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

7/1/2002

CH2MHILL CONSTRUCTORS INC

First Quarter 2002
Operations and Maintenance Status Report

Biosparging and Soil Vapor Extraction System
Day Tank 1 Site
January 1, 2002 – March 31, 2002

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

Naval Air Station Cecil Field
Jacksonville, Florida

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

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

Acronyms

ABB-ES	ABB Environmental Services, Inc.
acfh	actual cubic feet per hour
acfm	actual cubic feet per minute
AST	aboveground storage tank
bls	below land surface
CCI	CH2M HILL Constructors, Inc.
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CTO	Contract Task Order
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
GCTLs	groundwater cleanup target levels
J.A. Jones	J.A. Jones Environmental Services
LNAPL	light non-aqueous phase liquids
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
O&M	operation and maintenance
psi	pounds per square inch
RAP	Remedial Action Plan
SVOAs	semivolatile organic aromatics
VCS	vapor collection system
VEW	vapor extraction well
VOAs	volatile organic aromatics
VOCs	volatile organic compounds

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) has been contracted by the Department of the Navy, Southern Division Naval Facilities Engineering Command (NAVFAC), to provide Operation and Maintenance (O&M) services at Day Tank 1, Naval Air Station (NAS) Cecil Field, Jacksonville, Florida, under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0062. The purpose of this O&M Report is to provide a summary of activities performed at the site during the period of January 1 to March 31, 2002.

1.1 Objective

The objective of the remedial action at the site of Day Tank 1 is to reduce the concentrations of petroleum related contaminants in the groundwater and unsaturated soils to target levels specified by Chapter 62-777 Florida Administrative Code (FAC). Biosparging/vapor collection is the technology being utilized to achieve this objective.

1.2 Site History

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

1.3 Remediation System/Technology Description

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

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

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

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

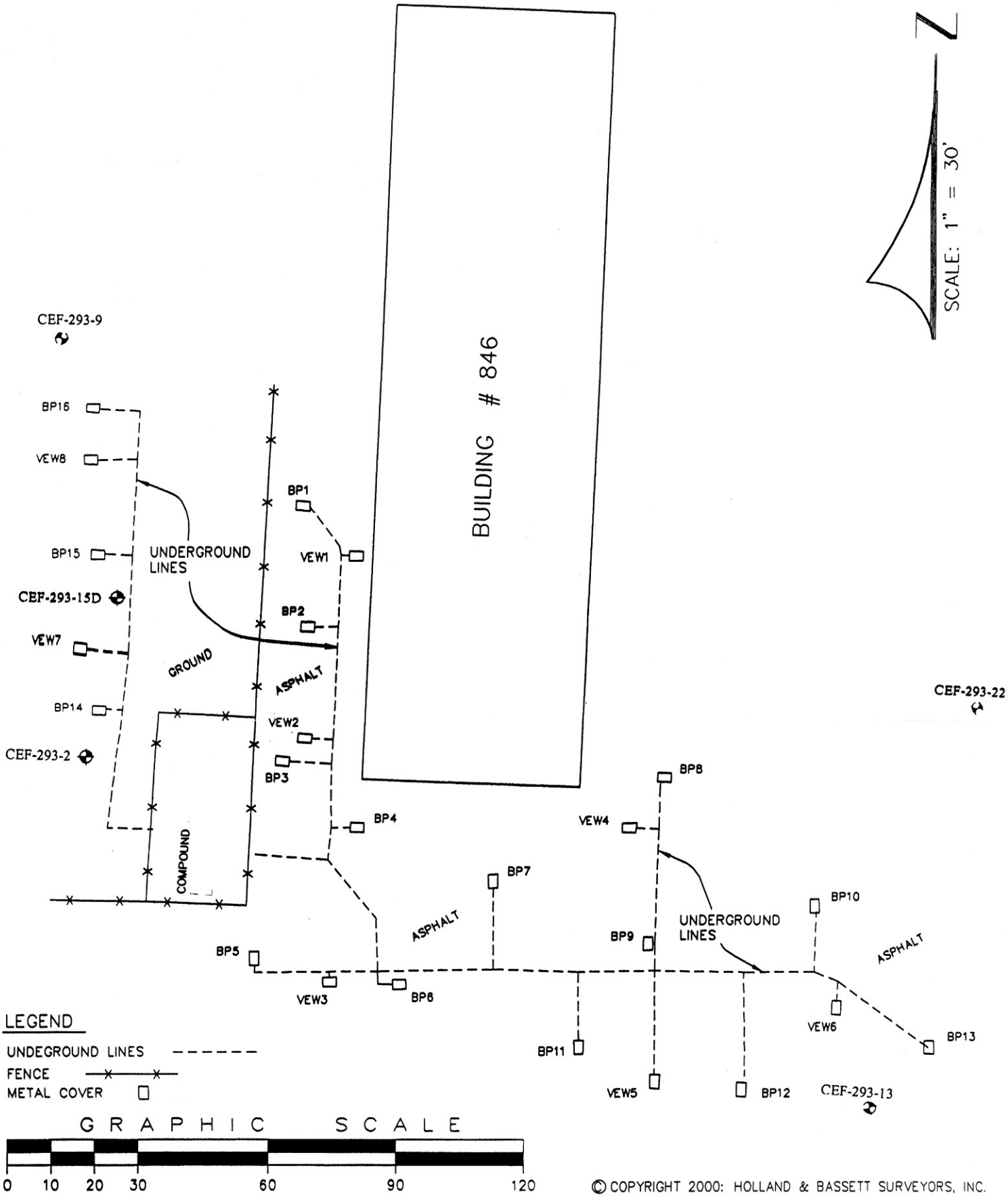

Figure 1-1
Site Map
DayTank 1 Site
NAS Cecil Field

CH2MHILL

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2.0 System Performance Monitoring

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

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

2.1 Operational Efficiencies

2.1.1 Biosparging System

	Period	To Date
Hours of Possible Operation:	2,160	18,287
Hours of Actual Operation:	1,860	15,995
Percent hours of Operation:	86.1	87.5

2.1.2 Vapor Collection System

	Period	To Date
Hours of Possible Operation:	2,160	18,287
Hours of Actual Operation:	2,056	17,128
Percent hours of Operation:	95.2	93.7

2.2 Summary of Maintenance and System Downtime

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

The biosparge system was shut down for a total of 300 hours (12.5 days) during the monitoring period as described below:

- The system was shut down for a total of 259 hours as a result of a broken main flow meter on the compressor discharge line. A new meter was installed and the system restarted.
- The system shut down for a total of 27 hours due to an air end rotation alarm. The alarm was reset and the compressor was restarted.
- The system was manually shut down for a total 7 hours while the quarterly groundwater sampling event and water level measurements were performed.
- The system shut down for a total of 6 hours for a compressor alarm. The alarm was reset and the compressor was restarted.

- The system was manually shut down for a total of 1 hour for routine maintenance.

The vapor collection system was shut down for a total of 104 hours (4.3 days) during the monitoring period as described below:

- The system was shut down for a total of 96 hours due to the broken main flow meter on the biosparge compressor discharge line (see above).
- The system was manually shut down for a 7 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.

2.3 Pressure/Flow Rate Monitoring

2.3.1 Air Sparge System

During the monitoring period, pressure was measured at each sparge wellhead on a monthly basis. The airflow rate at each header pipe was measured on the same schedule. The data from the flow and pressure measurement events are provided on Table 2-1.

During normal operation, the wellhead pressures for the shallow sparge wells averaged 10.3 psi, compared to the design pressure of 18 psi. The air injection rate averaged 59.3 acfh for each sparge well compared to the design injection rate of 60 acfh per sparge well.

2.3.2 Vapor Extraction System

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

During normal operation, the wellhead vacuum pressures for the vapor extraction wells averaged 32.5 inches of water, compared to the design vacuum pressure of 23 inches of water. The airflow rates averaged 6.5 acfm for each extraction well, compared to the design extraction rate of 6 acfm.

2.4 Groundwater Level Measurements

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

LNAPL was noted only in VEW-1 during the monitoring period. LNAPL was recovered from VEW-1 via bailing during the monitoring period. Total LNAPL recovered during the monitoring period was 2.4 gallons and total recovery to date is 17.9 gallons.

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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
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
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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

AS Well	Date	Wellhead Flow (acfh)	Wellhead Pressure (psi)
	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
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
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
BP-06	02/29/2000	60	10
	03/01/2000	60	10
	03/02/2000	60	10

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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

TABLE 2-1
Biosparge Wellhead Pressure/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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

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

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

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
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
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

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
	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
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
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

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
	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
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
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

TABLE 2-2
Vapor Collection System Wellhead Vacuum/Flow Measurements
NAS Cecil Field, Jacksonville, Florida

Vapor Extraction Well	Date	Wellhead Flow (acfm)	Wellhead Vacuum (in H_2O)
	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
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

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

TABLE 2-3
Depth To Groundwater/LNAPL Measurements
NAS Cecil Field, Jacksonville, Florida

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
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
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
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
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
CEF-293-07	06/13/00	NA	none present	9.95	0.00	NA
	09/14/00		none present	6.85	0.00	NA
	12/21/00		none present	8.92	0.00	NA
	03/15/01		none present	9.29	0.00	NA
	06/25/01		none present	8.60	0.00	NA
	09/19/01		none present	5.44	0.00	NA
	10/03/01		none present	NM	0.00	NA
	12/19/01		none present	8.55	0.00	NA
	03/20/02		none present	8.21	0.00	NA

TABLE 2-3
Depth To Groundwater/LNAPL Measurements
NAS Cecil Field, Jacksonville, Florida

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
CEF-293-09	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
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
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
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
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
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

TABLE 2-3
Depth To Groundwater/LNAPL Measurements
NAS Cecil Field, Jacksonville, Florida

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
CEF-293-20	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
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	N
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
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
	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

TABLE 2-3
Depth To Groundwater/LNAPL Measurements
NAS Cecil Field, Jacksonville, Florida

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
	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
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
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
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
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
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

TABLE 2-3
Depth To Groundwater/LNAPL Measurements
NAS Cecil Field, Jacksonville, Florida

Well Identification	Date	Top of Casing Elevation (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)
	12/19/01		none present	6.16	0.00	68.15
	03/20/02		none present	6.13	0.00	68.18
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
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

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

3.0 Summary of Sampling and Laboratory Analytical Results

3.1 Vapor Monitoring

The VCS discharge stack was sampled monthly during the monitoring period for analyses by United States Environmental Protection Agency (USEPA) Method 18, TO-14. Copies of the analytical laboratory reports from the air sampling events are provided in Appendix A, and analytical results are summarized on Tables 3-1 and 3-2. The pounds per day loading rate summary is provided on Table 3-3.

Based upon an average pounds per day, volatile organic compound (VOC) removal rate of 0.0047 pounds per day and an on-stream time of 85.7 days, a total of 0.4 pound of 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

Twelve monitoring locations (five monitoring wells and seven vapor extraction wells) at the site were sampled on March 20, 2002 for volatile organic aromatics (VOAs) and semi-volatile organic aromatics (SVOAs) by USEPA Methods 8021 and 8310, respectively. All sampling points exhibited decreases in contaminant concentrations from the baseline groundwater sampling event that was performed on January 25, 2000. The contaminant concentrations for 11 of the 12 monitoring locations are below groundwater cleanup target levels (GCTLs) per Chapter 62-777 F.A.C. for all constituents. One monitoring location, monitor well CEF-293-22, presently exhibits contaminant concentrations that exceed the GCTLs. Vapor extraction well VEW-2, which previously contained minimal LNAPL, did not contain LNAPL during the third and fourth quarters and no longer contains contaminant concentrations above the GCTLs. Vapor extraction well VEW-1 was not sampled during the first quarter due to the continued presence of LNAPL (discussed in Section 2.4).

The locations of the monitoring/vapor extraction wells are shown on Figure 1-1. Copies of the analytical laboratory reports from the groundwater sampling events are provided in Appendix B, and analytical results are summarized on Table 3-4.

Dissolved oxygen (DO) measurements were recorded at selected monitoring wells on March 20, 2002. The results are summarized on Table 3-5. The results indicate that the DO concentrations in the monitoring/vapor extraction wells within the treatment zone were elevated as a result of remediation system operation.

TABLE 3-1
Pre-Treatment Vapor Analytical Results
NAS Cecil Field, Jacksonvile, Florida

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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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
5. NA= Not analyzed for listed parameter

TABLE 3-2
Post-Treatment Vapor Analytical Results
NAS Cecil Field, Jacksonville, Florida

Compound	02/28/2000	03/07/2000	03/16/2000	03/23/2000
1,1,1-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
1,2,4-Trimethylbenzene	1.5	0.74	0.83	ND
1,2-Dibromoethane	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND
2-Chlorotoluene	ND	ND	ND	ND
4-Ethyltoluene	ND	ND	ND	ND
Alpha-Chlorotoluene	ND	ND	ND	ND
Benzene	0.32	ND	0.86	ND
Bromoform	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Chloroform	ND	ND	0.68	ND
Chloromethane	ND	0.63	0.70	0.98
cis-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Dichlorodifluoromethane	ND	0.78	1.5	1.6
Dichlorotetrafluroethane	ND	ND	ND	ND
Ethylbenzene	3.8	0.74	0.74	0.65
Freon 113	2.0	1.8	73	7.6
Freon 114	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
Hexane	ND	ND	ND	ND
m,p-Xylene	5.2	1.1	1.6	1.1
m-Dichlorobenzene	6.6	5.6	5.0	3.9
Methyl Tert Butyl Ether	ND	ND	ND	ND
Methylene Chloride	1.4	ND	2.9	1.2
o-Dichlorobenzene	ND	ND	ND	ND
o-Xylene	1.7	0.56	0.61	0.52
p-Dichlorobenzene	0.66	ND	ND	ND
Styrene	6.8	1.3	1.2	2
Tetrachloroethene	0.94	4.3	3.4	ND
Toluene	13.0	1	34	1.4
trans-1,2-Dichloroethene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
Trichlorotrifluoroethane	ND	ND	ND	ND
Vinyl Chloride	ND	0.56	0.25	ND
Xylenes (total)	6.9	1.6	2.2	1.6
Total Volatile Organics	43.92	19.11	127.27	20.95

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.
5. ND= Not Detected, please see Appendix D for detection limits

TABLE 3-3
Pounds Per Day Loading/Emissions Rates
NAS Cecil Field, Jacksonville, Florida

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
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 3-4
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

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
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
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
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
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

TABLE 3-4
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

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
	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
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																		
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
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
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
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

TABLE 3-4
Groundwater Analytical Results
NAS Cecil Field, Jacksonville, Florida

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
	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
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
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
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
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 µg/L.
3. ND= Not Detected, please see Appendix C for detection limits
4. NS = Not Sampled
5. NA = Not Analyzed

= above GC
= above NADSC

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

	Date	pH (s. u.)	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
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
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
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
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
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

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

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

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

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

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

4.0 Conclusions and Recommendations

Of the five monitoring wells (CEF-293-4, 9, 13, 20 and 22) and seven extraction wells (VEW-2 through VEW-8) sampled during the first quarter, only one location, CEF-293-22 was found to have contaminant concentrations greater than the GCTL specified by Chapter 62-777 FAC. The concentrations were below the Natural Attenuation Source Default Concentration specified by Chapter 62-777 FAC. Monitoring well CEF-293-22 is located outside the design radius of influence of the biosparge system.

Vapor extraction well VEW-1 was not sampled during the monitoring period due to the presence of LNAPL. LNAPL has been bailed periodically from VEW-1 since October 2000, and a total of approximately 17.9 gallons has been recovered to date. No significant decreases in LNAPL thickness at VEW-1 were noted during the monitoring period.

It is recommended that the remediation system continue to operate and recovery of LNAPL continue to be performed until LNAPL is no longer present in VEW-1. VEW-1 should be sampled after LNAPL is no longer present to ensure that the groundwater in this area has been remediated. The source of the LNAPL in the vicinity of VEW-1 and VEW-2 is believed to be due to an underground abandoned fuel pipe that still contains product. The underground piping has been located and the location mapped. A project under CTO No. 0021 to pig the line to remove any remaining product will be conducted in the third quarter of 2002. Additional plans for delineation and recovery of LNAPL in the vicinity of VEW-1 and VEW-2 are currently being developed by the Comprehensive Long-Term Environmental Action, Navy (CLEAN) contractor.

CCI/J.A. Jones will pig the line to remove remaining product during the third quarter of 2002. (This work will be performed under CTO No. 0021.)

5.0 References

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

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

Appendix A

Laboratory Analytical Reports for Air Samples

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C202061
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field

Client Sample ID	STL Sample ID
062-SVE-E-A-0130-02-24	C202061-1

The above-referenced sample was received in good condition at STL Pensacola on February 4, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of samples.

Please refer to "CLP Data Qualifiers" or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes

Rick Hayes
Senior Project Manager

2/20/02

FEB 2 2 2002

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02061-1	062-SVE-E-A-0130-02-24	01-30-02/16:10

PARAMETER	02061-1
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: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02061-1	062-SVE-E-A-0130-02-24	01-30-02/16:10

PARAMETER	02061-1
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	0.10
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	99 %
Surrogate - Toluene-d8	102 %
Surrogate - 4-Bromofluorobenzene	97 %

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CTO-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02061-1	062-SVE-E-A-0130-02-24	01-30-02/16:10

PARAMETER	02061-1
Dilution Factor	1
Prep Date	02.13.02
Prep Time	12:52
Analysis Date	02.13.02
Analysis Time	13:05
Batch ID	MAB025
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02061-2	Method Blank	
02061-3	Lab Control Standard True Value	
02061-4	Lab Control Standard Result	
02061-5	Lab Control Standard % Recovery	
02061-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02061-2	02061-3	02061-4	02061-5	02061-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4878	98 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5026	101 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
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Reported: 19 FEB 02

Ms. Tatiana Romanova
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115 Perimeter Center Place, NE Suite
Atlanta, GA 30346

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Cl Project No: 163151

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02061-2	Method Blank	
02061-3	Lab Control Standard True Value	
02061-4	Lab Control Standard Result	
02061-5	Lab Control Standard % Recovery	
02061-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02061-2	02061-3	02061-4	02061-5	02061-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4186	84 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5002	100 %	86-113

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02061-2	Method Blank	
02061-3	Lab Control Standard True Value	
02061-4	Lab Control Standard Result	
02061-5	Lab Control Standard % Recovery	
02061-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02061-2	02061-3	02061-4	02061-5	02061-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4857	97 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	99 %	0.5000	0.5050	101 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5073	101 %	90-109
Surrogate - 4-Bromofluorobenzene	101 %	0.5000	0.5042	101 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	02.13.02	---	02.13.02	---	---
Prep Time	11:10	---	11:47	---	---
Analysis Date	12.13.02	---	02.13.02	---	---
Analysis Time	11:23	---	12:00	---	---
Batch ID	MAB025	MAB025	MAB025	MAB025	MAB025
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C2-02061
Received: 04 FEB 02
Reported: 19 FEB 02

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

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

Contract No.: CTO-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 103520220

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
02061-2	Method Blank	
02061-3	Lab Control Standard True Value	
02061-4	Lab Control Standard Result	
02061-5	Lab Control Standard % Recovery	
02061-6	LCS Accuracy Control Limit (%R)	

PARAMETER	02061-2	02061-3	02061-4	02061-5	02061-6

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 #: C202061 Date Received: 2/4/02

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

Airbill Number(s): 7902938 3216

Cooler Number(s): Box CAN # 296

Cooler Weight(s): 16#

Shipped By: FedEx

Shipping Charges: n/a

Cooler Temp(s) (°C): n/a

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 2/4/02 Logged By: PPE Date: 2/4/02

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

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

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

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

WORD\ELKINS\LAMPCTRL\PSIF.DOC November 29, 2000

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

C202061

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-026

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-0130-02-24	SVE Effluent	AIR	01/30/02	16:10	III/C	14 Day	1										Grab	Summa Canister 296	1
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK #791767107695.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	1/31/02	11:00	Federal Express	1/31/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Mark Swafford Mark Swafford	2/4/02	0915
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

NAS Cecil Field CTO-0062

STL Pensacola

From: RANDY N DUMAOP (904)777-4812
CCI / J.A. JONES ENV. SERVICES
6219 AUTHORITY AVE

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 325147045

SHIP DATE: 31JAN02
WEIGHT: 16 LBS

C 202061

Ref: 163165/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7902 9318 3216 FORM 0201

BFM

MON
AA
Deliver by:
04FEB02

32514-FL-US F3 PNSA

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

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

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

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

Attach one file Label here

CH2M-CONST-GA C202061
CH2M Hill Constructors, Inc. (CCI)

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: JLC
Labeled by: MHS
Delivered by: MHS

Type of Container	Wet Chem	Metals	Extractions	Organics/ Special Projects	VOA	GCMS	Preservative	Number of Containers	Initials	Date	Time
1/2 Gal Plastic											
32 oz. Plastic											
16 oz. Plastic											
8 oz. Plastic											
5g Encore											
25g Encore											
Whirlpak Bag											
Sterile Cup											
1L Amber											
500 ml Amber											
250 ml Amber											
120 ml Amber											
40 ml Vial											
2 oz. W/M											
4 oz. W/M											
8 oz. W/M											
16 oz. W/M											
32 oz. W/M											
Air Canister						✓	Ø	1	MHS	2/4/02	1130
Air Bag											
Tube/Cartridge											
Plastic Bag											
Acknowledgment											
COMMENTS											

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract. NOTE 1: The D flag 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

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.

STL Pensacola Data Qualifiers for Final Report

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

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

Abbreviations

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

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

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

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

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

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

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

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

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

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

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

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

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

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

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

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

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

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

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

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

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

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

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

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

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

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

certlist\condcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 202061
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Feb. 4, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0130-02-24	202061-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Feb 14, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA
Contract : NA
Project : NA
Site : NA
Location : NA
Group : NA
Lab File ID (Standard): CM0213A.D
Date Analyzed : 13 Feb 2002
Instrument ID : MARILYN
Time Analyzed : 10:11 am
GC Column : CAP
ID : MARI
Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
020611	062SVEEA0130022	99	102	97	0	0	0	0
MA025ABK	VBLKMA\ DAILY M	99	99	101	0	0	0	0
MA025LCS	VLCSMA\ BATCH #	101	101	101	0	0	0	0

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

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

TO-14 NG-MG/M3 CONVERSION

order # 202061

Batch MAB025

	Actual ng result	Sample # 3 mg/m3 TRUE	4 mg/m3 RESULT	5 % REC	6 rec limit
Benzene	243.91	0.5000	0.4878	98%	87-116%
Chlorobenzene	251.3	0.5000	0.5026	101%	88-111%
1,1-Dichloroethene	209.32	0.5000	0.4186	84%	58-138%
Toluene	250.1	0.5000	0.5002	100%	86-113%
Trichloroethene	242.87	0.5000	0.4857	97%	85-116%
1,2-Dichloroethane-d4	252.51	0.5000	0.5050	101%	61-140%
Toluene-d8	253.64	0.5000	0.5073	101%	90-109%
4-Bromofluorobenzene	252.09	0.5000	0.5042	101%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 pm Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 14 16:06:16 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	209.32	250.00	83.73	58 to 138%	[ ]
27)	M	Benzene	243.91	250.00	97.56	87 to 116%	[ ]
28)	M	Trichloroethene	242.87	250.00	97.15	85 to 116%	[ ]
33)	MC	Toluene	250.10	250.00	100.04	86 to 113%	[ ]
39)	MP	Chlorobenzene	251.30	250.00	100.52	88 to 111%	[ ]

4A

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.: C202061

Lab File ID: MA025ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 2/13/02 Time Analyzed: 11:23

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #025 L	MA025LCS.D	12:00
02	SVEEA	062SVEEA01300224\ 02	020611.D	13:05

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202061

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.: C202061

Lab File ID: BFM0213A.D BFB Injection Date: 2/13/02

Instrument ID: MARILYN BFB Injection Time: 9:49

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.9
75	30.0 - 66.0% of mass 95	43.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	50.0 - 120.0% of mass 95	65.7
175	4.0 - 9.0% of mass 174	4.9 (7.4)1
176	93.0 - 101.0% of mass 174	64.3 (97.9)1
177	5.0 - 9.0% of mass 176	4.0 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0213A.D	2/13/02	10:11
02	VBLKMA	VBLKMA\ DAILY METHO	MA025ABK.D	2/13/02	11:23
03	LCS AND 2ND	VLCSMA\ BATCH #025 L	MA025LCS.D	2/13/02	12:00
04	SVEEA	062SVEEA01300224\ 02	020611.D	2/13/02	13:05

Response Factor Report MARILYN

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

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.843	R^2=0.981	
								B= 0.088		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.712	R^2=0.998	
								B= -0.369		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

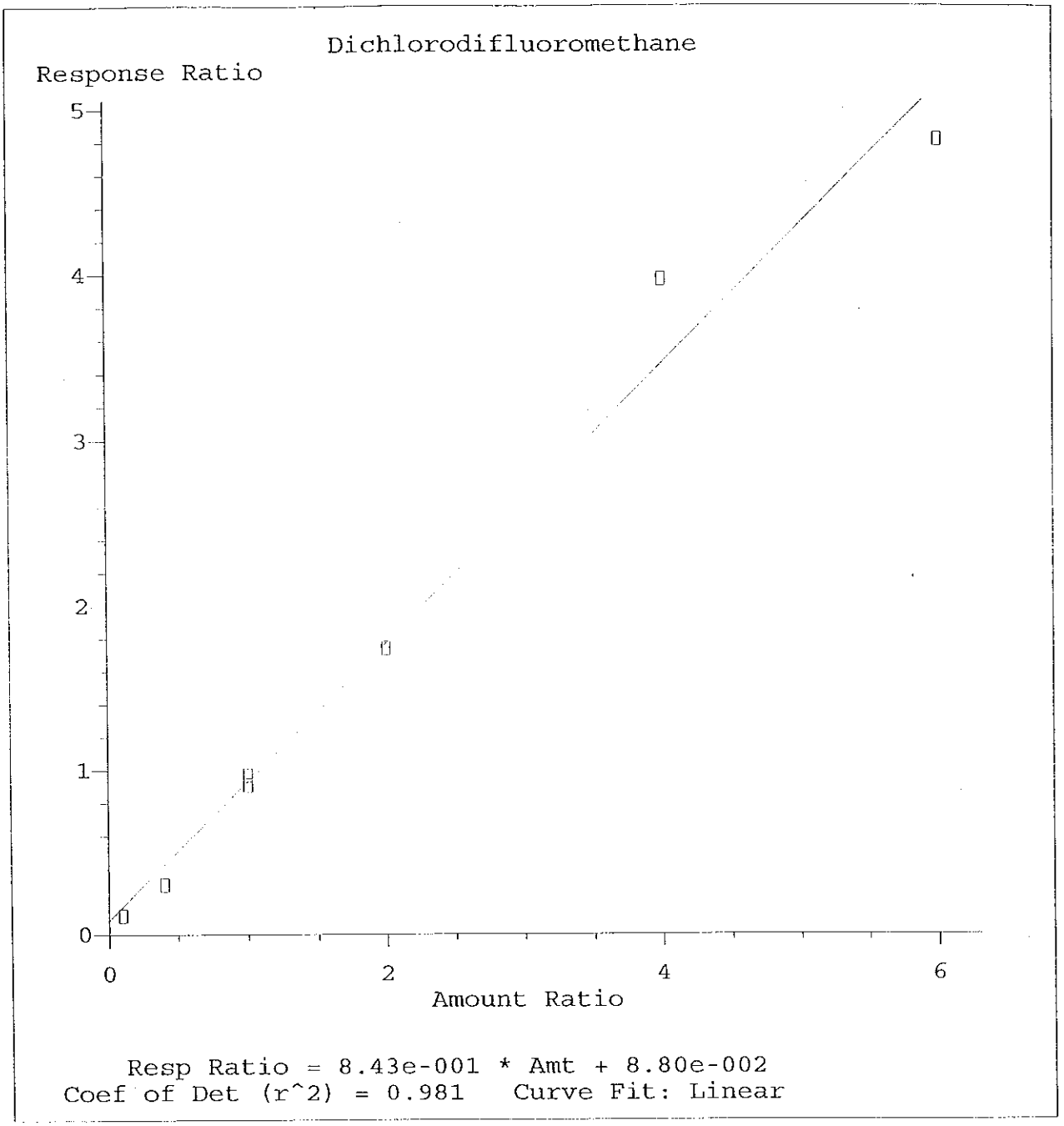
Response Factor Report MARILYN

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

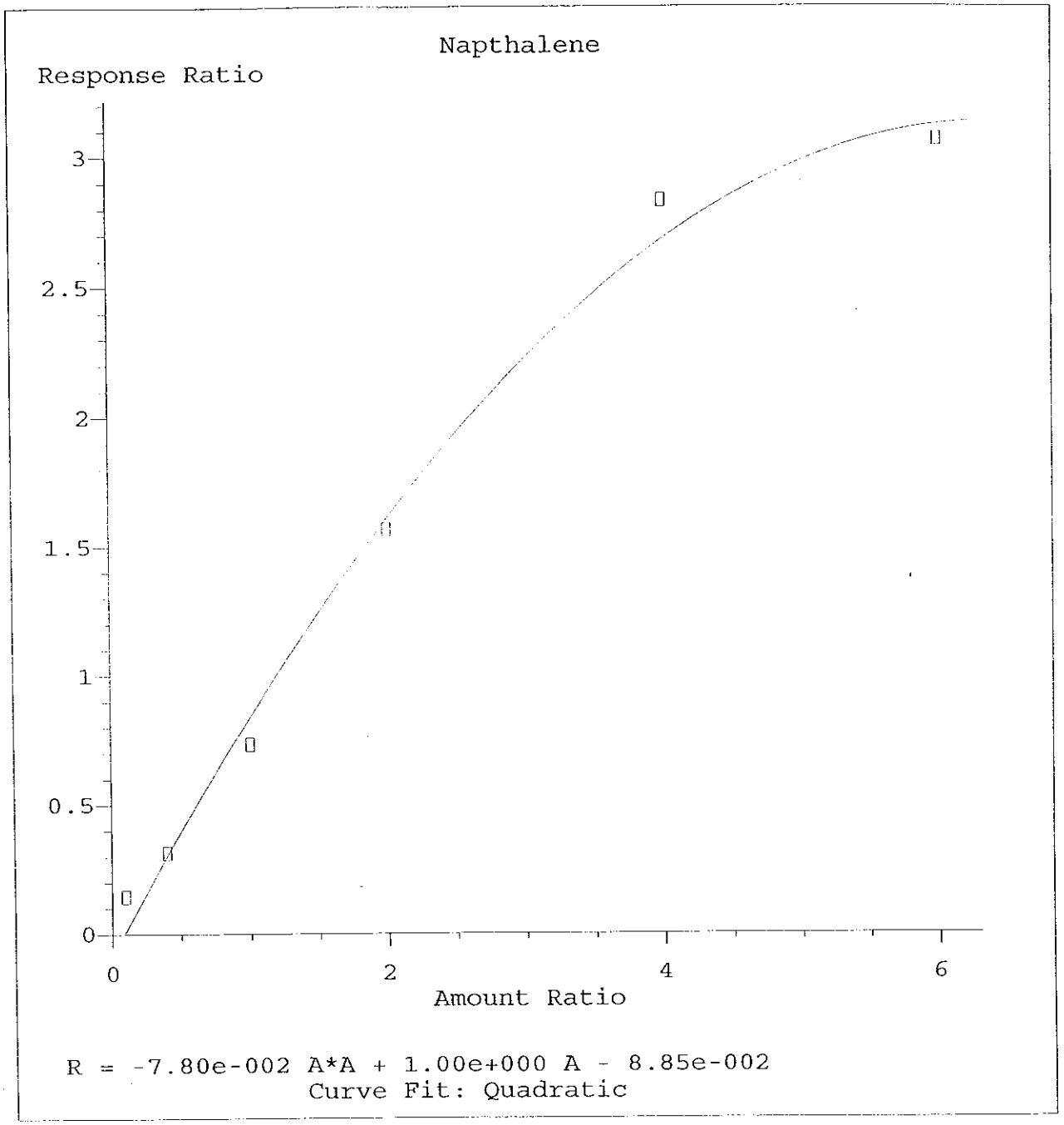
Calibration Files
25 =0025R125.D 250 =0250M125.D 1500 =1500M125.D
1000 =1000M125.D 100 =0100R125.D 500 =0500M125.D

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.991	
								B= 0.777		
								C= -0.094		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.089		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.987	
								B= 0.646		
								C= -0.061		

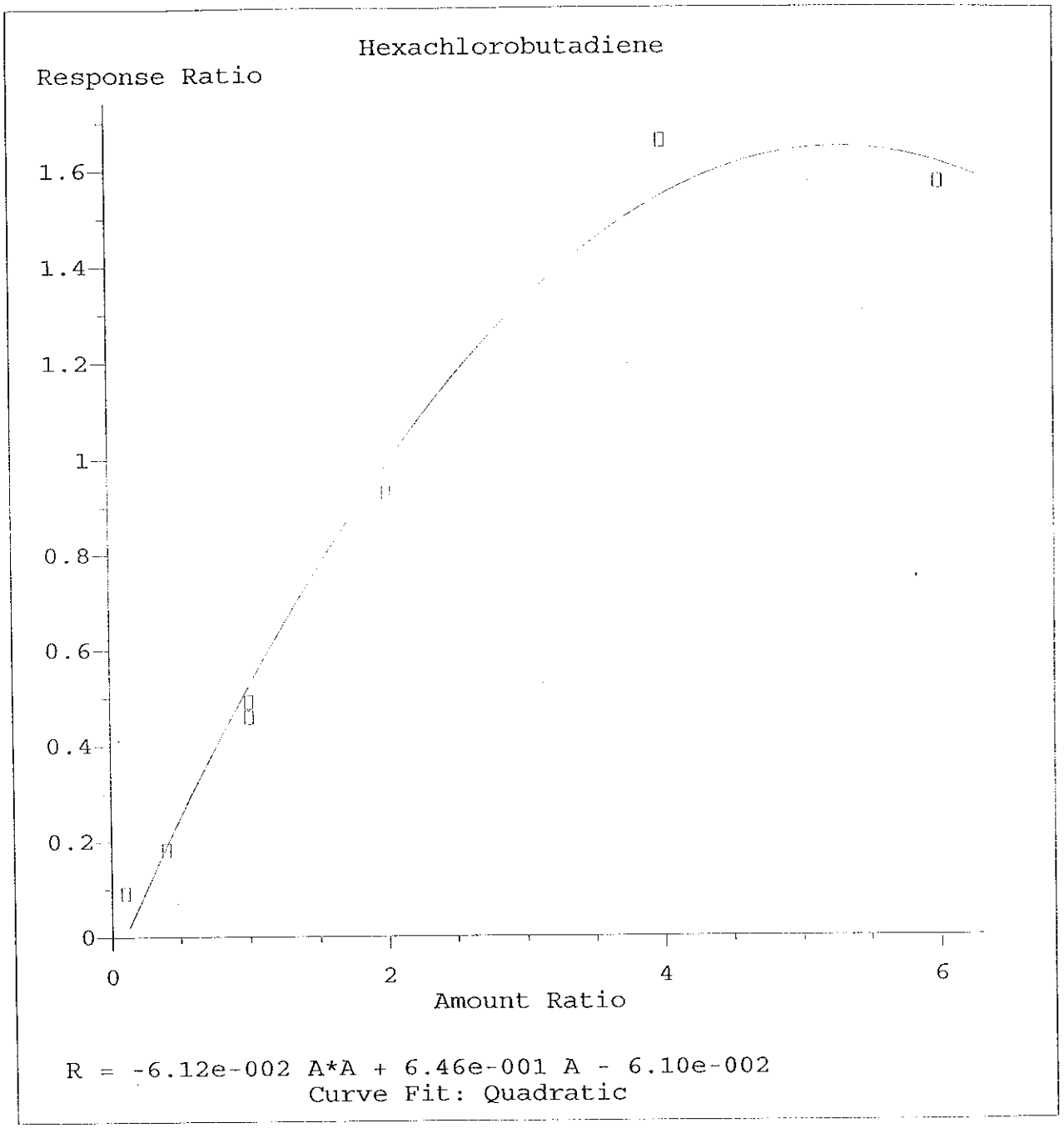
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



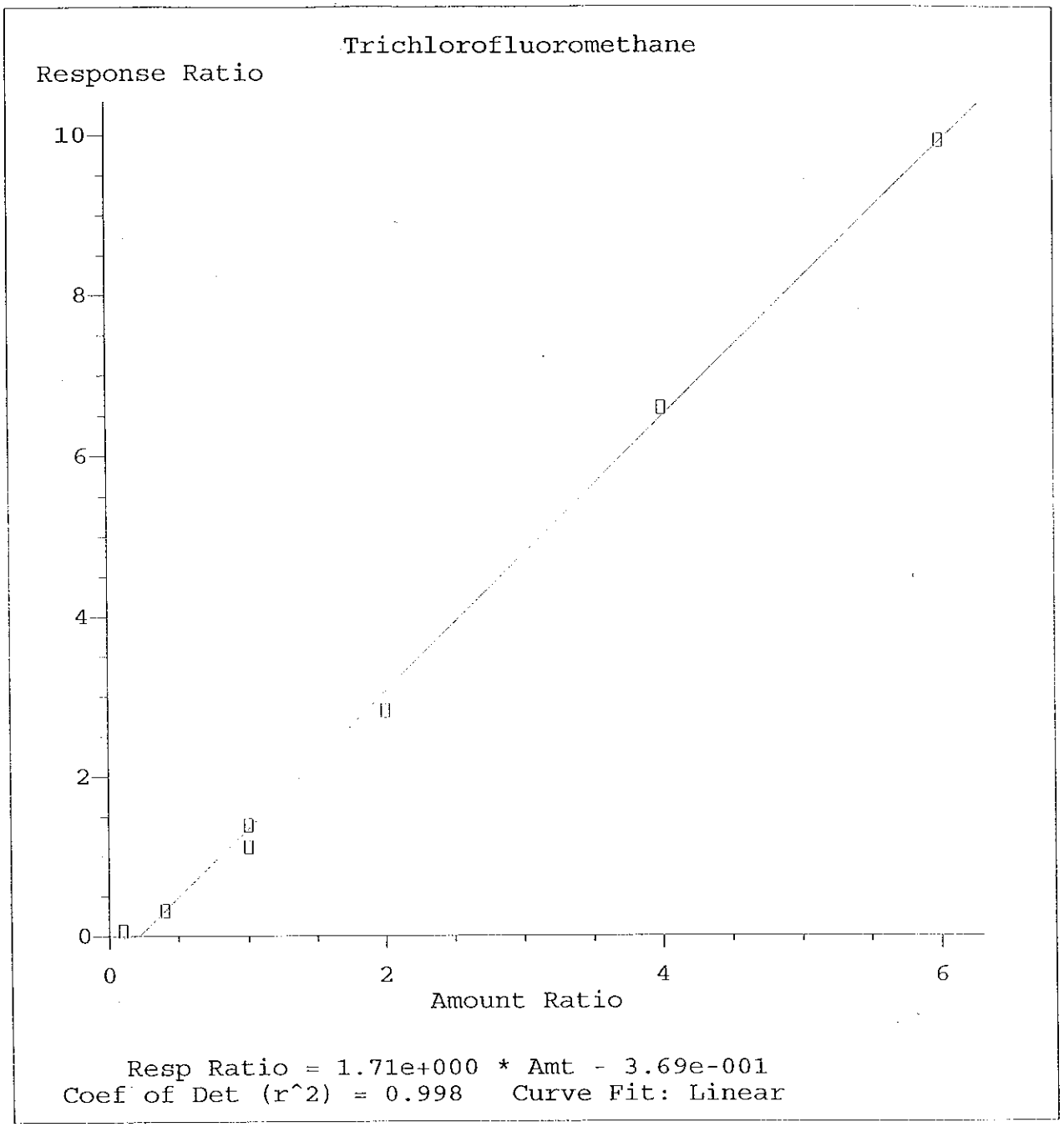
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



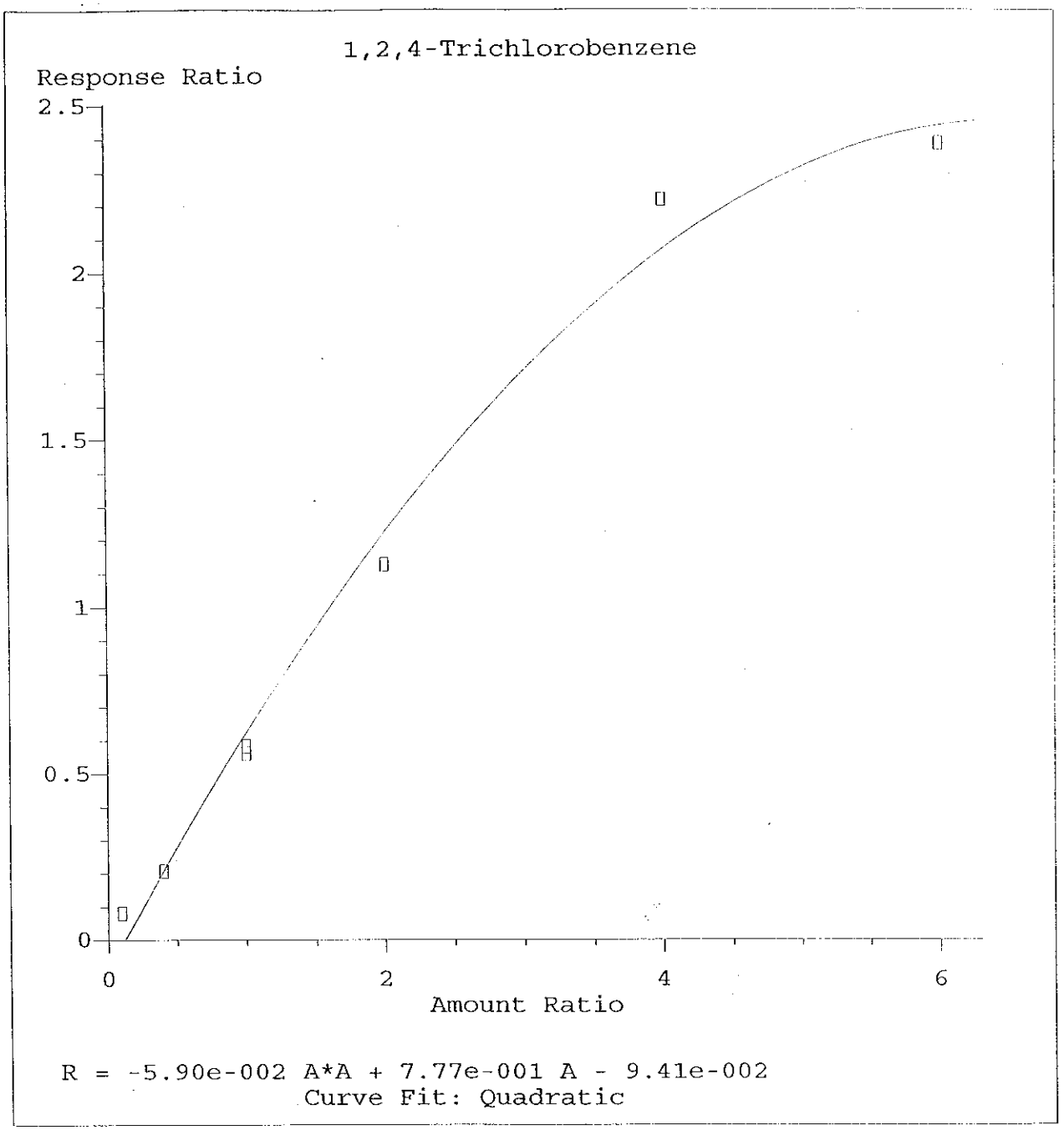
Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Thu Feb 07 10:28:28 2002



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



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



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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Thu Feb 14 16:22:28 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	100	0.00
2		Dichlorodifluoromethane	0.919	0.851	7.4#	93	0.00
3		Dichlorotetrafluoroethane	1.446	1.311	9.3#	86	0.00
4	P	Chloromethane	0.788	0.698	11.4#	90	0.00
5	C	Vinyl chloride	0.727	0.690	5.1#	90	0.00
6		Bromomethane	1.180	1.098	6.9#	98	0.00
7		Chloroethane	0.530	0.495	6.6#	92	0.00
8		Trichlorofluoromethane	1.261	1.164	7.7#	83	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.779	4.8#	95	0.00
10	MC	1,1-Dichloroethene	1.064	0.983	7.6#	91	0.00
11		Iodomethane	0.000	0.000	0.0	224#	0.00
12		Methylene chloride	1.431	1.428	0.2	95	0.00
13		Carbon disulfide	2.862	2.720	5.0#	97	0.00
14		methyl-Tert-Butyl Ether	1.551	1.555	-0.3	96	0.00
15		trans-1,2-Dichloroethene	1.194	1.104	7.5#	92	0.00
16		n-Hexane	1.089	1.027	5.7#	92	0.00
17	P	1,1-Dichloroethane	1.944	1.895	2.5#	95	0.00
18		cis-1,2-Dichloroethene	1.576	1.586	-0.6	97	0.00
19	C	Chloroform	2.454	2.458	-0.2#	95	0.00
20		Isooctane	3.653	3.633	0.5	98	0.00
21		1,1,1-Trichloroethane	2.085	1.982	4.9#	91	0.00
22		Carbon tetrachloride	2.195	2.077	5.4#	90	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.123	4.5#	89	0.00
24		1,2-Dichloroethane	1.321	1.294	2.0#	90	0.00
25		1,2-Dibromoethane	2.124	2.031	4.4#	93	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	97	0.00
27	M	Benzene	0.733	0.734	-0.1	97	0.00
28	M	Trichloroethene	0.407	0.408	-0.2	95	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	97	0.00
30		Bromodichloromethane	0.755	0.787	-4.2#	95	0.00
31		cis-1,3-Dichloropropene	0.469	0.493	-5.1#	99	0.00
32	S	Toluene-d8 SURR#2	0.781	0.775	0.8	95	0.00
33	MC	Toluene	0.463	0.465	-0.4#	95	0.00
34		trans-1,3-Dichloropropene	0.402	0.415	-3.2#	95	0.00
35		1,1,2-Trichloroethane	0.322	0.319	0.9	93	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	98	0.00
37		Tetrachloroethene	0.488	0.474	2.9#	95	0.00
38		Dibromochloromethane	0.722	0.735	-1.8	96	0.00
39	MP	Chlorobenzene	0.891	0.902	-1.2	96	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Thu Feb 14 16:22:28 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.350	1.7#	93	0.00
41		m,p-Xylene	0.459	0.452	1.5	94	0.00
42		o-Xylene	0.439	0.440	-0.2	95	0.00
43		Styrene	0.771	0.784	-1.7	97	0.00
44	P	Bromoform	0.713	0.686	3.8#	92	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.589	8.0#	89	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.904	-1.5	98	0.00
47		1,4-Dichloro-2-butene	0.130	0.115	11.5#	88	0.00
48		4-Ethyltoluene	1.157	1.094	5.4#	92	0.00
49		1,3,5-Trimethylbenzene	0.912	0.892	2.2#	96	0.00
50		2-Chlorotoluene	1.191	1.171	1.7	93	0.00
51		1,2,4-Trimethylbenzene	0.961	0.963	-0.2	93	0.00
52		1,3-Dichlorobenzene	0.782	0.791	-1.2	93	0.00
53		1,4-Dichlorobenzene	0.825	0.837	-1.5	92	0.00
54		1,2-Dichlorobenzene	0.758	0.755	0.4	92	0.00
55		1,2,4-Trichlorobenzene	0.568	0.583	-2.6#	101	0.00
56		Napthalene	0.830	0.739	11.0#	98	0.00
57		Hexachlorobutadiene	0.495	0.447	9.7#	95	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 14 14:30:39 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	100	0.00
2		Dichlorodifluoromethane	250.000	228.898	8.4#	93	0.00
3		Dichlorotetrafluoroethane	250.000	226.761	9.3#	86	0.00
4	P	Chloromethane	250.000	221.461	11.4#	90	0.00
5	C	Vinyl chloride	250.000	237.143	5.1#	90	0.00
6		Bromomethane	250.000	232.679	6.9#	98	0.00
7		Chloroethane	250.000	233.528	6.6#	92	0.00
8		Trichlorofluoromethane	250.000	216.105	13.6#	83	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	237.995	4.8#	95	0.00
10	MC	1,1-Dichloroethene	250.000	231.001	7.6#	91	0.00
11		Iodomethane	-1.000	0.000	0.0	224	0.00
12		Methylene chloride	250.000	249.535	0.2	95	0.00
13		Carbon disulfide	250.000	237.602	5.0#	97	0.00
14		methyl-Tert-Butyl Ether	250.000	250.752	-0.3	96	0.00
15		trans-1,2-Dichloroethene	250.000	231.107	7.6#	92	0.00
16		n-Hexane	250.000	235.883	5.6#	92	0.00
17	P	1,1-Dichloroethane	250.000	243.802	2.5#	95	0.00
18		cis-1,2-Dichloroethene	250.000	251.532	-0.6	97	0.00
19	C	Chloroform	250.000	250.423	-0.2#	95	0.00
20		Isooctane	250.000	248.679	0.5	98	0.00
21		1,1,1-Trichloroethane	250.000	237.664	4.9#	91	0.00
22		Carbon tetrachloride	250.000	236.526	5.4#	90	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	238.574	4.6#	89	0.00
24		1,2-Dichloroethane	250.000	244.913	2.0#	90	0.00
25		1,2-Dibromoethane	250.000	239.029	4.4#	93	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	97	0.00
27	M	Benzene	250.000	250.371	-0.1	97	0.00
28	M	Trichloroethene	250.000	250.604	-0.2	95	0.00
29	C	1,2-Dichloropropane	250.000	256.246	-2.5#	97	0.00
30		Bromodichloromethane	250.000	260.567	-4.2#	95	0.00
31		cis-1,3-Dichloropropene	250.000	262.471	-5.0#	99	0.00
32	S	Toluene-d8 SURR#2	250.000	248.061	0.8	95	0.00
33	MC	Toluene	250.000	251.254	-0.5#	95	0.00
34		trans-1,3-Dichloropropene	250.000	258.107	-3.2#	95	0.00
35		1,1,2-Trichloroethane	250.000	247.732	0.9	93	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	98	0.00
37		Tetrachloroethene	250.000	243.259	2.7#	95	0.00
38		Dibromochloromethane	250.000	254.452	-1.8	96	0.00
39	MP	Chlorobenzene	250.000	253.184	-1.3	96	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
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 : Thu Feb 14 14:30:39 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	245.680	1.7#	93	0.00
41		m,p-Xylene	500.000	492.392	1.5	94	0.00
42		o-Xylene	250.000	250.902	-0.4	95	0.00
43		Styrene	250.000	254.310	-1.7	97	0.00
44	P	Bromoform	250.000	240.736	3.7#	92	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	230.116	8.0#	89	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	253.600	-1.4	98	0.00
47		1,4-Dichloro-2-butene	250.000	221.362	11.5#	88	0.00
48		4-Ethyltoluene	250.000	236.304	5.5#	92	0.00
49		1,3,5-Trimethylbenzene	250.000	244.649	2.1#	96	0.00
50		2-Chlorotoluene	250.000	245.856	1.7	93	0.00
51		1,2,4-Trimethylbenzene	250.000	250.592	-0.2	93	0.00
52		1,3-Dichlorobenzene	250.000	253.089	-1.2	93	0.00
53		1,4-Dichlorobenzene	250.000	253.632	-1.5	92	0.00
54		1,2-Dichlorobenzene	250.000	248.926	0.4	92	0.00
55		1,2,4-Trichlorobenzene	250.000	231.216	7.5#	101	0.00
56		Napthalene	250.000	214.344	14.3#	98	0.00
57		Hexachlorobutadiene	250.000	210.235	15.9#	95	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202061

Lab File ID (Standard): CM0213A.D Date Analyzed: 2/13/02

Instrument ID: MARILYN Time Analyzed: 10:11

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	802794	11.43	3043992	13.35	2350688	20.67
	UPPER LIMIT	1605588	11.93	6087984	13.85	4701376	21.17
	LOWER LIMIT	401397	10.93	1521996	12.85	1175344	20.17
	EPA SAMPLE NO.						
01	VBLKMA	751430	11.46	2926987	13.38	2236682	20.69
02	LCS AND 2ND	860085	11.47	3202283	13.40	2481433	20.73
03	SVEEA	818293	11.49	3133420	13.41	2470069	20.73

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 1-25-02 | Instrument ID : MARILYN | Method : TO14 /8260AIR /8260WATER /624MOD

Batch MA8010 1 2 3 | Batch 1 2 3 | Maint.

IS# 8 -MSW- 26 - 3 | TO14 8 -MSW- 32 - 1 | AIR-SPK 8 -MSW- 30 - 2 | Sequence cont. on page

BFB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- -

TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
11:34	14		CM0125A	50ppb		Y N			[illegible]	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	[illegible]	bad 5ul syringe reboot
13:56	15		0100M125			Y N		x		
14:33	16		0250M125			Y N		✓		used a 25ul syring re-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 run ST
21:10	2		01493-2			Y N		✓		
21:14	2		01299-1			Y N		✓		high Isooctane
22:20	2		01493-1			Y N		✓		
22:56	2	out 8/1/02	01493-1A			Y N		✓		run ST - ~~out of 12 hrs~~ 8/1/02
23:31	9		01546-2	X10		Y N		✓		re-run ST - 8/1/02
0:07	10		-4	X10		Y N		✓		
0:44	11		-1	X10						
1:21	12		-3	X10		Y N		✓		Triple C.C.
1:59	13		-1X	X50				✓		not worked / X10 worked
2:35	out 14		-3X	X50		Y N				re-run X50 / out of Tune time
3:12	out 15		-2X	X50						
3:49	out 16		-4X	X50		Y N				not worked - X10 worked

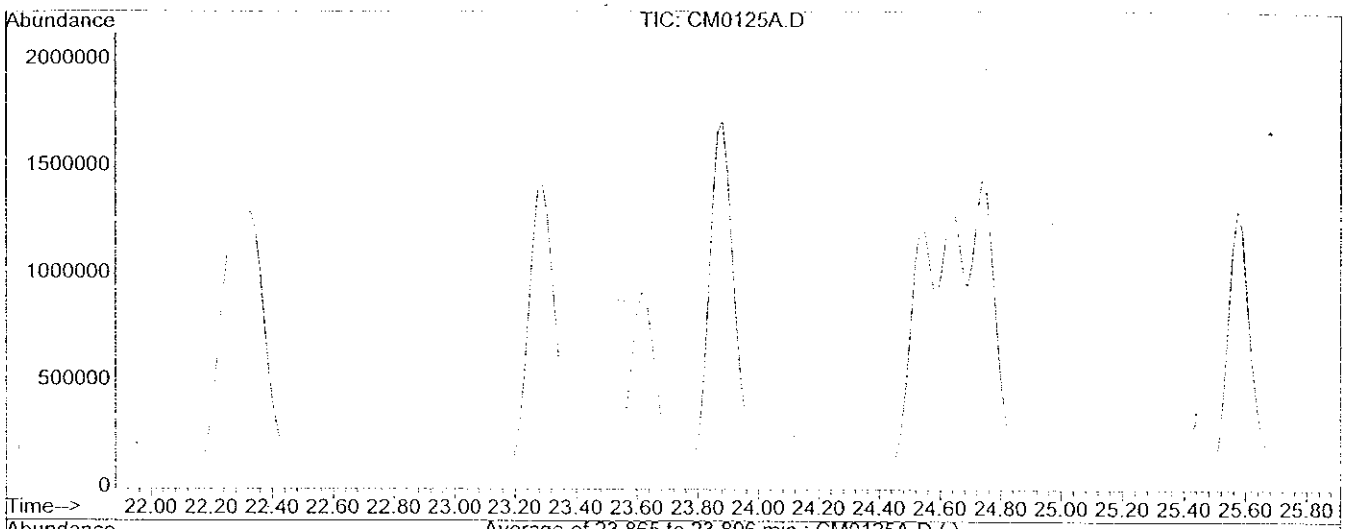
The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

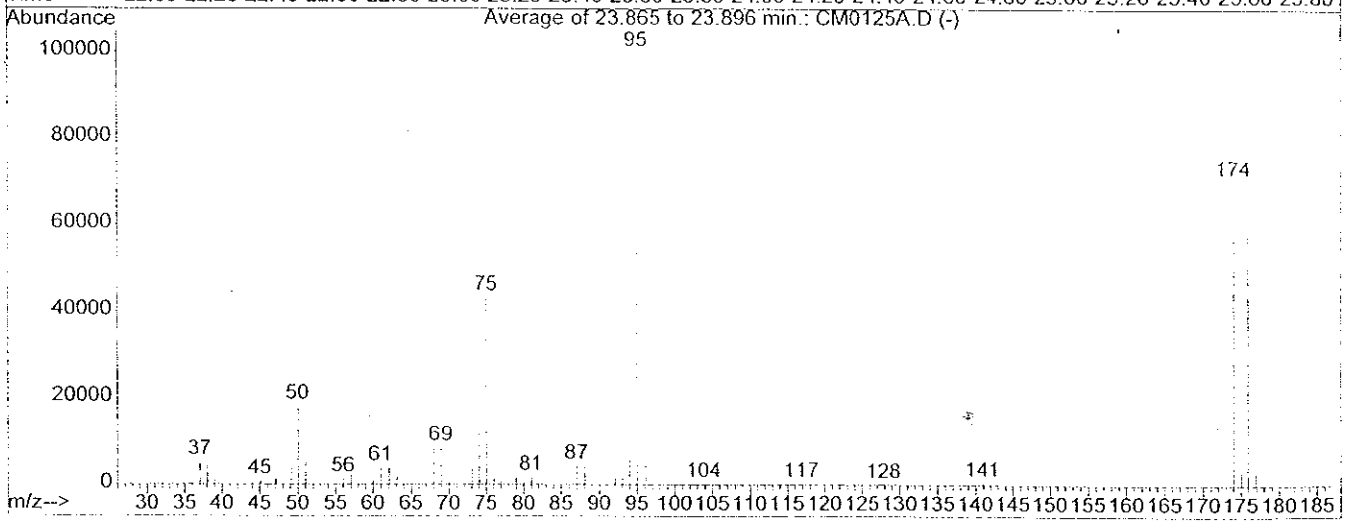
IS's and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

1-25-02





Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	[illegible]	[illegible]
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

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

1-25-02

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

		Compound	25	250	1500	1000	100	500	Avg	%RSI
1)	I	Bromochloromethane IS	----------			ISTD	----------			
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------			ISTD	----------			
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------			ISTD	----------			
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

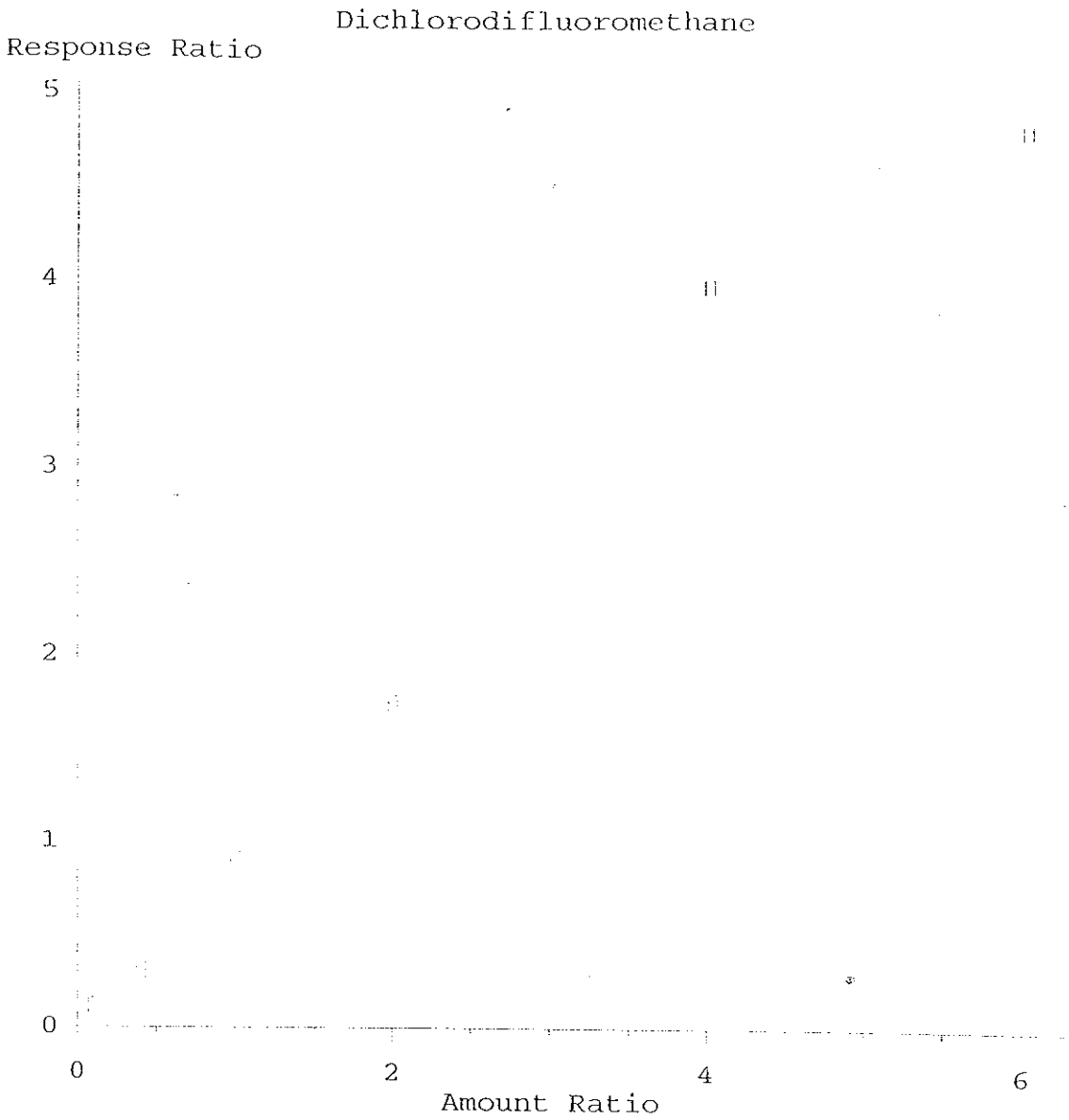
Response Factor Report MARILYN

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

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

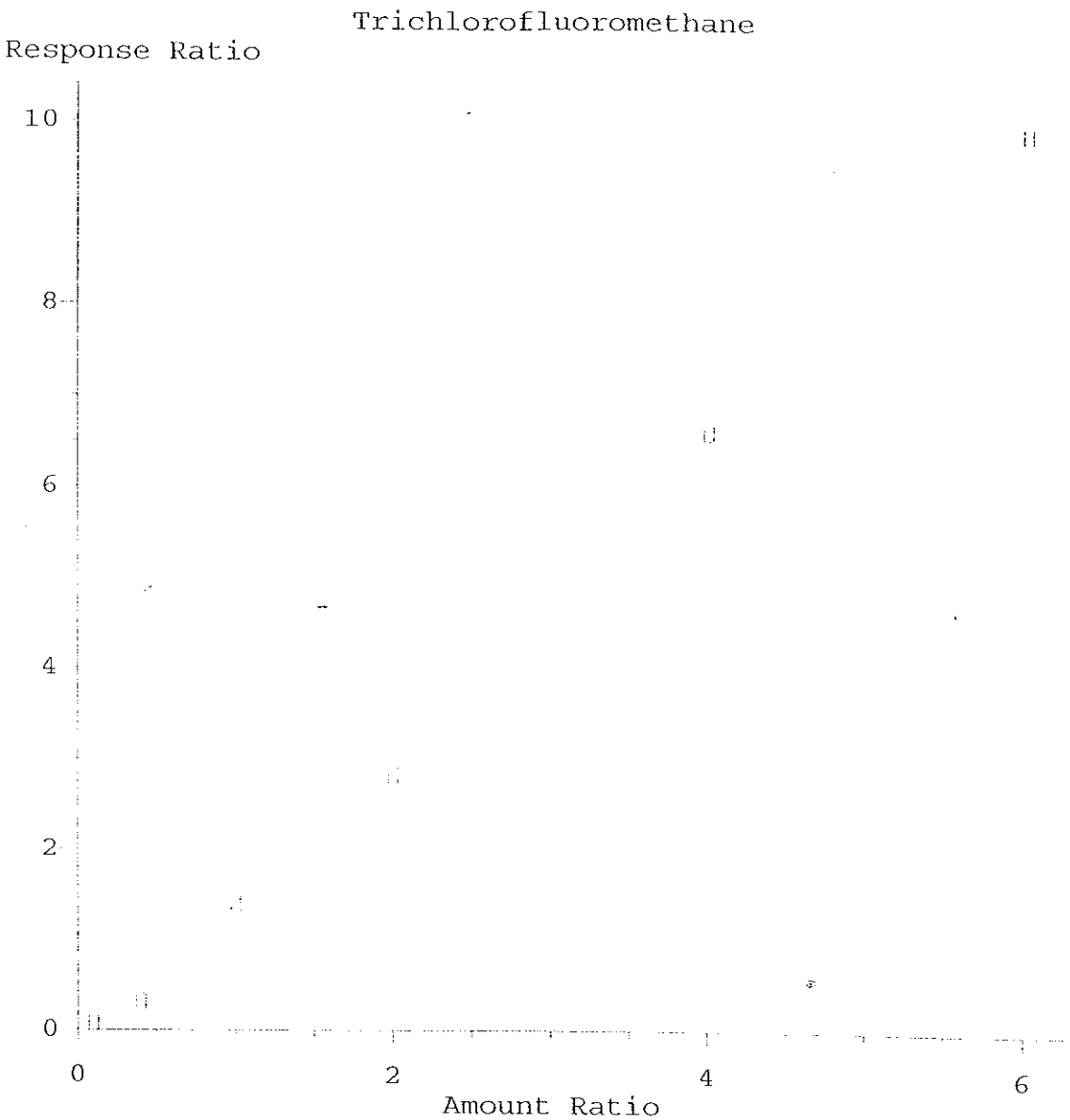
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

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



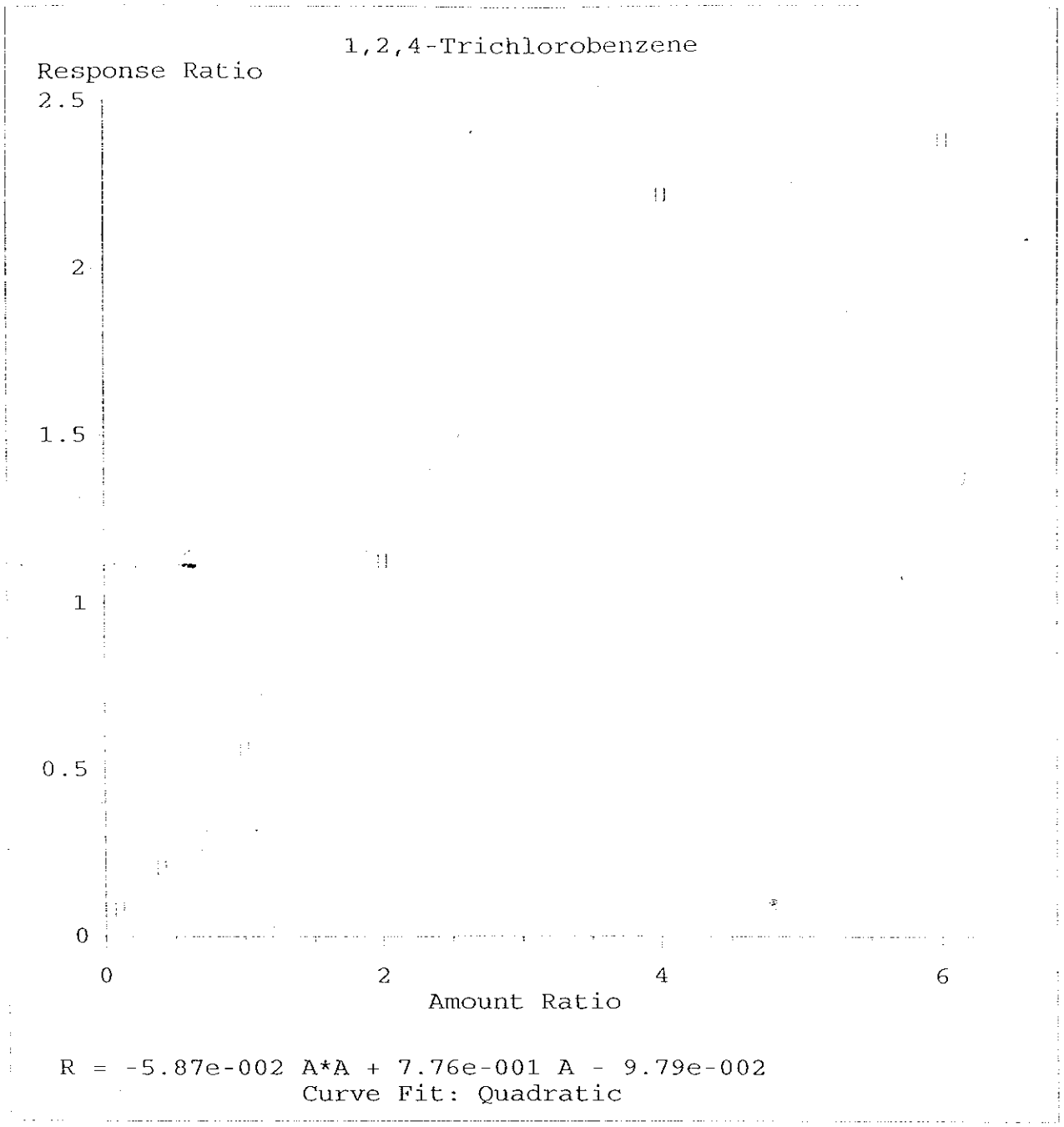
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 18:55:22 2002

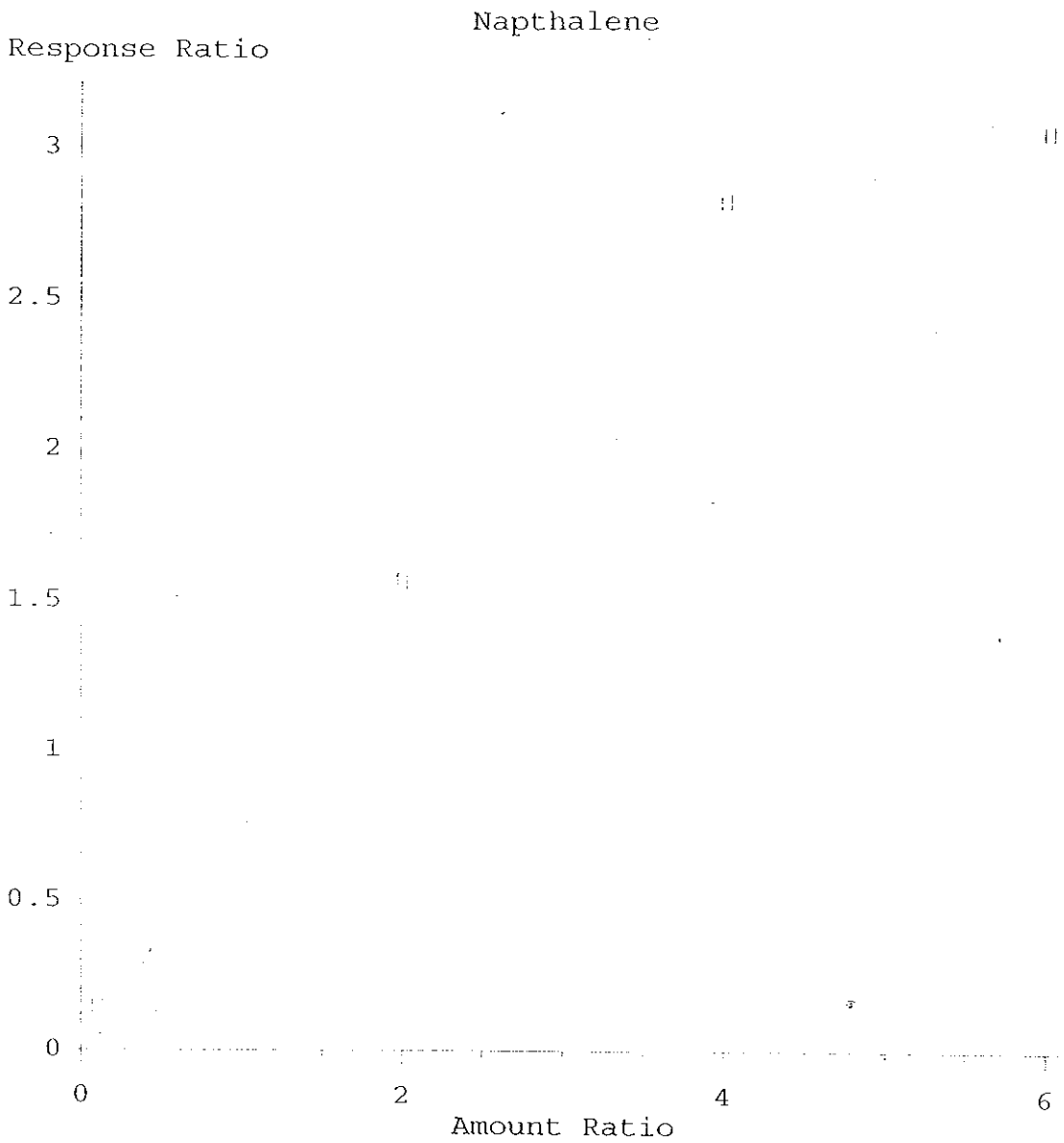


Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 18:59:32 2002

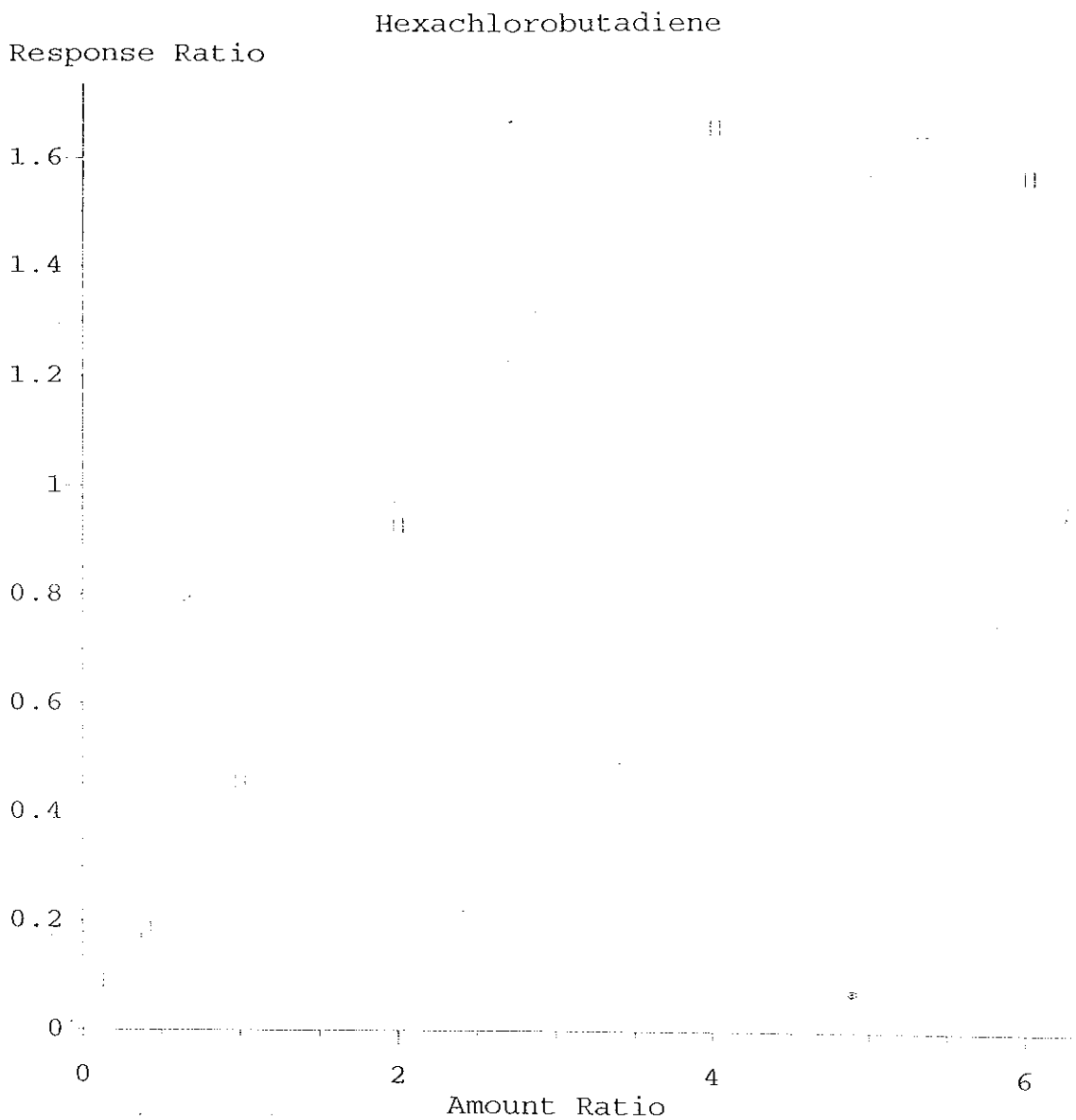


Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 18:59:45 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 19:00:27 2002



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

Method Name: D:\HPCHEM\1\METHODS\TO14S.M
Calibration Table Last Updated: Fri Jan 25 19:00:38 2002

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

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 89.60%		
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000	Range 90 - 109		Recovery = 97.58%		
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000	Range 87 - 112		Recovery = 97.86%		

Target Compounds					Qvalue	
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	82
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		[illegible]
20) Isooctane	12.03	57	301718	45.51 ng		
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

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

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

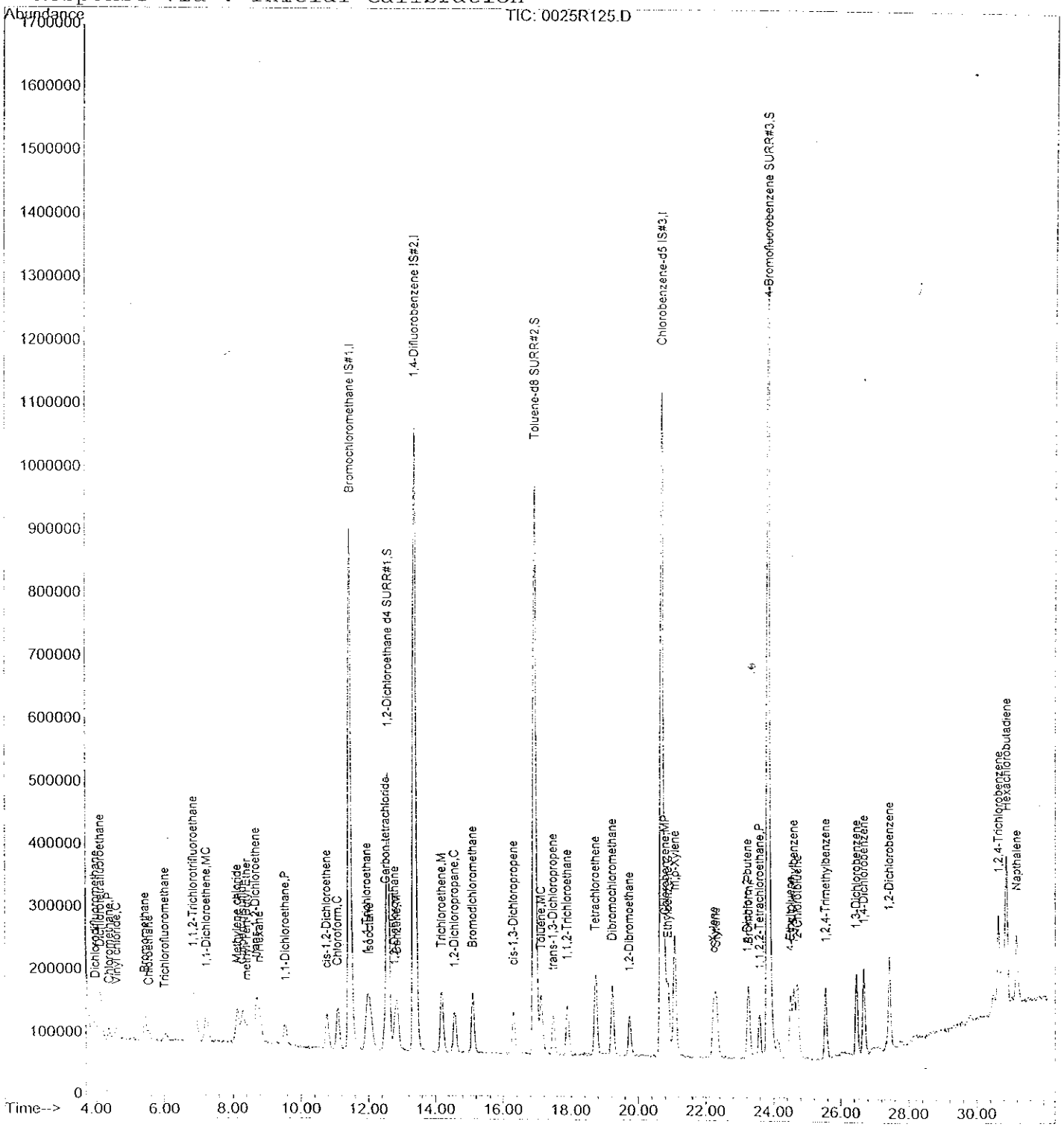
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.19	130	116164	39.83 ng		97
29)	1,2-Dichloropropane	14.56	63	89221	40.18 ng		96
30)	Bromodichloromethane	15.11	83	210160	37.15 ng		98
31)	cis-1,3-Dichloropropene	16.32	75	130436	38.16 ng		91
33)	Toluene	17.13	92	132700	40.00 ng		95
34)	trans-1,3-Dichloropropene	17.48	75	111132	37.84 ng	#	86
35)	1,1,2-Trichloroethane	17.89	97	93551	39.71 ng		94
37)	Tetrachloroethene	18.73	164	107951	42.67 ng		95
38)	Dibromochloromethane	19.22	127	154507	39.69 ng	#	96
39)	Chlorobenzene	20.81	112	191266	40.04 ng		93
40)	Ethylbenzene	20.88	106	77354	42.58 ng		99
41)	m,p-Xylene	21.09	106	199516	83.10 ng		96
42)	o-Xylene	22.23	106	92327	40.91 ng		93
43)	Styrene	22.30	104	161761	40.88 ng		95
44)	Bromoform	23.26	173	153138	40.51 ng		99
45)	1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67 ng		98
47)	1,4-Dichloro-2-butene	23.23	75	28123	45.62 ng		98
48)	4-Ethyltoluene	24.50	105	276959m	45.26 ng	#	42
49)	1,3,5-Trimethylbenzene	24.59	105	208705	44.71 ng	#	80
50)	2-Chlorotoluene	24.70	91	272490	43.13 ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	214290	41.70 ng		98
52)	1,3-Dichlorobenzene	26.46	146	167453	38.65 ng		94
53)	1,4-Dichlorobenzene	26.67	146	171427	36.21 ng		98
54)	1,2-Dichlorobenzene	27.44	146	180405	43.88 ng		94
55)	1,2,4-Trichlorobenzene	30.63	180	173653	54.61 ng		99
56)	Napthalene	31.18	128	311685	67.28 ng	#	92
57)	Hexachlorobutadiene	30.87	225	196055	78.46 ng		97

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

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

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

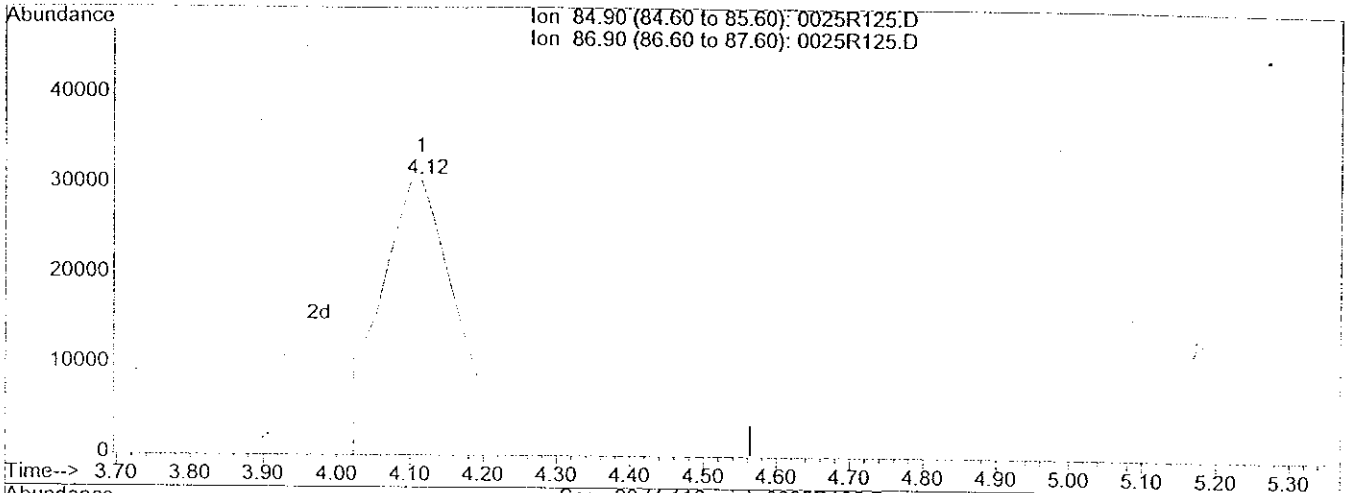


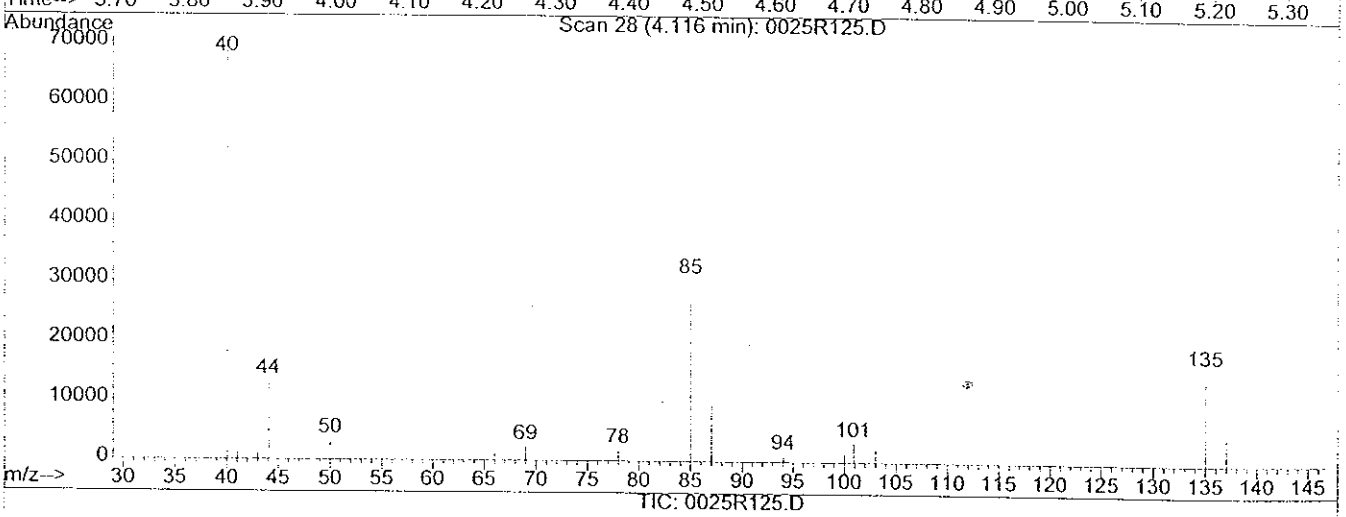
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

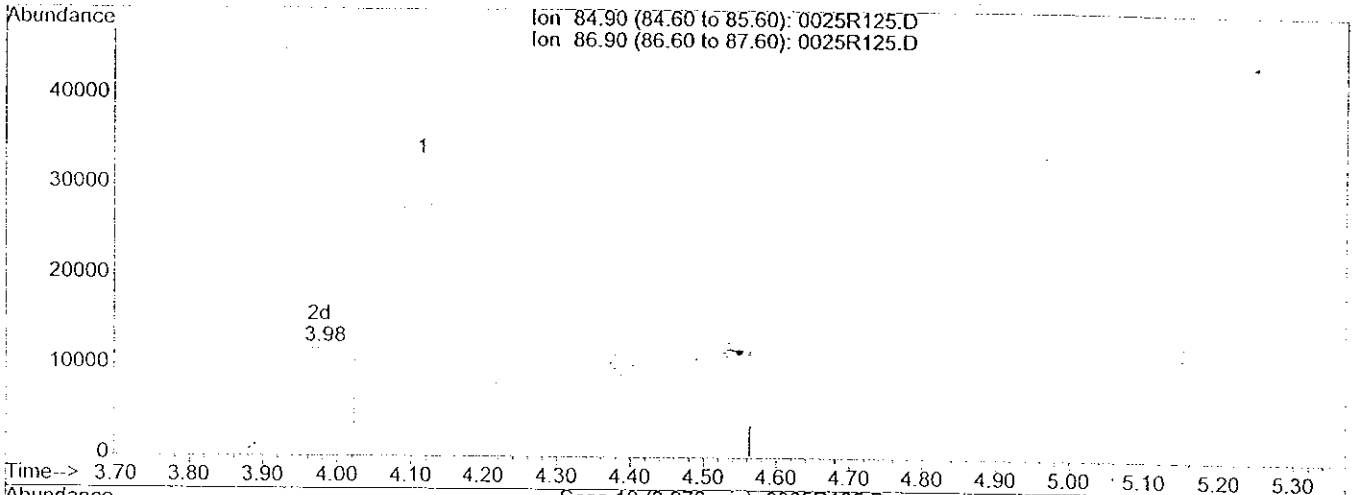
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

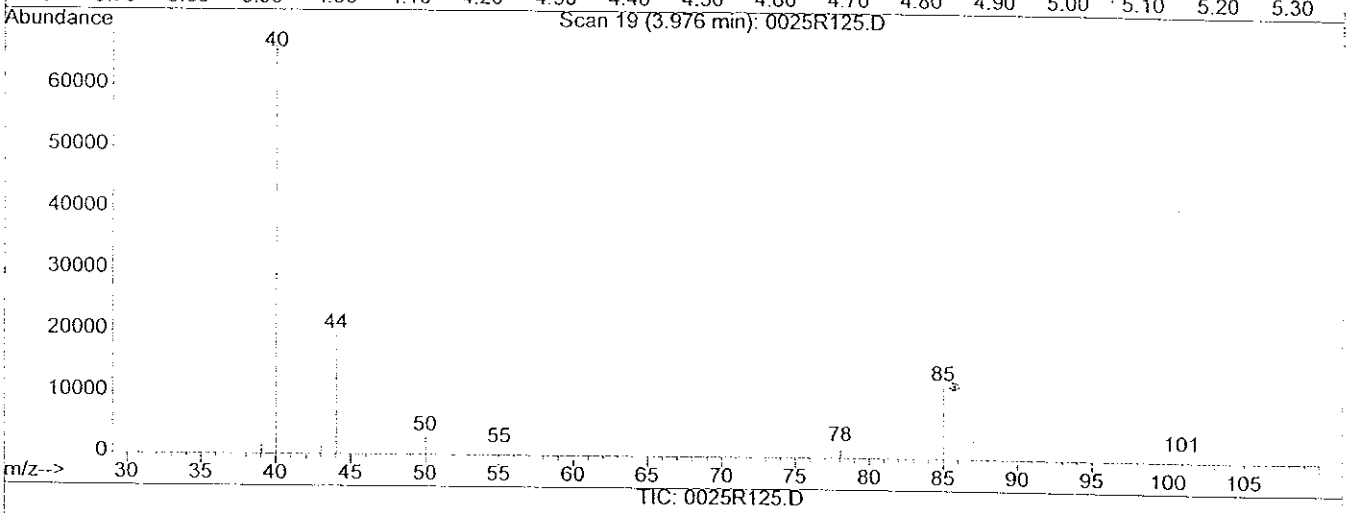
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

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

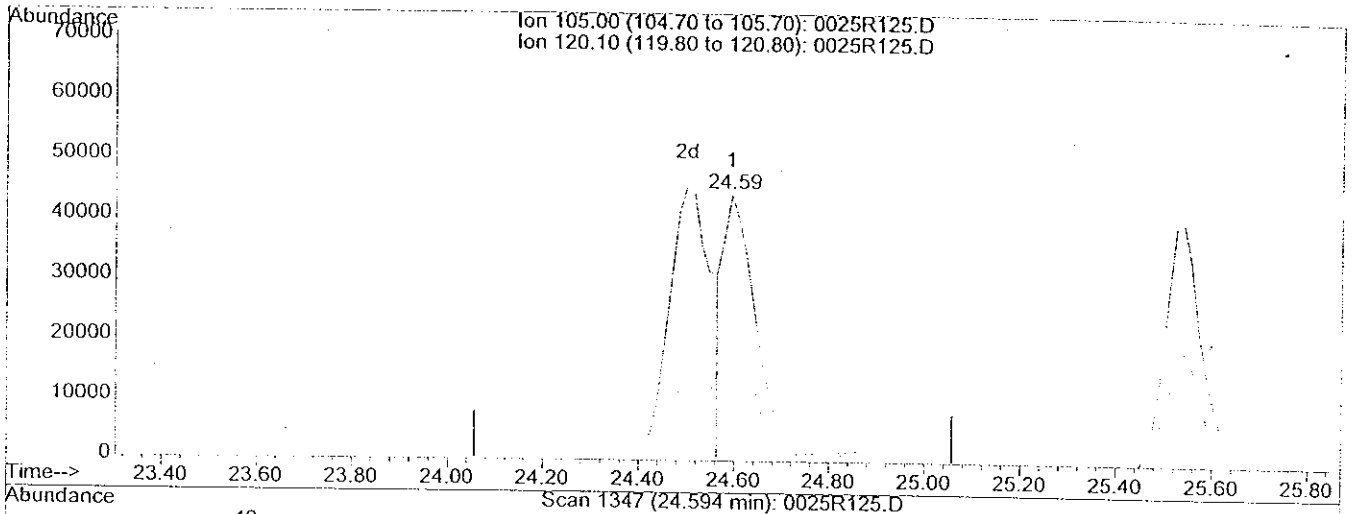
Quantitation Report (Qedit)

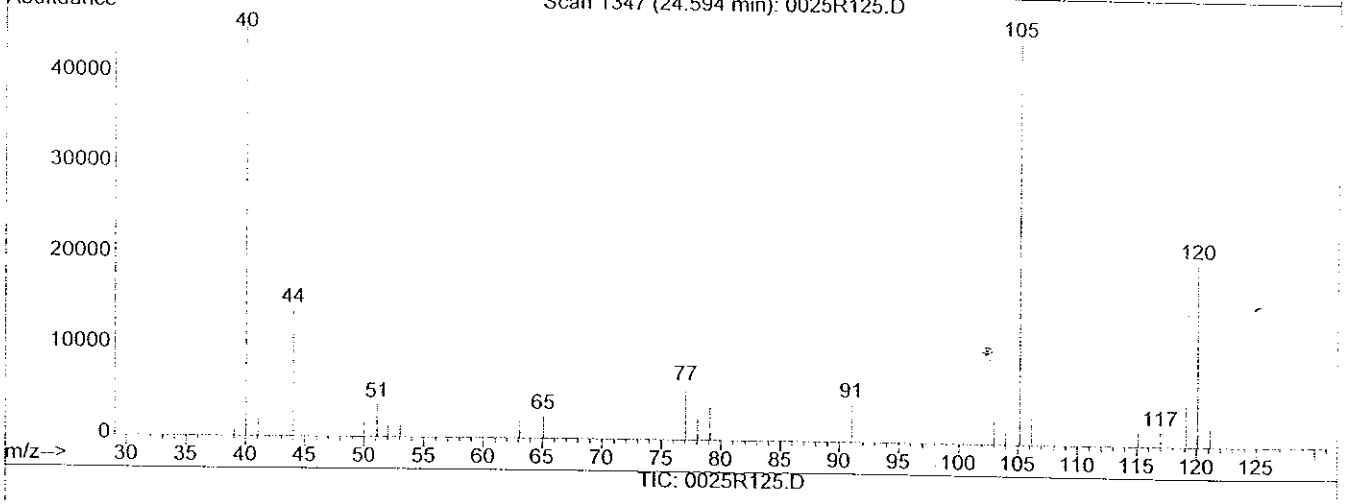
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

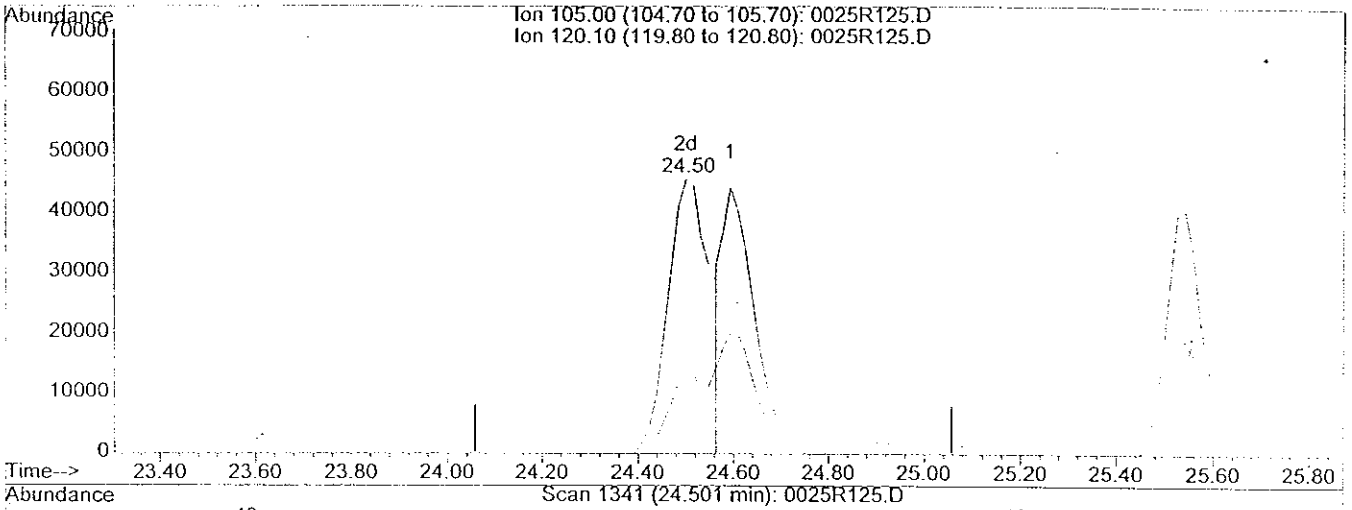
response 208705

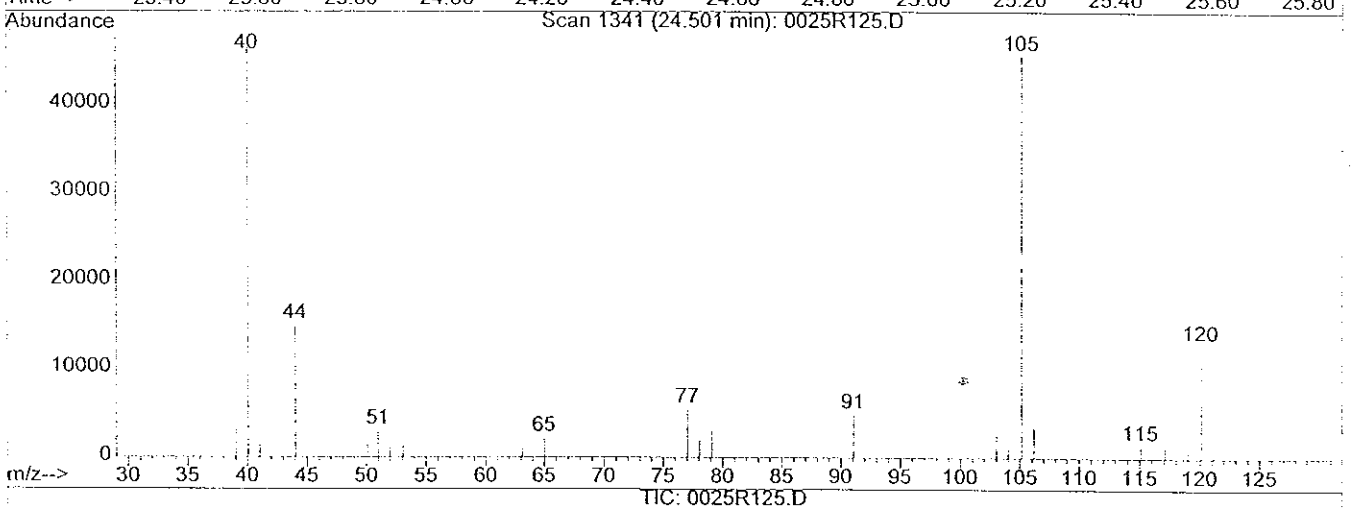
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

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

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

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

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00	ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00	ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00	ng	-0.05 95.76%

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%						
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03	ng	# 99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54	ng	# 40
4) Chloromethane	4.41	50	230623	128.25	ng	# 95
5) Vinyl chloride	4.62	62	197828	123.13	ng	99
6) Bromomethane	5.46	94	343058	125.48	ng	# 95
7) Chloroethane	5.56	64	147945	134.89	ng	99
8) Trichlorofluoromethane	6.08	101	258267	122.07	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53	ng	87
10) 1,1-Dichloroethene	7.25	96	312183	142.33	ng	83
12) Methylene chloride	8.15	49	406623	130.28	ng	97
13) Carbon disulfide	8.32	76	785720	130.09	ng	97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26	ng	97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25	ng	87
16) n-Hexane	8.82	57	320526	148.87	ng	# 1
17) 1,1-Dichloroethane	9.55	63	548504	135.74	ng	100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39	ng	91
19) Chloroform	11.10	83	704271	136.93	ng	98
20) Isooctane	12.05	57	1160036	162.95	ng	98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36	ng	91
22) Carbon tetrachloride	12.53	117	617093	137.29	ng	98
24) 1,2-Dichloroethane	12.79	62	386406	132.71	ng	98
25) 1,2-Dibromoethane	19.75	107	625053	145.43	ng	99
27) Benzene	12.87	78	806884	143.11	ng	100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

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

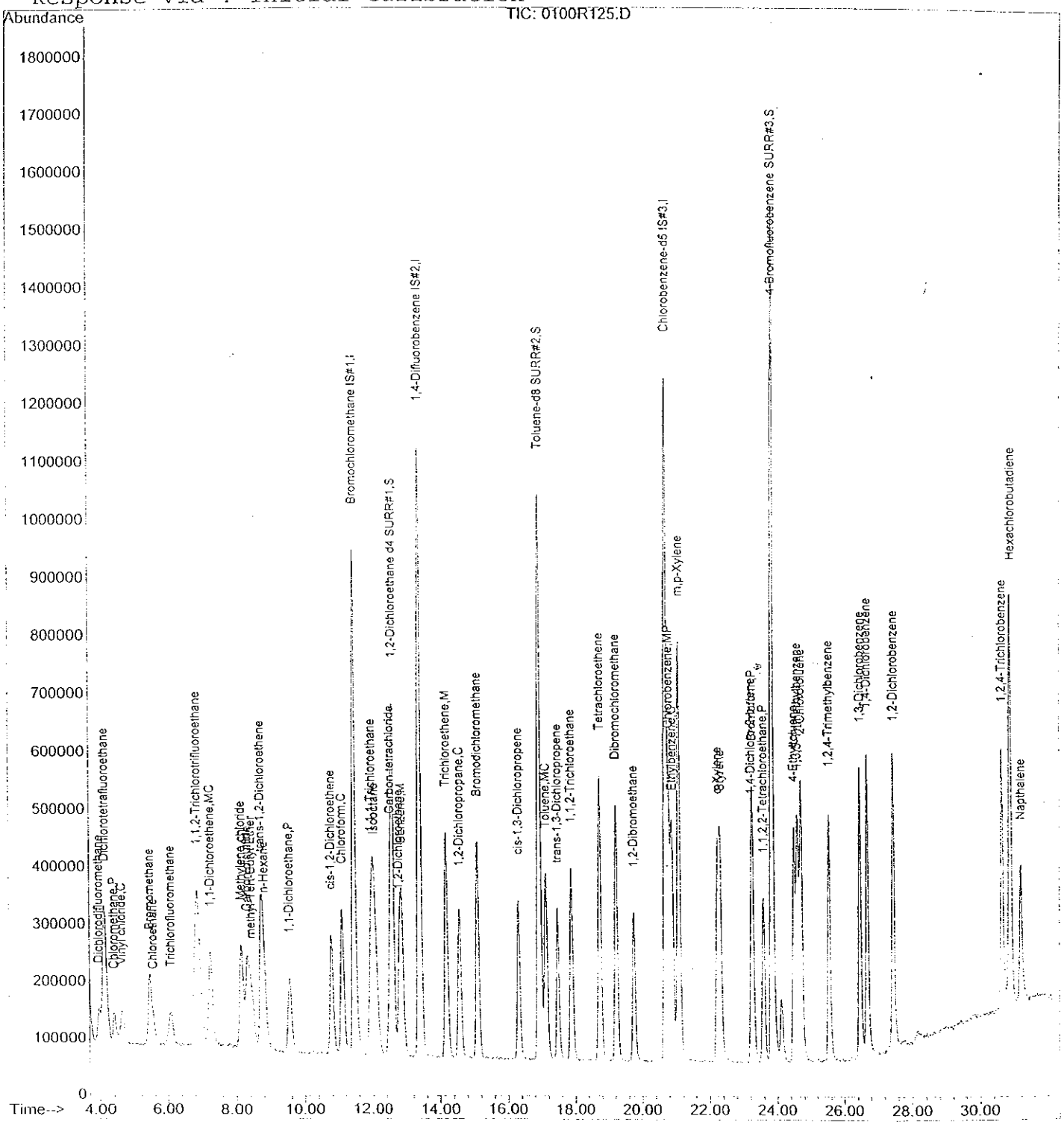
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.19	130	448788	144.70 ng		96
29) 1,2-Dichloropropane	14.58	63	339754	143.88 ng		98
30) Bromodichloromethane	15.10	83	843245	140.20 ng		99
31) cis-1,3-Dichloropropene	16.32	75	506869	139.46 ng		96
33) Toluene	17.12	92	496011	140.63 ng		98
34) trans-1,3-Dichloropropene	17.48	75	442246	141.62 ng		92
35) 1,1,2-Trichloroethane	17.88	97	365999	146.13 ng		97
37) Tetrachloroethene	18.74	164	406137	149.07 ng		96
38) Dibromochloromethane	19.22	127	618919	147.64 ng		99
39) Chlorobenzene	20.79	112	747778	145.37 ng		96
40) Ethylbenzene	20.90	106	291472	148.99 ng		100
41) m,p-Xylene	21.08	106	760694	294.22 ng		98
42) o-Xylene	22.23	106	361372	148.70 ng		98
43) Styrene	22.31	104	629732	147.78 ng		99
44) Bromoform	23.26	173	626335	153.87 ng		100
45) 1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26 ng		99
47) 1,4-Dichloro-2-butene	23.22	75	109322	164.68 ng		95
48) 4-Ethyltoluene	24.50	105	911893	138.39 ng		99
49) 1,3,5-Trimethylbenzene	24.59	105	792143	157.59 ng		92
50) 2-Chlorotoluene	24.70	91	997139	146.56 ng		97
51) 1,2,4-Trimethylbenzene	25.54	105	816144	147.47 ng		100
52) 1,3-Dichlorobenzene	26.47	146	667300	143.04 ng		95
53) 1,4-Dichlorobenzene	26.67	146	717087m	140.66 ng	#	96
54) 1,2-Dichlorobenzene	27.45	146	654043	147.73 ng		96
55) 1,2,4-Trichlorobenzene	30.63	180	479573	140.05 ng		99
56) Napthalene	31.19	128	724021	145.13 ng	#	92
57) Hexachlorobutadiene	30.88	225	420106	156.13 ng		98

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

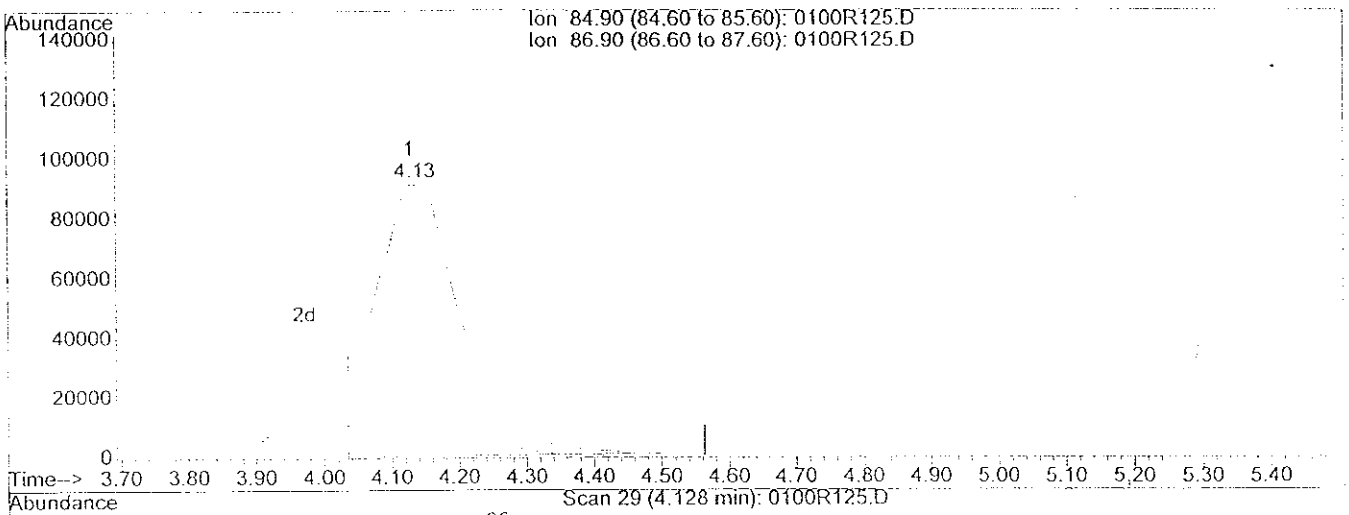
Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

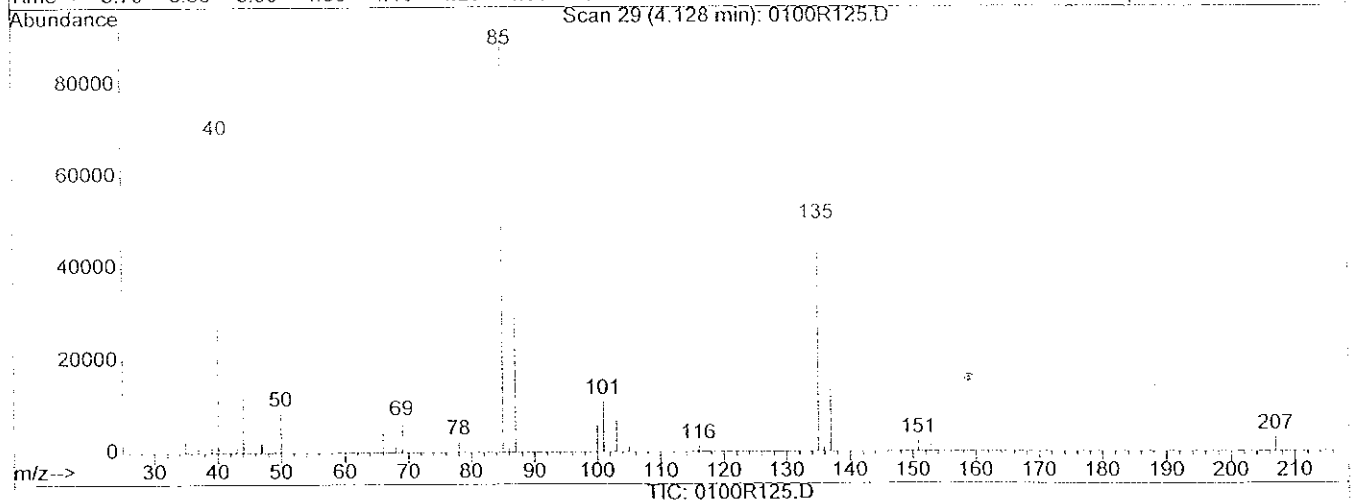
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002 Quant Results File: temp.res

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





(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

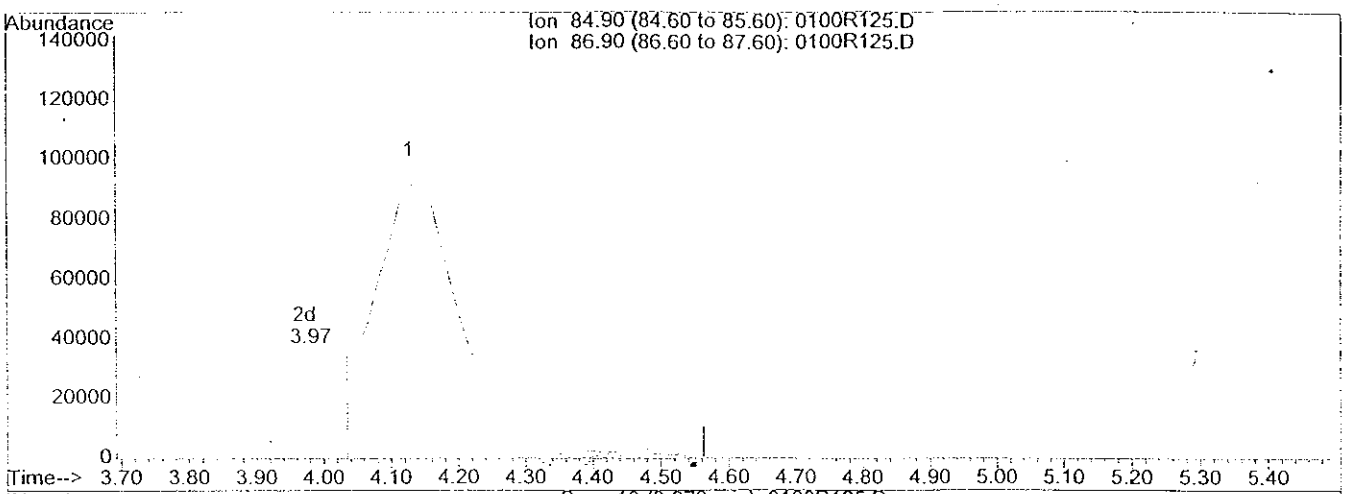
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

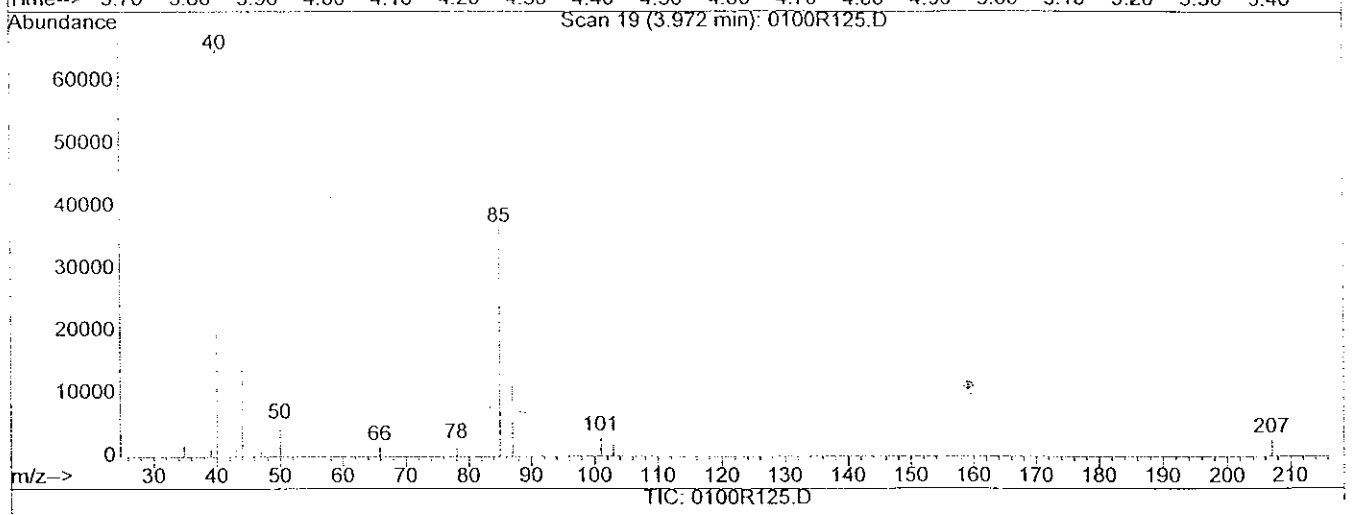
coelution
iron peak

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

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

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





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

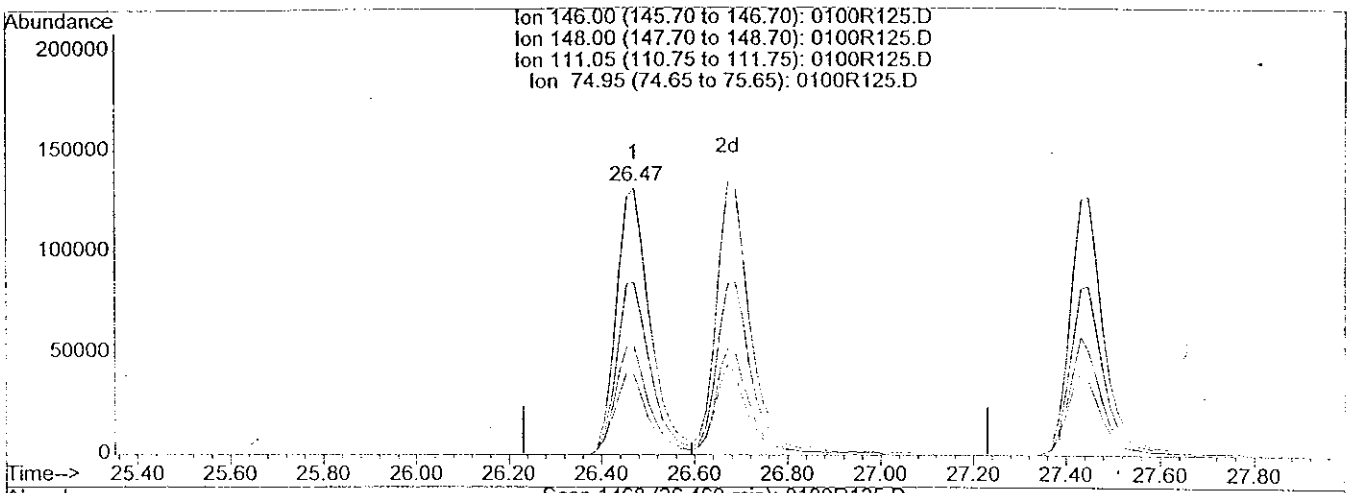
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

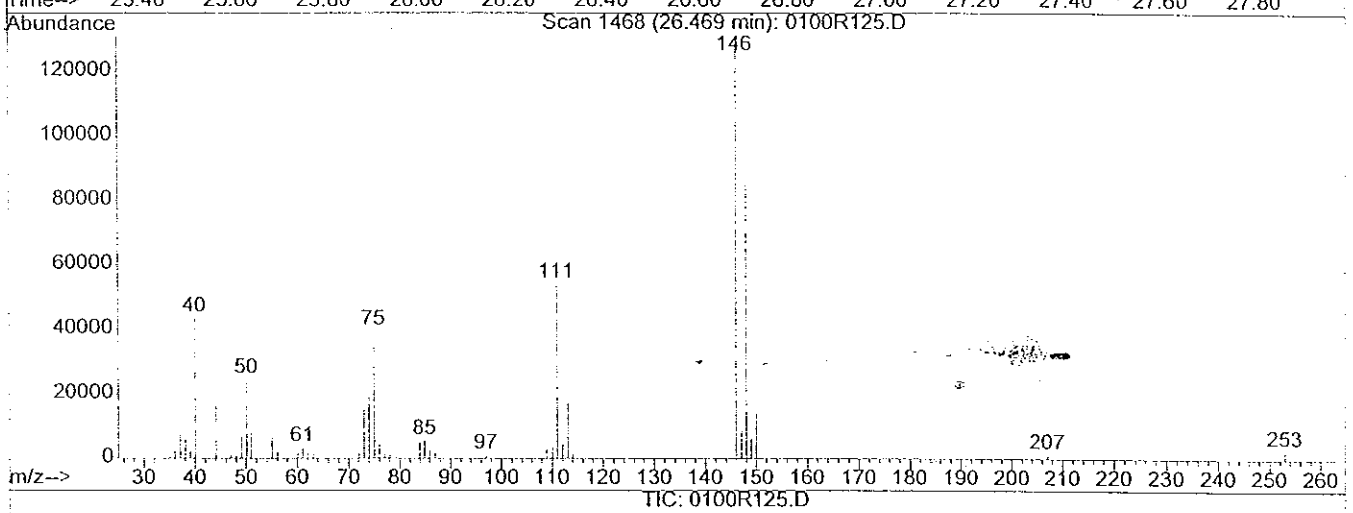
1-25-02

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

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

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





(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

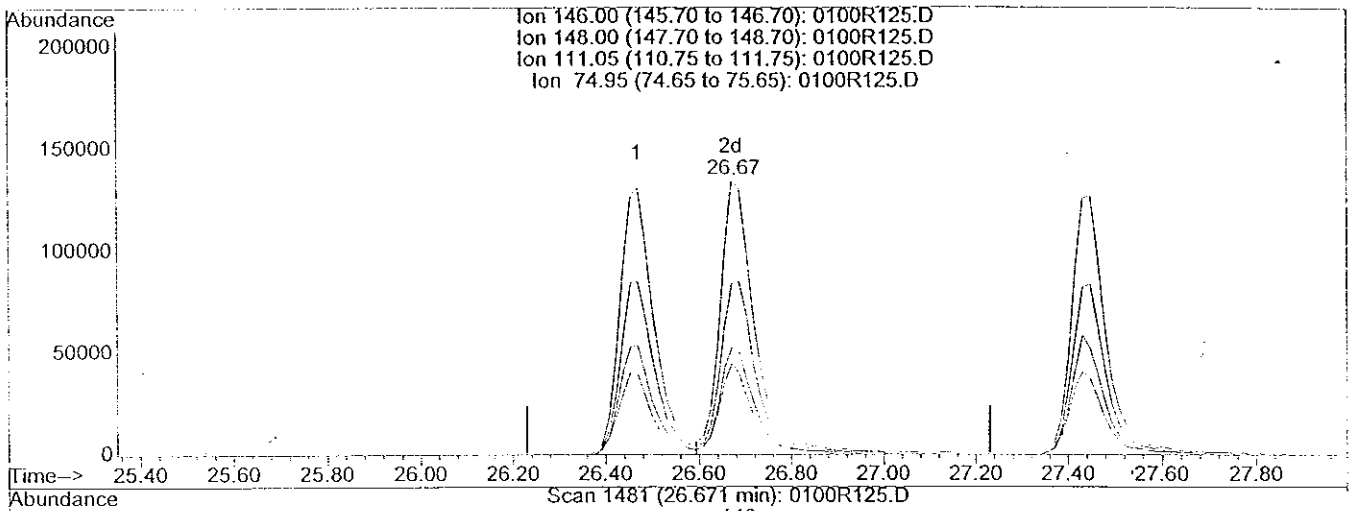
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

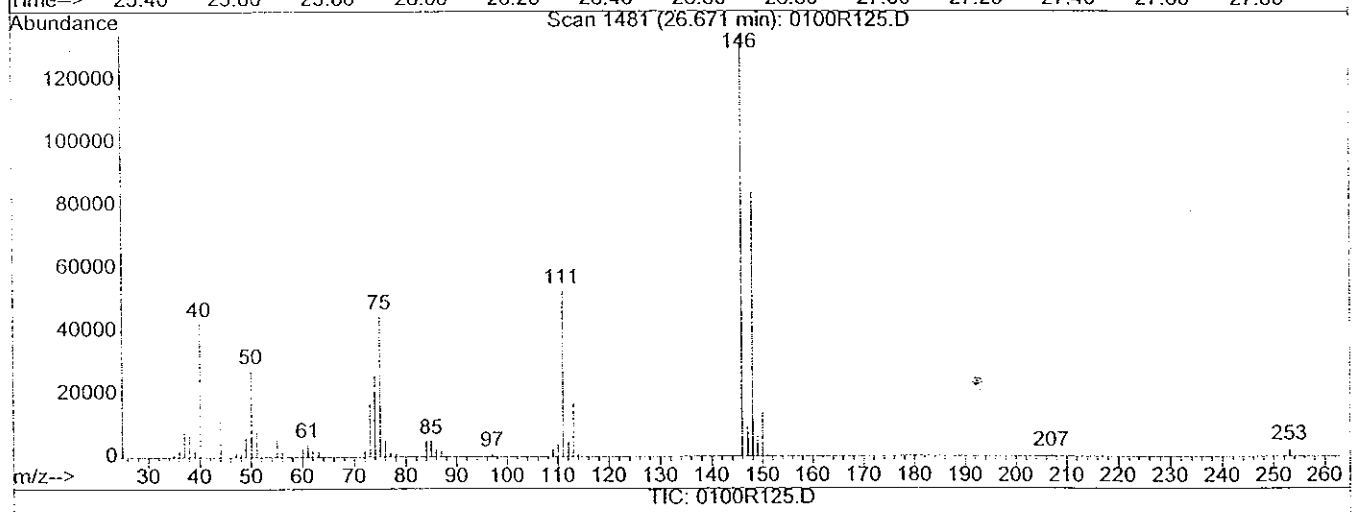
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

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

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





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-25-02

0100R125.D TO14S.M Fri Jan 25 18:54:59 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D (25 Jan 2002 11:34)

TM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00	ng	0.04 99.81%
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00	ng	0.04 100.02%
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00	ng	0.02 99.67%

System Monitoring Compounds						
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

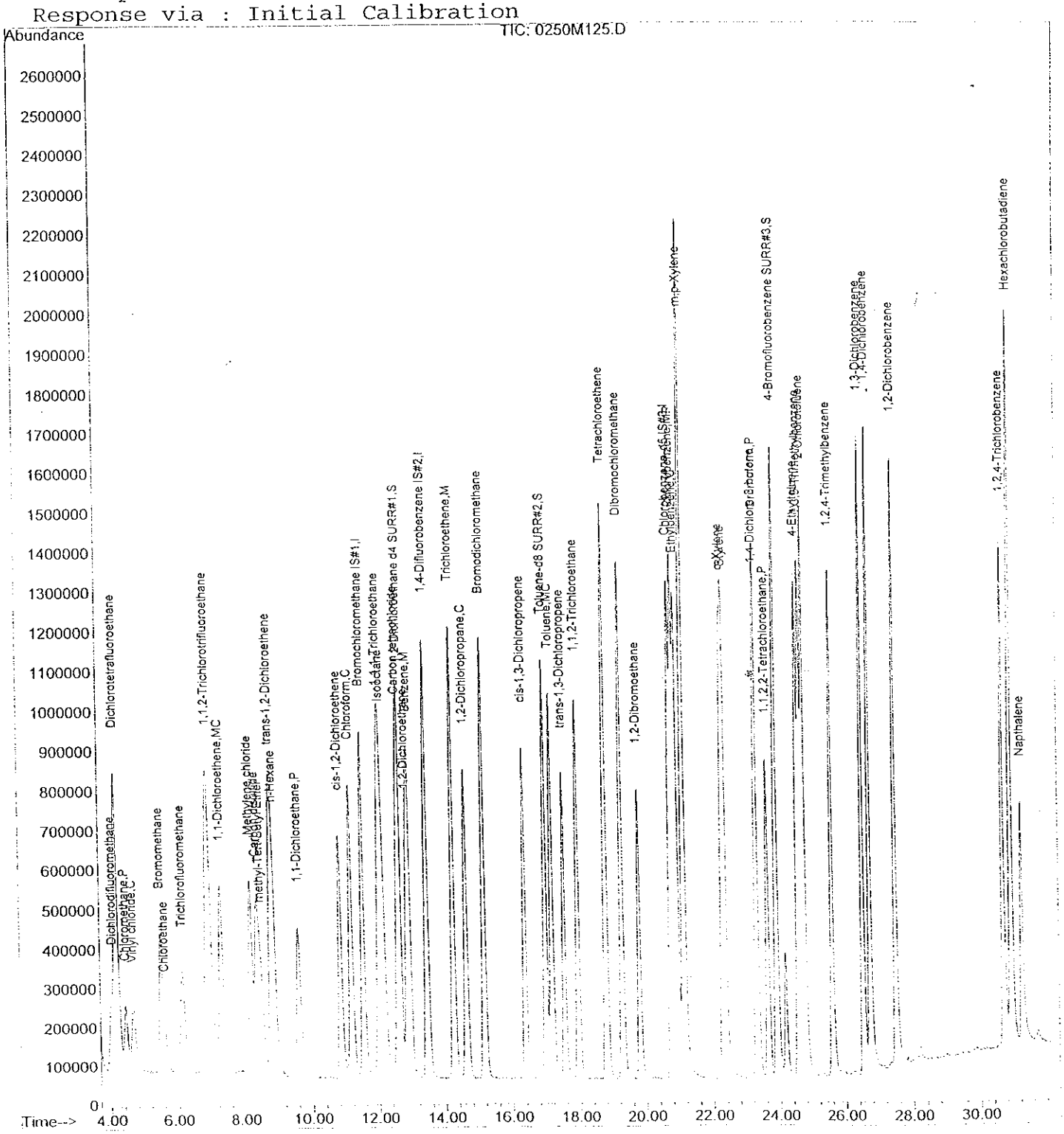
(#) = qualifier out of range (m) = manual integration

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

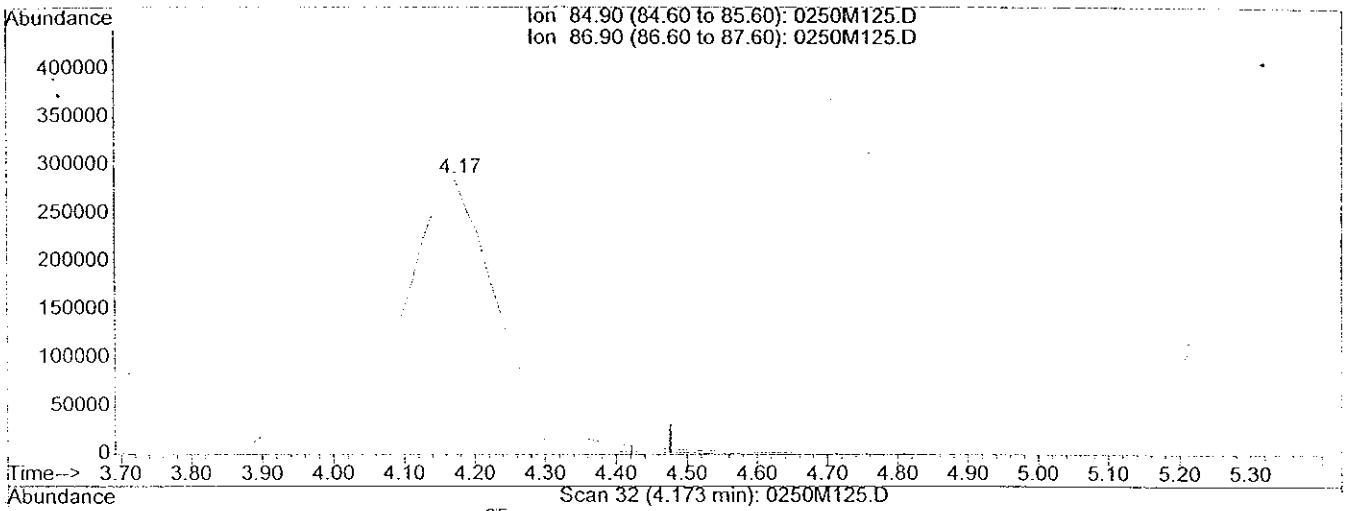
Quant Results File: TO14S.RES

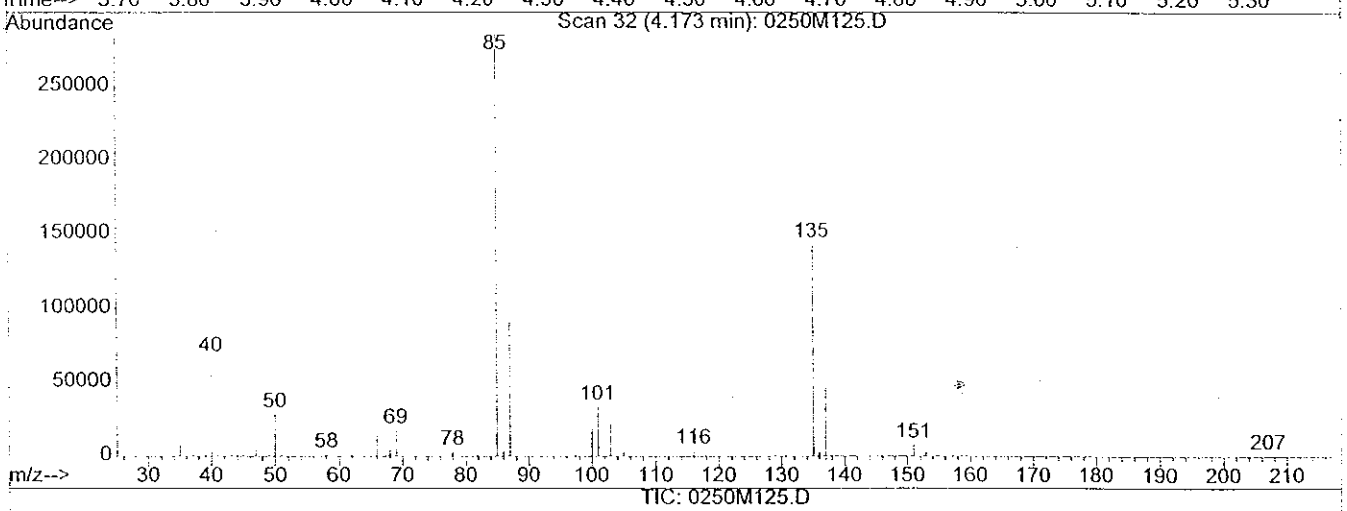
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

response 3299163

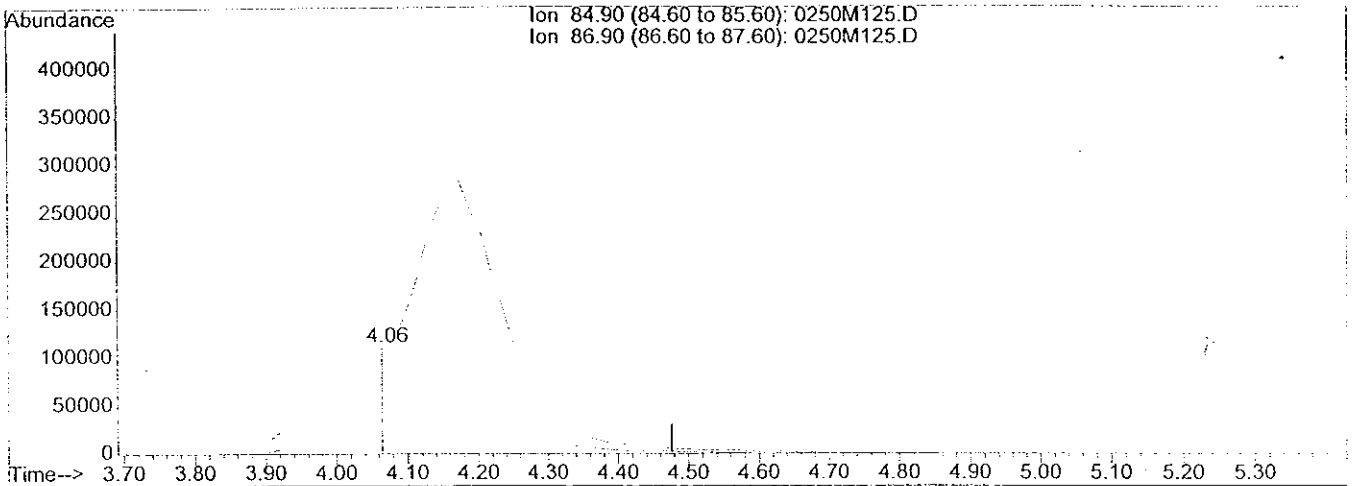
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

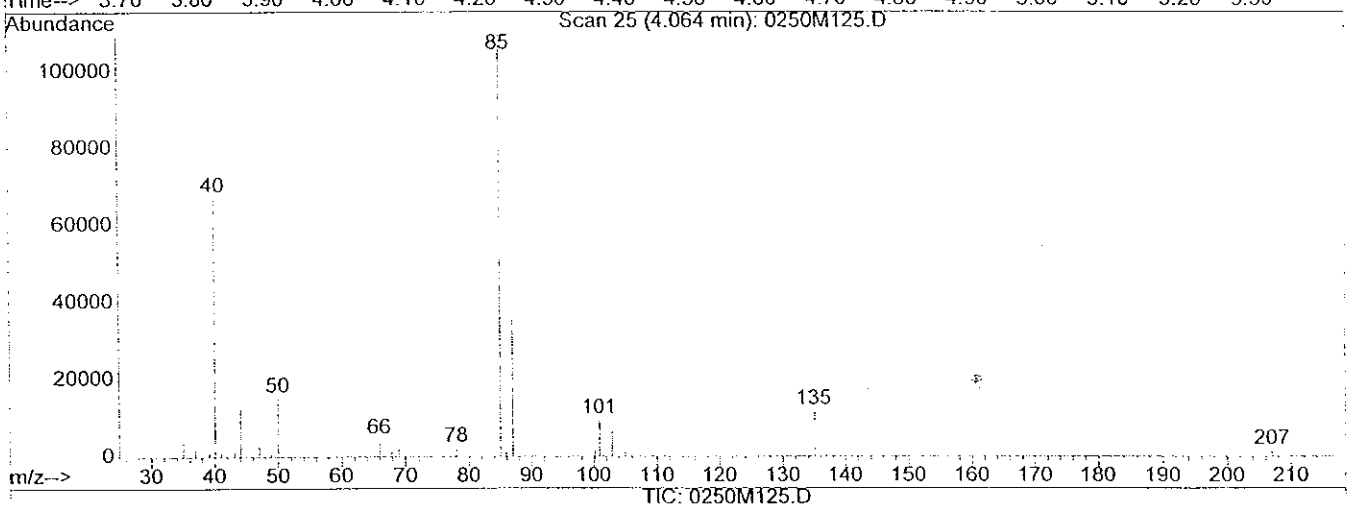
0250M125.D TO14S.M Fri Jan 25 15:09:52 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
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

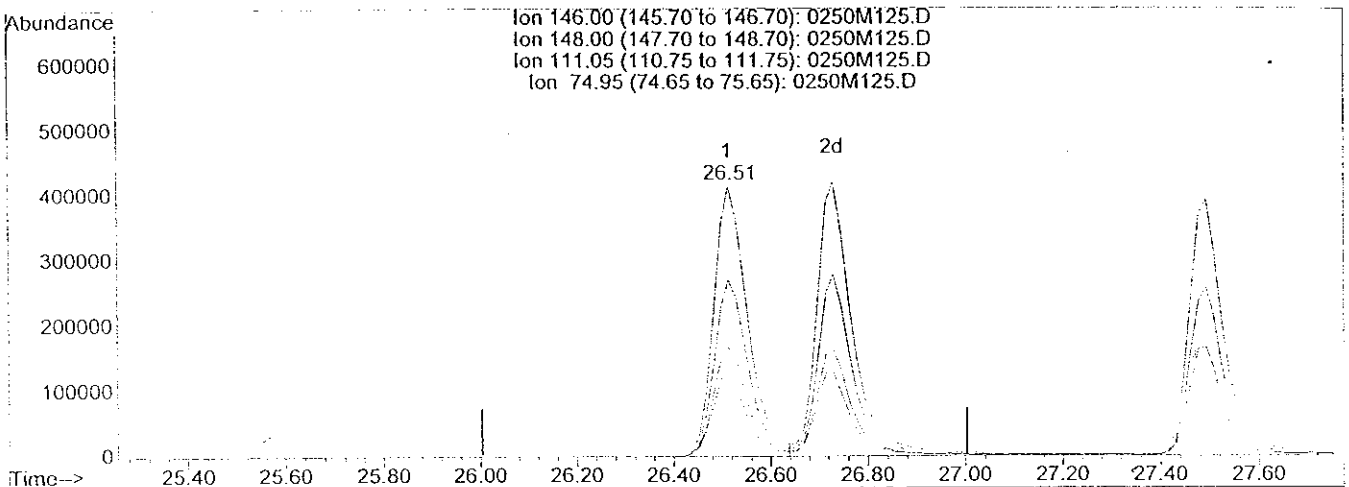
response 732577

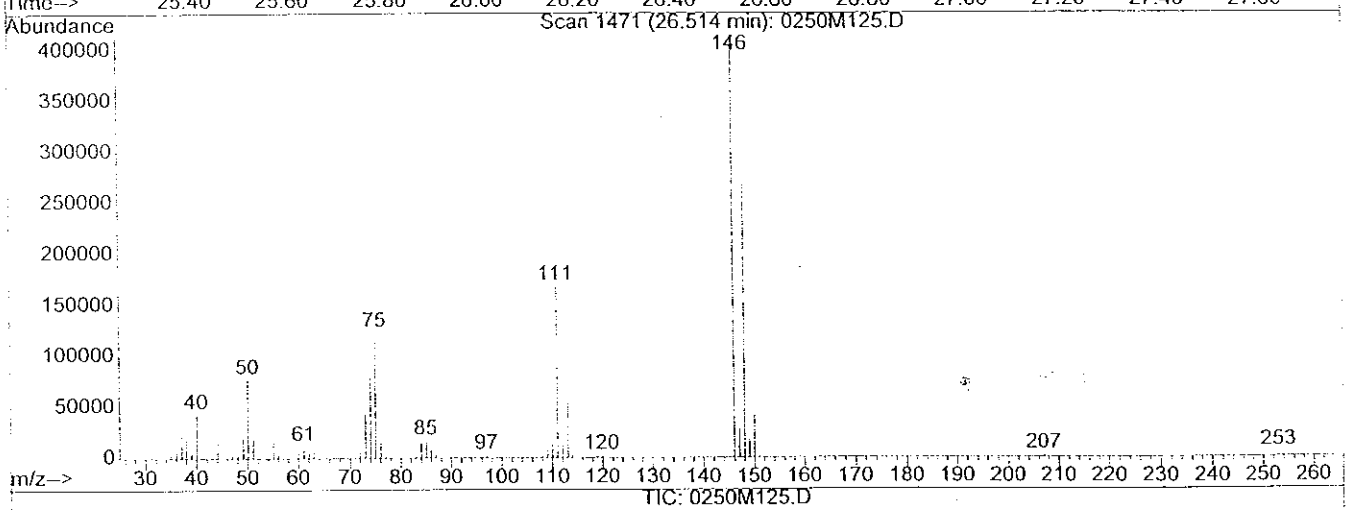
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

response 2001409

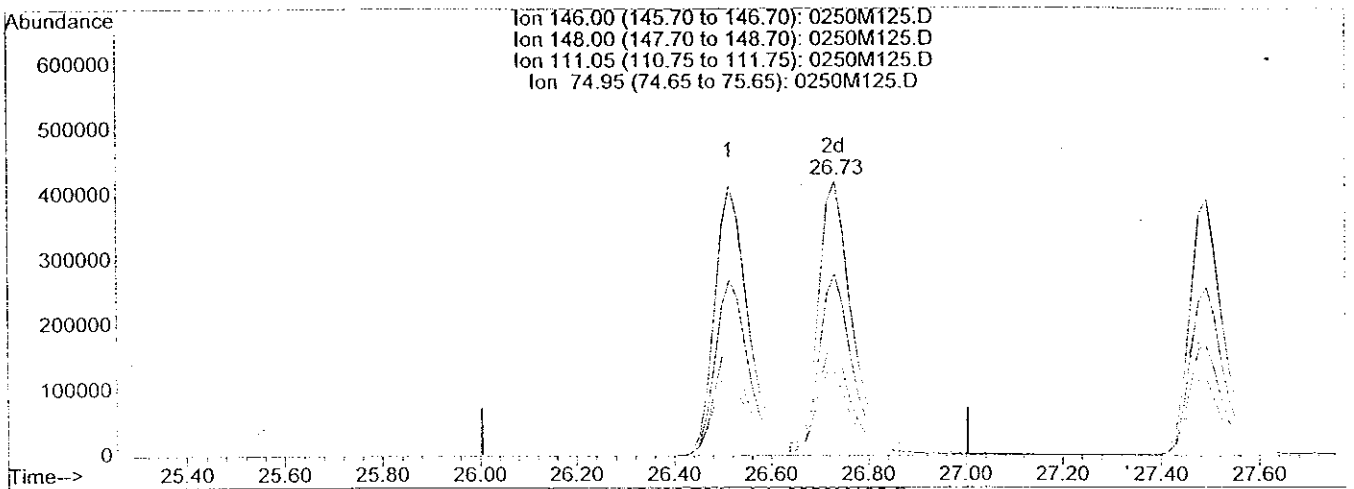
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

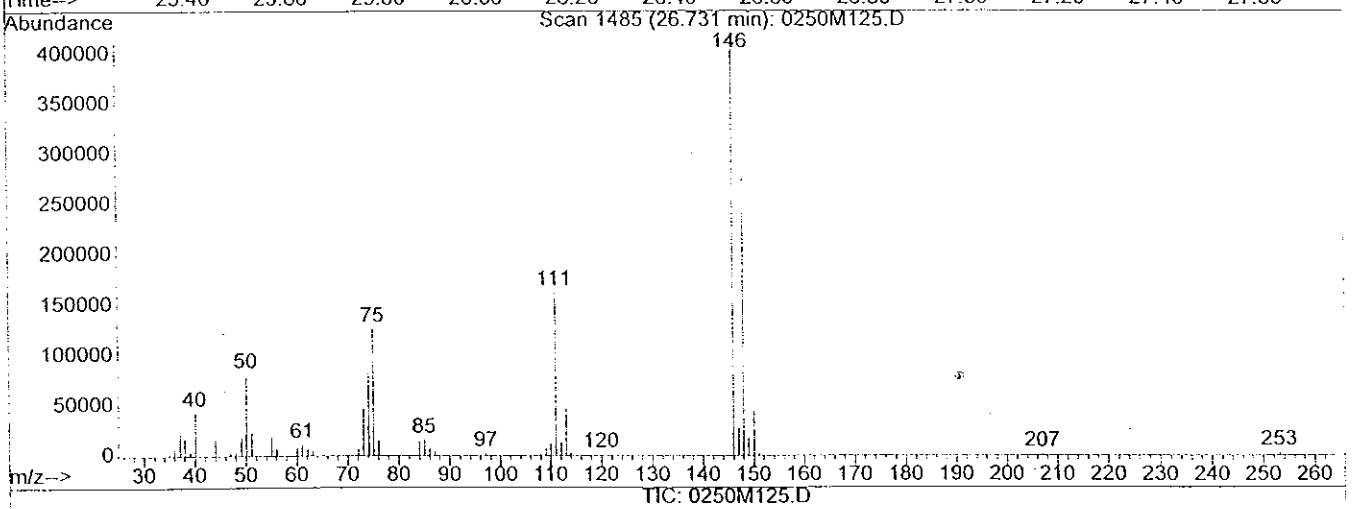
0250M125.D TO14S.M Fri Jan 25 15:10:27 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

JM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00	ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02 85.65%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

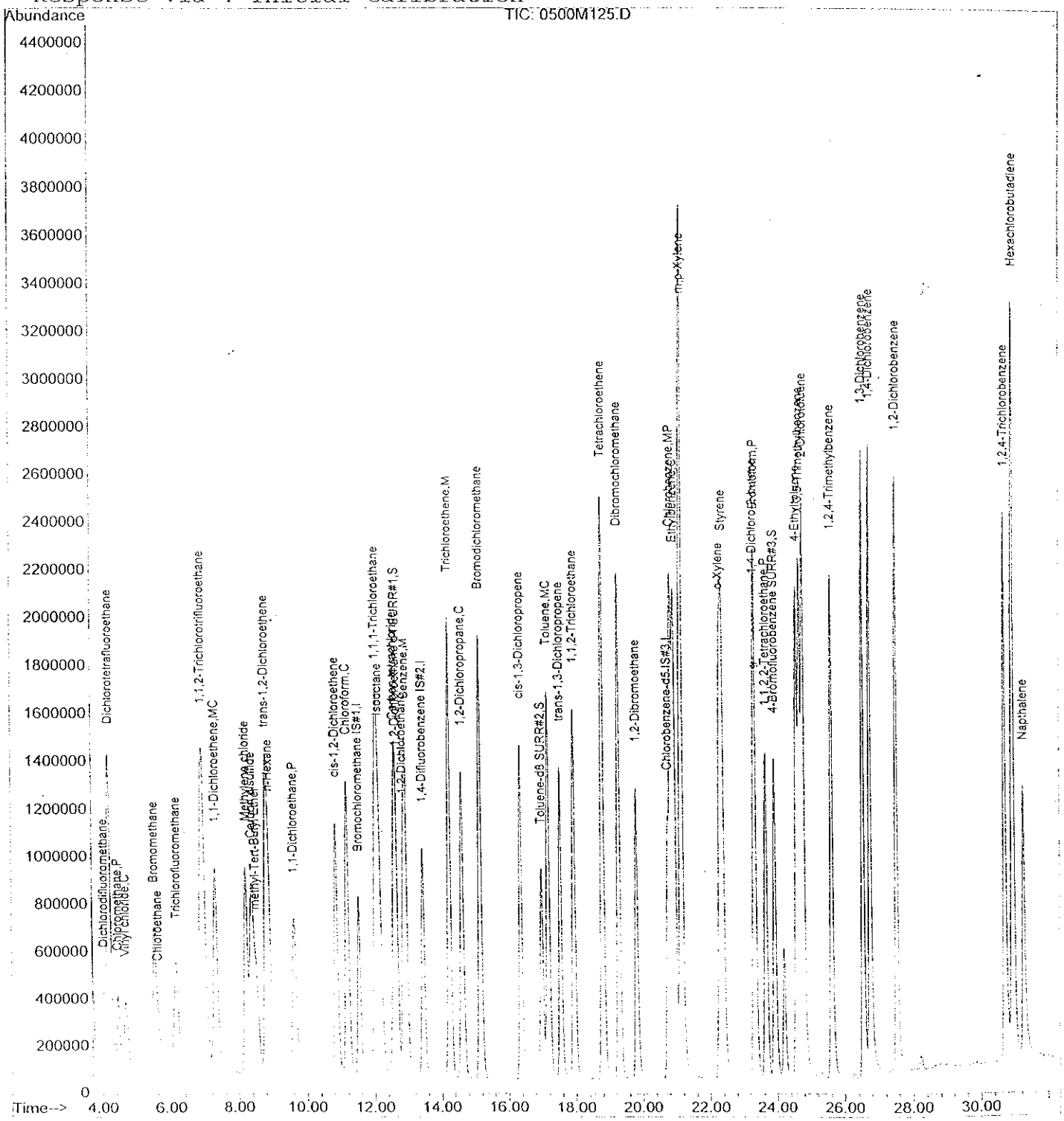
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39 ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67 ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03 ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68 ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98 ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70 ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12 ng		99
42)	o-Xylene	22.29	106	1850077	851.14 ng		97
43)	Styrene	22.37	104	3243356	851.00 ng		97
44)	Bromoform	23.33	173	2899555	796.41 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67 ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21 ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52 ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53 ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21 ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31 ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02 ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99 ng		99
56)	Napthalene	31.27	128	3229812	723.84 ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

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



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TB 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng		92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng	#	41
4) Chloromethane	4.44	50	2133139	1351.49	ng	#	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng		96
6) Bromomethane	5.51	94	3162736	1317.96	ng	#	99
7) Chloroethane	5.60	64	1530589	1589.88	ng		97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng		84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng		90
12) Methylene chloride	8.20	49	3993235	1457.56	ng		99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng		100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng		99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng		93
16) n-Hexane	8.88	57	2940178	1555.79	ng	#	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng		98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng		93
19) Chloroform	11.18	83	6940397	1537.33	ng		99
20) Isooctane	12.12	57	9654037	1544.96	ng		97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng		91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng		97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng		98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng		98
27) Benzene	12.95	78	7976775	1559.00	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

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

Quant Results File: TO14S.RES

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

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.25	130	4575596	1625.70 ng		95
29) 1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30) Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31) cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33) Toluene	17.18	92	5201962	1625.17 ng		98
34) trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35) 1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37) Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38) Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39) Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40) Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41) m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42) o-Xylene	22.31	106	3789454	1709.97 ng		96
43) Styrene	22.39	104	6680678	1719.31 ng		96
44) Bromoform	23.33	173	6162140	1660.10 ng		100
45) 1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47) 1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48) 4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49) 1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50) 2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51) 1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52) 1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53) 1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54) 1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55) 1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56) Napthalene	31.25	128	5947012	1307.26 ng	#	93
57) Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

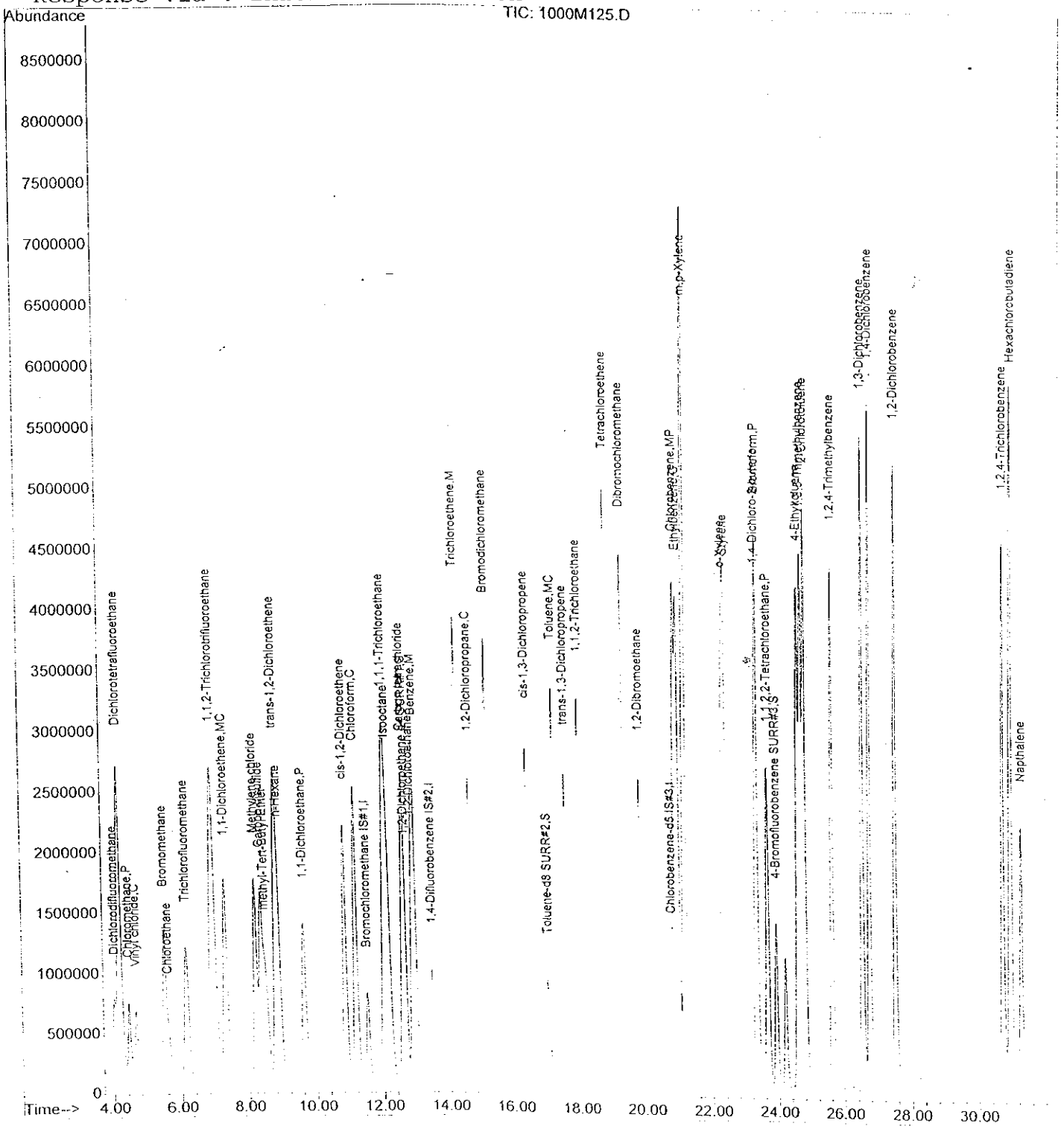
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

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

Quant Results File: TO14S.RES

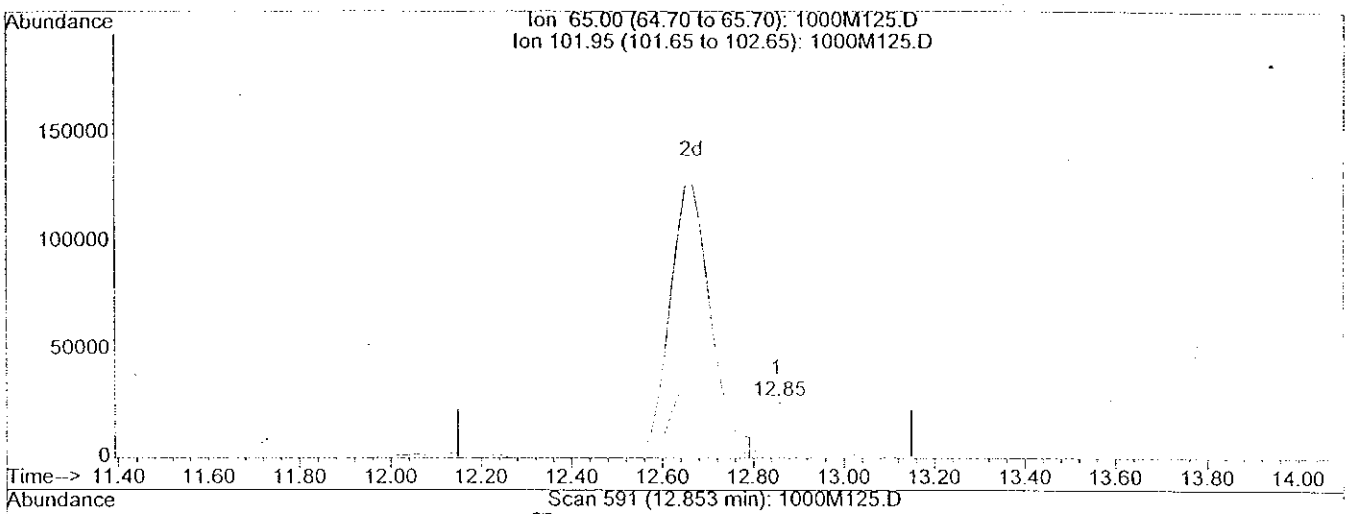
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration

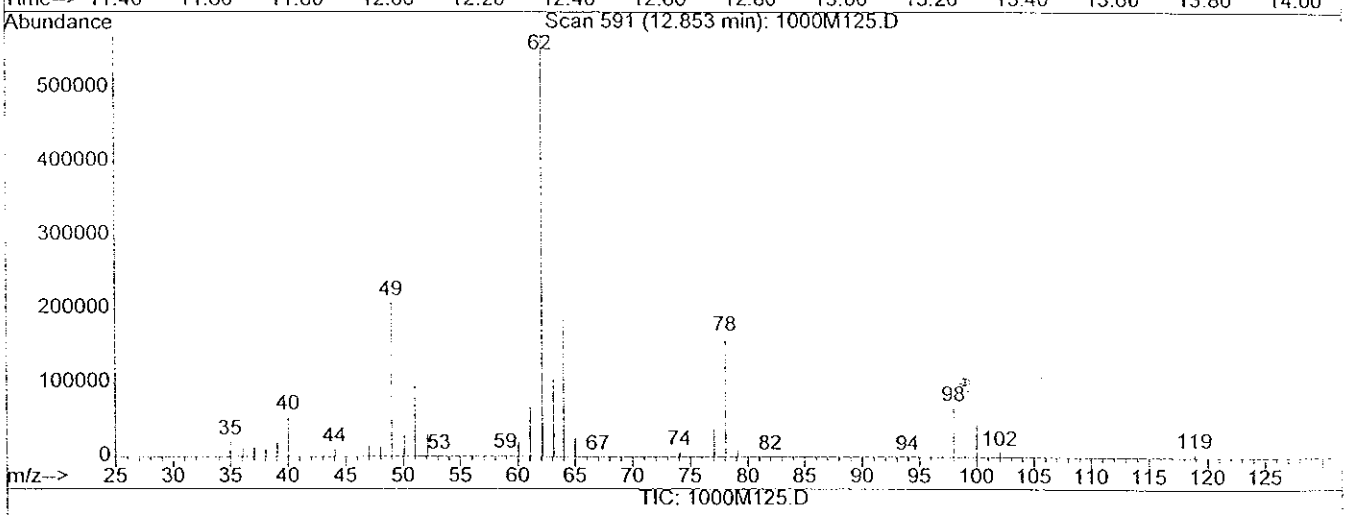


1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

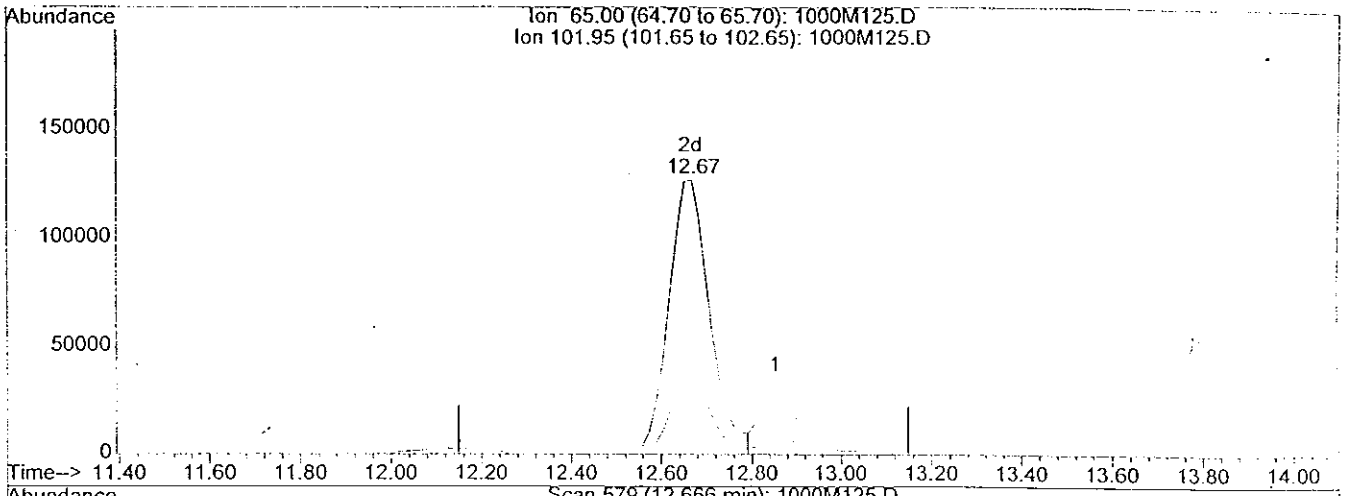
response 171340

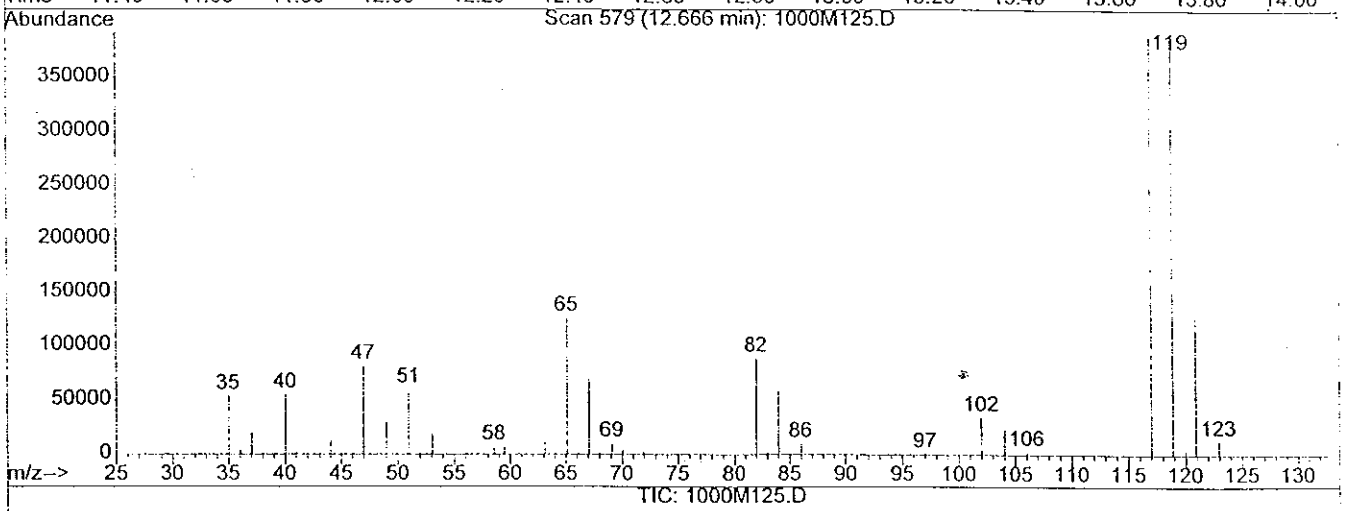
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARI
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: temp

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.64	65	969992	224.57	ng	-0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.83%						
32) Toluene-d8 SURR#2	16.98	98	2698314	246.90	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.76%						
46) 4-Bromofluorobenzene SURR#	23.89	95	2315305	243.39	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.36%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	4153710	2069.81	ng		91
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng	#	40
4) Chloromethane	4.44	50	3972848	2058.56	ng	#	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng		98
6) Bromomethane	5.48	94	5976813	2036.94	ng	#	99
7) Chloroethane	5.59	64	2892614	2457.35	ng		98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng		84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng		90
12) Methylene chloride	8.18	49	7493461	2236.94	ng		99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng		99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng		99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng		93
16) n-Hexane	8.85	57	5552938	2403.09	ng	#	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng		98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng		92
19) Chloroform	11.15	83	13101131	2373.35	ng		99
20) Isooctane	12.11	57	17221498	2253.97	ng		96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng		91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng		97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng	#	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng		99
27) Benzene	12.92	78	15415352	2393.38	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

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

Quant Results File: TO14S.RES

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

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.23	130	8742025	2467.42 ng		95
29) 1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30) Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31) cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33) Toluene	17.17	92	10065682	2498.13 ng		98
34) trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35) 1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37) Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38) Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39) Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40) Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41) m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42) o-Xylene	22.28	106	7218929	2597.06 ng		97
43) Styrene	22.35	104	12826497	2631.72 ng		96
44) Bromoform	23.32	173	11319346	2431.22 ng		100
45) 1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47) 1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48) 4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49) 1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50) 2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51) 1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52) 1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53) 1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54) 1,2-Dichlorobenzene	27.48	146	11022666	2176.84 ng		95
55) 1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56) Napthalene	31.24	128	8081624	1416.32 ng	#	92
57) Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

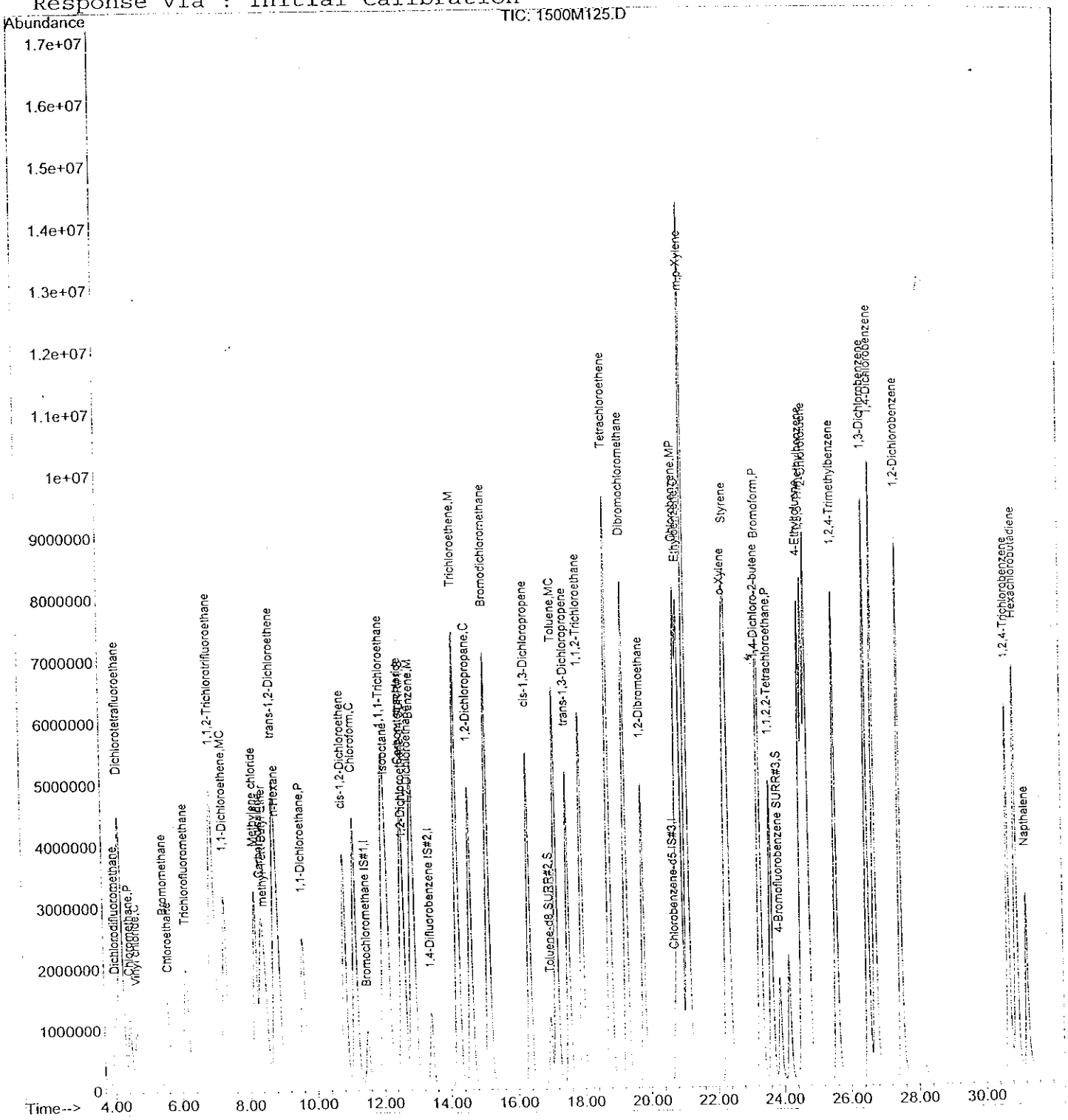
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
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

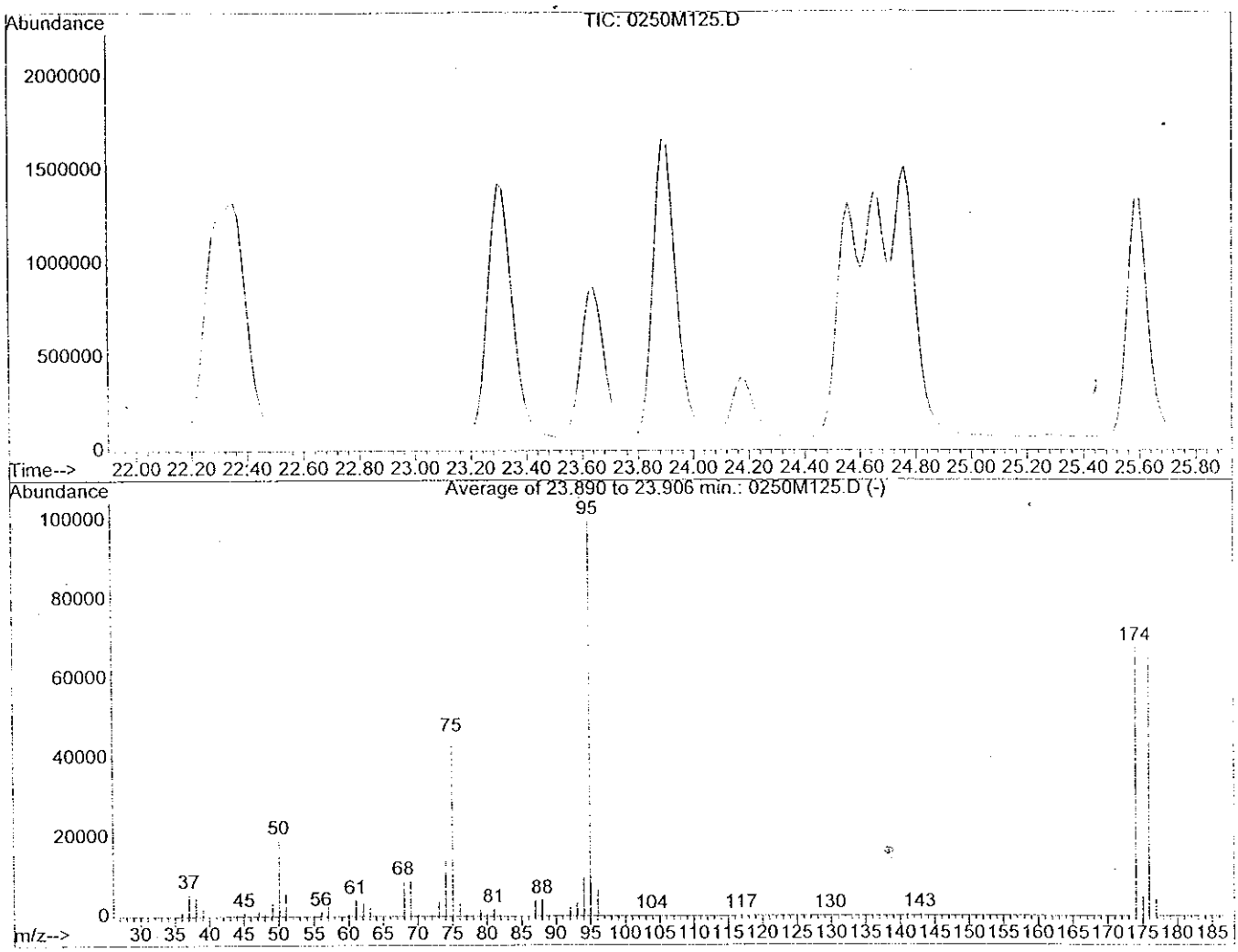
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration



BFB

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

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



Spectrum Information: Average of 23.890 to 23.906 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	19497	PASS
75	95	30	60	45.2	45174	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.7	6711	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	67.9	67931	PASS
175	174	5	9	7.2	4876	PASS
176	174	95	101	97.9	66477	PASS
177	176	5	9	6.4	4264	PASS

0250M125.D TO14S.M Fri Jan 25 21:57:36 2002

STL Pensacola / GCMS Volatiles Run Log

Method : (TO14) /8260AIR /8260WATER /624MOD

Date 2-13-02
Batch MAB025 (1) 2 3
IS# 8 -MSW- 26 -3
BFB 8 -MSW- 26 -3

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

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
09:49	1#3	BFB512	BFM0213A	50ppb			W		BH	Daily 12 hr. BFB Tune
10:11	14	To14 5.m	CM 0213A	50ppb		Y N	W	YES	BH	Daily Cal Check/bfb tune/95 ion area =
11:23	15	↓	MA025A BK	ST		Y N	↓	↓	↓	Daily Method Blank
12:00	16		MA025 LCS	50ppb		Y N				Batch# 025 LCS
13:	2		QC024	ST.		Y N	A (TO14)			500mls
13:05	2		02061-1	ST.		Y N				500mls
14:40	2		02067-1	ST.		Y N				500mls
13:42	3	↓	02103-4	X20		Y N	↓	↓	↓	25mls
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 2/13/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				screened water samples 02285(1-5) + 02283(1-2)
:						Y N				@ X100 dilution
:										

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

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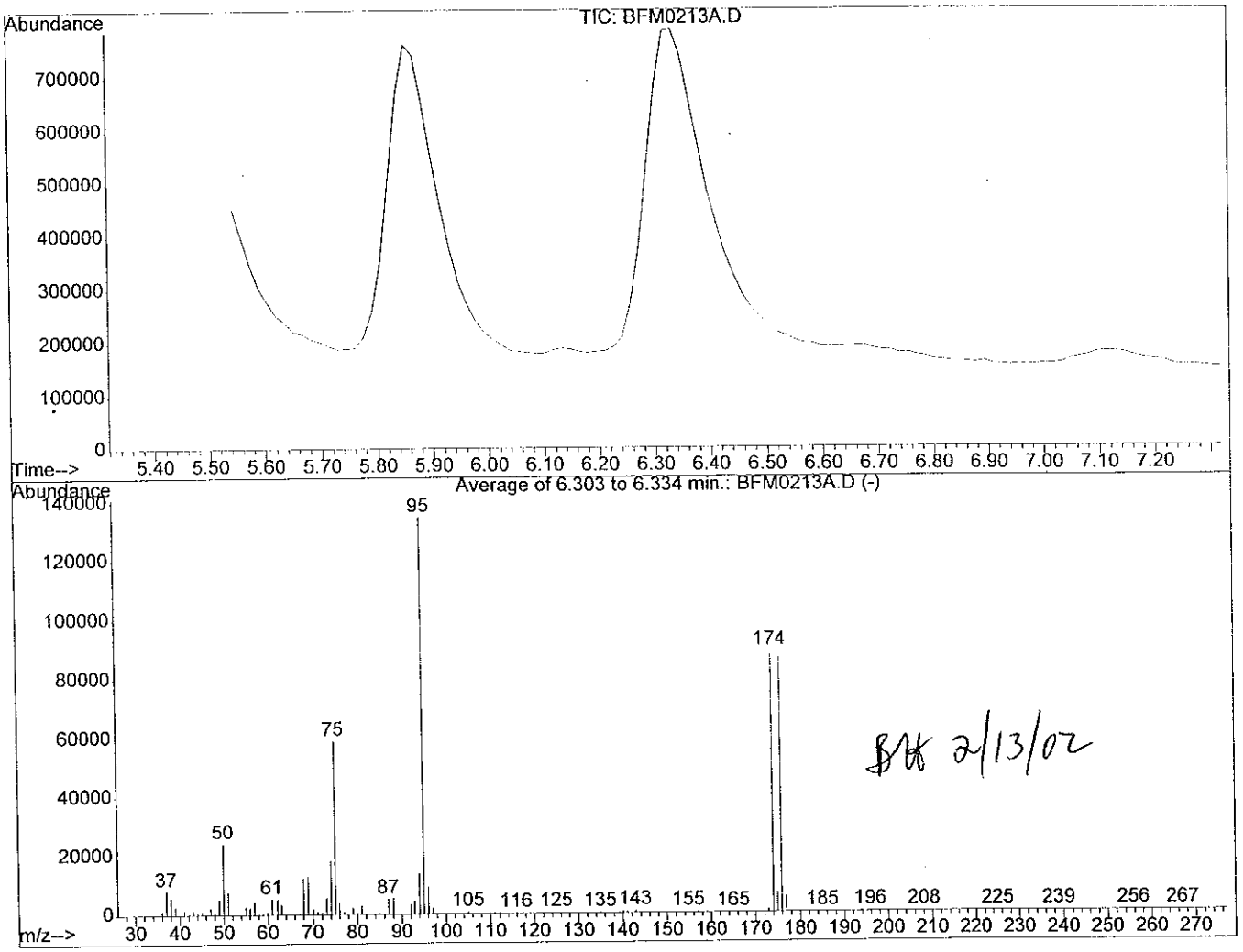
STL Pensacola

NAS Cecil Field CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA02\M0213A\BFM0213A.D
Acq On : 13 Feb 2002 9:49
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

Vial: 13
Operator: BDH
Inst : MARILYN
Multiplr: 1.00



Peak Apex is scan: 51 (6.32 min)
Average of 3 scans: 50,51,52 minus background scan 31 (6.01 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	24169	PASS
75	95	30	60	43.9	59083	PASS
95	95	100	100	100.0	134654	PASS
96	95	5	9	6.8	9182	PASS
173	174	0	2	1.2	1017	PASS
174	95	50	100	65.7	88424	PASS
175	174	5	9	7.4	6557	PASS
176	174	95	101	97.9	86605	PASS
177	176	5	9	6.1	5325	PASS

BFM0213A.D TO14S.M Wed Feb 13 10:04:06 2002

Average of 6.303 to 6.334 min.: BFM0213A.D
BFBSTD050\ DAILY 12 HR. TUNE CHECK
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1296	50.00	24169	70.05	2042	88.00	5567
37.00	8097	51.05	7683	71.05	1092	92.05	3276
38.05	5795	55.05	2832	72.00	682	92.95	4555
39.05	2890	56.05	2393	73.05	5607	94.05	13784
41.05	1596	57.05	4607	74.05	18226	95.05	134654
43.05	1719	59.95	1040	75.05	59083	96.10	9182
44.05	976	60.95	5290	76.00	4250	97.10	2251
45.05	1266	62.10	5182	77.00	932	140.95	731
47.05	2303	63.00	3428	79.00	2359	142.90	790
48.00	702	68.00	12139	81.00	3063	172.90	1017
49.00	5224	69.00	12902	86.95	5135	174.00	88424

Average of 6.303 to 6.334 min.: BFM0213A.D
BFBSTD050\ DAILY 12 HR. TUNE CHECK
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.00	6557						
175.95	86605						
176.95	5325						

Area Percent Report

Data File : D:\HPCHEM\1\DATA02\M0212A\BFM0213A.D Vial: 13
Acq On : 13 Feb 2002 9:49 Operator: BDH
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p

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

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

Signal : TIC

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

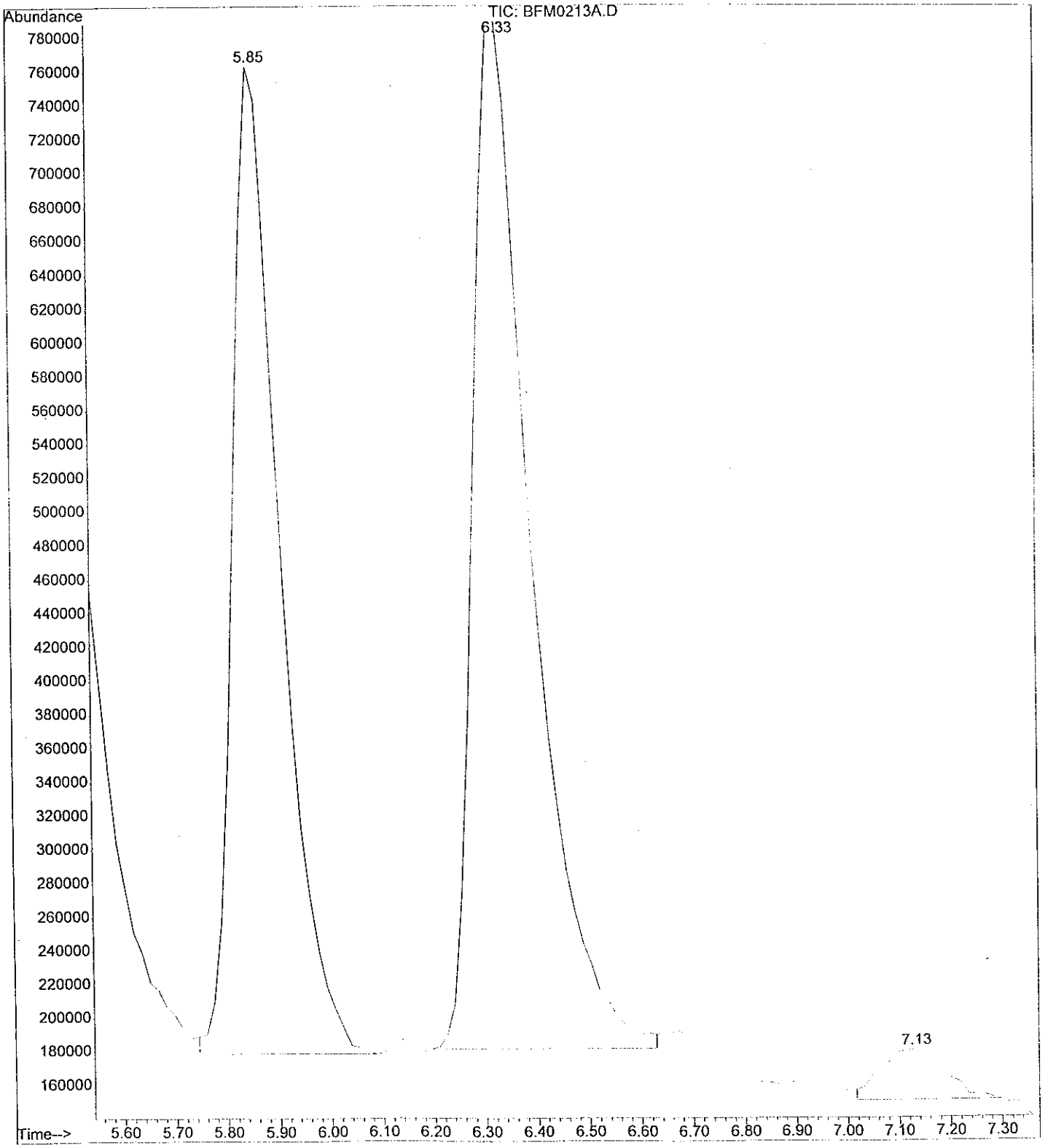
Sum of corrected areas: 8735812

BFM0213A.D BFBSTL.M Wed Feb 13 09:57:03 2002

Area Percent Report

Data File : D:\HPCHEM\1\DATA02\M0212A\BFM0213A.D
Acq On : 13 Feb 2002 9:49
Sample : BFBSTD050\ DAILY 12 HR. TUNE CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\BFBSTL.M (RTE Integrator)
Title : 8240

Vial: 13
Operator: BDH
Inst : MARILYN
Multiplr: 1.00



BFM0213A.D BFBSTL.M Wed Feb 13 09:57:03 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0207A\CM0207A.D (7 Feb 2002 9:49)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.43	128	802794	250.00	ng	-0.01 108.72%
26) 1,4-Difluorobenzene IS#2	13.35	114	3043992	250.00	ng	-0.03 103.39%
36) Chlorobenzene-d5 IS#3	20.67	117	2350688	250.00	ng	-0.04 102.26%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	901166	238.57	ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.43%						
32) Toluene-d8 SURR#2	16.89	98	2359132	248.06	ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2125467	253.60	ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.44%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	682856m	228.90	ng	# 98
3) Dichlorotetrafluoroethane	4.13	135	1052639	226.76	ng	# 40
4) Chloromethane	4.38	50	560167	221.46	ng	96
5) Vinyl chloride	4.61	62	553871	237.14	ng	96
6) Bromomethane	5.44	94	881648	232.68	ng	# 95
7) Chloroethane	5.53	64	397087	233.53	ng	99
8) Trichlorofluoromethane	6.06	101	934366	216.11	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.85	151	1427858	238.00	ng	86
10) 1,1-Dichloroethene	7.22	96	788996	231.00	ng	90
12) Methylene chloride	8.11	49	1146700	249.53	ng	98
13) Carbon disulfide	8.26	76	2183791	237.60	ng	98
14) methyl-Tert-Butyl Ether	8.39	73	1248691	250.75	ng	99
15) trans-1,2-Dichloroethene	8.70	96	886096	231.11	ng	92
16) n-Hexane	8.77	57	824714	235.88	ng	# 1
17) 1,1-Dichloroethane	9.52	63	1521685	243.80	ng	98
18) cis-1,2-Dichloroethene	10.75	61	1273080	251.53	ng	94
19) Chloroform	11.07	83	1973333	250.42	ng	99
20) Isooctane	12.02	57	2916859	248.68	ng	97
21) 1,1,1-Trichloroethane	11.94	97	1591189	237.66	ng	91
22) Carbon tetrachloride	12.50	117	1667021	236.53	ng	97
24) 1,2-Dichloroethane	12.76	62	1038718	244.91	ng	97
25) 1,2-Dibromoethane	19.72	107	1630152	239.03	ng	98
27) Benzene	12.83	78	2235445	250.37	ng	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.15	130	1242865	250.60 ng		95
29)	1,2-Dichloropropane	14.53	63	967926	256.25 ng		98
30)	Bromodichloromethane	15.06	83	2394422	260.57 ng		100
31)	cis-1,3-Dichloropropene	16.27	75	1500124	262.47 ng		99
33)	Toluene	17.10	92	1416850	251.25 ng		98
34)	trans-1,3-Dichloropropene	17.45	75	1262344	258.11 ng		98
35)	1,1,2-Trichloroethane	17.86	97	971759	247.73 ng		97
37)	Tetrachloroethene	18.71	164	1115196	243.26 ng		96
38)	Dibromochloromethane	19.19	127	1727120	254.45 ng		99
39)	Chlorobenzene	20.76	112	2121371	253.18 ng		95
40)	Ethylbenzene	20.87	106	823303	245.68 ng		100
41)	m,p-Xylene	21.06	106	2124980	492.39 ng		99
42)	o-Xylene	22.22	106	1035064	250.90 ng		98
43)	Styrene	22.30	104	1842701	254.31 ng		96
44)	Bromoform	23.24	173	1612822	240.74 ng		100
45)	1,1,2,2-Tetrachloroethane	23.57	83	1384135	230.12 ng		100
47)	1,4-Dichloro-2-butene	23.21	75	271304	221.36 ng		94
48)	4-Ethyltoluene	24.50	105	2570990	236.30 ng		100
49)	1,3,5-Trimethylbenzene	24.60	105	2097844	244.65 ng		90
50)	2-Chlorotoluene	24.70	91	2752901	245.86 ng		96
51)	1,2,4-Trimethylbenzene	25.54	105	2263911	250.59 ng		99
52)	1,3-Dichlorobenzene	26.47	146	1860283	253.09 ng		96
53)	1,4-Dichlorobenzene	26.69	146	1966706	253.63 ng		96
54)	1,2-Dichlorobenzene	27.45	146	1775077	248.93 ng		95
55)	1,2,4-Trichlorobenzene	30.67	180	1370630	231.22 ng		100
56)	Napthalene	31.22	128	1737485	214.34 ng	#	92
57)	Hexachlorobutadiene	30.91	225	1050565	210.24 ng		99

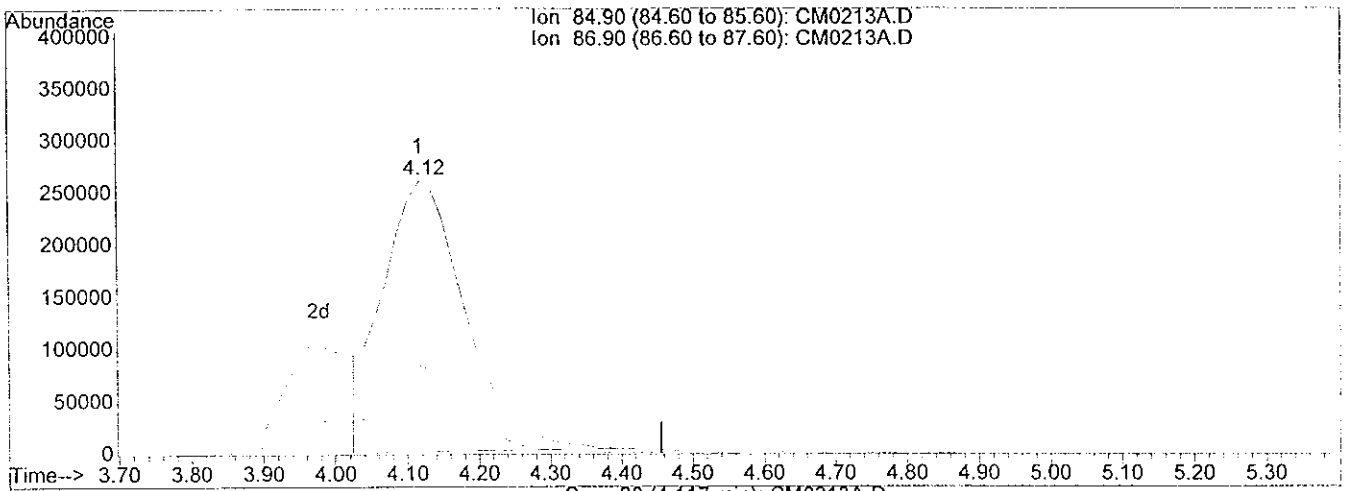
(#) = qualifier out of range (m) = manual integration

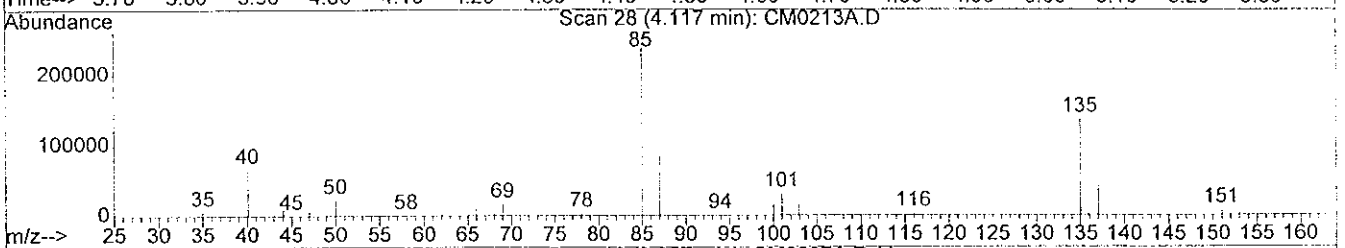
Quantitation Report (Qedit)

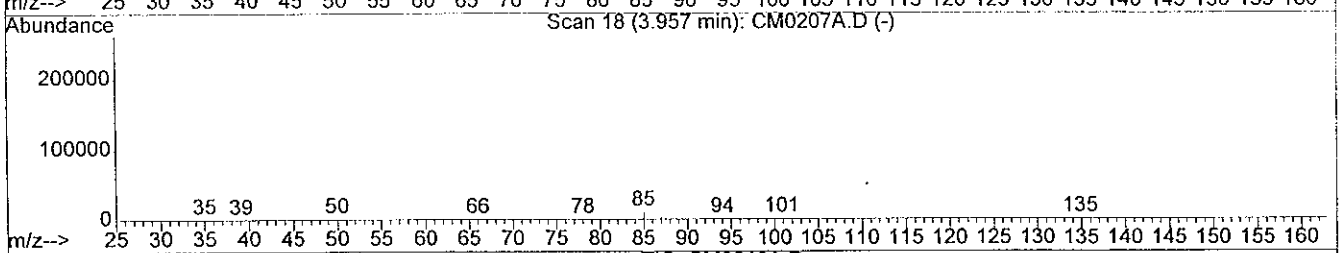
Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

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







TIC: CM0213A.D

(2) Dichlorodifluoromethane

4.12min 745.20ng

response 2083156

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.11
0.00	0.00	0.00
0.00	0.00	0.00

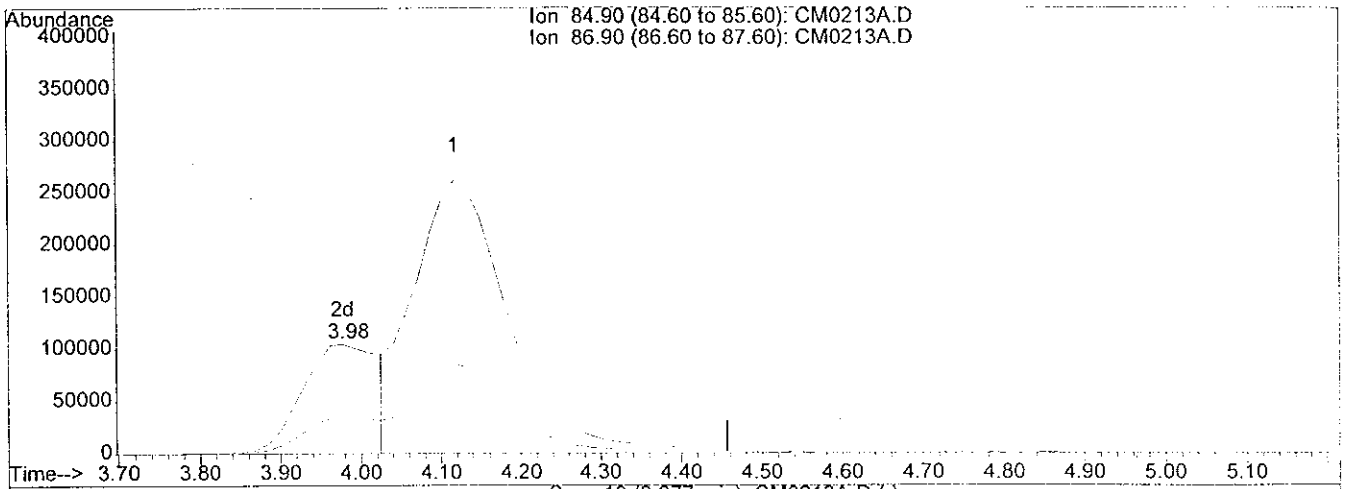
before (co-eluting)

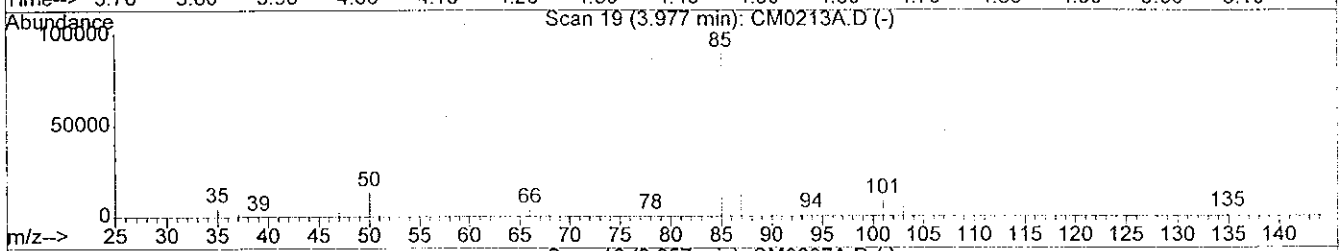
CM0213A.D TO14S.M Wed Feb 13 10:49:20 2002

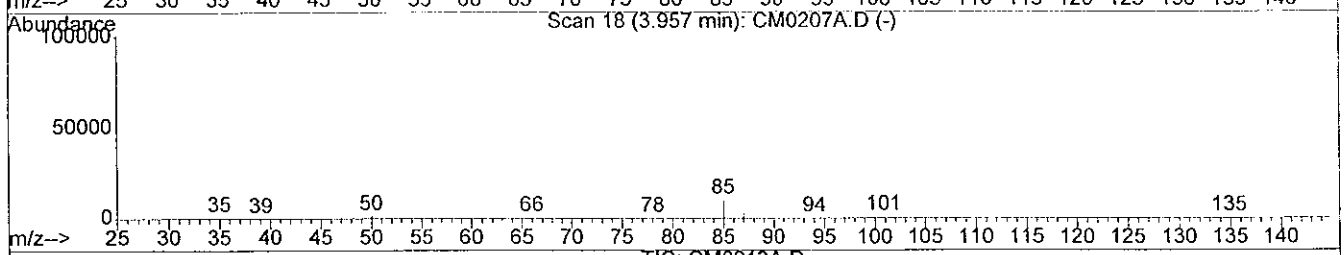
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:49 2002 Quant Results File: temp.res

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







TIC: CM0213A.D

(2) Dichlorodifluoromethane

3.98min 228.90ng m

response 682856

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	97.95#
0.00	0.00	0.00
0.00	0.00	0.00

after
BH 2/13/02

CM0213A.D TO14S.M Wed Feb 13 10:50:36 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0207A\CM0207A.D (7 Feb 2002 9:49)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.43	128	802794	250.00 ng	-0.01 108.72%
26) 1,4-Difluorobenzene IS#2	13.35	114	3043992	250.00 ng	-0.03 103.39%
36) Chlorobenzene-d5 IS#3	20.67	117	2350688	250.00 ng	-0.04 102.26%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.56	65	901166	238.57 ng	-0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.43%					
32) Toluene-d8 SURR#2	16.89	98	2359132	248.06 ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.22%					
46) 4-Bromofluorobenzene SURR#	23.83	95	2125467	253.60 ng	-0.03
Spiked Amount 250.000 Range 87 - 112 Recovery = 101.44%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.12	85	2083156	745.20 ng		98
3) Dichlorotetrafluoroethane	4.13	135	1052639	226.76 ng	#	40
4) Chloromethane	4.38	50	560167	221.46 ng		96
5) Vinyl chloride	4.61	62	553871	237.14 ng		96
6) Bromomethane	5.44	94	881648	232.68 ng	#	95
7) Chloroethane	5.53	64	397087	233.53 ng		99
8) Trichlorofluoromethane	6.06	101	934366	216.11 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.85	151	1427858	238.00 ng		86
10) 1,1-Dichloroethene	7.22	96	788996	231.00 ng		90
12) Methylene chloride	8.11	49	1146700	249.53 ng		98
13) Carbon disulfide	8.26	76	2183791	237.60 ng		98
14) methyl-Tert-Butyl Ether	8.39	73	1248691	250.75 ng		99
15) trans-1,2-Dichloroethene	8.70	96	886096	231.11 ng		92
16) n-Hexane	8.77	57	824714	235.88 ng	#	1
17) 1,1-Dichloroethane	9.52	63	1521685	243.80 ng		98
18) cis-1,2-Dichloroethene	10.75	61	1273080	251.53 ng		94
19) Chloroform	11.07	83	1973333	250.42 ng		99
20) Isooctane	12.02	57	2916859	248.68 ng		97
21) 1,1,1-Trichloroethane	11.94	97	1591189	237.66 ng		91
22) Carbon tetrachloride	12.50	117	1667021	236.53 ng		97
24) 1,2-Dichloroethane	12.76	62	1038718	244.91 ng		97
25) 1,2-Dibromoethane	19.72	107	1630152	239.03 ng		98
27) Benzene	12.83	78	2235445	250.37 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D
Acq On : 13 Feb 2002 10:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

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

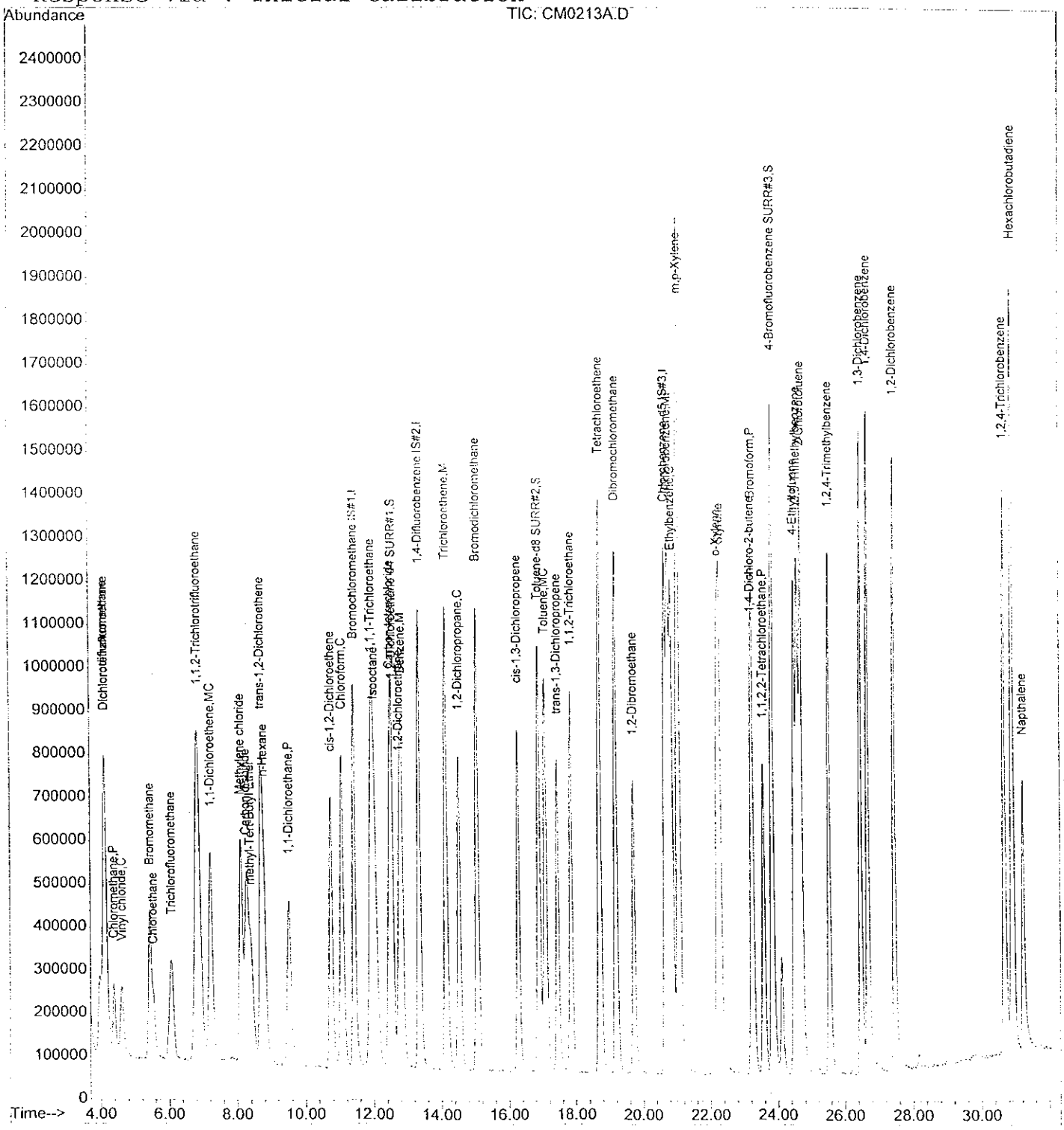
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.15	130	1242865	250.60 ng		95
29) 1,2-Dichloropropane	14.53	63	967926	256.25 ng		98
30) Bromodichloromethane	15.06	83	2394422	260.57 ng		100
31) cis-1,3-Dichloropropene	16.27	75	1500124	262.47 ng		99
33) Toluene	17.10	92	1416850	251.25 ng		98
34) trans-1,3-Dichloropropene	17.45	75	1262344	258.11 ng		98
35) 1,1,2-Trichloroethane	17.86	97	971759	247.73 ng		97
37) Tetrachloroethene	18.71	164	1115196	243.26 ng		96
38) Dibromochloromethane	19.19	127	1727120	254.45 ng		99
39) Chlorobenzene	20.76	112	2121371	253.18 ng		95
40) Ethylbenzene	20.87	106	823303	245.68 ng		100
41) m,p-Xylene	21.06	106	2124980	492.39 ng		99
42) o-Xylene	22.22	106	1035064	250.90 ng		98
43) Styrene	22.30	104	1842701	254.31 ng		96
44) Bromoform	23.24	173	1612822	240.74 ng		100
45) 1,1,2,2-Tetrachloroethane	23.57	83	1384135	230.12 ng		100
47) 1,4-Dichloro-2-butene	23.21	75	271304	221.36 ng		94
48) 4-Ethyltoluene	24.50	105	2570990	236.30 ng		100
49) 1,3,5-Trimethylbenzene	24.60	105	2097844	244.65 ng		90
50) 2-Chlorotoluene	24.70	91	2752901	245.86 ng		96
51) 1,2,4-Trimethylbenzene	25.54	105	2263911	250.59 ng		99
52) 1,3-Dichlorobenzene	26.47	146	1860283	253.09 ng		96
53) 1,4-Dichlorobenzene	26.69	146	1966706	253.63 ng		96
54) 1,2-Dichlorobenzene	27.45	146	1775077	248.93 ng		95
55) 1,2,4-Trichlorobenzene	30.67	180	1370630	231.22 ng		100
56) Napthalene	31.22	128	1737485	214.34 ng	#	92
57) Hexachlorobutadiene	30.91	225	1050565	210.24 ng		99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D Vial: 14
Acq On : 13 Feb 2002 10:11 Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 10:43 2002 Quant Results File: TO14S.RES

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



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D Vial: 15
Acq On : 13 Feb 2002 11:23 Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	751430	250.00 ng	0.02 101.76%
26) 1,4-Difluorobenzene IS#2	13.38	114	2926987	250.00 ng	0.00 99.42%
36) Chlorobenzene-d5 IS#3	20.69	117	2236682	250.00 ng	-0.02 97.30%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	873757	247.13 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.85%		
32) Toluene-d8 SURR#2	16.94	98	2265045	247.69 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.08%		
46) 4-Bromofluorobenzene SURR#	23.86	95	2015003	252.67 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.07%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MA025ABK.D TO14S.M Wed Feb 13 12:56:30 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D
Acq On : 13 Feb 2002 11:23
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 11:55 2002

Vial: 15
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	751430	250.00 ng	0.02 101.76%
26) 1,4-Difluorobenzene IS#2	13.38	114	2926987	250.00 ng	0.00 99.42%
36) Chlorobenzene-d5 IS#3	20.69	117	2236682	250.00 ng	-0.02 97.30%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	873757	247.13 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 98.85%		
32) Toluene-d8 SURR#2	16.94	98	2265045	247.69 ng	0.00
Spiked Amount 250.000	Range 90 - 109		Recovery = 99.08%		
46) 4-Bromofluorobenzene SURR#	23.86	95	2015003	252.67 ng	0.00
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.07%		

Target Compounds

						Qvalue
4) Chloromethane	4.52	50	1065	0.45 ng	#	46
6) Bromomethane	5.43	94	4304	1.21 ng	#	9
27) Benzene	12.85	78	3153	0.37 ng	#	54
39) Chlorobenzene	20.79	112	972	0.12 ng	#	1
55) 1,2,4-Trichlorobenzene	30.66	180	945	27.99 ng	#	12
56) Napthalene	31.22	128	12914	18.14 ng	#	64

NSF

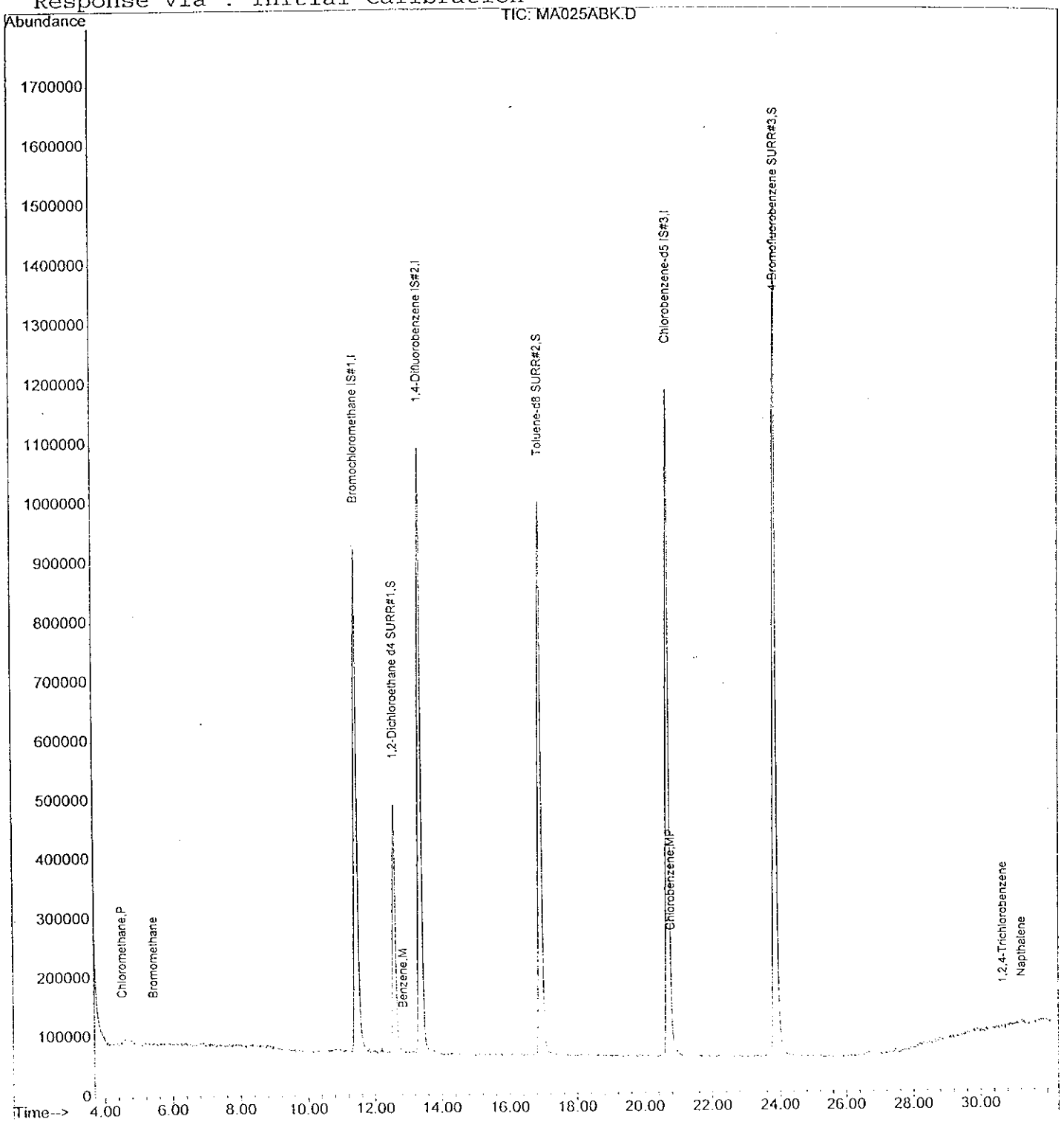
(#) = qualifier out of range (m) = manual integration
MA025ABK.D TO14S.M Wed Feb 13 11:56:01 2002

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025ABK.D
Acq On : 13 Feb 2002 11:23
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 11:55 2002

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

Quant Results File: TO14S.RES

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



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D
Acq On : 13 Feb 2002 12:00
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Feb 13 13:02 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 : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BA 2/13/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	860085	250.00 ng	0.03 116.48%
26) 1,4-Difluorobenzene IS#2	13.40	114	3202283	250.00 ng	0.02 108.77%
36) Chlorobenzene-d5 IS#3	20.73	117	2481433	250.00 ng	0.02 107.95%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	1021882	252.51 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.00%		
32) Toluene-d8 SURR#2	16.95	98	2537635	253.64 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.46%		
46) 4-Bromofluorobenzene SURR#	23.88	95	2230301	252.09 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 100.84%		

Target Compounds					Qvalue
10) 1,1-Dichloroethene	7.23	96	765953	209.32 ng	91
27) Benzene	12.87	78	2290988	243.91 ng	99
28) Trichloroethene	14.19	130	1267124	242.87 ng	96
33) Toluene	17.14	92	1483664	250.10 ng	97
39) Chlorobenzene	20.82	112	2222689	251.30 ng #	87

(#) = qualifier out of range (m) = manual integration
MA025LCS.D TO14S.M Wed Feb 13 13:02:13 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:33 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Feb 07 10:28:28 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.47	128	860085	250.00 ng	0.03 116.48%
26) 1,4-Difluorobenzene IS#2	13.40	114	3202283	250.00 ng	0.02 108.77%
36) Chlorobenzene-d5 IS#3	20.73	117	2481433	250.00 ng	0.02 107.95%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	1021882	252.51 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 101.00%		
32) Toluene-d8 SURR#2	16.95	98	2537635	253.64 ng	0.02
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.46%		
46) 4-Bromofluorobenzene SURR#	23.88	95	2230301	252.09 ng	0.02
Spiked Amount 250.000	Range 87 - 112		Recovery = 100.84%		

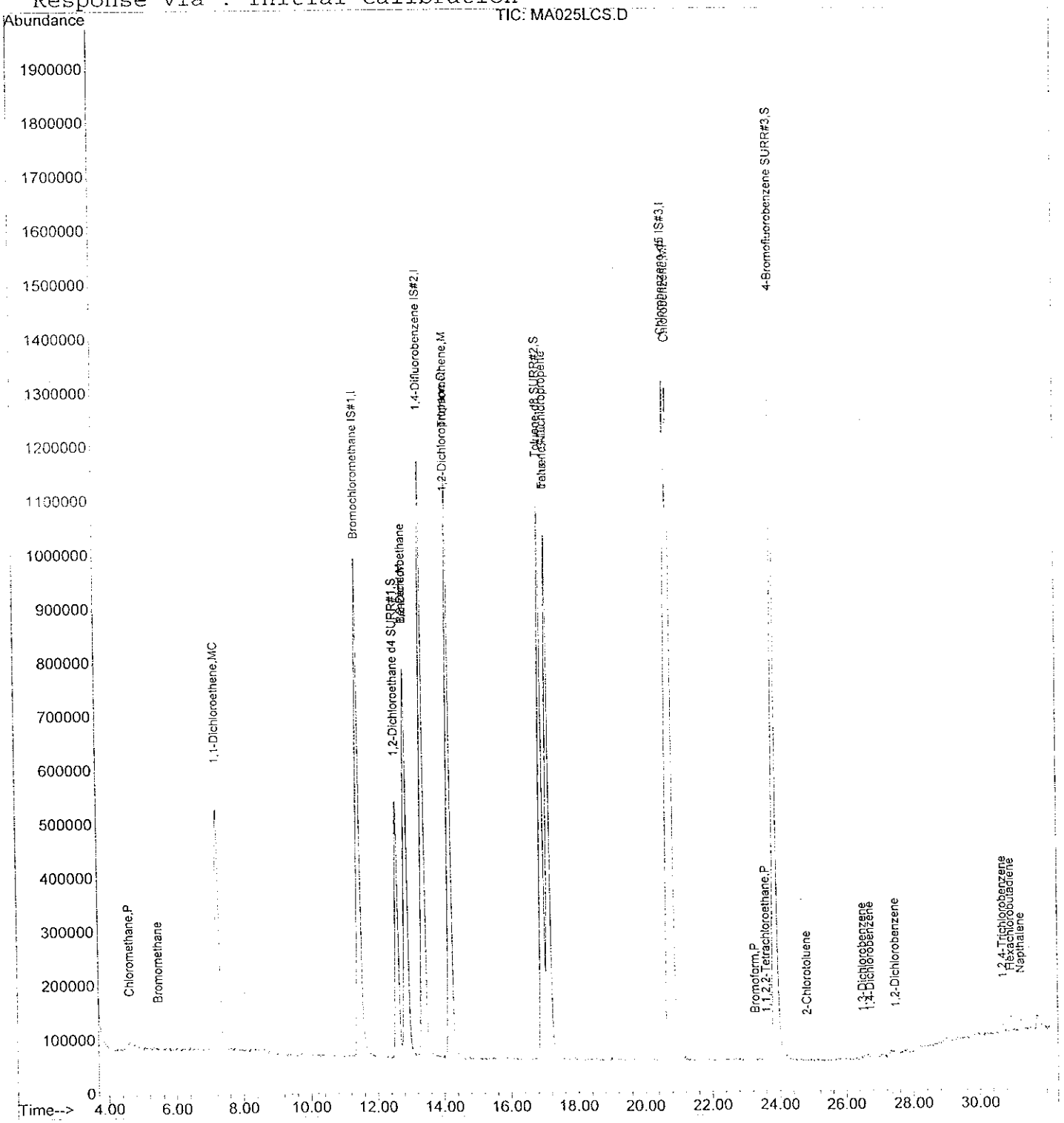
Target Compounds					Qvalue	
4) Chloromethane	4.61	50	5647	2.08 ng	#	44
6) Bromomethane	5.46	94	1089	0.27 ng	#	9
10) 1,1-Dichloroethene	7.23	96	765953	209.32 ng		91
24) 1,2-Dichloroethane	12.87	62	21862	4.81 ng	#	49
27) Benzene	12.87	78	2290988	243.91 ng		99
28) Trichloroethene	14.19	130	1267124	242.87 ng		96
29) 1,2-Dichloropropane	14.17	63	2008	0.51 ng	#	1
33) Toluene	17.14	92	1483664	250.10 ng		97
34) trans-1,3-Dichloropropene	17.14	75	11849	2.30 ng	#	1
39) Chlorobenzene	20.82	112	2222689	251.30 ng	#	87
44) Bromoform	23.29	173	3502	0.50 ng	#	32
45) 1,1,2,2-Tetrachloroethane	23.61	83	9562	1.51 ng	#	75
50) 2-Chlorotoluene	24.83	91	1092	0.09 ng	#	47
52) 1,3-Dichlorobenzene	26.52	146	1027	0.13 ng	#	27
53) 1,4-Dichlorobenzene	26.73	146	3006	0.37 ng	#	27
54) 1,2-Dichlorobenzene	27.48	146	1994	0.26 ng	#	26
55) 1,2,4-Trichlorobenzene	30.69	180	13954	29.69 ng	#	89
56) Napthalene	31.24	128	55637	22.32 ng	#	79
57) Hexachlorobutadiene	30.93	225	18650	24.05 ng		90

(#) = qualifier out of range (m) = manual integration
MA025LCS.D TO14S.M Wed Feb 13 12:33:10 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\MA025LCS.D Vial: 16
Acq On : 13 Feb 2002 12:00 Operator: BDH
Sample : VLCSMA\ BATCH #025 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA025ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 12:33 2002 Quant Results File: TO14S.RES

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



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\020611.D Vial: 2
Acq On : 13 Feb 2002 13:05 Operator: BDH
Sample : 062SVEEA01300224\ 02061-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=20 Pi/Pf=2 CAN MAB025ABK Multiplr: 0.004
MS Integration Params: rteint.p
Quant Time: Feb 13 14:44 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:56 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

BH 2/13/02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.49	128	818293	250.00 ng	0.06 101.93%
26) 1,4-Difluorobenzene IS#2	13.41	114	3133420	250.00 ng	0.06 102.94%
36) Chlorobenzene-d5 IS#3	20.73	117	2470069	250.00 ng	0.06 105.08%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.62	65	953405	247.62 ng	0.06
Spiked Amount 250.000	Range 61 - 140		Recovery = 99.05%		
32) Toluene-d8 SURR#2	16.97	98	2491056	254.46 ng	0.08
Spiked Amount 250.000	Range 90 - 109		Recovery = 101.78%		
46) 4-Bromofluorobenzene SURR#	23.88	95	2132532	242.15 ng	0.04
Spiked Amount 250.000	Range 87 - 112		Recovery = 96.86%		

Target Compounds					Qvalue
49) 1,3,5-Trimethylbenzene	24.66	105	220007	0.10 ng	96

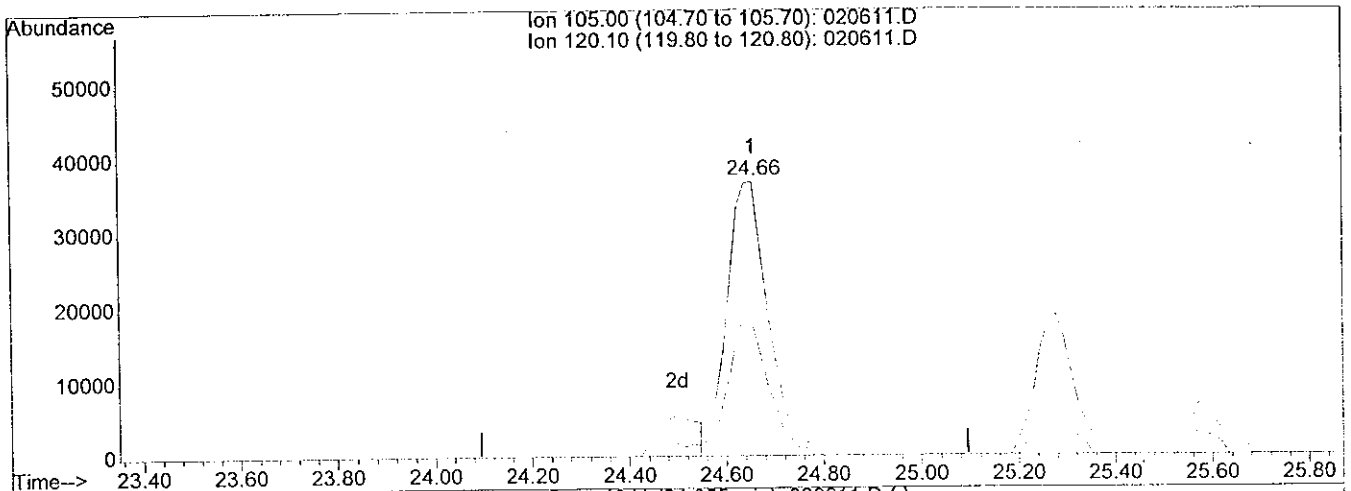
(#) = qualifier out of range (m) = manual integration
020611.D TO14S.M Wed Feb 13 14:44:57 2002

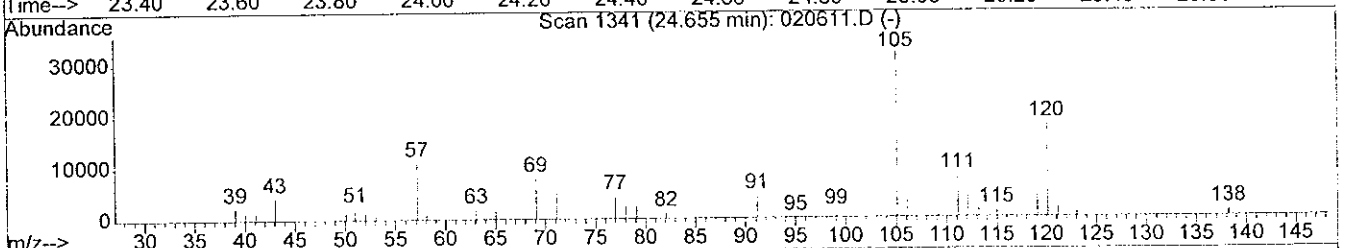
Quantitation Report (Qedit)

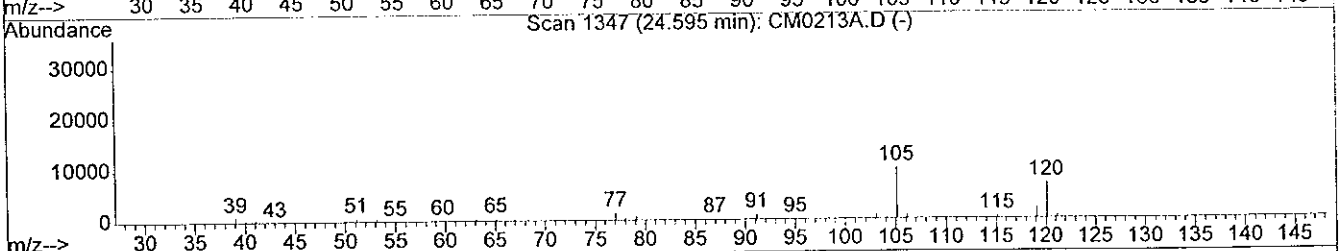
Data File : D:\HPCHEM\1\DATA02\M0213A\020611.D
Acq On : 13 Feb 2002 13:05
Sample : 062SVEEA01300224\ 02061-1 ST. 500mls
Misc : AIR DF=20 Pi/Pf=2 CAN MAB025ABK
MS Integration Params: rteint.p
Quant Time: Feb 13 14:44 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:56 2002
Response via : Multiple Level Calibration







TIC: 020611.D

(49) 1,3,5-Trimethylbenzene

24.66min 24.42ng

response 220007

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	49.62
0.00	0.00	0.00
0.00	0.00	0.00

020611.D TO14S.M Wed Feb 13 14:44:34 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0213A\020611.D Vial: 2
Acq On : 13 Feb 2002 13:05 Operator: BDH
Sample : 062SVEEA01300224\ 02061-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=20 Pi/Pf=2 CAN MAB025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 14:42 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:56 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0213A\CM0213A.D (13 Feb 2002 10:11)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.49	128	818293	250.00 ng	0.06 101.93%
26) 1,4-Difluorobenzene IS#2	13.41	114	3133420	250.00 ng	0.06 102.94%
36) Chlorobenzene-d5 IS#3	20.73	117	2470069	250.00 ng	0.06 105.08%

System Monitoring Compounds

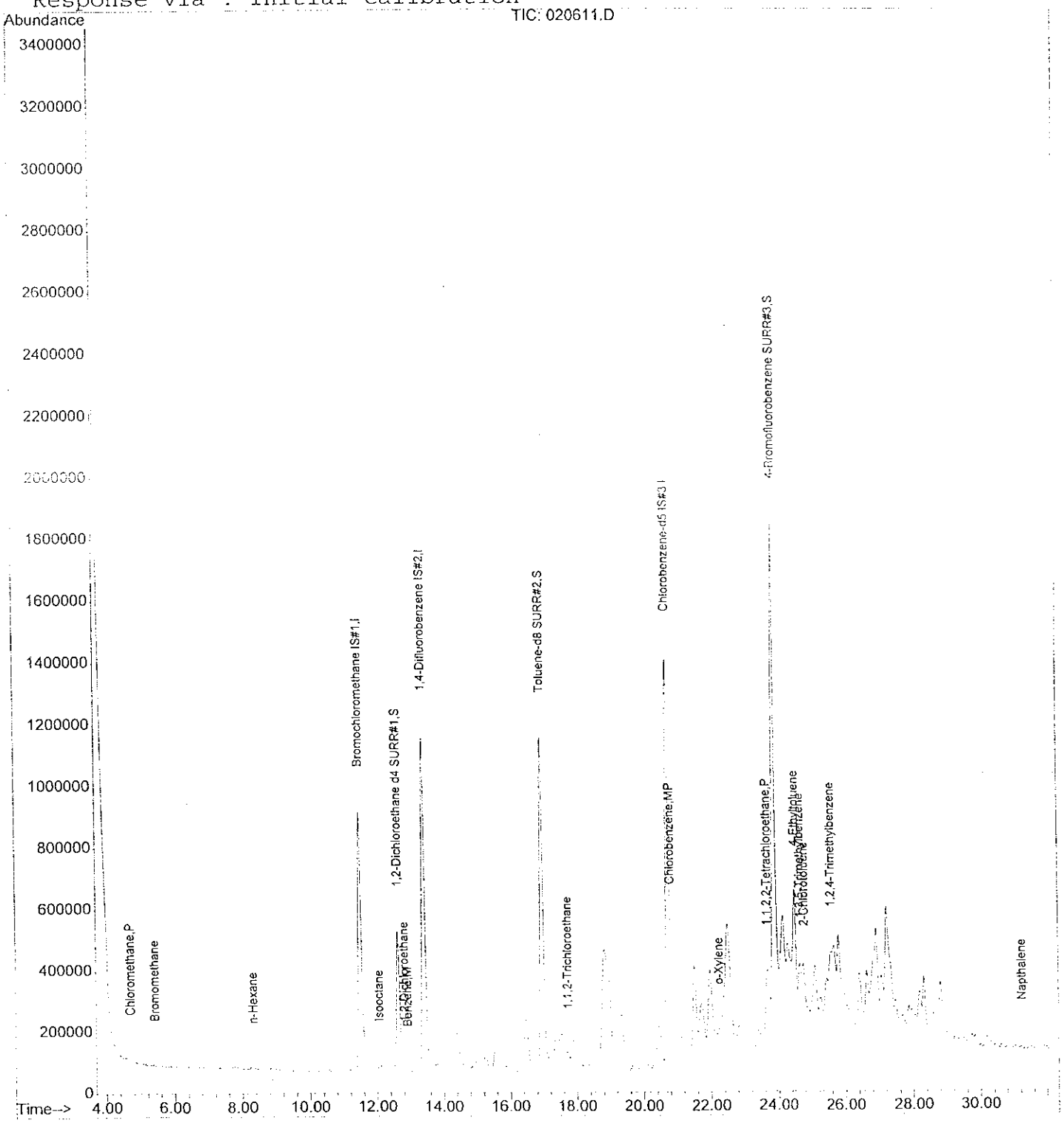
23) 1,2-Dichloroethane d4 SURR	12.62	65	953405	247.62 ng	0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 99.05%					
32) Toluene-d8 SURR#2	16.97	98	2491056	254.46 ng	0.08
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.78%					
46) 4-Bromofluorobenzene SURR#	23.88	95	2132532	242.15 ng	0.04
Spiked Amount 250.000 Range 87 - 112 Recovery = 96.86%					

Target Compounds						Qvalue
4) Chloromethane	4.71	50	1948	0.76 ng	#	46
6) Bromomethane	5.42	94	3030	0.78 ng	#	9
16) n-Hexane	8.32	57	2242	0.63 ng	#	43
20) Isooctane	12.06	57	9184	0.77 ng	#	1
24) 1,2-Dichloroethane	12.83	62	2100	0.49 ng	#	1
27) Benzene	12.92	78	3181	0.35 ng	#	54
35) 1,1,2-Trichloroethane	17.73	97	85360	21.14 ng	#	18
39) Chlorobenzene	20.82	112	10994	1.25 ng	#	1
42) o-Xylene	22.25	106	2121	0.49 ng	#	1
45) 1,1,2,2-Tetrachloroethane	23.68	83	86661	13.71 ng	#	50
48) 4-Ethyltoluene	24.50	105	30526	2.67 ng	#	77
49) 1,3,5-Trimethylbenzene	24.66	105	220007	24.42 ng		96
50) 2-Chlorotoluene	24.78	91	2007	0.17 ng	#	1
51) 1,2,4-Trimethylbenzene	25.57	105	35939	3.79 ng	#	84
56) Napthalene	31.24	128	18320	18.55 ng	#	64

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

Data File : D:\HPCHEM\1\DATA02\M0213A\020611.D Vial: 2
Acq On : 13 Feb 2002 13:05 Operator: BDH
Sample : 062SVEEA01300224\ 02061-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=20 Pi/Pf=2 CAN MAB025ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 13 14:42 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Wed Feb 13 10:51:56 2002
Response via : Initial Calibration



NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

Analyst/Date R-P

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DAW 5/15/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DAW 5/28/98	7-VN 2-2
8260 Surr	A11075	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	DAW 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	DAW 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/24/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 (2nd Source) mixture	M0219	Ultra	2000 ug/ml	3/2000	~~BH~~ 7/29/98	7-VN 2-9
8260 Surr	A117K	Restek	2500 µg/ml	8/2001	DAW 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DAW 10/6/98	7-VN 2-11
Matrix Spike	LA76210	Supleco	25 µg/ml	8/2000	DAW 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DAW 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DAW 11/1/98	7-VN 2-14
Benzene d6	072-191	Accu STD.	2000 µg/ml	12-1-99	BDH 11/19/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090942-JB	Accustandard	200.1 µg/ml	9/99	MD 1/29/99	7-VN 2-17
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAW 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DAW 3/9/99	7-VN 2-19
Custom Keytone Mix	A011115	Restek	2000 µg/ml	3/2000	DAW 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DAW 3/10/99	7-VN 2-21
8260 Calib Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DAW 5/10/99	7-VN 2-22
VOC Mix 6	LA80483	Supelco	2000 µg/ml	4/2000	DAW 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DAW 5/10/99	7-VN 2-24
Equity 8260 Cal mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DAW 5/14/99	7-VN 2-25
Custom TO14 VOA Mix	LA83949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83948	Supelco	2000 µg/ml	9/2000	DAW 6/9/99	7-VN 2-27
Idamethane	LA81867	Supelco	2000	4/2000	DAW 6/29/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	Analyst Date Recd ~~DATE OPENED~~	LOG I.D.	
Equity Mix 1	LA88367	Supelco	2000 µg/ml	4/2001	DMJ 6/19/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DMJ 6/19/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DMJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DMJ 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DMJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	SDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 7	
F003	A8090310		2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DMJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

1ml Ampules

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	DATE OPENED	LOG I.D.
8260 IS STD	A014811	Restek	2500µg/ml	2/2003	10	8-VN 1-1
MTBE	A014918	Restek	2000µg/ml	6/2003	2	8-VN 1-2
Iodomethane	LA83973	Supelco	2000µg/ml	6/2000	2	8-VN 1-3
Carbon Disulfide	LA8560	Supelco	5000µg/ml	10/2002	2	8-VN 1-4
8240 Matrix Spike	LA84166	Supelco	2500µg/ml	7/2002	5	8-VN 1-5
APPIX-A Custom Mix	81859 ~~LA77217~~	Supelco	2000-6000µg/ml	3/2000	1	8-VN 1-6
APPIX-B Custom Mix	LA81858	Supelco	2000µg/ml	3/2000	1	8-VN 1-7
BP Short List std	LA87431	Supelco	5000µg/ml	1/2001	3	8-VN 1-8
MTBE	LA83423	Supelco	2000µg/ml	6/2002	1	8-VN 1-9
8260 SURR	A014205	Restek	2500µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Vitrea	100µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	* 3	8-VN 1-17
8260 Volatiles kit	Various	Restek	2000/various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA8805	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	A016299	Restek	2000	5/12/2001	3	8-VN 1-23
1&2-Methyl Naphthalene	A016464	Restek	4000	5/15/2001	5	8-VN 1-24
Volatile Mix 6	LA89847	Supelco	2000	7/2001	2	8-VN 1-25
Tol4 Custom Mix	LA90734	Supelco	2500µg/ml	7/1/2001	6/13/02 ~~3~~ 4	8-VN 1-26
VOA Short list matrix spike	LA89933	Supelco	1000µg/ml	5/1/2003	5	8-VN 1-27

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

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: LBO

Standard I.D.: 8 -MSW 32- 1
Location: MSW 18 - Std Freezer
Solvent: MeOH - lot V30F40

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 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 (V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-VN2-21 (IS)~~						
~~8-VN3-1 (S~~						
8-VN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

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

Standard I.D.: ~~12~~ 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 6/21/01

Sol. Name: ASAHI KLIN AK-225 Stock
Date: 12-28-01
Analyst: LM

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

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

Comments: exp 6/28/02

ug/ml = ppm
ug/l = ppb
Sol. Name: 25 / SURR
Date: 9-26-01
Analyst: [illegible]

Standard I.D.: [illegible]
Location: [illegible]
Solvent: [illegible]

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

Comments: Expires 3-26-02

Sol. Name: [illegible]
Date: 10
Analyst:

Solvent: [illegible]

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm)	Aliquot	Final Volume	Final Conc.

Comments:

Sol. Name: T014 25/Surr
Date: 10-12-01
Analyst: SAM

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

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

Comments: 4-10-01 2 vials used

SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C202537
Project: CH2M Hill Constructors
CTO-0062, Cecil Field, Day Tank 1

Client Sample ID	STL Sample ID
062-SVE-E-A-0219-02-25	C202537-1

The above-referenced sample was received in good condition at STL Pensacola on February 22, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

See volatiles forms package for more detail information concerning data package.

Rick Hayes
Rick Hayes
Senior Project Manager

3/6/02

CLNAVY RAC PMO

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02537-1	062-SVE-E-A-0219-02-25	02-19-02/13:40

PARAMETER	02537-1
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: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

Ms. Tatiana Romanova
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115 Perimeter Center Place, NE Suite
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Client PO. No.: 2916
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02537-1	062-SVE-E-A-0219-02-25	02-19-02/13:40

PARAMETER	02537-1
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	0.05J
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.060U
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060U
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.05J
1,3,5-Trimethylbenzene, mg/m3	0.08
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.060U
m&p-Xylene, mg/m3	0.12U
Surrogate - 1,2-Dichloroethane-d4	111 %
Surrogate - Toluene-d8	102 %
Surrogate - 4-Bromofluorobenzene	105 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
02537-1	062-SVE-E-A-0219-02-25	02-19-02/13:40

PARAMETER	02537-1
Dilution Factor	1
Prep Date	03.03.02
Prep Time	13:30
Analysis Date	03.03.02
Analysis Time	13:43
Batch ID	MAB041
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
02537-2	Method Blank
02537-3	Lab Control Standard True Value
02537-4	Lab Control Standard Result
02537-5	Lab Control Standard % Recovery
02537-6	LCS Accuracy Control Limit (%R)

PARAMETER	02537-2	02537-3	02537-4	02537-5	02537-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.4984	100 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5166	103 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
02537-2	Method Blank
02537-3	Lab Control Standard True Value
02537-4	Lab Control Standard Result
02537-5	Lab Control Standard % Recovery
02537-6	LCS Accuracy Control Limit (%R)

PARAMETER	02537-2	02537-3	02537-4	02537-5	02537-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4977	100 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5057	101 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
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Reported: 05 MAR 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
02537-2	Method Blank
02537-3	Lab Control Standard True Value
02537-4	Lab Control Standard Result
02537-5	Lab Control Standard % Recovery
02537-6	LCS Accuracy Control Limit (%R)

PARAMETER	02537-2	02537-3	02537-4	02537-5	02537-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4980	100 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	110 %	0.5000	0.5435	109 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5037	101 %	90-109
Surrogate - 4-Bromofluorobenzene	101 %	0.5000	0.4961	99 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	03.03.02	---	03.03.02	---	---
Prep Time	13:30	---	13:30	---	---
Analysis Date	03.03.02	---	03.03.02	---	---
Analysis Time	13:43	---	13:43	---	---
Batch ID	MAB041	MAB041	MAB041	MAB041	MAB041
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-02537
Received: 22 FEB 02
Reported: 05 MAR 02

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

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

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 13272035
Page 7

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES
02537-2	Method Blank
02537-3	Lab Control Standard True Value
02537-4	Lab Control Standard Result
02537-5	Lab Control Standard % Recovery
02537-6	LCS Accuracy Control Limit (%R)

PARAMETER	02537-2	02537-3	02537-4	02537-5	02537-6

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 #: C202 537 Date Received: 2-22-02

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): 7903 1502 4949

Shipped By: Fed Ex

Cooler Number(s): BOX CAN #'S 093, 113

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: [illegible] **Date:** 2-22-02 **Logged By:** [illegible] **Date:** 2/22/2

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

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

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

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

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

C202537

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-027

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-0219-02-25	SVE Effluent	AIR	02/19/02	13:40	III/C	14 Day	1										Grab	Summa Canister	0913
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 # 7903 1507 4949	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Randy Dumaop	2/20/02	11:00	Printed Name and Signature: Federal Express	2/20/02	11:00
Printed Name and Signature:			Printed Name and Signature: Florencio Aldrete	2-22-02	0921
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

C202537

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 32514

SHIP DATE: 20FEB02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7903 1507 4949 FORM 0201

BFM

FRI
AA
Deliver by:
22FEB02

32514-FL-US

F3 PNSA

STL Pensacola

Labeled by: SMD
Delivered by: SMD

CH2M-CONST-GA C202537
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											
r Canister						✓	Ø	1		2-22-02	
Bag											
e/Cartridge											
ic Bag											
knowledgment											
ENTS											

xcel\sampchf\sampcklst.xls July 13, 2001

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

SEVERN TRENT SERVICES

STL Pensacola

STL Pensacola Data Qualifiers for Final Report

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

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

Abbreviations

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

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

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

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

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

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

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

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

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

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

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

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

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

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

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

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

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

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

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

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

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

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

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

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

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

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

certlist\condcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 202537
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Feb. 22, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0219-02-25	202537-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Mar. 4, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0303A.D Date Analyzed : 3 Mar 2002
Instrument ID : MARILYN Time Analyzed : 11:11 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
025371	062SVEEA0219022	111	102	105	0	0	0	0
MA041LCS	VLCSMA\ BATCH #	109	101	99	0	0	0	0
MAB41ABK	VBLKMA\ DAILY M	110	99	101	0	0	0	0

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

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

TO-14 NG-MG/M3 CONVERSION

order # 202537

Batch MAB041

	Actual ng result	Sample # 3	4	5	6
		mg/m3 TRUE	mg/m3 RESULT	% REC	rec limit
Benzene	249.19	0.5000	0.4984	100%	87-116%
Chlorobenzene	258.28	0.5000	0.5166	103%	88-111%
1,1-Dichloroethene	248.84	0.5000	0.4977	100%	58-138%
Toluene	252.84	0.5000	0.5057	101%	86-113%
Trichloroethene	248.98	0.5000	0.4980	100%	85-116%
1,2-Dichloroethane-d4	271.73	0.5000	0.5435	109%	61-140%
Toluene-d8	251.86	0.5000	0.5037	101%	90-109%
4-Bromofluorobenzene	248.04	0.5000	0.4961	99%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	248.84	250.00	99.54	58 to 138%	[ ]
27)	M	Benzene	249.19	250.00	99.68	87 to 116%	[ ]
28)	M	Trichloroethene	248.98	250.00	99.59	85 to 116%	[ ]
33)	MC	Toluene	252.84	250.00	101.14	86 to 113%	[ ]
39)	MP	Chlorobenzene	258.28	250.00	103.31	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202537

Lab File ID: MAB41ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 3/3/02 Time Analyzed: 12:01

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #041 L	MA041LCS.D	12:35
02	SVEEA	062SVEEA02190225\ 02	025371.D	13:43

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.: C202537

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.: C202537

Lab File ID: BFM0303A.D BFB Injection Date: 3/3/02

Instrument ID: MARILYN BFB Injection Time: 10:51

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.6
75	30.0 - 66.0% of mass 95	47.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	50.0 - 120.0% of mass 95	63.9
175	4.0 - 9.0% of mass 174	4.9 (7.6)1
176	93.0 - 101.0% of mass 174	61.6 (96.4)1
177	5.0 - 9.0% of mass 176	4.5 (7.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0303A.D	3/3/02	11:11
02	VBLKMA	VBLKMA\ DAILY METHO	MAB41ABK.D	3/3/02	12:01
03	LCS AND 2ND	VLCSMA\ BATCH #041 L	MA041LCS.D	3/3/02	12:35
04	SVEEA	062SVEEA02190225\ 02	025371.D	3/3/02	13:43

Response Factor Report MARILYN

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

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------ISTD----------							
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------ISTD----------							
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

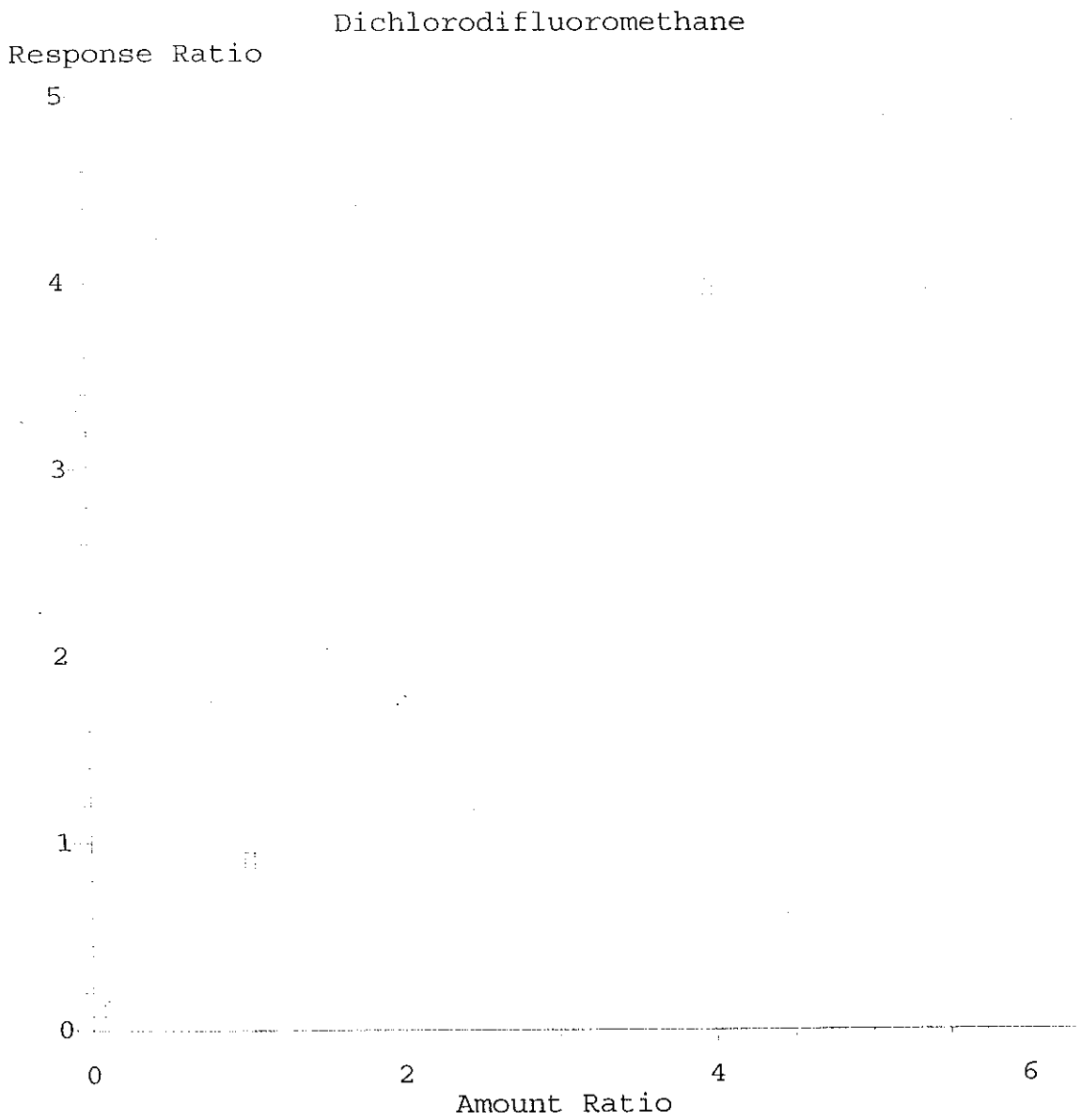
Response Factor Report MARILYN

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

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	0.459	5.04
42)		o-Xylene	0.431	0.453	0.456	0.451	0.392	0.449	0.439	5.59
43)		Styrene	0.756	0.792	0.811	0.795	0.683	0.787	0.771	6.04
44)	P	Bromoform	0.716	0.728	0.716	0.733	0.679	0.703	0.713	2.71
45)	P	1,1,2,2-Tetrachloro	0.683	0.649	0.617	0.627	0.607	0.655	0.640	4.38
46)	S	4-Bromofluorobenzen	0.883	0.903	0.878	0.892	0.900	0.892	0.891	1.07
47)		1,4-Dichloro-2-bute	0.131	0.128	0.137	0.133	0.119	0.133	0.130	4.91
48)		4-Ethyltoluene	1.294	1.165	1.163	1.183	0.989	1.148	1.157	8.45
49)		1,3,5-Trimethylbenz	0.975	0.908	0.855	0.986	0.859	0.887	0.912	6.23
50)		2-Chlorotoluene	1.273	1.225	1.174	1.198	1.082	1.193	1.191	5.34
51)		1,2,4-Trimethylbenz	1.001	1.007	0.945	0.966	0.885	0.961	0.961	4.60
52)		1,3-Dichlorobenzene	0.782	0.832	0.769	0.795	0.724	0.789	0.782	4.51
53)		1,4-Dichlorobenzene	0.801	0.893	0.807	0.844	0.778	0.825	0.825	4.87
54)		1,2-Dichlorobenzene	0.843	0.799	0.697	0.752	0.709	0.750	0.758	7.24
55)		1,2,4-Trichlorobenz	0.811	0.562	0.398	0.555	0.520	0.564	-----	
							Q	A= -0.059	R^2=0.990	
								B= 0.776		
								C= -0.098		
56)		Napthalene	1.456	0.736	0.511	0.707	0.785	0.783	-----	
							Q	A= -0.078	R^2=0.992	
								B= 1.003		
								C= -0.088		
57)		Hexachlorobutadiene	0.916	0.459	0.262	0.415	0.456	0.464	-----	
							Q	A= -0.061	R^2=0.986	
								B= 0.645		
								C= -0.066		

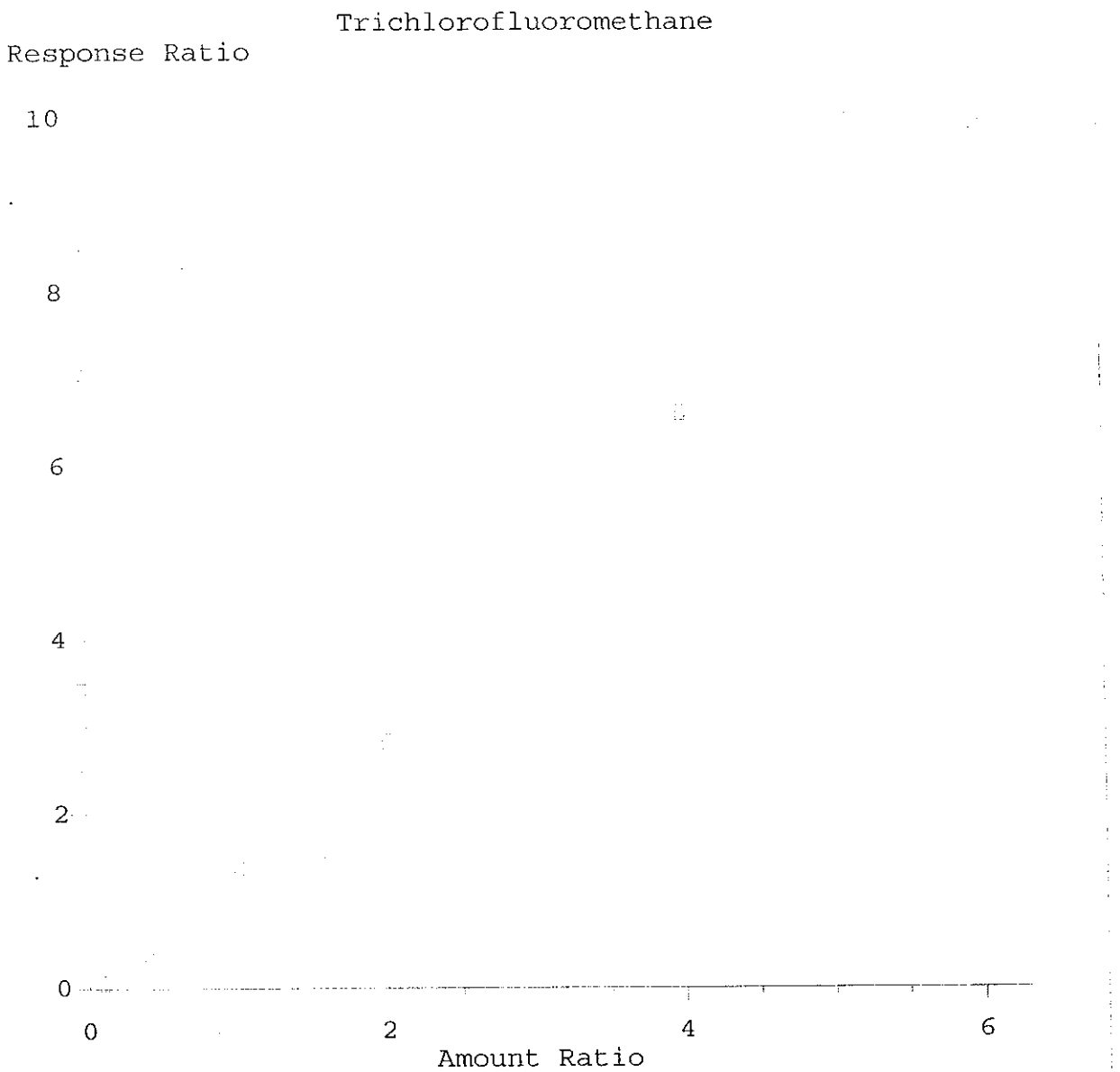
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###



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

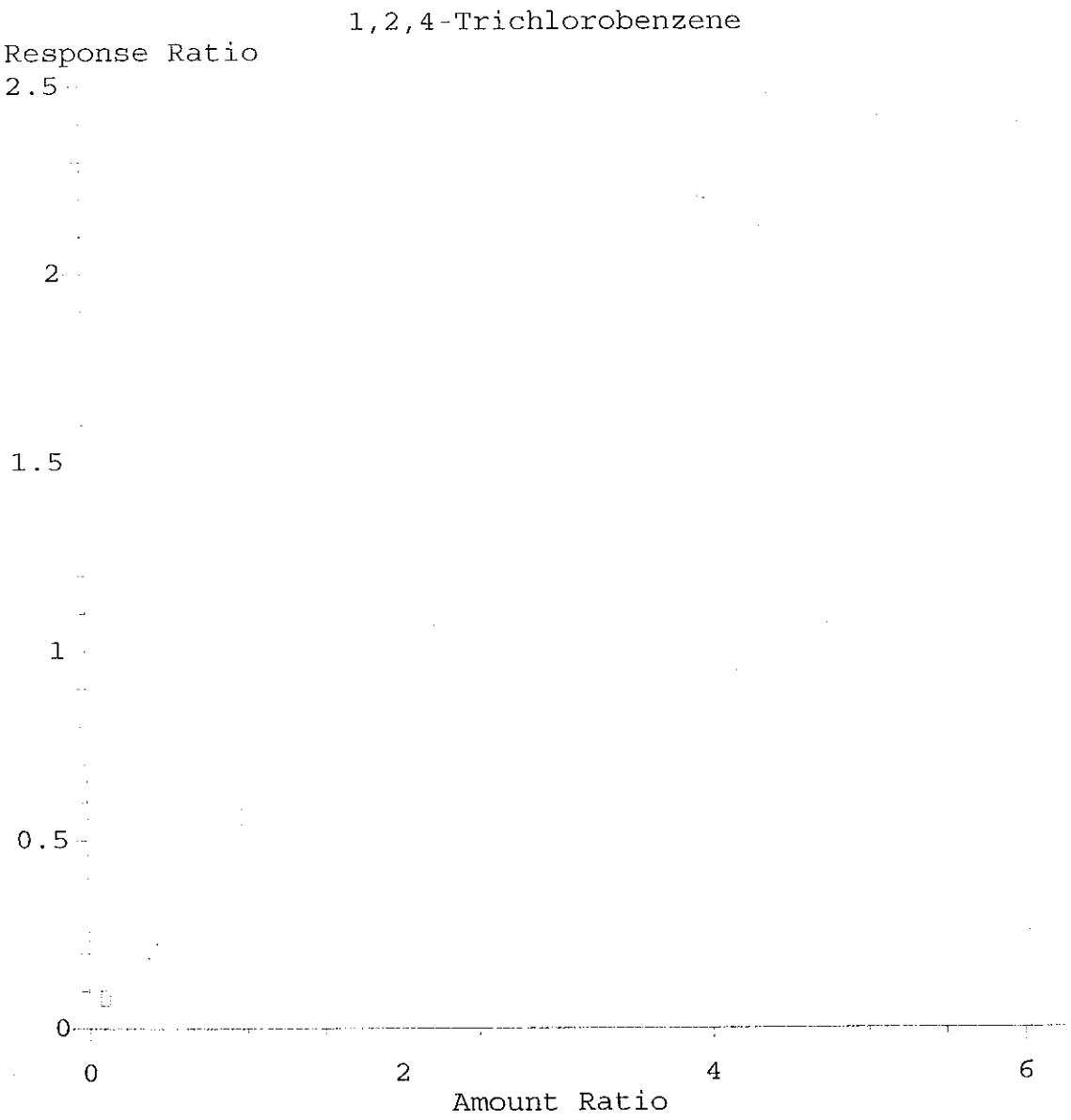
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002

Trichlorofluoromethane



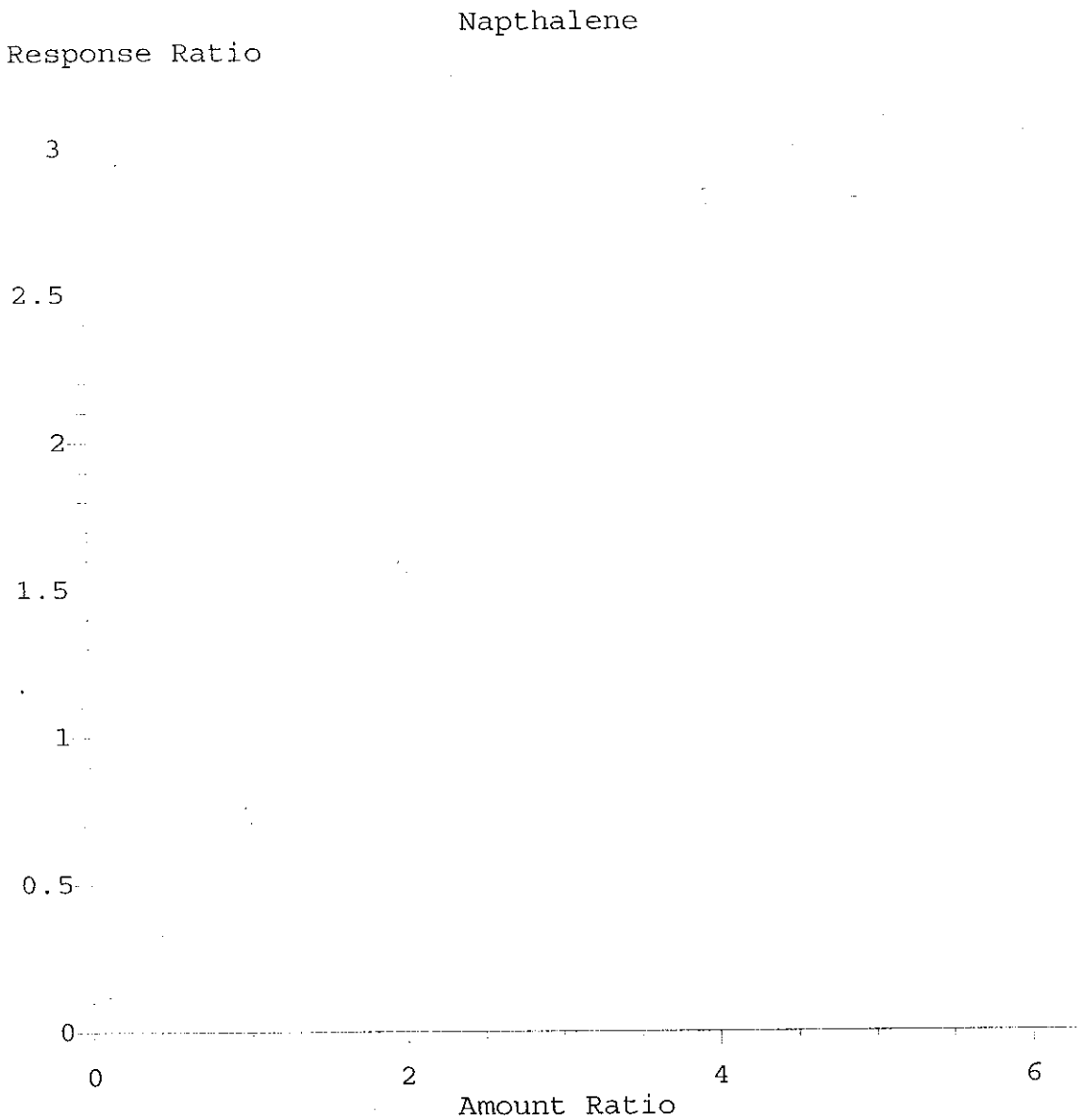
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

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



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

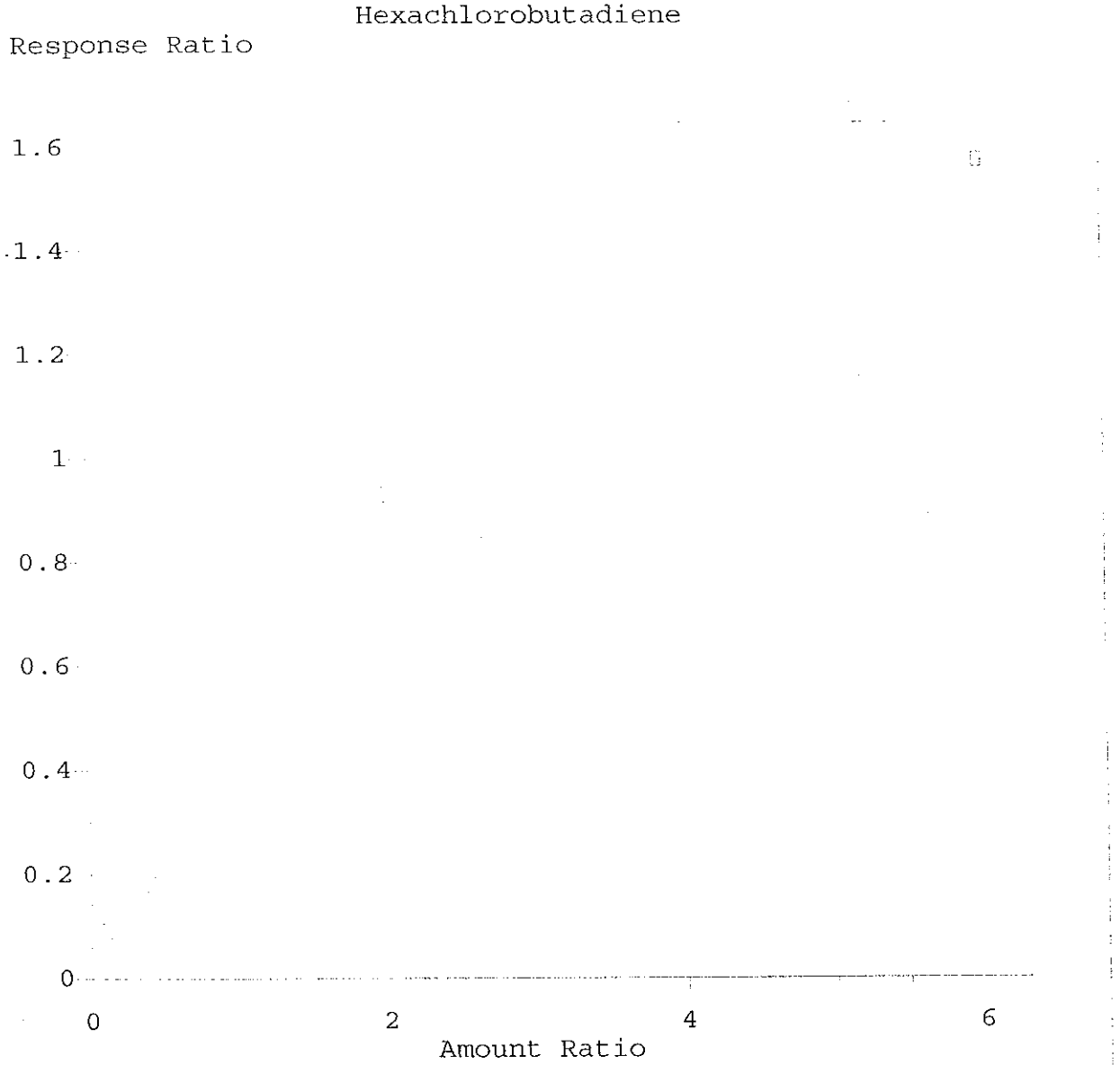
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 04 09:57:34 2002



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

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

Hexachlorobutadiene



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	64	0.00
2		Dichlorodifluoromethane	0.919	0.836	9.0#	59	0.00
3		Dichlorotetrafluoroethane	1.446	1.426	1.4	60	0.00
4	P	Chloromethane	0.788	0.761	3.4#	63	0.00
5	C	Vinyl chloride	0.727	0.794	-9.2#	67	0.00
6		Bromomethane	1.180	1.271	-7.7#	73	0.00
7		Chloroethane	0.530	0.560	-5.7#	67	0.00
8		Trichlorofluoromethane	1.261	1.406	-11.5#	65	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	2.006	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	1.064	1.119	-5.2#	67	0.00
11		Iodomethane	0.000	0.000	0.0	88	0.00
12		Methylene chloride	1.431	1.681	-17.5#	72	0.00
13		Carbon disulfide	2.862	3.227	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	1.551	1.531	1.3	60	0.00
15		trans-1,2-Dichloroethene	1.194	1.268	-6.2#	68	0.00
16		n-Hexane	1.089	1.114	-2.3#	64	0.00
17	P	1,1-Dichloroethane	1.944	2.184	-12.3#	71	0.00
18		cis-1,2-Dichloroethene	1.576	1.801	-14.3#	71	0.00
19	C	Chloroform	2.454	2.885	-17.6#	72	0.00
20		Isooctane	3.653	3.636	0.5	63	0.00
21		1,1,1-Trichloroethane	2.085	2.510	-20.4#	74	0.00
22		Carbon tetrachloride	2.195	2.630	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.275	-8.4#	65	0.00
24		1,2-Dichloroethane	1.321	1.484	-12.3#	66	0.00
25		1,2-Dibromoethane	2.124	1.974	7.1#	58	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	66	0.00
27	M	Benzene	0.733	0.756	-3.1#	68	0.00
28	M	Trichloroethene	0.407	0.420	-3.2#	67	0.00
29	C	1,2-Dichloropropane	0.310	0.315	-1.6#	65	0.00
30		Bromodichloromethane	0.755	0.837	-10.9#	69	0.00
31		cis-1,3-Dichloropropene	0.469	0.482	-2.8#	66	0.00
32	S	Toluene-d8 SURR#2	0.781	0.785	-0.5	66	0.00
33	MC	Toluene	0.463	0.477	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	63	0.00
35		1,1,2-Trichloroethane	0.322	0.294	8.7#	58	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	66	0.00
37		Tetrachloroethene	0.488	0.506	-3.7#	69	0.00
38		Dibromochloromethane	0.722	0.707	2.1#	63	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.370	-3.9#	67	0.00
41		m,p-Xylene	0.459	0.484	-5.4#	68	0.00
42		o-Xylene	0.439	0.457	-4.1#	67	0.00
43		Styrene	0.771	0.799	-3.6#	67	0.00
44	P	Bromoform	0.713	0.638	10.5#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.547	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.940	-5.5#	69	0.00
47		1,4-Dichloro-2-butene	0.130	0.103	20.8#	53	0.00
48		4-Ethyltoluene	1.157	1.183	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	0.912	1.010	-10.7#	74	0.00
50		2-Chlorotoluene	1.191	1.320	-10.8#	72	0.00
51		1,2,4-Trimethylbenzene	0.961	1.079	-12.3#	71	0.00
52		1,3-Dichlorobenzene	0.782	0.853	-9.1#	68	0.00
53		1,4-Dichlorobenzene	0.825	0.888	-7.6#	66	0.00
54		1,2-Dichlorobenzene	0.758	0.805	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	0.568	0.563	0.9	67	0.00
56		Napthalene	0.830	0.655	21.1#	59	0.00
57		Hexachlorobutadiene	0.495	0.479	3.2#	69	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	64	0.00
2		Dichlorodifluoromethane	250.000	224.673	10.1#	59	0.00
3		Dichlorotetrafluoroethane	250.000	246.587	1.4	60	0.00
4	P	Chloromethane	250.000	241.527	3.4#	63	0.00
5	C	Vinyl chloride	250.000	273.076	-9.2#	67	0.00
6		Bromomethane	250.000	269.315	-7.7#	73	0.00
7		Chloroethane	250.000	264.248	-5.7#	67	0.00
8		Trichlorofluoromethane	250.000	251.612	-0.6	65	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	268.436	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	250.000	262.946	-5.2#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	88	0.00
12		Methylene chloride	250.000	293.659	-17.5#	72	0.00
13		Carbon disulfide	250.000	281.884	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	250.000	246.862	1.3	60	0.00
15		trans-1,2-Dichloroethene	250.000	265.576	-6.2#	68	0.00
16		n-Hexane	250.000	255.897	-2.4#	64	0.00
17	P	1,1-Dichloroethane	250.000	280.905	-12.4#	71	0.00
18		cis-1,2-Dichloroethene	250.000	285.650	-14.3#	71	0.00
19	C	Chloroform	250.000	293.919	-17.6#	72	0.00
20		Isooctane	250.000	248.889	0.4	63	0.00
21		1,1,1-Trichloroethane	250.000	300.923	-20.4#	74	0.00
22		Carbon tetrachloride	250.000	299.520	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	270.911	-8.4#	65	0.00
24		1,2-Dichloroethane	250.000	280.993	-12.4#	66	0.00
25		1,2-Dibromoethane	250.000	232.391	7.0#	58	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	66	0.00
27	M	Benzene	250.000	257.648	-3.1#	68	0.00
28	M	Trichloroethene	250.000	257.939	-3.2#	67	0.00
29	C	1,2-Dichloropropane	250.000	253.578	-1.4#	65	0.00
30		Bromodichloromethane	250.000	277.120	-10.8#	69	0.00
31		cis-1,3-Dichloropropene	250.000	256.836	-2.7#	66	0.00
32	S	Toluene-d8 SURR#2	250.000	251.110	-0.4	66	0.00
33	MC	Toluene	250.000	257.474	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	250.000	249.704	0.1	63	0.00
35		1,1,2-Trichloroethane	250.000	227.818	8.9#	58	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	66	0.00
37		Tetrachloroethene	250.000	259.338	-3.7#	69	0.00
38		Dibromochloromethane	250.000	244.767	2.1#	63	0.00
39	MP	Chlorobenzene	250.000	260.650	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.362	-3.7#	67	0.00
41		m,p-Xylene	500.000	527.744	-5.5#	68	0.00
42		o-Xylene	250.000	260.466	-4.2#	67	0.00
43		Styrene	250.000	259.047	-3.6#	67	0.00
44	P	Bromoform	250.000	223.941	10.4#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	213.687	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	263.539	-5.4#	69	0.00
47		1,4-Dichloro-2-butene	250.000	196.857	21.3#	53	0.00
48		4-Ethyltoluene	250.000	255.621	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	250.000	277.012	-10.8#	74	0.00
50		2-Chlorotoluene	250.000	277.162	-10.9#	72	0.00
51		1,2,4-Trimethylbenzene	250.000	280.825	-12.3#	71	0.00
52		1,3-Dichlorobenzene	250.000	272.684	-9.1#	68	0.00
53		1,4-Dichlorobenzene	250.000	269.078	-7.6#	66	0.00
54		1,2-Dichlorobenzene	250.000	265.513	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	250.000	223.600	10.6#	67	0.00
56		Napthalene	250.000	190.533	23.8#	59	0.00
57		Hexachlorobutadiene	250.000	225.060	10.0#	69	0.00

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C202537

Lab File ID (Standard): CM0303A.D Date Analyzed: 3/3/02

Instrument ID: MARILYN Time Analyzed: 11:11

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	515501	11.30	2074142	13.26	1597660	20.57
	UPPER LIMIT	1031002	11.80	4148284	13.76	3195320	21.07
	LOWER LIMIT	257751	10.80	1037071	12.76	798830	20.07
	EPA SAMPLE NO.						
01	VBLKMA	526538	11.33	2132704	13.27	1623261	20.58
02	LCS AND 2ND	550074	11.36	2366863	13.30	1773259	20.58
03	SVEEA	480362	11.33	1832044	13.27	1437705	20.58

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

ate 1-25-02 Instrument ID : MARILYN Method : TO14 /8260AIR /8260WATER /624MOD

atch MA0010 1 2 3 Batch 1 2 3 Batch 1 2 3 Maint. ___

S# 8 -MSW- 26 - 3 TO14 8 -MSW- 32 - 1 AIR-SPK 8 -MSW- 30 - 2 Sequence cont.

TB 8 -MSW- 26 - 3 8260 -MSW- - W-SPK -MSW- - on page

TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
1:34	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
3:18	14		0025M125			Y N		x		bad 5ul syringe reshoot
3:56	15		0100M125			Y N		y		
4:33	16		0250M125			Y N		✓		used a 25ul syring re-do tune
5:09	14		0500M125			Y N				
5:46	15		1000M125			Y N		✓		
6:24	16		1500M125			Y N		✓		
7:43	14		0025R125			Y N		✓		used a 10ul syring
8:20	15		0100R125			Y N		✓		
9:22	15		MA010ABK			Y N		✓		
1:59	16		MA010LCS			Y N		✓		LCS + 2nd
0:36	16		01299-1X	X100		Y N		✓		P./PF = 2 X50 run ST
:10	2		01493-2			Y N		✓		
:14	2		01299-1			Y N		✓		high Iso octane
:20	2		01493-1			Y N		✓		
:56	2	out 8/1/06	01493-1R			Y N		✓		run ST - ~~out of 12 hrs~~ 8/1/06
:31	9		01546-2	X10		Y N		✓		re-run ST - 8/1/06
:07 :44	10 11		-4 -1	X10 X10		Y N		✓ ✓		
:21 :58	12 13		-3 -1X	X10 X50		Y N		✓ ✓		Triple C.C. not needed / X10 worked re-run X50 / out of time time
:35- 12-	out 14 out 15		-3X -2X	X50 X50		Y N				
:49	out 16		-4X	X50		Y N				not needed - X50 worked ✓ ✓ ✓

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

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

36

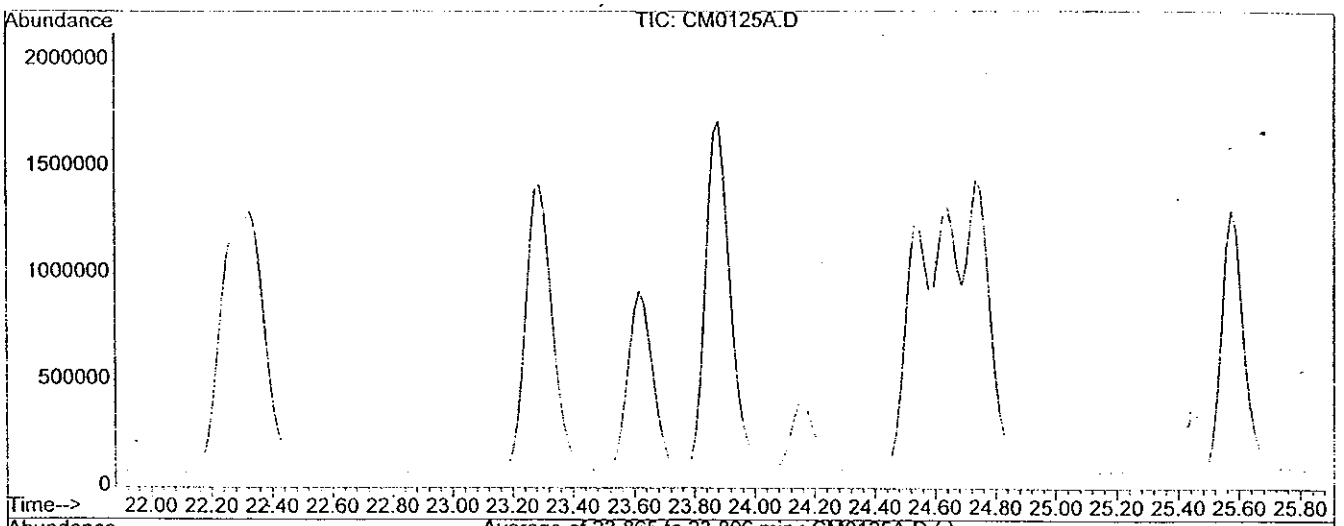
STL Pensacola

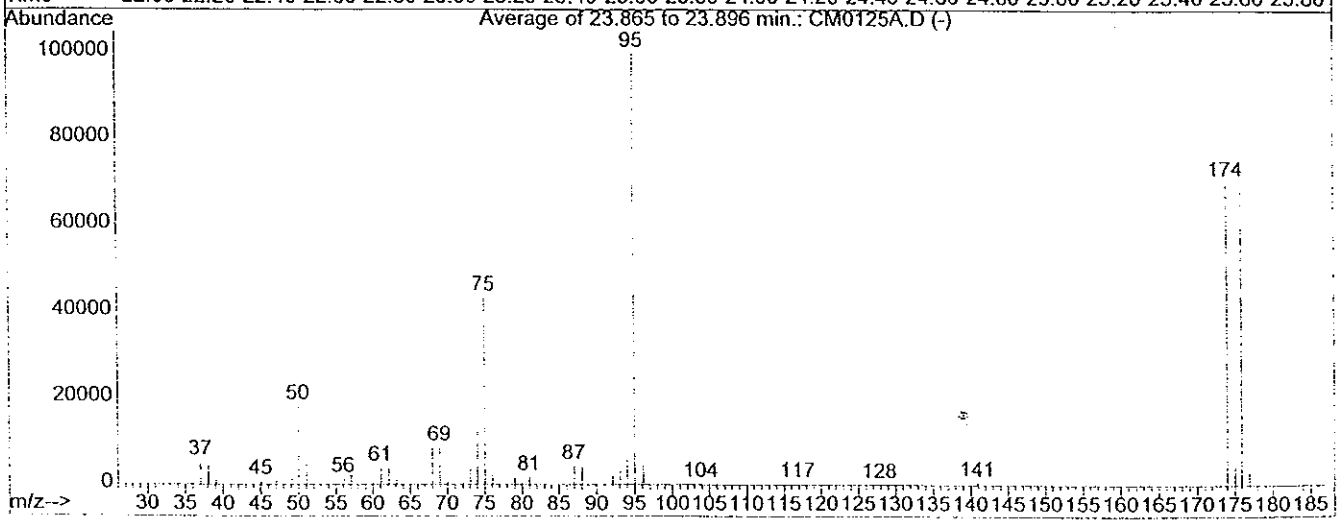
NAS Cecil Field, CTO-0062

80

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

TB 1-25-02





Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6586	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

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

1-25-02

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

		Compound	25	250	1500	1000	100	500	Avg	%RS
1)	I	Bromochloromethane IS	----------ISTD----------							
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.98	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.99	
								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

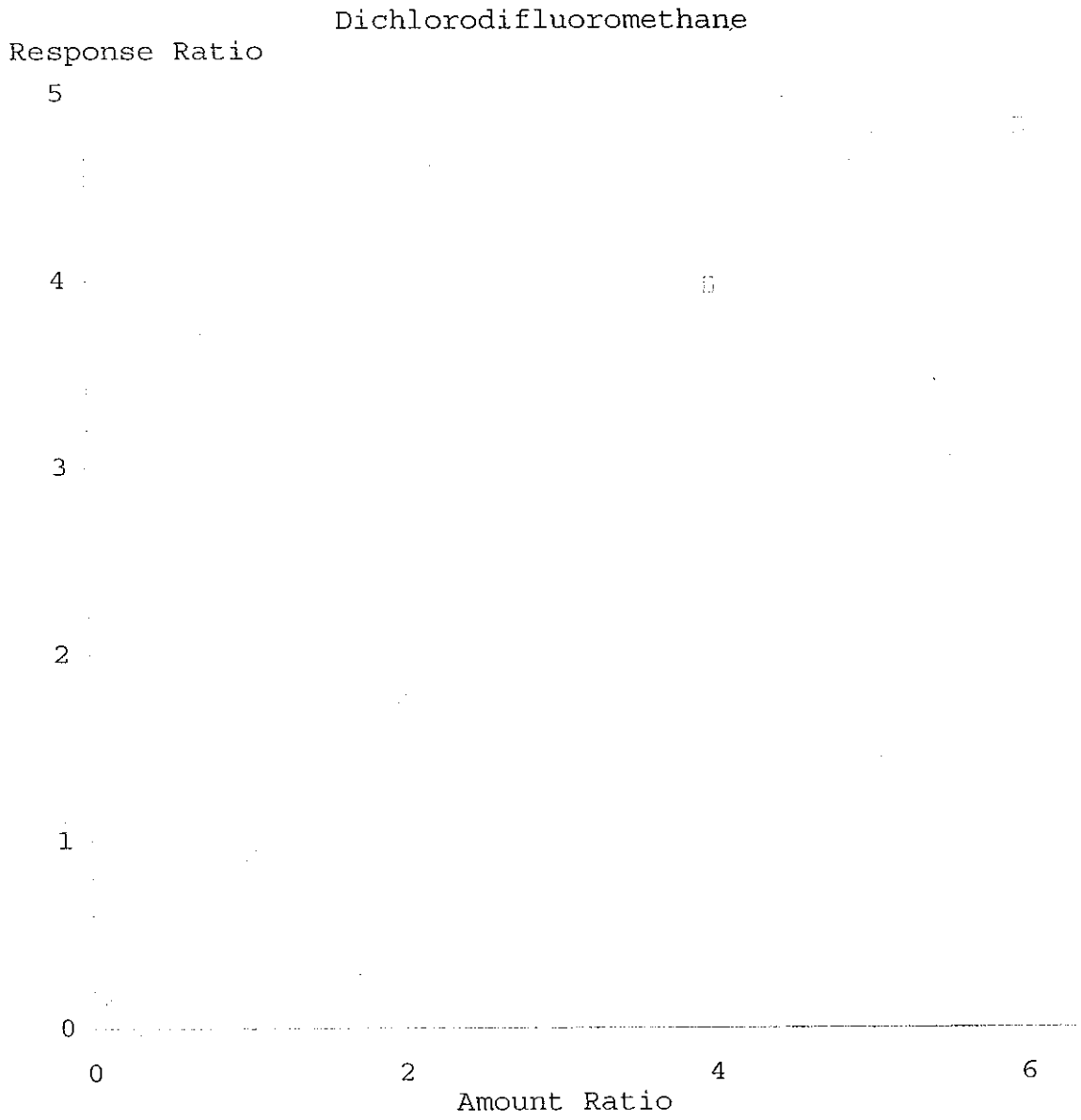
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range ### Number of calibration levels exceeded format ###

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

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

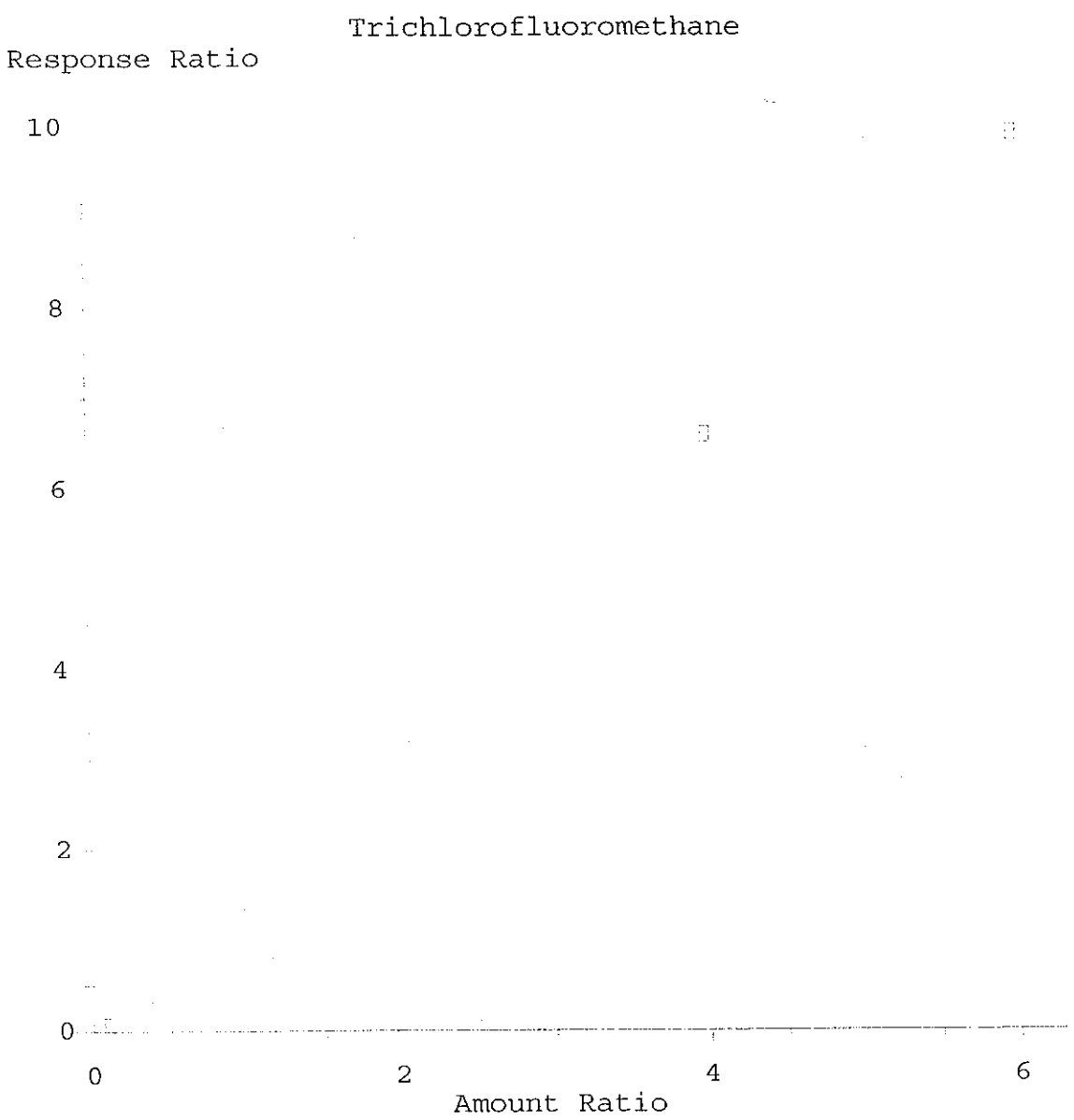
		Compound	25	250	1500	1000	100	500	Avg	%RSI
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	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 ###



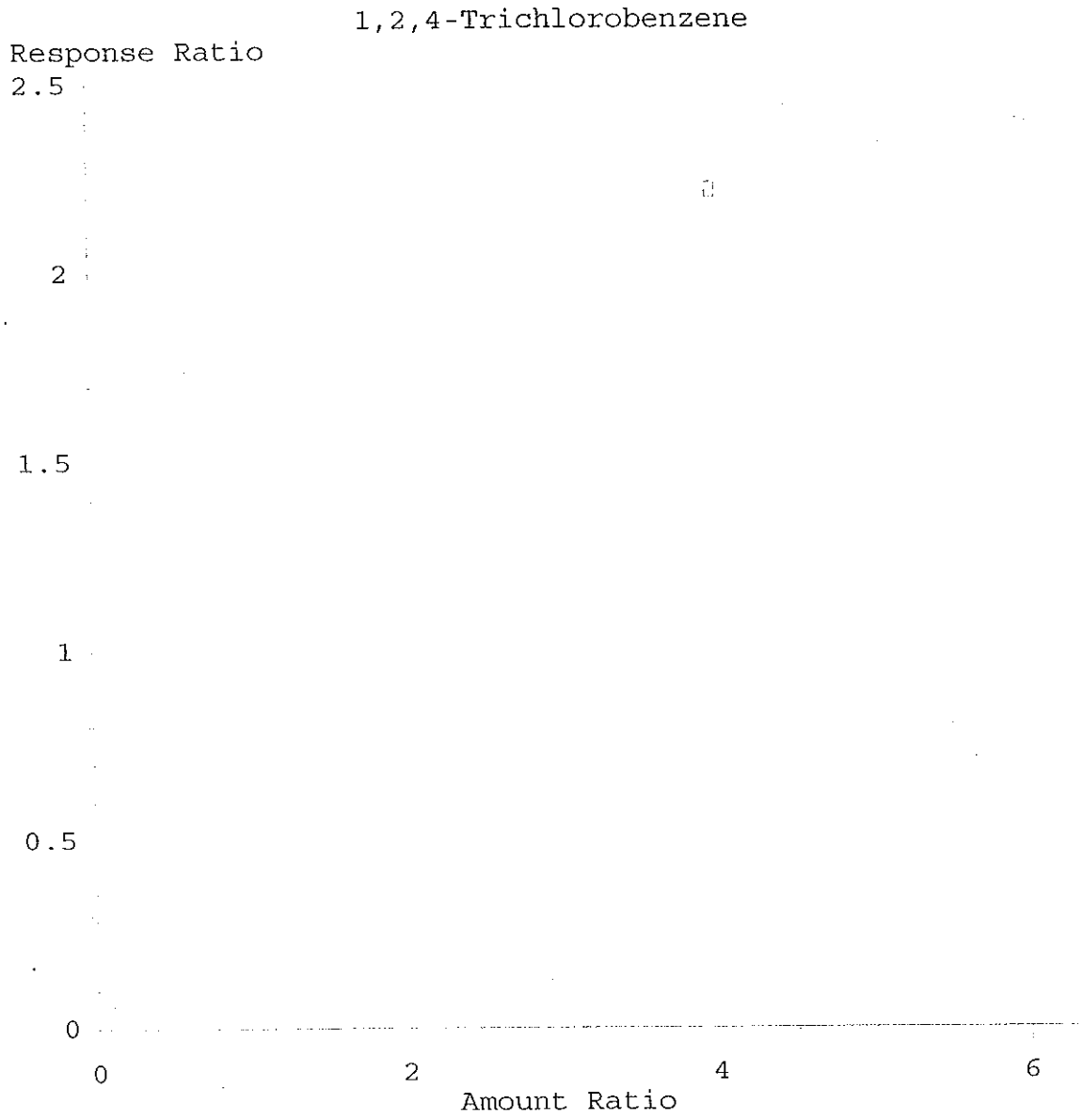
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

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



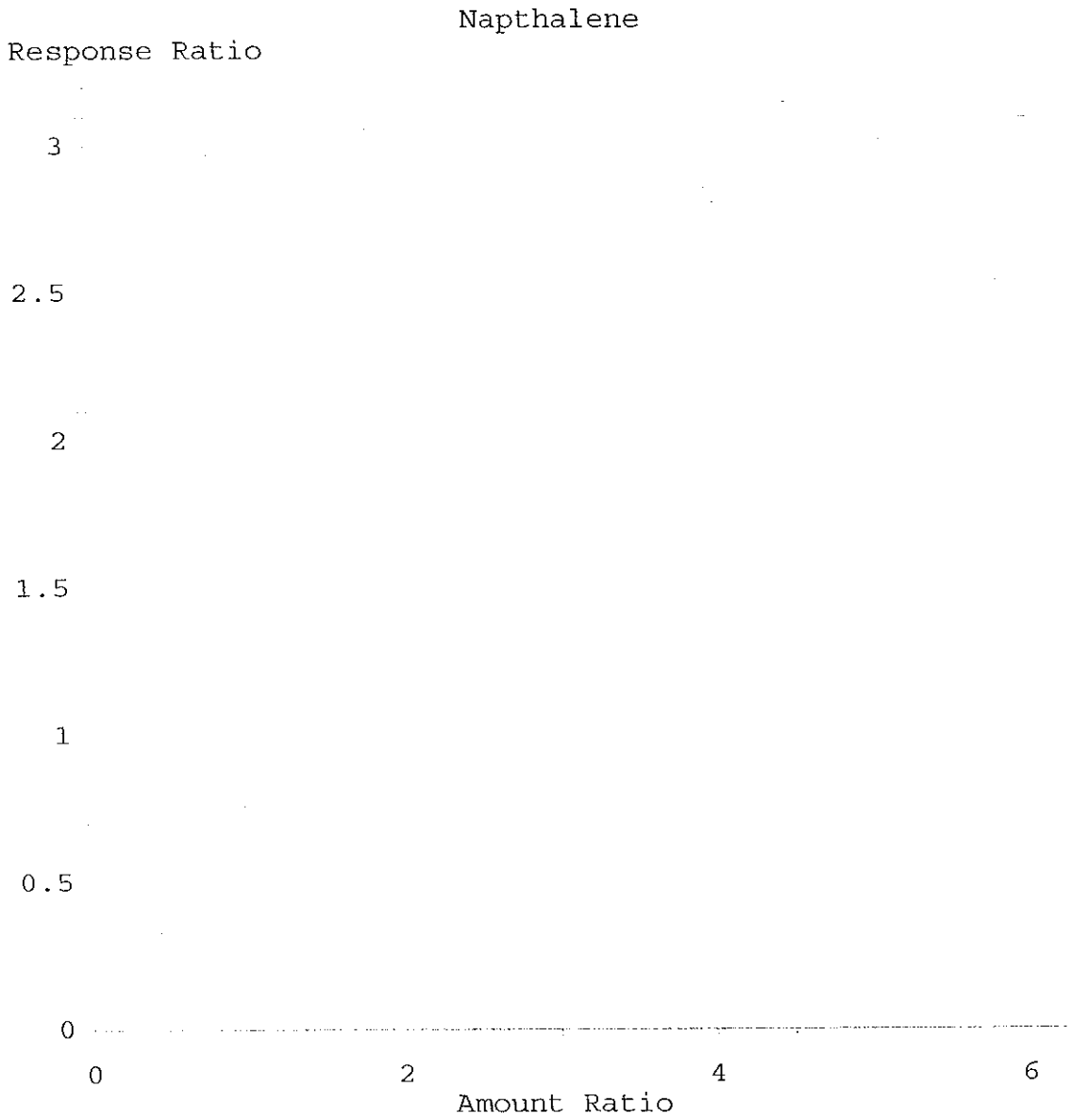
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

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



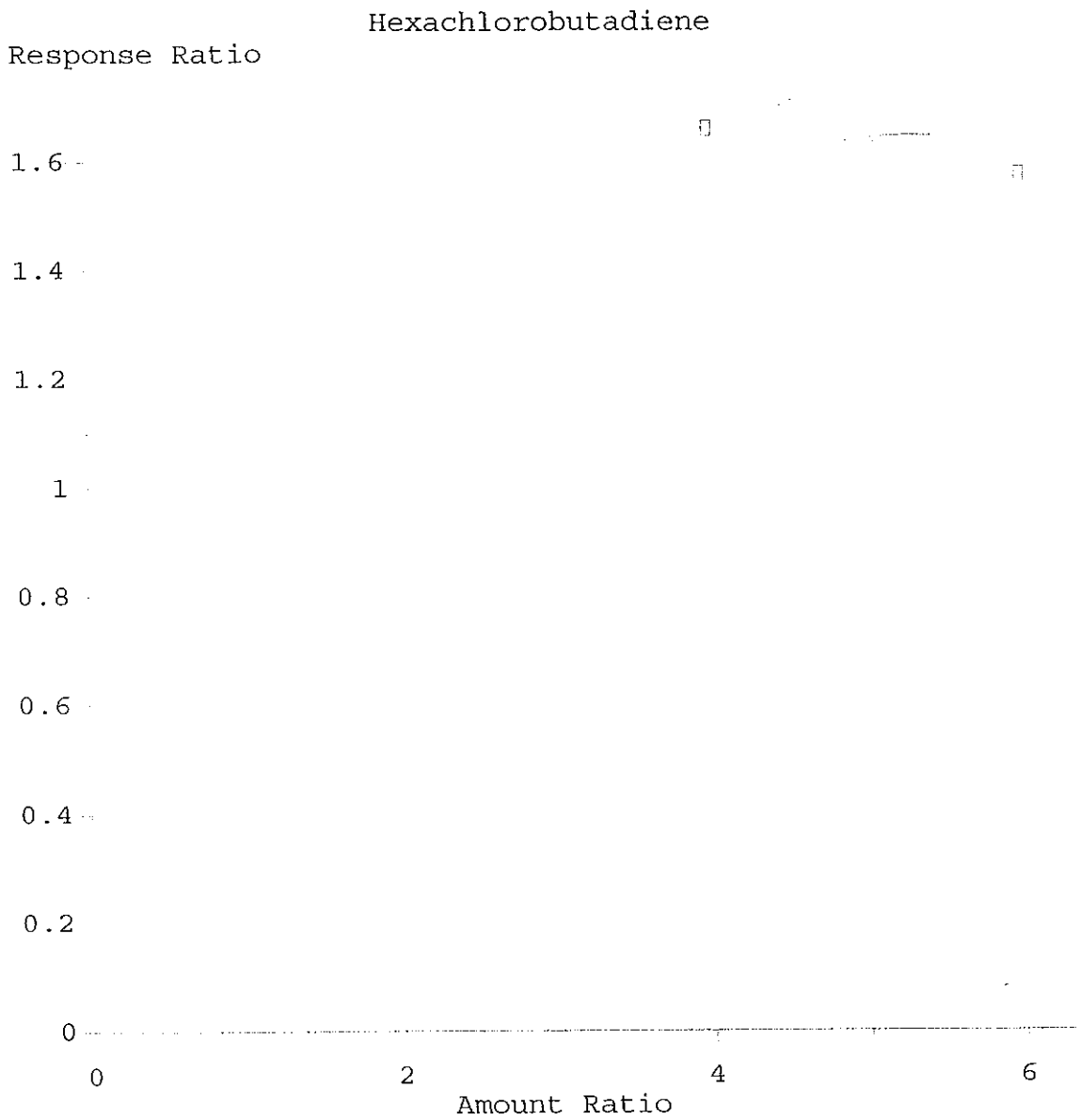
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

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



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

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



R = -6.07e-002 A*A + 6.45e-001 A - 6.64e-002
Curve Fit: Quadratic

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

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

JB 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		[illegible]
20) Isooctane	12.03	57	30171	[illegible]		
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

(#) = qualifier out of range (m) = manual integration
0025R125.D TO14S.M Fri Jan 25 18:22:16 2002

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

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

Quant Results File: TO14S.RES

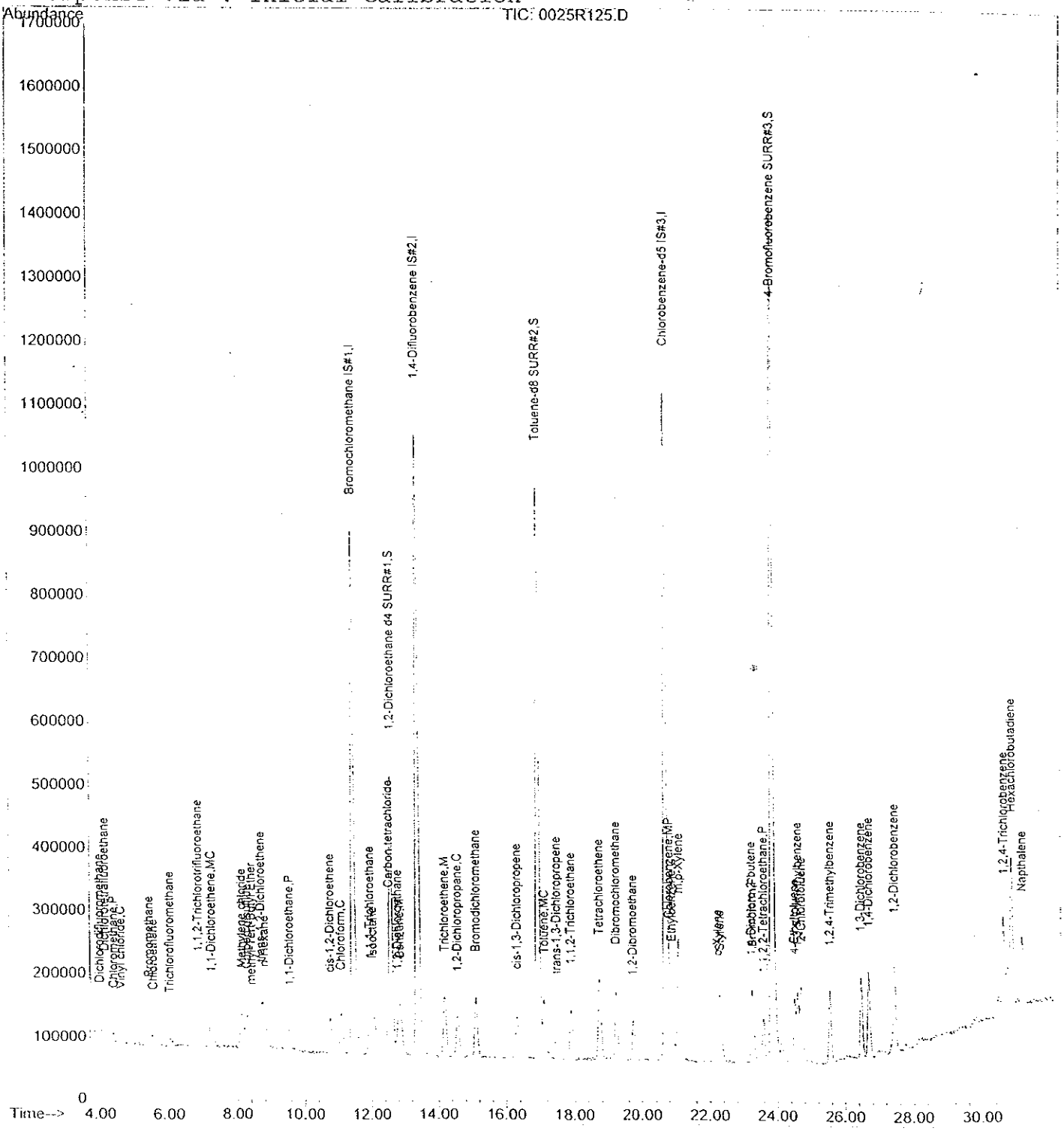
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.19	130	116164	39.83	ng		97
29)	1,2-Dichloropropane	14.56	63	89221	40.18	ng		96
30)	Bromodichloromethane	15.11	83	210160	37.15	ng		98
31)	cis-1,3-Dichloropropene	16.32	75	130436	38.16	ng		91
33)	Toluene	17.13	92	132700	40.00	ng		95
34)	trans-1,3-Dichloropropene	17.48	75	111132	37.84	ng	#	86
35)	1,1,2-Trichloroethane	17.89	97	93551	39.71	ng		94
37)	Tetrachloroethene	18.73	164	107951	42.67	ng		95
38)	Dibromochloromethane	19.22	127	154507	39.69	ng	#	96
39)	Chlorobenzene	20.81	112	191266	40.04	ng		93
40)	Ethylbenzene	20.88	106	77354	42.58	ng		99
41)	m,p-Xylene	21.09	106	199516	83.10	ng		96
42)	o-Xylene	22.23	106	92327	40.91	ng		93
43)	Styrene	22.30	104	161761	40.88	ng		95
44)	Bromoform	23.26	173	153138	40.51	ng		99
45)	1,1,2,2-Tetrachloroethane	23.58	83	146196	43.67	ng		98
47)	1,4-Dichloro-2-butene	23.23	75	28123	45.62	ng		98
48)	4-Ethyltoluene	24.50	105	276959m	45.26	ng	#	42
49)	1,3,5-Trimethylbenzene	24.59	105	208705	44.71	ng	#	80
50)	2-Chlorotoluene	24.70	91	272490	43.13	ng		99
51)	1,2,4-Trimethylbenzene	25.54	105	214290	41.70	ng		98
52)	1,3-Dichlorobenzene	26.46	146	167453	38.65	ng		94
53)	1,4-Dichlorobenzene	26.67	146	171427	36.21	ng		98
54)	1,2-Dichlorobenzene	27.44	146	180405	43.88	ng		94
55)	1,2,4-Trichlorobenzene	30.63	180	173653	54.61	ng		99
56)	Napthalene	31.18	128	311685	67.28	ng	#	92
57)	Hexachlorobutadiene	30.87	225	196055	78.46	ng		97

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

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

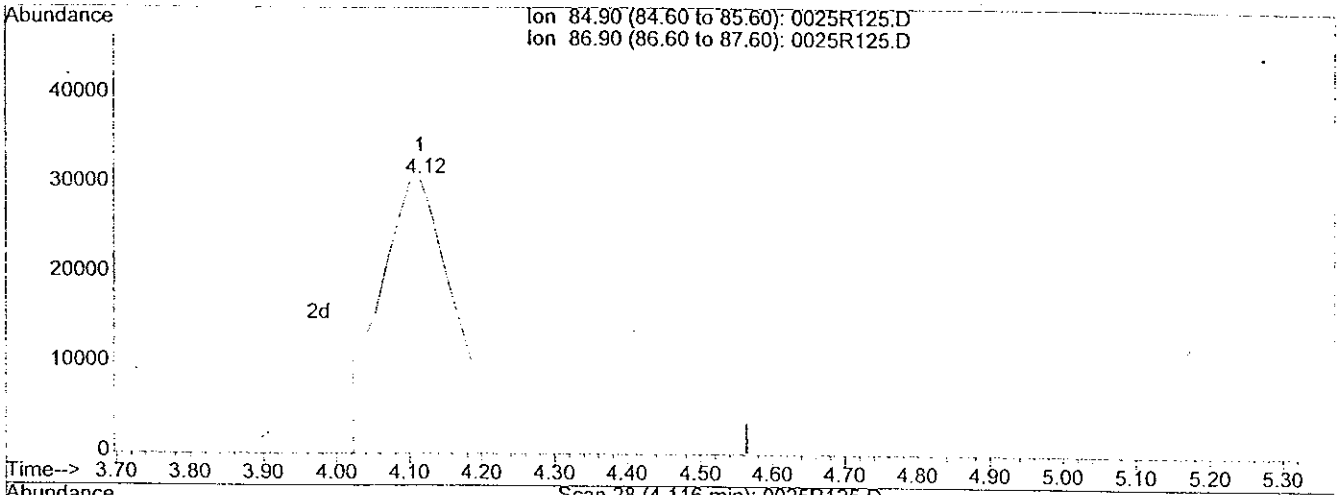
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration

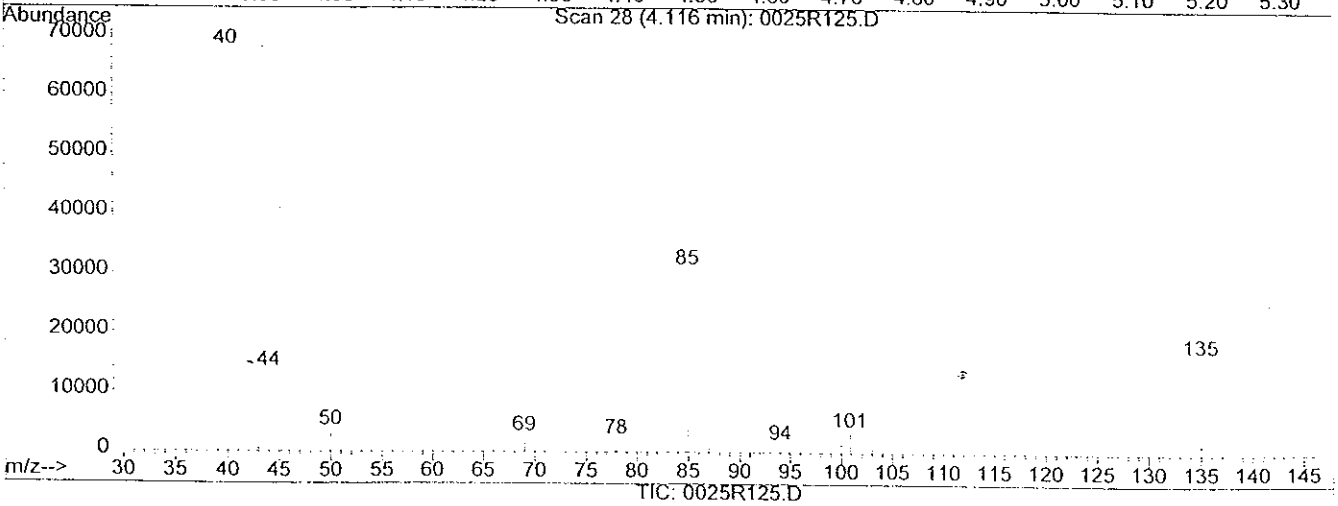


Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:15 2002

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.12min 130.34ng

response 226944

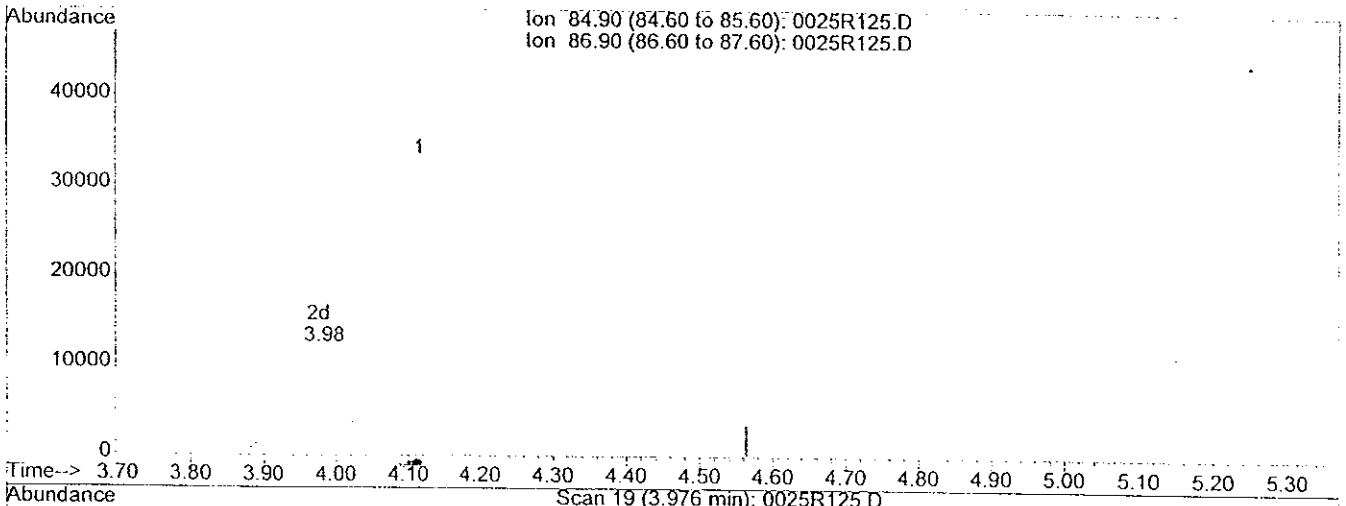
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.84
0.00	0.00	0.00
0.00	0.00	0.00

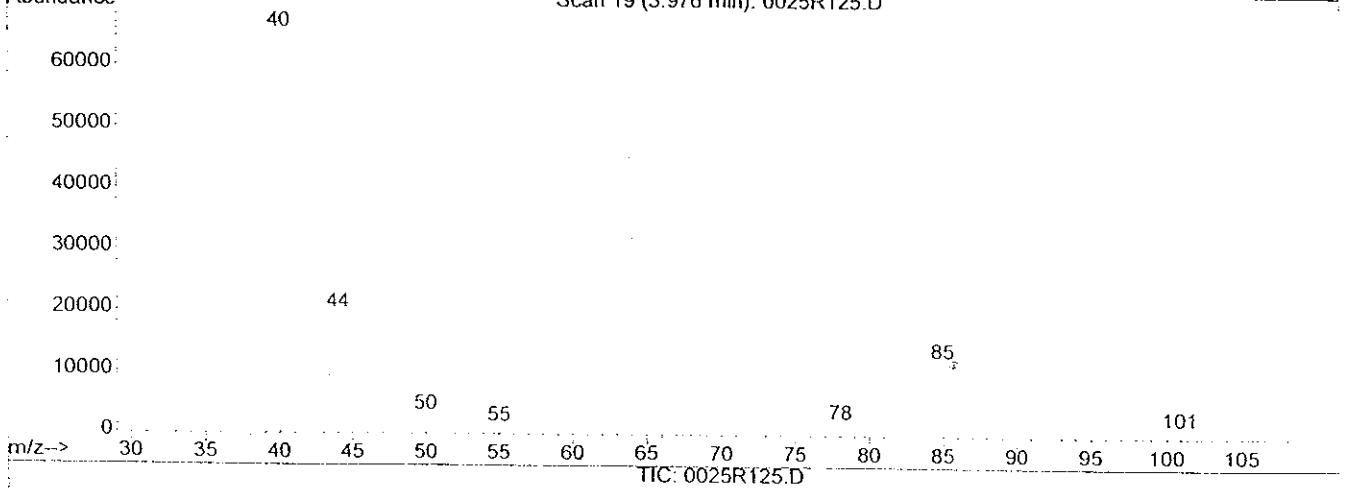
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

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

Vial: 14
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

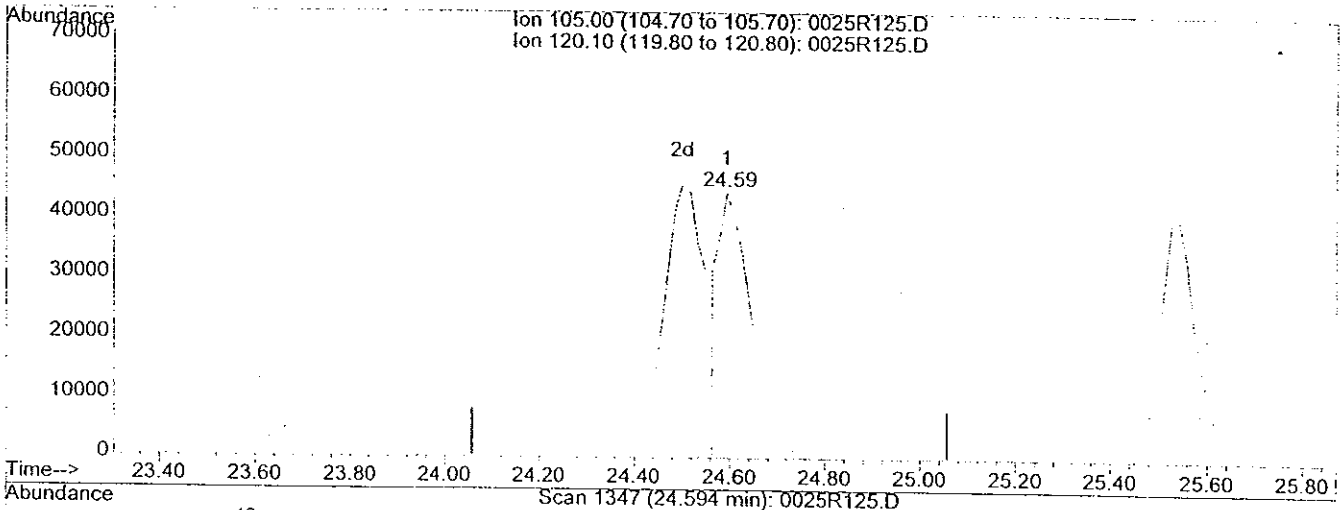
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

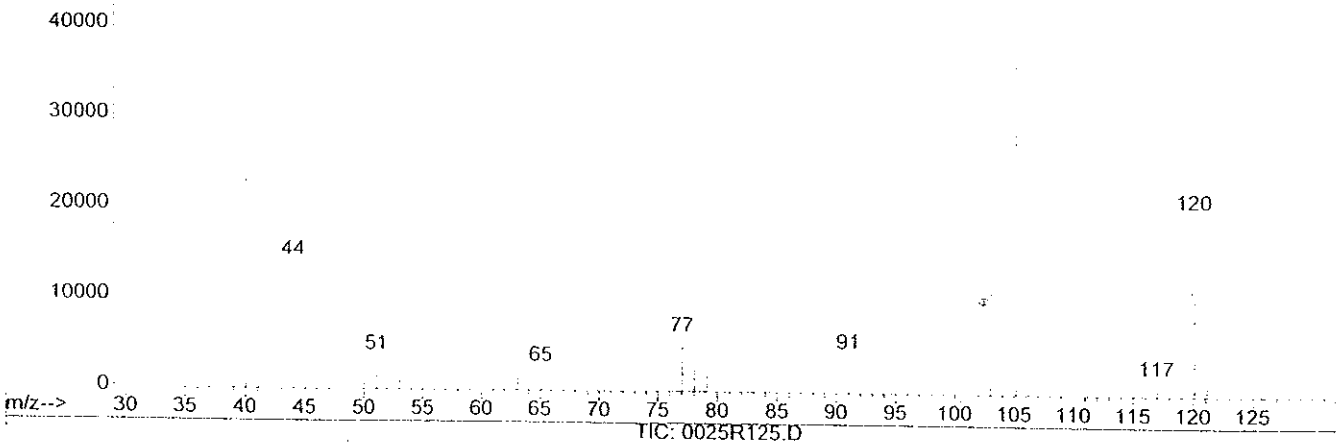
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

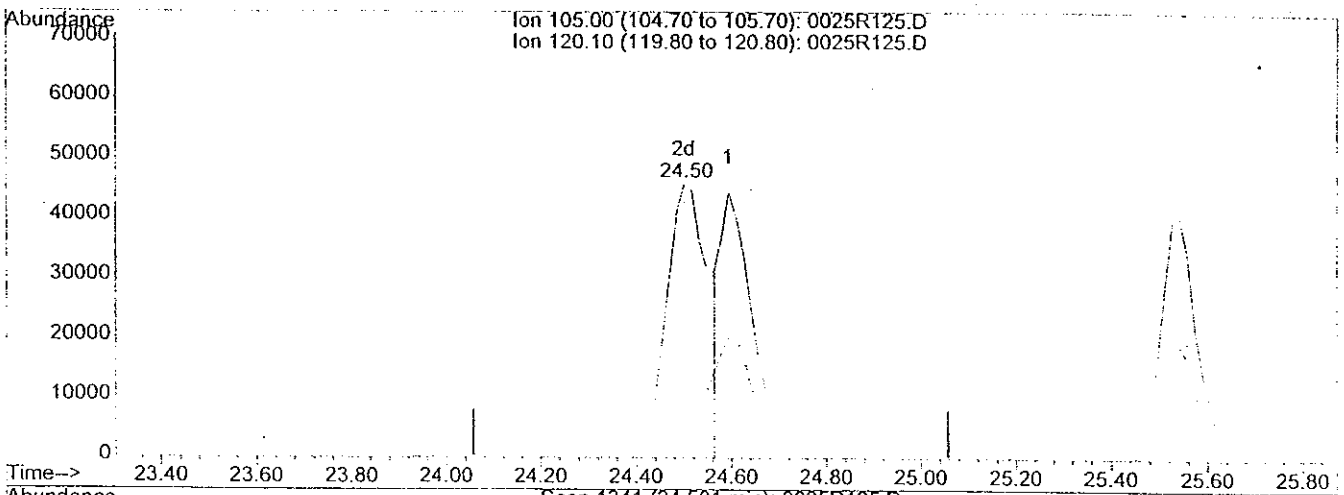
response 208705

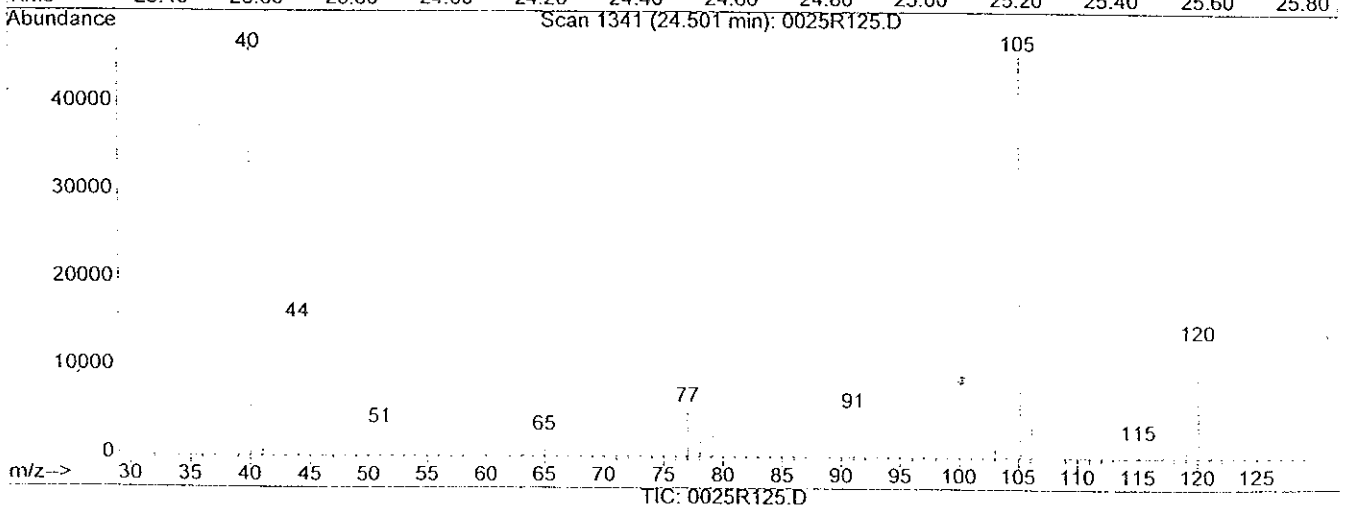
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

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

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

TO 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	803013	250.00	ng	-0.06 99.90%
26) 1,4-Difluorobenzene IS#2	13.38	114	3018839	250.00	ng	-0.06 96.67%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00	ng	-0.05 95.76%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%						
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%						

Target Compounds						Qvalue	
2) Dichlorodifluoromethane	3.97	85	245011m	131.03	ng	#	99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54	ng	#	40
4) Chloromethane	4.41	50	230623	128.25	ng	#	95
5) Vinyl chloride	4.62	62	197828	123.13	ng		99
6) Bromomethane	5.46	94	343058	125.48	ng	#	95
7) Chloroethane	5.56	64	147945	134.89	ng		99
8) Trichlorofluoromethane	6.08	101	258267	122.07	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53	ng		87
10) 1,1-Dichloroethene	7.25	96	312183	142.33	ng		83
12) Methylene chloride	8.15	49	406623	130.28	ng		97
13) Carbon disulfide	8.32	76	785720	130.09	ng		97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26	ng		97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25	ng		87
16) n-Hexane	8.82	57	320526	148.87	ng	#	1
17) 1,1-Dichloroethane	9.55	63	548504	135.74	ng		100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39	ng		91
19) Chloroform	11.10	83	704271	136.[illegible]	[illegible]		[illegible]
20) Isooctane	12.05	57	1160036	162.95	ng		98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36	ng		91
22) Carbon tetrachloride	12.53	117	617093	137.29	ng		98
24) 1,2-Dichloroethane	12.79	62	386406	132.71	ng		98
25) 1,2-Dibromoethane	19.75	107	625053	145.43	ng		99
27) Benzene	12.87	78	806884	143.11	ng		100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

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

Quant Results File: TO14S.RES

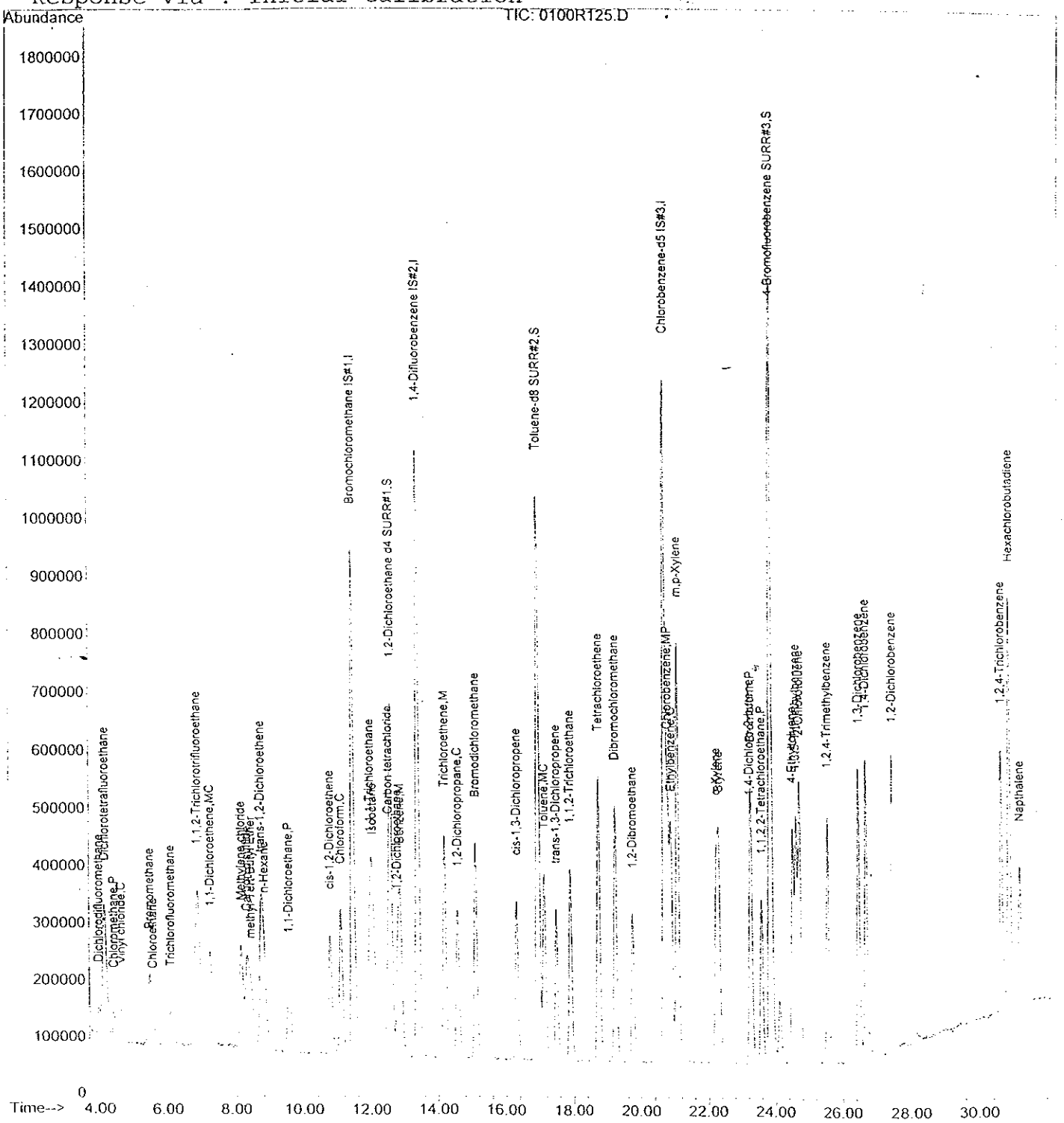
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.19	130	448788	144.70	ng		96
29)	1,2-Dichloropropane	14.58	63	339754	143.88	ng		98
30)	Bromodichloromethane	15.10	83	843245	140.20	ng		99
31)	cis-1,3-Dichloropropene	16.32	75	506869	139.46	ng		96
33)	Toluene	17.12	92	496011	140.63	ng		98
34)	trans-1,3-Dichloropropene	17.48	75	442246	141.62	ng		92
35)	1,1,2-Trichloroethane	17.88	97	365999	146.13	ng		97
37)	Tetrachloroethene	18.74	164	406137	149.07	ng		96
38)	Dibromochloromethane	19.22	127	618919	147.64	ng		99
39)	Chlorobenzene	20.79	112	747778	145.37	ng		96
40)	Ethylbenzene	20.90	106	291472	148.99	ng		100
41)	m,p-Xylene	21.08	106	760694	294.22	ng		98
42)	o-Xylene	22.23	106	361372	148.70	ng		98
43)	Styrene	22.31	104	629732	147.78	ng		99
44)	Bromoform	23.26	173	626335	153.87	ng		100
45)	1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	109322	164.68	ng		95
48)	4-Ethyltoluene	24.50	105	911893	138.39	ng		99
49)	1,3,5-Trimethylbenzene	24.59	105	792143	157.59	ng		92
50)	2-Chlorotoluene	24.70	91	997139	146.56	ng		97
51)	1,2,4-Trimethylbenzene	25.54	105	816144	147.47	ng		100
52)	1,3-Dichlorobenzene	26.47	146	667300	143.04	ng		95
53)	1,4-Dichlorobenzene	26.67	146	717087m	140.66	ng	#	96
54)	1,2-Dichlorobenzene	27.45	146	654043	147.73	ng		96
55)	1,2,4-Trichlorobenzene	30.63	180	479573	140.05	ng		99
56)	Napthalene	31.19	128	724021	145.13	ng	#	92
57)	Hexachlorobutadiene	30.88	225	420106	156.13	ng		98

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

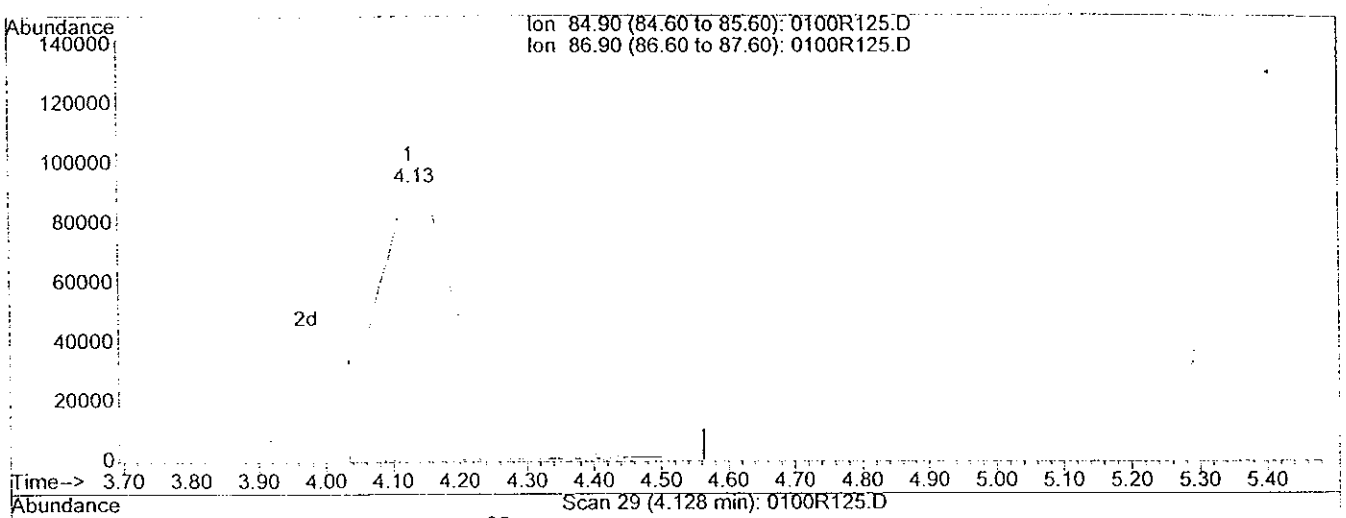
Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002 Quant Results File: TO14S.RES

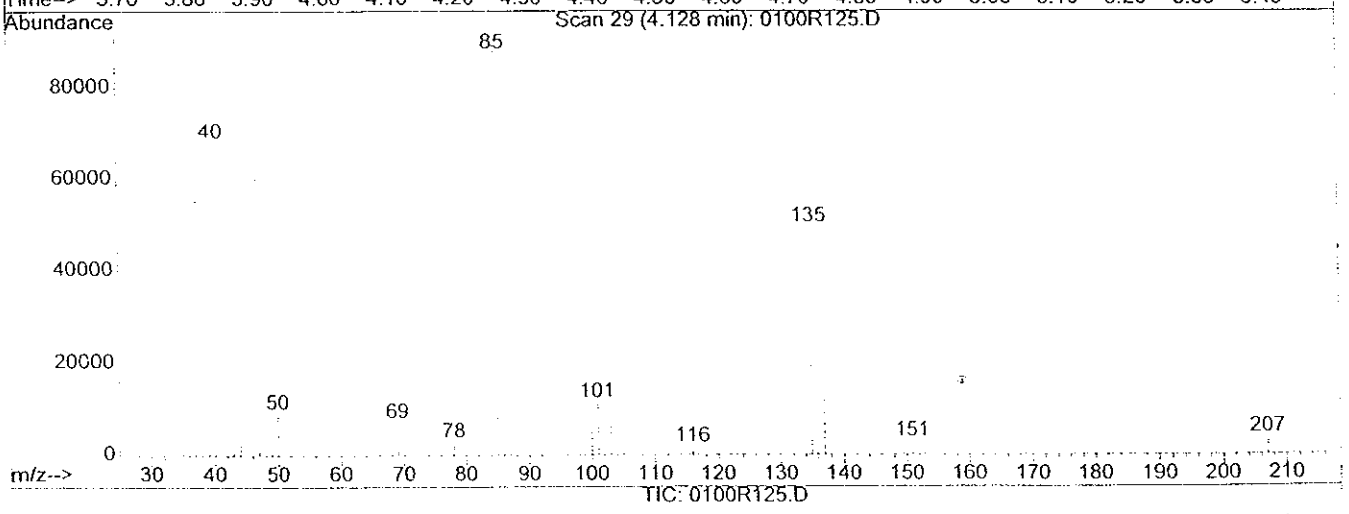
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002 Quant Results File: temp.res

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





(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

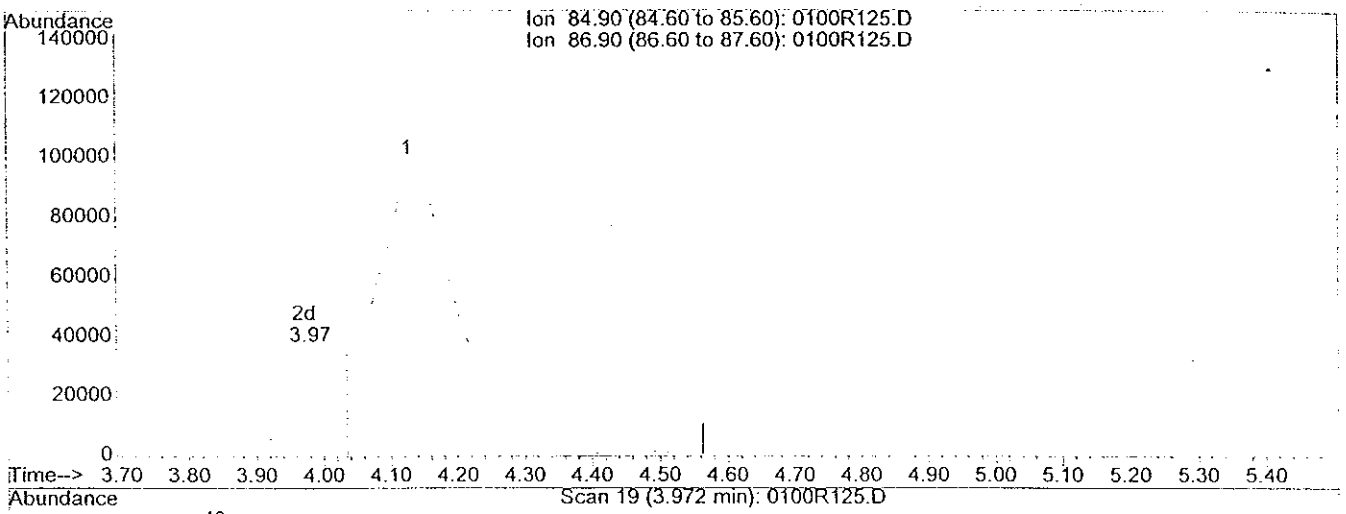
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

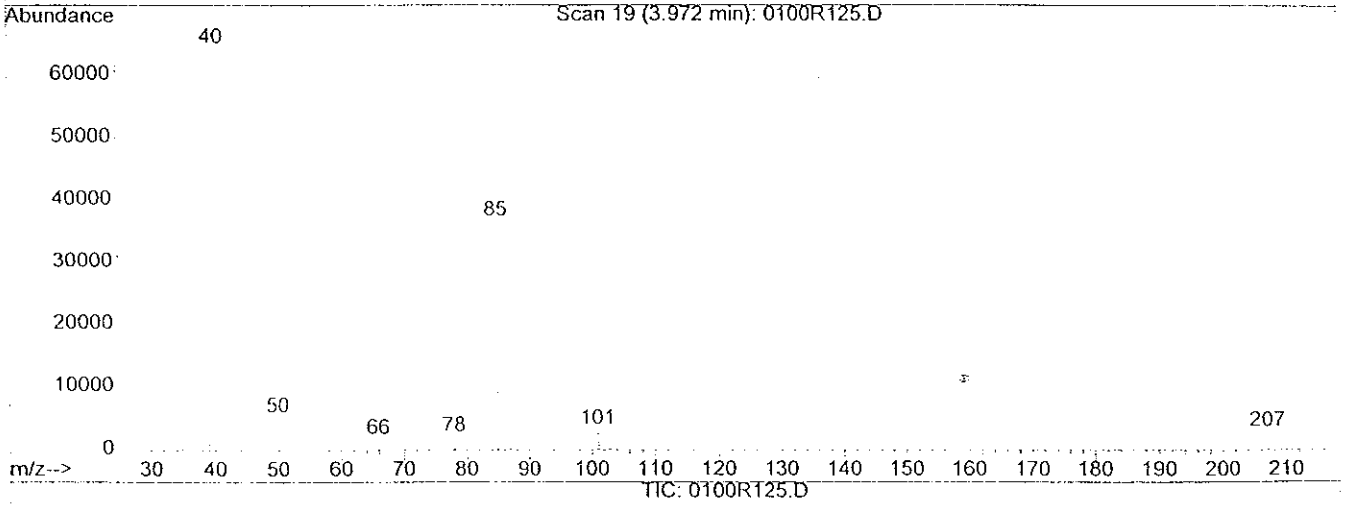
coelution
wrong peak!

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

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

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





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

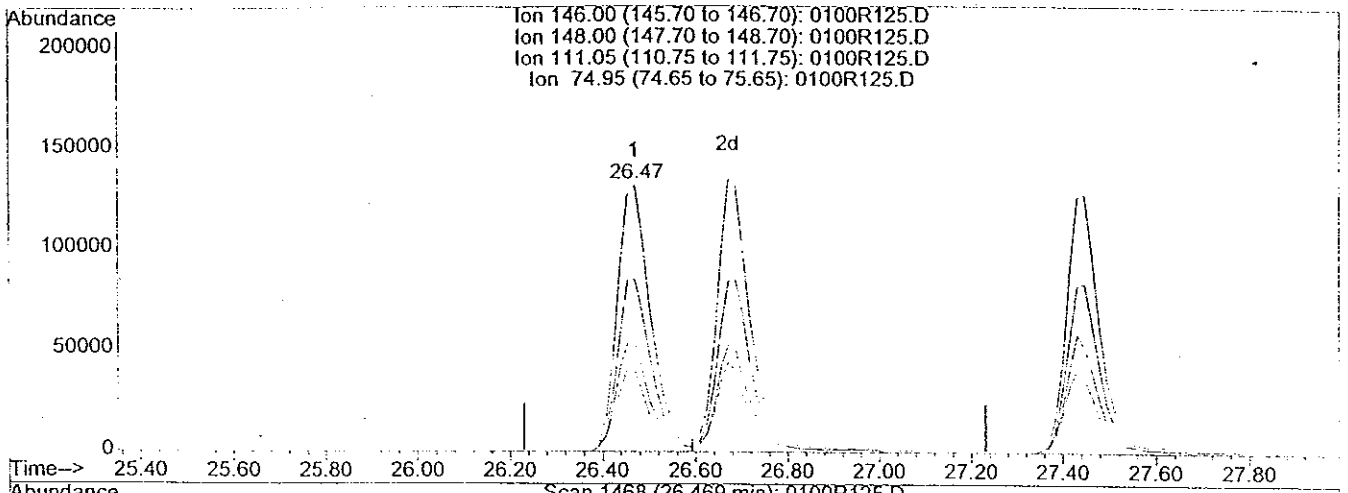
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

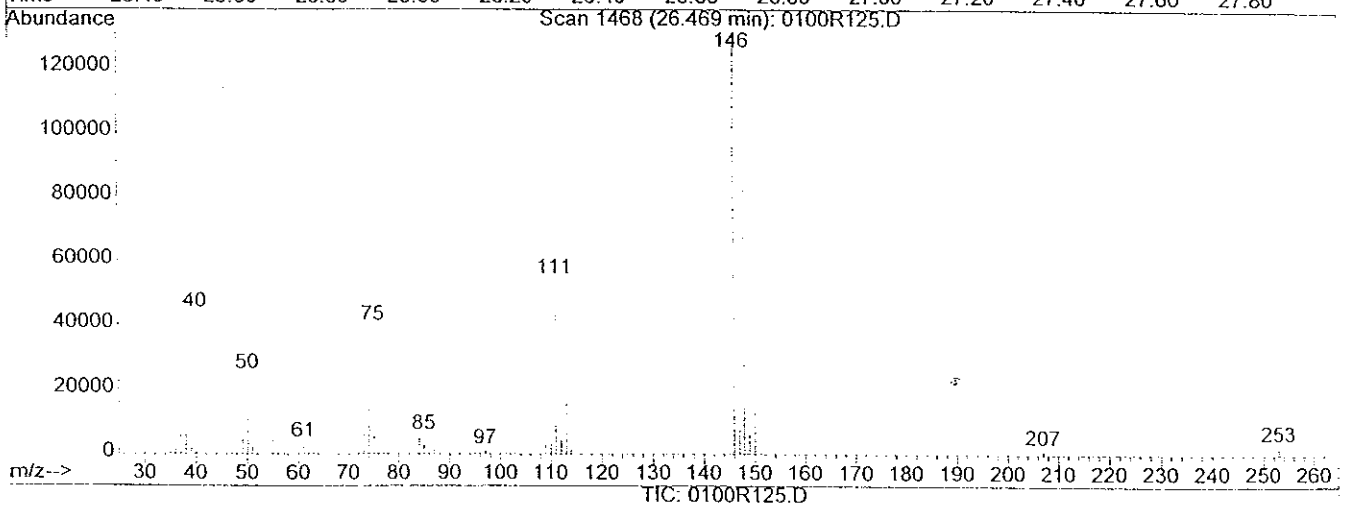
1-25-02

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

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

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





(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

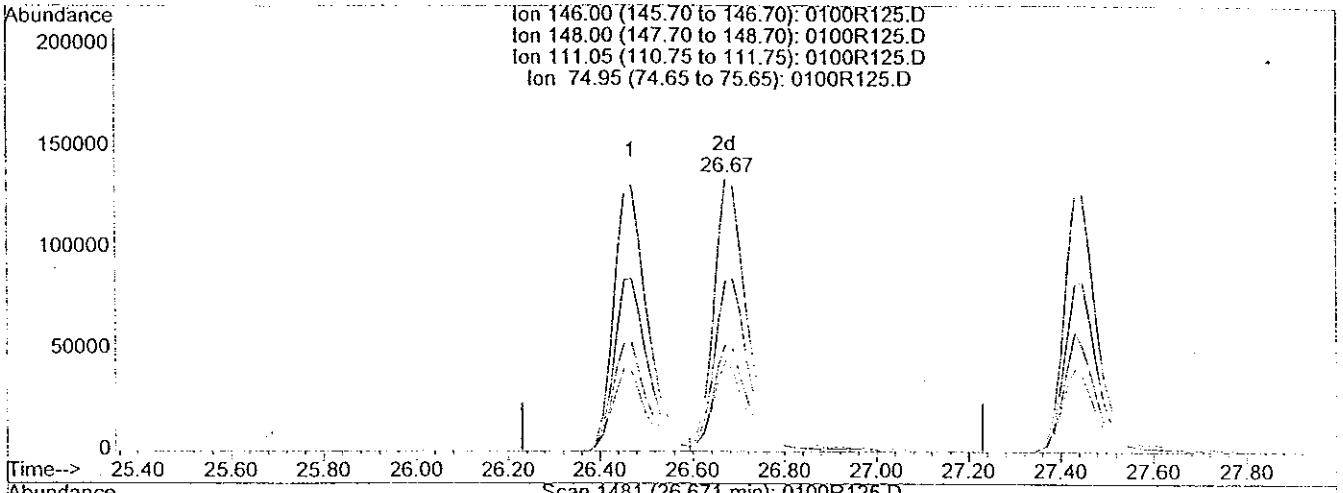
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

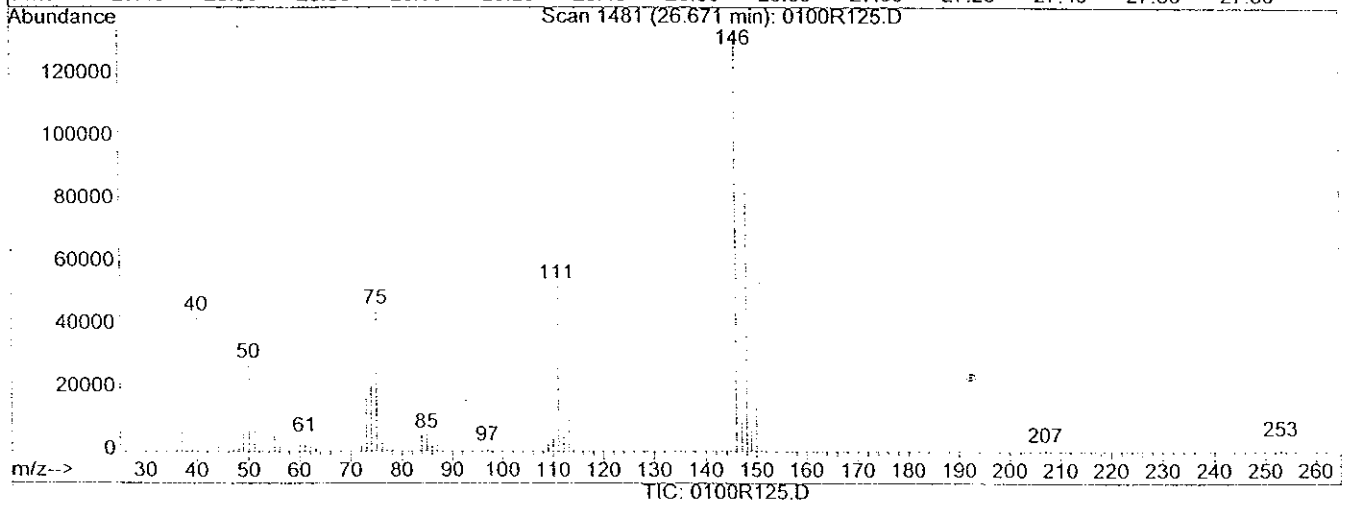
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

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

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





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-23-02

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)

DY 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00 ng	0.04
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00 ng	99.81% 0.04
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00 ng	100.02% 0.02
					99.67%

System Monitoring Compounds	R.T.	QIon	Response	Conc Units	Dev(Min)
23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 118.28%					
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.29%					
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.25%					

ng report

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97 ng	#	98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25 ng	#	26
4) Chloromethane	4.44	50	621320	222.28 ng		99
5) Vinyl chloride	4.65	62	614874	229.48 ng		97
6) Bromomethane	5.49	94	897640*	198.84 ng		98
7) Chloroethane	5.60	64	431748	238.96 ng		98
8) Trichlorofluoromethane	6.13	101	1119931	239.23 ng		99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47 ng		87
10) 1,1-Dichloroethene	7.29	96	864615	239.44 ng		92
12) Methylene chloride	8.18	49	1205948	258.58 ng		96
13) Carbon disulfide	8.36	76	2260074	232.41 ng		100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18 ng		97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60 ng		95
16) n-Hexane	8.86	57	892820	241.08 ng	#	1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39 ng		98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57 ng		96
19) Chloroform	11.16	83	2068510	256.77 ng		[illegible]
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

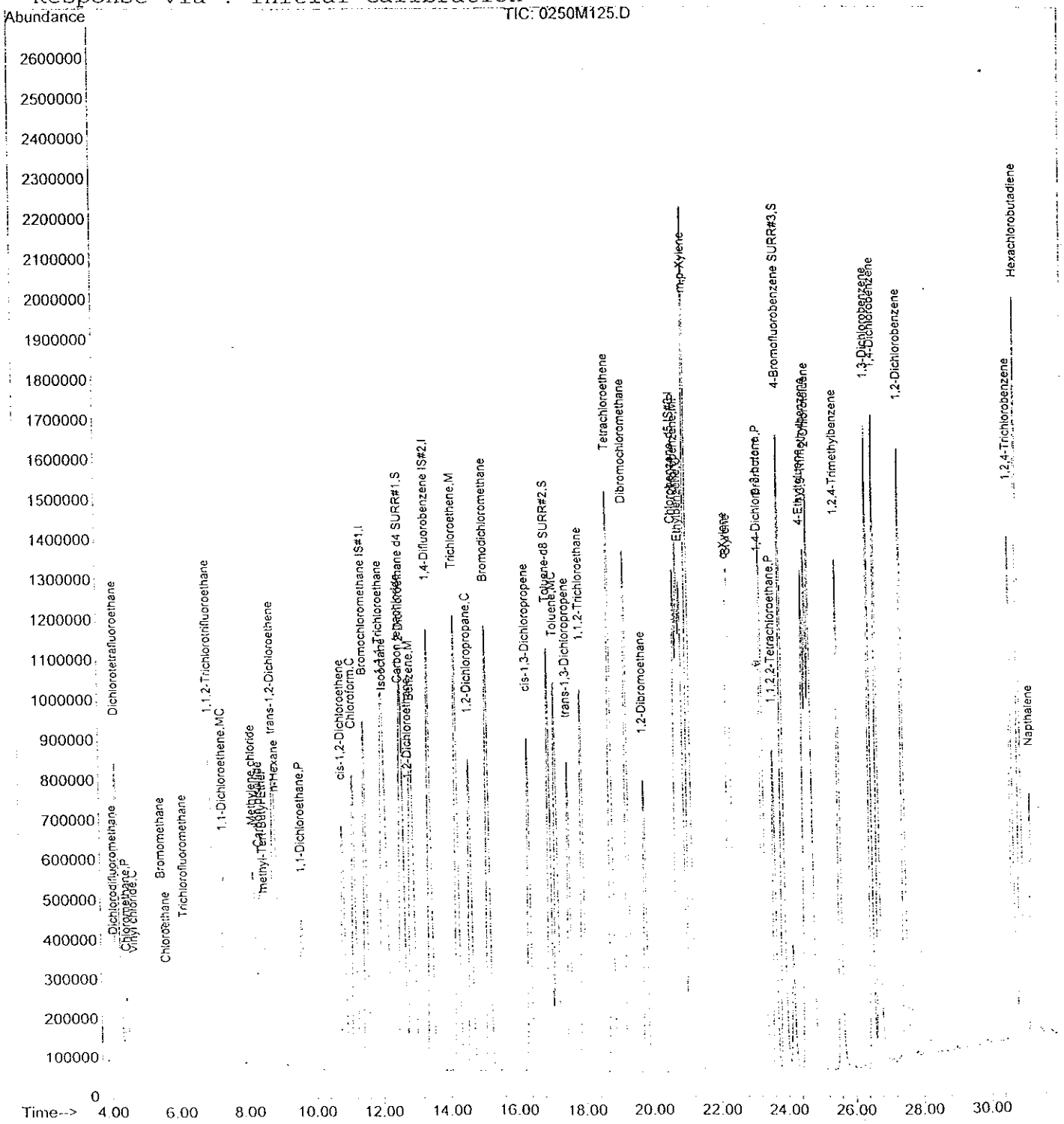
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 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

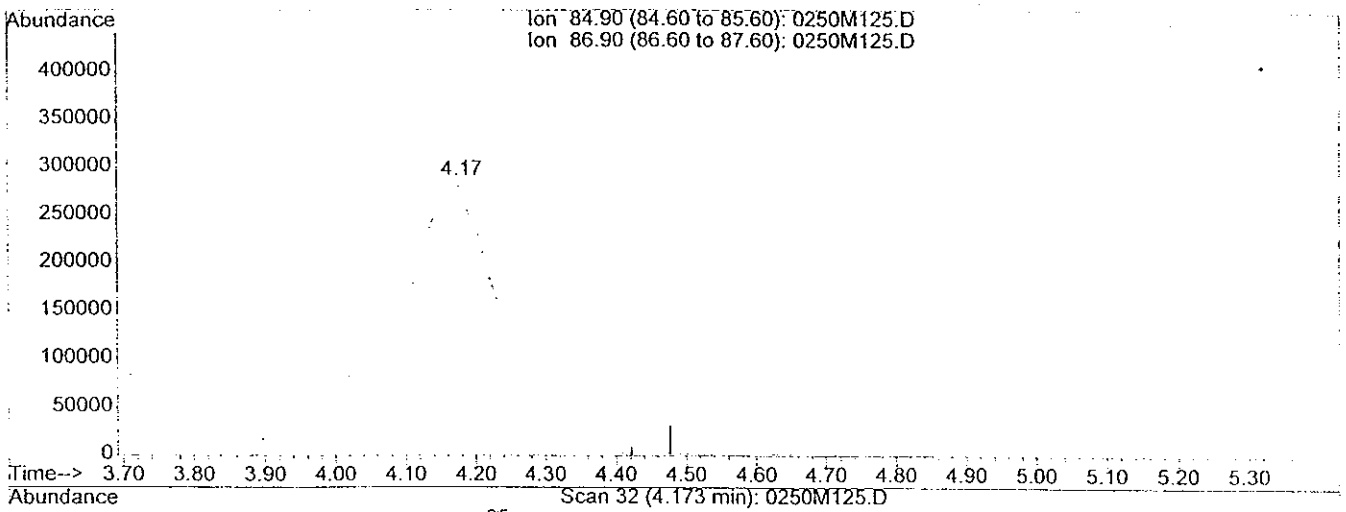
Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

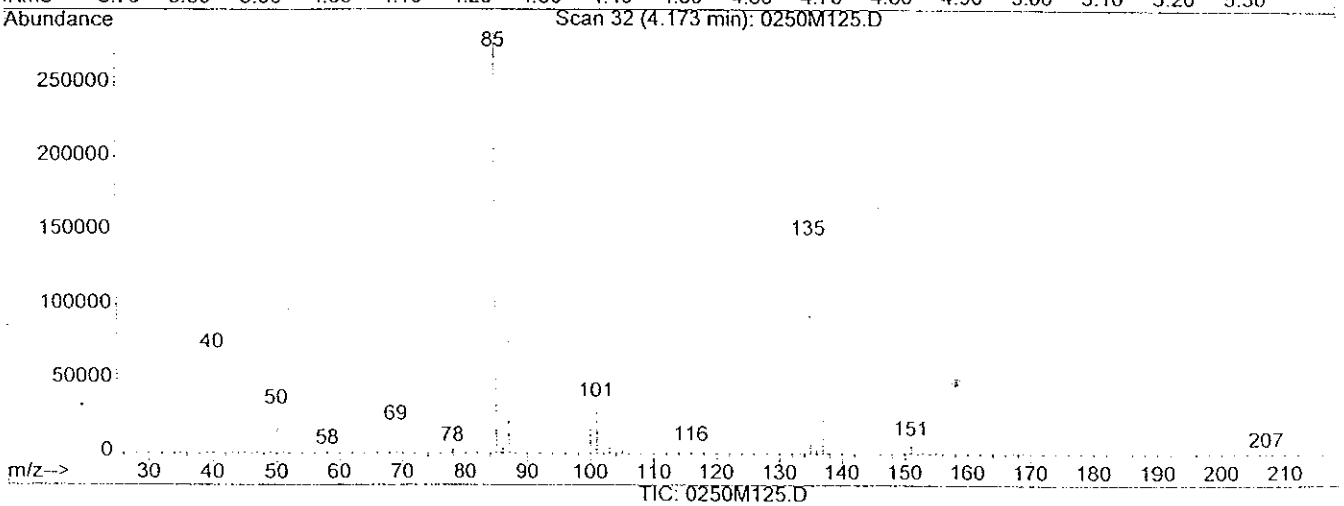
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

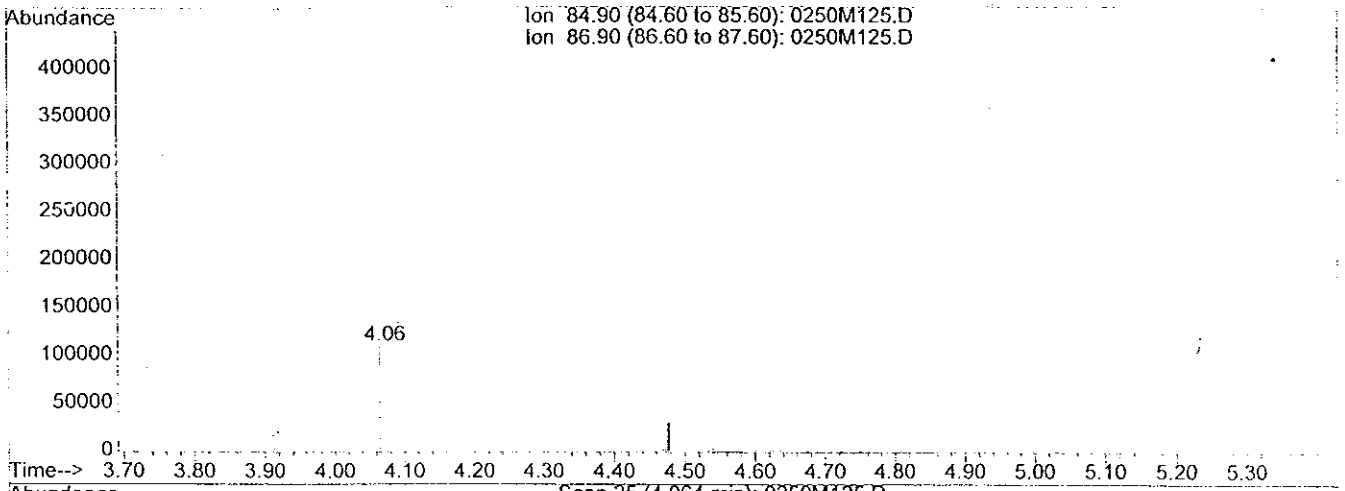
response 3299163

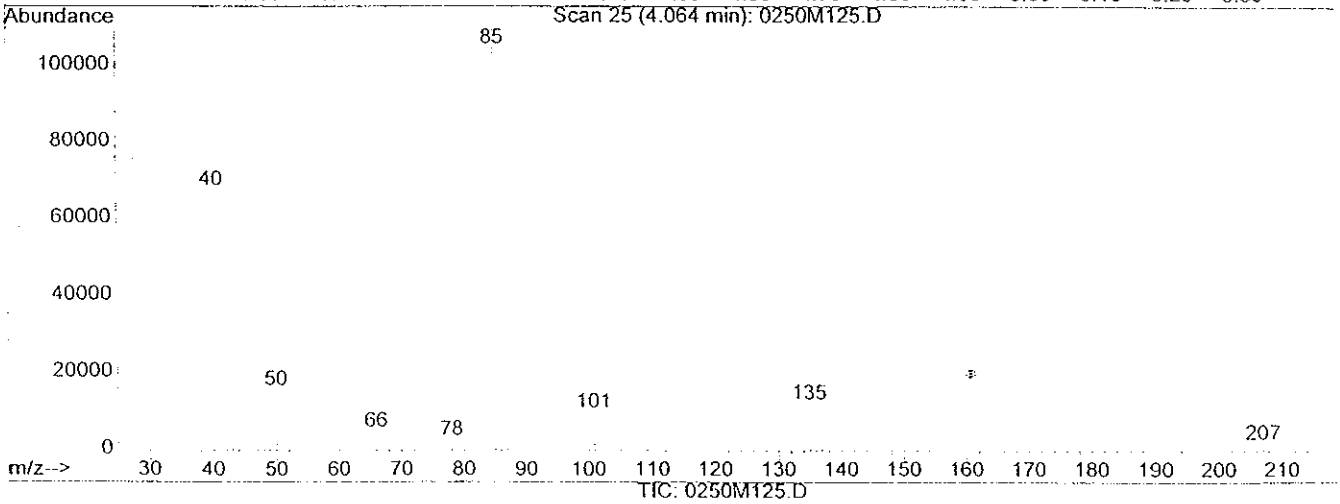
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.06min 187.97ng m

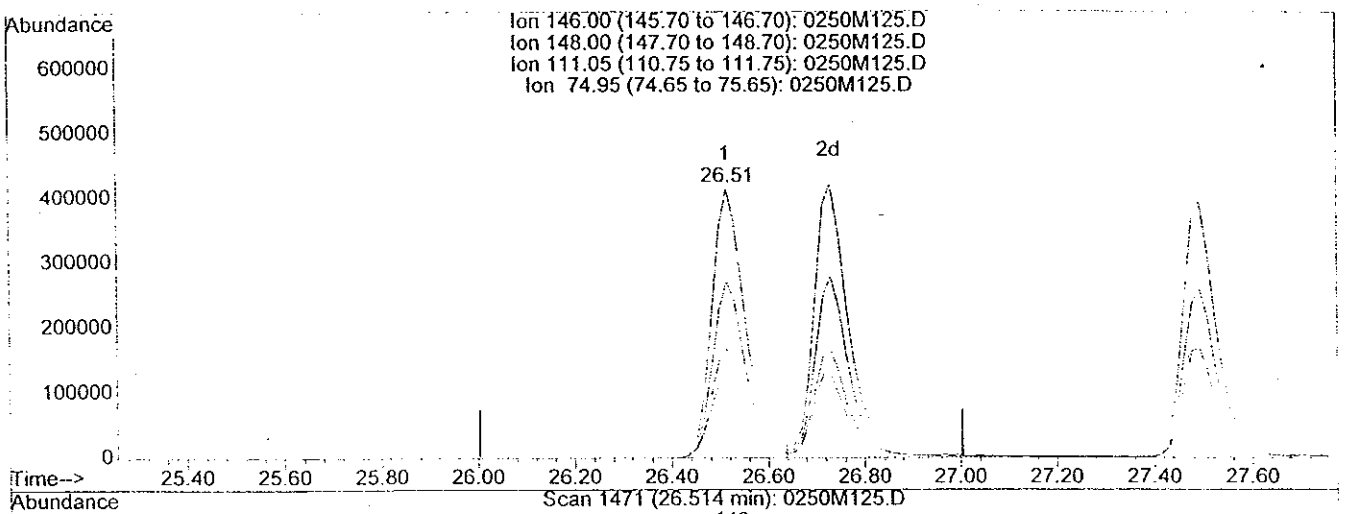
response 732577

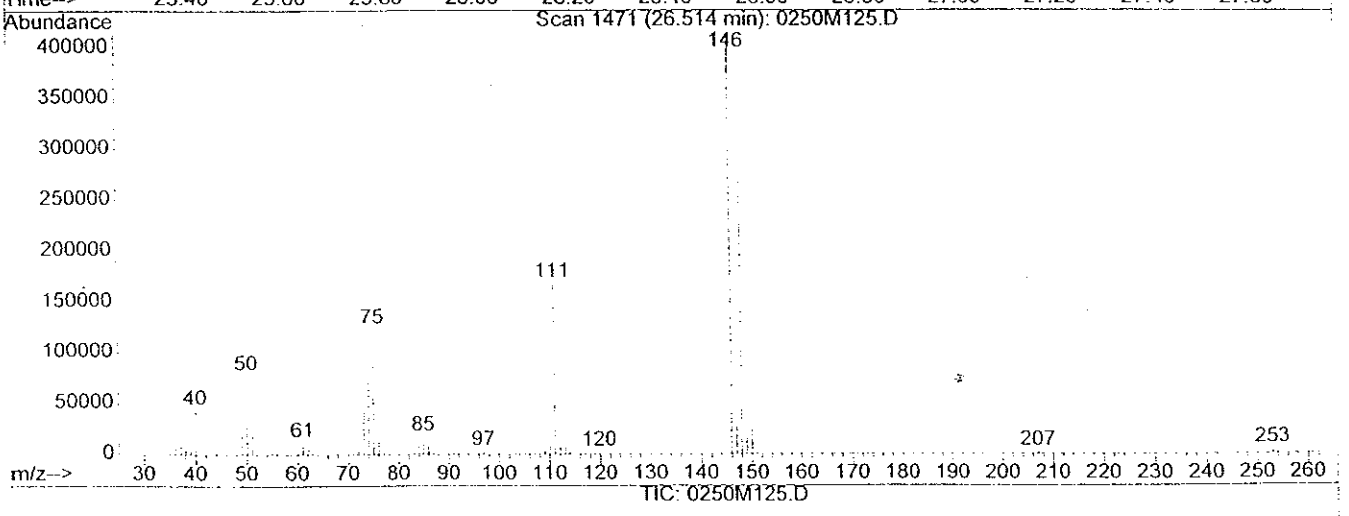
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

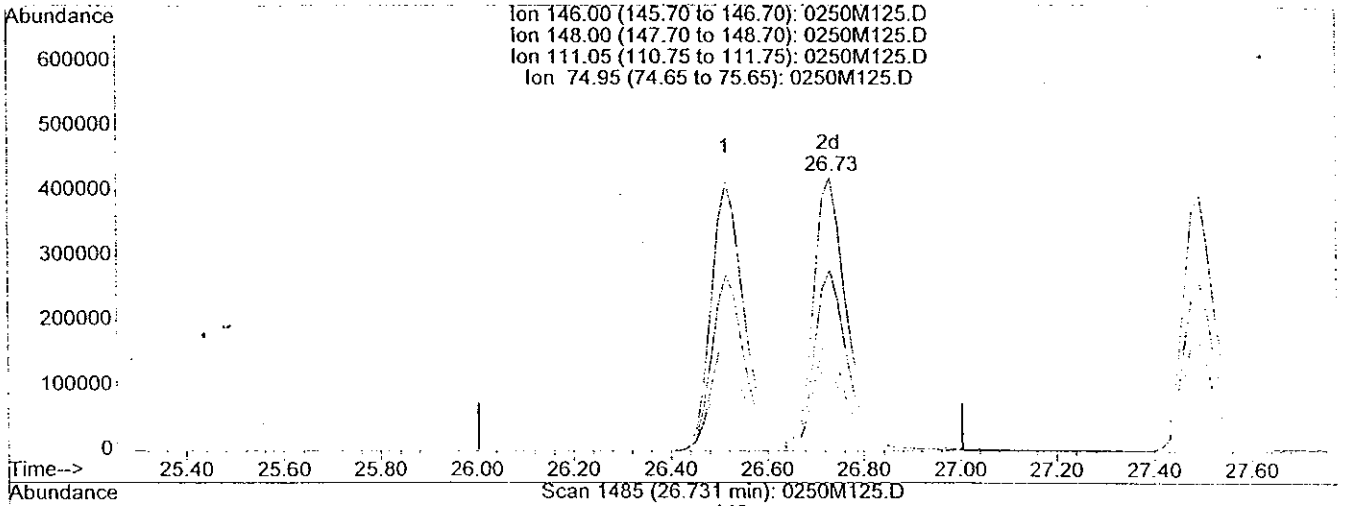
response 2001409

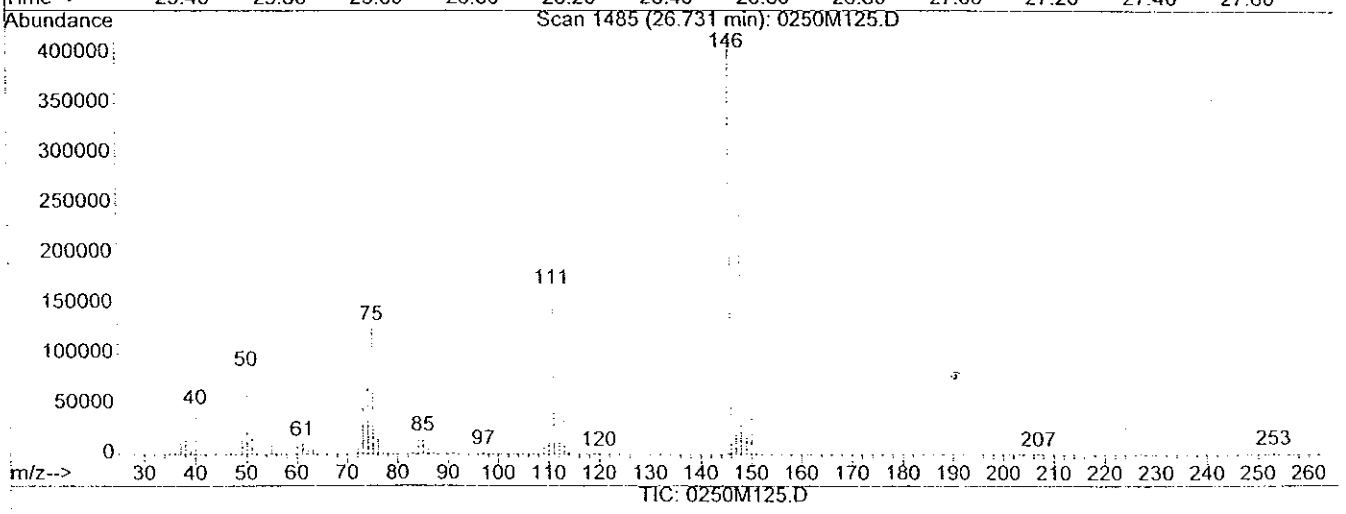
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
Acq On : 25 Jan 2002 15:09
Sample : VSTD0500 500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

MY 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.53	128	685456	250.00 ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00 ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00 ng	0.02 85.65%

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 Page 1

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

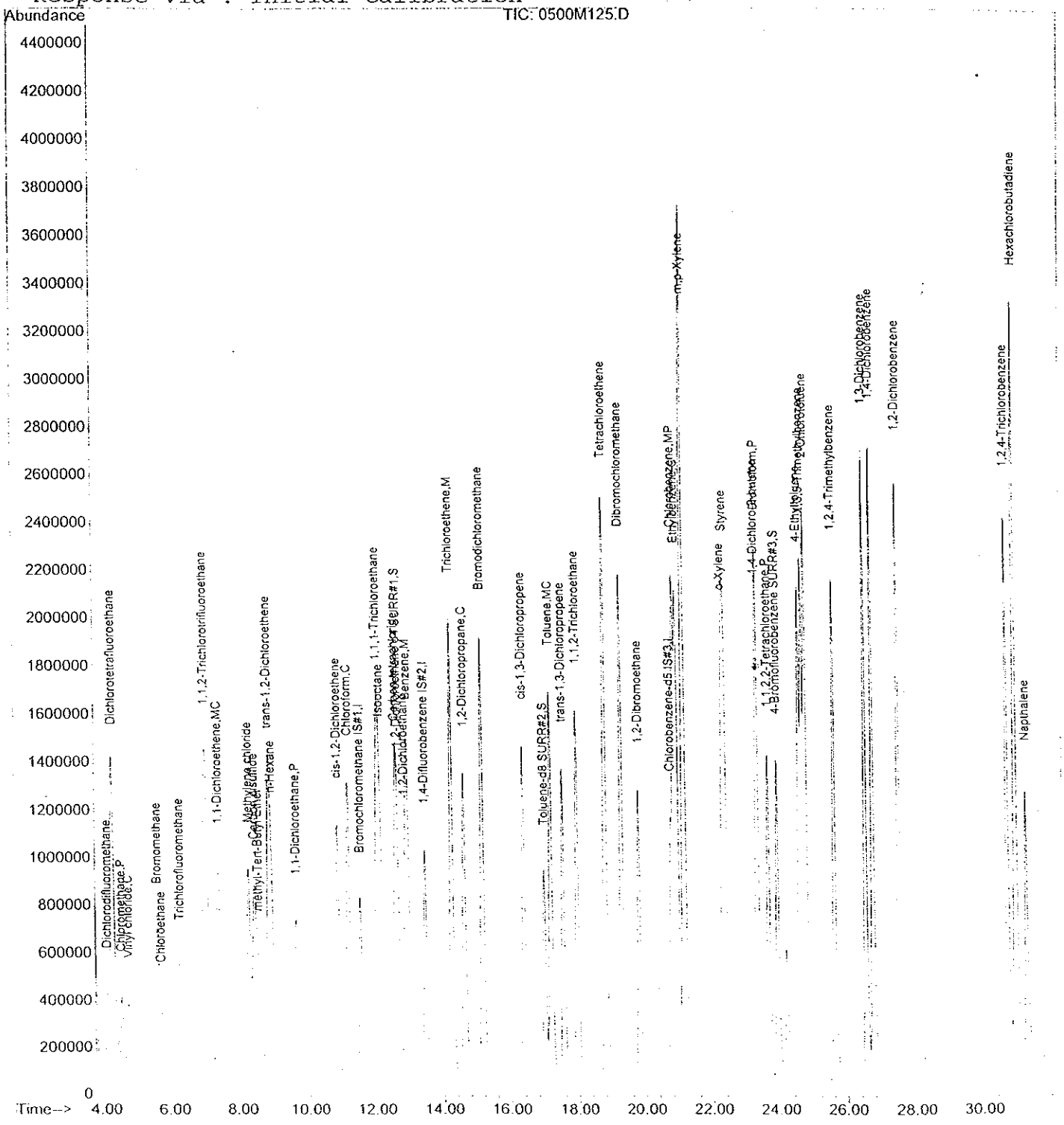
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.24	130	2194313	789.74 ng		96
29)	1,2-Dichloropropane	14.62	63	1679234	793.79 ng		98
30)	Bromodichloromethane	15.15	83	4113662	763.42 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	2585633	794.07 ng		97
33)	Toluene	17.17	92	2501469	791.62 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	2202738	787.39 ng		96
35)	1,1,2-Trichloroethane	17.95	97	1711351	762.67 ng		98
37)	Tetrachloroethene	18.80	164	2003073	822.03 ng		97
38)	Dibromochloromethane	19.28	127	2957023	788.68 ng		99
39)	Chlorobenzene	20.85	112	3685170	800.98 ng		96
40)	Ethylbenzene	20.94	106	1474464	842.70 ng		100
41)	m,p-Xylene	21.14	106	3838946	1660.12 ng		99
42)	o-Xylene	22.29	106	1850077	851.14 ng		97
43)	Styrene	22.37	104	3243356	851.00 ng		97
44)	Bromoform	23.33	173	2899555	796.41 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	2700509	837.60 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	549622	925.67 ng		95
48)	4-Ethyltoluene	24.58	105	4733740	803.21 ng		93
49)	1,3,5-Trimethylbenzene	24.67	105	3657482	813.52 ng	#	80
50)	2-Chlorotoluene	24.78	91	4919718	808.48 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	3962533	800.53 ng		98
52)	1,3-Dichlorobenzene	26.53	146	3251315	779.21 ng		96
53)	1,4-Dichlorobenzene	26.75	146	3403028	746.31 ng		96
54)	1,2-Dichlorobenzene	27.51	146	3092599	781.02 ng		96
55)	1,2,4-Trichlorobenzene	30.71	180	2324538	758.99 ng		99
56)	Napthalene	31.27	128	3229812	723.84 ng	#	92
57)	Hexachlorobutadiene	30.96	225	1914148	795.39 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

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



Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D
Acq On : 25 Jan 2002 15:46
Sample : VSTD1000 1000ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

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 report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng	92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng #	41
4) Chloromethane	4.44	50	2133139	1351.49	ng #	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng	96
6) Bromomethane	5.51	94	3162736	1317.96	ng #	99
7) Chloroethane	5.60	64	1530589	1589.88	ng	97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng	84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng	90
12) Methylene chloride	8.20	49	3993235	1457.56	ng	99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng	100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng	99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng	93
16) n-Hexane	8.88	57	2940178	1555.79	ng #	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng	98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng	93
19) Chloroform	11.18	83	6940397	1537.33	ng	99
20) Isooctane	12.12	57	9654037	1544.96	ng	97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng	91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng	97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng	98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng	98
27) Benzene	12.95	78	7976775	1559.00	ng	99

(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.25	130	4575596	1625.70 ng		95
29)	1,2-Dichloropropane	14.64	63	3433997	1602.51 ng		99
30)	Bromodichloromethane	15.17	83	8317168	1523.76 ng		99
31)	cis-1,3-Dichloropropene	16.38	75	5257738	1594.05 ng		100
33)	Toluene	17.18	92	5201962	1625.17 ng		98
34)	trans-1,3-Dichloropropene	17.54	75	4452773	1571.31 ng		97
35)	1,1,2-Trichloroethane	17.96	97	3562654	1567.40 ng		97
37)	Tetrachloroethene	18.81	164	4172815	1679.65 ng		96
38)	Dibromochloromethane	19.30	127	6195563	1620.78 ng		99
39)	Chlorobenzene	20.86	112	7610942	1622.57 ng		94
40)	Ethylbenzene	20.96	106	3027780	1697.32 ng		97
41)	m,p-Xylene	21.16	106	7796610	3306.99 ng		98
42)	o-Xylene	22.31	106	3789454	1709.97 ng		96
43)	Styrene	22.39	104	6680678	1719.31 ng		96
44)	Bromoform	23.33	173	6162140	1660.10 ng		100
45)	1,1,2,2-Tetrachloroethane	23.66	83	5273498	1604.32 ng		99
47)	1,4-Dichloro-2-butene	23.30	75	1122181	1853.77 ng		92
48)	4-Ethyltoluene	24.57	105	9946500	1655.36 ng		94
49)	1,3,5-Trimethylbenzene	24.67	105	8292236	1809.09 ng		91
50)	2-Chlorotoluene	24.78	91	10066562	1622.59 ng		96
51)	1,2,4-Trimethylbenzene	25.60	105	8117026	1608.44 ng		98
52)	1,3-Dichlorobenzene	26.52	146	6680148	1570.30 ng		96
53)	1,4-Dichlorobenzene	26.73	146	7097933	1526.81 ng		95
54)	1,2-Dichlorobenzene	27.49	146	6319656	1565.43 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	4663830	1493.63 ng		99
56)	Napthalene	31.25	128	5947012	1307.26 ng	#	93
57)	Hexachlorobutadiene	30.94	225	3486286	1420.92 ng		100

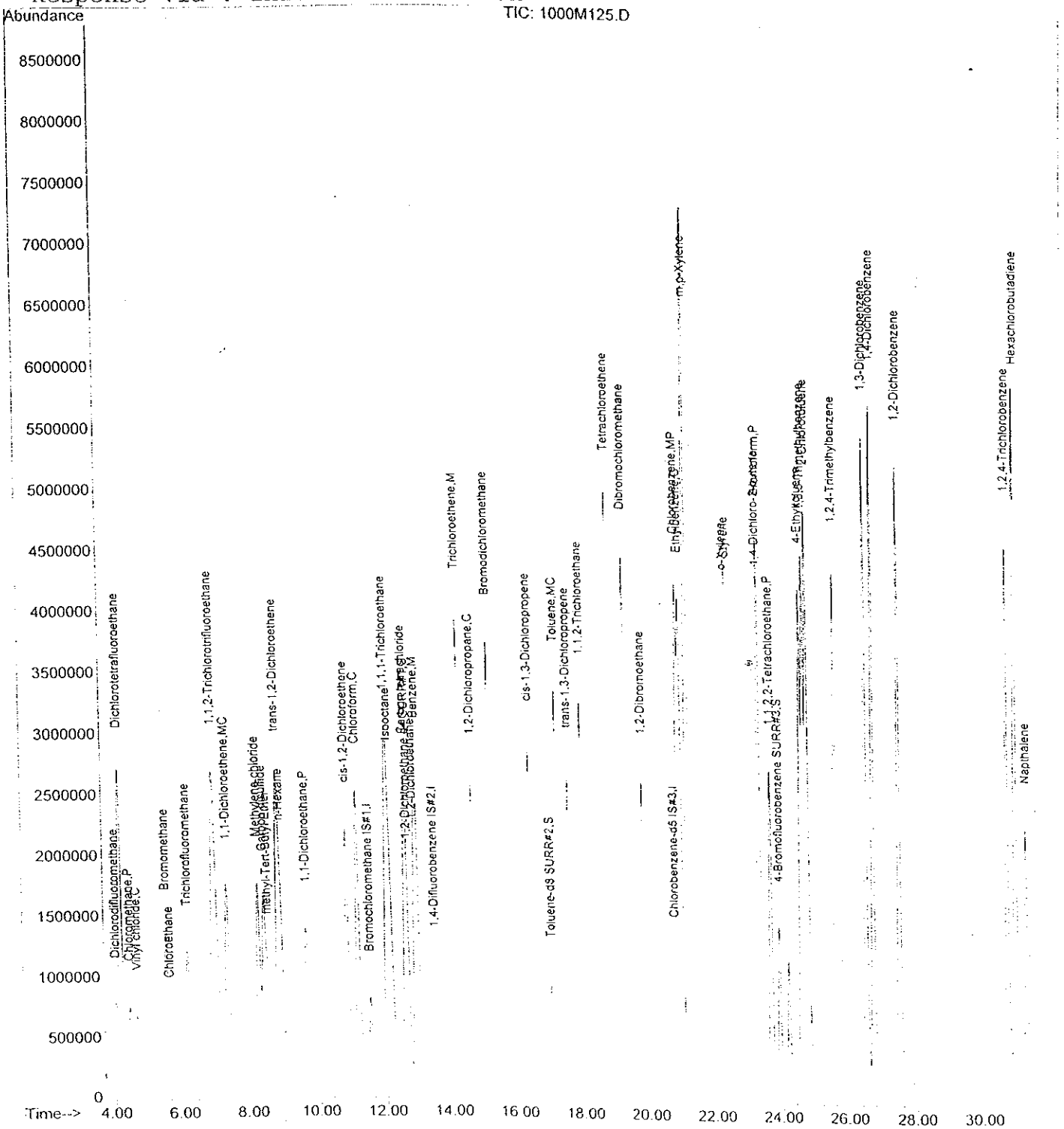
(#) = qualifier out of range (m) = manual integration
1000M125.D TO14S.M Fri Jan 25 17:19:20 2002 Page 2

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

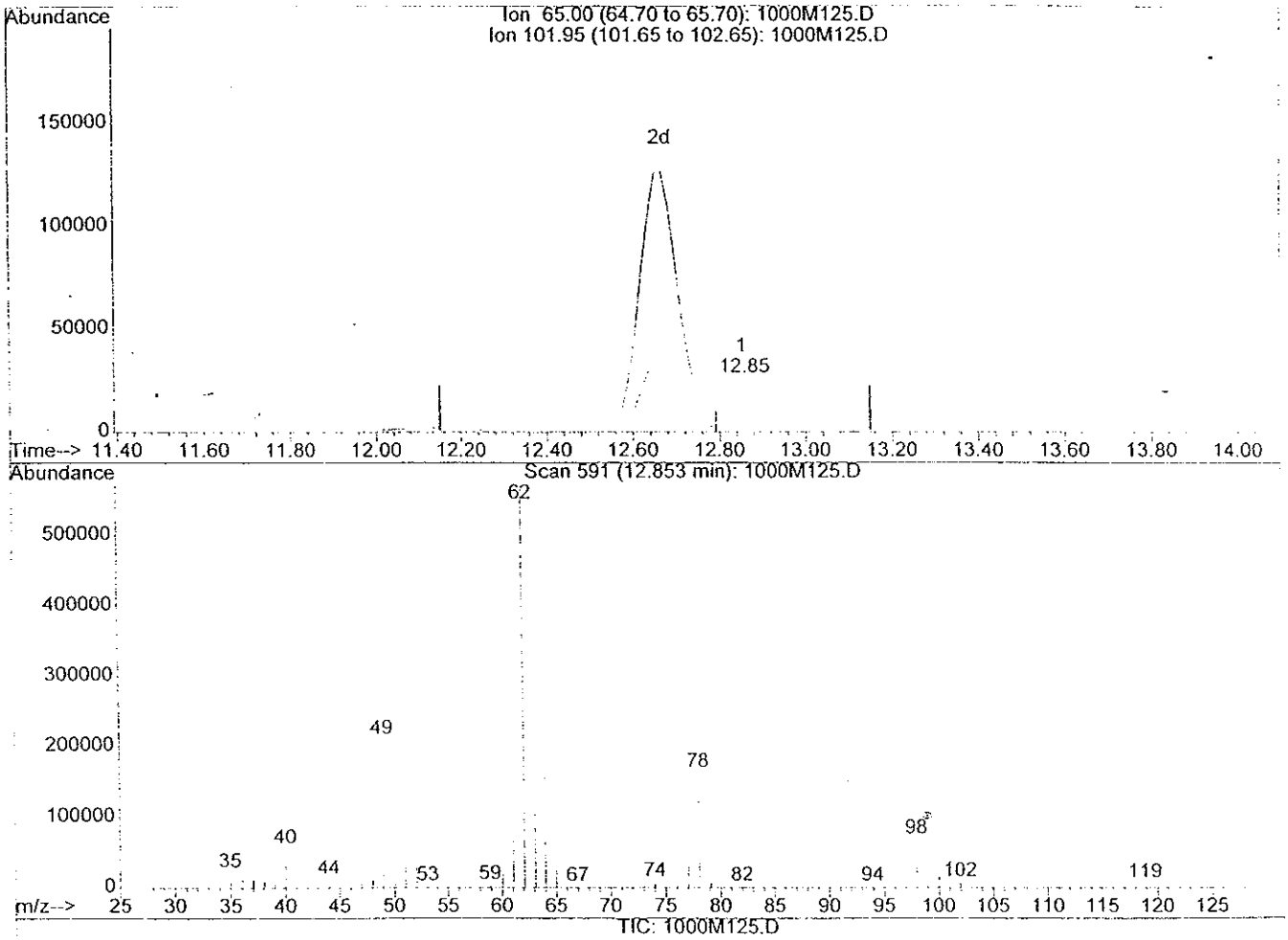
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration



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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration



(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

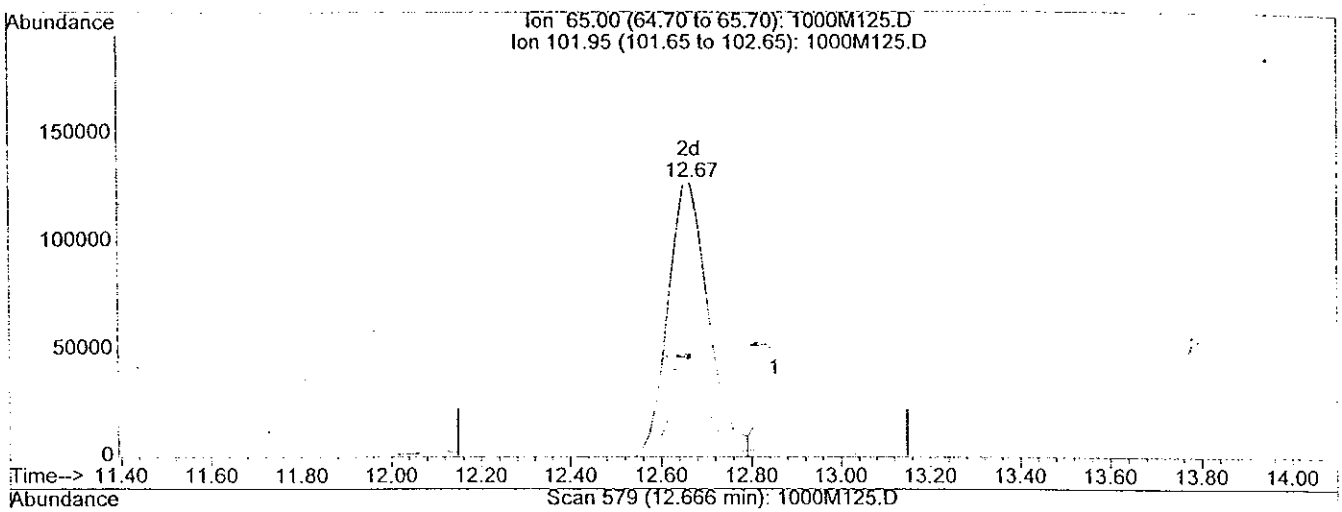
response 171340

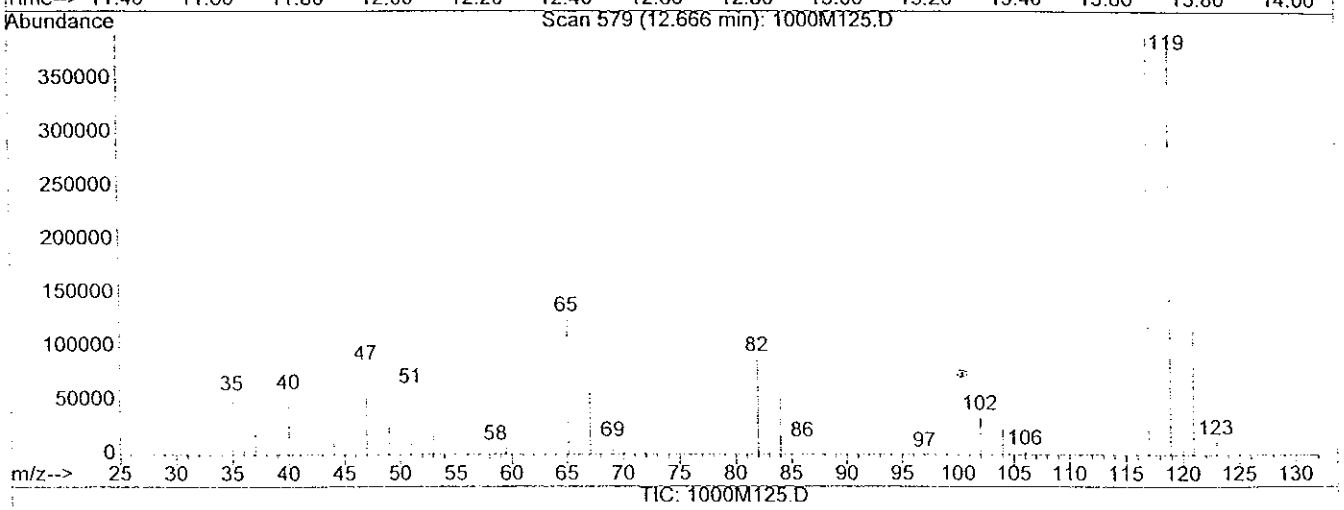
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

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.[illegible]	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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

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

Quant Results File: TO14S.RES

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

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	8742025	2467.42 ng		95
29)	1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30)	Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31)	cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33)	Toluene	17.17	92	10065682	2498.13 ng		98
34)	trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35)	1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37)	Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38)	Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39)	Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40)	Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41)	m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42)	o-Xylene	22.28	106	7218929	2597.06 ng		97
43)	Styrene	22.35	104	12826497	2631.72 ng		96
44)	Bromoform	23.32	173	11319346	2431.22 ng		100
45)	1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47)	1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48)	4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49)	1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50)	2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51)	1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52)	1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53)	1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54)	1,2-Dichlorobenzene	27.48	146	11022666	2176.84 ng		95
55)	1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56)	Napthalene	31.24	128	8081624	1416.32 ng	#	92
57)	Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

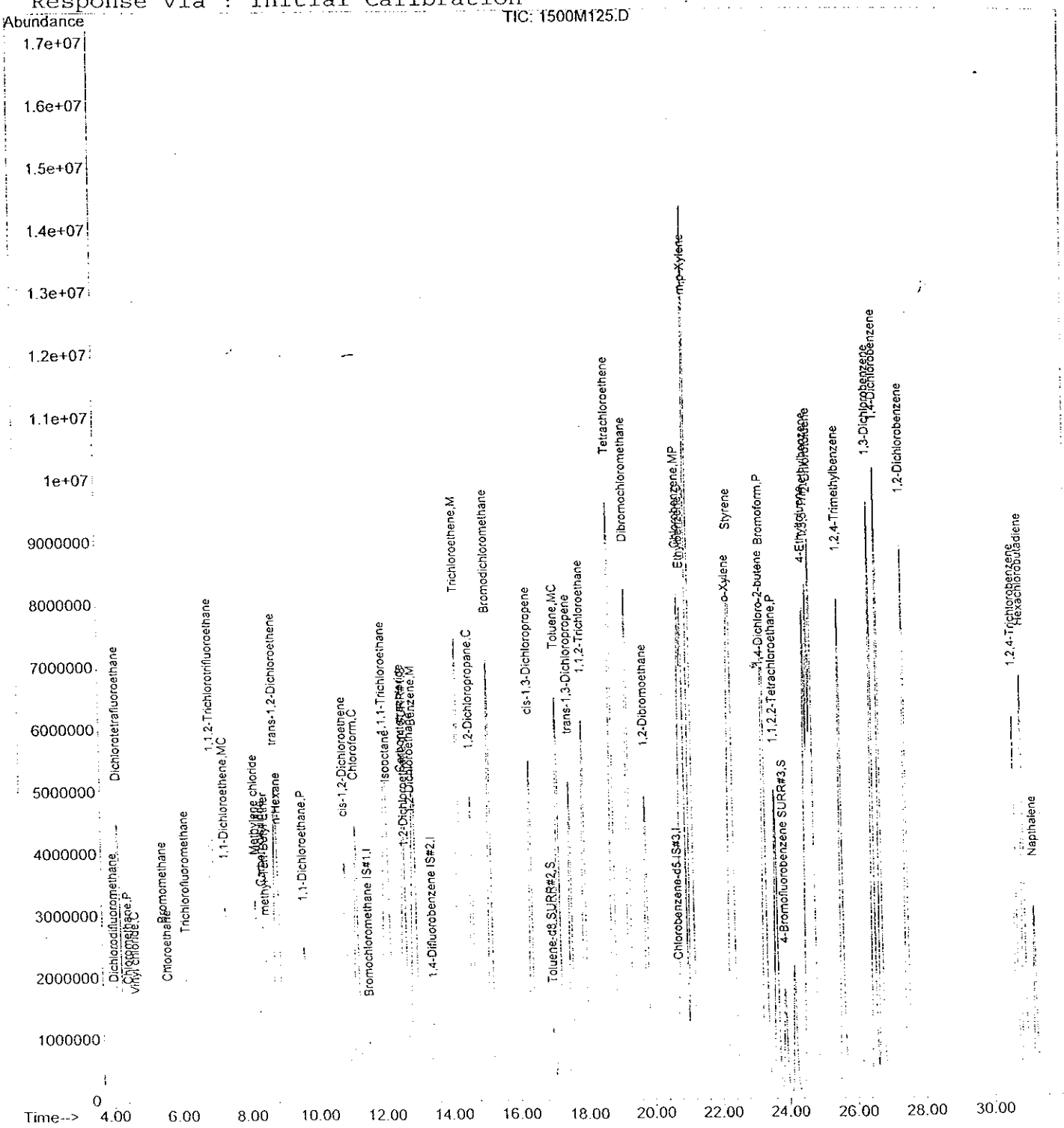
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

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

Quant Results File: TO14S.RES

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



1500M125.D TO14S.M Fri Jan 25 16:56:35 2002 Page 3

STL Pensacola / GCMS Volatiles Run Log

Date 3-3-02 | Instrument ID : MARILYN | Method (TO14) /8260AIR /8260WATER /624MOD

Batch MAB041 (1) 2 3 | Batch ____ 1 2 3 | Maint. ____

IS# 8 -MSW- 26 - 3 | TO14 8 -MSW- 32 - 1 | AIR-SPK 8 -MSW- 30 - 2 | Sequence cont. on page

BFB 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- -

TIME	POS 13#	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
10:51			~~BFB STL~~ BFM0303A	50ppb			W			Daily 12 Hour BFB Tune 657,000
11:11	14	TO14S.m	CM 0303A	50ppb		Y N	W	Yes	~~BAH~~	Daily Cal Check/bfb tune/95 ion area =
12:01	15		M AB41 A BK	ST		Y N				Daily Method Blank
12:35	16		M A041 LCS	50ppb		Y N				Batch# 041 LCS
13:09	2		02536-1	ST.		Y N	A (TO14)			500mls
13:43	2		02537-1			Y N				
14:16	2		02414-1			Y N				
:	2		02531-1			Y N				
:	2		-2			Y N				
:	2		-3			Y N				
:	9		-4	X10		Y N				50mls
:	10		-5			Y N				
:	11		-6	X100		Y N				5mls
:	12		-7	X50		Y N				10mls
:	13	8260Wha.m	02599-7S	X100		Y N	W (8260)			50mls screens only
:	14		-8S			Y N				
:	15		-9S			Y N				
:	16		-10S			Y N				
:	1		-11S			Y N				
:	2		-12S			Y N				
:	3		-13S			Y N				
:						Y N				
:						Y N				~~BA~~ 3/3/02
:						Y N				

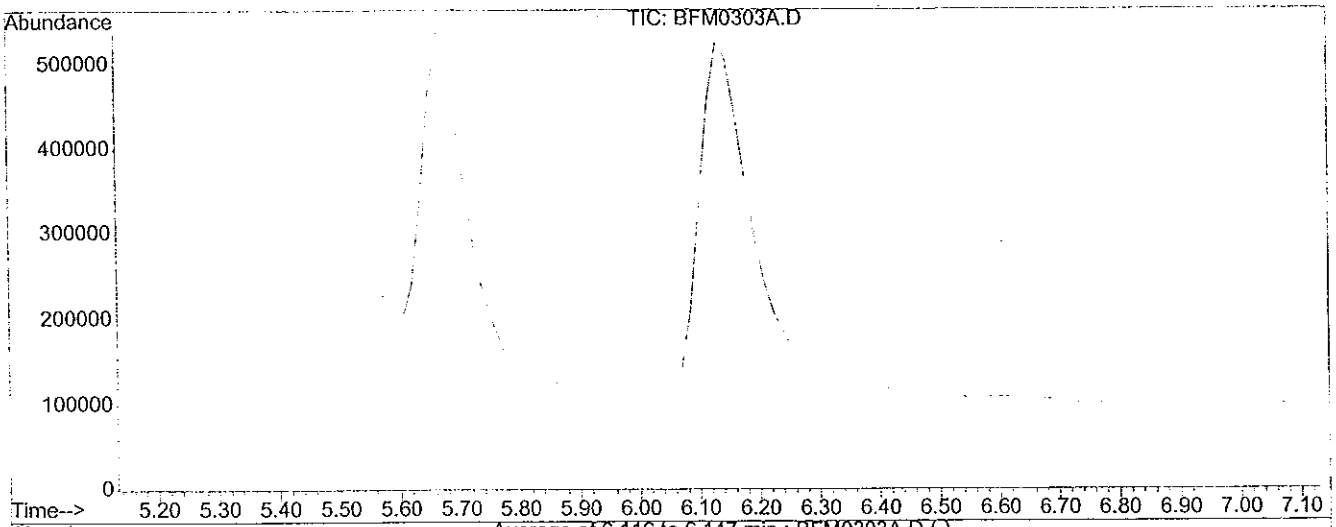
The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator.

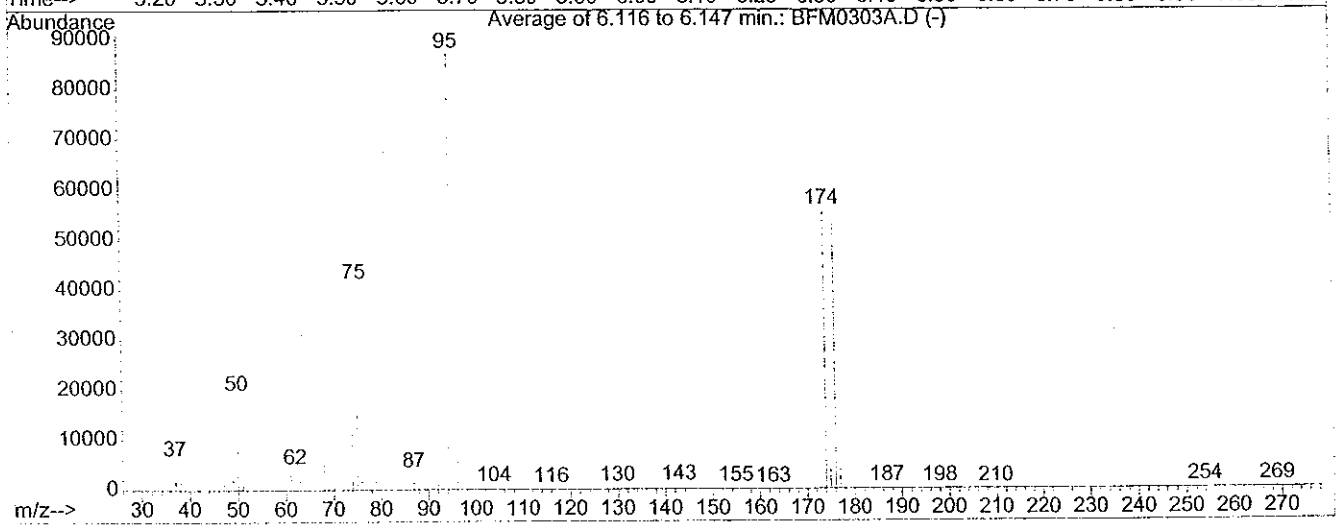
** Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

STL Pensacola
NAS Cecil Field, CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\BFM0303A.D Vial: 13
Acq On : 3 Mar 2002 10:51 am Operator: BDH
Sample : DAILY 12 HR. BFB TUNE 50ppb Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14





Peak Apex is scan: 39 (6.13 min)
Average of 3 scans: 38,39,40 minus background scan 19 (5.82 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	18769	PASS
75	95	30	60	47.3	41107	PASS
95	95	100	100	100.0	86937	PASS
96	95	5	9	6.6	5752	PASS
173	174	0	2	0.2	122	PASS
174	95	50	100	63.9	55568	PASS
175	174	5	9	7.6	4244	PASS
176	174	95	101	96.4	53581	PASS
177	176	5	9	7.3	3918	PASS

BFM0303A.D TO14S.M Mon Mar 04 10:17:30 2002

Average of 6.116 to 6.147 min.: BFM0303A.D
DAILY 12 HR. BFB TUNE 50ppb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	951	56.05	997	74.00	13426	94.05	8964
37.00	5759	57.05	2310	75.00	41107	95.00	86937
38.05	4564	59.90	570	76.05	3344	96.05	5752
39.05	1167	61.00	3981	78.95	2105	142.95	500
44.05	1275	62.00	4065	79.95	601	174.00	55568
45.00	859	63.00	2423	80.95	2055	174.95	4244
47.00	1351	68.00	8828	86.90	3235	176.00	53581
47.95	588	69.00	8627	88.00	3443	176.95	3918
49.00	3902	70.05	733	91.00	455		
50.00	18769	72.05	487	92.00	2122		
51.00	5435	73.05	3148	93.00	3627		

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	64	0.00
2		Dichlorodifluoromethane	0.919	0.836	9.0#	59	0.00
3		Dichlorotetrafluoroethane	1.446	1.426	1.4	60	0.00
4	P	Chloromethane	0.788	0.761	3.4#	63	0.00
5	C	Vinyl chloride	0.727	0.794	-9.2#	67	0.00
6		Bromomethane	1.180	1.271	-7.7#	73	0.00
7		Chloroethane	0.530	0.560	-5.7#	67	0.00
8		Trichlorofluoromethane	1.261	1.406	-11.5#	65	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	2.006	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	1.064	1.119	-5.2#	67	0.00
11		Iodomethane	0.000	0.000	0.0	88	0.00
12		Methylene chloride	1.431	1.681	-17.5#	72	0.00
13		Carbon disulfide	2.862	3.227	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	1.551	1.531	1.3	60	0.00
15		trans-1,2-Dichloroethene	1.194	1.268	-6.2#	68	0.00
16		n-Hexane	1.089	1.114	-2.3#	64	0.00
17	P	1,1-Dichloroethane	1.944	2.184	-12.3#	71	0.00
18		cis-1,2-Dichloroethene	1.576	1.801	-14.3#	71	0.00
19	C	Chloroform	2.454	2.885	-17.6#	72	0.00
20		Isooctane	3.653	3.636	0.5	63	0.00
21		1,1,1-Trichloroethane	2.085	2.510	-20.4#	74	0.00
22		Carbon tetrachloride	2.195	2.630	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.275	-8.4#	65	0.00
24		1,2-Dichloroethane	1.321	1.484	-12.3#	66	0.00
25		1,2-Dibromoethane	2.124	1.974	7.1#	58	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	66	0.00
27	M	Benzene	0.733	0.756	-3.1#	68	0.00
28	M	Trichloroethene	0.407	0.420	-3.2#	67	0.00
29	C	1,2-Dichloropropane	0.310	0.315	-1.6#	65	0.00
30		Bromodichloromethane	0.755	0.837	-10.9#	69	0.00
31		cis-1,3-Dichloropropene	0.469	0.482	-2.8#	66	0.00
32	S	Toluene-d8 SURR#2	0.781	0.785	-0.5	66	0.00
33	MC	Toluene	0.463	0.477	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	63	0.00
35		1,1,2-Trichloroethane	0.322	0.294	8.7#	58	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	66	0.00
37		Tetrachloroethene	0.488	0.506	-3.7#	69	0.00
38		Dibromochloromethane	0.722	0.707	2.1#	63	0.00
39	MP	Chlorobenzene	0.891	0.929	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.370	-3.9#	67	0.00
41		m,p-Xylene	0.459	0.484	-5.4#	68	0.00
42		o-Xylene	0.439	0.457	-4.1#	67	0.00
43		Styrene	0.771	0.799	-3.6#	67	0.00
44	P	Bromoform	0.713	0.638	10.5#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.547	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.940	-5.5#	69	0.00
47		1,4-Dichloro-2-butene	0.130	0.103	20.8#	53	0.00
48		4-Ethyltoluene	1.157	1.183	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	0.912	1.010	-10.7#	74	0.00
50		2-Chlorotoluene	1.191	1.320	-10.8#	72	0.00
51		1,2,4-Trimethylbenzene	0.961	1.079	-12.3#	71	0.00
52		1,3-Dichlorobenzene	0.782	0.853	-9.1#	68	0.00
53		1,4-Dichlorobenzene	0.825	0.888	-7.6#	66	0.00
54		1,2-Dichlorobenzene	0.758	0.805	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	0.568	0.563	0.9	67	0.00
56		Napthalene	0.830	0.655	21.1#	59	0.00
57		Hexachlorobutadiene	0.495	0.479	3.2#	69	0.00

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

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	64	0.00
2		Dichlorodifluoromethane	250.000	224.673	10.1#	59	0.00
3		Dichlorotetrafluoroethane	250.000	246.587	1.4	60	0.00
4	P	Chloromethane	250.000	241.527	3.4#	63	0.00
5	C	Vinyl chloride	250.000	273.076	-9.2#	67	0.00
6		Bromomethane	250.000	269.315	-7.7#	73	0.00
7		Chloroethane	250.000	264.248	-5.7#	67	0.00
8		Trichlorofluoromethane	250.000	251.612	-0.6	65	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	268.436	-7.4#	69	0.00
10	MC	1,1-Dichloroethene	250.000	262.946	-5.2#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	88	0.00
12		Methylene chloride	250.000	293.659	-17.5#	72	0.00
13		Carbon disulfide	250.000	281.884	-12.8#	74	0.00
14		methyl-Tert-Butyl Ether	250.000	246.862	1.3	60	0.00
15		trans-1,2-Dichloroethene	250.000	265.576	-6.2#	68	0.00
16		n-Hexane	250.000	255.897	-2.4#	64	0.00
17	P	1,1-Dichloroethane	250.000	280.905	-12.4#	71	0.00
18		cis-1,2-Dichloroethene	250.000	285.650	-14.3#	71	0.00
19	C	Chloroform	250.000	293.919	-17.6#	72	0.00
20		Isooctane	250.000	248.889	0.4	63	0.00
21		1,1,1-Trichloroethane	250.000	300.923	-20.4#	74	0.00
22		Carbon tetrachloride	250.000	299.520	-19.8#	73	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	270.911	-8.4#	65	0.00
24		1,2-Dichloroethane	250.000	280.993	-12.4#	66	0.00
25		1,2-Dibromoethane	250.000	232.391	7.0#	58	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	66	0.00
27	M	Benzene	250.000	257.648	-3.1#	68	0.00
28	M	Trichloroethene	250.000	257.939	-3.2#	67	0.00
29	C	1,2-Dichloropropane	250.000	253.578	-1.4#	65	0.00
30		Bromodichloromethane	250.000	277.120	-10.8#	69	0.00
31		cis-1,3-Dichloropropene	250.000	256.836	-2.7#	66	0.00
32	S	Toluene-d8 SURR#2	250.000	251.110	-0.4	66	0.00
33	MC	Toluene	250.000	257.474	-3.0#	66	0.00
34		trans-1,3-Dichloropropene	250.000	249.704	0.1	63	0.00
35		1,1,2-Trichloroethane	250.000	227.818	8.9#	58	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	66	0.00
37		Tetrachloroethene	250.000	259.338	-3.7#	69	0.00
38		Dibromochloromethane	250.000	244.767	2.1#	63	0.00
39	MP	Chlorobenzene	250.000	260.650	-4.3#	67	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\CM0303A.D Vial: 14
Acq On : 3 Mar 2002 11:11 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	259.362	-3.7#	67	0.00
41		m,p-Xylene	500.000	527.744	-5.5#	68	0.00
42		o-Xylene	250.000	260.466	-4.2#	67	0.00
43		Styrene	250.000	259.047	-3.6#	67	0.00
44	P	Bromoform	250.000	223.941	10.4#	58	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	213.687	14.5#	56	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	263.539	-5.4#	69	0.00
47		1,4-Dichloro-2-butene	250.000	196.857	21.3#	53	0.00
48		4-Ethyltoluene	250.000	255.621	-2.2#	67	0.00
49		1,3,5-Trimethylbenzene	250.000	277.012	-10.8#	74	0.00
50		2-Chlorotoluene	250.000	277.162	-10.9#	72	0.00
51		1,2,4-Trimethylbenzene	250.000	280.825	-12.3#	71	0.00
52		1,3-Dichlorobenzene	250.000	272.684	-9.1#	68	0.00
53		1,4-Dichlorobenzene	250.000	269.078	-7.6#	66	0.00
54		1,2-Dichlorobenzene	250.000	265.513	-6.2#	67	0.00
55		1,2,4-Trichlorobenzene	250.000	223.600	10.6#	67	0.00
56		Napthalene	250.000	190.533	23.8#	59	0.00
57		Hexachlorobutadiene	250.000	225.060	10.0#	69	0.00

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

Quantitation Report

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

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0302P\CM0302P.D (2 Mar 2002 12:44)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	515501	250.00	ng	0.00 92.02%
26) 1,4-Difluorobenzene IS#2	13.26	114	2074142	250.00	ng	0.00 94.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1597660	250.00	ng	0.02 95.10%

14 report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.45	65	657103	270.91	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.36%						
32) Toluene-d8 SURR#2	16.82	98	1627245	251.11	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.44%						
46) 4-Bromofluorobenzene SURR#	23.73	95	1501203	263.54	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.42%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.82	85	431126m	224.67	ng	# 100
3) Dichlorotetrafluoroethane	3.90	135	735033	246.59	ng	# 27
4) Chloromethane	4.16	50	392293	241.53	ng	96
5) Vinyl chloride	4.38	62	409550	273.08	ng	98
6) Bromomethane	5.22	94	655276	269.32	ng	95
7) Chloroethane	5.34	64	288525	264.25	ng	98
8) Trichlorofluoromethane	5.86	101	724571	251.61	ng	100
9) 1,1,2-Trichlorotrifluoroet	6.66	151	1034148	268.44	ng	88
10) 1,1-Dichloroethene	7.04	96	576703	262.95	ng	98
12) Methylene chloride	7.95	49	866539	293.66	ng	93
13) Carbon disulfide	8.08	76	1663629	281.88	ng	99
14) methyl-Tert-Butyl Ether	8.25	73	789387	246.86	ng	# 93
15) trans-1,2-Dichloroethene	8.54	96	653855	265.58	ng	97
16) n-Hexane	8.67	57	574509	255.90	ng	# 1
17) 1,1-Dichloroethane	9.38	63	1125828	280.91	ng	99
18) cis-1,2-Dichloroethene	10.62	61	928372	285.65	ng	97
19) Chloroform	10.95	83	1487230	293.92	ng	97
20) Isooctane	11.93	57	1874600	248.89	ng	98
21) 1,1,1-Trichloroethane	11.83	97	1293717	300.92	ng	93
22) Carbon tetrachloride	12.39	117	1355547	299.52	ng	97
24) 1,2-Dichloroethane	12.66	62	765256	280.99	ng	99
25) 1,2-Dibromoethane	19.63	107	1017705	232.39	ng	99
27) Benzene	12.73	78	1567477	257.65	ng	99

(#) = qualifier out of range (m) = manual integration
CM0303A.D TO14S.M Sun Mar 03 13:01:33 2002

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

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.05	130	871661	257.94 ng		97
29) 1,2-Dichloropropane	14.44	63	652667	253.58 ng	#	91
30) Bromodichloromethane	14.98	83	1735176	277.12 ng		99
31) cis-1,3-Dichloropropene	16.20	75	1000221	256.84 ng	#	90
33) Toluene	17.02	92	989327	257.47 ng		97
34) trans-1,3-Dichloropropene	17.38	75	832144	249.70 ng	#	88
35) 1,1,2-Trichloroethane	17.78	97	608919	227.82 ng		96
37) Tetrachloroethene	18.62	164	808051	259.34 ng		98
38) Dibromochloromethane	19.11	127	1129173	244.77 ng		99
39) Chlorobenzene	20.68	112	1484323	260.65 ng		97
40) Ethylbenzene	20.78	106	590725	259.36 ng		99
41) m,p-Xylene	20.98	106	1547947	527.74 ng		98
42) o-Xylene	22.11	106	730304	260.47 ng		98
43) Styrene	22.20	104	1275732	259.05 ng		98
44) Bromoform	23.14	173	1019694	223.94 ng		99
45) 1,1,2,2-Tetrachloroethane	23.46	83	873574	213.69 ng		99
47) 1,4-Dichloro-2-butene	23.12	75	163981	196.86 ng		100
48) 4-Ethyltoluene	24.39	105	1890237	255.62 ng		99
49) 1,3,5-Trimethylbenzene	24.50	105	1614423	277.01 ng		91
50) 2-Chlorotoluene	24.59	91	2109272	277.16 ng		98
51) 1,2,4-Trimethylbenzene	25.45	105	1724318	280.82 ng		100
52) 1,3-Dichlorobenzene	26.36	146	1362242	272.68 ng		97
53) 1,4-Dichlorobenzene	26.58	146	1418088	269.08 ng		97
54) 1,2-Dichlorobenzene	27.34	146	1286835	265.51 ng		97
55) 1,2,4-Trichlorobenzene	30.51	180	898942	223.60 ng		100
56) Napthalene	31.05	128	1047059	190.53 ng	#	92
57) Hexachlorobutadiene	30.76	225	765220	225.06 ng		100

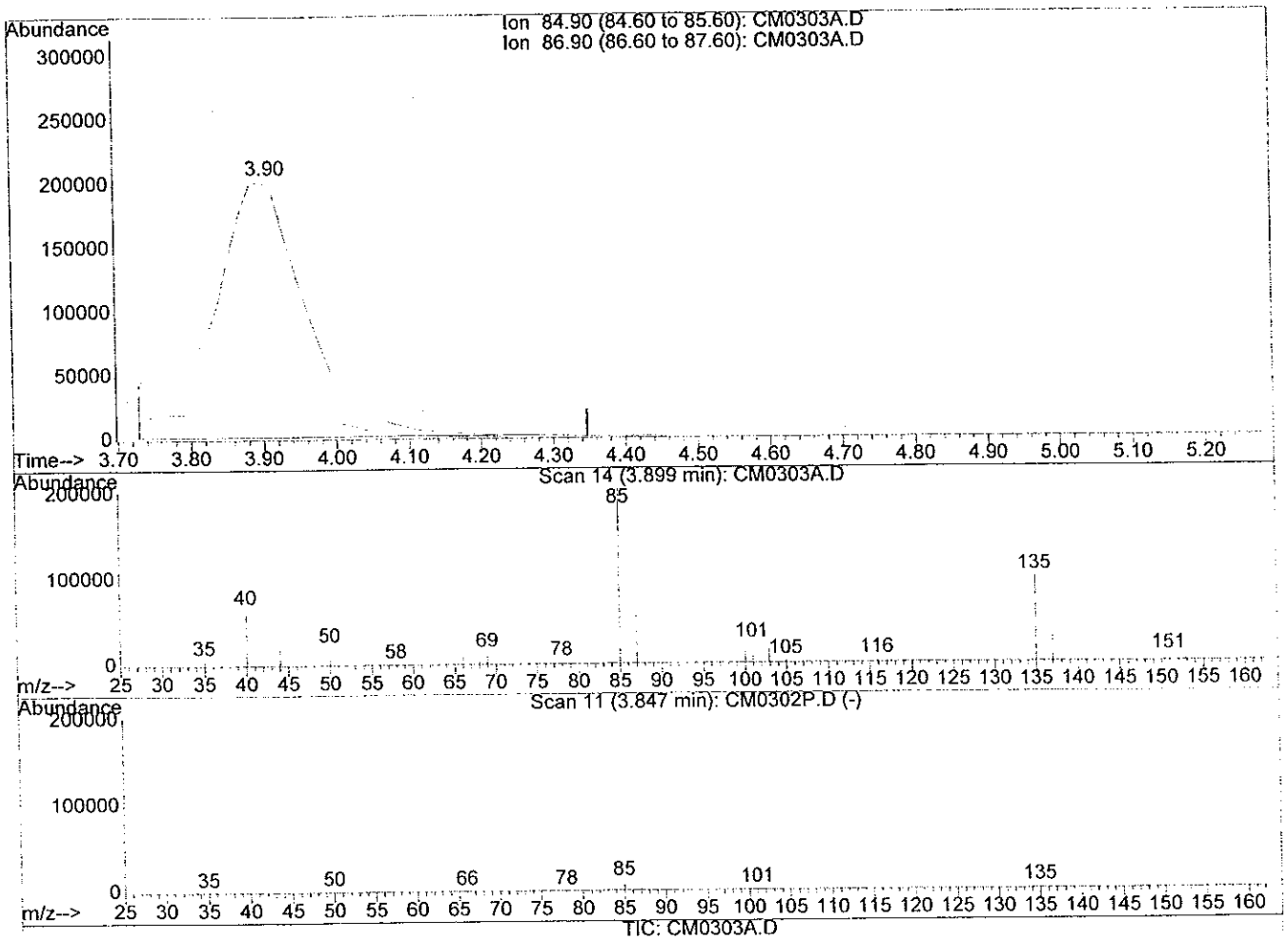
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.90min 1063.69ng

response 1892350

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	33.39
0.00	0.00	0.00
0.00	0.00	0.00

Defaul (mis-int.-coeluting)

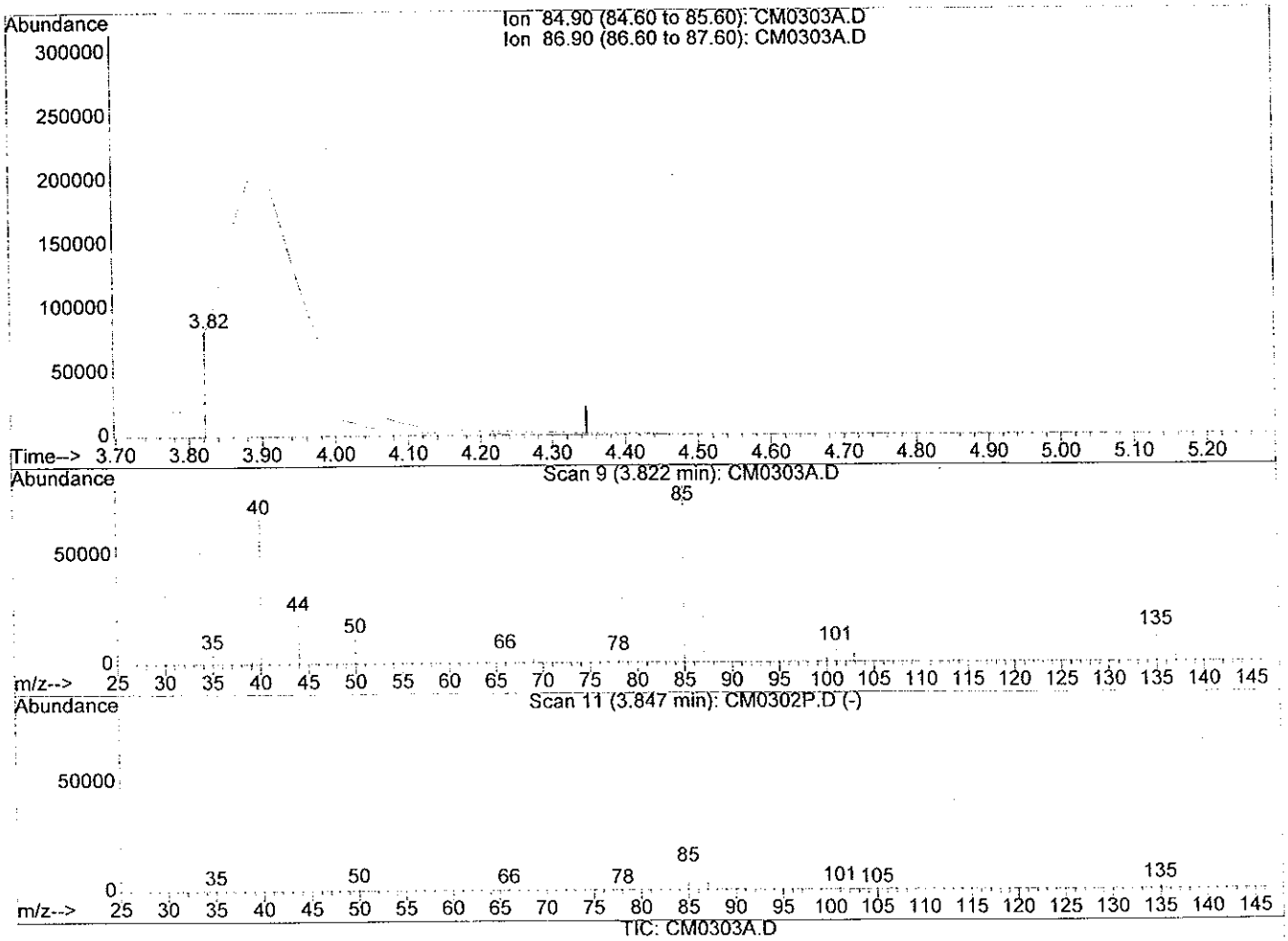
CM0303A.D TO14S.M Sun Mar 03 13:00:35 2002

Quantitation Report (Qedit)

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

Vial: 14
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Multiple Level Calibration



(2) Dichlorodifluoromethane

3.82min 224.67ng m

response 431126

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.54#
0.00	0.00	0.00
0.00	0.00	0.00

3/3/02

CM0303A.D TO14S.M Sun Mar 03 13:00:53 2002

Quantification Report

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0302P\CM0302P.D (2 Mar 2002 12:44)

Original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.30	128	515501	250.00 ng	0.00 92.02%
26) 1,4-Difluorobenzene IS#2	13.26	114	2074142	250.00 ng	0.00 94.77%
36) Chlorobenzene-d5 IS#3	20.57	117	1597660	250.00 ng	0.02 95.10%

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.45	65	657103	270.91 ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.36%					
32) Toluene-d8 SURR#2	16.82	98	1627245	251.11 ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.44%					
46) 4-Bromofluorobenzene SURR#	23.73	95	1501203	263.54 ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.42%					

my report

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.90	85	1892350	1063.69 ng		100
3) Dichlorotetrafluoroethane	3.90	135	735033	246.59 ng	#	27
4) Chloromethane	4.16	50	392293	241.53 ng		96
5) Vinyl chloride	4.38	62	409550	273.08 ng		98
6) Bromomethane	5.22	94	655276	269.32 ng		95
7) Chloroethane	5.34	64	288525	264.25 ng		98
8) Trichlorofluoromethane	5.86	101	724571	251.61 ng		100
9) 1,1,2-Trichlorotrifluoroet	6.66	151	1034148	268.44 ng		88
10) 1,1-Dichloroethene	7.04	96	576703	262.95 ng		98
12) Methylene chloride	7.95	49	866539	293.66 ng		93
13) Carbon disulfide	8.08	76	1663629	281.88 ng		99
14) methyl-Tert-Butyl Ether	8.25	73	789387	246.86 ng	#	93
15) trans-1,2-Dichloroethene	8.54	96	653855	265.58 ng		97
16) n-Hexane	8.67	57	574509	255.90 ng	#	1
17) 1,1-Dichloroethane	9.38	63	1125828	280.91 ng		99
18) cis-1,2-Dichloroethene	10.62	61	928372	285.65 ng		97
19) Chloroform	10.95	83	1487230	293.92 ng		97
20) Isooctane	11.93	57	1874600	248.89 ng		98
21) 1,1,1-Trichloroethane	11.83	97	1293717	300.92 ng		93
22) Carbon tetrachloride	12.39	117	1355547	299.52 ng		97
24) 1,2-Dichloroethane	12.66	62	765256	280.99 ng		99
25) 1,2-Dibromoethane	19.63	107	1017705	232.39 ng		99
27) Benzene	12.73	78	1567477	257.65 ng		99

(#) = qualifier out of range (m) = manual integration
CM0303A.D TO14S.M Sun Mar 03 11:44:10 2002

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.05	130	871661	257.94 ng		97
29) 1,2-Dichloropropane	14.44	63	652667	253.58 ng	#	91
30) Bromodichloromethane	14.98	83	1735176	277.12 ng		99
31) cis-1,3-Dichloropropene	16.20	75	1000221	256.84 ng	#	90
33) Toluene	17.02	92	989327	257.47 ng		97
34) trans-1,3-Dichloropropene	17.38	75	832144	249.70 ng	#	88
35) 1,1,2-Trichloroethane	17.78	97	608919	227.82 ng		96
37) Tetrachloroethene	18.62	164	808051	259.34 ng		98
38) Dibromochloromethane	19.11	127	1129173	244.77 ng		99
39) Chlorobenzene	20.68	112	1484323	260.65 ng		97
40) Ethylbenzene	20.78	106	590725	259.36 ng		99
41) m,p-Xylene	20.98	106	1547947	527.74 ng		98
42) o-Xylene	22.11	106	730304	260.47 ng		98
43) Styrene	22.20	104	1275732	259.05 ng		98
44) Bromoform	23.14	173	1019694	223.94 ng		99
45) 1,1,2,2-Tetrachloroethane	23.46	83	873574	213.69 ng		99
47) 1,4-Dichloro-2-butene	23.12	75	163981	196.86 ng		100
48) 4-Ethyltoluene	24.39	105	1890237	255.62 ng		99
49) 1,3,5-Trimethylbenzene	24.50	105	1614423	277.01 ng		91
50) 2-Chlorotoluene	24.59	91	2109272	277.16 ng		98
51) 1,2,4-Trimethylbenzene	25.45	105	1724318	280.82 ng		100
52) 1,3-Dichlorobenzene	26.36	146	1362242	272.68 ng		97
53) 1,4-Dichlorobenzene	26.58	146	1418088	269.08 ng		97
54) 1,2-Dichlorobenzene	27.34	146	1286835	265.51 ng		97
55) 1,2,4-Trichlorobenzene	30.51	180	898942	223.60 ng		100
56) Napthalene	31.05	128	1047059	190.53 ng	#	92
57) Hexachlorobutadiene	30.76	225	765220	225.06 ng		100

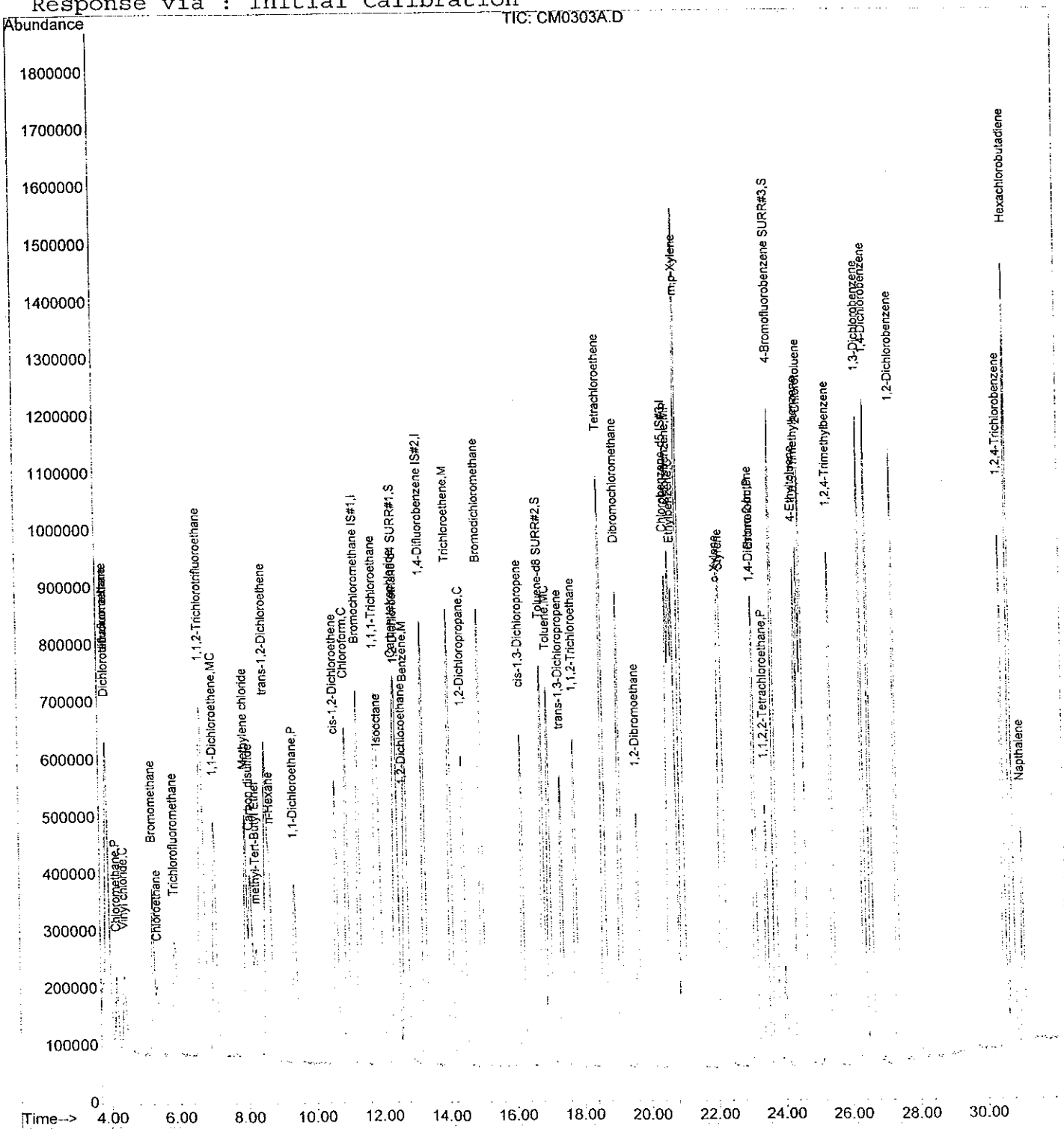
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D
Acq On : 3 Mar 2002 11:11
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA41ABK 250ng
MS Integration Params: rteint.p
Quant Time: Mar 3 11:44 2002

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

Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 02 15:44:23 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MAB41ABK.D Vial: 15
Acq On : 3 Mar 2002 12:01 pm Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK Multiplr: 0.002
MS Integration Params: rteint.p
Quant Time: Mar 4 10:33 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	526538	250.00	ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00	ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00	ng	0.00 101.60%

mg/m3 repeat

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR 12.48 65 681882 275.23 ng 0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.09%
32) Toluene-d8 SURR#2 16.83 98 1648473 247.40 ng 0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.96%
46) 4-Bromofluorobenzene SURR# 23.72 95 1458091 251.93 ng 0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.77%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Mon Mar 04 10:34:08 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MAB41ABK.D
Acq On : 3 Mar 2002 12:01
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA41ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:05 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	526538	250.00	ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00	ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00	ng	0.00 101.60%

original ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	681882	275.23	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.09%						
32) Toluene-d8 SURR#2	16.83	98	1648473	247.40	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.96%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1458091	251.93	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.77%						

Target Compounds						Qvalue
56) Napthalene	31.05	128	5822	17.59	ng	# 64

NSF/NR

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Sun Mar 03 13:06:01 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MAB41ABK.D
Acq On : 3 Mar 2002 12:01
Sample : VBLKMA\ DAILY METHOD BLANK
Misc : Pi/Pf=1 MA41ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 13:01 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	526538	250.00	ng	0.03 102.14%
26) 1,4-Difluorobenzene IS#2	13.27	114	2132704	250.00	ng	0.00 102.82%
36) Chlorobenzene-d5 IS#3	20.58	117	1623261	250.00	ng	0.00 101.60%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.48	65	681882	275.23	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.09%						
32) Toluene-d8 SURR#2	16.83	98	1648473	247.40	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.96%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1458091	251.93	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.77%						

Target Compounds

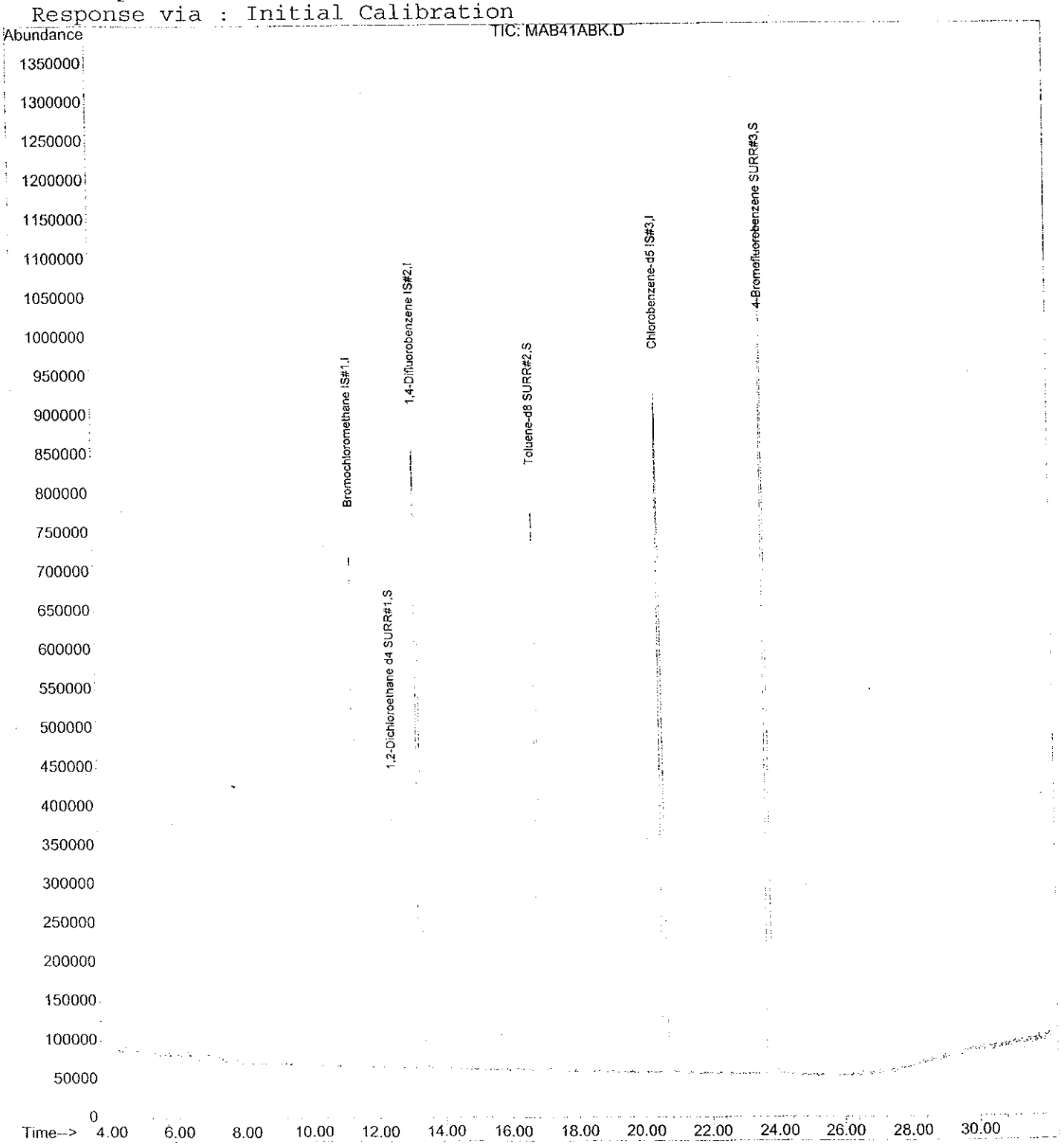
						Qvalue
4) Chloromethane	4.44	50	1985	1.20	ng	# 74
6) Bromomethane	5.21	94	954	0.38	ng	# 9
56) Napthalene NR/NSF	31.05	128	5822	17.59	ng	# 64

(#) = qualifier out of range (m) = manual integration
MAB41ABK.D TO14S.M Sun Mar 03 13:01:54 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MAB41ABK.D Vial: 15
Acq On : 3 Mar 2002 12:01 pm Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA41ABK Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 4 10:33 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00	ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00	ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00	ng	0.01 110.99%

ng/m3

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.69%						
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.74%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.22%						

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.08	96	582367	0.50	ng	95
27) Benzene	12.78	78	1730003	0.50	ng	99
28) Trichloroethene	14.09	130	960148	0.50	ng	97
33) Toluene	17.03	92	1108632	0.51	ng	98
39) Chlorobenzene	20.69	112	1632478	0.52	ng	88

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

Quantification Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MA041LCS.D
Acq On : 3 Mar 2002 12:35
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00	ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00	ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00	ng	0.01 110.99%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73	ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.69%						
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86	ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.74%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.22%						

1ug repeat

Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.08	96	582367	248.84	ng	95
27) Benzene	12.78	78	1730003	249.19	ng	99
28) Trichloroethene	14.09	130	960148	248.98	ng	97
33) Toluene	17.03	92	1108632	252.84	ng	98
39) Chlorobenzene	20.69	112	1632478	258.28	ng	88

(#) = qualifier out of range (m) = manual integration
MA041LCS.D TO14S.M Sun Mar 03 13:18:39 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\MA041LCS.D
Acq On : 3 Mar 2002 12:35
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE
MS Integration Params: rteint.p
Quant Time: Mar 3 13:08 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.36	128	550074	250.00 ng	0.06 106.71%
26) 1,4-Difluorobenzene IS#2	13.30	114	2366863	250.00 ng	0.04 114.11%
36) Chlorobenzene-d5 IS#3	20.58	117	1773259	250.00 ng	0.01 110.99%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.50	65	703297	271.73 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 108.69%					
32) Toluene-d8 SURR#2	16.84	98	1862420	251.86 ng	0.03
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.74%					
46) 4-Bromofluorobenzene SURR#	23.72	95	1568194	248.04 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.22%					

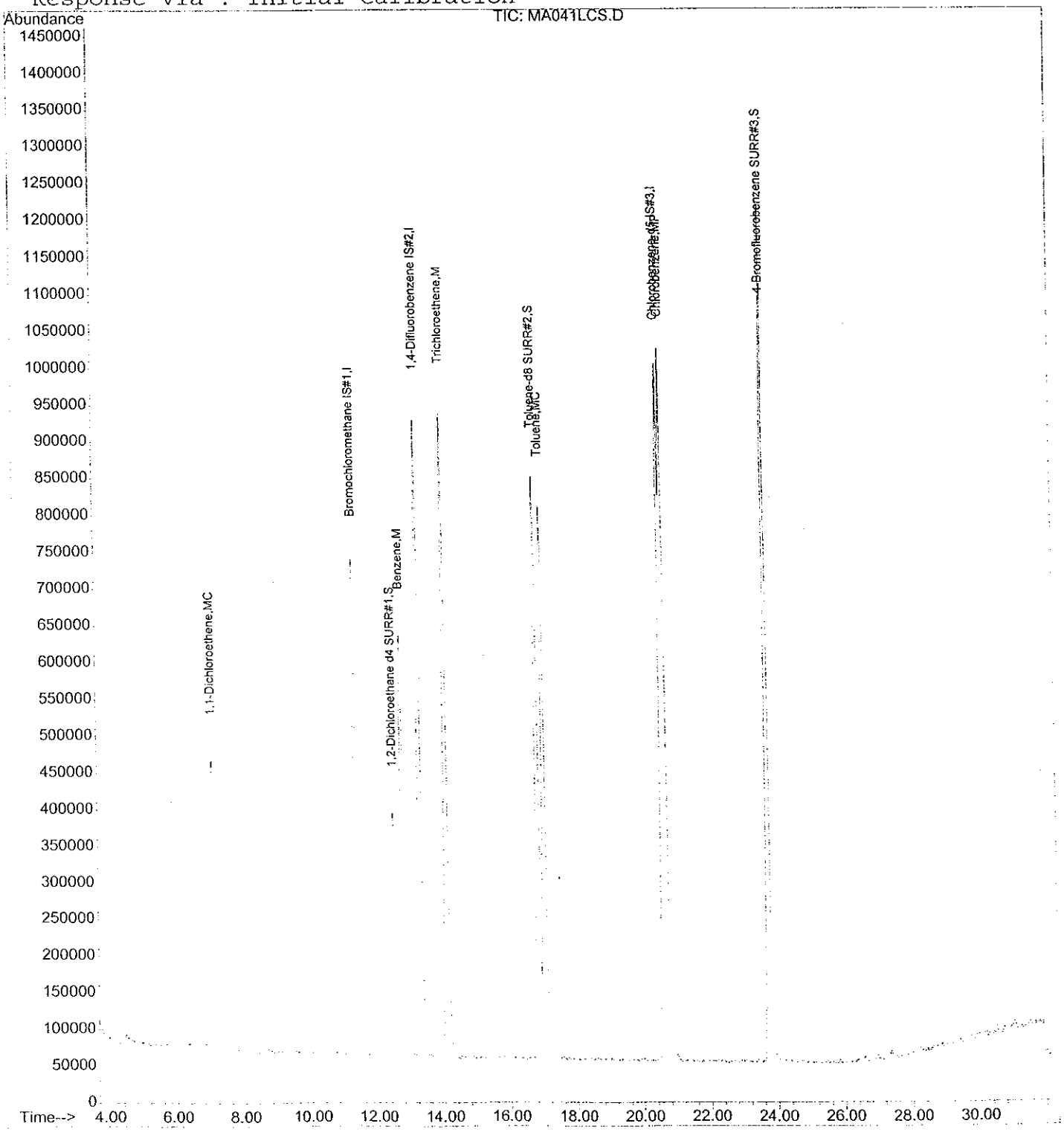
Target Compounds						Qvalue
4) Chloromethane	4.42	50	4177	2.41 ng	#	77
6) Bromomethane	5.23	94	1048	0.40 ng	#	9
10) 1,1-Dichloroethene	7.08	96	582367	248.84 ng		95
13) Carbon disulfide	8.15	76	1080	0.17 ng	#	1
16) n-Hexane	8.71	57	1995	0.83 ng	#	85
24) 1,2-Dichloroethane	12.78	62	15603	5.37 ng	#	49
27) Benzene	12.78	78	1730003	249.19 ng		99
28) Trichloroethene	14.09	130	960148	248.98 ng		97
33) Toluene	17.03	92	1108632	252.84 ng		98
34) trans-1,3-Dichloropropene	17.04	75	7578	1.99 ng	#	1
39) Chlorobenzene	20.69	112	1632478	258.28 ng		88
41) m,p-Xylene	20.97	106	3230	0.99 ng	#	36
48) 4-Ethyltoluene	24.50	105	4541	0.55 ng	#	46
49) 1,3,5-Trimethylbenzene	24.50	105	4541	0.70 ng	#	30
50) 2-Chlorotoluene	24.61	91	8268	0.98 ng	#	47
51) 1,2,4-Trimethylbenzene	25.43	105	5344	0.78 ng	#	31
52) 1,3-Dichlorobenzene	26.38	146	6692	1.21 ng	#	52
53) 1,4-Dichlorobenzene	26.59	146	6500	1.11 ng	#	49
54) 1,2-Dichlorobenzene	27.32	146	5762	1.07 ng	#	36
55) 1,2,4-Trichlorobenzene	30.51	180	8323	29.39 ng	#	79
56) Napthalene	31.03	128	13437	18.59 ng	#	64
57) Hexachlorobutadiene	30.75	225	7121	22.67 ng	#	79

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0303A\MA041LCS.D Vial: 16
Acq On : 3 Mar 2002 12:35 pm Operator: BDH
Sample : VLCSMA\ BATCH #041 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA041ABK 2nd SOURCE Multiplr: 0.00
MS Integration Params: rteint.p
Quant Time: Mar 3 13:18 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 04 10:17:45 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D
Acq On : 3 Mar 2002 13:43
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:46 2002

Vial: 2
Operator: BDH
Inst : ~~MARILYN~~
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

BH 3/3/02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	480362	250.00	ng	0.03 93.18%
26) 1,4-Difluorobenzene IS#2	13.27	114	1832044	250.00	ng	0.01 88.33%
36) Chlorobenzene-d5 IS#3	20.58	117	1437705	250.00	ng	0.01 89.99%

mg/m3 report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	624961	276.51	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.60%						
32) Toluene-d8 SURR#2	16.83	98	1454737	254.15	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.66%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1349265	263.22	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.29%						

Target Compounds						Qvalue
41) m,p-Xylene	20.97	106	32269	0.05	ng-U	86 <m
48) 4-Ethyltoluene	24.36	105	82854	0.05	ng-J	95
49) 1,3,5-Trimethylbenzene	24.48	105	110756	0.08	ng	96
51) 1,2,4-Trimethylbenzene	25.43	105	62885	0.05	ng-J	98

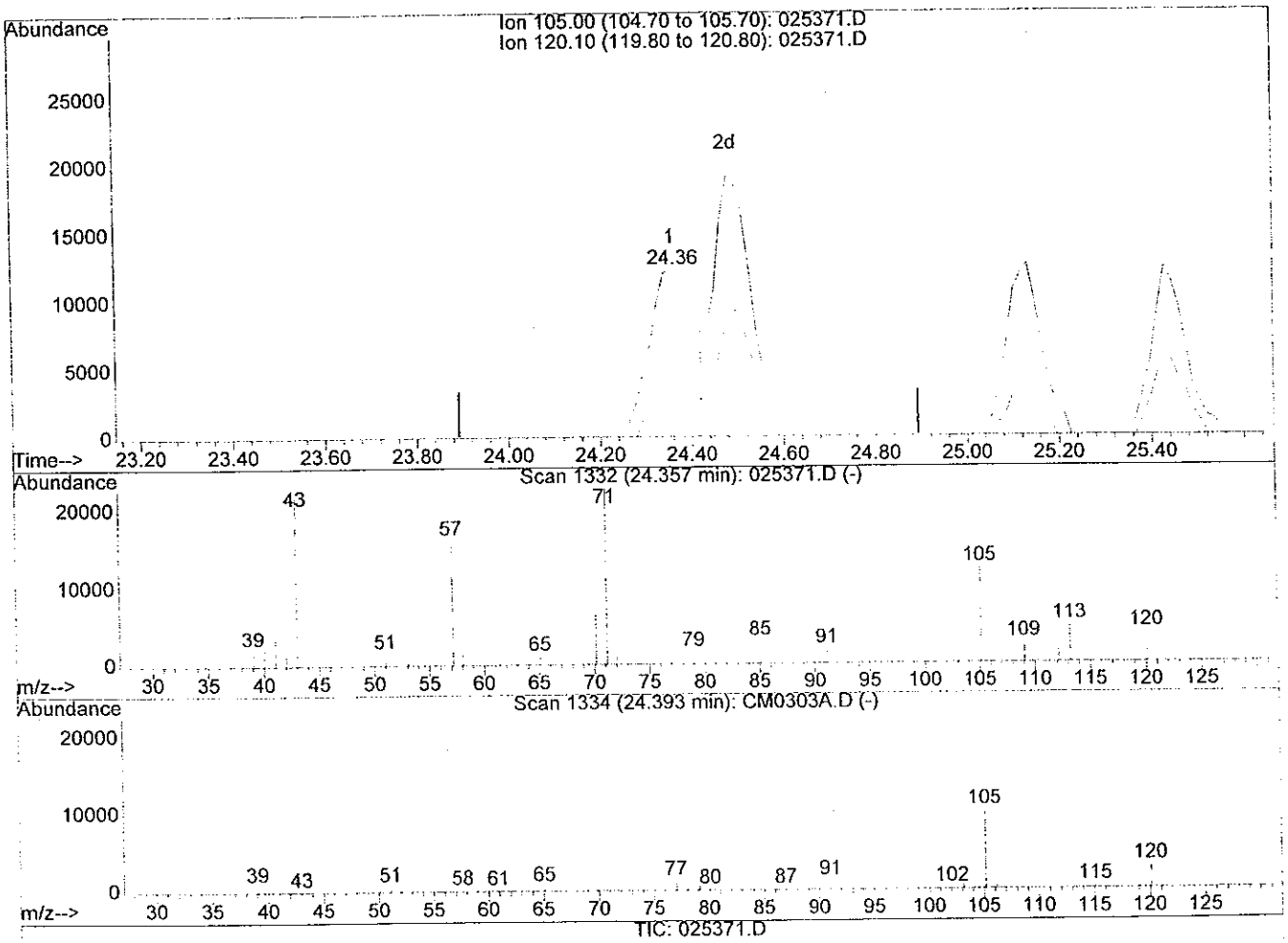
(#) = qualifier out of range (m) = manual integration
025371.D TO14S.M Sun Mar 03 14:47:06 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D
Acq On : 3 Mar 2002 13:43
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:44 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Multiple Level Calibration



(48) 4-Ethyltoluene

24.36min 12.45ng

response 82854

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	26.18
0.00	0.00	0.00
0.00	0.00	0.00

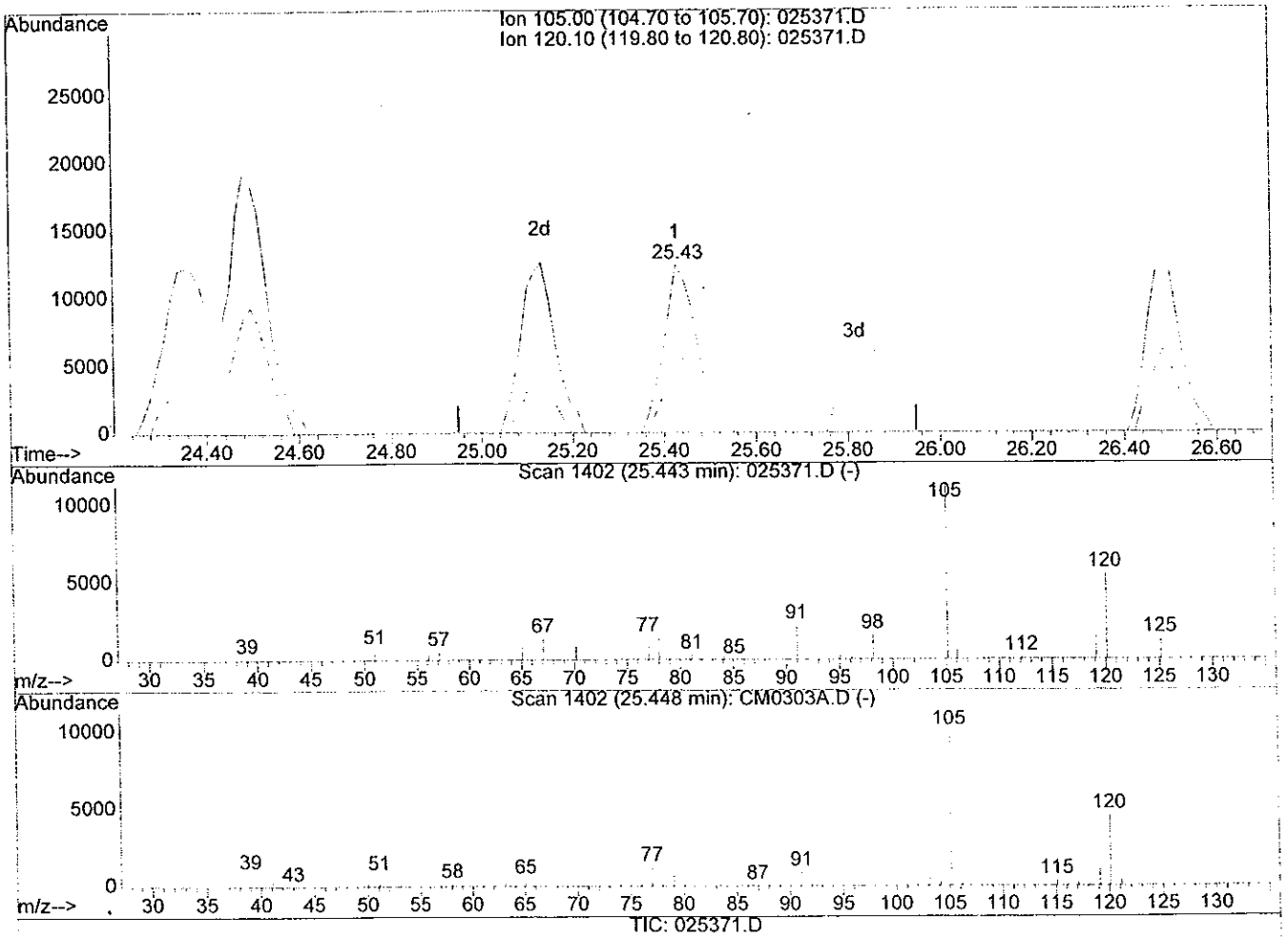
025371.D TO14S.M Sun Mar 03 14:46:20 2002

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D
Acq On : 3 Mar 2002 13:43
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:46 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Multiple Level Calibration



(51) 1,2,4-Trimethylbenzene

25.43min 11.38ng

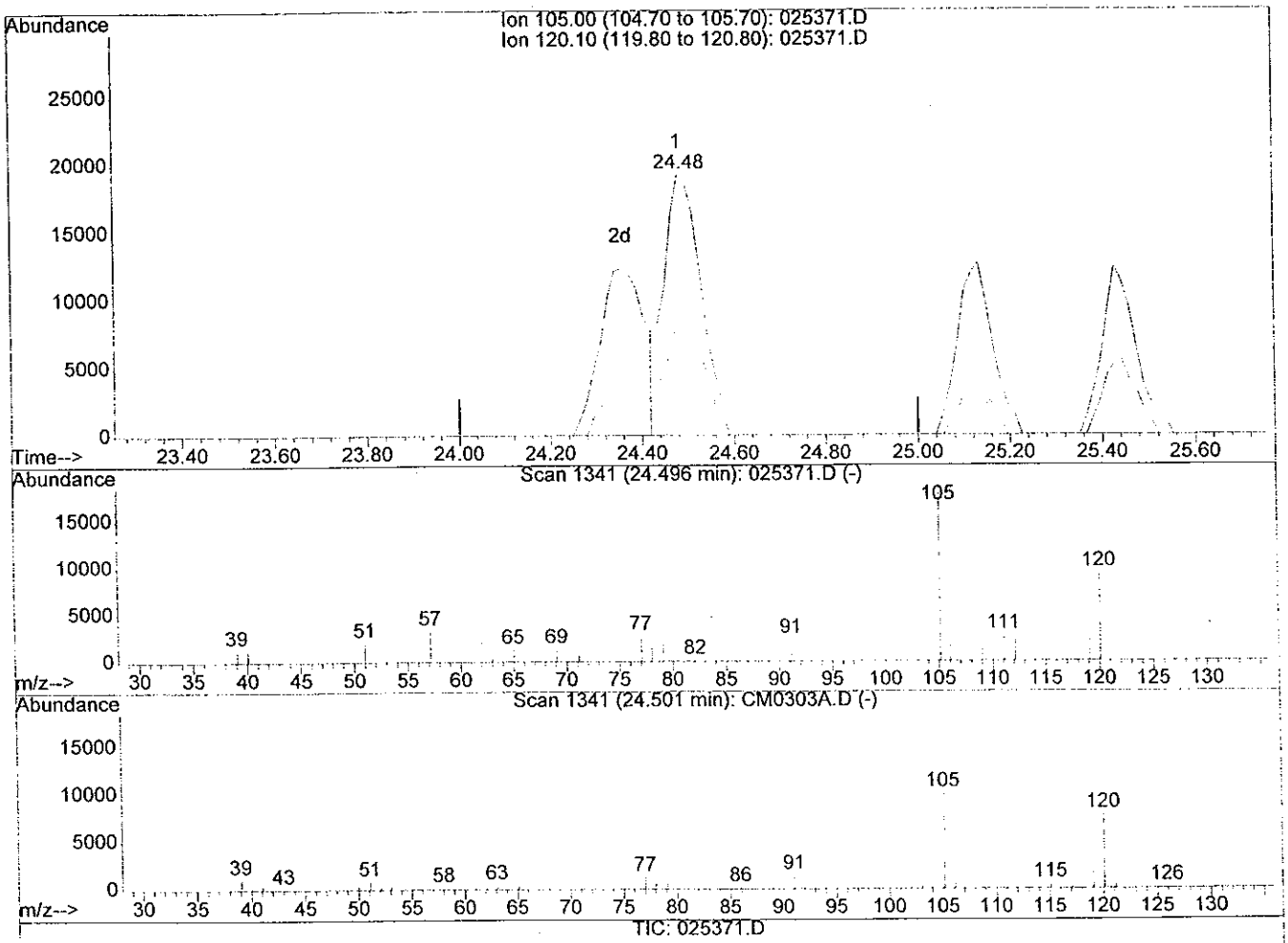
response 62885

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	43.85
0.00	0.00	0.00
0.00	0.00	0.00

025371.D TO14S.M Sun Mar 03 14:46:48 2002

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D Vial: 2
Acq On : 3 Mar 2002 13:43 Operator: BDH
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls Inst : MARILYN
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 3 14:44 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Multiple Level Calibration



(49) 1,3,5-Trimethylbenzene

24.48min 21.12ng

response 110756

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	49.05
0.00	0.00	0.00
0.00	0.00	0.00

025371.D TO14S.M Sun Mar 03 14:46:34 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D
Acq On : 3 Mar 2002 13:43
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:15 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0303A\CM0303A.D (3 Mar 2002 11:11)

original

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.33	128	480362	250.00	ng	0.03 93.18%
26) 1,4-Difluorobenzene IS#2	13.27	114	1832044	250.00	ng	0.01 88.33%
36) Chlorobenzene-d5 IS#3	20.58	117	1437705	250.00	ng	0.01 89.99%

ng report

System Monitoring Compounds						
23) 1,2-Dichloroethane d4 SURR	12.48	65	624961	276.51	ng	0.03
Spiked Amount 250.000 Range 61 - 140 Recovery = 110.60%						
32) Toluene-d8 SURR#2	16.83	98	1454737	254.15	ng	0.01
Spiked Amount 250.000 Range 90 - 109 Recovery = 101.66%						
46) 4-Bromofluorobenzene SURR#	23.72	95	1349265	263.22	ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.29%						

Target Compounds						Qvalue
4) Chloromethane	4.59	50	957	0.63	ng	# 46
6) Bromomethane	5.20	94	972	0.43	ng	# 9
10) 1,1-Dichloroethene	7.05	96	972	0.48	ng	# 1
13) Carbon disulfide	8.09	76	1054	0.19	ng	# 1
16) n-Hexane	8.66	57	24371	NST 11.65	ng	# 1
20) Isooctane	11.94	57	19247	2.74	ng	# 1
27) Benzene	12.76	78	4403	0.82	ng	# 54
30) Bromodichloromethane	14.79	83	4928	0.89	ng	# 25
35) 1,1,2-Trichloroethane	17.96	97	6141	2.60	ng	# 14
40) Ethylbenzene	20.77	106	5627	2.75	ng	# 38
41) m,p-Xylene	20.97	106	32269	12.23	ng	86
42) o-Xylene	22.11	106	16389	6.50	ng	75
45) 1,1,2,2-Tetrachloroethane	23.50	83	~~50671~~	NST ~~13.77~~	ng	# 30
48) 4-Ethyltoluene	24.36	105	82854	12.45	ng	95
49) 1,3,5-Trimethylbenzene	24.48	105	110756	21.12	ng	96
50) 2-Chlorotoluene	24.48	91	13481	NST ~~1.97 ng~~		# 47
51) 1,2,4-Trimethylbenzene	25.43	105	62885	11.38	ng	98

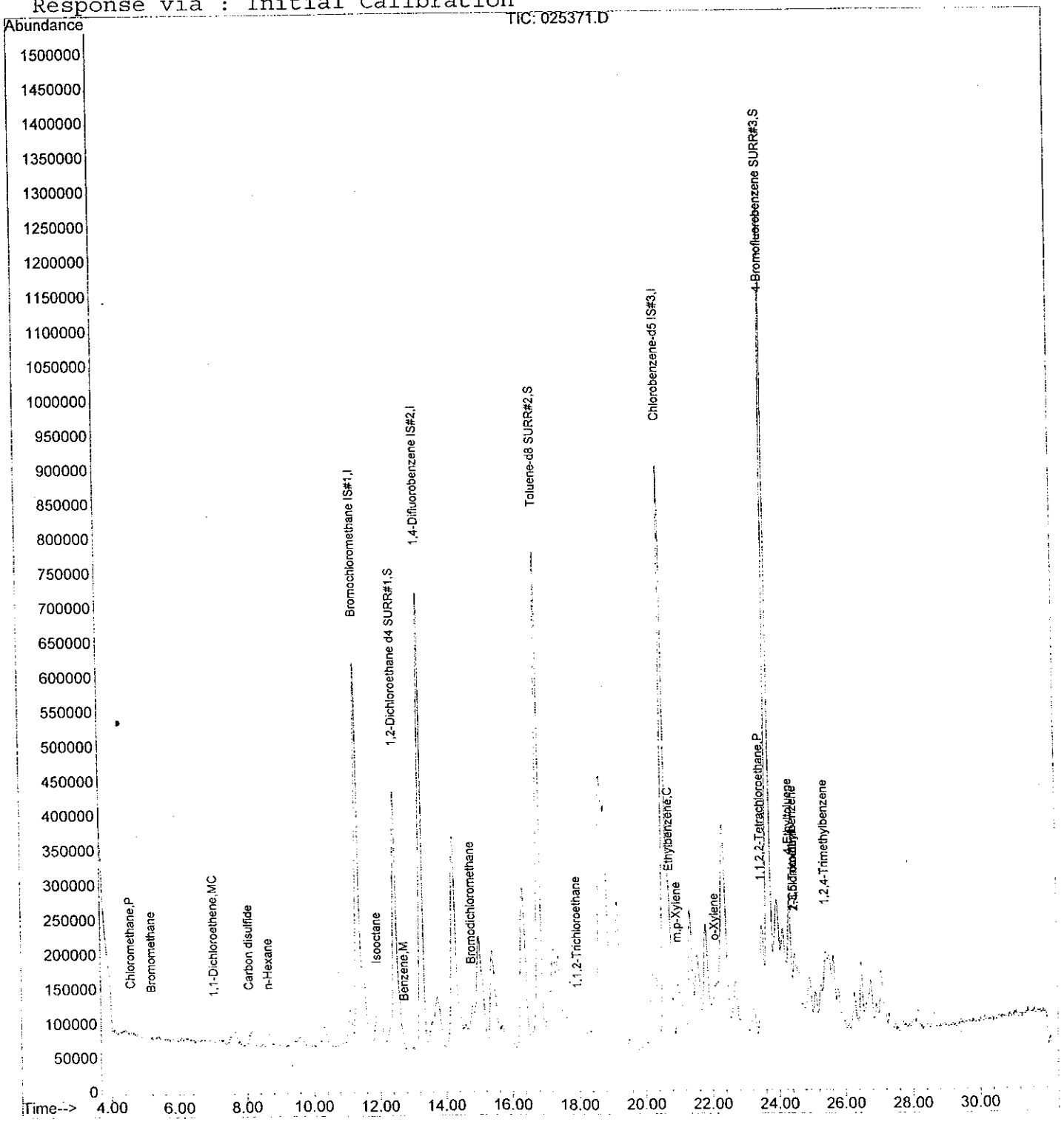
(#) = qualifier out of range (m) = manual integration
025371.D TO14S.M Sun Mar 03 14:15:33 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0303A\025371.D
Acq On : 3 Mar 2002 13:43
Sample : 062SVEEA02190225\ 02537-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB041ABK
MS Integration Params: rteint.p
Quant Time: Mar 3 14:15 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sun Mar 03 13:01:02 2002
Response via : Initial Calibration



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: MSO18-Std Freezer
Solvent: MeOH - Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN-4-5	LB-01780	1/2/03	2500 µg/ml	250 µl	25 ml	25 µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 B H 2/5/02

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

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

Comments:

Sol. Name:
Date:
Analyst:

Standard I.D.: -MSW -
Location:
Solvent:

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

Comments:

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-UN3-15~~						
8-UN3-7	LA97780	5-7-02	2000µg/ml	500µl	10 ml	100 µg/ml

Comments: exp 6-12-02

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

Standard I.D.: ~~12~~ 8 -MSW30-2
Location: MS018
Solvent: MEOH Lot V30E40

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/21/01

Sol. Name: ASAHIKLIN AK-225 Stock
Date: 12-28-01
Analyst: LM

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: [illegible]

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

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/Surr
Date: 10-12-01
Analyst: [illegible]

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

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

Comments: 4-10-02 expires

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Prep	LOG I.D.
502C	A804038	Acc STD	2000 µg/ml	7/1999	DKW 5/18/98	7-VN 2-1
502A-R	A704070	Acc STD	2000 µg/ml	7/1999	DKW 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	DKW 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	DKW 6/16/98	7-VN 2-6
Custom TO14 Mix	LA76943	Supelco	2500 ug/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 (2nd Source) Mixture	M0219	Ultra	2000 ug/ml	3/2000	~~LAD 7/29/98~~	7-VN 2-9
8260 Surr	A117K	Restek	2500 µg/ml	8/2001	DKW 10/6/98	7-VN 2-10
8260 IS	A11206	Restek	2500 µg/ml	6/2001	DKW 10/6/98	7-VN 2-11
Matrix Spike	LA76920	Supleco	25 µg/ml	8/2000	DKW 10/7/98	7-VN 2-12
VOA Kit	LA78761	Supleco	2000 µg/ml	6/1999	DKW 10/9/98	7-VN 2-13
8260 Kit	1570	Restek	Varies	6/2000	DKW 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	A8090042-JB	Accustandard	200.1 µg/ml	9/99	ARD 1/29/99	7-VN 2-17
VOC Calibration Kit	CA81055	Supelco	2000 µg/ml	4/2000	DKW 3/9/99	7-VN 2-18
VOC Calibration Kit	LA81055	Supelco	2000 µg/ml	4/2000	DKW 3/9/99	7-VN 2-19
Custom Keytone Mix	LA011115	Restek	2000 µg/ml	3/2000	DKW 3/10/99	7-VN 2-20
8260 Calibration Kit	Varies	Restek	Varies	6/2001	DKW 3/10/99	7-VN 2-21
8260 Cali. Mix 1	LA80338	Supelco	2000 µg/ml	12/2000	DKW 5/10/99	7-VN 2-22
VOC Mix 6	LA80482	Supelco	2000 µg/ml	4/2000	DKW 5/10/99	7-VN 2-23
8260 Ketones	LA80762	Supelco	2000 µg/ml	4/2000	DKW 5/10/99	7-VN 2-24
Equity 8260 Cal Mix 2	LA81849	Supelco	2000 µg/ml	3/2000	DKW 5/10/99	7-VN 2-25
Custom TO14 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83438	Supelco	2000 µg/ml	9/2000	DKW 6/9/99	7-VN 2-27
Tolamet Kit	LA81867	Supelco	2000	4/2000	DKW 6/9/99	7-VN 2-28

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Away 1st Date Used	LOG I.D.	
Equity Mix 1	LA82367	Supelco	2000 µg/ml	4/2001	DWJ 6/19/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWJ 6/16/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWJ 7/6/99	7 -VN 3 - 4	3
2-Methyl naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWJ 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 7	
F003	A8090310	↓	2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 8	
F005	055-142	↓	2000 µg/ml	8/2000	MS 8/26/99	7 -VN 3 - 9	
8260 Kit	NA	Restek	Varies	Varies 2002 dates	DWJ 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	# Ampules ~~DATE OPENED~~	LOG I.D.
8260 IS STD	A014811	Restek	2500 µg/ml	2/2003	10	8 -VN 1 - 1
MTBE	A014918	Restek	2000 µg/ml	6/2003	2	8 -VN 1 - 2
Iodomethane	LA83937	Supelco	2000 µg/ml	6/2000	2	8 -VN 1 - 3
Carbon Disulfide	LA8560	Supelco	5000 µg/ml	10/2002	2	8 -VN 1 - 4
8240 Matrix Spike (Short list)	LA84166	Supelco	2500 µg/ml	7/2002	5	8 -VN 1 - 5
APPIX-A Custom Mix	81859 LA77217	Supelco	2000-6000 µg/ml	3/2000	1	8 -VN 1 - 6
APPIX-B Custom Mix	LA81858	Supelco	2000 µg/ml	3/2000	1	8 -VN 1 - 7
BP Short List Std	LA87431	Supelco	5000 µg/ml	1/2001	3	8 -VN 1 - 8
MTBE	LA83423	Supelco	2000 µg/ml	6/2002	1	8 -VN 1 - 9
8260 SURR	A014205	Restek	2500 µg/ml	12/2002	10	8 -VN 1 - 10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8 -VN 1 - 11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8 -VN 1 - 12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8 -VN 1 - 13
Equity Iodomethane	LA88752	Supelco	2000 µg/ml	5/2001	2	8 -VN 1 - 14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8 -VN 1 - 15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8 -VN 1 - 16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8 -VN 1 - 17
8260 Volatiles Kit	Various	Restek	2000 µg/mix	10/2001 ← earliest	1	8 -VN 1 - 18
MTBE	A015850	Restek	2000	10/2003	1	8 -VN 1 - 19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8 -VN 1 - 20
Carbon Disulfide	LA88605	Supelco	5000	10/2002	1	8 -VN 1 - 21
1&2-Methyl-Naphthalene	LA90440	Supelco	2000	5/10/2001	3	8 -VN 1 - 22
Isopropyl Ether	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	LA90734	Supelco	2500 µg/ml	7/1/2001	DK 6/13/04 ~~5~~ 4	8 -VN 1 - 26
VOA Short list matrix spike	LA89933	Supelco	1000 µg/ml	5/1/2003	5	8 -VN 1 - 27

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

001

SEVERN TRENT SERVICES

STL Pensacola

REMIT TO: W4305 SEVERN TRENT LABORATORIES,INC. P.O. Box 7777, Philadelphia, PA 19175-4305

Client PO.No.: 2916

Project: CTO-0062, CECIL FIELD DAY TANK 1
Contract No.: CT0-0062
Invoice No: 400-11140

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

Invoice Amount: $200.00
Invoice Date: 26 MAR 2002

Terms: Net 30 Days
Federal Tax ID NO: 23-2919996
CODE: CH2M-CONST-GA-C-30RH

LOG NO: C203329

INVOICE

ITEM	SAMPLE IDENTIFICATION	MTRX	QTY	CAT NO	ANALYSIS	UNIT PRICE	PRICE/SAMP	TOTAL
1	062-SVE-E-A-0311-02-26	AI	1		Volatile Organic Compounds in Air (TO-14)	$165.00	$165.00	165.00
2	Method Blank Lab Control Standard True Value Lab Control Standard Result Lab Control Standard % Recovery LCS Accuracy Control Limit (%R)	QC-A QC-A QC-A QC-A QC-A	5		Volatile Organic Compounds in Air (TO-14)			
	1 Other Charges				Summa Canisters (MI)	$35.00	$35.00	35.00

TOTAL $200.00

REPORTED TO Ms. Tatiana Romanova CUSTOMER PHONE: 7706049182

For Proper Credit, please show INVOICE NUMBER on your remittance.
After 30 days, service charges of 1.5% per 30 days will be applied to unpaid balance.

CO NAVY RAC PHO
APR - 1 2002

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

C203329

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-032

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-0311-02-26	SVE Effluent	AIR	03/11/02	10:25	III/C	14 Day	1									1	Grab	Summa Canister	293
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Randy Dumaop / Sean Smith J.A. Jones Environmental Services	Federal Express TRK # 7920 0004 8884.	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Randy Dumaop	3/12/02	11:00	Federal Express	3/12/02	11:00
Printed Name and Signature:			Printed Name and Signature:		
			Sandra A Dixon Sandra A Dixon	3/14/02	0935
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

CC01 EIEI 1023-0062

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SEVERN TRENT SERVICES

STL Pensacola

CASE NARRATIVE

STL Order Number: C203329
Project: CH2M Hill Constructors
CTO-0062, NAS Cecil Field, Day Tank 1

Client Sample ID	STL Sample ID
062-SVE-E-A-0311-02-26	C203329-1

The above-referenced samples were received in good condition at STL Pensacola on March 14, 2002. Please see Project Sample Inspection Form (PSIF) for further information about receipt of sample.

Please refer to "CLP Data Qualifiers" and/or STL Pensacola "Data Qualifiers for Final Report" for explanations of flags used.

Rick Hayes

Rick Hayes
Senior Project Manager

3/28/02

CGI NAVY RAC SMD
APR - 1

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
03329-1	062-SVE-E-A-0311-02-26	03-11-02/10:25

PARAMETER	03329-1
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 PMO
APR - 1 2002

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
03329-1	062-SVE-E-A-0311-02-26	03-11-02/10:25

PARAMETER	03329-1
trans-1,3-Dichloropropene, mg/m3	0.060U
Dichlorotetrafluoroethane, mg/m3	0.060U
Ethylbenzene, mg/m3	0.06
Hexane, mg/m3	0.12
4-Ethyltoluene, mg/m3	0.34
Hexachlorobutadiene, mg/m3	0.060U
Methylene chloride (Dichloromethane), mg/m3	0.060U
Methyl t-butyl ether (MTBE), mg/m3	0.11
Styrene, mg/m3	0.060U
1,1,2,2-Tetrachloroethane, mg/m3	0.060U
Tetrachloroethene, mg/m3	0.060U
Toluene, mg/m3	0.060U
1,2,4-Trichlorobenzene, mg/m3	0.060U
1,1,1-Trichloroethane, mg/m3	0.060U
1,1,2-Trichloroethane, mg/m3	0.060U
Trichloroethene, mg/m3	0.060U
Trichlorofluoromethane, mg/m3	0.060UR2
1,1,2-Trichloro-1,2,2-trifluoroethane, mg/m3	0.060U
1,2,4-Trimethylbenzene, mg/m3	0.42
1,3,5-Trimethylbenzene, mg/m3	0.44
Vinyl chloride, mg/m3	0.060U
o-Xylene, mg/m3	0.12
m&p-Xylene, mg/m3	0.25
Surrogate - 1,2-Dichloroethane-d4	106 %
Surrogate - Toluene-d8	103 %
Surrogate - 4-Bromofluorobenzene	102 %

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CTO-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , AIR SAMPLES	DATE/ TIME SAMPLED
03329-1	062-SVE-E-A-0311-02-26	03-11-02/10:25

PARAMETER	03329-1
Dilution Factor	1
Prep Date	03.21.02
Prep Time	12:52
Analysis Date	03.21.02
Analysis Time	13:05
Batch ID	MAB054
Prep Method	MOD-TO14
Analyst	BDH

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03329-2	Method Blank	
03329-3	Lab Control Standard True Value	
03329-4	Lab Control Standard Result	
03329-5	Lab Control Standard % Recovery	
03329-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03329-2	03329-3	03329-4	03329-5	03329-6
Volatile Organic Compounds in Air (MOD-TO14)					
Benzene, mg/m3	0.030U	0.5000	0.5063	101 %	87-116
Bromodichloromethane, mg/m3	0.030U	---	---	---	---
Bromoform, mg/m3	0.030U	---	---	---	---
Bromomethane (Methyl bromide), mg/m3	0.030U	---	---	---	---
Carbon disulfide, mg/m3	0.030U	---	---	---	---
Carbon tetrachloride, mg/m3	0.030U	---	---	---	---
Chlorobenzene, mg/m3	0.030U	0.5000	0.5276	106 %	88-111
Chloroethane, mg/m3	0.030U	---	---	---	---
Chloroform, mg/m3	0.030U	---	---	---	---
Chloromethane (Methyl chloride), mg/m3	0.030U	---	---	---	---
2-Chlorotoluene, mg/m3	0.030U	---	---	---	---
Dibromochloromethane, mg/m3	0.030U	---	---	---	---
1,2-Dibromoethane (EDB), mg/m3	0.030U	---	---	---	---
1,2-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,3-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
1,4-Dichlorobenzene, mg/m3	0.030U	---	---	---	---
trans-1,4-Dichloro-2-butene , mg/m3	0.030U	---	---	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03329-2	Method Blank	
03329-3	Lab Control Standard True Value	
03329-4	Lab Control Standard Result	
03329-5	Lab Control Standard % Recovery	
03329-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03329-2	03329-3	03329-4	03329-5	03329-6
Dichlorodifluoromethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,2-Dichloroethane, mg/m3	0.030U	---	---	---	---
1,1-Dichloroethene, mg/m3	0.030U	0.5000	0.4421	88 %	58-138
cis-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
trans-1,2-Dichloroethene, mg/m3	0.030U	---	---	---	---
1,2-Dichloropropane, mg/m3	0.030U	---	---	---	---
cis-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
trans-1,3-Dichloropropene, mg/m3	0.030U	---	---	---	---
Dichlorotetrafluoroethane, mg/m3	0.030U	---	---	---	---
Ethylbenzene, mg/m3	0.030U	---	---	---	---
Hexane, mg/m3	0.030U	---	---	---	---
4-Ethyltoluene, mg/m3	0.030U	---	---	---	---
Hexachlorobutadiene, mg/m3	0.030U	---	---	---	---
Methylene chloride (Dichloromethane), mg/m3	0.030U	---	---	---	---
Methyl t-butyl ether (MTBE), mg/m3	0.030U	---	---	---	---
Styrene, mg/m3	0.030U	---	---	---	---
1,1,2,2-Tetrachloroethane, mg/m3	0.030U	---	---	---	---
Tetrachloroethene, mg/m3	0.030U	---	---	---	---
Toluene, mg/m3	0.030U	0.5000	0.5203	104 %	86-113

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03329-2	Method Blank	
03329-3	Lab Control Standard True Value	
03329-4	Lab Control Standard Result	
03329-5	Lab Control Standard % Recovery	
03329-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03329-2	03329-3	03329-4	03329-5	03329-6
1,2,4-Trichlorobenzene, mg/m3	0.030U	---	---	---	---
1,1,1-Trichloroethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloroethane, mg/m3	0.030U	---	---	---	---
Trichloroethene, mg/m3	0.030U	0.5000	0.4966	99 %	85-116
Trichlorofluoromethane, mg/m3	0.030U	---	---	---	---
1,1,2-Trichloro-1,2,2-trifl uoroethane, mg/m3	0.030U	---	---	---	---
1,2,4-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
1,3,5-Trimethylbenzene, mg/m3	0.030U	---	---	---	---
Vinyl chloride, mg/m3	0.030U	---	---	---	---
o-Xylene, mg/m3	0.030U	---	---	---	---
m&p-Xylene, mg/m3	0.060U	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	114 %	0.5000	0.5752	115 %	61-140
Surrogate - Toluene-d8	99 %	0.5000	0.5105	102 %	90-109
Surrogate - 4-Bromofluorobenzene	99 %	0.5000	0.5027	101 %	87-112
Dilution Factor	1	---	1	---	---
Prep Date	03.21.02	---	03.21.02	---	---
Prep Time	10:11	---	10:48	---	---
Analysis Date	03.21.02	---	03.21.02	---	---
Analysis Time	10:24	---	11:01	---	---
Batch ID	MAB054	MAB054	MAB054	MAB054	MAB054
Prep Method	MOD-TO14	---	MOD-TO14	---	---
Analyst	BDH	---	BDH	---	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-03329
Received: 14 MAR 02
Reported: 26 MAR 02

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

Client PO. No.: 2916

Contract No.: CT0-0062
Project: CTO-0062, CECIL FIELD DAY TANK 1
Sampled By: Client
Code: 150220326

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR AIR SAMPLES	DATE/ TIME SAMPLED
03329-2	Method Blank	
03329-3	Lab Control Standard True Value	
03329-4	Lab Control Standard Result	
03329-5	Lab Control Standard % Recovery	
03329-6	LCS Accuracy Control Limit (%R)	

PARAMETER	03329-2	03329-3	03329-4	03329-5	03329-6

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

Rick Hayes

Rick Hayes, Project Manager

Final Page Of Report

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C203 329 Date Received: 3-14-02

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

Airbill Number(s): 7920 0004 8884

Shipped By: Fed EX

Cooler Number(s): BOX

Shipping Charges: N/A

Cooler Weight(s): 16#

Cooler Temp(s) (°C): N/A

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 3-14-02 Logged By: [illegible] Date: 3/14/02

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

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

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

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

Attach one file Label here

SAMPLE CHECK LIST
STL Pensacola

Paperwork by: NK
Labeled by: SAD
Delivered by: SAD

CH2M-CONST-GA C203329
CH2M Hill Constructors, Inc. (CCI)

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

COMMENTS

C203329

FedEx | Ship Manager | Label7920 0004 8884

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

Jacksonville, FL, 32221

REVENUE BARCODE

FedEx.

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

Pensacola, FL, 32514

SHIP DATE: 11MAR02
WEIGHT: 16 LBS

Ref: 163151/99.22.01.01/30857

DELIVERY ADDRESS BARCODE(FEDEX-EDR)

FedEx ** 2DAY **

TRK # 7920 0004 8884 FORM 0201

WED
AA
Deliver by:
13MAR02

BFM

32514-FL-US F3 PNSA

12

CECIL FIELD, CTO-0062

Explanation of CLP Data Qualifiers
Organics

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

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

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

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

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

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

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

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

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

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

Explanation of CLP Data Qualifiers
Inorganic

C - Concentration Qualifier

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

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

Q - QC Qualifier

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

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

* - Duplicate analysis not within control limits

M - The duplicate injection precision was not met.

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

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

+ - The Standard Additions Correlation Coefficient is <0.995.

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

M - Method Qualifier

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

Revised 5/10/01

SEVERN TRENT SERVICES

STL Pensacola

STL Pensacola Data Qualifiers for Final Report

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

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

Abbreviations

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

Florida Projects Inorganic/Organic

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

AFCEE QAPP Projects

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

Arizona DEQ Projects

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

CLP and CLP-like Projects

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

STL PENSACOLA
Certifications, Memberships & Affiliations

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

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

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

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

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

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

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

Florida DEP/DOH CompQAP # 980156

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

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

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

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

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

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

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

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

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

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01. Extension granted

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

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

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

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

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

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

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

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

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

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

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

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

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

certlist\condcert.lst revised 02/14/02

AIR VOLATILE CASE NARRATIVE

LABORATORY NAME: STL PENSACOLA
CASE NUMBER: NA
SDG#: 203329
PROJECT NAME: N.A.S. Cecil Field, Day Tank 1

RECEIVED Mar. 14, 2002

CLIENT ID#	STL ID #	STL SAMPLE NAME IN PACKAGE
062-SVE-E-A-0311-02-26	203329-1	SVEEA

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

Larry Dilmore
GC/MS SUPERVISOR
Mar. 25, 2002

2A

AIR VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : STL PENSACOLA Contract : NA
Project : NA Site : NA Location : NA Group : NA
Lab File ID (Standard): CM0321A.D Date Analyzed : 21 Mar 2002
Instrument ID : MARILYN Time Analyzed : 9:27 am
GC Column : CAP ID : MARI Heated Purge (Y:N) : N
Level :

File	Sample	SMC1 #	SMC2 #	SMC3 #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
33291	062SVEEA0311022	106	103	102	0	0	0	0
MAB54ABK	VBLKMA\ DAILY M	114	99	99	0	0	0	0
MAB54LCS	VLCSMA\ BATCH #	115	102	101	0	0	0	0

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

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

TO-14 NG-MG/M3 CONVERSION		Sample #	3	4	5	6
order #	203329					
Batch	MAB054	Actual	mg/m3	mg/m3		
		ng result	TRUE	RESULT	% REC	rec limit
Benzene		253.17	0.5000	0.5063	101%	87-116%
Chlorobenzene		263.8	0.5000	0.5276	106%	88-111%
1,1-Dichloroethene		221.03	0.5000	0.4421	88%	58-138%
Toluene		260.14	0.5000	0.5203	104%	86-113%
Trichloroethene		248.3	0.5000	0.4966	99%	85-116%
1,2-Dichloroethane-d4		287.6	0.5000	0.5752	115%	61-140%
Toluene-d8		255.23	0.5000	0.5105	102%	90-109%
4-Bromofluorobenzene		251.34	0.5000	0.5027	101%	87-112%

LCS Blank Summary Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Matrix : WATER

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Mon Mar 25 23:12:17 2002
Response via : Multiple Level Calibration

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
10)	MC	1,1-Dichloroethene	221.03	250.00	88.41	58 to 138%	[ ]
27)	M	Benzene	253.17	250.00	101.27	87 to 116%	[ ]
28)	M	Trichloroethene	248.30	250.00	99.32	85 to 116%	[ ]
33)	MC	Toluene	260.14	250.00	104.06	86 to 113%	[ ]
39)	MP	Chlorobenzene	263.80	250.00	105.52	88 to 111%	[ ]

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKMA

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203329

Lab File ID: MAB54ABK.D Lab Sample ID: VBLKMA\ DAILY M

Date Analyzed: 3/21/02 Time Analyzed: 10:24

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

Instrument ID: MARILYN

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS AND 2ND	VLCSMA\ BATCH #054 L	MAB54LCS.D	11:01
02	SVEEA	062SVEEA03110226\332	33291.D	13:05

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL PENSACOLA Contract: N/A

Lab Code: STL PN Case No.: N/A SAS No.: N/A SDG No.: C203329

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	15:05
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.: C203329

Lab File ID: BFM0321A.D BFB Injection Date: 3/21/02

Instrument ID: MARILYN BFB Injection Time: 9:06

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.8
75	30.0 - 66.0% of mass 95	46.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	63.7
175	4.0 - 9.0% of mass 174	4.9 (7.7)1
176	93.0 - 101.0% of mass 174	62.6 (98.2)1
177	5.0 - 9.0% of mass 176	4.0 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0250MA	VSTD050\ DAILY CALIBR	CM0321A.D	3/21/02	9:27
02	VBLKMA	VBLKMA\ DAILY METHO	MAB54ABK.D	3/21/02	10:24
03	LCS AND 2ND	VLCSMA\ BATCH #054 L	MAB54LCS.D	3/21/02	11:01
04	SVEEA	062SVEEA03110226\332	33291.D	3/21/02	13:05

Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------		
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								B= 0.075		
3)		Dichlorotetrafluoro	1.572	1.529	1.408	1.412	1.248	1.505	1.446	8.08
4)	P	Chloromethane	0.914	0.773	0.768	0.757	0.718	0.796	0.788	8.50
5)	C	Vinyl chloride	0.785	0.765	0.684	0.721	0.616	0.792	0.727	9.38#
6)		Bromomethane	1.434	1.117	1.156	1.122	1.068	1.183	1.180	11.06
7)		Chloroethane	0.520	0.537	0.559	0.543	0.461	0.557	0.530	6.94
8)		Trichlorofluorometh	0.653	1.393	1.655	1.649	0.804	1.412	-----	
							L	M= 1.702	R^2=0.998	
								B= -0.307		
9)		1,1,2-Trichlorotrif	2.008	1.878	1.944	1.817	1.630	1.933	1.868	7.15
10)	MC	1,1-Dichloroethene	1.077	1.076	1.089	1.073	0.972	1.096	1.064	4.31#
11)		Iodomethane							0.000	-1.00
12)		Methylene chloride	1.496	1.500	1.449	1.416	1.266	1.459	1.431	6.06
13)		Carbon disulfide	3.108	2.812	2.940	2.884	2.446	2.984	2.862	7.93
14)		methyl-Tert-Butyl E	1.680	1.625	1.514	1.521	1.453	1.513	1.551	5.43
15)		trans-1,2-Dichloroe	1.212	1.195	1.251	1.201	1.084	1.220	1.194	4.79
16)		n-Hexane	1.165	1.111	1.074	1.043	0.998	1.142	1.089	5.77
17)	P	1,1-Dichloroethane	1.951	1.984	2.049	1.952	1.708	2.018	1.944	6.26
18)		cis-1,2-Dichloroeth	1.584	1.635	1.648	1.603	1.361	1.625	1.576	6.83
19)	C	Chloroform	2.435	2.573	2.534	2.462	2.193	2.527	2.454	5.61#
20)		Isooctane	4.035	3.710	3.330	3.424	3.612	3.805	3.653	7.04
21)		1,1,1-Trichloroetha	2.154	2.181	2.120	2.053	1.851	2.151	2.085	5.89
22)		Carbon tetrachlorid	2.175	2.316	2.264	2.207	1.921	2.286	2.195	6.55
23)	S	1,2-Dichloroethane	1.123	1.261	1.126	1.136	1.222	1.191	1.176	4.89
24)		1,2-Dichloroethane	1.304	1.436	1.326	1.303	1.203	1.352	1.321	5.74
25)		1,2-Dibromoethane	2.121	2.184	2.207	2.155	1.946	2.129	2.124	4.38
26)	I	1,4-Difluorobenzene I	----------	----------	----------	ISTD	----------	----------		
27)	M	Benzene	0.792	0.734	0.745	0.728	0.668	0.732	0.733	5.42
28)	M	Trichloroethene	0.409	0.417	0.422	0.418	0.372	0.406	0.407	4.55
29)	C	1,2-Dichloropropane	0.314	0.320	0.321	0.313	0.281	0.310	0.310	4.76#
30)		Bromodichloromethan	0.740	0.806	0.764	0.759	0.698	0.761	0.755	4.65
31)		cis-1,3-Dichloropro	0.459	0.487	0.492	0.480	0.420	0.478	0.469	5.70
32)	S	Toluene-d8 SURR#2	0.773	0.792	0.782	0.783	0.777	0.779	0.781	0.82
33)	MC	Toluene	0.467	0.477	0.486	0.475	0.411	0.462	0.463	5.82#
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------		
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

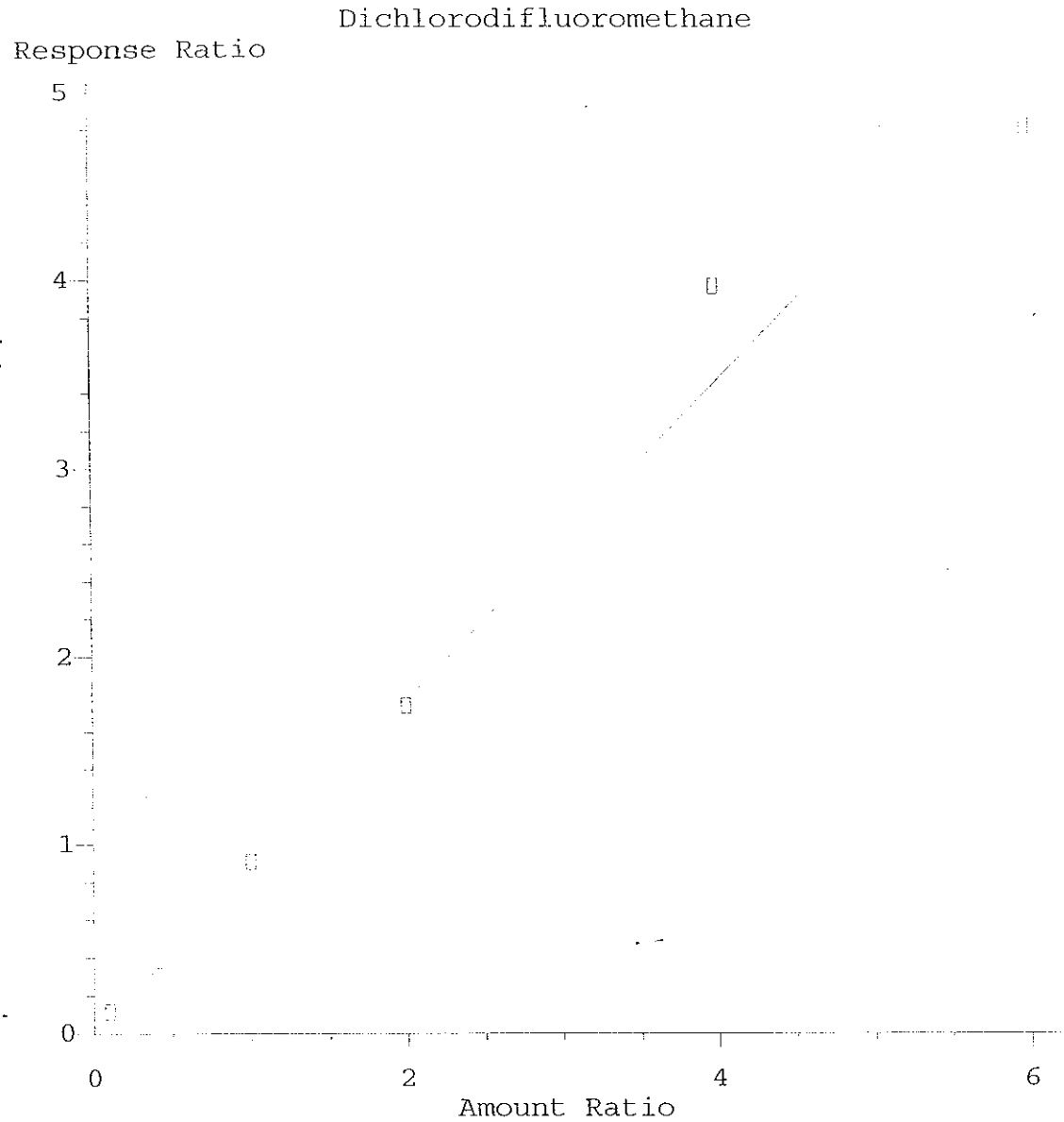
Response Factor Report MARILYN

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration

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

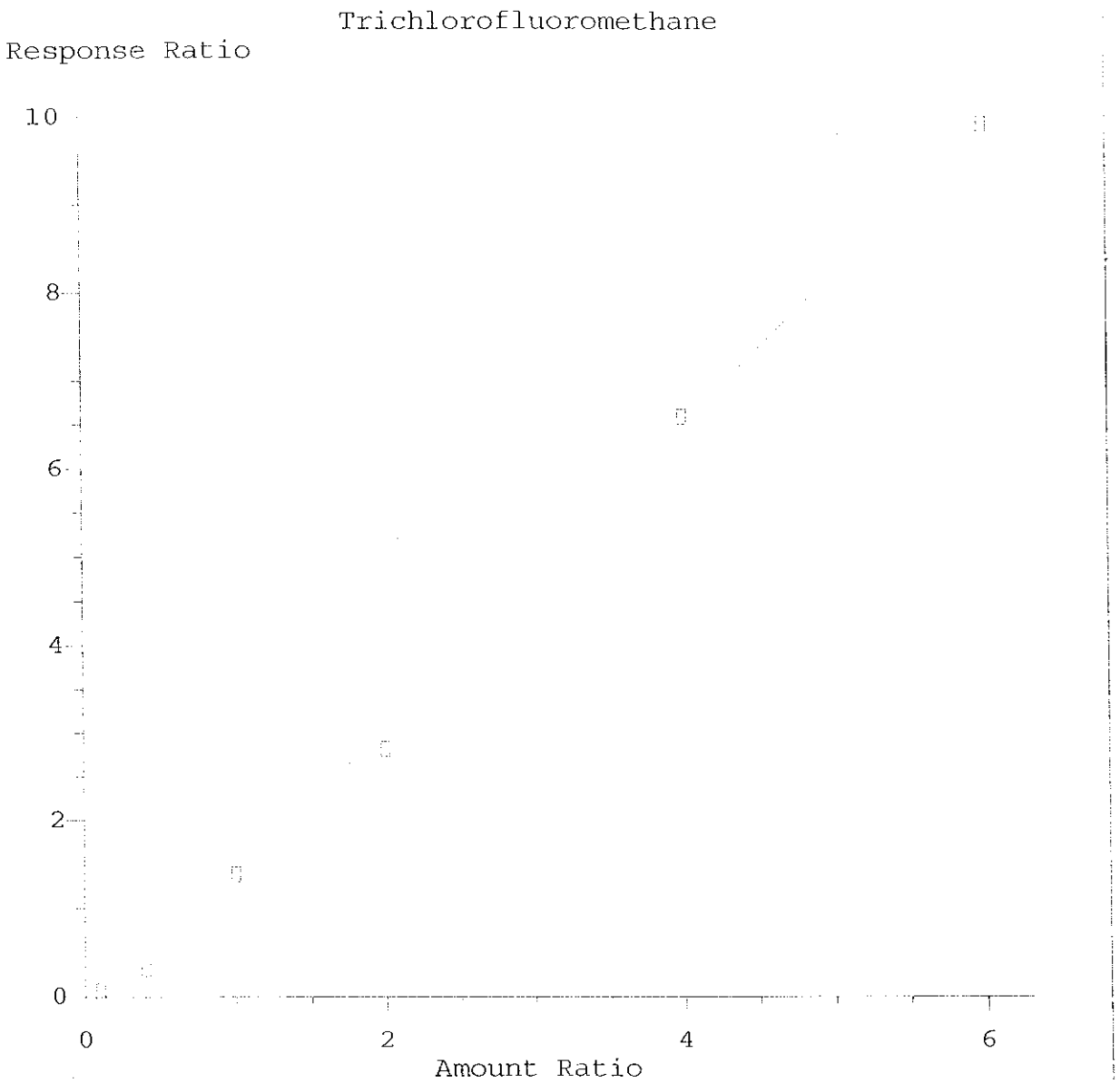
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	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 ###



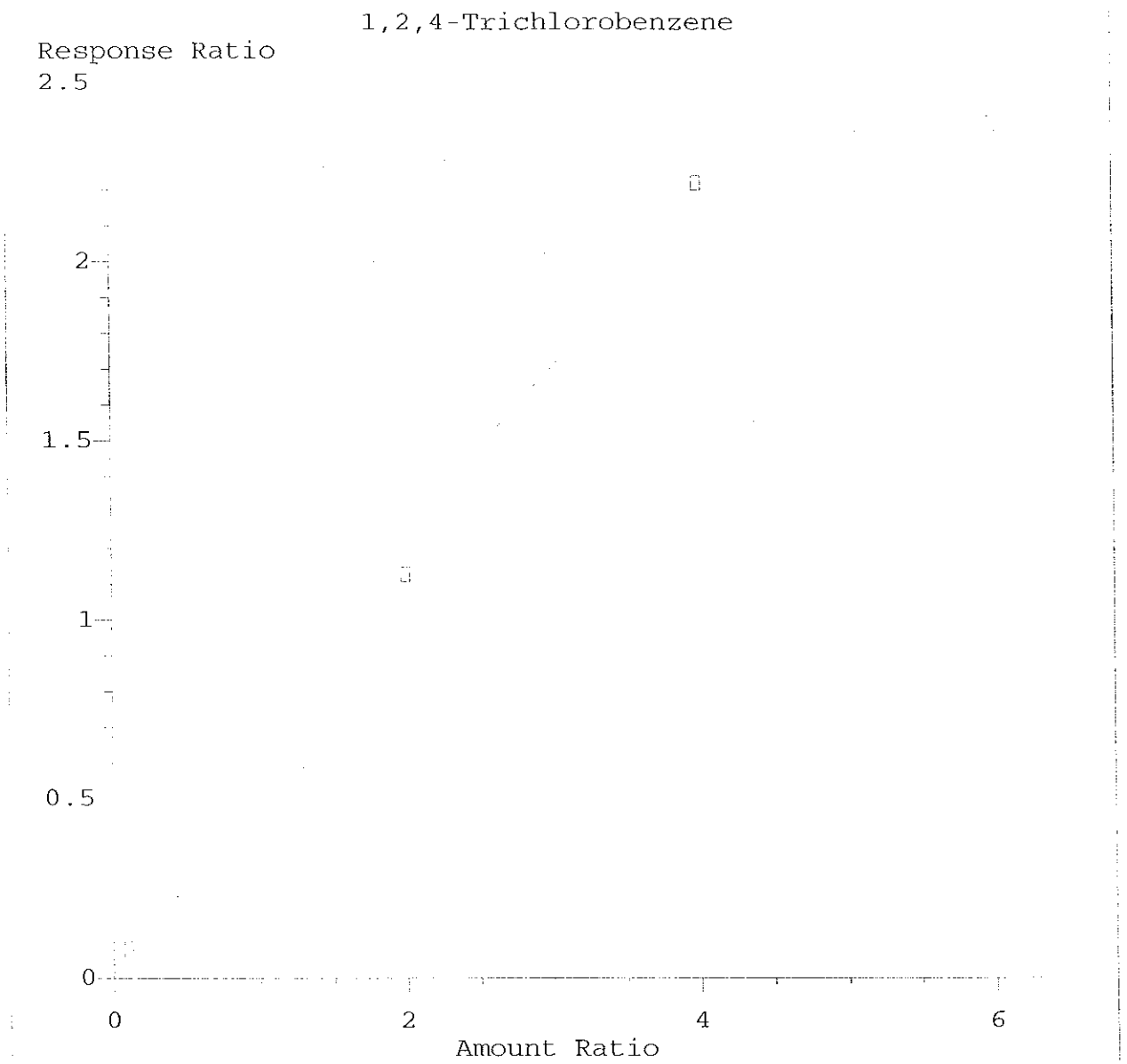
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

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



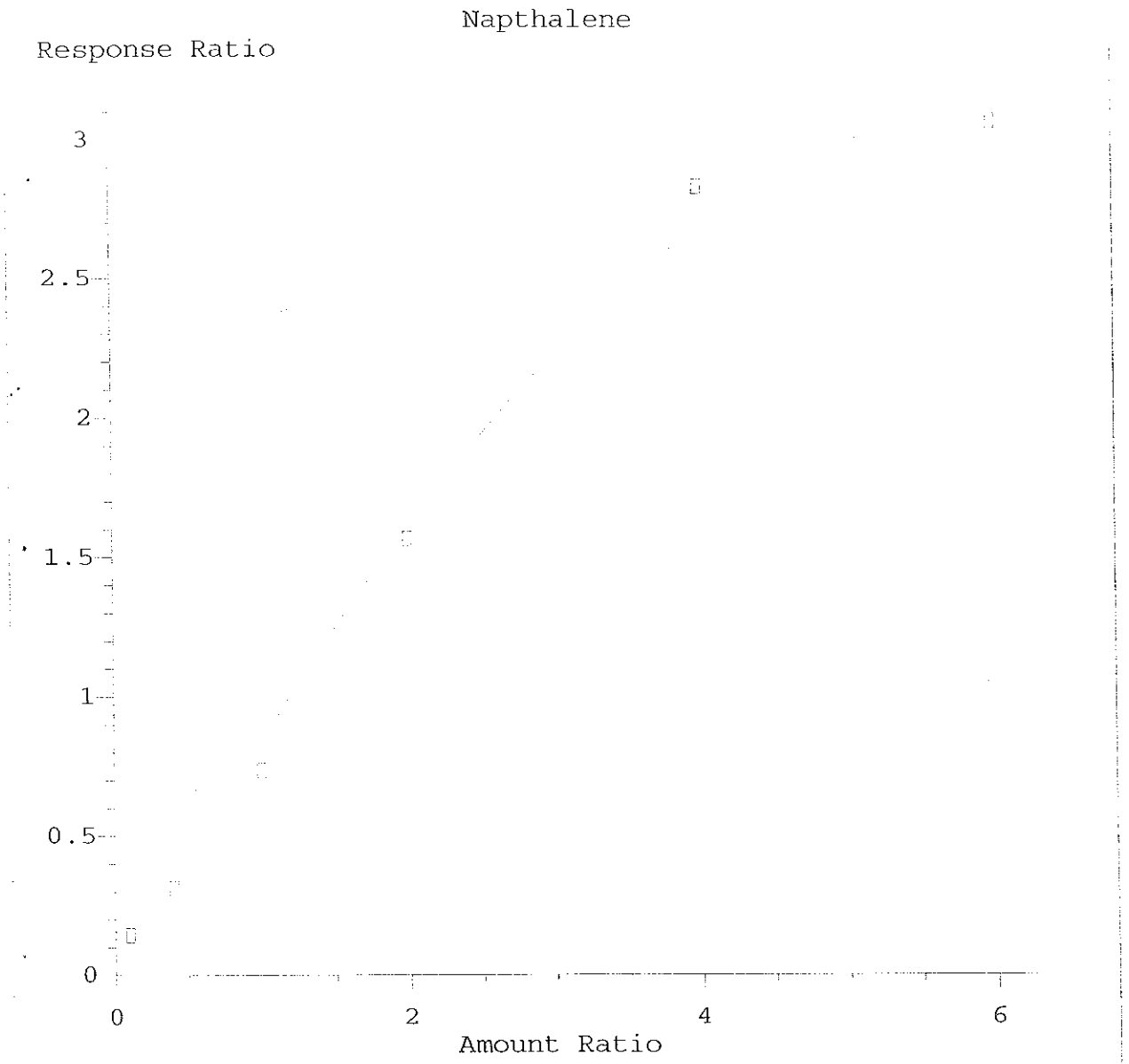
Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

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



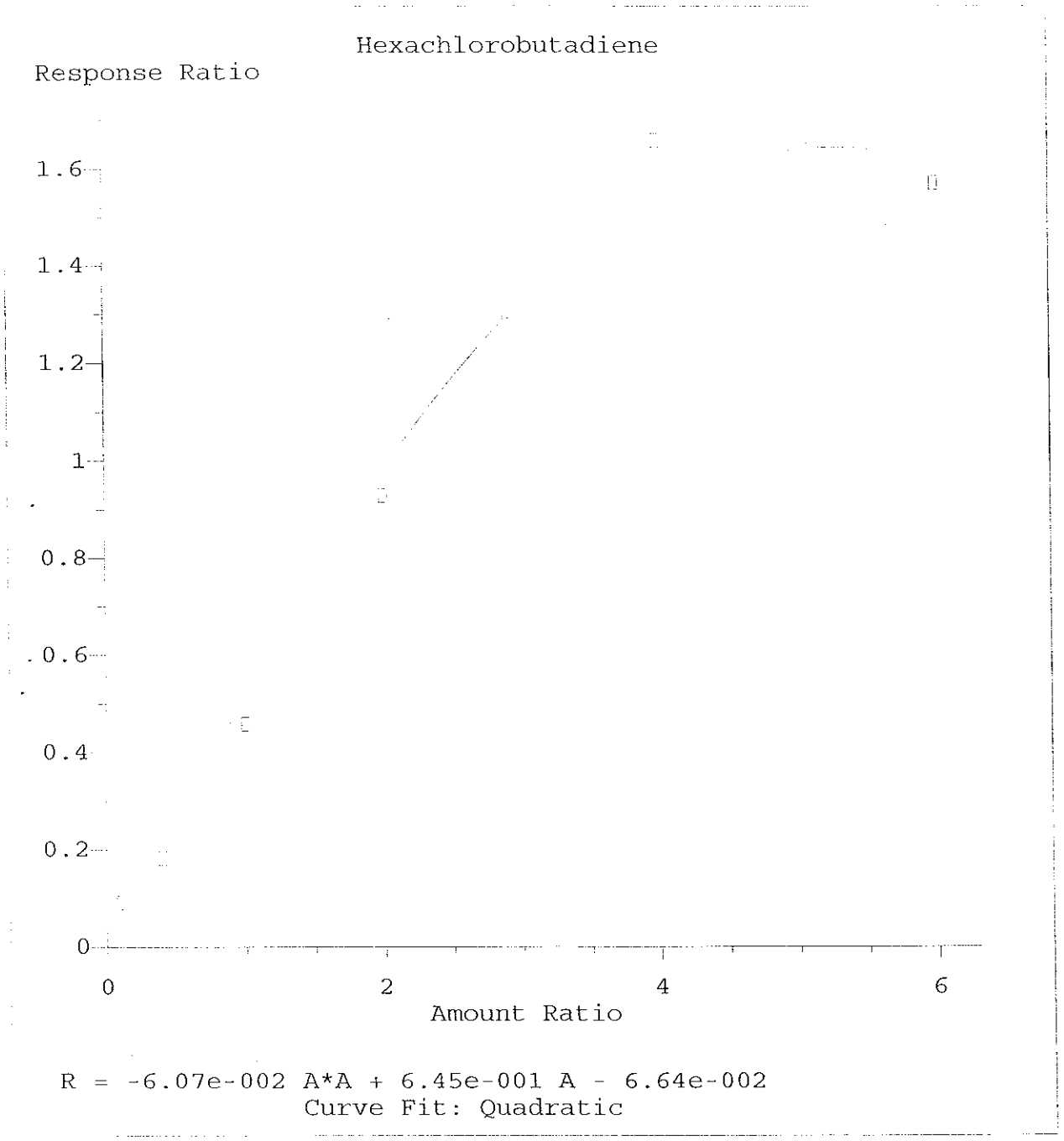
R = -5.87e-002 A*A + 7.76e-001 A - 9.79e-002
Curve Fit: Quadratic

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



R = -7.80e-002 A*A + 1.00e+000 A - 8.79e-002
Curve Fit: Quadratic

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



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

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	68	0.00
2		Dichlorodifluoromethane	0.919	0.774	15.8#	58	0.00
3		Dichlorotetrafluoroethane	1.446	1.333	7.8#	59	0.00
4	P	Chloromethane	0.788	0.676	14.2#	59	0.00
5	C	Vinyl chloride	0.727	0.736	-1.2#	65	0.00
6		Bromomethane	1.180	1.171	0.8	71	0.00
7		Chloroethane	0.530	0.528	0.4	67	0.00
8		Trichlorofluoromethane	1.261	0.698	44.6#	34#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.874	-0.3	68	0.00
10	MC	1,1-Dichloroethene	1.064	1.067	-0.3#	67	0.00
11		Iodomethane	0.000	0.000	0.0	70	0.00
12		Methylene chloride	1.431	1.639	-14.5#	74	0.00
13		Carbon disulfide	2.862	2.969	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	1.551	1.569	-1.2	66	0.00
15		trans-1,2-Dichloroethene	1.194	1.238	-3.7#	70	0.00
16		n-Hexane	1.089	1.096	-0.6	67	0.00
17	P	1,1-Dichloroethane	1.944	2.160	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	1.576	1.760	-11.7#	73	0.00
19	C	Chloroform	2.454	2.844	-15.9#	75	0.00
20		Isooctane	3.653	3.382	7.4#	62	0.00
21		1,1,1-Trichloroethane	2.085	2.425	-16.3#	76	0.00
22		Carbon tetrachloride	2.195	2.535	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.307	-11.1#	70	0.00
24		1,2-Dichloroethane	1.321	1.497	-13.3#	71	0.00
25		1,2-Dibromoethane	2.124	1.929	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	71	0.00
27	M	Benzene	0.733	0.741	-1.1	71	0.00
28	M	Trichloroethene	0.407	0.410	-0.7	70	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	70	0.00
30		Bromodichloromethane	0.755	0.831	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	70	0.00
32	S	Toluene-d8 SURR#2	0.781	0.788	-0.9	70	0.00
33	MC	Toluene	0.463	0.471	-1.7#	70	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	67	0.00
35		1,1,2-Trichloroethane	0.322	0.292	9.3#	62	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	70	0.00
37		Tetrachloroethene	0.488	0.486	0.4	70	0.00
38		Dibromochloromethane	0.722	0.692	4.2#	65	0.00
39	MP	Chlorobenzene	0.891	0.925	-3.8#	71	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.360	-1.1#	69	0.00
41		m,p-Xylene	0.459	0.472	-2.8#	71	0.00
42		o-Xylene	0.439	0.476	-8.4#	74	0.00
43		Styrene	0.771	0.816	-5.8#	73	0.00
44	P	Bromoform	0.713	0.630	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.587	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.938	-5.3#	73	0.00
47		1,4-Dichloro-2-butene	0.130	0.104	20.0#	57	0.00
48		4-Ethyltoluene	1.157	1.291	-11.6#	78	0.00
49		1,3,5-Trimethylbenzene	0.912	1.081	-18.5#	84	0.00
50		2-Chlorotoluene	1.191	1.333	-11.9#	77	0.00
51		1,2,4-Trimethylbenzene	0.961	1.091	-13.5#	76	0.00
52		1,3-Dichlorobenzene	0.782	0.861	-10.1#	73	0.00
53		1,4-Dichlorobenzene	0.825	0.909	-10.2#	72	0.00
54		1,2-Dichlorobenzene	0.758	0.806	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	0.568	0.554	2.5#	69	0.00
56		Napthalene	0.830	0.714	14.0#	68	0.00
57		Hexachlorobutadiene	0.495	0.423	14.5#	65	0.00

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

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	68	0.00
2		Dichlorodifluoromethane	250.000	206.257	17.5#	58	0.00
3		Dichlorotetrafluoroethane	250.000	230.564	7.8#	59	0.00
4	P	Chloromethane	250.000	214.595	14.2#	59	0.00
5	C	Vinyl chloride	250.000	253.103	-1.2#	65	0.00
6		Bromomethane	250.000	248.052	0.8	71	0.00
7		Chloroethane	250.000	249.161	0.3	67	0.00
8		Trichlorofluoromethane	250.000	147.604	41.0#	34	0.00
9		1,1,2-Trichlorotrifluoroeth	250.000	250.794	-0.3	68	0.00
10	MC	1,1-Dichloroethene	250.000	250.900	-0.4#	67	0.00
11		Iodomethane	-1.000	0.000	0.0	70	0.00
12		Methylene chloride	250.000	286.323	-14.5#	74	0.00
13		Carbon disulfide	250.000	259.354	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	250.000	252.922	-1.2	66	0.00
15		trans-1,2-Dichloroethene	250.000	259.176	-3.7#	70	0.00
16		n-Hexane	250.000	251.548	-0.6	67	0.00
17	P	1,1-Dichloroethane	250.000	277.814	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	250.000	279.208	-11.7#	73	0.00
19	C	Chloroform	250.000	289.733	-15.9#	75	0.00
20		Isooctane	250.000	231.502	7.4#	62	0.00
21		1,1,1-Trichloroethane	250.000	290.741	-16.3#	76	0.00
22		Carbon tetrachloride	250.000	288.772	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	277.834	-11.1#	70	0.00
24		1,2-Dichloroethane	250.000	283.273	-13.3#	71	0.00
25		1,2-Dibromoethane	250.000	227.102	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	71	0.00
27	M	Benzene	250.000	252.655	-1.1	71	0.00
28	M	Trichloroethene	250.000	251.703	-0.7	70	0.00
29	C	1,2-Dichloropropane	250.000	256.005	-2.4#	70	0.00
30		Bromodichloromethane	250.000	275.213	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	250.000	255.057	-2.0#	70	0.00
32	S	Toluene-d8 SURR#2	250.000	252.097	-0.8	70	0.00
33	MC	Toluene	250.000	254.415	-1.8#	70	0.00
34		trans-1,3-Dichloropropene	250.000	249.364	0.3	67	0.00
35		1,1,2-Trichloroethane	250.000	226.610	9.4#	62	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	70	0.00
37		Tetrachloroethene	250.000	249.247	0.3	70	0.00
38		Dibromochloromethane	250.000	239.556	4.2#	65	0.00
39	MP	Chlorobenzene	250.000	259.386	-3.8#	71	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator
Title : TO14
Last Update : Mon Mar 25 22:53:16 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	252.821	-1.1#	69	0.00
41		m,p-Xylene	500.000	513.698	-2.7#	71	0.00
42		o-Xylene	250.000	271.426	-8.6#	74	0.00
43		Styrene	250.000	264.750	-5.9#	73	0.00
44	P	Bromoform	250.000	221.122	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	229.370	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	262.979	-5.2#	73	0.00
47		1,4-Dichloro-2-butene	250.000	199.754	20.1#	57	0.00
48		4-Ethyltoluene	250.000	278.840	-11.5#	78	0.00
49		1,3,5-Trimethylbenzene	250.000	296.468	-18.6#	84	0.00
50		2-Chlorotoluene	250.000	279.894	-12.0#	77	0.00
51		1,2,4-Trimethylbenzene	250.000	284.002	-13.6#	76	0.00
52		1,3-Dichlorobenzene	250.000	275.421	-10.2#	73	0.00
53		1,4-Dichlorobenzene	250.000	275.449	-10.2#	72	0.00
54		1,2-Dichlorobenzene	250.000	265.819	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	250.000	220.252	11.9#	69	0.00
56		Napthalene	250.000	207.216	17.1#	68	0.00
57		Hexachlorobutadiene	250.000	199.429	20.2#	65	0.00

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

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.: C203329

Lab File ID (Standard): CM0321A.D Date Analyzed: 3/21/02

Instrument ID: MARILYN Time Analyzed: 9:27

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CLB AREA #	RT #
	12 HOUR STD	545778	11.27	2209181	13.21	1694454	20.52
	UPPER LIMIT	1091556	11.77	4418362	13.71	3388908	21.02
	LOWER LIMIT	272889	10.77	1104591	12.71	847227	20.02
	EPA SAMPLE NO.						
01	VBLKMA	583971	11.27	2373088	13.21	1777219	20.54
02	LCS AND 2ND	513167	11.29	2001743	13.23	1546733	20.54
03	SVEEA	303971	11.26	1167166	13.21	906197	20.51

IS1 BCM = Bromochloromethane IS#

IS2 DFB = 1,4-Difluorobenzene IS#2

IS3 CLB = Chlorobenzene-d5 IS#3

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

STL Pensacola / GCMS Volatiles Run Log

ate 1-25-02 | Instrument ID : MARILYN | Method : TO14 / 8260AIR / 8260WATER / 624MOD

tch MABO10 1 2 3 | Batch _____ 1 2 3 | Batch _____ 1 2 3 | Maint.

i# 8 -MSW- 26 - 3 | TO14 8 -MSW- 32 - 1 | AIR-SPK 8 -MSW- 30 - 2 | Sequence cont. on page

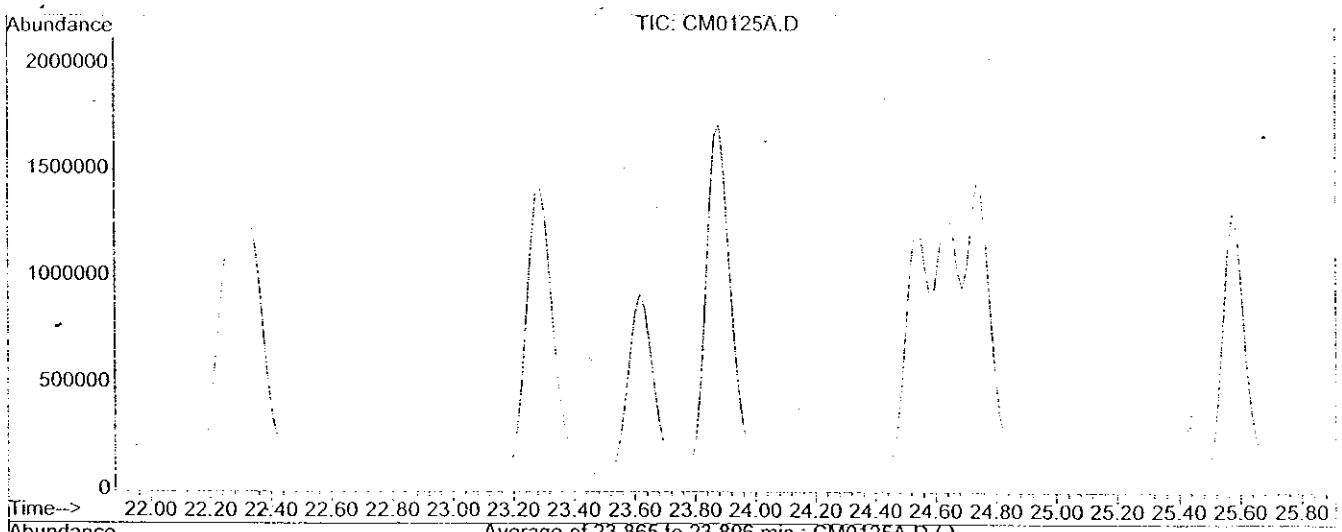
B 8 -MSW- 26 - 3 | 8260 -MSW- - | W-SPK -MSW- -

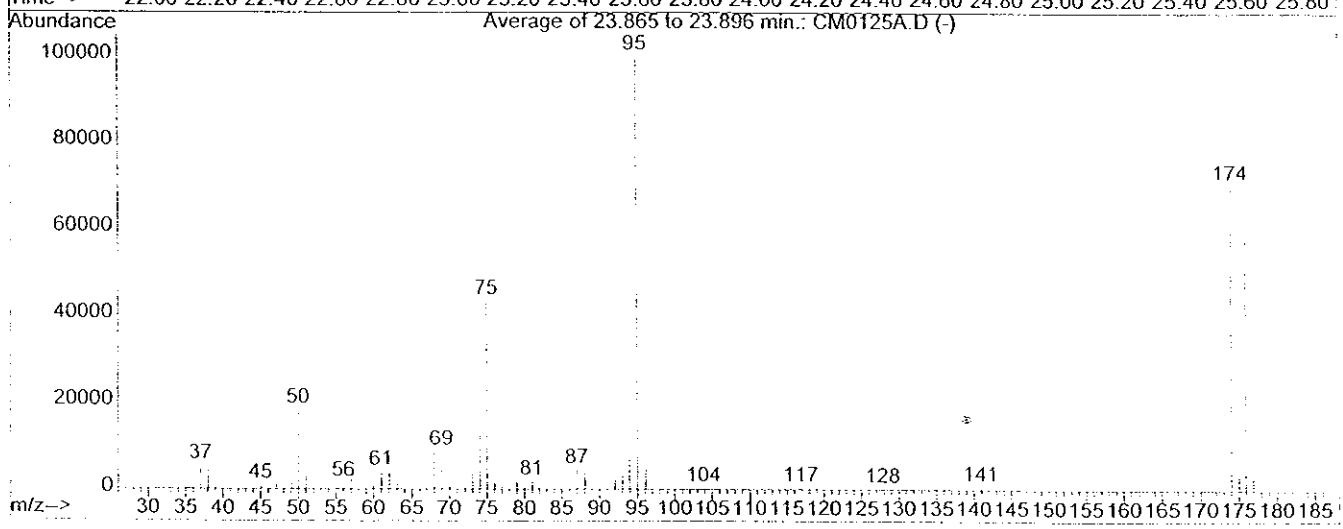
TIME	POS #	METH/ BATCH	FILE NAME/. SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
1:34	14		CM0125A	50ppb		Y N			[illegible]	Daily Cal Check/bfb tune/95 ion area =
:			M BK	ST		Y N				Daily Method Blank
:			M LCS	50ppb		Y N				Batch# LCS
3:18	14		0025M125			Y N		X	[illegible]	bad 5ul syringe reshoot
3:56	15		0100M125			Y N		X		
1:33	16		0250M125			Y N		✓		used a 25ul syring also tune
5:09	14		0500M125			Y N				
5:46	15		1000M125			Y N		✓		
6:24	16		1500M125			Y N		✓		
7:43	14		0025R125			Y N		✓		used a 10ul syring
8:20	15		0100R125			Y N		✓		
9:22	15		MA010ABK			Y N		✓		
1:59	16		MA010LCS			Y N		✓		LCS + 2nd
0:36	16		01299-1X	X100		Y N		✓		P./PF = 2 X50 Non St
:10	2		01493-2			Y N		✓		
:14	2		01299-1			Y N		✓		high Iso octane
2:20	2		01493-1			Y N		✓		
2:56	2	out 8/11/06	01493-1R			Y N		✓		rerun 5T ~~out of 12 hrs~~ 8/11/06
3:31	9		01546-2	X10		Y N		✓		re-run 5T - OK
0:17 :44	10 11		-4 -1	X10 X10		Y N		✓		
.21 .58	12 13		-3 -1 X	X10 X50		Y N		✓ ✓		Triple C.C. re-run Mid/1 X10 worked re-run X50 / out of time time
.35 - 1.2 -	out 14 out 15		-3 X -2 X	X50 X50		Y N				
3:49	out 16		-4 X	X50		Y N				re-run Mid - X50 worked

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

Data File : D:\HPCHEM\1\DATA02\M0125A\CM0125A.D Vial: 14
Acq On : 25 Jan 2002 11:34 Operator: LAD
Sample : VSTD050\DAILY CALIB. CHECK 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14

1-25-02





Spectrum Information: Average of 23.865 to 23.896 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	18228	PASS
75	95	30	60	43.3	43331	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	[illegible]	[illegible]	[illegible]
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.4	70371	PASS
175	174	5	9	6.9	4852	PASS
176	174	95	101	97.1	68345	PASS
177	176	5	9	6.6	4513	PASS

CM0125A.D TO14S.M Fri Jan 25 13:15:39 2002

Response Factor Report MARILYN

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

1-25-02

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

		Compound	25	250	1500	1000	100	500	Avg	%RSD
1)	I	Bromochloromethane IS	----------	----------	----------	ISTD	----------	----------		
2)		Dichlorodifluoromet	1.171	0.911	0.803	0.993	0.763	0.871	-----	
							L	M= 0.845	R^2=0.981	
								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	[illegible]	[illegible]
34)		trans-1,3-Dichlorop	0.391	0.424	0.415	0.406	0.366	0.407	0.402	5.08
35)		1,1,2-Trichloroetha	0.330	0.334	0.325	0.325	0.303	0.316	0.322	3.40
36)	I	Chlorobenzene-d5 IS#3	----------	----------	----------	ISTD	----------	----------		
37)		Tetrachloroethene	0.504	0.489	0.509	0.496	0.441	0.486	0.488	5.07

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

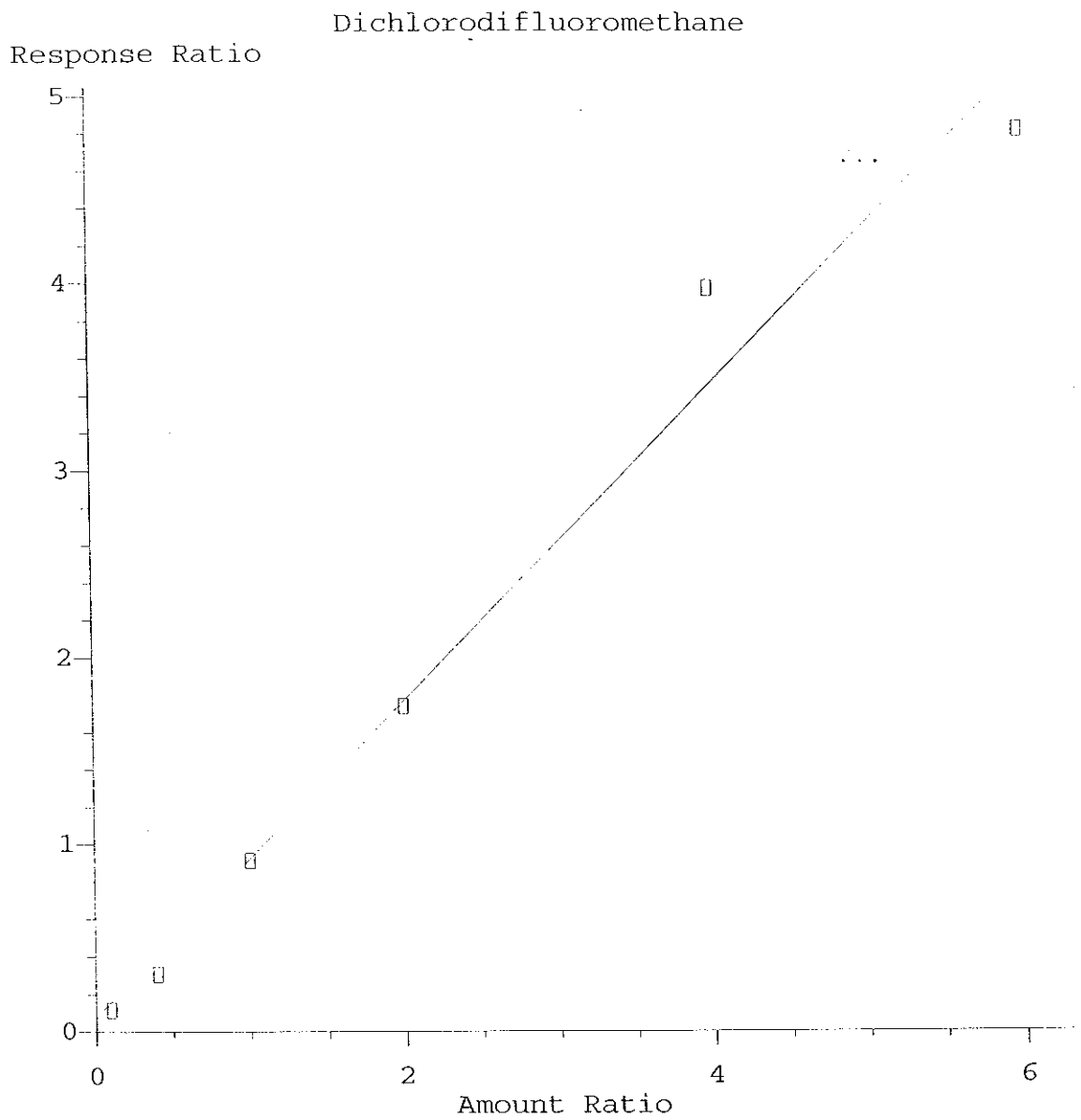
Response Factor Report MARILYN

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

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

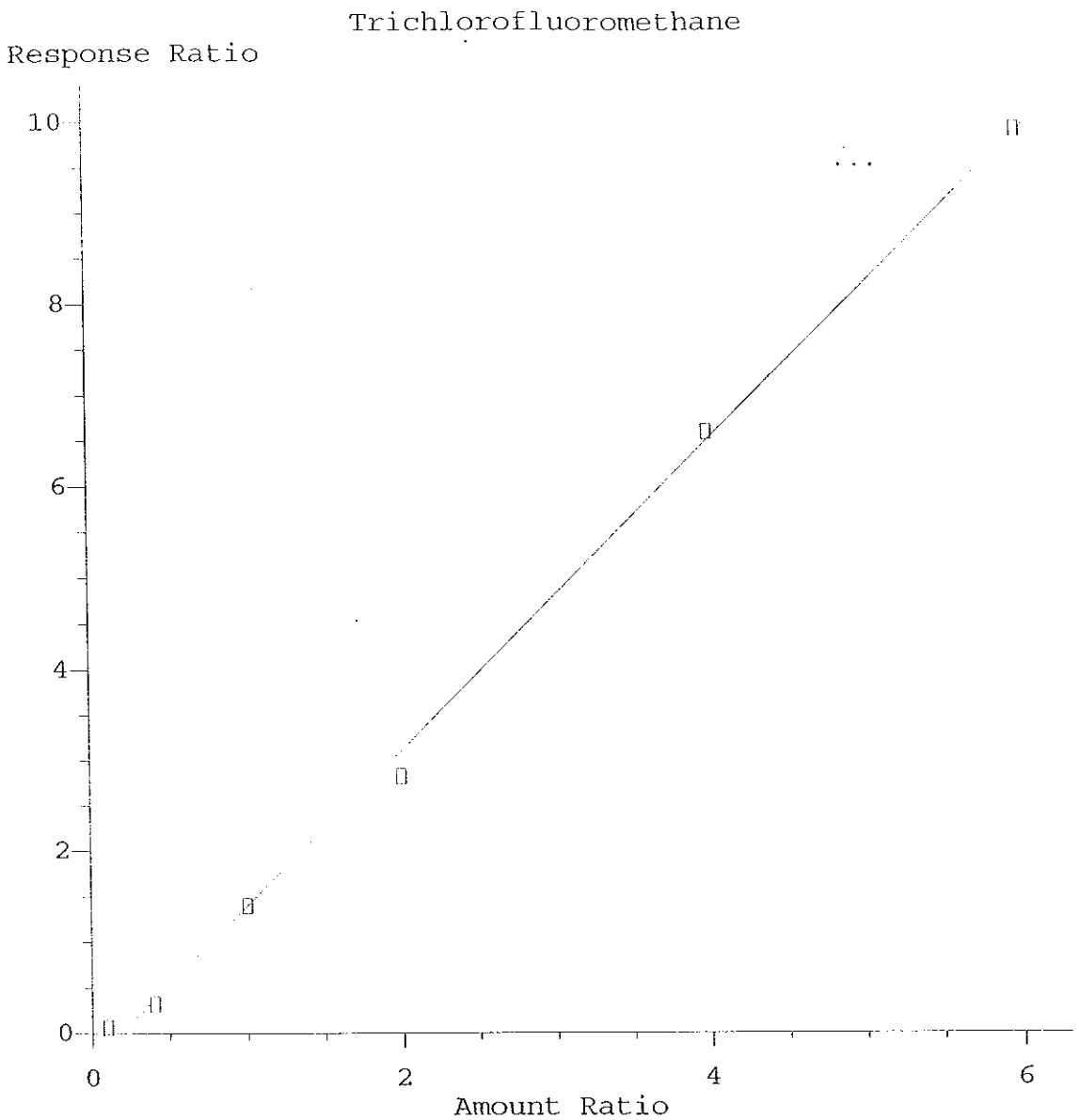
		Compound	25	250	1500	1000	100	500	Avg	%RSD
38)		Dibromochloromethan	0.722	0.748	0.736	0.737	0.671	0.717	0.722	3.75
39)	MP	Chlorobenzene	0.894	0.916	0.927	0.905	0.811	0.894	0.891	4.62
40)	C	Ethylbenzene	0.361	0.367	0.376	0.360	0.316	0.358	0.356	5.83#
41)		m,p-Xylene	0.466	0.470	0.475	0.464	0.413	0.466	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 ###



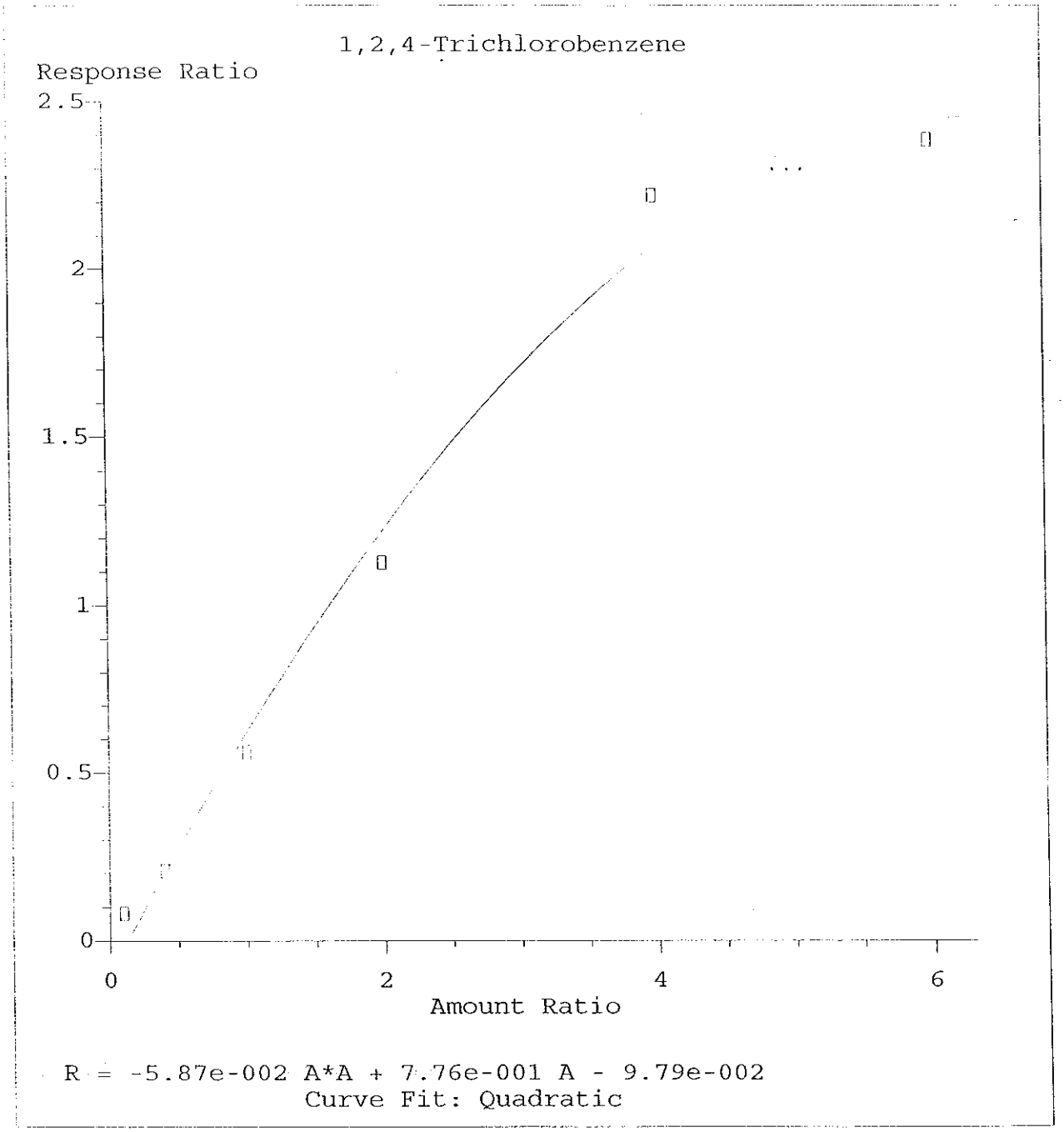
Resp Ratio = 8.45e-001 * Amt + 7.49e-002
Coef of Det (r^2) = 0.981 Curve Fit: Linear

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

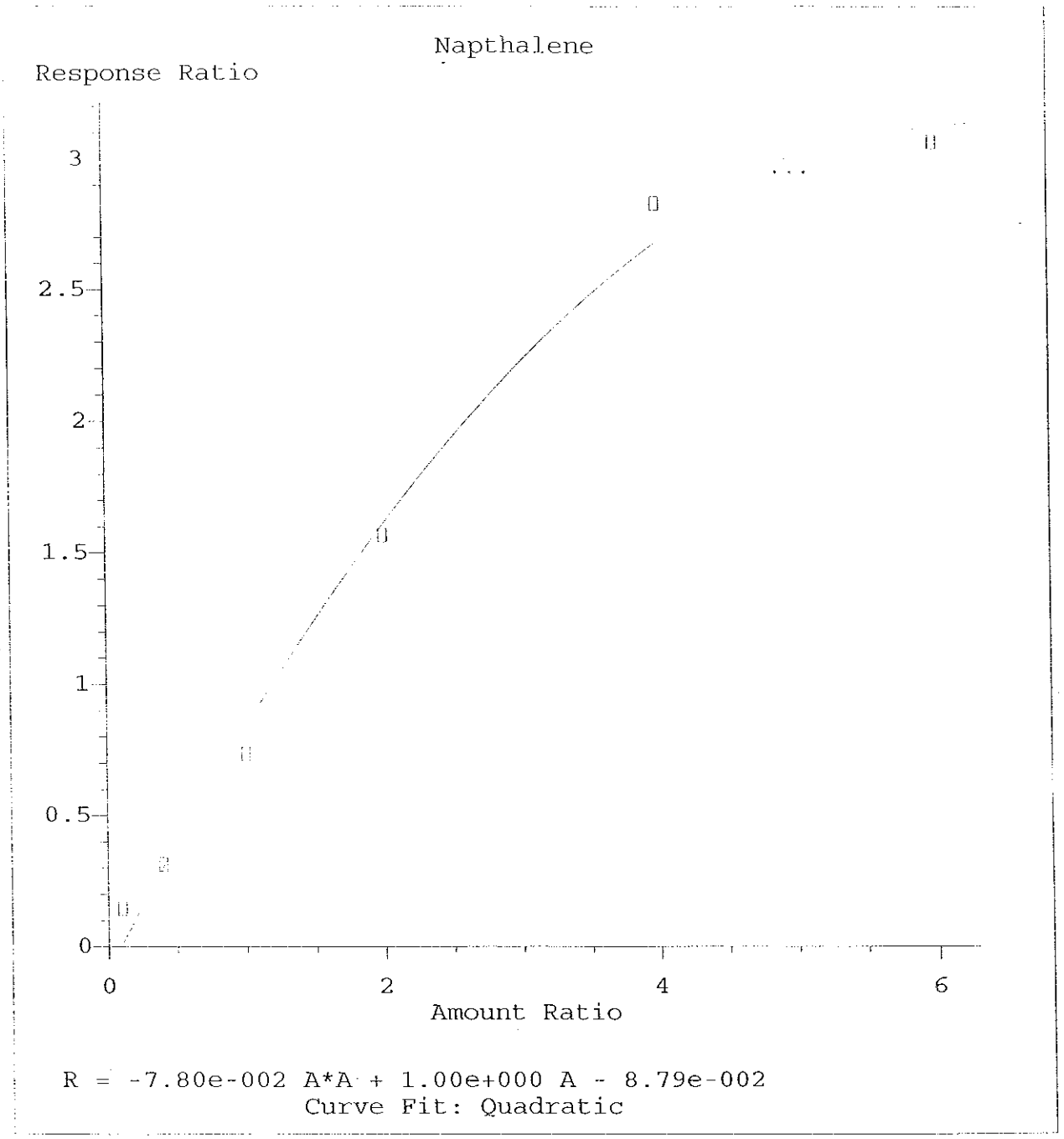


Resp Ratio = 1.70e+000 * Amt - 3.07e-001
Coef of Det (r^2) = 0.998 Curve Fit: Linear

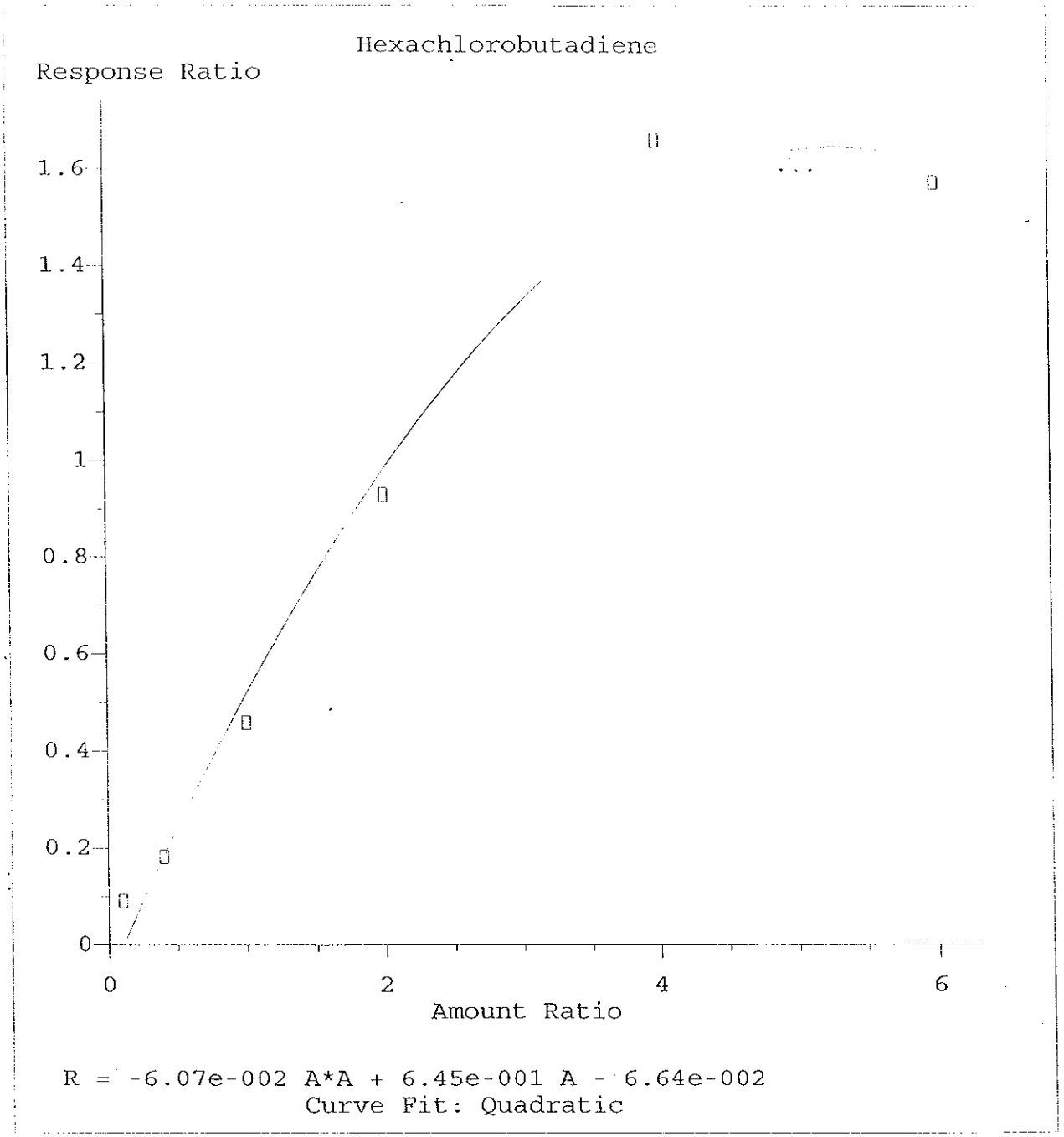
Method Name: D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M
Calibration Table Last Updated: Mon Mar 25 23:08:46 2002



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



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



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

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

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.46	128	747774	250.00 ng	-0.06 93.03%
26) 1,4-Difluorobenzene IS#2	13.38	114	2839136	250.00 ng	-0.06 90.92%
36) Chlorobenzene-d5 IS#3	20.70	117	2140219	250.00 ng	-0.04 88.92%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	839516	224.01 ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 89.60%					
32) Toluene-d8 SURR#2	16.94	98	2194982	243.96 ng	-0.04
Spiked Amount 250.000 Range 90 - 109 Recovery = 97.58%					
46) 4-Bromofluorobenzene SURR#	23.83	95	1889505	244.64 ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 97.86%					

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.98	85	87565m	50.29 ng	#	99
3) Dichlorotetrafluoroethane	4.12	135	117576	42.69 ng	#	41
4) Chloromethane	4.38	50	68340	40.81 ng	#	90
5) Vinyl chloride	4.60	62	58732	39.26 ng	#	93
6) Bromomethane	5.42	94	107237	42.12 ng	#	82
7) Chloroethane	5.54	64	38862	38.05 ng	#	88
8) Trichlorofluoromethane	6.03	101	48812	24.78 ng		98
9) 1,1,2-Trichlorotrifluoroet	6.85	151	150156	43.60 ng		85
10) 1,1-Dichloroethene	7.24	96	80528	39.43 ng		87
12) Methylene chloride	8.14	49	111866	38.49 ng	#	97
13) Carbon disulfide	8.29	76	232386	41.32 ng		95
14) methyl-Tert-Butyl Ether	8.42	73	125612	39.97 ng	#	82
15) trans-1,2-Dichloroethene	8.70	96	90657	39.76 ng		91
16) n-Hexane	8.79	57	87122	43.45 ng	#	1
17) 1,1-Dichloroethane	9.55	63	145914	38.78 ng		98
18) cis-1,2-Dichloroethene	10.76	61	118471	39.39 ng		94
19) Chloroform	11.09	83	182078	38.02 ng		97
20) Isooctane	12.03	57	3017[illegible]	4[illegible]		
21) 1,1,1-Trichloroethane	11.96	97	161091	39.97 ng		91
22) Carbon tetrachloride	12.53	117	162611	38.85 ng		96
24) 1,2-Dichloroethane	12.79	62	97516	35.97 ng		97
25) 1,2-Dibromoethane	19.73	107	158611	39.63 ng		99
27) Benzene	12.86	78	224998	42.43 ng		98

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

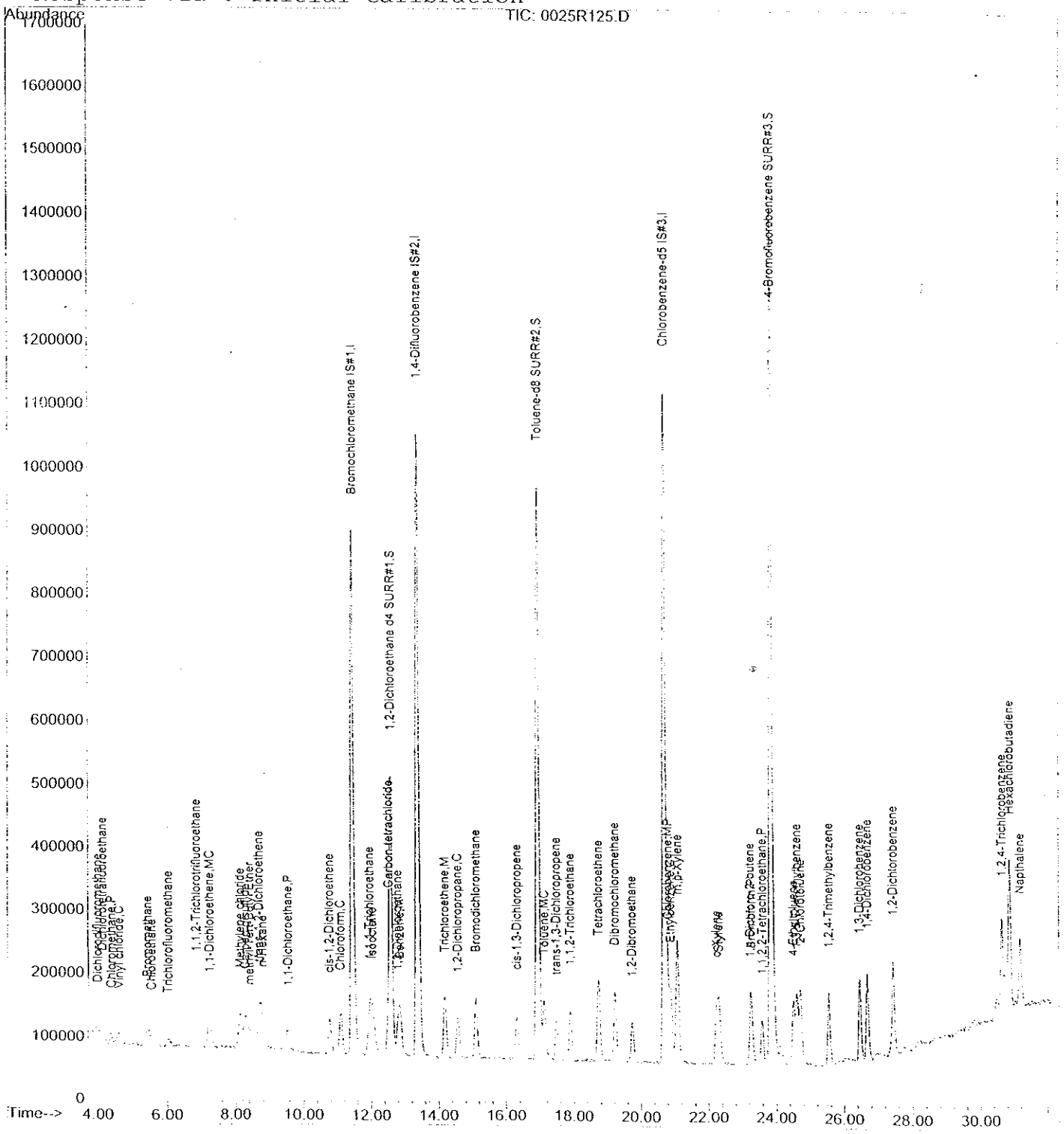
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

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

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

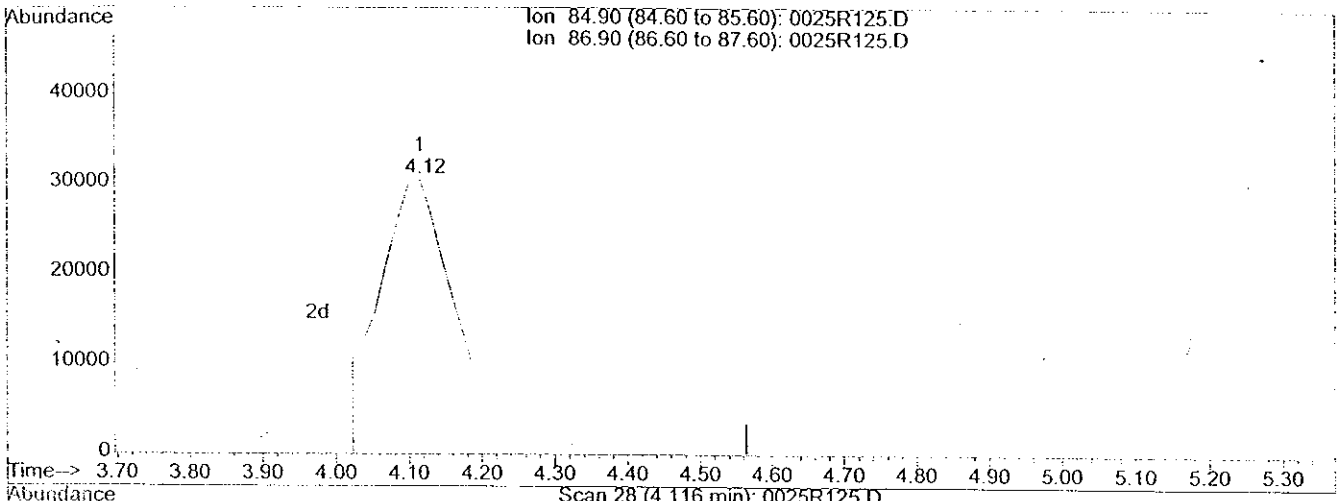


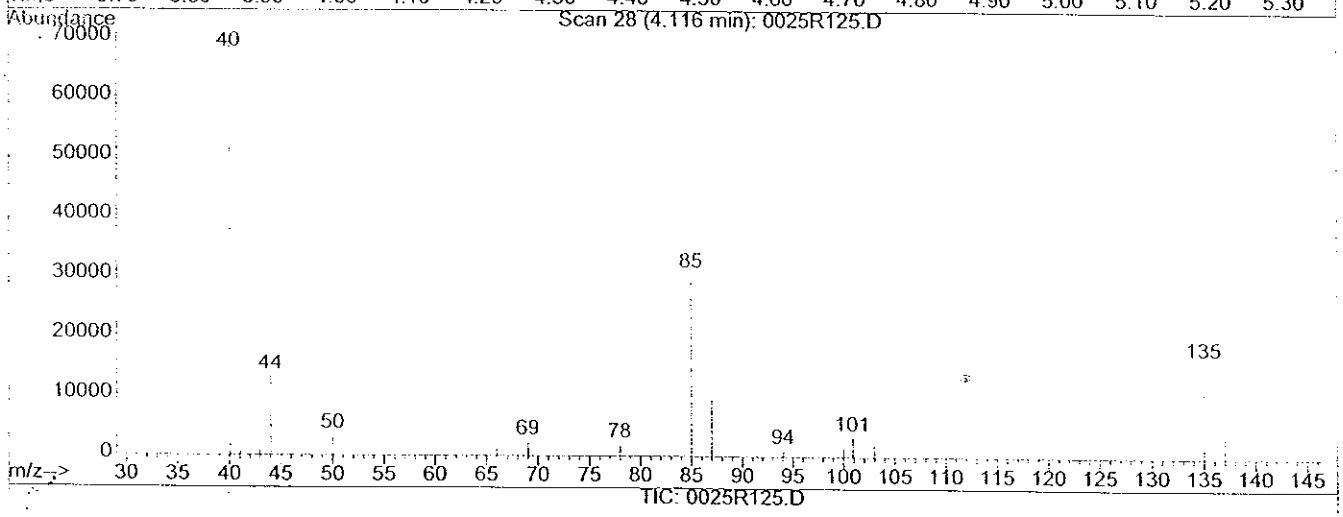
0025R125.D TO14S.M Fri Jan 25 18:22:19 2002

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

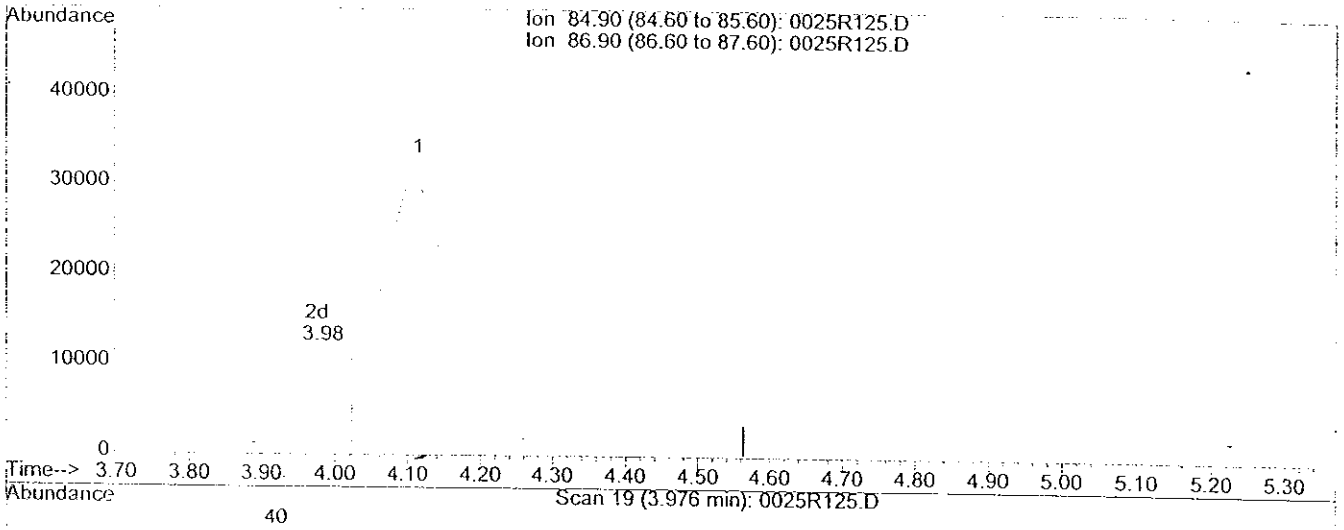
0025R125.D TO14S.M Fri Jan 25 18:18:00 2002

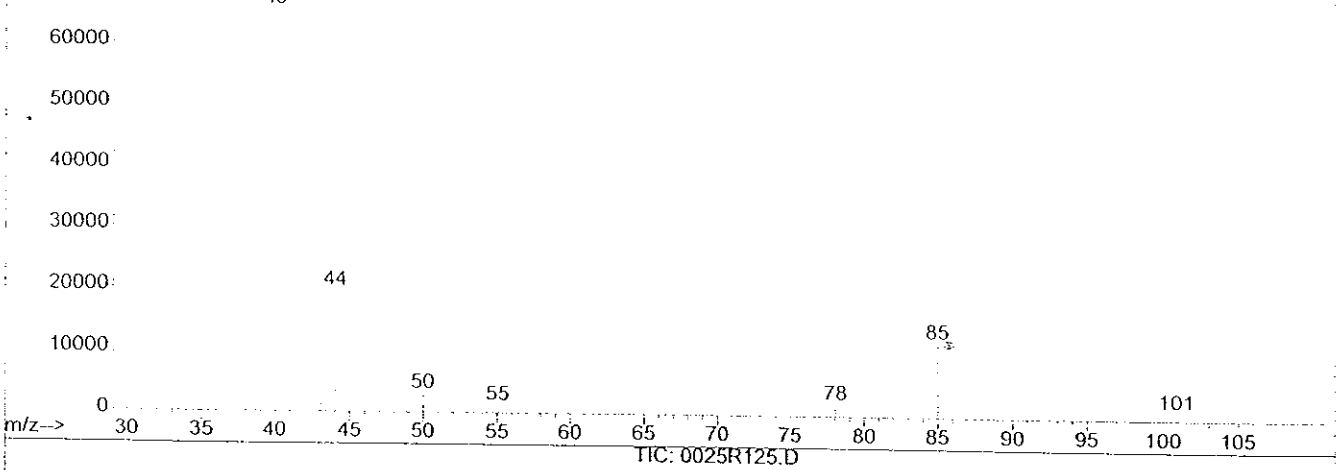
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

3.98min 50.29ng m

response 87565

Ion	Exp%	Act%
84.90	100	100
86.90	33.50	87.72#
0.00	0.00	0.00
0.00	0.00	0.00

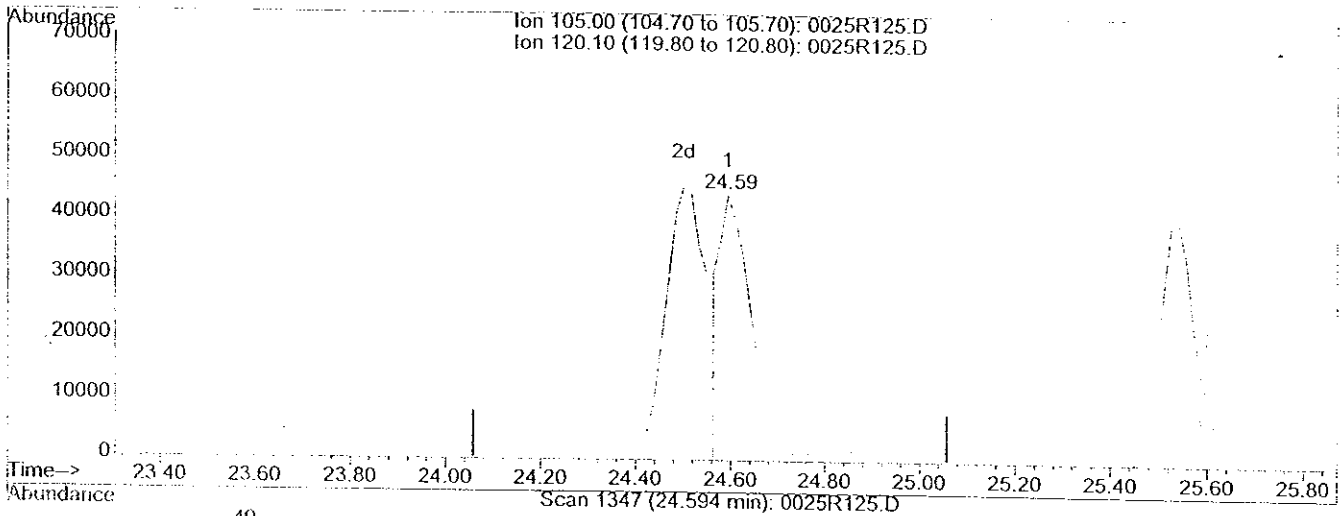
0025R125.D TO14S.M Fri Jan 25 18:18:06 2002

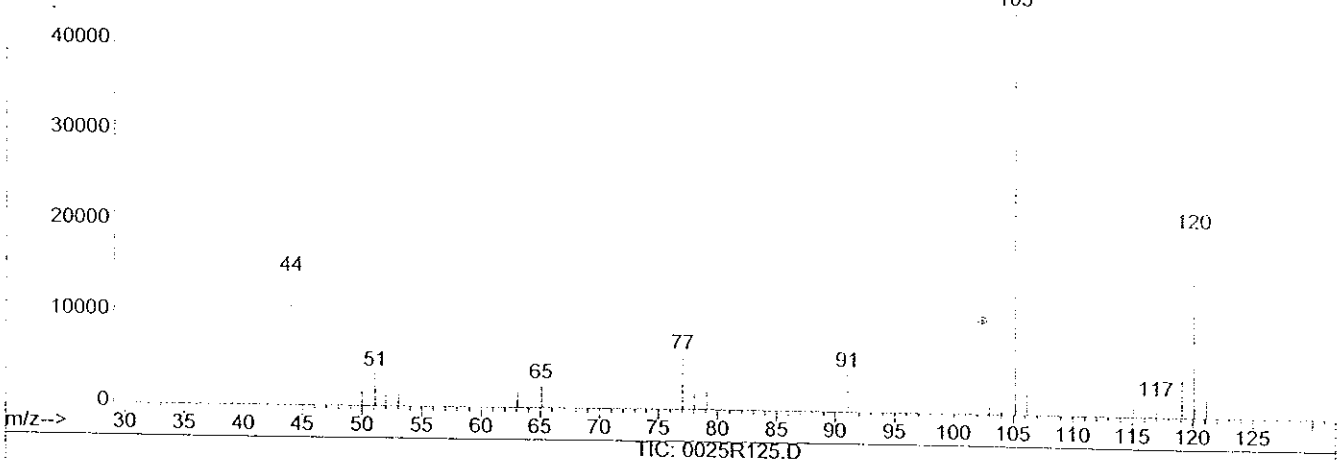
Data File : D:\HPCHEM\1\DATA02\M0125A\0025R125.D
Acq On : 25 Jan 2002 17:43
Sample : VSTD0025 25ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:18 2002

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

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.59min 34.11ng

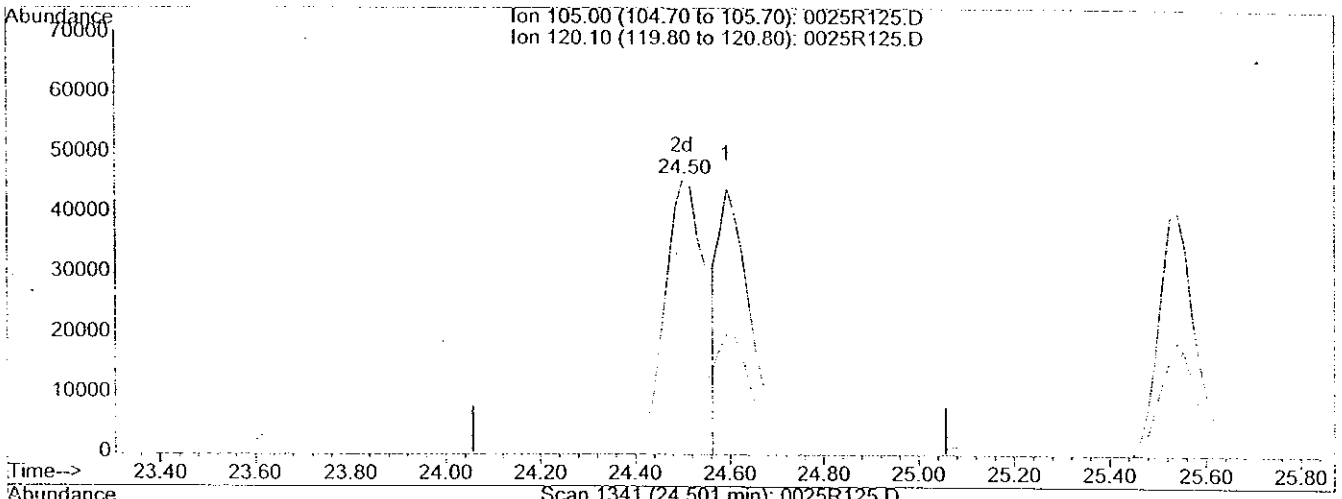
response 208705

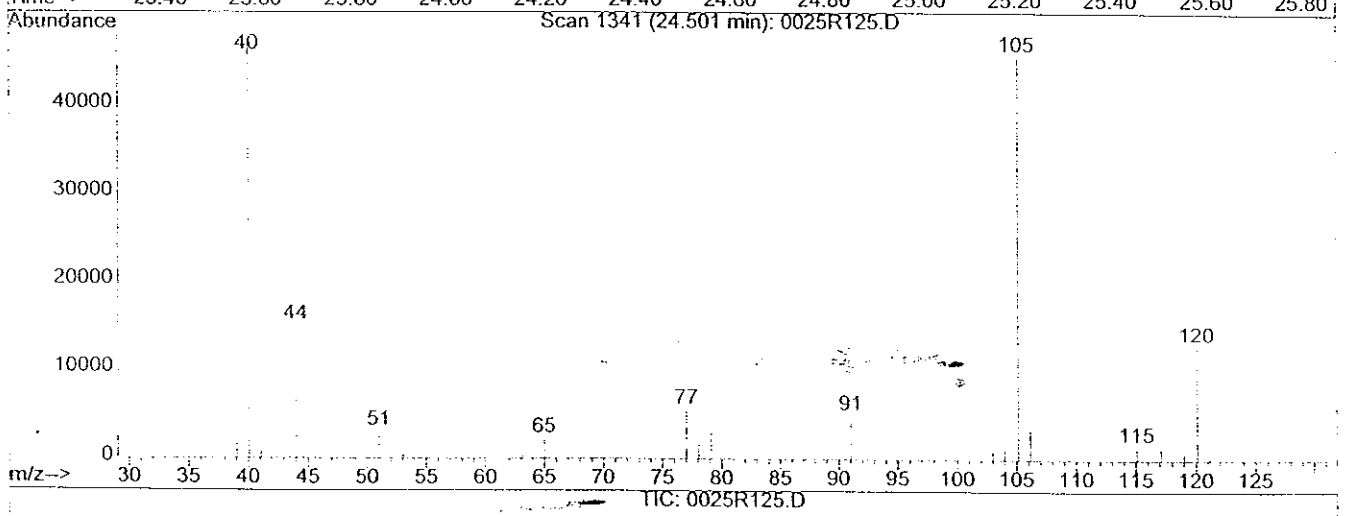
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

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

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

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Multiple Level Calibration





(48) 4-Ethyltoluene

24.50min 45.26ng m

response 276959

Ion	Exp%	Act%
105.00	100	100
120.10	28.80	45.10#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
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%
36) Chlorobenzene-d5 IS#3	20.69	117	2304683	250.00	ng	-0.05 95.76%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.59	65	981409	243.86	ng	-0.06
Spiked Amount 250.000 Range 61 - 140 Recovery = 97.54%						
32) Toluene-d8 SURR#2	16.94	98	2344964	245.11	ng	-0.05
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.04%						
46) 4-Bromofluorobenzene SURR#	23.83	95	2074110	249.38	ng	-0.06
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.75%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.97	85	245011m	131.03	ng	# 99
3) Dichlorotetrafluoroethane	4.14	135	400908	135.54	ng	# 40
4) Chloromethane	4.41	50	230623	128.25	ng	# 95
5) Vinyl chloride	4.62	62	197828	123.13	ng	99
6) Bromomethane	5.46	94	343058	125.48	ng	# 95
7) Chloroethane	5.56	64	147945	134.89	ng	99
8) Trichlorofluoromethane	6.08	101	258267	122.07	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.86	151	523477	141.53	ng	87
10) 1,1-Dichloroethene	7.25	96	312183	142.33	ng	83
12) Methylene chloride	8.15	49	406623	130.28	ng	97
13) Carbon disulfide	8.32	76	785720	130.09	ng	97
14) methyl-Tert-Butyl Ether	8.43	73	466605	138.26	ng	97
15) trans-1,2-Dichloroethene	8.72	96	348271	142.25	ng	87
16) n-Hexane	8.82	57	320526	148.87	ng	# 1
17) 1,1-Dichloroethane	9.55	63	548504	135.74	ng	100
18) cis-1,2-Dichloroethene	10.77	61	437274	135.39	ng	91
19) Chloroform	11.10	83	704271	136.93	ng	98
20) Isooctane	12.05	57	1160036	162.95	ng	98
21) 1,1,1-Trichloroethane	11.97	97	594499	137.36	ng	91
22) Carbon tetrachloride	12.53	117	617093	137.29	ng	98
24) 1,2-Dichloroethane	12.79	62	386406	132.71	ng	98
25) 1,2-Dibromoethane	19.75	107	625053	145.43	ng	99
27) Benzene	12.87	78	806884	143.11	ng	100

(#) = qualifier out of range (m) = manual integration
0100R125.D TO14S.M Fri Jan 25 18:55:11 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D
Acq On : 25 Jan 2002 18:20
Sample : VSTD0100 100ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 18:54 2002

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

Quant Results File: TO14S.RES

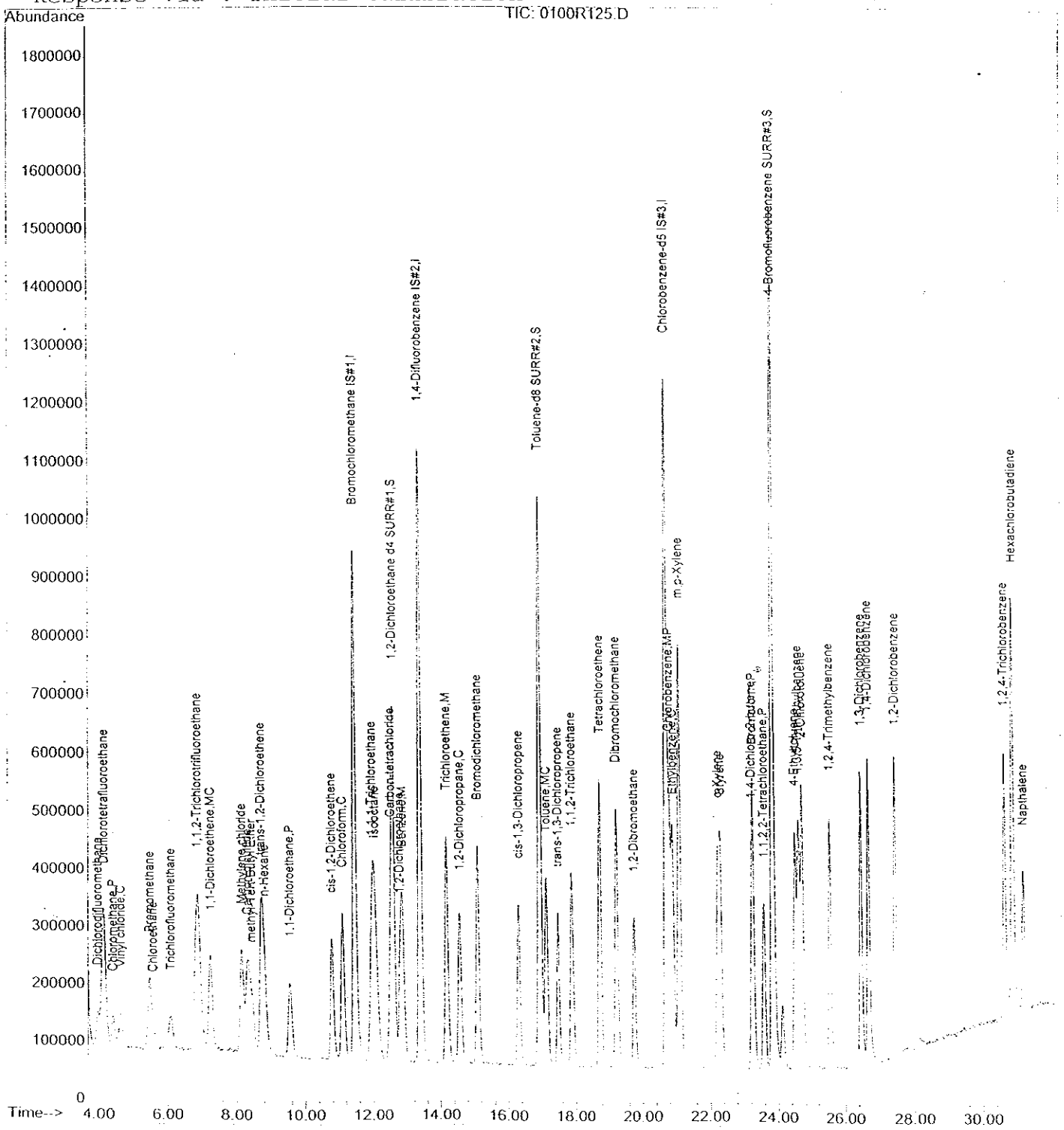
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
28)	Trichloroethene	14.19	130	448788	144.70	ng		96
29)	1,2-Dichloropropane	14.58	63	339754	143.88	ng		98
30)	Bromodichloromethane	15.10	83	843245	140.20	ng		99
31)	cis-1,3-Dichloropropene	16.32	75	506869	139.46	ng		96
33)	Toluene	17.12	92	496011	140.63	ng		98
34)	trans-1,3-Dichloropropene	17.48	75	442246	141.62	ng		92
35)	1,1,2-Trichloroethane	17.88	97	365999	146.13	ng		97
37)	Tetrachloroethene	18.74	164	406137	149.07	ng		96
38)	Dibromochloromethane	19.22	127	618919	147.64	ng		99
39)	Chlorobenzene	20.79	112	747778	145.37	ng		96
40)	Ethylbenzene	20.90	106	291472	148.99	ng		100
41)	m,p-Xylene	21.08	106	760694	294.22	ng		98
42)	o-Xylene	22.23	106	361372	148.70	ng		98
43)	Styrene	22.31	104	629732	147.78	ng		99
44)	Bromoform	23.26	173	626335	153.87	ng		100
45)	1,1,2,2-Tetrachloroethane	23.58	83	559673	155.26	ng		99
47)	1,4-Dichloro-2-butene	23.22	75	109322	164.68	ng		95
48)	4-Ethyltoluene	24.50	105	911893	138.39	ng		99
49)	1,3,5-Trimethylbenzene	24.59	105	792143	157.59	ng		92
50)	2-Chlorotoluene	24.70	91	997139	146.56	ng		97
51)	1,2,4-Trimethylbenzene	25.54	105	816144	147.47	ng		100
52)	1,3-Dichlorobenzene	26.47	146	667300	143.04	ng		95
53)	1,4-Dichlorobenzene	26.67	146	717087m	140.66	ng	#	96
54)	1,2-Dichlorobenzene	27.45	146	654043	147.73	ng		96
55)	1,2,4-Trichlorobenzene	30.63	180	479573	140.05	ng		99
56)	Napthalene	31.19	128	724021	145.13	ng	#	92
57)	Hexachlorobutadiene	30.88	225	420106	156.13	ng		98

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

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

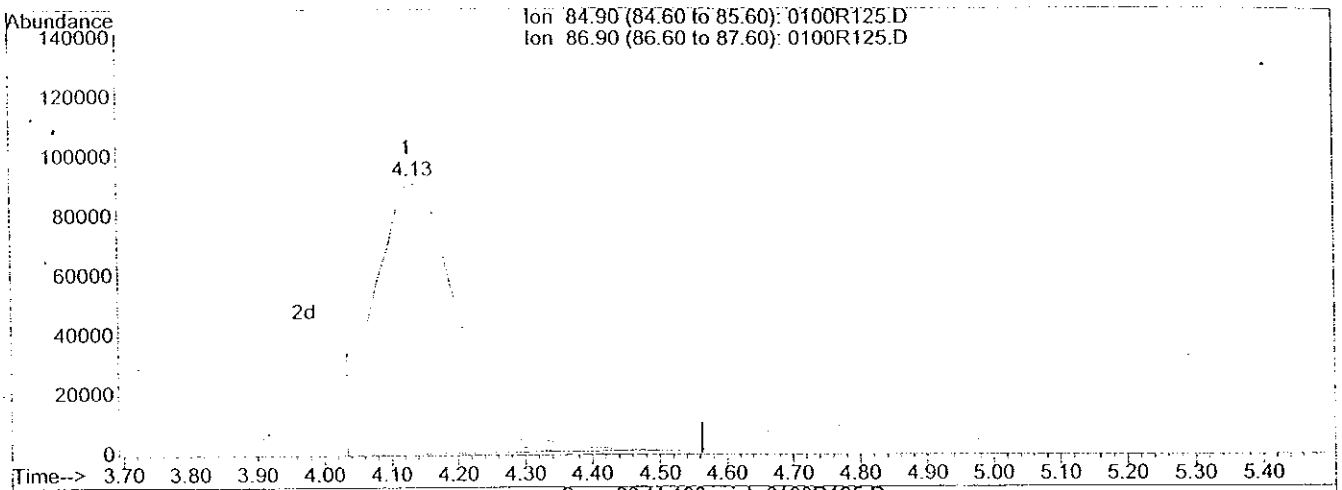
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 18:18:44 2002
Response via : Initial Calibration

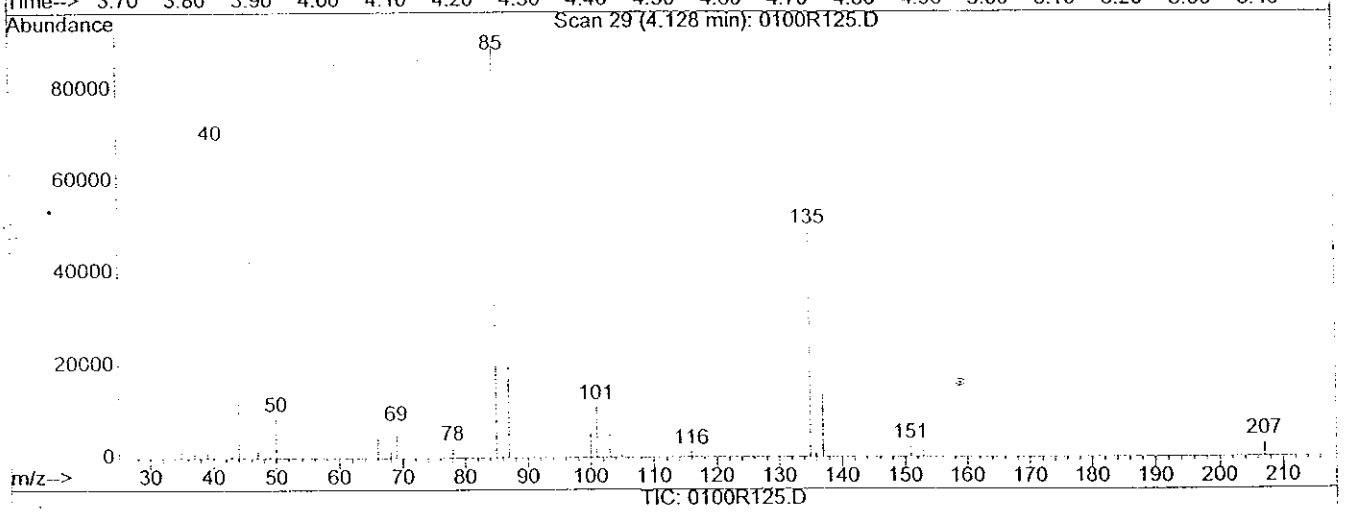


0100R125.D TO14S.M Fri Jan 25 18:55:14 2002 Page 3

Data File : D:\HPCHEM\1\DATA02\M0125A\0100R125.D Vial: 15
Acq On : 25 Jan 2002 18:20 Operator: LAD
Sample : VSTD0100 100ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 18:53 2002 Quant Results File: temp.res

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





(2) Dichlorodifluoromethane

4.13min 430.39ng

response 804757

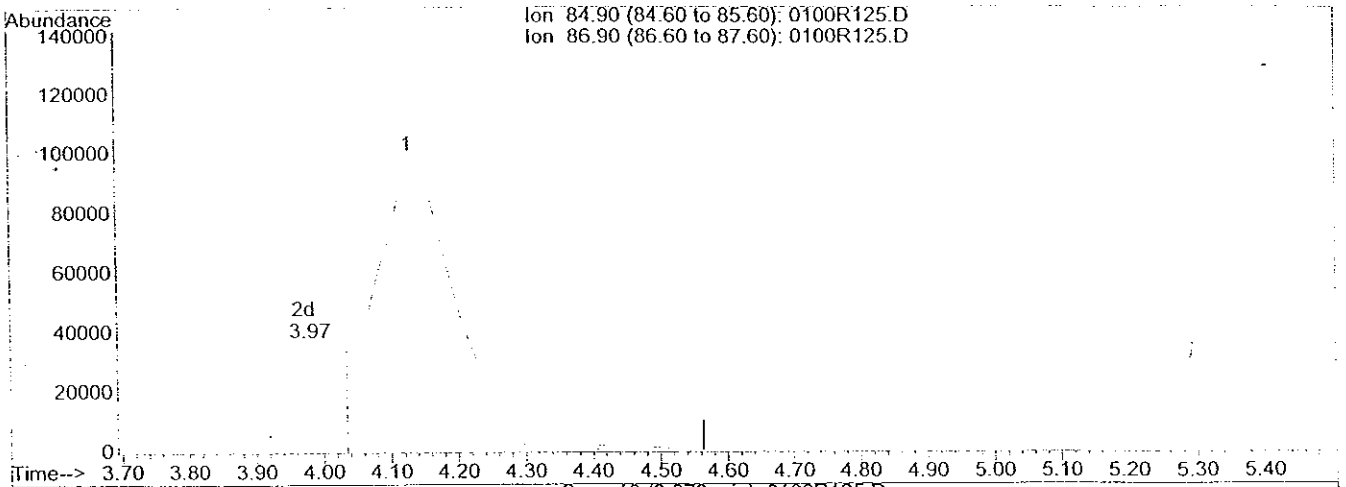
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

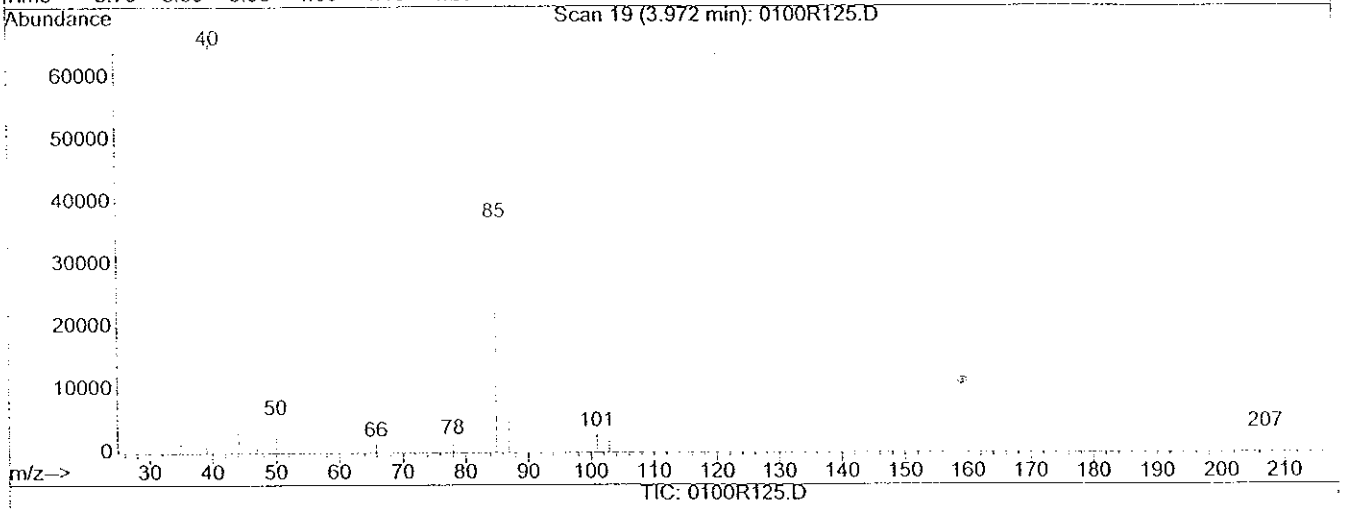
coelution
wrong peak

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

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

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





(2) Dichlorodifluoromethane

3.97min 131.03ng m

response 245011

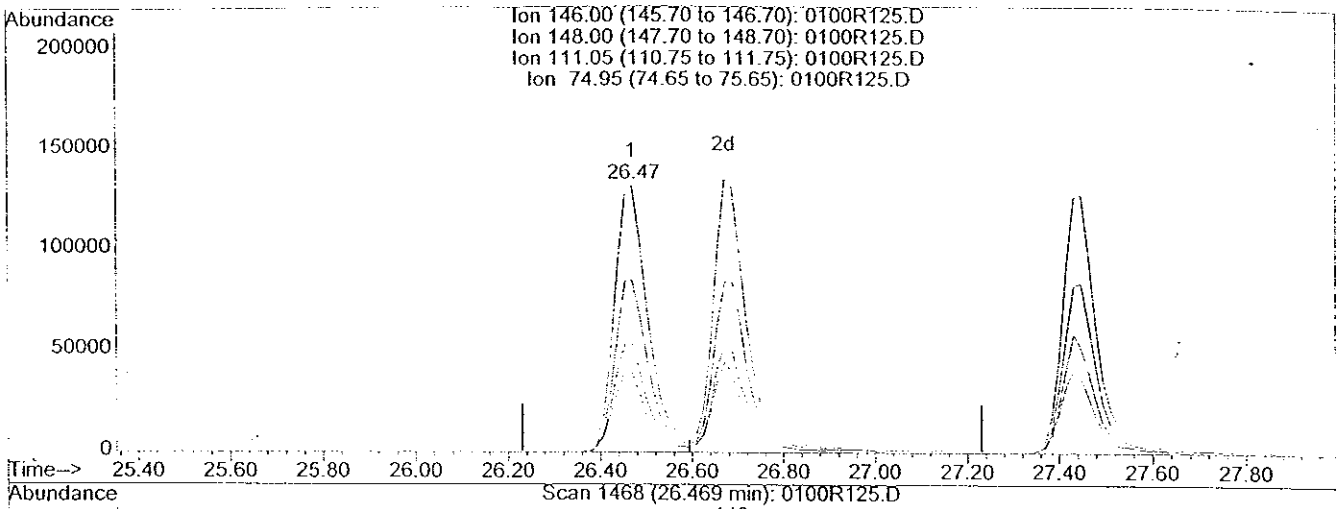
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	108.08#
0.00	0.00	0.00
0.00	0.00	0.00

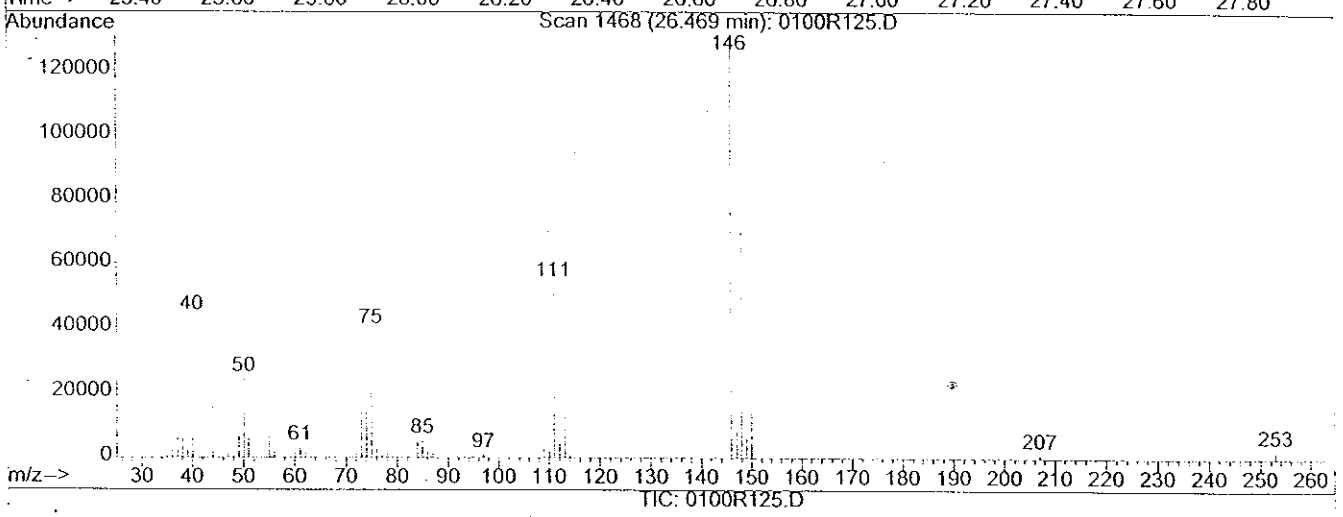
1-25-02

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

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

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





(53) 1,4-Dichlorobenzene

26.47min 130.89ng

response 667300

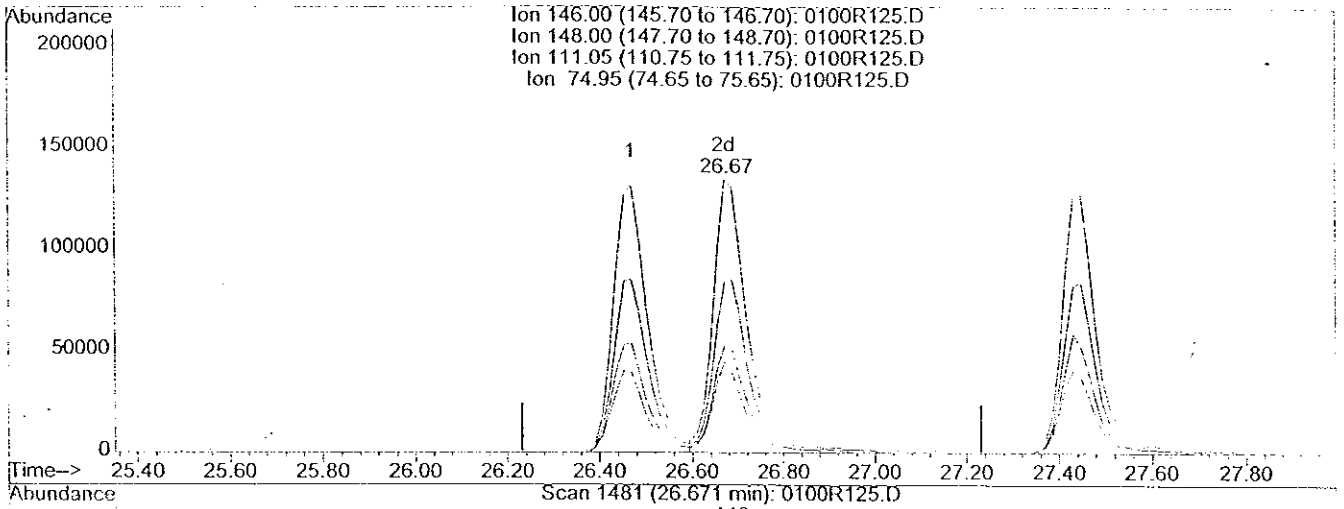
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	64.88
111.05	43.10	40.51
74.95	36.90	30.65

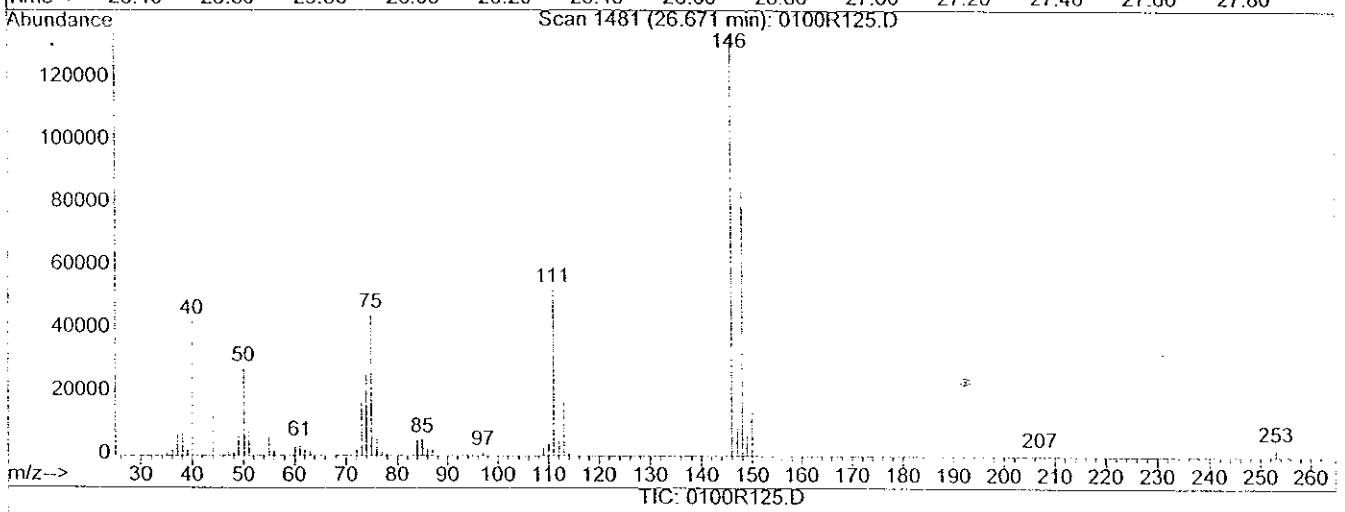
wrong peak

0100R125.D TO14S.M Fri Jan 25 18:54:53 2002

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

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





(53) 1,4-Dichlorobenzene

26.67min 140.66ng m

response 717087

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.37
111.05	43.10	37.70
74.95	36.90	28.52#

1-25-02

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)

JM 1-25-02

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	803830	250.00 ng	0.04
26) 1,4-Difluorobenzene IS#2	13.44	114	3122797	250.00 ng	99.81% 0.04
36) Chlorobenzene-d5 IS#3	20.74	117	2406788	250.00 ng	100.02% 0.02
					99.67%
System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.65	65	1013446	295.71 ng	0.04
Spiked Amount 250.000 Range 61 - 140 Recovery = 118.28%					
32) Toluene-d8 SURR#2	16.98	98	2472422	255.73 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.29%					
46) 4-Bromofluorobenzene SURR#	23.89	95	2173559	255.63 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 102.25%					
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.06	85	732577m	187.97 ng	# 98
3) Dichlorotetrafluoroethane	4.17	135	1229107	209.25 ng	# 26
4) Chloromethane	4.44	50	621320	222.28 ng	99
5) Vinyl chloride	4.65	62	614874	229.48 ng	97
6) Bromomethane	5.49	94	897640	198.84 ng	98
7) Chloroethane	5.60	64	431748	238.96 ng	98
8) Trichlorofluoromethane	6.13	101	1119931	239.23 ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	1509488	226.47 ng	87
10) 1,1-Dichloroethene	7.29	96	864615	239.44 ng	92
12) Methylene chloride	8.18	49	1205948	258.58 ng	96
13) Carbon disulfide	8.36	76	2260074	232.41 ng	100
14) methyl-Tert-Butyl Ether	8.47	73	1306241	303.18 ng	97
15) trans-1,2-Dichloroethene	8.77	96	960703	248.60 ng	95
16) n-Hexane	8.86	57	892820	241.08 ng	# 1
17) 1,1-Dichloroethane	9.61	63	1594978	250.39 ng	98
18) cis-1,2-Dichloroethene	10.83	61	1314513	258.57 ng	96
19) Chloroform	11.16	83	2068510	256.77 ng	99
20) Isooctane	12.11	57	2982558	239.27 ng	99
21) 1,1,1-Trichloroethane	12.03	97	1752788	260.23 ng	91
22) Carbon tetrachloride	12.59	117	1861531	257.08 ng	98
24) 1,2-Dichloroethane	12.85	62	1154294	302.59 ng	99
25) 1,2-Dibromoethane	19.79	107	1755872	294.52 ng	98
27) Benzene	12.93	78	2293017	257.50 ng	99

(#) = qualifier out of range (m) = manual integration
0250M125.D TO14S.M Fri Jan 25 15:12:12 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

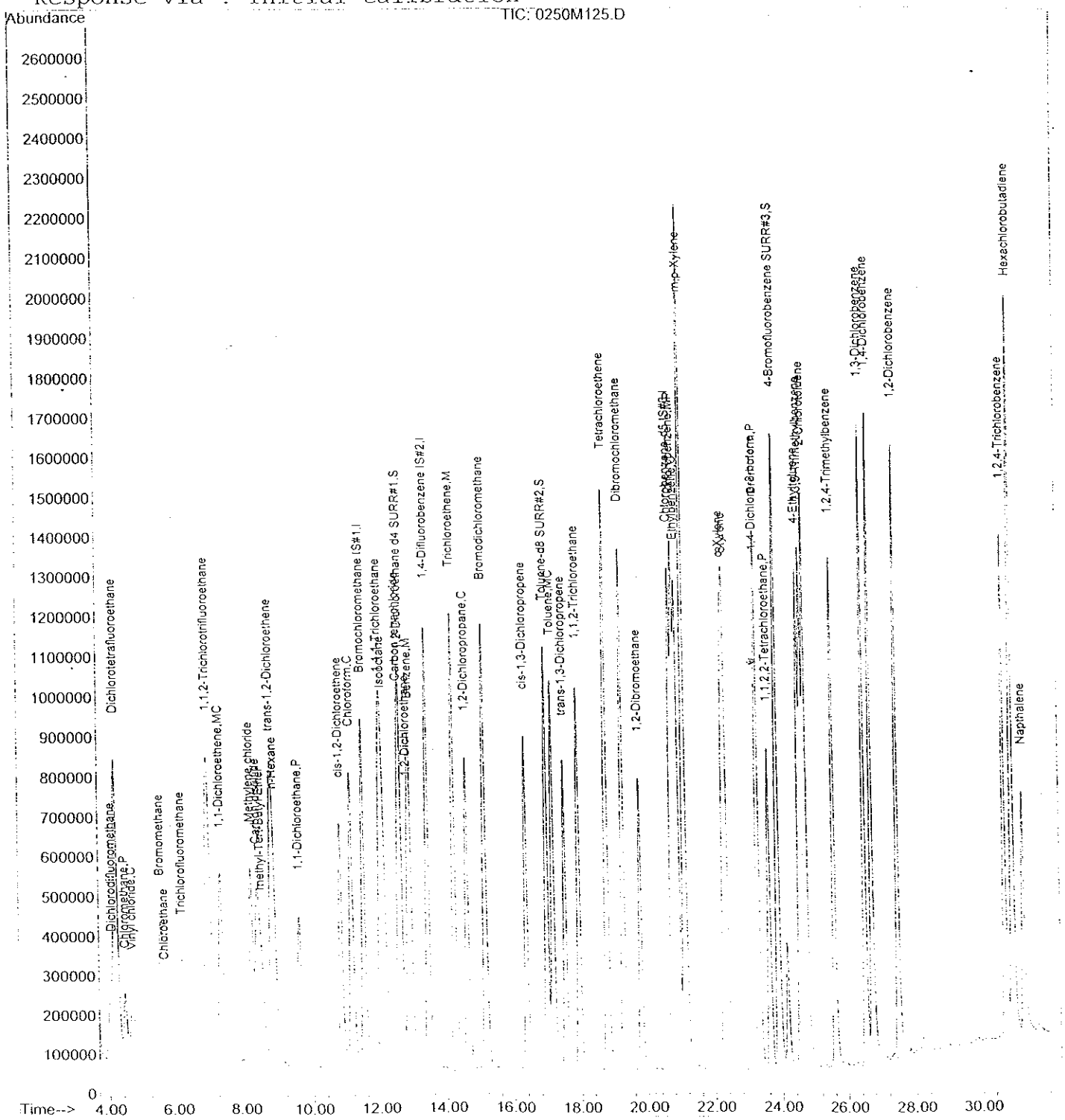
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 13:14:14 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28)	Trichloroethene	14.23	130	1303368	260.68 ng		96
29)	1,2-Dichloropropane	14.62	63	1000801	268.01 ng		96
30)	Bromodichloromethane	15.15	83	2516656	292.79 ng		99
31)	cis-1,3-Dichloropropene	16.36	75	1521564	280.48 ng		94
33)	Toluene	17.18	92	1489621	260.65 ng		98
34)	trans-1,3-Dichloropropene	17.52	75	1322952	316.50 ng		94
35)	1,1,2-Trichloroethane	17.94	97	1041945	299.93 ng		97
37)	Tetrachloroethene	18.80	164	1176449	250.06 ng		97
38)	Dibromochloromethane	19.28	127	1799737	292.65 ng		100
39)	Chlorobenzene	20.85	112	2203630	260.18 ng		96
40)	Ethylbenzene	20.94	106	882384	259.46 ng		99
41)	m,p-Xylene	21.13	106	2264418	517.69 ng		99
42)	o-Xylene	22.29	106	1090444	256.51 ng		100
43)	Styrene	22.37	104	1906972	288.65 ng		97
44)	Bromoform	23.32	173	1752285	313.35 ng		99
45)	1,1,2,2-Tetrachloroethane	23.64	83	1560934	311.66 ng		99
47)	1,4-Dichloro-2-butene	23.28	75	308953	324.88 ng		97
48)	4-Ethyltoluene	24.56	105	2804039	246.58 ng		93
49)	1,3,5-Trimethylbenzene	24.65	105	2186037	249.78 ng		88
50)	2-Chlorotoluene	24.76	91	2948749	263.58 ng		97
51)	1,2,4-Trimethylbenzene	25.58	105	2423688	265.42 ng		98
52)	1,3-Dichlorobenzene	26.51	146	2001409	265.72 ng		96
53)	1,4-Dichlorobenzene	26.73	146	2148324m	270.68 ng	#	96
54)	1,2-Dichlorobenzene	27.49	146	1923184	279.22 ng		96
55)	1,2,4-Trichlorobenzene	30.69	180	1351497	279.63 ng		99
56)	Napthalene	31.25	128	1772393	306.50 ng	#	92
57)	Hexachlorobutadiene	30.94	225	1104565	264.84 ng		100

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: TO14S.RES

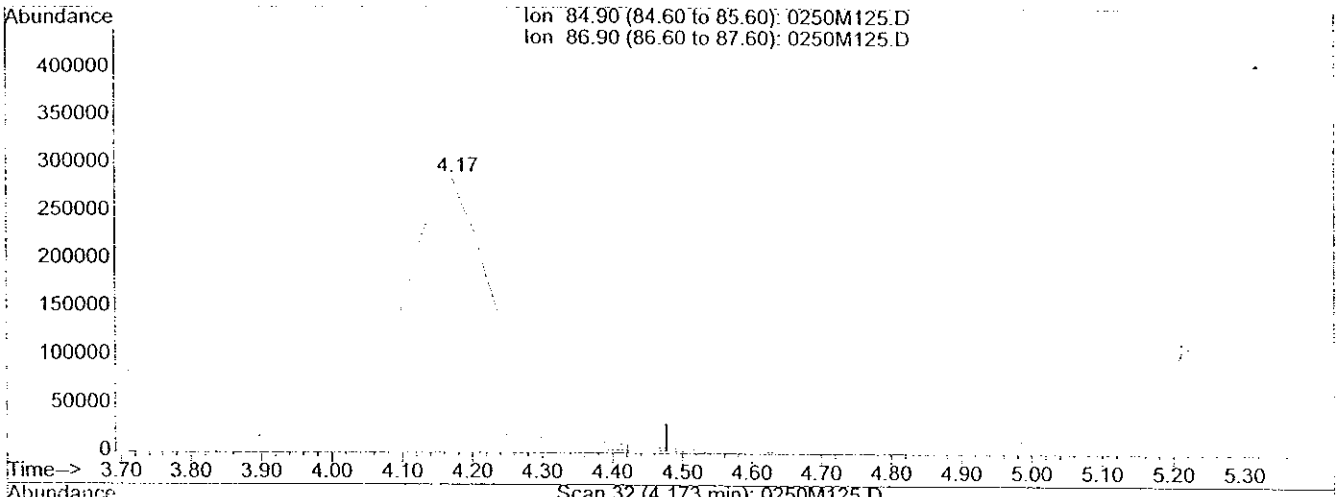
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:10:54 2002
Response via : Initial Calibration

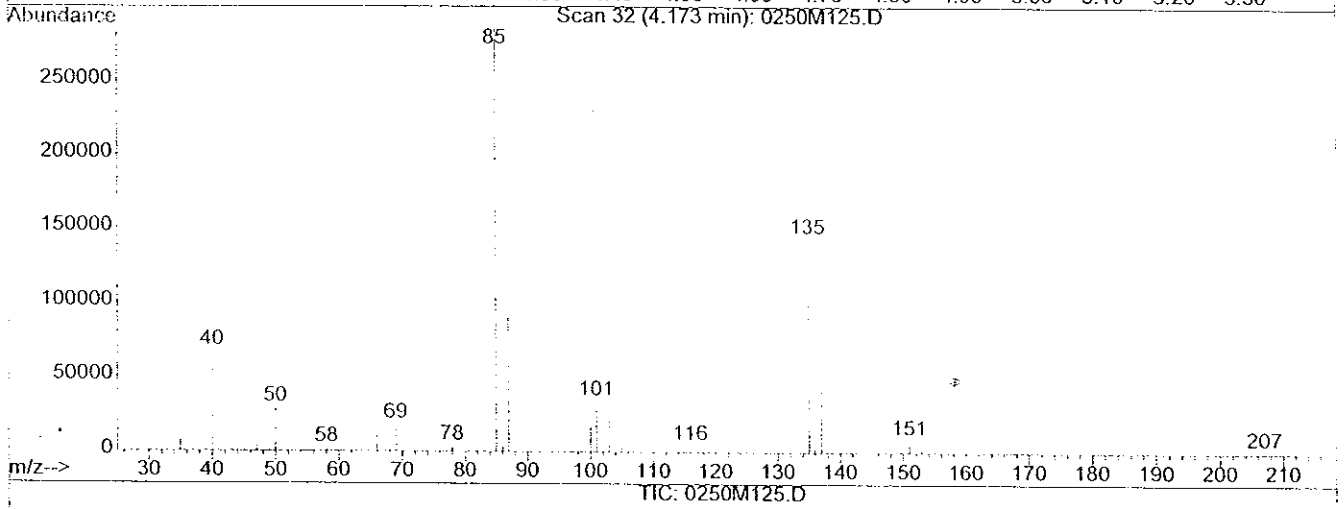


Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D
Acq On : 25 Jan 2002 14:33
Sample : VSTD0250 250ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 15:05 2002

Vial: 16
Operator: LAD
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.17min 846.54ng

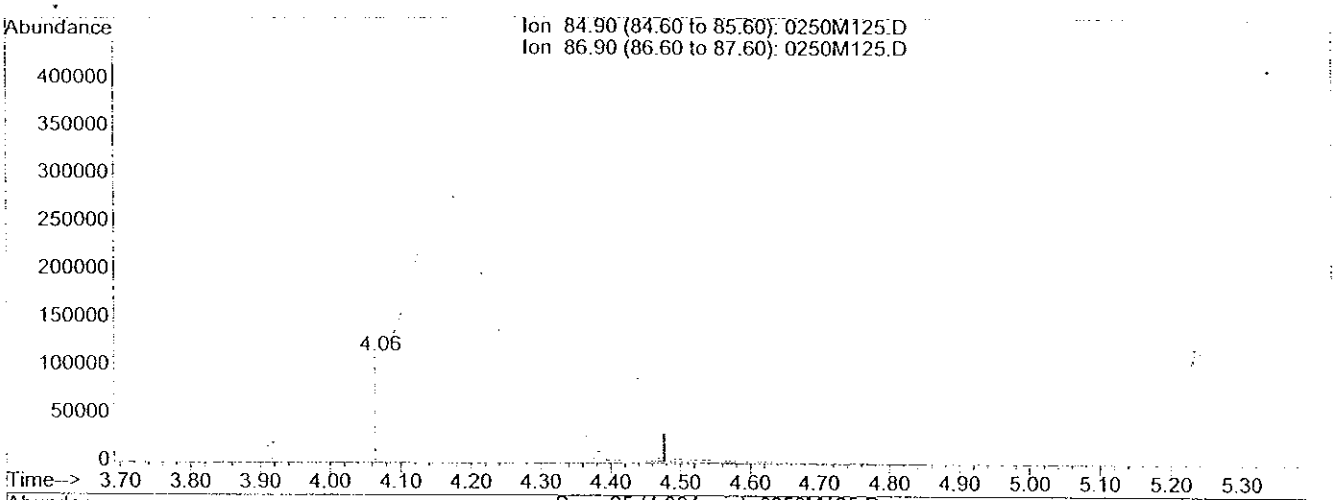
response 3299163

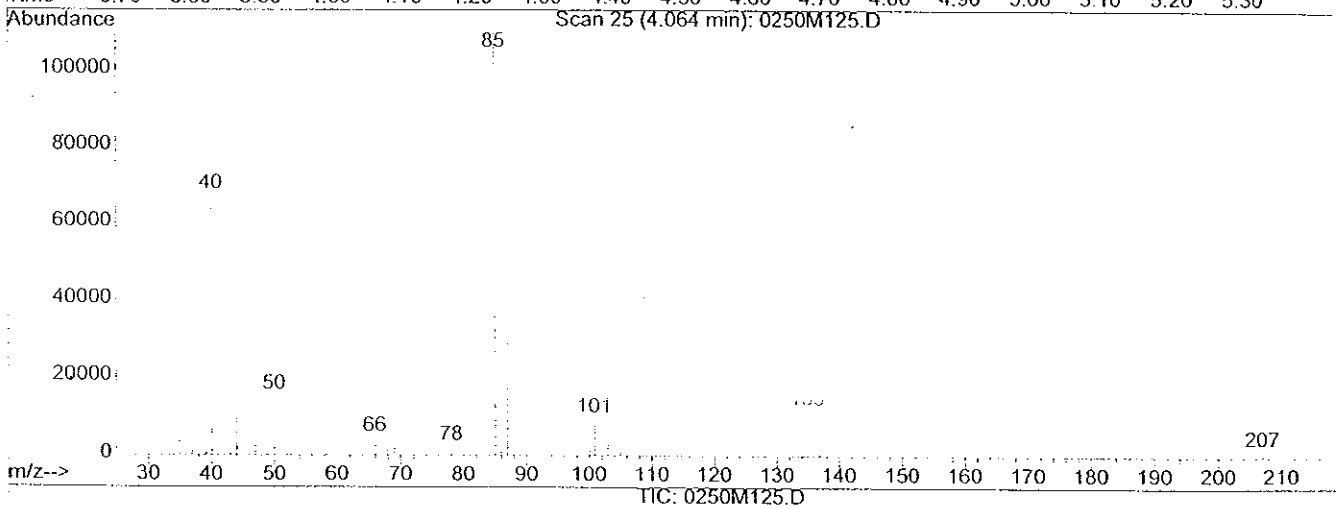
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	32.47
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(2) Dichlorodifluoromethane

4.06min 187.97ng m

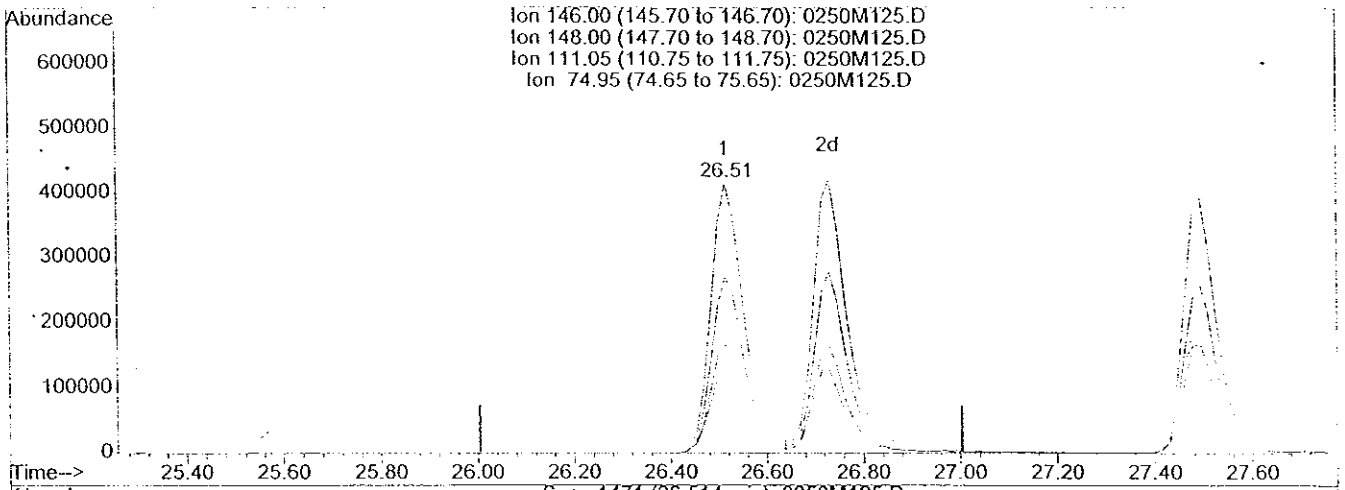
response 732577

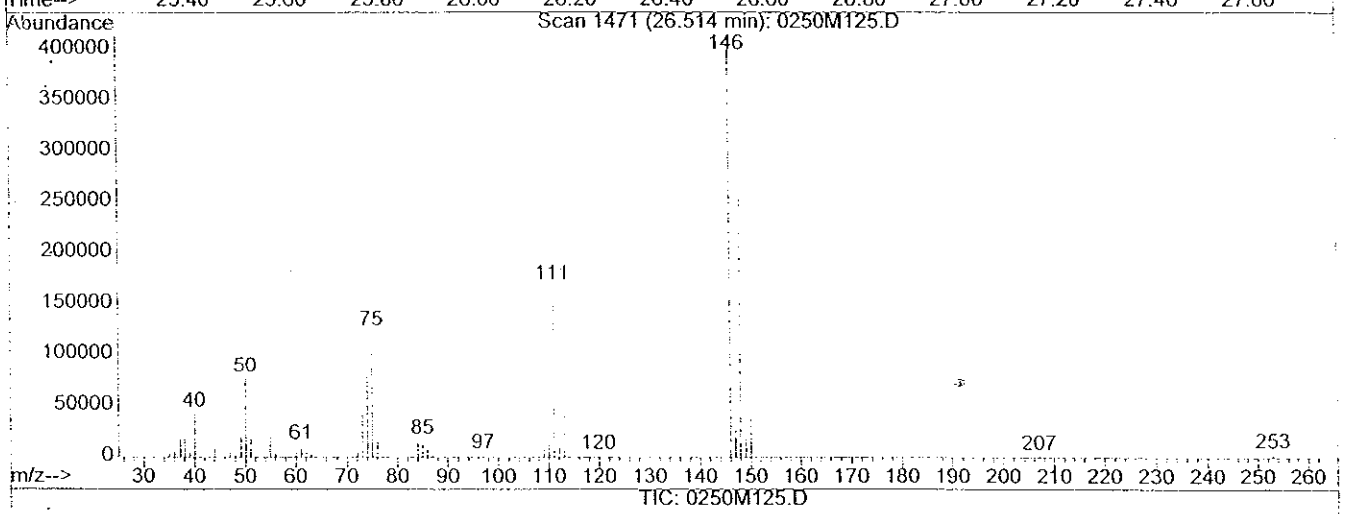
Ion	Exp%	Act%
84.90	100	100
86.90	33.50	146.21#
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.51min 252.17ng

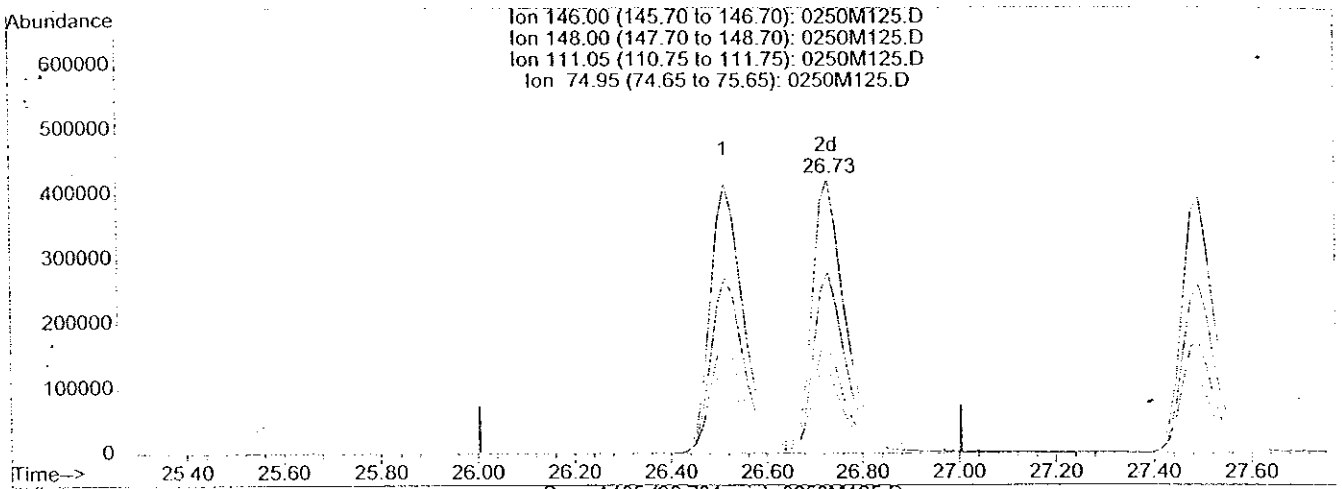
response 2001409

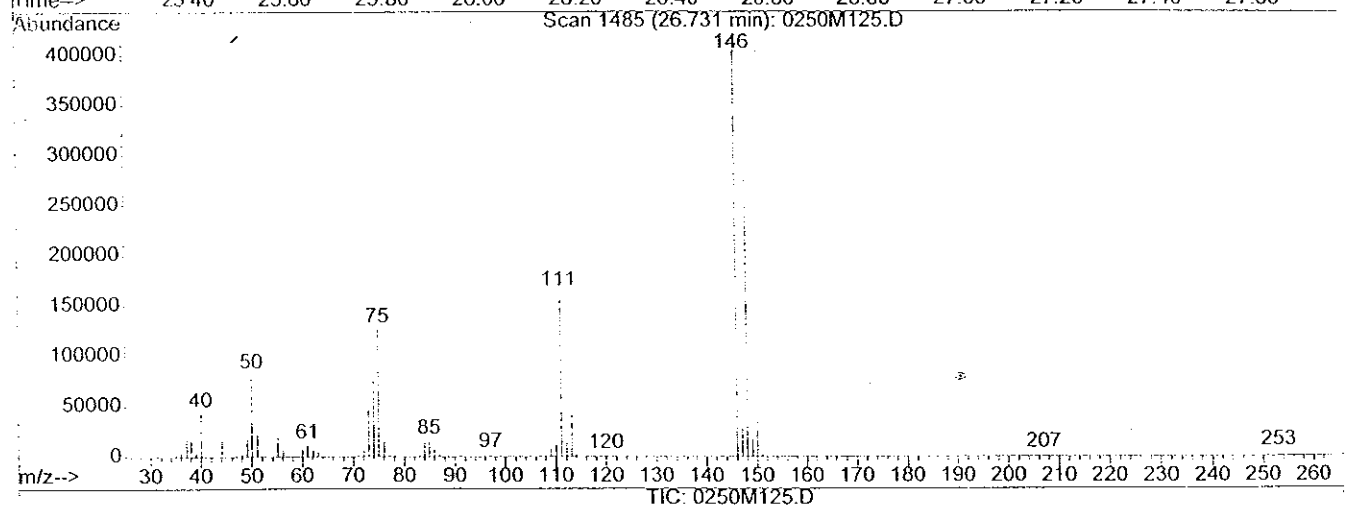
Ion	Exp%	Act%
146.00	100	100
148.00	65.40	65.15
111.05	43.10	40.75
74.95	36.90	30.88

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

Data File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D Vial: 16
Acq On : 25 Jan 2002 14:33 Operator: LAD
Sample : VSTD0250 250ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:10 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 14:54:53 2002
Response via : Multiple Level Calibration





(53) 1,4-Dichlorobenzene

26.73min 270.68ng m

response 2148324

Ion	Exp%	Act%
146.00	100	100
148.00	65.40	60.70
111.05	43.10	37.96
74.95	36.90	28.77#

0250M125.D TO14S.M Fri Jan 25 15:10:34 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D Vial: 14
Acq On : 25 Jan 2002 15:09 Operator: LAD
Sample : VSTD0500 500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 15:41 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
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	11.53	128	685456	250.00	ng	0.02 85.27%
26) 1,4-Difluorobenzene IS#2	13.44	114	2704502	250.00	ng	0.00 86.61%
36) Chlorobenzene-d5 IS#3	20.76	117	2061309	250.00	ng	0.02 85.65%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.65	65	816288	237.61	ng	0.00
Spiked Amount 250.000 Range 61 - 140 Recovery = 95.04%						
32) Toluene-d8 SURR#2	16.98	98	2107678	245.91	ng	0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.36%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1837991	247.08	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.83%						

Target Compounds

							Qvalue
2) Dichlorodifluoromethane	4.04	85	1194099	748.13	ng		91
3) Dichlorotetrafluoroethane	4.21	135	2063122	817.12	ng	#	41
4) Chloromethane	4.45	50	1091791	711.29	ng		98
5) Vinyl chloride	4.67	62	1085815	791.74	ng		96
6) Bromomethane	5.51	94	1622372	695.19	ng	#	98
7) Chloroethane	5.62	64	764194	816.25	ng		97
8) Trichlorofluoromethane	6.16	101	1935395	1071.68	ng		100
9) 1,1,2-Trichlorotrifluoroet	6.92	151	2650068	839.39	ng		86
10) 1,1-Dichloroethene	7.31	96	1502091	802.31	ng		90
12) Methylene chloride	8.21	49	1999667	750.54	ng		98
13) Carbon disulfide	8.38	76	4090731	793.47	ng		100
14) methyl-Tert-Butyl Ether	8.49	73	2073643	719.81	ng		99
15) trans-1,2-Dichloroethene	8.79	96	1672009	800.05	ng		94
16) n-Hexane	8.88	57	1566036	852.10	ng	#	1
17) 1,1-Dichloroethane	9.61	63	2766074	801.93	ng		98
18) cis-1,2-Dichloroethene	10.85	61	2227481	807.96	ng		94
19) Chloroform	11.18	83	3464902	789.20	ng		99
20) Isooctane	12.12	57	5215949	858.33	ng		98
21) 1,1,1-Trichloroethane	12.05	97	2948954	798.21	ng		91
22) Carbon tetrachloride	12.59	117	3134382	816.91	ng		97
24) 1,2-Dichloroethane	12.85	62	1853920	745.94	ng		98
25) 1,2-Dibromoethane	19.81	107	2918971	795.62	ng		99
27) Benzene	12.93	78	3958460	783.68	ng		99

(#) = qualifier out of range (m) = manual integration
0500M125.D TO14S.M Fri Jan 25 15:41:51 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\0500M125.D
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

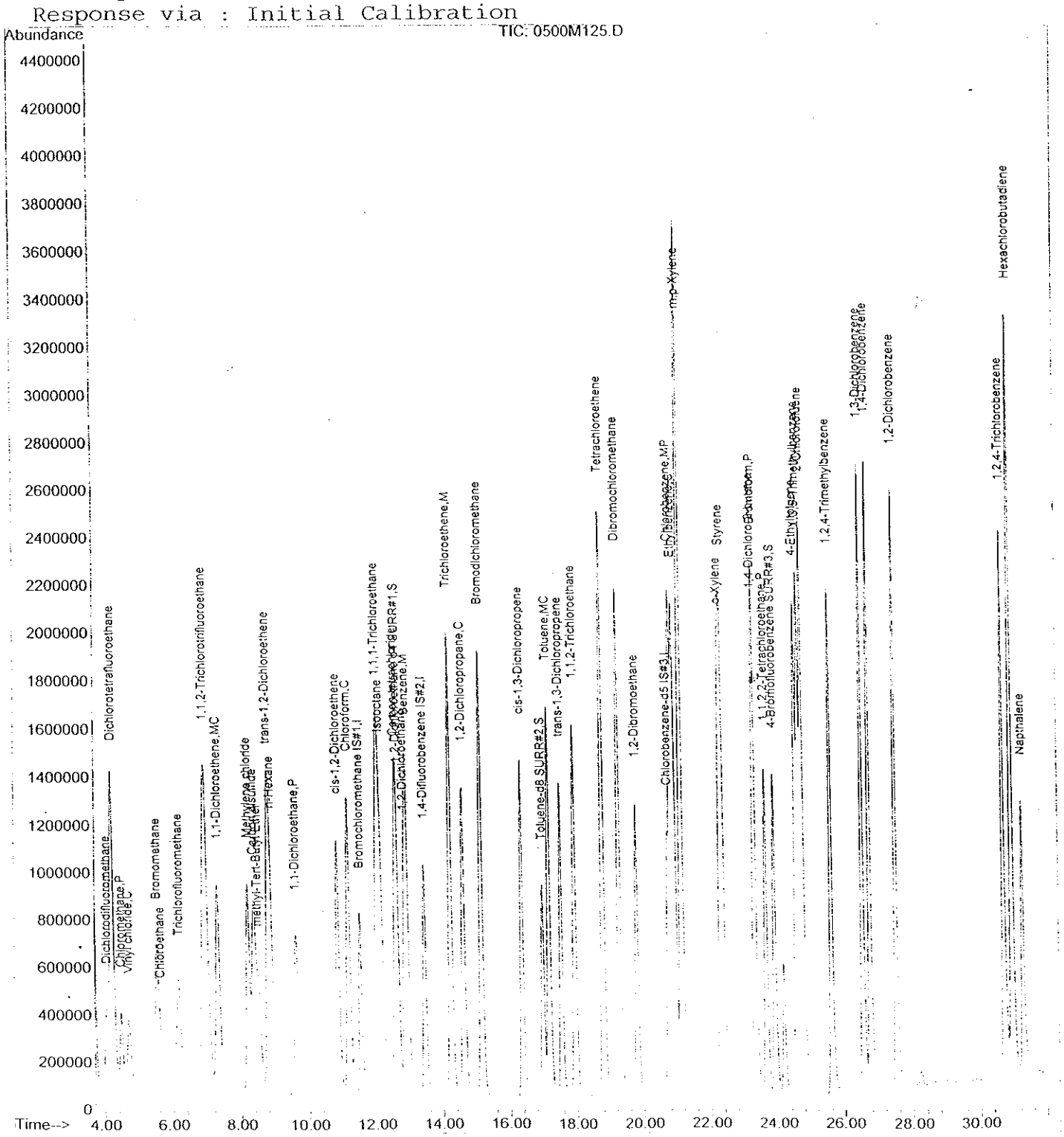
Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

	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



0500M125.D TO14S.M Fri Jan 25 15:41:53 2002 Page 3

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)

TRS 1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.52	128	704843	250.00	ng	0.00 87.69%
26) 1,4-Difluorobenzene IS#2	13.46	114	2739551	250.00	ng	0.02 87.73%
36) Chlorobenzene-d5 IS#3	20.76	117	2101566	250.00	ng	0.02 87.32%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.67	65	800562m	226.63	ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 90.65%						
32) Toluene-d8 SURR#2	17.00	98	2145156	247.08	ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 98.83%						
46) 4-Bromofluorobenzene SURR#	23.91	95	1875042	247.23	ng	0.02
Spiked Amount 250.000 Range 87 - 112 Recovery = 98.89%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.03	85	2798698	1705.22	ng		92
3) Dichlorotetrafluoroethane	4.19	135	3979586	1532.80	ng	#	41
4) Chloromethane	4.44	50	2133139	1351.49	ng	#	97
5) Vinyl chloride	4.66	62	2033802	1442.19	ng		96
6) Bromomethane	5.51	94	3162736	1317.96	ng	#	99
7) Chloroethane	5.60	64	1530589	1589.88	ng		97
8) Trichlorofluoromethane	6.15	101	4650247	2504.13	ng		99
9) 1,1,2-Trichlorotrifluoroet	6.92	151	5122217	1577.80	ng		84
10) 1,1-Dichloroethene	7.31	96	3024343	1570.95	ng		90
12) Methylene chloride	8.20	49	3993235	1457.56	ng		99
13) Carbon disulfide	8.37	76	8129818	1533.56	ng		100
14) methyl-Tert-Butyl Ether	8.47	73	4287746	1447.43	ng		99
15) trans-1,2-Dichloroethene	8.79	96	3386459	1575.83	ng		93
16) n-Hexane	8.88	57	2940178	1555.79	ng	#	1
17) 1,1-Dichloroethane	9.62	63	5503985	1551.80	ng		98
18) cis-1,2-Dichloroethene	10.85	61	4520317	1594.54	ng		93
19) Chloroform	11.18	83	6940397	1537.33	ng		99
20) Isooctane	12.12	57	9654037	1544.96	ng		97
21) 1,1,1-Trichloroethane	12.05	97	5786837	1523.27	ng		91
22) Carbon tetrachloride	12.60	117	6221350	1576.85	ng		97
24) 1,2-Dichloroethane	12.85	62	3673918	1437.57	ng		98
25) 1,2-Dibromoethane	19.81	107	6075370	1610.41	ng		98
27) Benzene	12.95	78	7976775	1559.00	ng		99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D 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

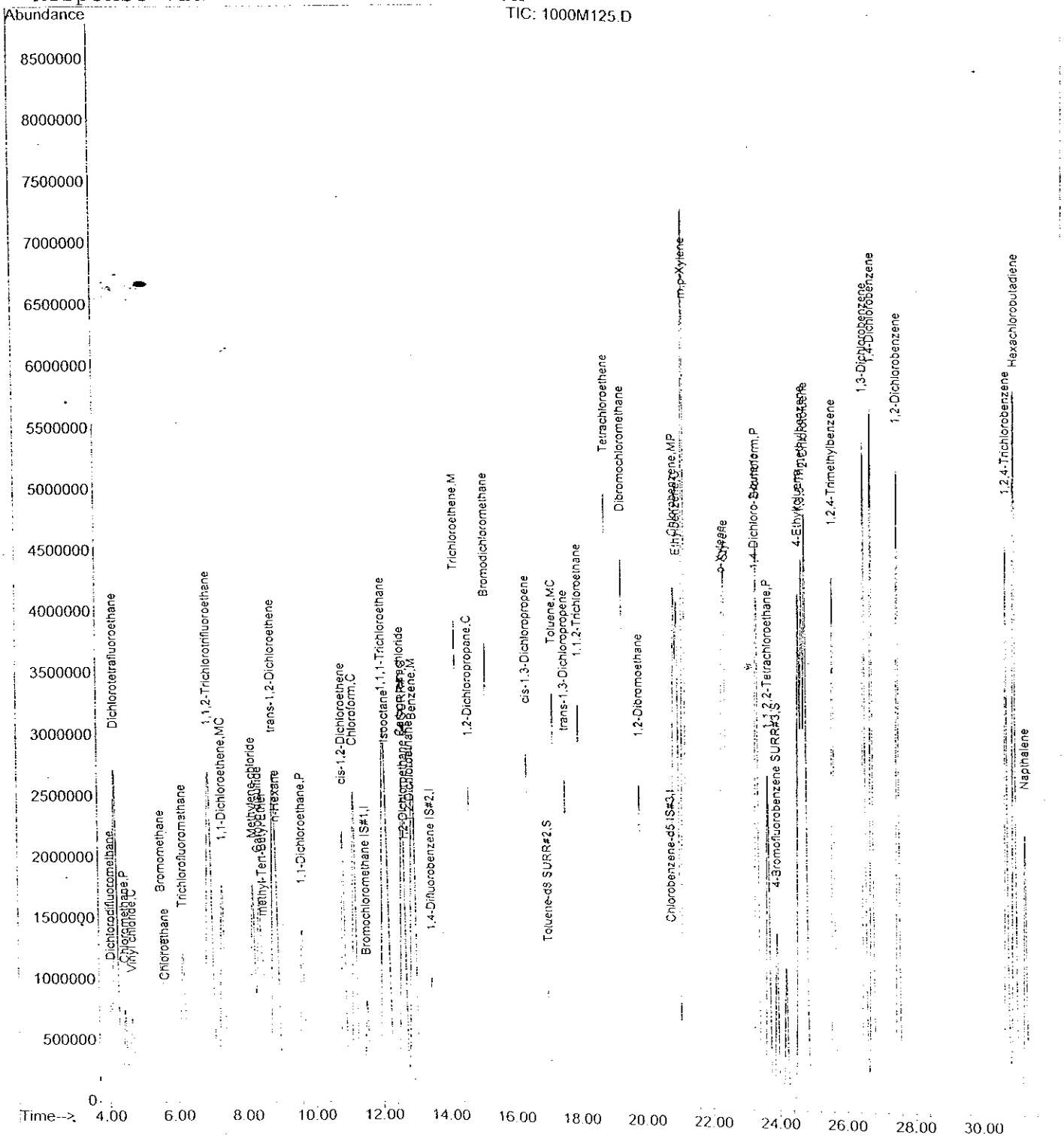
(#) = qualifier out of range (m) = manual integration

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

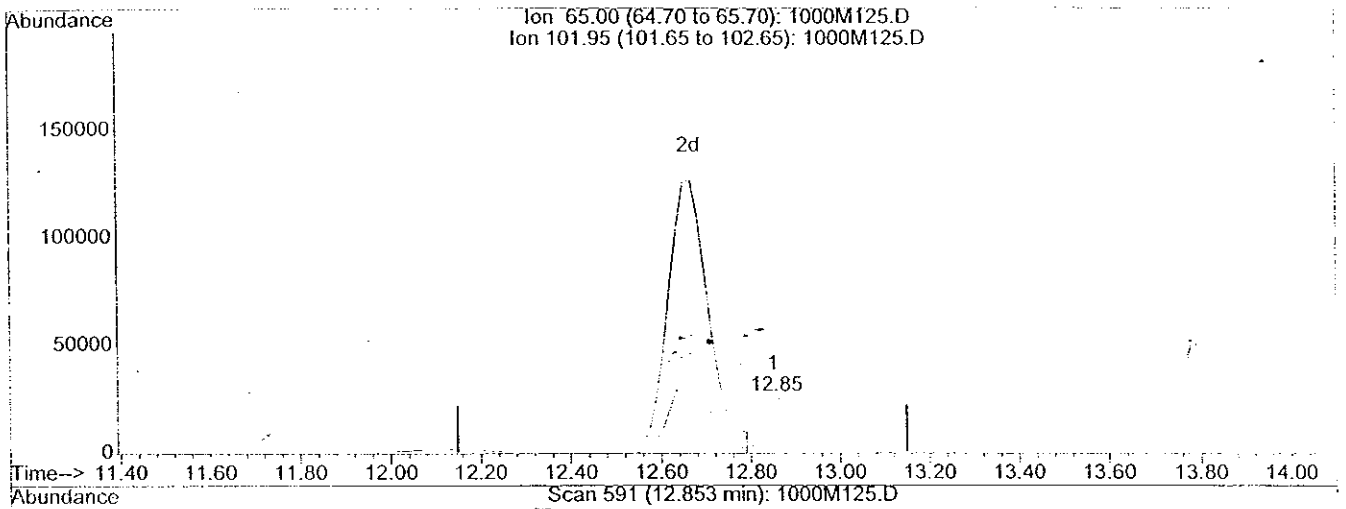
Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:59:58 2002
Response via : Initial Calibration

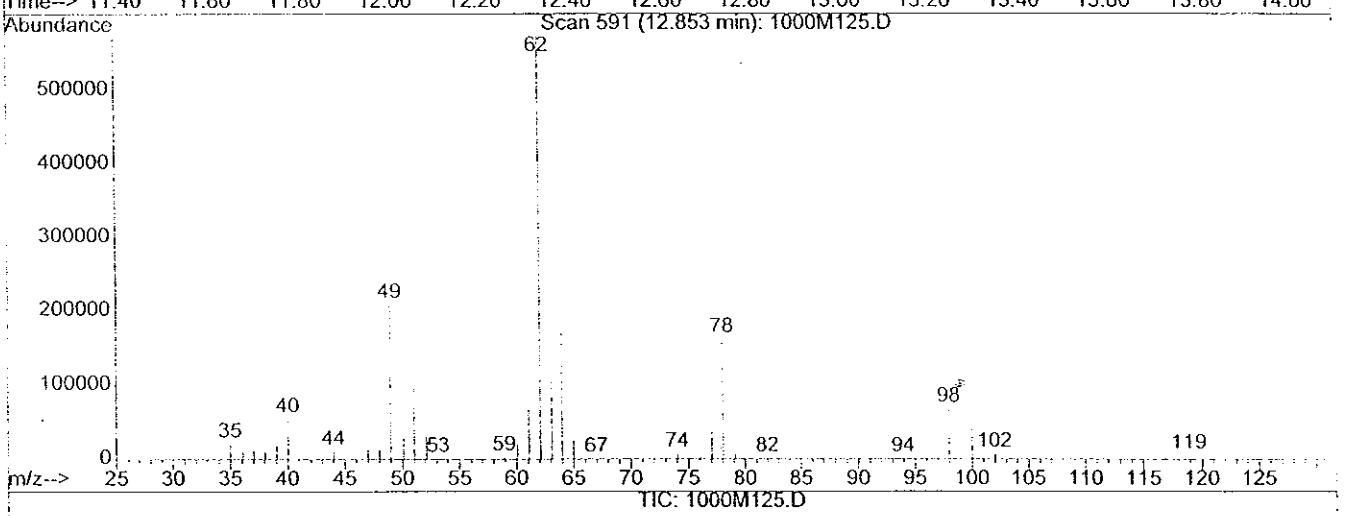


1000M125.D TO14S.M Fri Jan 25 17:19:22 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:19 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.85min 48.50ng

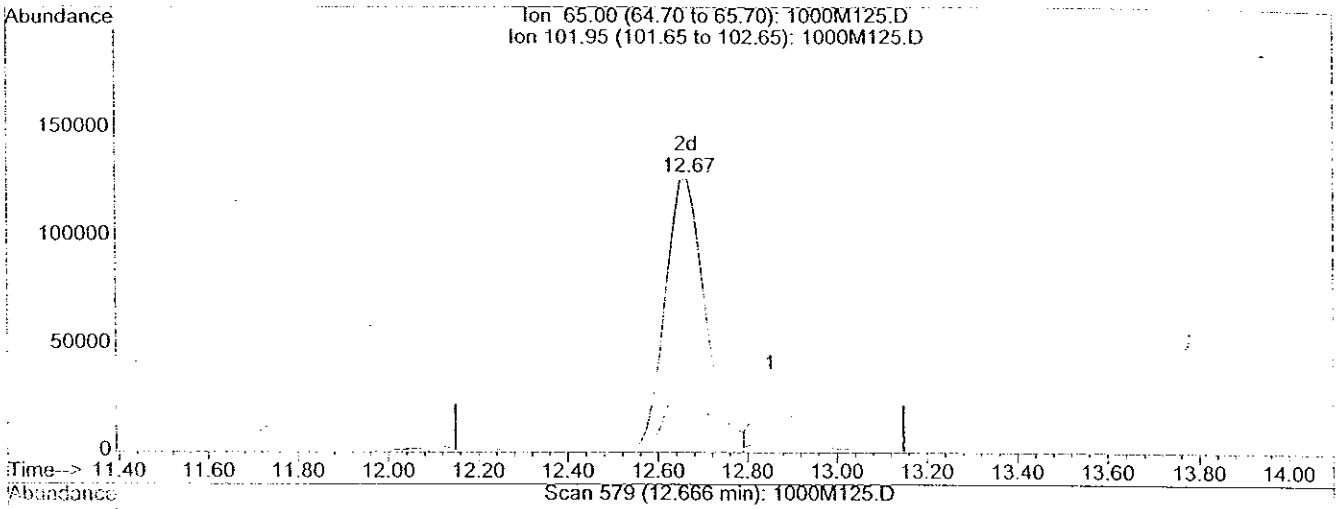
response 171340

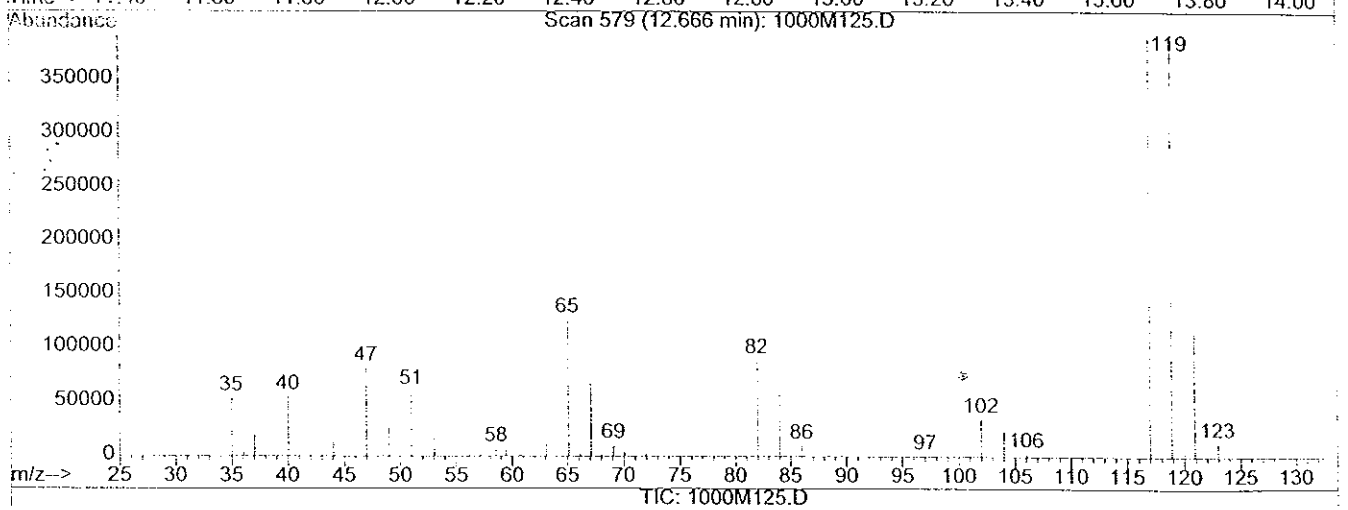
Ion	Exp%	Act%
65.00	100	100
101.95	22.40	26.03
0.00	0.00	0.00
0.00	0.00	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1000M125.D Vial: 15
Acq On : 25 Jan 2002 15:46 Operator: LAD
Sample : VSTD1000 1000ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:59 2002 Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 16:58:36 2002
Response via : Multiple Level Calibration





(23) 1,2-Dichloroethane d4 SURR#1 (S)

12.67min 226.63ng m

response 800562

Ion	Exp%	Act%
65.00	100	100
101.95	22.40	5.57#
0.00	0.00	0.00
0.00	0.00	0.00

1000M125.D TO14S.M Fri Jan 25 16:59:47 2002

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

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

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Fri Jan 25 15:13:36 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0125A\0250M125.D (25 Jan 2002 14:33)

1-25-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.50	128	861832	250.00	ng	-0.01 107.22%
26) 1,4-Difluorobenzene IS#2	13.43	114	3448579	250.00	ng	-0.01 110.43%
36) Chlorobenzene-d5 IS#3	20.74	117	2635990	250.00	ng	0.00 109.52%

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	93
3) Dichlorotetrafluoroethane	4.17	135	7278561	2292.78	ng #	40
4) Chloromethane	4.44	50	3972848	2058.56	ng #	97
5) Vinyl chloride	4.64	62	3538744	2052.26	ng	98
6) Bromomethane	5.48	94	5976813	2036.94	ng #	99
7) Chloroethane	5.59	64	2892614	2457.35	ng	98
8) Trichlorofluoromethane	6.13	101	8556780	3768.44	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.91	151	10054812	2533.01	ng	84
10) 1,1-Dichloroethene	7.28	96	5631456	2392.34	ng	90
12) Methylene chloride	8.18	49	7493461	2236.94	ng	99
13) Carbon disulfide	8.37	76	15203139	2345.43	ng	99
14) methyl-Tert-Butyl Ether	8.46	73	7827265	2160.97	ng	99
15) trans-1,2-Dichloroethene	8.77	96	6471194	2462.74	ng	93
16) n-Hexane	8.85	57	5552938	2403.09	ng #	1
17) 1,1-Dichloroethane	9.59	63	10595124	2443.07	ng	98
18) cis-1,2-Dichloroethene	10.82	61	8520865	2458.21	ng	92
19) Chloroform	11.15	83	13101131	2373.35	ng	99
20) Isooctane	12.11	57	17221498	2253.97	ng	96
21) 1,1,1-Trichloroethane	12.01	97	10964463	2360.44	ng	91
22) Carbon tetrachloride	12.57	117	11708729	2427.09	ng	97
24) 1,2-Dichloroethane	12.84	62	6856921	2194.31	ng #	97
25) 1,2-Dibromoethane	19.79	107	11413677	2474.34	ng	99
27) Benzene	12.92	78	15415352	2393.38	ng	99

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

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D Vial: 16
Acq On : 25 Jan 2002 16:24 Operator: LAD
Sample : VSTD1500 1500ng Inst : MARILYN
Misc : Pi/Pf=1 MA010ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002 Quant Results File: TO14S.RES

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

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.23	130	8742025	2467.42 ng		95
29) 1,2-Dichloropropane	14.61	63	6651245	2465.72 ng		98
30) Bromodichloromethane	15.15	83	15814020	2301.57 ng		100
31) cis-1,3-Dichloropropene	16.36	75	10183317	2452.62 ng		99
33) Toluene	17.17	92	10065682	2498.13 ng		98
34) trans-1,3-Dichloropropene	17.53	75	8590228	2408.11 ng		98
35) 1,1,2-Trichloroethane	17.93	97	6728921	2351.75 ng		97
37) Tetrachloroethene	18.78	164	8055689	2585.18 ng		96
38) Dibromochloromethane	19.28	127	11638963	2427.49 ng		98
39) Chlorobenzene	20.85	112	14659791	2491.67 ng		94
40) Ethylbenzene	20.94	106	5951962	2660.11 ng		97
41) m,p-Xylene	21.13	106	15037765	5085.22 ng		98
42) o-Xylene	22.28	106	7218929	2597.06 ng		97
43) Styrene	22.35	104	12826497	2631.72 ng		96
44) Bromoform	23.32	173	11319346	2431.22 ng		100
45) 1,1,2,2-Tetrachloroethane	23.63	83	9759665	2367.15 ng		99
47) 1,4-Dichloro-2-butene	23.27	75	2165322	2851.77 ng		91
48) 4-Ethyltoluene	24.56	105	18392484	2440.41 ng		94
49) 1,3,5-Trimethylbenzene	24.65	105	13529261	2353.21 ng	#	79
50) 2-Chlorotoluene	24.76	91	18571106	2386.51 ng		95
51) 1,2,4-Trimethylbenzene	25.58	105	14938357	2359.99 ng		98
52) 1,3-Dichlorobenzene	26.50	146	12165114	2279.88 ng		96
53) 1,4-Dichlorobenzene	26.72	146	12759626	2188.22 ng		95
54) 1,2-Dichlorobenzene	27.48	146	11022666	2176.84 ng		95
55) 1,2,4-Trichlorobenzene	30.68	180	6293758	1606.98 ng		99
56) Napthalene	31.24	128	8081624	1416.32 ng	#	92
57) Hexachlorobutadiene	30.92	225	4144206	1346.62 ng		100

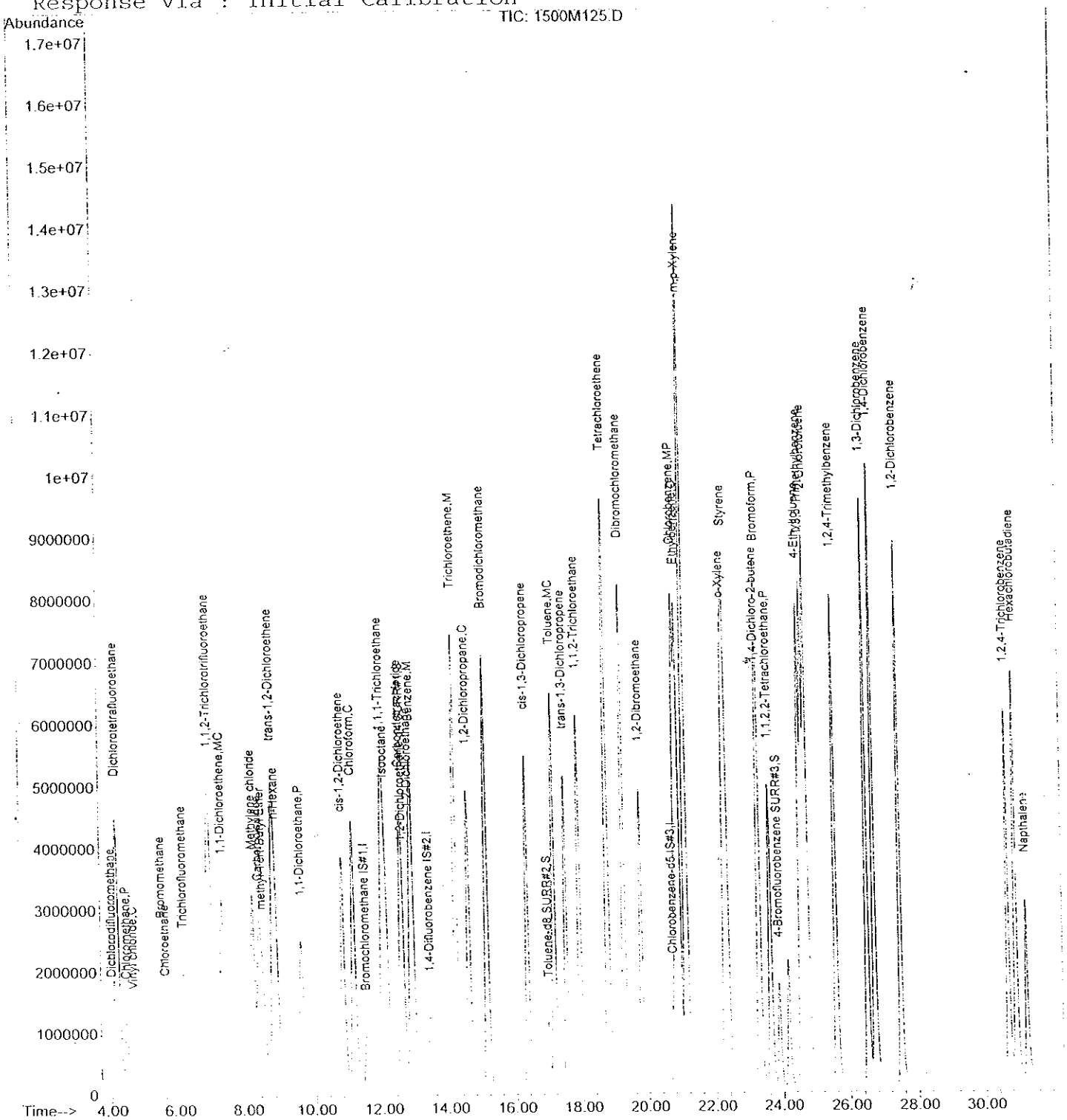
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA02\M0125A\1500M125.D
Acq On : 25 Jan 2002 16:24
Sample : VSTD1500 1500ng
Misc : Pi/Pf=1 MA010ABK
MS Integration Params: rteint.p
Quant Time: Jan 25 16:56 2002

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

Quant Results File: TO14S.RES

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



Date 3-21-02 / BH 3/20 Instrument ID : MARILYN

Batch MAB054 ① 2 3

IS# 8 -MSW- 32 - 3

BFB 8 -MSW- 26 - 3

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

75

TIME	POS #	METH/ BATCH	FILE NAME/ SAMPLE ID	DIL.	RR	PRESERVED	MATRIX	QC PASS**	*INIT	COMMENTS
09:06	13	BFBSTL	BFM0321A				W	Yes		Daily 12 hr. BFB Tune
09:27	14	To145.m	CM0321A	50ppb		Y N	W	Yes	BH	Daily Cal Check/~~bfb tune~~ BH 3/20 /95 ion area =
10:24	15	↓	MA054A BK	ST		Y N	↓	↓	↓	Daily Method Blank
11:01	16		MA054 LCS	50ppb		Y N	↓			Batch# 054 LCS
12:16	2		3221-1	ST.		Y N	A (TO14)			500mls CAN
13:05	2		3329-1	ST.		Y N	↓			↓ ↓
14:17	2		3330-1	↓		Y N				
15:25	2		3414-3	ST		Y N		↓		
16:01	2	↓	↓ -2	↓		Y N	↓	No	↓	↓ ↓ purged 8260 IS/Surr STD! re-run ST.
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				BH 3/21/02
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				
:						Y N				Screened water samples 3383(1-2), 3387(1-4)
:						Y N				and 3454(1-7)

* The analyst whose name appears above is the analyst who removed the sample(s) from the sample storage refrigerator, maintained custody during analysis and relinquished sample(s) back to the sample storage refrigerator. 130

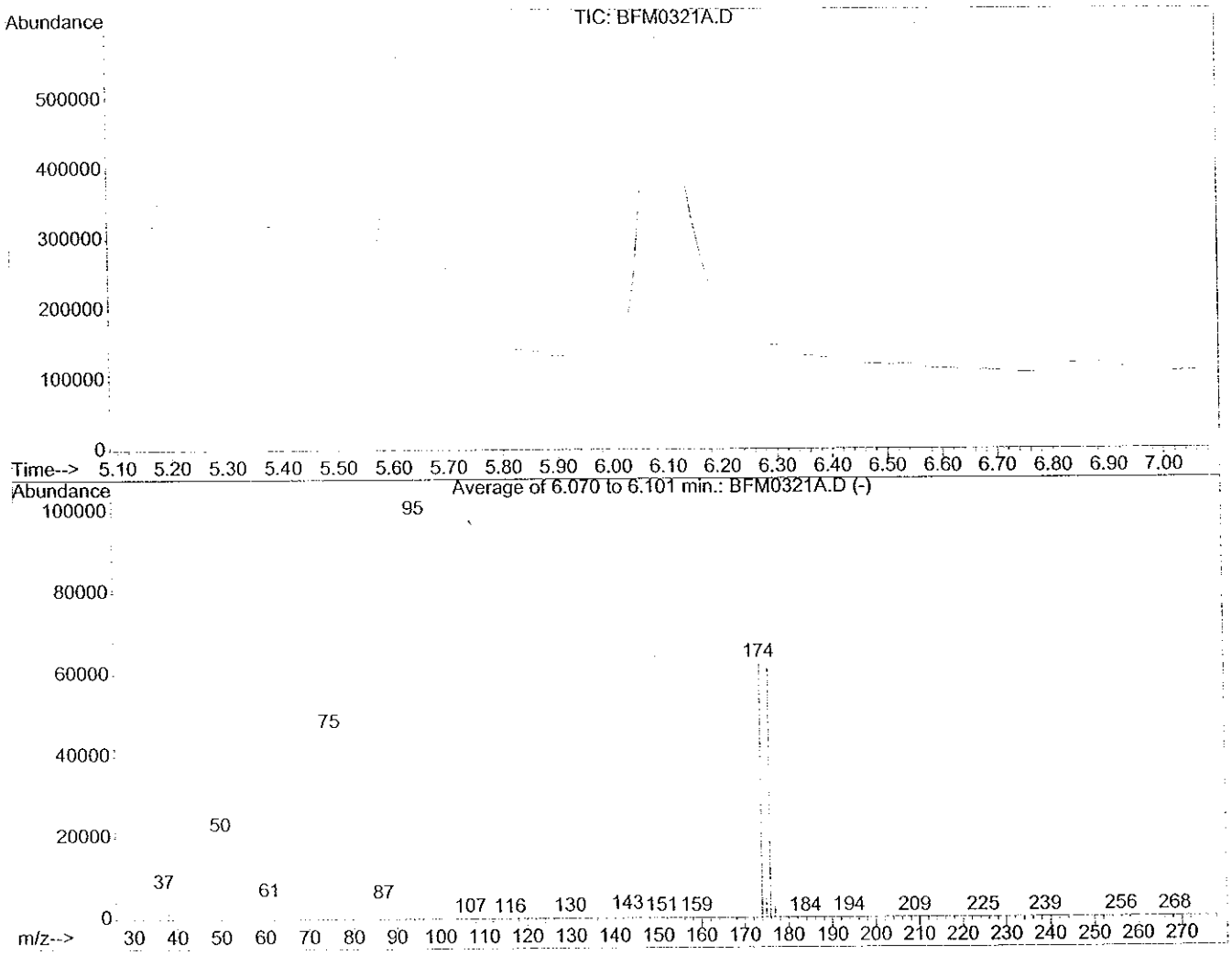
** Iss and surrogates were checked automatically using the software and generic Forms II and VIII that are located in the daily folder.

BFB ... passed at 11:39 / QC Can # 178 failed due to slight carry over from 3329-1 re-ran + passed at 14:51 (13:31)

CECIL FIELD CTO-0062

BFB Tune Evaluation

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\BFM0321A.D Vial: 13
Acq On : 21 Mar 2002 9:06 am Operator: BDH
Sample : DAILY 12 HOUR BFB TUNE Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrator)
Title : TO14



Peak Apex is scan: 36 (6.09 min)
Average of 3 scans: 35,36,37 minus background scan 16 (5.78 min)

Target Mass	Rel. to Mass	Lower Limit,%	Upper Limit,%	Rel. Abn,%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	20376	PASS
75	95	30	60	46.8	45794	PASS
95	95	100	100	100.0	97951	PASS
96	95	5	9	6.4	6253	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	63.7	62443	PASS
175	174	5	9	7.7	4787	PASS
176	174	95	101	98.2	61335	PASS
177	176	5	9	6.4	3943	PASS

BFM0321A.D TO14S.M Mon Mar 25 22:52:20 2002

DAILY 12 HOUR BFB TUNE

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1076	56.05	1083	76.05	3277	140.95	574
37.05	6362	57.05	2354	78.95	2004	142.95	720
38.00	5061	59.95	898	79.90	501	174.00	62443
39.05	1274	60.95	4301	81.00	2302	175.00	4787
44.05	763	62.05	4007	86.95	3706	175.95	61335
45.00	796	63.00	2852	87.95	3617	176.95	3943
47.05	1558	68.00	8937	92.05	2332		
47.95	798	69.00	9247	93.00	3548		
48.95	4396	73.05	5094	94.05	10098		
50.00	20376	74.00	14762	95.00	97951		
51.00	5882	75.00	45794	96.05	6253		

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D
Acq On : 21 Mar 2002 9:27
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA54ABK 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 : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

Passed BAA 3/20/02

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane IS#1	1.000	1.000	0.0	68	0.00
2		Dichlorodifluoromethane	0.919	0.774	15.8#	58	0.00
3		Dichlorotetrafluoroethane	1.446	1.333	7.8#	59	0.00
4	P	Chloromethane	0.788	0.676	14.2#	59	0.00
5	C	Vinyl chloride	0.727	0.736	-1.2#	65	0.00
6		Bromomethane	1.180	1.171	0.8	71	0.00
7		Chloroethane	0.530	0.528	0.4	67	0.00
8		Trichlorofluoromethane	1.261	0.698	44.6#	34#	0.00
9		1,1,2-Trichlorotrifluoroeth	1.868	1.874	-0.3	68	0.00
10	MC	1,1-Dichloroethene	1.064	1.067	-0.3#	67	0.00
11		Iodomethane	0.000	0.000	0.0	70	0.00
12		Methylene chloride	1.431	1.639	-14.5#	74	0.00
13		Carbon disulfide	2.862	2.969	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	1.551	1.569	-1.2	66	0.00
15		trans-1,2-Dichloroethene	1.194	1.238	-3.7#	70	0.00
16		n-Hexane	1.089	1.096	-0.6	67	0.00
17	P	1,1-Dichloroethane	1.944	2.160	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	1.576	1.760	-11.7#	73	0.00
19	C	Chloroform	2.454	2.844	-15.9#	75	0.00
20		Isooctane	3.653	3.382	7.4#	62	0.00
21		1,1,1-Trichloroethane	2.085	2.425	-16.3#	76	0.00
22		Carbon tetrachloride	2.195	2.535	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	1.176	1.307	-11.1#	70	0.00
24		1,2-Dichloroethane	1.321	1.497	-13.3#	71	0.00
25		1,2-Dibromoethane	2.124	1.929	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	1.000	1.000	0.0	71	0.00
27	M	Benzene	0.733	0.741	-1.1	71	0.00
28	M	Trichloroethene	0.407	0.410	-0.7	70	0.00
29	C	1,2-Dichloropropane	0.310	0.318	-2.6#	70	0.00
30		Bromodichloromethane	0.755	0.831	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	0.469	0.479	-2.1#	70	0.00
32	S	Toluene-d8 SURR#2	0.781	0.788	0.9	70	0.00
33	MC	Toluene	0.463	0.471	-1.7#	70	0.00
34		trans-1,3-Dichloropropene	0.402	0.401	0.2	67	0.00
35		1,1,2-Trichloroethane	0.322	0.292	9.3#	62	0.00
36	I	Chlorobenzene-d5 IS#3	1.000	1.000	0.0	70	0.00
37		Tetrachloroethene	0.488	0.486	0.4	70	0.00
38		Dibromochloromethane	0.722	0.692	4.2#	65	0.00
39	MP	Chlorobenzene	0.891	0.925	-3.8#	71	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D
Acq On : 21 Mar 2002 9:27
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA54ABK 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 : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	C	Ethylbenzene	0.356	0.360	-1.1#	69	0.00
41		m,p-Xylene	0.459	0.472	-2.8#	71	0.00
42		o-Xylene	0.439	0.476	-8.4#	74	0.00
43		Styrene	0.771	0.816	-5.8#	73	0.00
44	P	Bromoform	0.713	0.630	11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	0.640	0.587	8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	0.891	0.938	-5.3#	73	0.00
47		1,4-Dichloro-2-butene	0.130	0.104	20.0#	57	0.00
48		4-Ethyltoluene	1.157	1.291	-11.6#	78	0.00
49		1,3,5-Trimethylbenzene	0.912	1.081	-18.5#	84	0.00
50		2-Chlorotoluene	1.191	1.333	-11.9#	77	0.00
51		1,2,4-Trimethylbenzene	0.961	1.091	-13.5#	76	0.00
52		1,3-Dichlorobenzene	0.782	0.861	-10.1#	73	0.00
53		1,4-Dichlorobenzene	0.825	0.909	-10.2#	72	0.00
54		1,2-Dichlorobenzene	0.758	0.806	-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	0.568	0.554	2.5#	69	0.00
56		Napthalene	0.830	0.714	14.0#	68	0.00
57		Hexachlorobutadiene	0.495	0.423	14.5#	65	0.00

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

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D
Acq On : 21 Mar 2002 9:27
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA54ABK 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 : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

passes linear and quadratic analytes (except #8) BH 3/20/

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

		Compound	Amount	Calc.	%Dev (drift)	Area%	Dev(min)
1	I	Bromochloromethane IS#1	250.000	250.000	0.0	68	0.00
2		Dichlorodifluoromethane	250.000	206.257	17.5#L	58	0.00
3		Dichlorotetrafluoroethane	250.000	230.564	7.8#	59	0.00
4	P	Chloromethane	250.000	214.595	14.2#	59	0.00
5	C	Vinyl chloride	250.000	253.103	-1.2#	65	0.00
6		Bromomethane	250.000	248.052	0.8	71	0.00
7		Chloroethane	250.000	249.161	0.3	67	0.00
8		Trichlorofluoromethane	250.000	147.604	41.0#L	34	0.00 — fails
9		1,1,2-Trichlorotrifluoroeth	250.000	250.794	0.3	68	0.00 see
10	MC	1,1-Dichloroethene	250.000	250.900	-0.4#	67	0.00 OCCE
11		Iodomethane	-1.000	0.000	0.0	70	0.00
12		Methylene chloride	250.000	286.323	-14.5#	74	0.00
13		Carbon disulfide	250.000	259.354	-3.7#	72	0.00
14		methyl-Tert-Butyl Ether	250.000	252.922	-1.2	66	0.00
15		trans-1,2-Dichloroethene	250.000	259.176	-3.7#	70	0.00
16		n-Hexane	250.000	251.548	-0.6	67	0.00
17	P	1,1-Dichloroethane	250.000	277.814	-11.1#	74	0.00
18		cis-1,2-Dichloroethene	250.000	279.208	-11.7#	73	0.00
19	C	Chloroform	250.000	289.733	-15.9#	75	0.00
20		Isooctane	250.000	231.502	7.4#	62	0.00
21		1,1,1-Trichloroethane	250.000	290.741	-16.3#	76	0.00
22		Carbon tetrachloride	250.000	288.772	-15.5#	74	0.00
23	S	1,2-Dichloroethane d4 SURR#	250.000	277.834	-11.1#	70	0.00
24		1,2-Dichloroethane	250.000	283.273	-13.3#	71	0.00
25		1,2-Dibromoethane	250.000	227.102	9.2#	60	0.00
26	I	1,4-Difluorobenzene IS#2	250.000	250.000	0.0	71	0.00
27	M	Benzene	250.000	252.655	-1.1	71	0.00
28	M	Trichloroethene	250.000	251.703	-0.7	70	0.00
29	C	1,2-Dichloropropane	250.000	256.005	-2.4#	70	0.00
30		Bromodichloromethane	250.000	275.213	-10.1#	73	0.00
31		cis-1,3-Dichloropropene	250.000	255.057	-2.0#	70	0.00
32	S	Toluene-d8 SURR#2	250.000	252.097	-0.8	70	0.00
33	MC	Toluene	250.000	254.415	-1.8#	70	0.00
34		trans-1,3-Dichloropropene	250.000	249.364	0.3	67	0.00
35		1,1,2-Trichloroethane	250.000	226.610	9.4#	62	0.00
36	I	Chlorobenzene-d5 IS#3	250.000	250.000	0.0	70	0.00
37		Tetrachloroethene	250.000	249.247	0.3	70	0.00
38		Dibromochloromethane	250.000	239.556	4.2#	65	0.00
39	MP	Chlorobenzene	250.000	259.386	-3.8#	71	0.00

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D
Acq On : 21 Mar 2002 9:27
Sample : VSTD050\ DAILY CALIBRATION CHECK
Misc : Pi/Pf=1 MA54ABK 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 : Thu Mar 21 10:22:32 2002
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
40	C	Ethylbenzene	250.000	252.821		-1.1#	69	0.00
41		m,p-Xylene	500.000	513.698		-2.7#	71	0.00
42		o-Xylene	250.000	271.426		-8.6#	74	0.00
43		Styrene	250.000	264.750		-5.9#	73	0.00
44	P	Bromoform	250.000	221.122		11.6#	61	0.00
45	P	1,1,2,2-Tetrachloroethane	250.000	229.370		8.3#	64	0.00
46	S	4-Bromofluorobenzene SURR#3	250.000	262.979		-5.2#	73	0.00
47		1,4-Dichloro-2-butene	250.000	199.754		20.1#	57	0.00
48		4-Ethyltoluene	250.000	278.840		-11.5#	78	0.00
49		1,3,5-Trimethylbenzene	250.000	296.468		-18.6#	84	0.00
50		2-Chlorotoluene	250.000	279.894		-12.0#	77	0.00
51		1,2,4-Trimethylbenzene	250.000	284.002		-13.6#	76	0.00
52		1,3-Dichlorobenzene	250.000	275.421		-10.2#	73	0.00
53		1,4-Dichlorobenzene	250.000	275.449		-10.2#	72	0.00
54		1,2-Dichlorobenzene	250.000	265.819		-6.3#	71	0.00
55		1,2,4-Trichlorobenzene	250.000	220.252	Q	11.9#	69	0.00
56		Napthalene	250.000	207.216	Q	17.1#	68	0.00
57		Hexachlorobutadiene	250.000	199.429	Q	20.2#	65	0.00

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

Quantification Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 09 09:29:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0309A\CM0309A.D (9 Mar 2002 8:43)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	545778	250.00	ng	-0.07 96.87%
26) 1,4-Difluorobenzene IS#2	13.21	114	2209181	250.00	ng	-0.07 96.80%
36) Chlorobenzene-d5 IS#3	20.52	117	1694454	250.00	ng	-0.07 97.74%

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.40	65	713475	277.83	ng	-0.07
Spiked Amount 250.000 Range 61 - 140 Recovery = 111.13%						
32) Toluene-d8 SURR#2	16.76	98	1740003	252.10	ng	-0.07
Spiked Amount 250.000 Range 90 - 109 Recovery = 100.84%						
46) 4-Bromofluorobenzene SURR#	23.67	95	1588771	262.98	ng	-0.07
Spiked Amount 250.000 Range 87 - 112 Recovery = 105.19%						

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.82	85	422491m	206.26	ng	# 100
3) Dichlorotetrafluoroethane	3.89	135	727635	230.56	ng	# 27
4) Chloromethane	4.14	50	369022	214.60	ng	93
5) Vinyl chloride	4.38	62	401889	253.10	ng	97
6) Bromomethane	5.20	94	638989	248.05	ng	94
7) Chloroethane	5.31	64	288030	249.16	ng	97
8) Trichlorofluoromethane	5.82	101	380754	147.60	ng	99
9) 1,1,2-Trichlorotrifluoroet	6.63	151	1022929	250.79	ng	89
10) 1,1-Dichloroethene	7.00	96	582604	250.90	ng	97
12) Methylene chloride	7.90	49	894513	286.32	ng	94
13) Carbon disulfide	8.04	76	1620565	259.35	ng	97
14) methyl-Tert-Butyl Ether	8.21	73	856267	252.92	ng	# 92
15) trans-1,2-Dichloroethene	8.51	96	675577	259.18	ng	96
16) n-Hexane	8.60	57	597915	251.55	ng	# 1
17) 1,1-Dichloroethane	9.33	63	1178836	277.81	ng	98
18) cis-1,2-Dichloroethene	10.57	61	960731	279.21	ng	97
19) Chloroform	10.90	83	1552155	289.73	ng	97
20) Isooctane	11.87	57	1846047	231.50	ng	97
21) 1,1,1-Trichloroethane	11.78	97	1323357	290.74	ng	94
22) Carbon tetrachloride	12.34	117	1383663	288.77	ng	98
24) 1,2-Dichloroethane	12.60	62	816777	283.27	ng	99
25) 1,2-Dibromoethane	19.57	107	1052957	227.10	ng	98
27) Benzene	12.68	78	1637174	252.65	ng	99

(#) = qualifier out of range (m) = manual integration
CM0321A.D TO14S.M Mon Mar 25 22:59:10 2002 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Sat Mar 09 09:29:03 2002
Response via : Initial Calibration
DataAcq Meth : TO14S

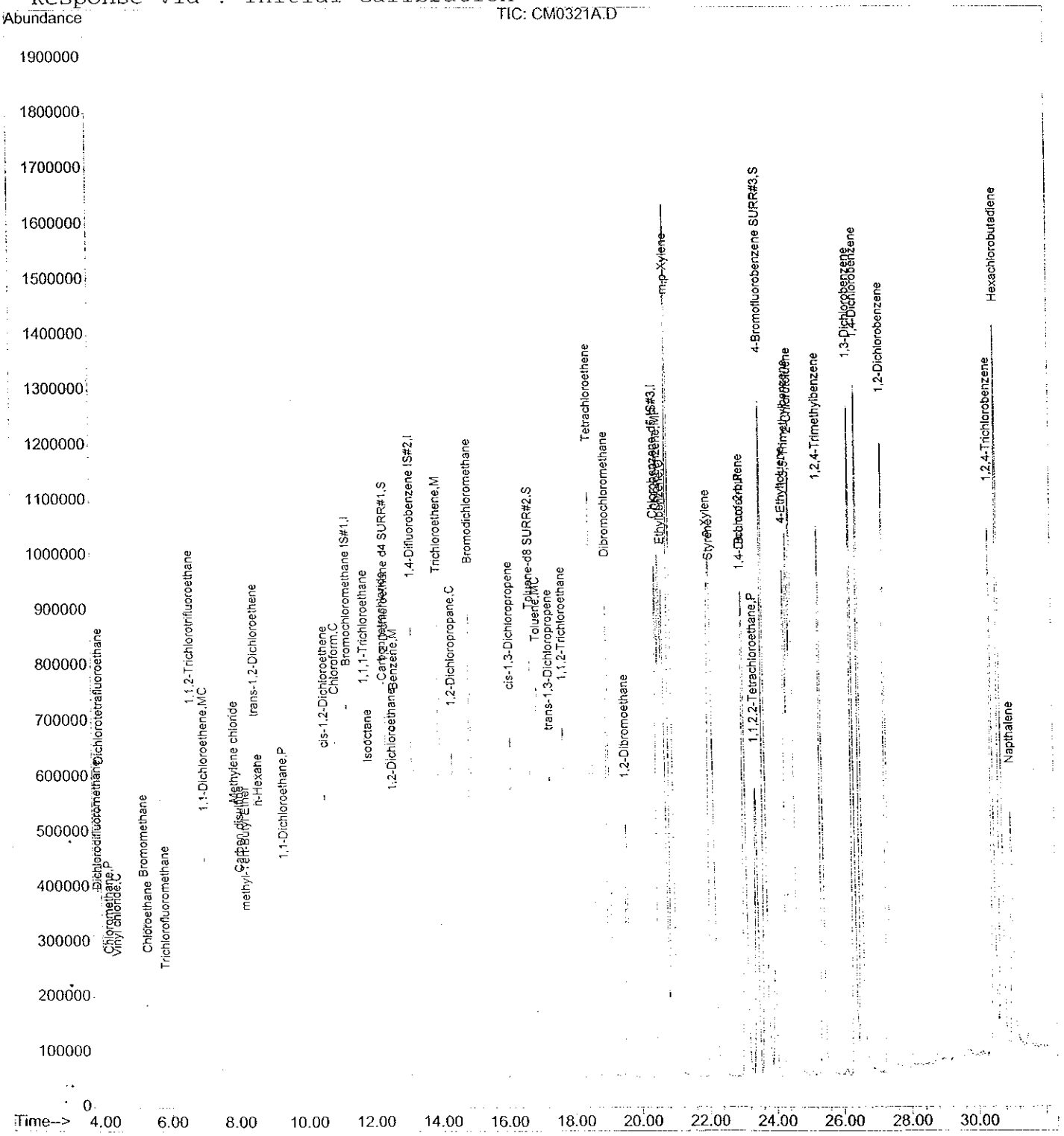
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
28) Trichloroethene	14.00	130	905967	251.70 ng		97
29) 1,2-Dichloropropane	14.39	63	701813	256.01 ng	#	92
30) Bromodichloromethane	14.93	83	1835431	275.21 ng		99
31) cis-1,3-Dichloropropene	16.14	75	1057962	255.06 ng	#	89
33) Toluene	16.95	92	1041219	254.42 ng		97
34) trans-1,3-Dichloropropene	17.32	75	885115	249.36 ng	#	88
35) 1,1,2-Trichloroethane	17.73	97	645124	226.61 ng		97
37) Tetrachloroethene	18.57	164	823659	249.25 ng		98
38) Dibromochloromethane	19.06	127	1172084	239.56 ng		100
39) Chlorobenzene	20.63	112	1566614	259.39 ng		97
40) Ethylbenzene	20.72	106	610715	252.82 ng		97
41) m,p-Xylene	20.91	106	1598036	513.70 ng		97
42) o-Xylene	22.07	106	807140	271.43 ng		99
43) Styrene	22.15	104	1382807	264.75 ng		99
44) Bromoform	23.08	173	1067856	221.12 ng		100
45) 1,1,2,2-Tetrachloroethane	23.41	83	994498	229.37 ng		99
47) 1,4-Dichloro-2-butene	23.07	75	176475	199.75 ng		97
48) 4-Ethyltoluene	24.34	105	2186856	278.84 ng		95
49) 1,3,5-Trimethylbenzene	24.45	105	1832493	296.47 ng		94
50) 2-Chlorotoluene	24.56	91	2259113	279.89 ng		97
51) 1,2,4-Trimethylbenzene	25.40	105	1849476	284.00 ng		100
52) 1,3-Dichlorobenzene	26.33	146	1459277	275.42 ng		97
53) 1,4-Dichlorobenzene	26.55	146	1539612	275.45 ng		95
54) 1,2-Dichlorobenzene	27.31	146	1366368	265.82 ng		97
55) 1,2,4-Trichlorobenzene	30.47	180	938141	220.25 ng		99
56) Napthalene	31.02	128	1210201	207.22 ng	#	92
57) Hexachlorobutadiene	30.72	225	717239	199.43 ng		98

(#) = qualifier out of range (m) = manual integration
CM0321A.D TO14S.M Mon Mar 25 22:59:10 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\CM0321A.D Vial: 14
Acq On : 21 Mar 2002 9:27 am Operator: BDH
Sample : VSTD050\ DAILY CALIBRATION CHECK Inst : MARILYN
Misc : Pi/Pf=1 MA54ABK 250ng Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 10:20 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54ABK.D Vial: 15
Acq On : 21 Mar 2002 10:24 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:07 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.27	128	583971	250.00 ng	0.00 107.00%
26) 1,4-Difluorobenzene IS#2	13.21	114	2373088	250.00 ng	0.00 107.42%
36) Chlorobenzene-d5 IS#3	20.54	117	1777219	250.00 ng	0.01 104.88%

ng report

System Monitoring Compounds

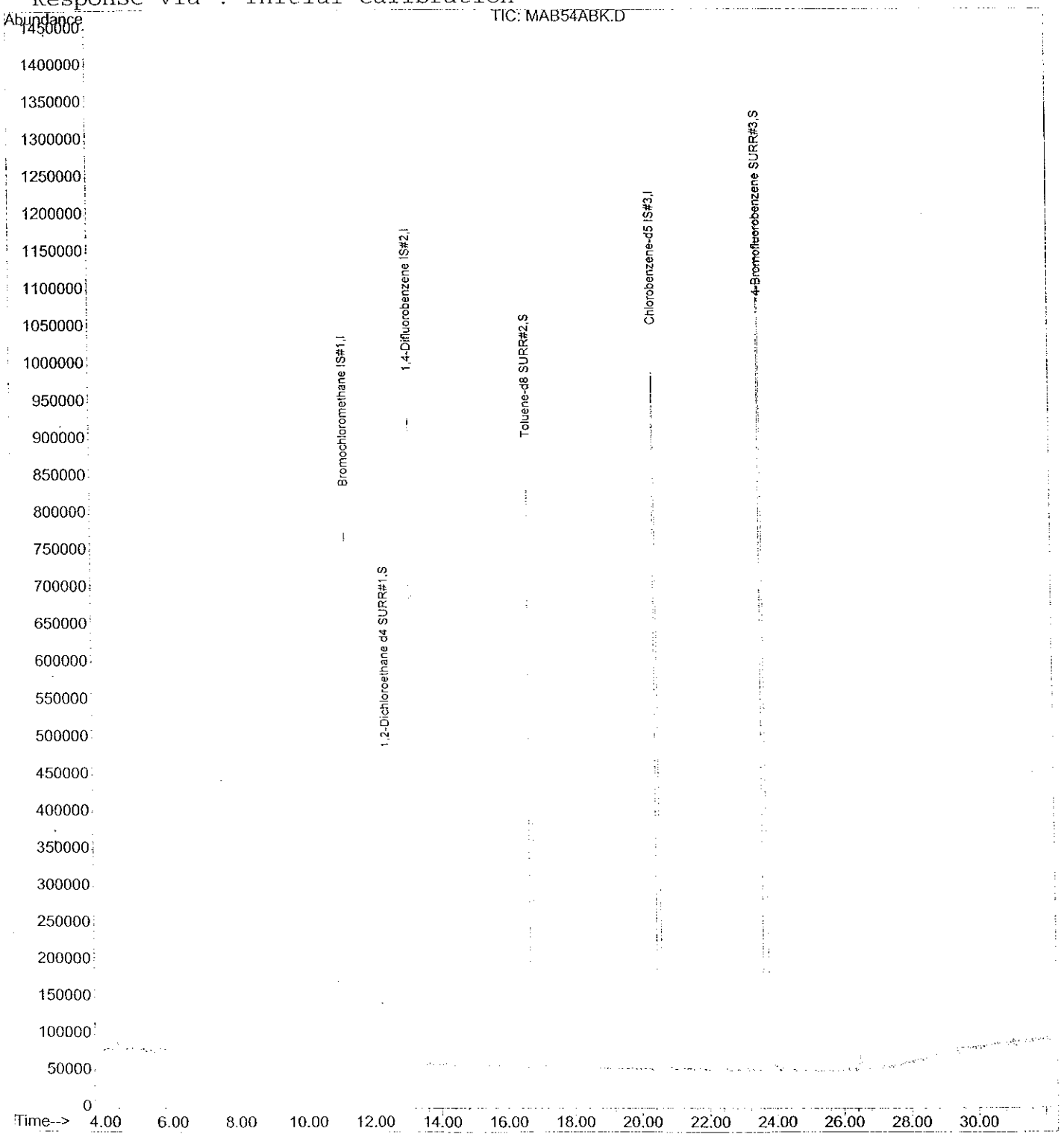
23) 1,2-Dichloroethane d4 SURR 12.42 65 781338 284.36 ng 0.01
Spiked Amount 250.000 Range 61 - 140 Recovery = 113.74%
32) Toluene-d8 SURR#2 16.76 98 1839584 248.12 ng 0.00
Spiked Amount 250.000 Range 90 - 109 Recovery = 99.25%
46) 4-Bromofluorobenzene SURR# 23.69 95 1572380 248.15 ng 0.01
Spiked Amount 250.000 Range 87 - 112 Recovery = 99.26%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
MAB54ABK.D TO14S.M Mon Mar 25 22:57:37 2002

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54ABK.D Vial: 15
Acq On : 21 Mar 2002 10:24 am Operator: BDH
Sample : VBLKMA\ DAILY METHOD BLANK Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:07 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integratc
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:43 2002 Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.29	128	513167	250.00 ng	0.02 94.02%
26) 1,4-Difluorobenzene IS#2	13.23	114	2001743	250.00 ng	0.02 90.61%
36) Chlorobenzene-d5 IS#3	20.54	117	1546733	250.00 ng	0.02 91.28%

ng report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.42	65	694427	287.60 ng	0.02
Spiked Amount 250.000 Range 61 - 140 Recovery = 115.04%					
32) Toluene-d8 SURR#2	16.78	98	1596197	255.23 ng	0.02
Spiked Amount 250.000 Range 90 - 109 Recovery = 102.09%					
46) 4-Bromofluorobenzene SURR#	23.68	95	1386049	251.34 ng	0.00
Spiked Amount 250.000 Range 87 - 112 Recovery = 100.54%					

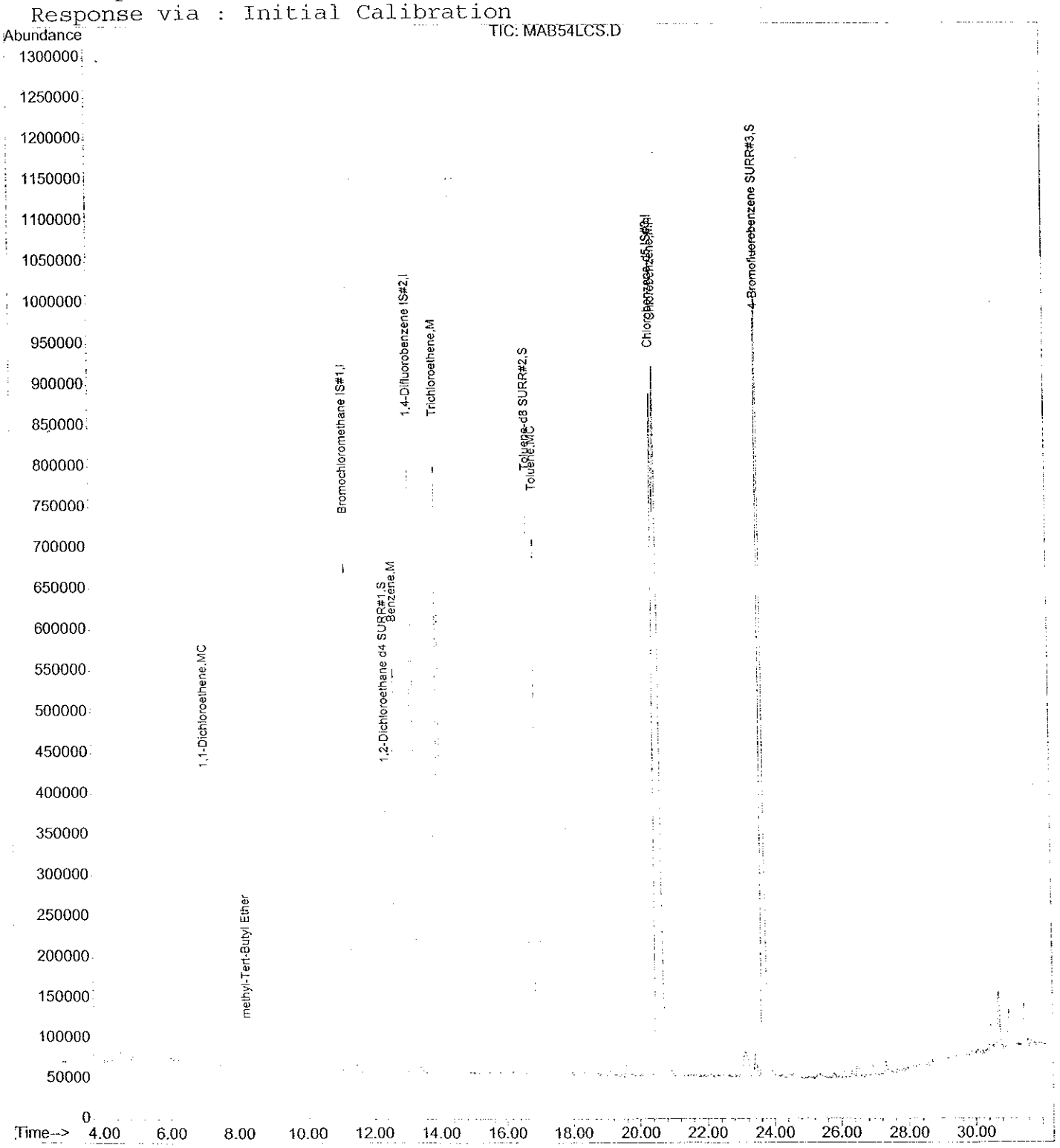
Target Compounds						Qvalue
10) 1,1-Dichloroethene	7.03	96	482573	221.03 ng		97
14) methyl-Tert-Butyl Ether	8.21	73	18761	5.89 ng	#	44
27) Benzene	12.70	78	1486478	253.17 ng		99
28) Trichloroethene	14.02	130	809788	248.30 ng		97
33) Toluene	16.97	92	964688	260.14 ng		97
39) Chlorobenzene	20.63	112	1454390	263.80 ng		89

(#) = qualifier out of range (m) = manual integration
MAB54LCS.D TO14S.M Mon Mar 25 22:57:48 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA\MARILYN\2M0321A\MAB54LCS.D Vial: 16
Acq On : 21 Mar 2002 11:01 am Operator: BDH
Sample : VLCSMA\ BATCH #054 LCS 50ppb/250ng Inst : MARILYN
Misc : Pi/Pf=1 MA054ABK 2nd SOURCE Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 21 11:43 2002 Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\MARILYN\CRV012502\TO14S.M (RTE Integrato
Title : TO14
Last Update : Mon Mar 25 22:54:24 2002
Response via : Initial Calibration



MAB54LCS.D TO14S.M Mon Mar 25 22:57:12 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:46 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 0.004

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002 Matrix BH 3/21/02
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.26	128	303971	250.00 ng	0.00 55.69%
26) 1,4-Difluorobenzene IS#2	13.21	114	1167166	250.00 ng	0.00 52.83%
36) Chlorobenzene-d5 IS#3	20.51	117	906197	250.00 ng	-0.01 53.48%

mg/m3 report

System Monitoring Compounds					
23) 1,2-Dichloroethane d4 SURR	12.41	65	378342	264.53 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.81%		
32) Toluene-d8 SURR#2	16.75	98	938764	257.44 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.98%		
46) 4-Bromofluorobenzene SURR#	23.66	95	823397	254.85 ng	-0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.94%		

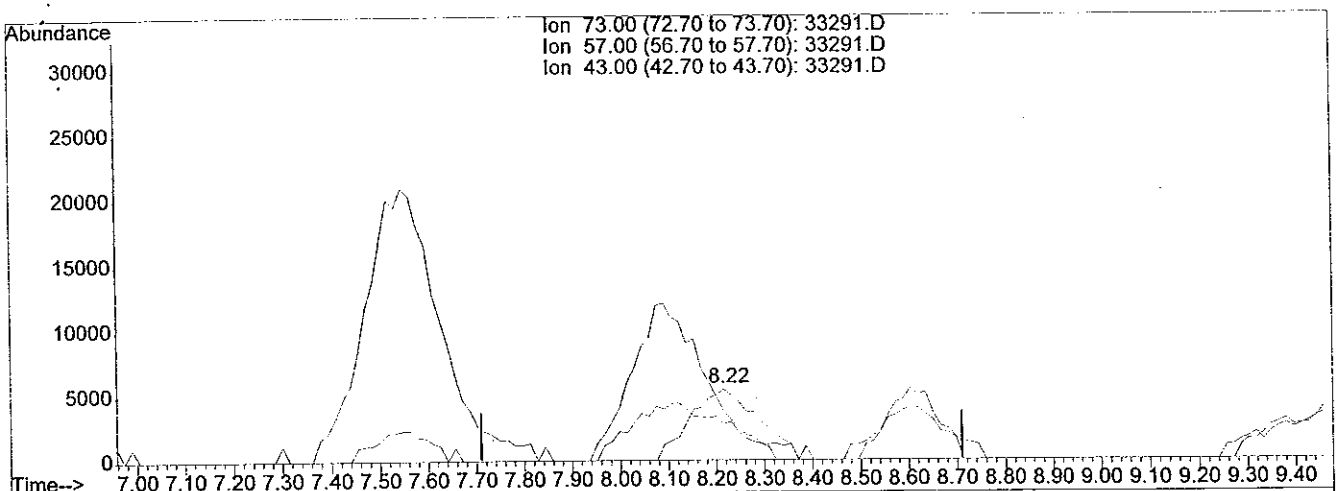
Target Compounds					Qvalue	
14) methyl-Tert-Butyl Ether	8.22	73	53692	0.11 ng	#	52
16) n-Hexane	8.60	57	40501	0.12 ng	#	1
40) Ethylbenzene	20.71	106	19590	0.06 ng	#	57
41) m,p-Xylene	20.90	106	104182	0.25 ng		98
42) o-Xylene	22.06	106	45881	0.12 ng		84
48) 4-Ethyltoluene	24.30	105	359016	0.34 ng		96
49) 1,3,5-Trimethylbenzene	24.44	105	362644	0.44 ng		96
51) 1,2,4-Trimethylbenzene	25.39	105	366873	0.42 ng		98

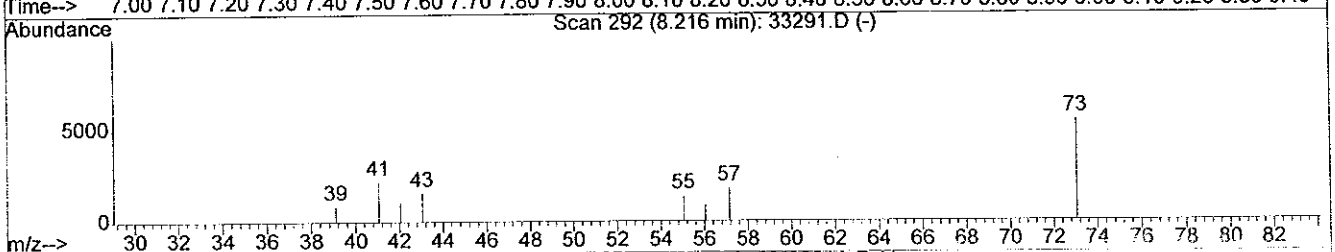
(#) = qualifier out of range (m) = manual integration
33291.D TO14S.M Thu Mar 21 13:47:00 2002

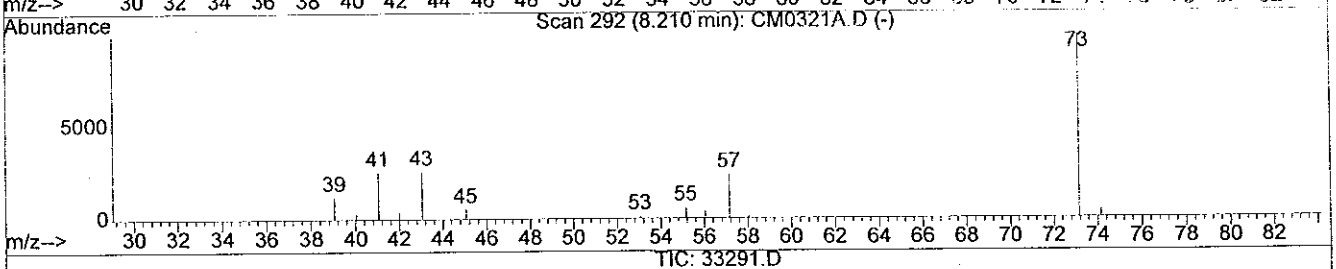
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:44 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(14) methyl-Tert-Butyl Ether

8.22min 28.48ng

response 53692

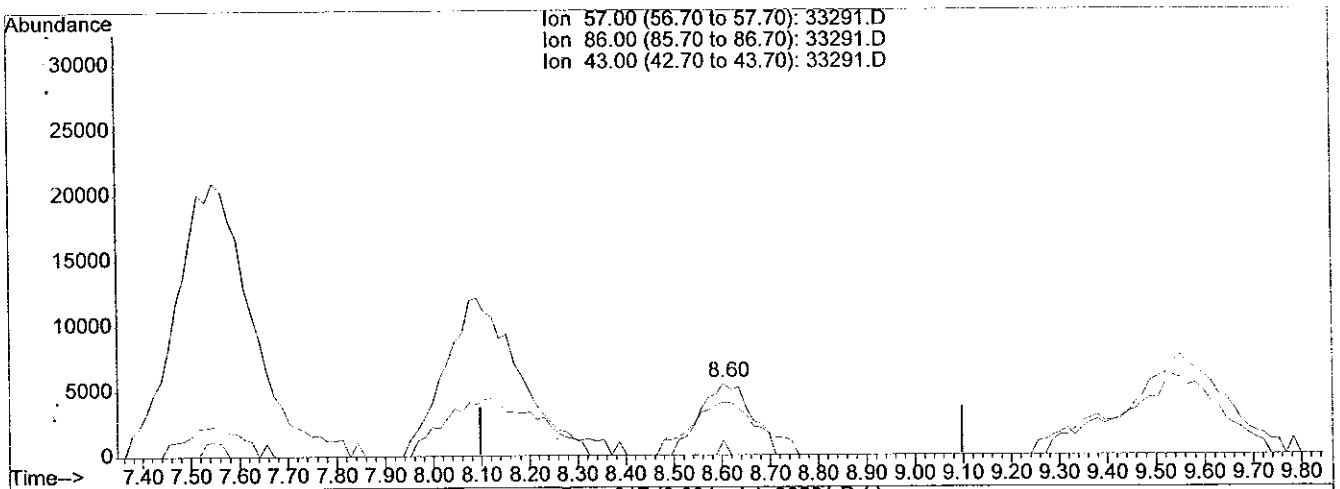
Ion	Exp%	Act%
73.00	100	100
57.00	24.60	0.00#
43.00	22.10	0.00#
0.00	0.00	0.00

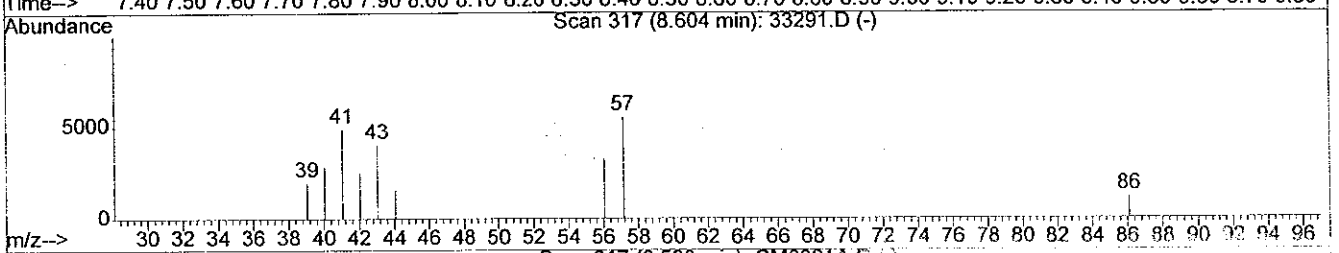
33291.D TO14S.M Thu Mar 21 13:44:52 2002

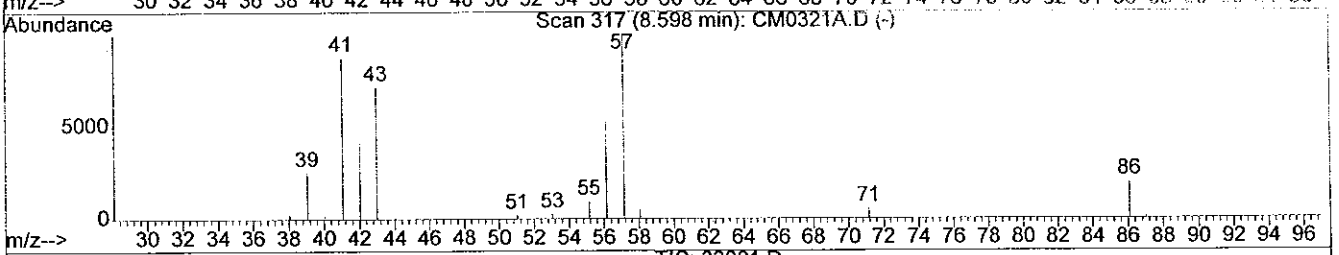
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:44 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(16) n-Hexane

8.60min 30.59ng

response 40501

Ion	Exp%	Act%
57.00	100	100
86.00	25.00	2.63#
43.00	325.00	98.53#
0.00	0.00	0.00

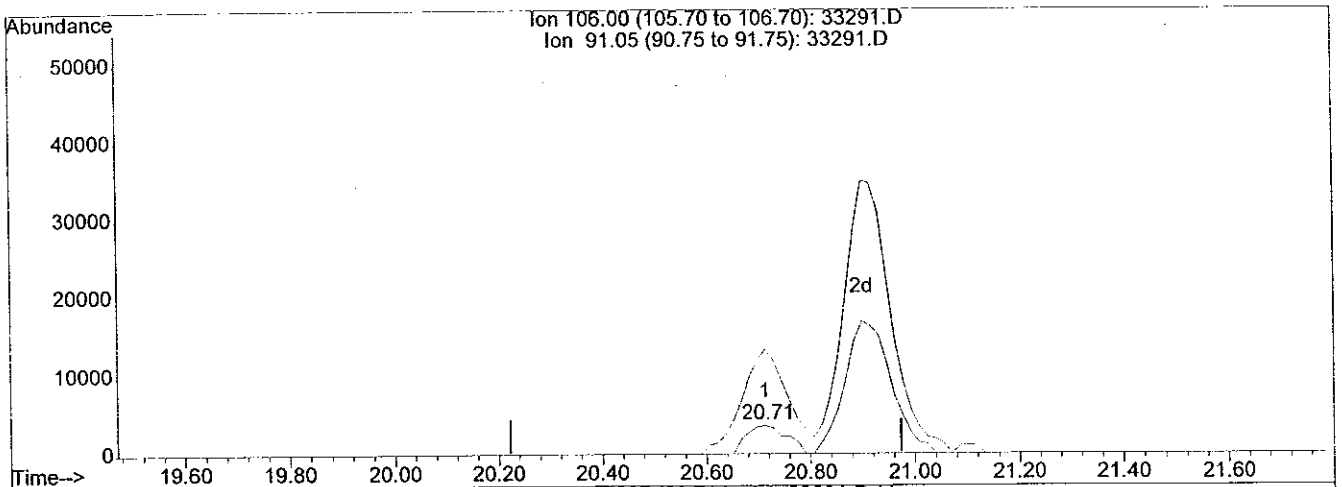
33291.D TO14S.M Thu Mar 21 13:45:06 2002

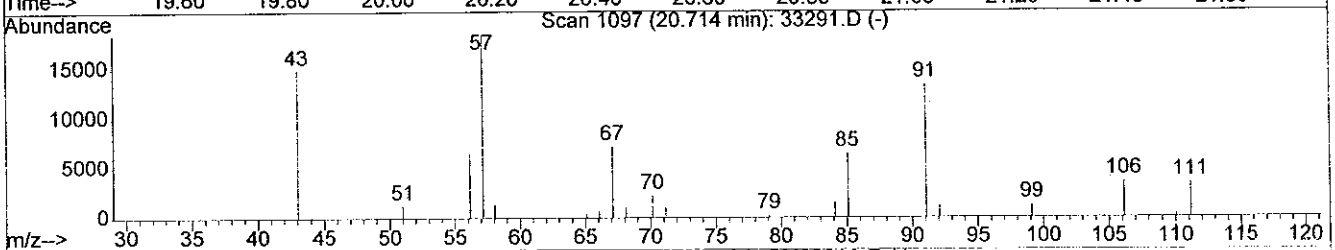
Quantitation Report (Qedit)

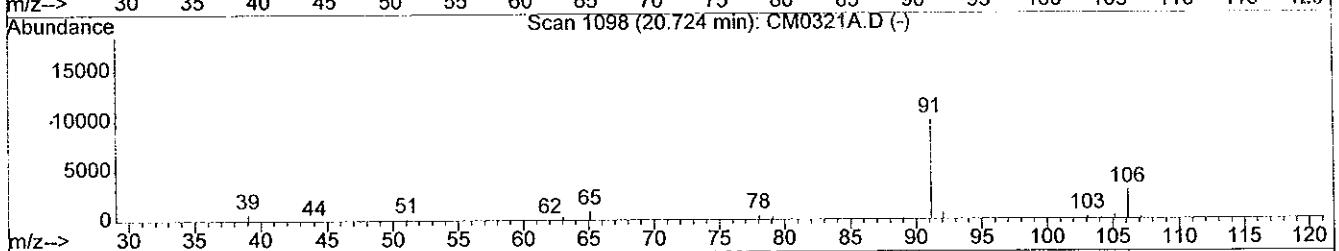
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:45 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(40) Ethylbenzene (C)

20.71min 15.16ng

response 19590

Ion	Exp%	Act%
106.00	100	100
91.05	332.50	423.43#
0.00	0.00	0.00
0.00	0.00	0.00

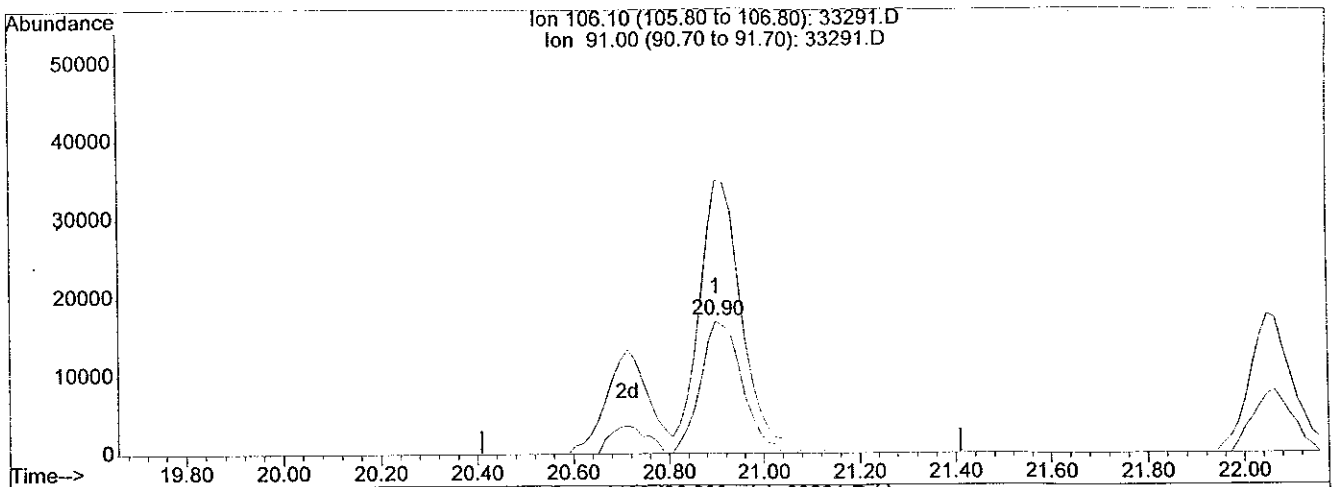
33291.D TO14S.M Thu Mar 21 13:45:46 2002

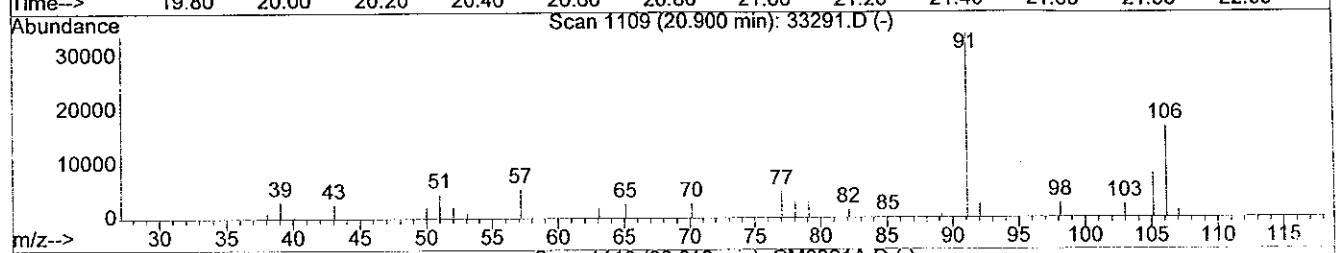
Quantitation Report (Quant)

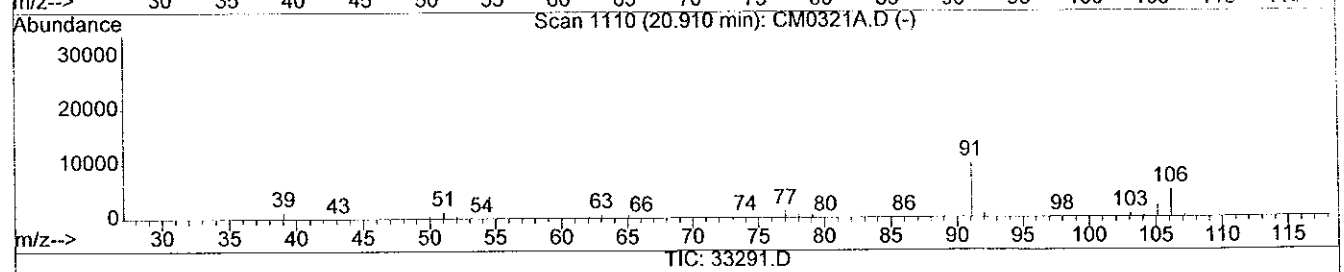
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:45 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(41) m,p-Xylene

20.90min 62.62ng

response 104182

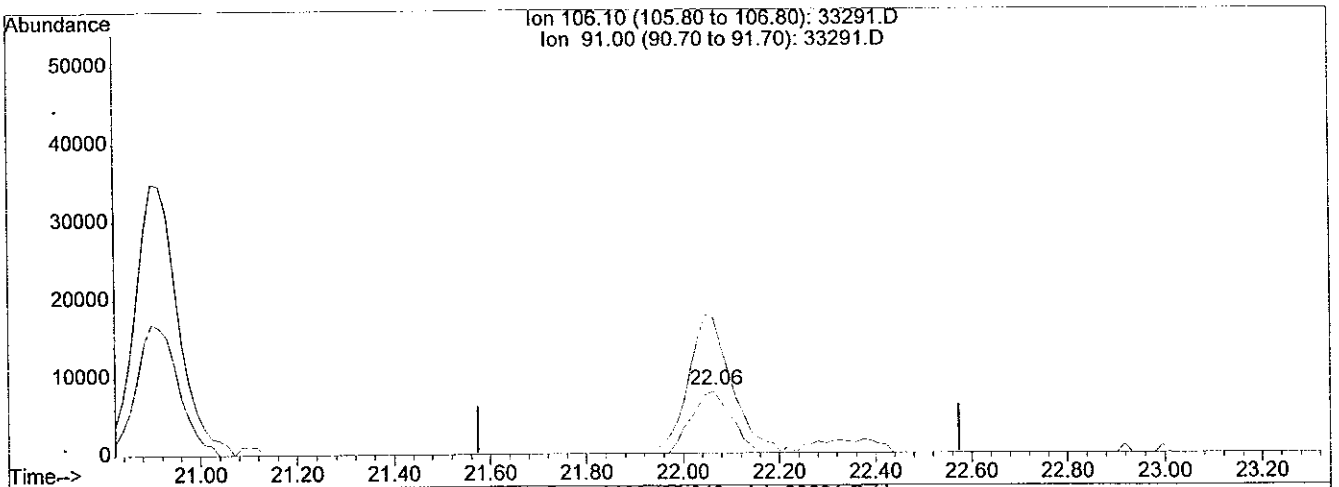
Ion	Exp%	Act%
106.10	100	100
91.00	205.30	209.01
0.00	0.00	0.00
0.00	0.00	0.00

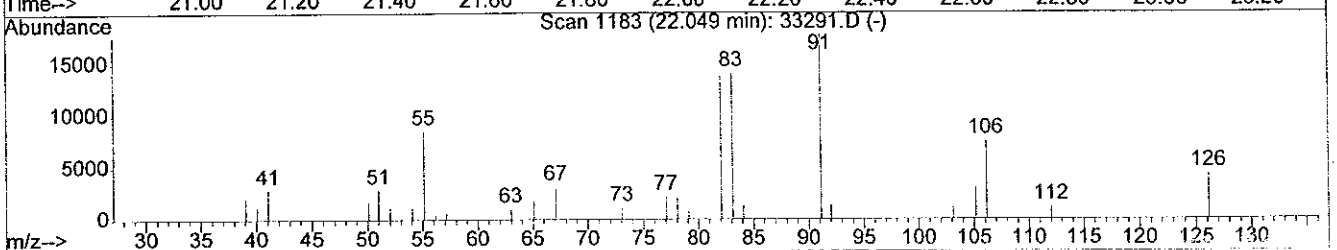
33291.D TO14S.M Thu Mar 21 13:45:56 2002

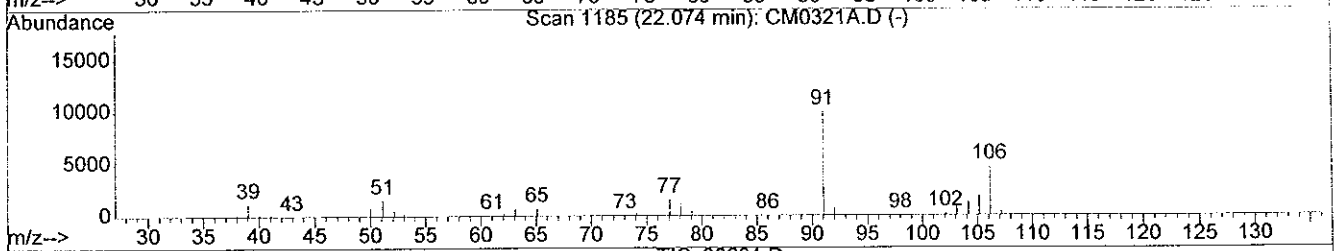
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:45 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(42) o-Xylene

22.06min 28.85ng

response 45881

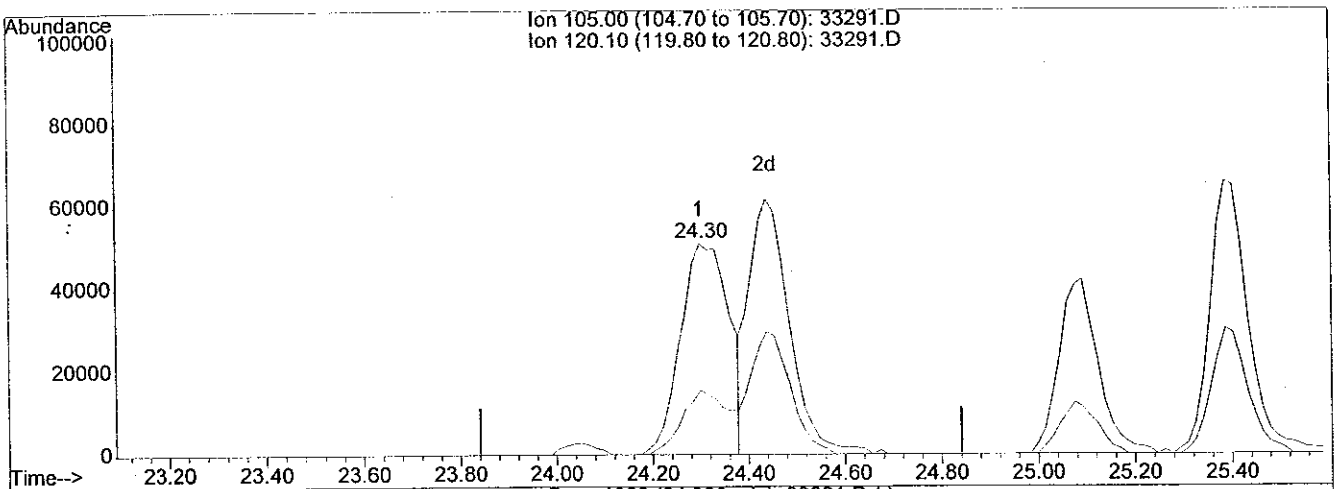
Ion	Exp%	Act%
106.10	100	100
91.00	215.80	241.59
0.00	0.00	0.00
0.00	0.00	0.00

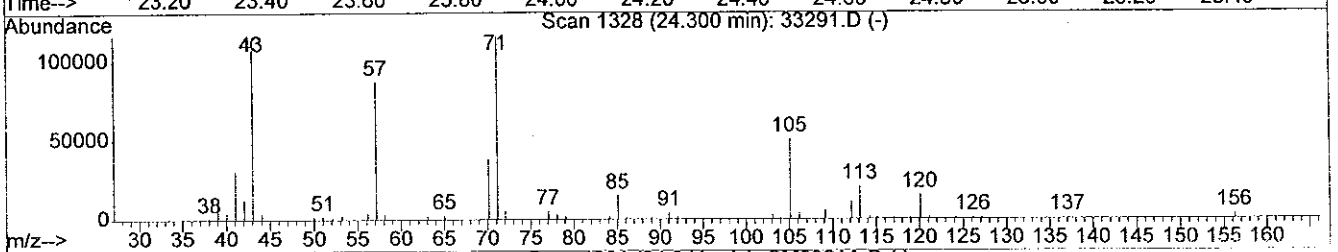
33291.D TO14S.M Thu Mar 21 13:46:06 2002

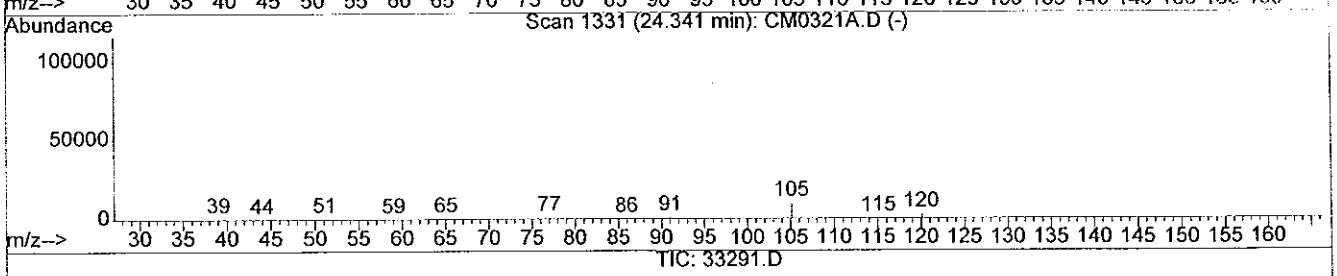
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:46 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







(48) 4-Ethyltoluene

24.30min 85.60ng

response 359016

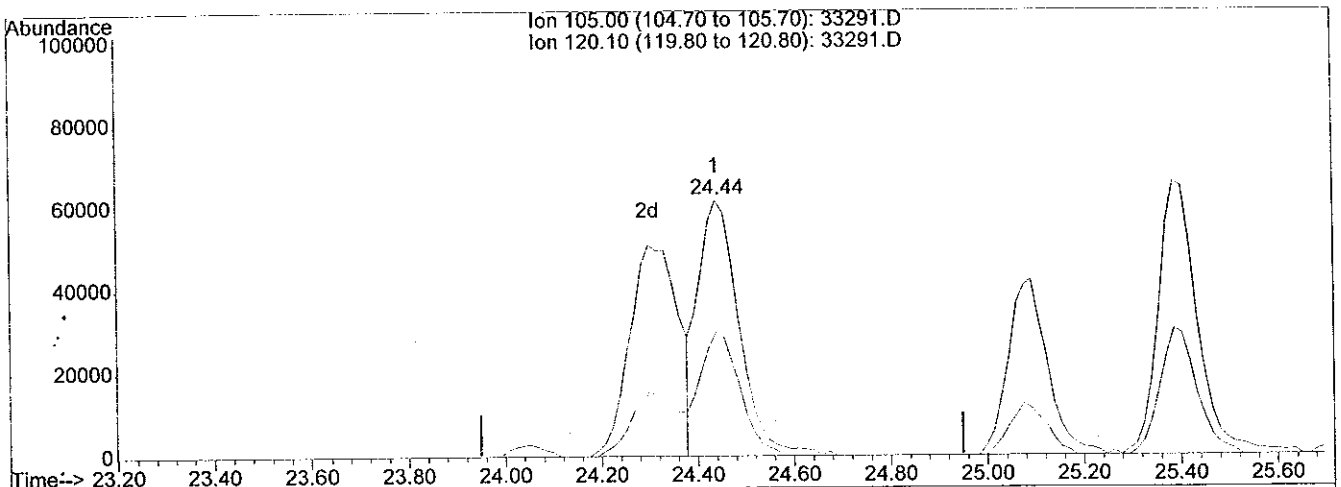
Ion	Exp%	Act%
105.00	100	100
120.10	28.80	26.85
0.00	0.00	0.00
0.00	0.00	0.00

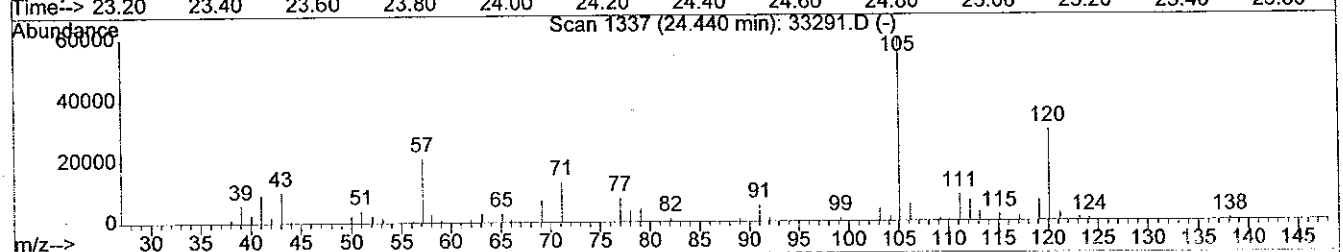
33291.D TO14S.M Thu Mar 21 13:46:19 2002

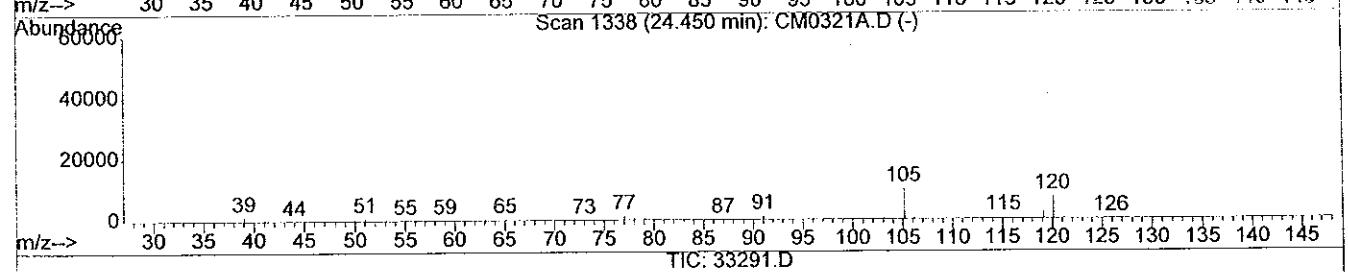
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:46 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(49) 1,3,5-Trimethylbenzene

24.44min 109.70ng

response 362644

Ion	Exp%	Act%
105.00	100	100
120.10	46.70	49.40
0.00	0.00	0.00
0.00	0.00	0.00

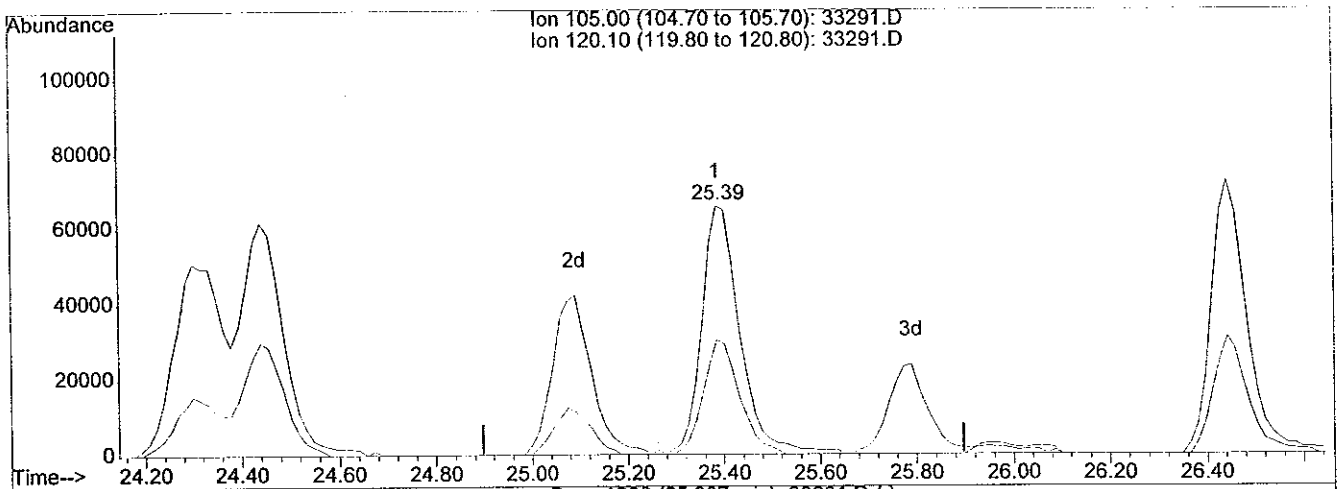
33291.D TO14S.M Thu Mar 21 13:46:28 2002

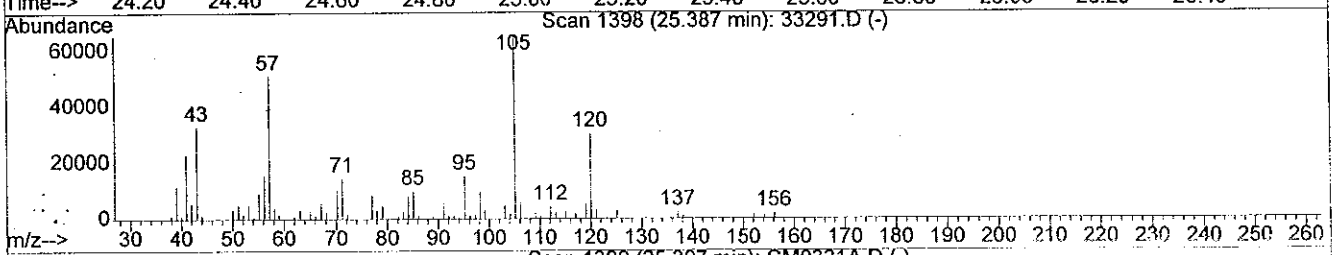
Quantitation Report (Qedit)

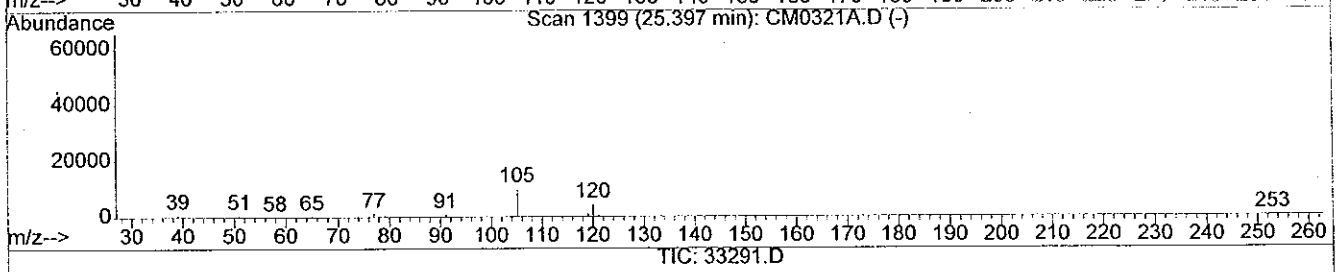
Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:46 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Multiple Level Calibration







TIC: 33291.D

(51) 1,2,4-Trimethylbenzene

25.39min 105.34ng

response 366873

Ion	Exp%	Act%
105.00	100	100
120.10	44.90	43.47
0.00	0.00	0.00
0.00	0.00	0.00

33291.D TO14S.M Thu Mar 21 13:46:41 2002

Quantitation Report

Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:37 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00

Quant Results File: TO14S.RES

Quant Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002 original
Response via : Initial Calibration
DataAcq Meth : TO14S
IS QA File : D:\HPCHEM\1\DATA02\M0321A\CM0321A.D (21 Mar 2002 9:27)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Bromochloromethane IS#1	11.26	128	303971	250.00 ng	0.00 55.69%
26) 1,4-Difluorobenzene IS#2	13.21	114	1167166	250.00 ng	0.00 52.83%
36) Chlorobenzene-d5 IS#3	20.51	117	906197	250.00 ng	-0.01 53.48%

ng report

System Monitoring Compounds

23) 1,2-Dichloroethane d4 SURR	12.41	65	378342	264.53 ng	0.00
Spiked Amount 250.000	Range 61 - 140		Recovery = 105.81%		
32) Toluene-d8 SURR#2	16.75	98	938764	257.44 ng	-0.01
Spiked Amount 250.000	Range 90 - 109		Recovery = 102.98%		
46) 4-Bromofluorobenzene SURR#	23.66	95	823397	254.85 ng	-0.01
Spiked Amount 250.000	Range 87 - 112		Recovery = 101.94%		

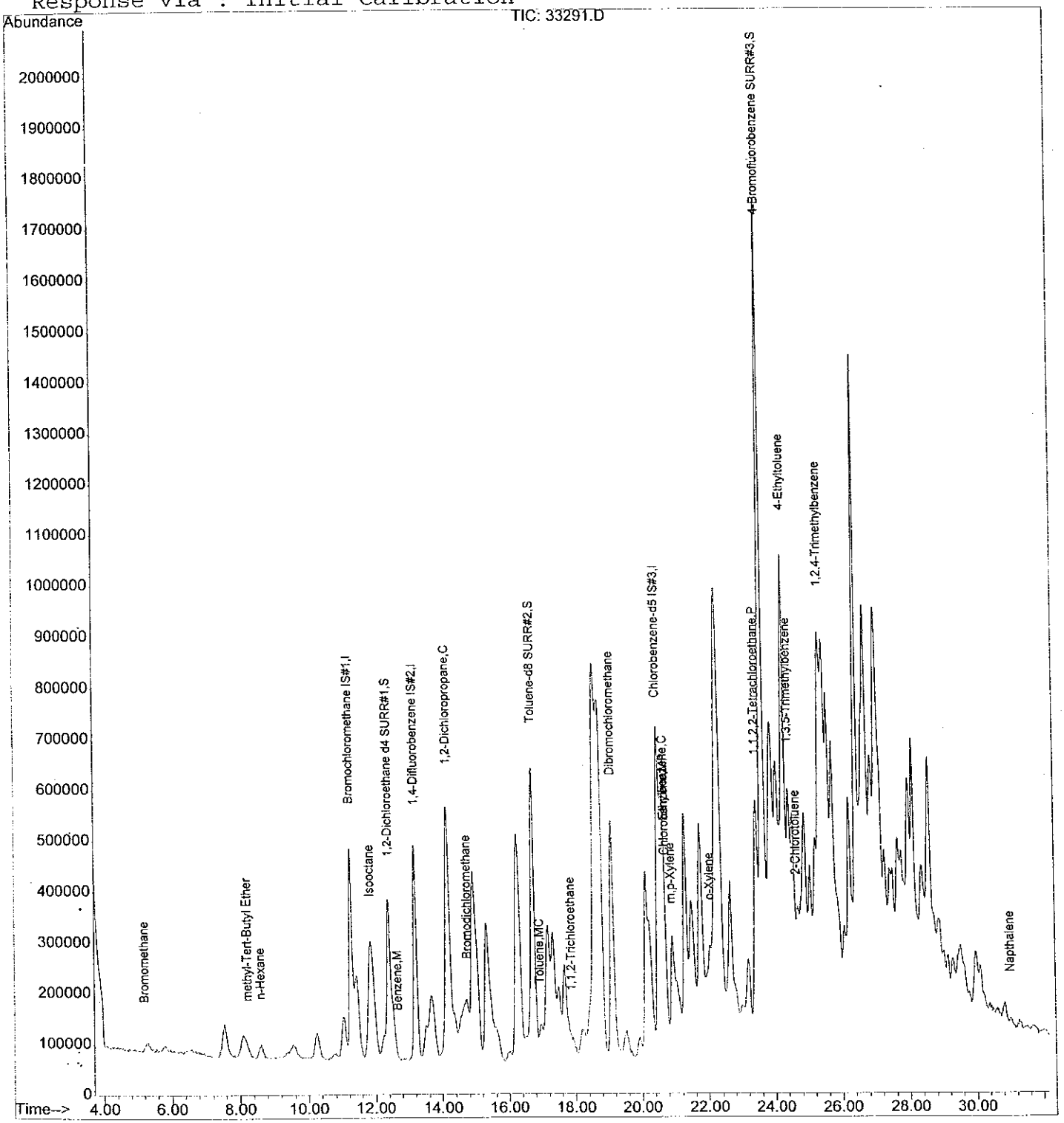
Target Compounds					Qvalue	
6) Bromomethane	5.19	94	941	0.66 ng	#	9
14) methyl-Tert-Butyl Ether	8.22	73	53692	28.48 ng	#	52
16) n-Hexane	8.60	57	40501	30.59 ng	#	1
20) Isooctane	11.86	57	826404	186.07 ng	#	66
27) Benzene	12.67	78	7038	2.06 ng	#	54
29) 1,2-Dichloropropane	14.19	63	2108	1.46 ng	#	1
30) Bromodichloromethane	14.75	83	19804	5.62 ng	#	25
33) Toluene	16.94	92	7132	3.30 ng	#	75
35) 1,1,2-Trichloroethane	17.89	97	20484	13.62 ng	#	14
38) Dibromochloromethane	19.13	127	6679	2.55 ng	#	82
39) Chlorobenzene	20.73	112	939	0.29 ng	#	1
40) Ethylbenzene	20.71	106	19590	15.16 ng	#	57
41) m,p-Xylene	20.90	106	104182	62.62 ng		98
42) o-Xylene	22.06	106	45881	28.85 ng		84
45) 1,1,2,2-Tetrachloroethane	23.46	83	139631	60.22 ng	#	30
48) 4-Ethyltoluene	24.30	105	359016	85.60 ng		96
49) 1,3,5-Trimethylbenzene	24.44	105	362644	109.70 ng		96
50) 2-Chlorotoluene	24.66	91	3096	0.72 ng	#	1
51) 1,2,4-Trimethylbenzene	25.39	105	366873	105.34 ng		98
56) Napthalene	31.01	128	2300	17.33 ng	#	64

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

Data File : D:\HPCHEM\1\DATA02\M0321A\33291.D
Acq On : 21 Mar 2002 13:05
Sample : 062SVEEA03110226\3329-1 ST. 500mls
Misc : AIR DF=2 Pi/Pf=2 CAN MAB054ABK
MS Integration Params: rteint.p
Quant Time: Mar 21 13:37 2002

Vial: 2
Operator: BDH
Inst : MARILYN
Multiplr: 1.00
Quant Results File: TO14S.RES

Method : D:\HPCHEM\1\METHODS\TO14S.M (RTE Integrator)
Title : TO14
Last Update : Thu Mar 21 10:22:34 2002
Response via : Initial Calibration



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 Fridge
Solvent: MeOH - Lot V30E90

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 µg/ml	250 µl	25 ml	25 µg/ml

Comments: ~~expires 6/25/02~~ expires 7/25/02 B 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:

GC/MS WORKING STANDARDS LOG

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
~~8-VN2-21 (IS)~~						
~~8-VN3-1 (IS~~						
8-VN3-7	LA97780	5-7-02	2000 µg/ml	500 µl	10 ml	100 µg/ml

Comments: exp 6-12-02

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

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

Parent I.D.	Lot #	Exp. Date	Parent Conc. (ppm) ug/ml	Aliquot (ul)	Final Volume (ml)	Final Conc.
8-VN1-77	LA89933	5/1/2003	1000	625	25 mls	25 ppm

Comments: Expires 6/21/01

Sol. Name: ASAHI KLIN AK-225 Stock
Date: 12-28-01
Analyst: LDD

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: GAB

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

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

Comments: Expires 3-26-02

Sol. Name: 8260 STD
Date: 10
Analyst:

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

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

Comments:

Sol. Name: T014 IS/SURR
Date: 10-12-01
Analyst: BOH

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

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

Comments: 4-10-02 expires

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	~~DATE OPENED~~ Analyst/Date Rec'd	LOG I.D.
502C	A804086	Acc STD	2000 µg/ml	7/1999	DKM 5/15/98	7-VN 2-1
502A-R	A704032	Acc STD	2000 µg/ml	7/1999	DKM 5/28/98	7-VN 2-2
8260 Surr	A11095	Restek	2500 µg/ml	5/2001	AM 5/28/98	7-VN 2-3
8260 IS	A9457	Restek	2500 µg/ml	9/2000	AM 5/29/98	7-VN 2-4
Custom Keytones	A011115	Restek	2000 µg/ml	6/1999	CAD 6/2/98	7-VN 2-5
1,4-Dioxane	A007204	Restek	2000 µg/ml	2/1999	AM 6/16/98	7-VN 2-6
Custom Tol4 Mix	LA76943	Supelco	2500 µg/ml	7/31/99	BH 7/21/98	7-VN 2-7
Acrolein/Acrylonitrile	A011483	Restek	2500 µg/ml	7/31/99	BH 7/23/98	7-VN 2-8
VOC 8260 mixture (2nd Source)	M0219	Ultra	2000 µg/ml	3/2000	~~AM~~ 7/29/98	7-VN 2-9
8260 Surr	A11749	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	LA76220	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	DKM 11/10	7-VN 2-14
Benzene-d6	072-191	AccuSTD.	2000 µg/ml	12-1-99	BDH 11/17/98	7-VN 2-15
VOA Surr. Spike Mix	A12264	Restek	2500 µg/ml	11/2001	BDH 12/22/98	7-VN 2-16
2-Chloroethyl vinyl ether	A8090342-DB	Accustandard	200.1 µg/ml	9/99	AD 1/27/99	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 Calibration 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	LA80488	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 5/14/99	7-VN 2-25
Custom Tol4 VOA Mix	LA82949	Supelco	2500 µg/ml	6/2000	BDH 6/3/99	7-VN 2-26
Equity Keytones	LA83448	Supelco	2000 µg/ml	9/2000	AM 6/9/99	7-VN 2-27
1,4-Dioxane	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 Neat)	LOG I.D.	
Equity Mix 1	LA88367	Supelco	2000 µg/ml	4/2001	DWS 6/9/99	7 -VN 3 - 1	1
Equity Mix 6	LA8268	Supelco	2000 µg/ml	7/2000	DWS 6/9/99	7 -VN 3 - 2	1
Custom Keytone	A014027	Restek	2000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 3	5
Custom Special Mix	LA83928	Supelco	20,000 µg/ml	7/2000	DWS 7/6/99	7 -VN 3 - 4	3
2-Methyl Naphthalene	A014076	Restek	2000 µg/ml	8/2000	DWS 7/13/99	7 -VN 3 - 5	3
TO14 VOA I.S. Mix	A12265	↓	2500 µg/ml	11/2001	BDA 8/11/99	7 -VN 3 - 6	5
F001 & F002	A7100180	Accustandard	2000 µg/ml	8/2000	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	Various	Various 2002 date	DWS 11/2/99	7 -VN 3 - 10	2
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	
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						-VN -	
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						-VN -	
						-VN -	
						-VN -	
						-VN -	
						-VN -	

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

NEAT AND PURCHASED STOCK SOLUTIONS LOG BOOK

1# Ampules

COMPOUND I.D. (SOL. NAME)	LOT #	SUPPLIER	PURITY (CONC.)	EXPIRATION DATE	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	LA85600	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	A014275	Restek	2500 µg/ml	12/2002	10	8-VN 1-10
Chloroprene	P0587	Ultra	100 µg/ml	05/2001	1	8-VN 1-11
Isopropyl ether	LA87616	Supelco	5000 µg/ml	1/17/2001	3	8-VN 1-12
Equity 8260 keytone	LA86031	Supelco	2000 µg/ml	12/2001	6	8-VN 1-13
Equity Iodomethane	LA88750	Supelco	2000 µg/ml	5/2001	2	8-VN 1-14
Vinyl Acetate	A016259	Restek	10,000 µg/ml	4/2001	5	8-VN 1-15
Custom keytone Mix	A016258	Restek	2000/10000 µg/ml	4/2001	5	8-VN 1-16
8260 Matrix Custom	LA89925	Supelco	2000/10000	4/22/2001	3	8-VN 1-17
8260 Volatiles Kit	Various	Restek	2000/Various	10/2001 ← earliest	1	8-VN 1-18
MTBE	A015850	Restek	2000	10/2003	1	8-VN 1-19
Volatile Mix 4	LA84440	Supelco	2000	7/2001	1	8-VN 1-20
Carbon Disulfide	LA85605	Supelco	5000	10/2002	1	8-VN 1-21
1&2-Methyl-Naphthalene	LA90433	Supelco	2000	5/10/2001	3	8-VN 1-22
Isopropyl Ether	A016259	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

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

Appendix B

Laboratory Analytical Reports for Groundwater Samples

PEL Laboratories, Inc.

Customer Name:	CH2MHILL
Date & Time Received:	3-21-02; 10:25 AM
Date Reported:	4-1-02
PEL Submission Number:	2202282
Project:	NAS Cecil Field

Samples: The submission consisted of 17 samples with sample identification shown in the attached data tables.

Tests: The sample was analyzed for EPA method:
8021 and 8310

Results: See the attached data tables for results.

Distribution of Reports:

1-CH2MHILL
Attn: Tatiana Romanova
Phone: (770) 604-9182

2-CH2M HILL
Attn: Jennifer Zimmerman
Phone: (904) 777-4262

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 2202282-Cecil Field

	SDG	FieldID	SampleType	LabSampleID	SampleDescription
Cecil Field	2202282	0327BLK51	MB	0327BLK51	0327BLK51
Cecil Field	2202282	0327LCS51	BS	0327LCS51	0327LCS51
Cecil Field	2202282	0328BLK51	MB	0328BLK51	0328BLK51
Cecil Field	2202282	0328LCS51	BS	0328LCS51	0328LCS51
Cecil Field	2202282	22BLKS	MB	65946	22BLKS
Cecil Field	2202282	22LCS	BS	65947	22LCS
Cecil Field	2202282	DUPQ10226	FD	220228215	062-DUP-Q1-02-26
Cecil Field	2202282	EQBQ10226	EB	220228216	062-EQB-Q1-02-26
Cecil Field	2202282	MW13Q10226	N	220228203	062-MW13-Q1-02-26
Cecil Field	2202282	MW20Q10226	N	220228204	062-MW20-Q1-02-26
Cecil Field	2202282	MW20Q10226MS	MS	220228205	062-MW20-Q1-02-26
Cecil Field	2202282	MW20Q10226SD	SD	220228206	062-MW20-Q1-02-26
Cecil Field	2202282	MW22Q10226	N	220228207	062-MW22-Q1-02-26
Cecil Field	2202282	MW4Q10226	N	220228201	062-MW4-Q1-02-26
Cecil Field	2202282	MW9Q10226	N	220228202	062-MW9-Q1-02-26
Cecil Field	2202282	TBQ10226	TB	220228217	062-TB-Q1-02-26
Cecil Field	2202282	VEW2Q10226	N	220228208	062-VEW2-Q1-02-26
Cecil Field	2202282	VEW3Q10226	N	220228209	062-VEW3-Q1-02-26
Cecil Field	2202282	VEW4Q10226	N	220228210	062-VEW4-Q1-02-26
Cecil Field	2202282	VEW5Q10226	N	220228211	062-VEW5-Q1-02-26
Cecil Field	2202282	VEW6Q10226	N	220228212	062-VEW6-Q1-02-26
Cecil Field	2202282	VEW7Q10226	N	220228213	062-VEW7-Q1-02-26
Cecil Field	2202282	VEW8Q10226	N	220228214	062-VEW8-Q1-02-26

Organics **1**
METHOD 8021 GC VOLATILE ORGANICS 4
Sample Data 8
QC Summary 24
Standards Data 37
METHOD 8310 HPLC PAH ORGANICS 50
Sample Data 54
QC Summary 69
Standards Data 78

Chain of Custody Documentation **89**

Addendum **95**

Organics

010402 1554

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

010402 1554

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202282

Client: CH2MHILL

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHODS

EPA 8021/SW846

IV. PREPARATION

Water samples were prepared by 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:

The blanks analyzed with the samples met the criteria.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

Laboratory Control Samples (LCS)

The LCSs met the criteria.

CASE NARRATIVE
GC VOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202282

Spikes continued:

Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

The client specified sample, MW20Q10226, was analyzed as an MS/SD where all criteria were met.

E. Internal standards:

All internal standard criteria were met.

F. Samples:

Sample analysis proceeded normally. PEL reporting limits were used. All analytes were quantitated off of the PID detector.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: Iria Pelo **DATE:** 03/28/02

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Method: **8021**

EPA Sample No	Lab Sample ID
MW4Q10226	220228201
MW9Q10226	220228202
MW13Q10226	220228203
MW20Q10226	220228204
MW22Q10226	220228207
VEW2Q10226	220228208
VEW3Q10226	220228209
VEW4Q10226	220228210
VEW5Q10226	220228211
VEW6Q10226	220228212
VEW7Q10226	220228213
VEW8Q10226	220228214
DUPQ10226	220228215
EQBQ10226	220228216
TBQ10226	220228217

010402 1554

Sample Data

010402 1554

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW4Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228201

Lab File ID: 282-1.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 2335

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.

MW9Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228202

Lab File ID: 282-2.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 2251

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

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW13Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228203

Lab File ID: 282-3.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 2208

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	0.58	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW20Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228204

Lab File ID: 282-4.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1328

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	0.45	J
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	0.32	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW22Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228207

Lab File ID: 282-7.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1958

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	2.2	
1634-04-4	MTBE	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	0.43	J
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.41	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW2Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228208

Lab File ID: 282-8R.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0909

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	1	U
511-39-00	p,m-Xylene	2	U
95-47-6	o-Xylene	0.85	J

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW3Q10226

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Matrix: WATER Lab Sample ID: 220228209 Lab File ID: 282-9.D

Sample wt/vol: 5 Units: ML Date Received: 03/21/02

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 03/27/02 Time: 1915

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.

VEW4Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228210

Lab File ID: 282-10.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1832

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.

VEW5Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228211

Lab File ID: 282-11.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1749

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.

VEW6Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228212

Lab File ID: 282-12.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1705

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.

VEW7Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228213

Lab File ID: 282-13.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1622

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

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW8Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228214

Lab File ID: 282-14.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1538

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	0.89	J
511-39-00	p,m-Xylene	0.88	J
95-47-6	o-Xylene	1	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228215

Lab File ID: 282-15R.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0953

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Duplicate

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
71-43-2	Benzene	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.

EQBQ10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228216

Lab File ID: 282-16.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1455

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.

TBQ10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228217

Lab File ID: 282-17.D

Sample wt/vol: 5

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1411

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: Trip Blank

Method: 8021

GPC Cleanup : (Y/N)

pH:

Column(1): RTX-502.2

ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	***ANALYTE***	***RESULT***	***Q***
71-43-2	Benzene	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

010402 1554

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

0327BLK51

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 0327BLK51

Lab File ID: BLK51.D

Sample wt/vol: 5

Units: ML

Date Received: 03/27/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 0827

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

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.

0328BLK51

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 0328BLK51

Lab File ID: BLK51.D

Sample wt/vol: 5

Units: ML

Date Received: 03/28/02

Concentrated Extract Volume: 5

Date Extracted:

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0743

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: PURGETRAP

Station ID: QC

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

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

0327BLK51

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Lab File ID: BLK51.D Lab Sample ID: 0327BLK51

Instrument ID: VGC5 Date Extracted:

Matrix: WATER Date Analyzed: 03/27/02

Level:(low/med) LOW Time Analyzed: 0827

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	0327LCS51	0327LCS51	LCS51.D	03/27/02	0910
2	MW20Q10226SD	220228206	282-6MSD.D	03/27/02	1202
3	MW20Q10226MS	220228205	282-5MS.D	03/27/02	1245
4	MW20Q10226	220228204	282-4.D	03/27/02	1328
5	TBQ10226	220228217	282-17.D	03/27/02	1411
6	EQBQ10226	220228216	282-16.D	03/27/02	1455
7	VEW8Q10226	220228214	282-14.D	03/27/02	1538
8	VEW7Q10226	220228213	282-13.D	03/27/02	1622
9	VEW6Q10226	220228212	282-12.D	03/27/02	1705
10	VEW5Q10226	220228211	282-11.D	03/27/02	1749
11	VEW4Q10226	220228210	282-10.D	03/27/02	1832
12	VEW3Q10226	220228209	282-9.D	03/27/02	1915
13	MW22Q10226	220228207	282-7.D	03/27/02	1958
14	MW13Q10226	220228203	282-3.D	03/27/02	2208
15	MW9Q10226	220228202	282-2.D	03/27/02	2251
16	MW4Q10226	220228201	282-1.D	03/27/02	2335

COMMENTS:

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

0328BLK51

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Lab File ID: BLK51.D Lab Sample ID: 0328BLK51

Instrument ID: VGC5 Date Extracted:

Matrix: WATER Date Analyzed: 03/28/02

Level:(low/med) LOW Time Analyzed: 0743

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	0328LCS51	0328LCS51	LCS51.D	03/28/02	0826
2	VEW2Q10226	220228208	282-8R.D	03/28/02	0909
3	DUPQ10226	220228215	282-15R.D	03/28/02	0953

COMMENTS:

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG NO.: 2202282

Column(1): RTX-502.2 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
0327BLK51	89.3						0
0327LCS51	95.7						0
0328BLK51	107.7						0
0328LCS51	119.0						0
DUPQ10226	123.7						0
EQBQ10226	96.0						0
MW13Q10226	95.7						0
MW20Q10226	99.7						0
MW20Q10226MS	103.7						0
MW20Q10226SD	103.7						0
MW22Q10226	97.7						0
MW4Q10226	100.7						0
MW9Q10226	98.0						0
TBQ10226	94.0						0
VEW2Q10226	117.0						0
VEW3Q10226	98.0						0
VEW4Q10226	99.3						0
VEW5Q10226	100.3						0
VEW6Q10226	100.0						0
VEW7Q10226	100.0						0
VEW8Q10226	95.7						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

010402 1554

8A

VOLATILE ORGANIC INTERNAL STANDARD AREA SUMMARY

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Lab File ID (Standard): 30PPB.D Date Analyzed: 3/18/2002

Instrument ID: VGC5 Time Analyzed: 13:06

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	233743		14.34						
	UPPER LIMIT	467486		14.84						
	LOWER LIMIT	116871.5		13.84						
	EPA SAMPLE NO.									
1	0327BLK51	235592		14.34						
2	0327LCS51	231607		14.35						
3	MW20Q10226SD	223589		14.36						
4	MW20Q10226MS	225721		14.36						
5	MW20Q10226	217942		14.35						
6	TBQ10226	224422		14.36						
7	EQBQ10226	220448		14.36						
8	VEW8Q10226	219799		14.37						
9	VEW7Q10226	214331		14.37						
10	VEW6Q10226	197516		14.38						
11	VEW5Q10226	214353		14.37						
12	VEW4Q10226	214754		14.37						
13	VEW3Q10226	213643		14.37						
14	MW22Q10226	214898		14.37						
15	MW13Q10226	221664		14.37						
16	MW9Q10226	216300		14.37						
17	MW4Q10226	210446		14.37						
18	0328BLK51	210044		14.37						
19	0328LCS51	206501		14.37						
20	VEW2Q10226	206994		14.37						
21	DUPQ10226	198886		14.37						

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

010402 1554

FORM VIII

8

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 03/18/02

Instrument ID: VGC5

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.88 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD19551	500pptstd	03/18/02	0850	28.84	
2	STD19552	1ppbstd	03/18/02	0932	28.86	
3	STD19553	2ppbstd	03/18/02	1014	28.87	
4	STD19554	5ppbstd	03/18/02	1057	28.88	
5	STD19555	10ppbstd	03/18/02	1140	28.88	
6	STD19556	20ppbstd	03/18/02	1223	28.88	
7	STD19557	30ppbstd	03/18/02	1306	28.89	
8	STD19558	40ppbstd	03/18/02	1349	28.89	
9	STD19559	50ppbstd	03/18/02	1433	28.89	
10	STD19560	100ppbstd	03/18/02	1517	28.89	
11	SSC19561	0318sec51	03/18/02	1600	28.88	
12	CCV19728	0327CCV51	03/27/02	0702	28.84	
13	ZZZZZZ	ZZZZZZ	03/27/02	0745		
14	0327BLK51	0327BLK51	03/27/02	0827	28.87	
15	0327LCS51	0327LCS51	03/27/02	0910	28.87	
16	ZZZZZZ	ZZZZZZ	03/27/02	0953		
17	ZZZZZZ	ZZZZZZ	03/27/02	1035		
18	CCV19734	0327CCV54	03/27/02	1118	28.88	
19	MW20Q10226SD	220228206	03/27/02	1202	28.88	
20	MW20Q10226MS	220228205	03/27/02	1245	28.88	
21	MW20Q10226	220228204	03/27/02	1328	28.88	
22	TBQ10226	220228217	03/27/02	1411	28.88	
23	EQBQ10226	220228216	03/27/02	1455	28.89	
24	VEW8Q10226	220228214	03/27/02	1538	28.9	
25	VEW7Q10226	220228213	03/27/02	1622	28.9	
26	VEW6Q10226	220228212	03/27/02	1705	28.9	

QC LIMITS

S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

GC Column: RTX-502.2 ID: 0.53 (mm) Init. Calib. Date: 03/18/02

Instrument ID: VGC5

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 28.88 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	VEW5Q10226	220228211	03/27/02	1749	28.9	
28	VEW4Q10226	220228210	03/27/02	1832	28.9	
29	VEW3Q10226	220228209	03/27/02	1915	28.89	
30	MW22Q10226	220228207	03/27/02	1958	28.9	
31	CCV19813	0327CCV55	03/27/02	2041	28.9	
32	ZZZZZZ	ZZZZZZ	03/27/02	2125		
33	MW13Q10226	220228203	03/27/02	2208	28.9	
34	MW9Q10226	220228202	03/27/02	2251	28.9	
35	MW4Q10226	220228201	03/27/02	2335	28.9	
36	ZZZZZZ	ZZZZZZ	03/28/02	0018		
37	ZZZZZZ	ZZZZZZ	03/28/02	0101		
38	ZZZZZZ	ZZZZZZ	03/28/02	0145		
39	ZZZZZZ	ZZZZZZ	03/28/02	0228		
40	CCV19822	0327CCV57	03/28/02	0312	28.89	
41	ZZZZZZ	ZZZZZZ	03/28/02	0355		
42	ZZZZZZ	ZZZZZZ	03/28/02	0616		
43	CCV19825	0328CCV52	03/28/02	0659	28.89	
44	0328BLK51	0328BLK51	03/28/02	0743	28.9	
45	0328LCS51	0328LCS51	03/28/02	0826	28.9	
46	VEW2Q10226	220228208	03/28/02	0909	28.9	
47	DUPQ10226	220228215	03/28/02	0953	28.89	
48	CCV19830	0328CCV53	03/28/02	1036	28.89	

QC LIMITS

S1 = 4-Bromofluorobenzene (+/- 0.2 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

010402 1554 FORM VIII

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0327LCS51

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	9.2	92.0	65 - 134
MTBE	10	9.9	99.0	80 - 135
Toluene	10	9.8	98.0	82 - 124
Ethylbenzene	10	9.8	98.0	86 - 122
p,m-Xylene	20	19.9	99.5	88 - 124
o-Xylene	10	9.9	99.0	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:

010402 1554

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

0328LCS51

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Benzene	10	9.8	98.0	65 - 134
MTBE	10	11.7	117.0	80 - 135
Toluene	10	10.5	105.0	82 - 124
Ethylbenzene	10	10.6	106.0	86 - 122
p,m-Xylene	20	21.6	108.0	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:

010402 1554

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q10226MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Benzene	10	0.45	10	95.5	66 - 132
MTBE	10	0	10.7	107.0	81 - 129
Toluene	10	0	10.6	106.0	86 - 120
Ethylbenzene	10	0	10.4	104.0	87 - 120
p,m-Xylene	20	0	21.2	106.0	94 - 116
o-Xylene	10	0.32	10.8	104.8	93 - 122

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

010402 1554

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field MW20Q10226SD

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10	9.8	93.5	2.2	20	66 - 132
MTBE	10	11	110.0	2.7	24	81 - 129
Toluene	10	10	100.0	5.6	22	86 - 120
Ethylbenzene	10	10.1	101.0	3.1	23	87 - 120
p,m-Xylene	20	20.6	103.0	2.6	16	94 - 116
o-Xylene	10	10.5	101.8	3.2	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

010402 1554

Standards Data

010402 1554

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 Calibration Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1517

LAB FILE ID: RRF0.5 =500PPT.D RRF1 =1PPB.D
RRF2 =2PPB.D RRF5 =5PPB.D RRF10 =10PPB.D

COMPOUND	RRF0.5	RRF1	RRF2	RRF5	RRF10
Benzene	1.600	1.218	1.501	1.506	1.513
MTBE	0.538	0.461	0.574	0.525	0.525
Toluene	1.381	1.102	1.286	1.328	1.330
Ethylbenzene	1.384	1.114	1.255	1.242	1.252
p,m-Xylene	1.316	1.104	1.331	1.390	1.393
o-Xylene	1.164	0.979	1.113	1.136	1.148
==========					
4-Bromofluorobenzene(SURR)		0.985	1.201	0.967	1.166

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 Calibration Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1517

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	1.447	1.419	1.423	1.384	1.344
MTBE	0.523	0.513	0.529	0.525	0.503
Toluene	1.295	1.276	1.281	1.239	1.215
Ethylbenzene	1.227	1.188	1.199	1.152	1.123
p,m-Xylene	1.366	1.335	1.344	1.282	1.249
o-Xylene	1.129	1.102	1.111	1.064	1.054
==========					
4-Bromofluorobenzene(SURR)	1.252	1.203	1.218	1.216	1.166

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 Calibration Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1517

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Benzene	AVRG		1.4354995335	7.4
MTBE	AVRG		0.5217044232	5.4
Toluene	AVRG		1.2733943172	6
Ethylbenzene	AVRG		1.2136708393	6.5
p,m-Xylene	AVRG		1.3108884079	6.5
o-Xylene	AVRG		1.1001241582	5
==========				
4-Bromofluorobenzene(SURR)	AVRG		1.1529398307	9

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 Calibration Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1517

LAB FILE ID: RT1: 500PPT.D RT2: 1PPB.D
RT3: 2PPB.D RT4: 5PPB.D RT5: 10PPB.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Benzene	13.870	13.887	13.897	13.907	13.910			
MTBE	9.317	9.337	9.340	9.347	9.353			
Toluene	18.760	18.760	18.787	18.783	18.790			
Ethylbenzene	24.893	24.900	24.917	24.923	24.927			
p,m-Xylene	25.180	25.203	25.213	25.223	25.227			
o-Xylene	26.777	26.790	26.800	26.817	26.813			
==========								
4-Bromofluorobenzene(SURR)		28.837	28.853	28.857	28.863			

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 Calibration Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Calibration Time: 1517

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	13.917	13.917	13.920	13.923	13.920	13.907	13.707	14.107
MTBE	9.353	9.360	9.363	9.367	9.370	9.351	9.140	9.540
Toluene	18.793	18.800	18.803	18.803	18.803	18.788	18.587	18.987
Ethylbenzene	24.933	24.940	24.940	24.940	24.940	24.925	24.727	25.127
p,m-Xylene	25.230	25.237	25.237	25.237	25.240	25.223	25.023	25.423
o-Xylene	26.820	26.823	26.827	26.827	26.830	26.812	26.613	27.013
==========								
4-Bromofluorobenzene(SURR)	28.867	28.870	28.870	28.873	28.870	28.862	28.680	29.080

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/18/02 Time: 1600

Lab File ID: SEC51.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF0	%D
Benzene	1.4355	1.496	4.2
MTBE	0.5217	0.5775	10.7
Toluene	1.27339	1.397	9.7
Ethylbenzene	1.21367	1.289	6.2
p,m-Xylene	1.31089	1.418	8.2
o-Xylene	1.10012	1.183	7.5
==========			
4-Bromofluorobenzene	1.15294	1.226	6.3

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/27/02 Time: 0702

Lab File ID: CCV51.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.367	4.8
MTBE	0.5217	0.4599	11.8
Toluene	1.27339	1.272	0.1
Ethylbenzene	1.21367	1.178	2.9
p,m-Xylene	1.31089	1.301	0.8
o-Xylene	1.10012	1.077	2.1
==========			
4-Bromofluorobenzene	1.15294	1.162	0.8

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/27/02 Time: 1118

Lab File ID: CCV54.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.472	2.5
MTBE	0.5217	0.5558	6.5
Toluene	1.27339	1.355	6.4
Ethylbenzene	1.21367	1.273	4.9
p,m-Xylene	1.31089	1.385	5.7
o-Xylene	1.10012	1.146	4.2
==========			
4-Bromofluorobenzene	1.15294	1.308	13.4

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/27/02 Time: 2041

Lab File ID: CCV55.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.351	5.9
MTBE	0.5217	0.5095	2.3
Toluene	1.27339	1.244	2.3
Ethylbenzene	1.21367	1.151	5.2
p,m-Xylene	1.31089	1.27	3.1
o-Xylene	1.10012	1.05	4.6
==========			
4-Bromofluorobenzene	1.15294	1.14	1.1

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/28/02 Time: 0312

Lab File ID: CCV57.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.344	6.4
MTBE	0.5217	0.5131	1.6
Toluene	1.27339	1.23	3.4
Ethylbenzene	1.21367	1.15	5.2
p,m-Xylene	1.31089	1.262	3.7
o-Xylene	1.10012	1.052	4.4
==========			
4-Bromofluorobenzene	1.15294	1.148	0.4

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/28/02 Time: 0659

Lab File ID: CCV52.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.493	4.0
MTBE	0.5217	0.5361	2.8
Toluene	1.27339	1.38	8.4
Ethylbenzene	1.21367	1.281	5.5
p,m-Xylene	1.31089	1.4	6.8
o-Xylene	1.10012	1.159	5.4
==========			
4-Bromofluorobenzene	1.15294	1.31	13.6

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: VGC5 CalibrationDate: 03/28/02 Time: 1036

Lab File ID: CCV53.D Init. Calib. Date: 03/18/02

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) NO

COMPOUND	$\overline{RRF}$	RRF30	%D
Benzene	1.4355	1.473	2.6
MTBE	0.5217	0.5448	4.4
Toluene	1.27339	1.359	6.7
Ethylbenzene	1.21367	1.276	5.1
p,m-Xylene	1.31089	1.391	6.1
o-Xylene	1.10012	1.152	4.7
==========			
4-Bromofluorobenzene	1.15294	1.279	10.9

HPLC PAH ORGANICS

METHOD 8310

010402 1554

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202282

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-volatiles analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All surrogate criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

CASE NARRATIVE
HPLC SEMIVOLATILE ORGANICS

PEL Lab Reference No./SDG: 2202282

Client: CH2M Hill

Spikes Continued:

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 - MW20Q10226MS was analyzed with the water samples extracted on 03/22/02. The following analyte(s) were recovered below criteria: 1-Methylnaphthalene at 46.7 % with criteria of (48-92).

SD - MW20Q10226SD was analyzed with the water samples extracted on 03/22/02. The following analyte(s) were recovered below criteria: 1-Methylnaphthalene at 47.2 % with criteria of (48-92).

Samples coded accordingly.

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.

Project specific Reporting Limits were used per client request.
The following analytes were quantified by the VWD detector: Acenaphthylene, Benzo(a)anthracene,Benzo(b)fluoranthene, Benzo(k)fluoranthene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Chrysene, Anthracene, Dibenz(a,h)anthracene, Pyrene, 2-Methylnaphthalene, and Terphenyl-d14.

The following analytes were quantified by the ADC detector: 1-Methylnaphthalene, Acenaphthene, Phenanthrene, Benzo(a)pyrene, and Benzo(g,h,I)perylene

I certify that this data package is in compliance with the terms and conditions agreed to by the client and PEL, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: _____ **DATE:** 4/1/02

PAH ORGANIC CROSS REFERENCE TABLE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Method: **8310**

EPA Sample No	Lab Sample ID
MW4Q10226	220228201
MW9Q10226	220228202
MW13Q10226	220228203
MW20Q10226	220228204
MW22Q10226	220228207
VEW2Q10226	220228208
VEW3Q10226	220228209
VEW4Q10226	220228210
VEW5Q10226	220228211
VEW6Q10226	220228212
VEW7Q10226	220228213
VEW8Q10226	220228214
DUPQ10226	220228215
EQBQ10226	220228216

010402 1554

Sample Data

010402 1554

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW4Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228201

Lab File ID: 282-01.D

Sample wt/vol: 955

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 2254

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	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW9Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228202

Lab File ID: 282-02.D

Sample wt/vol: 970

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 2328

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-293-9

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW13Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228203

Lab File ID: 282-03.D

Sample wt/vol: 955

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0003

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	0.61	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.11	J
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW20Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228204

Lab File ID: 282-04.D

Sample wt/vol: 925

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0038

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: CEF-293-20

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

MW22Q10226

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202282
Matrix: WATER
Lab Sample ID: 220228207
Lab File ID: 282-07.D
Sample wt/vol: 960
Units: ML
Date Received: 03/21/02
Concentrated Extract Volume: 1
Date Extracted: 03/22/02
Level:(low/med) LOW
Date Analyzed: 03/28/02
Time: 0221
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	20.8	
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	14	
91-57-6	2-Methylnaphthalene	17.8	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.33	
85-01-8	Phenanthrene	0.57	
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW2Q10226

Lab Name: PEL Laboratories, Inc.
Contract: Cecil Field
Lab Code : PEL
Case No.
SAS No:
SDG No.: 2202282
Matrix: WATER
Lab Sample ID: 220228208
Lab File ID: 282-08.D
Sample wt/vol: 950
Units: ML
Date Received: 03/21/02
Concentrated Extract Volume: 1
Date Extracted: 03/22/02
Level:(low/med) LOW
Date Analyzed: 03/28/02
Time: 0256
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	0.21	U
90-12-0	1-Methylnaphthalene	0.84	
91-57-6	2-Methylnaphthalene	0.96	
83-32-9	Acenaphthene	0.39	
86-73-7	Fluorene	0.13	J
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.27	
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW3Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228209

Lab File ID: 282-09.D

Sample wt/vol: 950

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0440

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	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW4Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228210

Lab File ID: 282-10.D

Sample wt/vol: 1000

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0514

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	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW5Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228211

Lab File ID: 282-11.D

Sample wt/vol: 925

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0549

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	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW6Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228212

Lab File ID: 282-12.D

Sample wt/vol: 900

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0624

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	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW7Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228213

Lab File ID: 282-13.D

Sample wt/vol: 950

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0658

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: VEW-7

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

VEW8Q10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228214

Lab File ID: 282-14.D

Sample wt/vol: 960

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0733

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	1.3	
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.95	
91-57-6	2-Methylnaphthalene	1.2	
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

DUPQ10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228215

Lab File ID: 282-15.D

Sample wt/vol: 950

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0807

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Duplicate

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.21	U
208-96-8	Acenaphthylene	0.21	U
90-12-0	1-Methylnaphthalene	0.21	U
91-57-6	2-Methylnaphthalene	0.21	U
83-32-9	Acenaphthene	0.22	U
86-73-7	Fluorene	0.21	U
85-01-8	Phenanthrene	0.21	U
120-12-7	Anthracene	0.21	U
206-44-0	Fluoranthene	0.21	U
129-00-0	Pyrene	0.21	U
56-55-3	Benzo(a)anthracene	0.21	U
218-01-9	Chrysene	0.21	U
205-99-2	Benzo(b)fluoranthene	0.21	U
207-08-9	Benzo(k)fluoranthene	0.21	U
50-32-8	Benzo(a)pyrene	0.21	U
53-70-3	Dibenz(a,h)anthracene	0.21	U
191-24-2	Benzo(g,h,i)perylene	0.21	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	U

1

PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EQBQ10226

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 220228216

Lab File ID: 282-16.D

Sample wt/vol: 900

Units: ML

Date Received: 03/21/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/28/02

Time: 0842

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: Equipment Blank

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6

(mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.22	U
208-96-8	Acenaphthylene	0.22	U
90-12-0	1-Methylnaphthalene	0.22	U
91-57-6	2-Methylnaphthalene	0.22	U
83-32-9	Acenaphthene	0.23	U
86-73-7	Fluorene	0.22	U
85-01-8	Phenanthrene	0.22	U
120-12-7	Anthracene	0.22	U
206-44-0	Fluoranthene	0.22	U
129-00-0	Pyrene	0.22	U
56-55-3	Benzo(a)anthracene	0.22	U
218-01-9	Chrysene	0.22	U
205-99-2	Benzo(b)fluoranthene	0.22	U
207-08-9	Benzo(k)fluoranthene	0.22	U
50-32-8	Benzo(a)pyrene	0.22	U
53-70-3	Dibenz(a,h)anthracene	0.22	U
191-24-2	Benzo(g,h,i)perylene	0.22	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.22	U

QC Summary

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PAH ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

22BLKS

Lab Name: PEL Laboratories, Inc.

Contract: Cecil Field

Lab Code : PEL

Case No.

SAS No:

SDG No.: 2202282

Matrix: WATER

Lab Sample ID: 65946

Lab File ID: 65946.D

Sample wt/vol: 1000

Units: ML

Date Received: 03/22/02

Concentrated Extract Volume: 1

Date Extracted: 03/22/02

Level:(low/med) LOW

Date Analyzed: 03/27/02

Time: 1926

PercentSolids: 0

decanted :

Dilution Factor: 1

Extraction: SEPF

Station ID: QC

Method: 8310

GPC Cleanup : (Y/N) N

pH:

Column(1): Vydac 201TP54

ID: 4.6 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-20-3	Naphthalene	0.2	U
208-96-8	Acenaphthylene	0.2	U
90-12-0	1-Methylnaphthalene	0.2	U
91-57-6	2-Methylnaphthalene	0.2	U
83-32-9	Acenaphthene	0.21	U
86-73-7	Fluorene	0.2	U
85-01-8	Phenanthrene	0.2	U
120-12-7	Anthracene	0.2	U
206-44-0	Fluoranthene	0.2	U
129-00-0	Pyrene	0.2	U
56-55-3	Benzo(a)anthracene	0.2	U
218-01-9	Chrysene	0.2	U
205-99-2	Benzo(b)fluoranthene	0.2	U
207-08-9	Benzo(k)fluoranthene	0.2	U
50-32-8	Benzo(a)pyrene	0.2	U
53-70-3	Dibenz(a,h)anthracene	0.2	U
191-24-2	Benzo(g,h,i)perylene	0.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	U

4

PAH ORGANIC METHOD BLANK SUMMARY

EPA Sample No.: 22BLKS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Lab File ID: 65946.D Lab Sample ID: 65946

Instrument ID: SLC02 Date Extracted: 03/22/02

Matrix: WATER Date Analyzed: 03/27/02

Level:(low/med) LOW Time Analyzed: 1926

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	22LCS	65947	65947.D	03/27/02	2001
2	MW20Q10226MS	220228205	282-05.D	03/27/02	2145
3	MW20Q10226SD	220228206	282-06.D	03/27/02	2219
4	MW4Q10226	220228201	282-01.D	03/27/02	2254
5	MW9Q10226	220228202	282-02.D	03/27/02	2328
6	MW13Q10226	220228203	282-03.D	03/28/02	0003
7	MW20Q10226	220228204	282-04.D	03/28/02	0038
8	MW22Q10226	220228207	282-07.D	03/28/02	0221
9	VEW2Q10226	220228208	282-08.D	03/28/02	0256
10	VEW3Q10226	220228209	282-09.D	03/28/02	0440
11	VEW4Q10226	220228210	282-10.D	03/28/02	0514
12	VEW5Q10226	220228211	282-11.D	03/28/02	0549
13	VEW6Q10226	220228212	282-12.D	03/28/02	0624
14	VEW7Q10226	220228213	282-13.D	03/28/02	0658
15	VEW8Q10226	220228214	282-14.D	03/28/02	0733
16	DUPQ10226	220228215	282-15.D	03/28/02	0807
17	EQBQ10226	220228216	282-16.D	03/28/02	0842

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.: 2202282

Column(1): Vydac 201TP54 ID: 4.6 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
22BLKS	81.0						0
22LCS	81.0						0
DUPQ10226	76.2						0
EQBQ10226	59.5						0
MW13Q10226	79.9						0
MW20Q10226	76.4						0
MW20Q10226MS	80.0						0
MW20Q10226SD	79.2						0
MW22Q10226	80.8						0
MW4Q10226	75.6						0
MW9Q10226	77.7						0
VEW2Q10226	76.2						0
VEW3Q10226	63.8						0
VEW4Q10226	71.5						0
VEW5Q10226	80.6						0
VEW6Q10226	70.7						0
VEW7Q10226	79.0						0
VEW8Q10226	76.9						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

010402 1554

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 03/27/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.54 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
1	STD19859	30cal	03/27/02	1045	18.64	
2	STD19860	20cal	03/27/02	1120	18.56	
3	STD19861	15cal	03/27/02	1154	18.53	
4	STD19862	10cal	03/27/02	1229	18.52	
5	STD19863	5cal	03/27/02	1303	18.52	
6	STD19864	1cal	03/27/02	1338	18.52	
7	ZZZZZZ	ZZZZZZ	03/27/02	1413		
8	STD19866	0.2cal	03/27/02	1447	18.51	
9	SSC19867	SV4344	03/27/02	1522	18.5	
10	ZZZZZZ	ZZZZZZ	03/27/02	1556		
11	CCV19869	SV4344	03/27/02	1817	18.57	
12	ZZZZZZ	ZZZZZZ	03/27/02	1852		
13	22BLKS	65946	03/27/02	1926	18.51	
14	22LCS	65947	03/27/02	2001	18.48	
15	ZZZZZZ	ZZZZZZ	03/27/02	2036		
16	ZZZZZZ	ZZZZZZ	03/27/02	2110		
17	MW20Q10226MS	220228205	03/27/02	2145	18.45	
18	MW20Q10226SD	220228206	03/27/02	2219	18.45	
19	MW4Q10226	220228201	03/27/02	2254	18.44	
20	MW9Q10226	220228202	03/27/02	2328	18.46	
21	MW13Q10226	220228203	03/28/02	0003	18.46	
22	MW20Q10226	220228204	03/28/02	0038	18.46	
23	CCV19881	SV4344	03/28/02	0112	18.47	
24	ZZZZZZ	ZZZZZZ	03/28/02	0147		
25	MW22Q10226	220228207	03/28/02	0221	18.47	
26	VEW2Q10226	220228208	03/28/02	0256	18.47	

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

010402 1554 FORM VIII

PAH ORGANIC ANALYTICAL SEQUENCE

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

GC Column: Vydac 201TP5 ID: 4.6 (mm) Init. Calib. Date: 03/27/02

Instrument ID: SLC02

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.54 S2 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
27	CCV19885	SV4344	03/28/02	0331	18.48	
28	ZZZZZZ	ZZZZZZ	03/28/02	0405		
29	VEW3Q10226	220228209	03/28/02	0440	18.48	
30	VEW4Q10226	220228210	03/28/02	0514	18.48	
31	VEW5Q10226	220228211	03/28/02	0549	18.48	
32	VEW6Q10226	220228212	03/28/02	0624	18.48	
33	VEW7Q10226	220228213	03/28/02	0658	18.48	
34	VEW8Q10226	220228214	03/28/02	0733	18.48	
35	DUPQ10226	220228215	03/28/02	0807	18.47	
36	EQBQ10226	220228216	03/28/02	0842	18.47	
37	CCV19895	SV4344	03/28/02	0917	18.46	
38	ZZZZZZ	ZZZZZZ	03/28/02	0951		

QC LIMITS
S1 = p-Terphenyl-d14 (+/- 0.23 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

010402 1554 FORM VIII

3

PAH ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

22LCS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	LCS CONCENTRATION UG/L	LCS % REC #	QC LIMITS REC.
Naphthalene	10	5.7	57.0	45 - 78
Acenaphthylene	10	6.4	64.0	50 - 91
1-Methylnaphthalene	10	4.8	48.0	48 - 92
2-Methylnaphthalene	10	6.2	62.0	52 - 88
Acenaphthene	10	5.5	55.0	52 - 86
Fluorene	10	7	70.0	51 - 92
Phenanthrene	10	7.7	77.0	52 - 98
Anthracene	10	4.8	48.0	44 - 105
Fluoranthene	10	8.4	84.0	58 - 99
Pyrene	10	8.4	84.0	56 - 102
Benzo(a)anthracene	10	8.5	85.0	59 - 103
Chrysene	10	8.4	84.0	58 - 104
Benzo(b)fluoranthene	10	8	80.0	53 - 108
Benzo(k)fluoranthene	10	8.3	83.0	52 - 107
Benzo(a)pyrene	10	7.7	77.0	56 - 101
Dibenz(a,h)anthracene	10	7	70.0	41 - 114
Benzo(g,h,i)perylene	10	7.2	72.0	41 - 109
Indeno(1,2,3-cd)pyrene	10	6.7	67.0	42 - 105

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

010402 1554

Form III

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q10226MS

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Naphthalene	10.5	0	5.7	54.3	45 - 78
Acenaphthylene	10.5	0	6.4	61.0	50 - 91
1-Methylnaphthalene	10.5	0	4.9	46.7 *	48 - 92
2-Methylnaphthalene	10.5	0	6.1	58.1	52 - 88
Acenaphthene	10.5	0	5.6	53.3	52 - 86
Fluorene	10.5	0	7	66.7	51 - 92
Phenanthrene	10.5	0	7.8	74.3	52 - 98
Anthracene	10.5	0	8.2	78.1	44 - 105
Fluoranthene	10.5	0	8.5	81.0	58 - 99
Pyrene	10.5	0	7.3	69.5	56 - 102
Benzo(a)anthracene	10.5	0	8.6	81.9	59 - 103
Chrysene	10.5	0	8.5	81.0	58 - 104
Benzo(b)fluoranthene	10.5	0	8.4	80.0	53 - 108
Benzo(k)fluoranthene	10.5	0	8.7	82.9	52 - 107
Benzo(a)pyrene	10.5	0	8	76.2	56 - 101
Dibenz(a,h)anthracene	10.5	0	8	76.2	41 - 114
Benzo(g,h,i)perylene	10.5	0	8.2	78.1	41 - 109
Indeno(1,2,3-cd)pyrene	10.5	0	8.1	77.1	42 - 105

Spike Recovery: 1 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

010402 1554

3

PAH ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

MW20Q10226SD

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	10.8	6.2	57.4	5.5	27	45 - 78
Acenaphthylene	10.8	6.7	62.0	2.2	34	50 - 91
1-Methylnaphthalene	10.8	5.1	47.2 *	0.9	29	48 - 92
2-Methylnaphthalene	10.8	6.3	58.3	0.2	34	52 - 88
Acenaphthene	10.8	5.8	53.7	0.9	37	52 - 86
Fluorene	10.8	7.3	67.6	2.2	28	51 - 92
Phenanthrene	10.8	8	74.1	0.9	32	52 - 98
Anthracene	10.8	8.8	81.5	4.8	34	44 - 105
Fluoranthene	10.8	8.7	80.6	0.8	28	58 - 99
Pyrene	10.8	7.5	69.4	0.1	30	56 - 102
Benzo(a)anthracene	10.8	8.4	77.8	5.5	28	59 - 103
Chrysene	10.8	8.6	79.6	1.0	21	58 - 104
Benzo(b)fluoranthene	10.8	8.5	78.7	1.1	21	53 - 108
Benzo(k)fluoranthene	10.8	8.6	79.6	4.0	20	52 - 107
Benzo(a)pyrene	10.8	8.2	75.9	0.4	22	56 - 101
Dibenz(a,h)anthracene	10.8	7.9	73.1	3.3	21	41 - 114
Benzo(g,h,i)perylene	10.8	7.7	71.3	8.9	21	41 - 109
Indeno(1,2,3-cd)pyrene	10.8	8.3	76.9	0.2	28	42 - 105

RPD: 0 out of 18 outside limits

Spike Recovery: 1 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

010402 1554

Standards Data

010402 1554

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 Calibration Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1447

LAB FILE ID: RRF0.2 =1STD.D RRF1 =2STD.D
RRF5 =3STD.D RRF10 =4STD.D RRF15 =5STD.D

COMPOUND	RRF0.2	RRF1	RRF5	RRF10	RRF15
Naphthalene	8835.000	5986.000	5650.200	5292.700	5711.400
Acenaphthylene	4775.000	3707.000	4128.600	3971.200	4018.533
1-Methylnaphthalene	14320.000	13707.000	14502.200	16680.200	17928.533
2-Methylnaphthalene	8115.000	5163.000	4519.000	4473.300	4499.400
Acenaphthene	14945.000	16943.000	19922.200	22160.000	23739.933
Fluorene	32125.000	25145.000	24004.600	24001.800	24214.067
Phenanthrene	577780.000	569129.000	586857.000	601154.700	609402.267
Anthracene	207140.000	163855.000	156530.200	154268.500	151580.200
Fluoranthene	25095.000	18223.000	16042.600	15879.900	16019.733
Pyrene	19730.000	15580.000	14112.800	14138.400	14251.467
Benzo(a)anthracene	61180.000	41689.000	37956.400	37728.900	37927.400
Chrysene	72845.000	53037.000	51332.200	52303.700	52881.667
Benzo(b)fluoranthene	45060.000	39588.000	40670.000	41437.000	41860.800
Benzo(k)fluoranthene	43300.000	33853.000	30982.200	31420.500	31650.067
Benzo(a)pyrene	218735.000	188746.000	208204.200	218915.000	219159.867
Dibenz(a,h)anthracene	7320.000	7219.000	8619.000	8621.500	8739.000
Benzo(g,h,i)perylene	17670.000	15116.000	14413.400	14726.100	14924.200
Indeno(1,2,3-cd)pyrene	49380.000	37059.000	37025.000	39976.500	38586.600
==========					
p-Terphenyl-d14(SURR)	18405.000	14308.000	14371.200	14425.200	14452.600

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 Calibration Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1447

LAB FILE ID: RRF20 =6STD.D RRF30 =7STD.D

COMPOUND	RRF20	RRF30			
Naphthalene	5520.250	5425.300			
Acenaphthylene	3913.250	3944.100			
1-Methylnaphthalene	18067.000	18929.067			
2-Methylnaphthalene	4393.450	4415.467			
Acenaphthene	23846.500	25012.100			
Fluorene	23637.750	23874.333			
Phenanthrene	597342.150	593183.967			
Anthracene	144623.450	137439.333			
Fluoranthene	15709.450	15933.800			
Pyrene	13896.350	14094.033			
Benzo(a)anthracene	37046.150	37236.333			
Chrysene	51611.000	52151.033			
Benzo(b)fluoranthene	40985.950	41199.267			
Benzo(k)fluoranthene	30962.550	31070.867			
Benzo(a)pyrene	218049.400	236201.467			
Dibenz(a,h)anthracene	8595.900	8683.933			
Benzo(g,h,i)perylene	14671.900	14889.800			
Indeno(1,2,3-cd)pyrene	38072.500	38595.000			
==========					
p-Terphenyl-d14(SURR)	14031.400	14062.900			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 Calibration Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1447

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
Naphthalene	LINR		0.0001823043	0.99905
Acenaphthylene	LINR		0.0002530702	0.99977
1-Methylnaphthalene	LINR		5.431315E-05	0.99565
2-Methylnaphthalene	LINR		0.0002258545	0.99977
Acenaphthene	LINR		4.108233E-05	0.99618
Fluorene	LINR		4.188418E-05	0.99986
Phenanthrene	LINR		1.675527E-06	0.99979
Anthracene	LINR		7.007708E-06	0.99564
Fluoranthene	LINR		6.292389E-05	0.99984
Pyrene	LINR		7.105988E-05	0.99983
Benzo(a)anthracene	LINR		2.678703E-05	0.99981
Chrysene	LINR		1.918619E-05	0.99986
Benzo(b)fluoranthene	LINR		2.424528E-05	0.99989
Benzo(k)fluoranthene	LINR		3.210555E-05	0.99986
Benzo(a)pyrene	LINR		4.379318E-06	0.99628
Dibenz(a,h)anthracene	LINR		0.0001154090	0.99989
Benzo(g,h,i)perylene	LINR		6.745076E-05	0.99987
Indeno(1,2,3-cd)pyrene	LINR		2.595234E-05	0.99966
==========				
p-Terphenyl-d14(SURR)	LINR		7.073611E-05	0.9997

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 Calibration Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1447

LAB FILE ID: RT1: 1STD.D RT2: 2STD.D
RT3: 3STD.D RT4: 4STD.D RT5: 5STD.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Naphthalene	11.403	11.407	11.390	11.393	11.443			
Acenaphthylene	12.700	12.700	12.683	12.687	12.723			
1-Methylnaphthalene	13.414	13.432	13.428	13.429	13.460			
2-Methylnaphthalene	13.680	13.697	13.690	13.693	13.720			
Acenaphthene	14.109	14.140	14.130	14.132	14.155			
Fluorene	14.420	14.427	14.420	14.420	14.447			
Phenanthrene	15.357	15.367	15.362	15.361	15.385			
Anthracene	16.030	16.040	16.033	16.033	16.057			
Fluoranthene	16.897	16.907	16.903	16.903	16.923			
Pyrene	17.460	17.470	17.467	17.467	17.487			
Benzo(a)anthracene	19.340	19.350	19.350	19.347	19.370			
Chrysene	19.760	19.773	19.767	19.763	19.790			
Benzo(b)fluoranthene	21.223	21.240	21.237	21.233	21.263			
Benzo(k)fluoranthene	21.893	21.903	21.897	21.893	21.920			
Benzo(a)pyrene	22.584	22.604	22.605	22.596	22.629			
Dibenz(a,h)anthracene	23.517	23.547	23.537	23.523	23.553			
Benzo(g,h,i)perylene	24.267	24.280	24.263	24.253	24.287			
Indeno(1,2,3-cd)pyrene	24.777	24.783	24.780	24.763	24.803			
==========								
p-Terphenyl-d14(SURR)	18.510	18.523	18.520	18.517	18.533			

6

PAH ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 Calibration Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm) Calibration Time: 1447

LAB FILE ID: RT6: 6STD.D RT7: 7STD.D

COMPOUND	RT6	RT7				MEAN RT	RT WINDOW FROM	TO
Naphthalene	11.477	11.607				11.446	11.173	11.633
Acenaphthylene	12.747	12.870				12.730	12.470	12.930
1-Methylnaphthalene	13.482	13.595				13.463	13.103	13.563
2-Methylnaphthalene	13.743	13.853				13.725	13.450	13.910
Acenaphthene	14.179	14.285				14.161	13.813	14.273
Fluorene	14.470	14.577				14.454	14.190	14.650
Phenanthrene	15.411	15.522				15.395	15.030	15.490
Anthracene	16.087	16.187				16.067	15.800	16.260
Fluoranthene	16.953	17.050				16.934	16.667	17.127
Pyrene	17.513	17.607				17.496	17.230	17.690
Benzo(a)anthracene	19.400	19.480				19.377	19.110	19.570
Chrysene	19.823	19.900				19.797	19.530	19.990
Benzo(b)fluoranthene	21.300	21.363				21.266	20.993	21.453
Benzo(k)fluoranthene	21.960	22.023				21.927	21.663	22.123
Benzo(a)pyrene	22.669	22.735				22.632	22.267	22.727
Dibenz(a,h)anthracene	23.603	23.667				23.564	23.287	23.747
Benzo(g,h,i)perylene	24.337	24.407				24.299	24.037	24.497
Indeno(1,2,3-cd)pyrene	24.860	24.937				24.815	24.547	25.007
==========								
p-Terphenyl-d14(SURR)	18.560	18.637				18.543	18.280	18.740

7

PAH ORGANIC CONTINUING CALIBRATION DATA

Lab Name: PEL Laboratories, Inc. Contract: Cecil Field

Lab Code : PEL Case No. SAS No: SDG No.: 2202282

Instrument ID: SLC02 CalibrationDate: 03/27/02 Time: 1817

Lab File ID: CCV1.D Init. Calib. Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	16.8	15	LINR	12.0	15.0
Acenaphthylene	14.6	15	LINR	2.7	15.0
1-Methylnaphthalene	16.1	15	LINR	7.3	15.0
2-Methylnaphthalene	15.4	15	LINR	2.7	15.0
Acenaphthene	15.8	15	LINR	5.3	15.0
Fluorene	15.4	15	LINR	2.7	15.0
Phenanthrene	16.7	15	LINR	11.3	15.0
Anthracene	15.2	15	LINR	1.3	15.0
Fluoranthene	15.6	15	LINR	4.0	15.0
Pyrene	15.4	15	LINR	2.7	15.0
Benzo(a)anthracene	15.5	15	LINR	3.3	15.0
Chrysene	15.9	15	LINR	6.0	15.0
Benzo(b)fluoranthene	15.6	15	LINR	4.0	15.0
Benzo(k)fluoranthene	15.6	15	LINR	4.0	15.0
Benzo(a)pyrene	16	15	LINR	6.7	15.0
Dibenz(a,h)anthracene	15.5	15	LINR	3.3	15.0
Benzo(g,h,i)perylene	14.7	15	LINR	2.0	15.0
Indeno(1,2,3-cd)pyrene	15.2	15	LINR	1.3	15.0
==========					
p-Terphenyl-d14	15.1	15	LINR	0.7	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.: 2202282

Instrument ID: SLC02 CalibrationDate: 03/28/02 Time: 0112

Lab File ID: CCV21.D Init. Calib. Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	15 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.5	15	LINR	3.3	15.0
Acenaphthylene	14.4	15	LINR	4.0	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	15.4	15	LINR	2.7	15.0
Acenaphthene	14.6	15	LINR	2.7	15.0
Fluorene	15.3	15	LINR	2.0	15.0
Phenanthrene	15	15	LINR	0.0	15.0
Anthracene	14.9	15	LINR	0.7	15.0
Fluoranthene	15.5	15	LINR	3.3	15.0
Pyrene	13.6	15	LINR	9.3	15.0
Benzo(a)anthracene	15.4	15	LINR	2.7	15.0
Chrysene	15.4	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15.4	15	LINR	2.7	15.0
Benzo(k)fluoranthene	15.6	15	LINR	4.0	15.0
Benzo(a)pyrene	14.5	15	LINR	3.3	15.0
Dibenz(a,h)anthracene	15.2	15	LINR	1.3	15.0
Benzo(g,h,i)perylene	14.9	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15	15	LINR	0.0	15.0
==========					
p-Terphenyl-d14	15.2	15	LINR	1.3	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.: 2202282

Instrument ID: SLC02 CalibrationDate: 03/28/02 Time: 0331

Lab File ID: CCV31.D Init. Calib. Date: 03/27/02

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	14.3	15	LINR	4.7	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	15.3	15	LINR	2.0	15.0
Acenaphthene	14.5	15	LINR	3.3	15.0
Fluorene	15.3	15	LINR	2.0	15.0
Phenanthrene	15.3	15	LINR	2.0	15.0
Anthracene	14.9	15	LINR	0.7	15.0
Fluoranthene	15.5	15	LINR	3.3	15.0
Pyrene	13.5	15	LINR	10.0	15.0
Benzo(a)anthracene	15.3	15	LINR	2.0	15.0
Chrysene	15.4	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15.5	15	LINR	3.3	15.0
Benzo(k)fluoranthene	15.3	15	LINR	2.0	15.0
Benzo(a)pyrene	14.4	15	LINR	4.0	15.0
Dibenz(a,h)anthracene	15.5	15	LINR	3.3	15.0
Benzo(g,h,i)perylene	14.9	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	14.9	15	LINR	0.7	15.0
==========					
p-Terphenyl-d14	15.1	15	LINR	0.7	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.: 2202282

Instrument ID: SLC02 CalibrationDate: 03/28/02 Time: 0917

Lab File ID: CCV41.D Init. Calib. Date: 03/27/02

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	14.2	15	LINR	5.3	15.0
1-Methylnaphthalene	14.7	15	LINR	2.0	15.0
2-Methylnaphthalene	15.4	15	LINR	2.7	15.0
Acenaphthene	14.6	15	LINR	2.7	15.0
Fluorene	15.3	15	LINR	2.0	15.0
Phenanthrene	15.1	15	LINR	0.7	15.0
Anthracene	15.1	15	LINR	0.7	15.0
Fluoranthene	15.4	15	LINR	2.7	15.0
Pyrene	13.6	15	LINR	9.3	15.0
Benzo(a)anthracene	15.3	15	LINR	2.0	15.0
Chrysene	15.4	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15.5	15	LINR	3.3	15.0
Benzo(k)fluoranthene	15.5	15	LINR	3.3	15.0
Benzo(a)pyrene	14.4	15	LINR	4.0	15.0
Dibenz(a,h)anthracene	15.7	15	LINR	4.7	15.0
Benzo(g,h,i)perylene	14.8	15	LINR	1.3	15.0
Indeno(1,2,3-cd)pyrene	14.7	15	LINR	2.0	15.0
==========					
p-Terphenyl-d14	15.1	15	LINR	0.7	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.: 2202282

Instrument ID: SLC02 CalibrationDate: 03/27/02 Time: 1522

Lab File ID: SECCCV.D Init. Calib. Date: 03/27/02

GC Column: Vydac 201TP5 ID: 4.6 (mm)

COMPOUND	SAMPLE AMOUNT	0 AMOUNT	CURVE	%D	MAX %D
Naphthalene	15.9	15	LINR	6.0	15.0
Acenaphthylene	14.1	15	LINR	6.0	15.0
1-Methylnaphthalene	14.8	15	LINR	1.3	15.0
2-Methylnaphthalene	14.9	15	LINR	0.7	15.0
Acenaphthene	14.8	15	LINR	1.3	15.0
Fluorene	15.3	15	LINR	2.0	15.0
Phenanthrene	15.4	15	LINR	2.7	15.0
Anthracene	15	15	LINR	0.0	15.0
Fluoranthene	15.4	15	LINR	2.7	15.0
Pyrene	14.9	15	LINR	0.7	15.0
Benzo(a)anthracene	15.3	15	LINR	2.0	15.0
Chrysene	15.4	15	LINR	2.7	15.0
Benzo(b)fluoranthene	15.5	15	LINR	3.3	15.0
Benzo(k)fluoranthene	15.5	15	LINR	3.3	15.0
Benzo(a)pyrene	15	15	LINR	0.0	15.0
Dibenz(a,h)anthracene	15.7	15	LINR	4.7	15.0
Benzo(g,h,i)perylene	15.1	15	LINR	0.7	15.0
Indeno(1,2,3-cd)pyrene	15	15	LINR	0.0	15.0
==========					
p-Terphenyl-d14	15	15	LINR	0.0	15.0

Chain of Custody Documentation

010402 1554

H2M Hill Constructors, Inc.
Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER

163151-037 Page 1 of 2

2202-282 MK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
U.S. Cecil Field 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.):
Tank 1 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.):
Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: (813)247-2805 Fax: (813)248-1537		

ANALYSES REQUIRED (Include Method Numbers)

M	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL	TAT (calendar days)	Volatiles by 8021	PAHs&1,1-Napthalene&1,2-Napthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
	062-MW4-Q1-02-26	CEF-293-4	W	03/20/02	13:10	III/C	14	3	2					Grab		01
	062-MW9-Q1-02-26	CEF-293-9	W	03/20/02	15:20	III/C	14	3	2					Grab		02
	062-MW13-Q1-02-26	CEF-293-13	W	03/20/02	12:00	III/C	14	3	2					Grab	Turbid	03
	062-MW20-Q1-02-26	CEF-293-20	W	03/20/02	10:10	III/C	14	9	6					Grab	MS / MSD	04,05,06
	062-MW22-Q1-02-26	CEF-293-22	W	03/20/02	10:50	III/C	14	3	2					Grab	Turbid	07
	062-VEW2-Q1-02-26	VEW-2	W	03/20/02	17:05	III/C	14	3	2					Grab	Free product in sample.	08
	062-VEW3-Q1-02-26	VEW-3	W	03/20/02	14:45	III/C	14	3	2					Grab		09
	062-VEW4-Q1-02-26	VEW-4	W	03/20/02	11:25	III/C	14	3	2					Grab		10
	062-VEW5-Q1-02-26	VEW-5	W	03/20/02	14:15	III/C	14	3	2					Grab		11
	062-VEW6-Q1-02-26	VEW-6	W	03/20/02	13:45	III/C	14	3	2					Grab		12

SAMPLER(S) AND COMPANY: (please print)
Andy Dumaop / Sean Smith
J. Jones Environmental Services

COURIER AND SHIPPING NUMBER:
Federal Express TRK # 791799383676, 792712938620, 792004713510, 791799383746.(4 Coolers)

SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT:
Temp upon rect 4° C / Extra 1L ambers rec'd for 8310(c)
pH<2 (8021's)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Dumaop	3/20/02	18:00	Printed Name and Signature: Federal Express	3/20/02	18:00
Printed Name and Signature:			Printed Name and Signature: [signature] / HEC	03/21/02	10:25
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

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

CHAIN-OF-CUSTODY RECORD

COC NUMBER
163151-037 Page 2 of 2

2202-282

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 1st Quarter GW Sampling	0062	2712	Christelle Newsome / CH2M Hill Constructors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
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-Napthalene&1,2-Napthalene by 8310					SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	062-VEW7-Q1-02-26	VEW-7	W	03/20/02	16:30	III/C	14	3	2					Grab		13
2	062-VEW8-Q1-02-26	VEW-8	W	03/20/02	15:55	III/C	14	3	2					Grab	Turbid	14
3	062-DUP-Q1-02-26	Duplicate	W	03/20/02	NA	III/C	14	3	2					Grab		15
4	062-EQB-Q1-02-26	Equipment Blank	W	03/20/02	12:40	III/C	14	3	2					Grab		16
5	062-TB-Q1-02-26	Trip Blank	W	NA	NA	III/C	14	3							Prepared by Lab	17
6	NA	Temperature Blank	W	NA	NA	III/C	14			4					Prepared by Lab	
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 # 791799383676, 792712938620, 792004713510, 791799383746.(4 Coolers)	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: R.Dumaop	3/20/02	18:00	Printed Name and Signature: Federal Express	3/20/02	18:00
Printed Name and Signature:			Printed Name and Signature:	03/21/02	10:25
Printed Name and Signature:			Printed Name and Signature:		

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

Form CC1001, Rev 02/00

PEL LABS SAMPLE LOG IN SHEET

Project # 2202-282

Client Information

Client: CH2M Hill	Date Rec'd: 03/21/02
Project: Cecil Field CTO 062	Due Date: ~~04/01/02~~ ZMK
Log In Tech: ZMK	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# 2202-282 By MK

Client/Project Cham Hill / Cecil field CTO 062 Date 03/21/02

PEL Sample Number	H2SO4 pH<2	HNO3 pH<2	NaOH pH>12	ZnAC/NaOH pH>9	HCL pH<2	Other ____ pH ____
2202-282-01					(3) pH<2	
-02						
-03						
-04						
-05						
-06						
-07						
-08						
-09						
-10						
-11						
-12						
-13						
-14						
-15						
-16						
-17						

Sample #	Parameter	Rel'd	Rec'd	Date	Time
1-17	8021(w)	KWB	TS	3/27/02	9:20 AM
1-17	8021(w)	TS	KWB	3/27/02	16:00 PM
1-16	8310(w)	KWB	AN	3/22/02	10:00
1-16	8310(w)	CONSUMED			
8,15	8021 W	KWB	TS	3/28/02	7:45
8,15	8021 W	TS	KWB	3/28/02	11:00

Addendum

010402 1554

Letter of Acceptance

Customer Name:	CH2M HILL
Date & Time Received:	3-21-02; 10:25 AM
Date to be Reported:	4-4-02
Laboratory Submission Number/SDG:	2202282
Project:	NAS Cecil Field

Samples: The submission consisted of 17 samples with sample identification shown in the attached data tables.

Tests: The samples will be analyzed for EPA methods:
8021 and 8310

Sample Custody/COC discrepancies:
None.

Notes: Due to the number of characters in the sample identifier, PEL has truncated the ID's.

Distribution of Report to:

1-CH2MHILL
Attn: Jennifer Zimmerman
Phone: 904-777-4262

2-CH2MHILL
Attn: Tatiana Romanova
Phone: 770-604-9182

Respectfully Submitted,

PEL Laboratories, Inc.

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. PEL letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Level: 4

Total of: 33 analyses on 17 samples (including QC) *22-Mar-02*

Report/SDG #: 2202282

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW4Q10226	220228201	CEF-293-4	W	3/20/2002 1:10:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW9Q10226	220228202	CEF-293-9	W	3/20/2002 3:20:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW13Q10226	220228203	CEF-293-13	W	3/20/2002 12:00:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q10226	220228204	CEF-293-20	W	3/20/2002 10:10:00 AM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q10226MS	220228205	CEF-293-20	WQ	3/20/2002 10:10:00 AM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

Report/SDG #: 2202282

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW20Q10226SD	220228206	CEF-293-20	WQ	3/20/2002 10:10:00 AM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
MW22Q10226	220228207	CEF-293-22	W	3/20/2002 10:50:00 AM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW2Q10226	220228208	VEW-2	W	3/20/2002 5:05:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW3Q10226	220228209	VEW-3	W	3/20/2002 2:45:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW4Q10226	220228210	VEW-4	W	3/20/2002 11:25:00 AM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW5Q10226	220228211	VEW-5	W	3/20/2002 2:15:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

Report/SDG #: 2202282

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW6Q10226	220228212	VEW-6	W	3/20/2002 1:45:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW7Q10226	220228213	VEW-7	W	3/20/2002 4:30:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
VEW8Q10226	220228214	VEW-8	W	3/20/2002 3:55:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
DUPQ10226	220228215	Duplicate	W	3/20/2002	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
EQBQ10226	220228216	Equipment	WQ	3/20/2002 12:40:00 PM	3/21/2002 10:25:00
Method					
8021	VOH			8021	
8310	PAH			8310	

SampleI	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
TBQ10226	220228217	Trip Blank	WQ	3/21/2002	3/21/2002 10:25:00
Method					
8021	VOH			8021	