slc01.i\L1061302.b\CCV21.D
Date : 13-JUN-2002 19:00
Client ID: CCV21
Sample Info: SV4942
Purge Volume: 1000.0
Column phase: Vydac 201TP54

Instrument: slc01.i
Operator: Scott
Column diameter: 4.60