N00109.AR.003069
NWS YORKTOWN
5090.3a

VALIDATED DATA PACKAGE, 50085-7, NWS YORKTOWN VA
2/17/2015
TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

5560 Corporate Exchange Court, SE
Grand Rapids, MI 49512 616.975.4500

TRANSMITTAL FORM

Date: February 18, 2015

Attention: Ms. Clairette Campbell
To: CH2M HILL
5701 Cleveland Street
Suite 200
Virginia Beach, VA 23462
(757)-518-9666

Project Name: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-7

Work Order(s): 1502155

WE ARE SENDING YOU:

By: ☐ US Mail ☒ FedEx ☐ Courier ☐ Other

ENCLOSED WITH THIS TRANSMITTAL: ☒ **UNDER SEPARATE COVER:** ☐

☐ Report(s) (Draft) ☐ Proposal ☐ QAPP Information
☒ Report(s) (Summary) ☐ Contract Documents ☐ Data Validation Package

QUANTITY	DESCRIPTION / DOCUMENT NAME
1	Summary Report for SDG 50085-7 for 8012 CTO-WE74 Yorktown Site 34. This report consists of 68 pages with this transmittal form page one of the report.

THESE ARE TRANSMITTED AS CHECKED BELOW:

☒ Furnished As Requested ☒ For Review and Comment ☐ For Submittal To: _____
☐ For File ☐ As Corrected _____

REMARKS:

cc:

BY: Walt Roudebush
Project Chemist

DATA SUMMARY PACKAGE

Prepared for:

CH2M HILL - VA
5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462

Project:

8012 CTO-WE74 Yorktown Site 34

Sample Delivery Group (SDG):

50085-7

Prepared by:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

Report Date:

February 17, 2015

Walter J. Roudebush, Project Chemist
roudebushw@trimatrixlabs.com

2/18/15
Approval Date

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CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

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A	**Field COC Records and Receiving Documentation**	**0018-0023**
B	**Internal COC Records**	**0024-0025**
C	**GC/MS Volatile Organics** • USEPA-8260B	**0026-0068** 0027-0068

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

SDG Executive Summary

This case narrative applies to samples received on February 11, 2015. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CH2M HILL - VA and TriMatrix Laboratories, Inc.

Each sample receipt event was assigned a unique TriMatrix work order number. Sample receipt documentation is included in section A of this data package.

Project Technical Issues/Problems

Project-related data qualification designations, narrations, and reporting conventions are included in Attachment 1 - *Project Technical Narrative(s)*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

This report relates only to the sample(s) as received. Estimates of analytical uncertainties for the test results contained within this report are available upon request. Test results are in compliance with the requirements of the DoD Quality Systems Manual for Environmental Laboratories Version 4.2, the National Environmental Laboratory Accreditation Conference (NELAC), and one or more of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#367345); New York ELAP (#46503); North Carolina DNRE (#659); Texas CEQ (#T104704495-14-4); Virginia DCLS (#2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-09-00163).

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this data package are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report. Hold time reports for each test procedure are presented following the CLP-like forms section of this report.

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Sample Receipt and Login -- Work Order: 1502155

TriMatrix Laboratories received the cooler(s) for this work order on February 11, 2015, at 08:45am. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and FedEx shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix *Sample Receiving / Log-In Checklist* provided in section A of this package. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding COC form. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
YS34-DP01-2630-0215	1502155-01	Ground Water	2/9/2015
YS34-DP01-4650-0215	1502155-02	Ground Water	2/9/2015
YS34-DP02-3337-0215	1502155-03	Ground Water	2/9/2015
YS34-TB-021015	1502155-04	Water	2/10/2015
YS34-DP02-5155-0215	1502155-05	Ground Water	2/10/2015
YS34-DP03-4145-0215	1502155-06	Ground Water	2/10/2015
YS34-DP03-5761-0215	1502155-07	Ground Water	2/10/2015

See the Project Correspondence section of Attachment 1 for any administrative issues that were encountered during the receipt and analysis of this work order.

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SDG CASE NARRATIVE

Attachment 1
Project Technical Narrative(s)

Sample Result Reporting Convention

Sample results are reported as LOD "U" (e.g. 0.001 U) if the target analyte was not detected at or above the detection limit (DL). The LOD is the Limit of Detection as defined in the DoD QSM and numerically determined by TriMatrix.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis. If a sample is reanalyzed for confirmation purposes but that confirmation was not performed simultaneously, the second set of sample results is reported on a second Form 1 since the confirmation analysis did not occur at the same time and/or date.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

a "U" flag as defined above;
a "J" flag if the analyte was detected, but the concentration is greater than the DL and less than the LOQ (the Limit of Quantitation as defined in the DoD QSM);
a "B" flag if the analyte was detected above one-half the LOQ (above the LOQ for a common laboratory contaminant) in the associated method blank, and the sample concentration was less than or equal to ten times the method blank result;
a "E" flag if the analyte exceeded the instrument calibration range;
a "N" flag for a non-target analyte identified as a tentatively identified compound using mass spectrometry;
a LIMS-generated statement of qualification that will be reported in Attachment 2 to this narrative.

Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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Walt Roudebush

From: Clairette.Campbell@ch2m.com
Sent: Thursday, February 12, 2015 1:27 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155 - initial report

Walt,

Thanks! You've included QC forms and provided data (including a second run when needed) in great time. It's also lucky these silty waters didn't cause any issues with the internal standards.

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 12, 2015 11:21 AM
To: Campbell, Clairette/VBO
Cc: Yarberry, Kim-Lee/ATL
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155 - initial report

Clairette,

RE: CTO-WE74 Site 34

A PDF of results-only plus associated batch QC and any text qualifiers for the samples is attached.

Please note that I erred in listing YS34-DP02-5155-0215 in my email below as having three of three vials with headspace. Actually, two of three had headspace and the laboratory used the vial w/o headspace for analysis.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 11, 2015 12:02 PM
To: 'Clairette.Campbell@ch2m.com'
Cc: 'Kim-Lee.Yarberry@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155

Clairette,

RE: CTO-WE74 Site 34

A PDF of the receipt confirmation for samples received this morning for VOCs and assigned to work order 1502155 and SDG 50085-7 is attached.

Please note that three TB vials were received instead of the two expected. Four sets of two TBs were provided in that order.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, February 11, 2015 11:05 AM
To: roudebushw@trimatrixlabs.com
Cc: Kim-Lee.Yarberry@ch2m.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order TBD

Hello Walt,
Thank you for your message and letting us know about the headspace. Please proceed with the analysis of these samples. Let us know if there are any quality issues with the analysis, and we look forward to the form 1 results for the DPT GW samples (at least the initial analysis) no later than COB tomorrow.
Thanks,
Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 11, 2015 10:28 AM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order TBD

Clairette,

One cooler of samples was received this morning for VOC and/or Total Cr. The cooler temp blank was 2.9 deg C.

Samples for VOC will be assigned to SDG 50085-7 and a work order TBD.

Samples for Total Cr will be assigned to SDG 50085-8 and a work order TBD.

Except as noted below for VOC, all samples were intact.

Three of three VOC vials for the following samples contained headspace and entrained soil/solid material:

YS34-DP01-4650-0215
YS34-DP02-5155-0215
YS34-DP03-4145-0215
YS34-DP03-5761-0215

Per my voice mail, we will presume that the samples with headspace are also to be logged in and analyzed. Do you concur?

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, February 11, 2015 9:46 AM
To: roudebushw@trimatrixlabs.com; Deb.Patton@alsglobal.com
Subject: Yorktown Site 34 Arriving

Hi Walt,

Today Trimatrix and ALS-Rochester will receive samples for Yorktown Site 34. The ALS work is subbed through Trimatrix to ALS.

COCs are attached. Tracking numbers are below.
804376251452 - to TriMatrix, includes 24hr TAT DPT groundwater samples and 28 calendar day TAT soil and aqueous blank sample for Total Chromium
804376251441 - to ALS-Rochester, includes soil and aqueous blank for CrVI by 7199

Please send me logins (both TriMatrix and ALS) as soon as they're available.

Thanks!
Clairette Campbell
CH2M HILL
Chemist

5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Direct: 757-671-6335, internal ext. 46335
clairette.campbell@ch2m.com

Please note my part-time hours: 9am-3pm Monday-Friday

From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Tuesday, February 03, 2015 3:08 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware to ship (from ALS-Rochester)

Thanks Walt!

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Tuesday, February 03, 2015 2:37 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware to ship (from ALS-Rochester)

Clairette,

The following is from an email that I received from ALS-Rochester regarding their bottle order for CTO-WE74 Site 34:

Bottles have been shipped and should have already arrived via Fed-Ex 629675964083

1/30/2015 - Friday	
5:59 am At local FedEx facility	CHESAPEAKE, VA
6:05 am On FedEx vehicle for delivery	CHESAPEAKE, VA
9:55 am Delivered	Virginia Beach, VA

Deb Patton
Project Manager

ALS Life Sciences Division | Environmental

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, January 29, 2015 2:16 PM
To: Clairette.Campbell@ch2m.com
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware to ship

Clairette,

RE: CTO-WE74 Site 34

Soil/GW

Two coolers are shipping today to Brian's attention via FedEx Ground; the master tracking # is 037073061177978.

IDW

One cooler is shipping today to Brian's attention via FedEx Ground; the tracking # is 037073061177961.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 21, 2015 5:26 PM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

PDFs of two bottle orders are attached. Let me know if you have any questions.

(A request has been sent to ALS-Rochester for 7199.)

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Monday, January 19, 2015 12:34 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thank you Walt.
Not invoicing MS/MSD is what I expected, just wanted to check. Thanks.

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Monday, January 19, 2015 12:23 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Your ALS-Rochester contact is:

Deb Patton
ALS

(585) 672-7473 Work
Deb.Patton@ALSGlobal.com

1565 Jefferson Rd
Building 300 Suite 360
Rochester, NY 14623

TriMatrix has not been invoicing for MS/MSDs. I will pass on your request to ALS-Rochester.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Friday, January 16, 2015 1:09 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thanks Walt!

Two little questions pertaining to this project:

- Who is the ALS-Rochester contact? We will most likely be shipping Hexavalent Chromium samples directly to ALS-Rochester, sending COCs and tracking#s to both you and them.
- Can you confirm that MS/MSDs will not be separately invoiced when we send 6-12 DPT GW VOC samples? I know we've not seen eye to eye on that for some past projects (but typically that's for subcontracted work).

Thanks,
Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 14, 2015 5:36 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Revised table is attached.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, January 14, 2015 12:38 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thanks Walt! In the table for TriMatrix bottleware could you add the preservative info too? (Sorry, when I said bottleware I meant bottles+preservative.)

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 14, 2015 12:14 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

See below for ALS-Rochester and attached table for TriMatrix.

Soil for CrVI by 7199: 4oz soil jar, lab aliquot 2.5g for digestion. We need double volume incase re-digestion is required.

Water for CrVI by 7199: 250mls plastic unpreserved, lab aliquot is 20mls.

Sorry this is a bit late but I was unexpectedly out of the office until mid-morning.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Tuesday, January 13, 2015 3:18 PM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Hope all is well.

I've just finished as series of worksheets for Bianca Kleist so I can move on to your request.

I should be able to provide no later than noon, tomorrow.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

TriMatrix Laboratories, Inc.

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Monday, January 12, 2015 3:25 PM
To: roudebushw@trimatrixlabs.com
Subject: Yorktown Site 34 (CTO-WE74) Bottleware Details

Hi Walt,

We plan to go into the field early/mid-February to collect samples associated with PO 938658. I'll formally order bottleware and hold a brief call to discuss the SOW closer to that date, but for now I'm preparing a table for the fieldteam, which specifies what kind of bottleware to expect (among other things).

Could you tell me what bottleware we should fill, *as well as the aliquot size the lab preps* for each of these analyses?

Soil for Chromium only by 6020A:
Soil for CrVI by 7199 (subbed to ALS-Rochester):
Soil for Full TCLP and RCI:

Water for a select list of VOCs by 8260B:
Water for Chromium only by 602A:
Water for CrVI by 7199 (subbed to ALS-Rochester):
Water for Full TCLP and RCI:

I'd be pleased to receive this information Wednesday or so.
Thank you!
Clairette Campbell
CH2M HILL
Chemist

5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Direct: 757-671-6335, internal ext. 46335
clairette.campbell@ch2m.com

Please note my part-time hours: 9am-2pm Monday-Friday

TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Attachment 1
Project Technical Narrative(s)

No Project Narrative is associated with this report.

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: Concentration exceeds calibration range

Analysis: USEPA-8260B

Sample/Analyte: 1502155-06 YS34-DP03-4145-0215 Trichloroethene

Qualification: Sample integrity for the parameter was suspect upon receipt; container had headspace.

Analysis: USEPA-8260B

Sample/Analyte: 1502155-02 YS34-DP01-4650-0215
1502155-06 YS34-DP03-4145-0215
1502155-06RE1 YS34-DP03-4145-0215
1502155-07 YS34-DP03-5761-0215

Qualification: The result for this analyte was above the linear range of the initial calibration curve and must be considered as estimated "E".

Analysis: USEPA-8260B

Sample/Analyte: 1502155-06 YS34-DP03-4145-0215 Trichloroethene

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TRIMATRIX LABORATORIES

SECTION - A

FIELD COC RECORDS AND RECEIVING DOCUMENTATION

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CIO WC 21

TRIMATRIX LABORATORIES

5560 Corporate Exchange Court SE
Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 150549

Pg. 1 of 1

For Lab Use Only

Cart: ____

VOA Rack/Tray: 177B, 446B

Receipt Log No.: 35.3

Project Chemist: CWB

Work Order No.: 1502155

Client Name: CH2M HILL

Address: 5701 Cleveland Street, Suite 200

City, State Zip: Virginia Beach, VA 23462

Phone/Fax: 757-671-6335

Email: clairette.campbell@ch2m.com

Project Name: SM34

Client Project No. / P.O. No.: 470624.FI.FS34

Invoice To: ☑ Client ☐ Other (comments)

Contact/Report To: Clairette Campbell

Analyses Requested: D — Shor VOC

Container Type (corresponds to Container Packing List): 1

Number of Containers Submitted

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Total	Sample Comments
01	WG	01	1	YS34-DP01-2630-0215		02/09/15	1300		X	W	3	3	
01	WG	02	2	YS34-DP01-4650-0215		02/09/15	1555		X	W	3	3	
02	WG	03	3	YS34-DP02-3337-0215		02/09/15	1720		X	W	3	3	
			4	YS34-DP02-3337-0215-MS		02/09/15	1720		X	W	3	3	
			5	YS34-DP02-3337-0215-SD		02/09/15	1720		X	W	3	3	
03	WQ	04	6	YS34-TB-021015		02/10/15	0700		X	W	3	3	Q vials? (WM)
01	WG	05	7	YS34-DP02-5155-0215		02/10/15	1200		X	W	3	3	
01	WG	06	8	YS34-DP03-4145-0215		02/10/15	1505		X	W	3	3	
01	WG	07	9	YS34-DP03-5761-0215		02/10/15	1640		X	W	3	3	
			10										

02/10/15

Sampled By (print): Brian Wachter

Sampler's Signature: Brian Wachter

Company: CH2M HILL

How Shipped? Hand ____ Carrier FedEx

Tracking No.

Comments: 1,1-DCA, 1,1-DCE, cis1,2-DCE, TCE

24 hour Turn Around Time

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
1. Received By	**Date**	**Time**	**2. Received By**	**Date**	**Time**	**3. Received For Lab By**	**Date**	**Time**
							2/11/15	0845

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

61909

FedEx Express **NEW** Package US Airbill

FedEx Tracking Number 8043 7625 1452

Form ID No. 0200

1 From

Date 02/10/15

[redacted]

Sender's Name Brian Walter Phone 804 317-1135

Company CH2M HILL

Address 5701 Cleveland Street Suite 200

Dept./Floor/Suite/Room

City Virginia Beach State VA ZIP 23462

2 Your Internal Billing Reference 470624.F1.FS.34

3 To

Recipient's Name Walt Roudebush Phone 616 975-4561

Company ~~[redacted]~~ Tri-Matrix Laboratory

Address 5560 Corporate Exchange Ct. SE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight. ☐

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. ☐

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Grand Rapids State MI ZIP 49512

4 Express Package Service • To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☑ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging • Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☑ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☒ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☑ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

☑ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

[redacted]

Total Packages 1 Total Weight 49 lbs. [redacted] Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

144

CUSTODY SEAL

DATE 02/10/15

SIGNATURE

QEC Quality Environmental Containers 800-255-3950 • 304-255-3900

fedex.com 1.800.GoFedEx 1.800.463.3339

fedex.com 1.800.GoFedEx 1.800.463.3339

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CH2M Hill	Work Order #: 1502155 New / Add To
Receipt Record Page/Line #: 35-3	Project Chemist: WR / Sample #s

Recorded by (initials/date): WC 2·11·15	☑ Cooler ☐ Box ☐ Other	Qty Received: 1	Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler # Tm3485	Time 0915	Cooler #	Time	Cooler #	Time	Cooler #	Time
Custody Seals: ☐ None ☑ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	
Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	
Coolant Location: (Dispersed) / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom	
Temp Blank Present: ☑ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No	
If Present, Temperature Blank Location is: ☑ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative	

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	2.9	-	2.9
Sample 1:	3.5	-	3.5
Sample 2:	3.1	-	3.1
Sample 3:	3.9	-	3.9
3 Sample Average °C:	3.5		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

☐ Cooler ID on COC?	☐ Cooler ID on COC?	☐ Cooler ID on COC?	☐ Cooler ID on COC?
☑ VOC Trip Blank received? (3)	☐ VOC Trip Blank received?	☐ VOC Trip Blank received?	☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐		Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☐	Other _____

COC Information

☑ TriMatrix COC ☐ Other_____

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank OR average sample temperature, ≥6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐		If "Yes", Project Chemist Approval Initials:_____
☐	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☐		Samples chemically preserved correctly?
☐	☐		If "No", added orange tag?
	☐	☐	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☐	Sample ID matches COC?
☐	☐	Sample Date and Time matches COC?
☐		Container type completed on COC?
☐	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

(3)

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
2·11·15 0845	2·11·15 0940	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client: CH2M Hill		Work Order #: 1502155
Receipt Log #: 35.3	Completed By (initials/date): WC 2.11.15	Project Chemist: WSR

List non-conformance issues associated with this work order in the chart below/left. Identify discrepancies between the COC and sample tags in the chart below/right. Add comments as needed.

COC ID #	Line #	Type of Problem: Discrepancy	Missing Container	Broken Container	Label Missing / Incomplete	Label Illegible	Low Volume	Inappropriate Container	Headspace	Not Listed on COC	Preservation	COC: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Sample Tag: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Line Item Comments
150549	2								X			DP01-4650			1	3 of 3						
↓	7								X			DP02-5155			1	2 of 3						
	8								X			DP03-4145			1	3 of 3						
	9								X			DP03-5761			1	3 of 3						

General Comments:

Client informed.

Project Chemist (initials/date): WSR 2/11/15

TRIMATRIX LABORATORIES

WORK ORDER 1502155

Printed: 2/11/2015 10:53:54AM

Client:	**CH2M HILL - VA**	Project Manager:	**Walter J. Roudebush**
Project:	**8012 CTO-WE74 Yorktown Site 34**	Project Number:	**50085**
Work Order:	**DPT Groundwater**	SDG:	**50085-7**

Report To:
CH2M HILL - VA
Ms. Clairette Campbell
5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Phone: (757) 671-6335
Fax: (757) 497-6885

Invoice To:
CH2M HILL, Inc.
Accounts Payable
P.O. Box 241329
Denver, CO 80224
Phone: (720) 286-2029
Fax: ---

Package Due Date:	**Feb-19-15 15:00**			
W.O. Due Date:	**Feb-12-15 15:00 (1 day TAT)**		Report Level:	**4DOD**
Date Received:	Feb-11-15 08:45	2.9°C	Received By:	William D. Cole
Date Logged In:	Feb-11-15 10:42		Logged In By:	William D. Cole
W.O. Comments:	*4DOD, QSM v4.2, 24 RUSH, all samples for VOC for this week have been received, and SDG 50085-7 is CLOSED. Final report in 14 days. VOC Rack #177B & #446B*			

Analysis	Lab Due Date	TAT	Expires	Analysis Comments
1502155-01 YS34-DP01-2630-0215 [Water] *Sampled Feb-09-15 13:00 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 13:00	
1502155-02 YS34-DP01-4650-0215 [Water] *Sampled Feb-09-15 15:55 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 15:55	
1502155-03 YS34-DP02-3337-0215 [Water] *Sampled Feb-09-15 17:20 Eastern by CH2M HILL*				**client MS/MSD**
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 17:20	
1502155-04 YS34-TB-021015 [Water] *Sampled Feb-10-15 07:00 Eastern by TriMatrix*				**Trip Blank (2nd vial is back-up)**
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 07:00	
1502155-05 YS34-DP02-5155-0215 [Water] *Sampled Feb-10-15 12:00 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 12:00	
1502155-06 YS34-DP03-4145-0215 [Water] *Sampled Feb-10-15 15:05 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 15:05	
1502155-07 YS34-DP03-5761-0215 [Water] *Sampled Feb-10-15 16:40 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 16:40	

Reviewed By

Date

TRIMATRIX LABORATORIES

SECTION - B

INTERNAL COC RECORDS

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TriMatrix Laboratories, Inc.

Internal Chain of Custody

SDGID: 50085-7 **Work Order #: 1502155**

Client: **CH2M HILL - VA**
Project: **8012 CTO-WE74 Yorktown Site 34**

Project Manager: **Walter J. Roudebush**
Date Received: **Feb-11-15 08:45**

Department: **Volatiles MS** Analysis: 8260B

Lab Number / Sample Name	*Container*	*Removed by (Signature)*	*Date & Time Removed*	*Date & Time Returned*	*Consumed?*	*Extract Container*
1502155-01 YS34-DP01-2630-0215	A	Deanne Van Male	2-11-15 11:15	2-12-15 9:30		
1502155-02 YS34-DP01-4650-0215						
1502155-03 YS34-DP02-3337-0215						
1502155-04 YS34-TB-021015						
1502155-05 YS34-DP02-5155-0215						
1502155-06 YS34-DP03-4145-0215	B					
1502155-07 YS34-DP03-5761-0215						

TRIMATRIX LABORATORIES

SECTION – C

GCMS VOLATILE ORGANICS

USEPA-8260B

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TriMatrix Laboratories, Inc.

CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-7

USEPA-8260B

SAMPLE ID SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Client Sample Id:	Lab Sample Id:
YS34-DP01-2630-0215	1502155-01
YS34-DP01-4650-0215	1502155-02
YS34-DP02-3337-0215	1502155-03
YS34-TB-021015	1502155-04
YS34-DP02-5155-0215	1502155-05
YS34-DP03-4145-0215	1502155-06
YS34-DP03-4145-0215	1502155-06RE1
YS34-DP03-5761-0215	1502155-07

TRIMATRIX
LABORATORIES

SECTION - C

QUALITY CONTROL (QC) SUMMARY
- FORMS ONLY -

USEPA-8260B

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ANALYSIS BATCH (SEQUENCE) SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B12009-TUN1	BFB0211A.D	02/11/15 09:17
Calibration Check	5B12009-CCV1	CCV0211.D	02/11/15 09:45
LCS	1501292-BS1	BS0211.D	02/11/15 10:12
Blank	1501292-BLK1	BLK0211.D	02/11/15 11:05
YS34-DP01-2630-0215	1502155-01	1502155-01.D	02/11/15 11:58
YS34-DP01-4650-0215	1502155-02	1502155-02.D	02/11/15 12:24
YS34-DP02-3337-0215	1502155-03	1502155-03.D	02/11/15 12:51
YS34-DP02-5155-0215	1502155-05	1502155-05.D	02/11/15 13:17
YS34-DP03-4145-0215	1502155-06	1502155-06.D	02/11/15 13:44
YS34-DP03-5761-0215	1502155-07	1502155-07.D	02/11/15 14:10
YS34-TB-021015	1502155-04	1502155-04.D	02/11/15 16:22
YS34-DP03-4145-0215	1502155-06RE1	1502155-06A.D	02/11/15 16:49
YS34-DP02-3337-0215	1501292-MS1	1502155-03MS.D	02/11/15 17:15
YS34-DP02-3337-0215	1501292-MSD1	1502155-03MSD.D	02/11/15 17:42

SURROGATE STANDARD RECOVERY AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
Calibration Check (5B12009-CCV1)		**Lab File ID: CCV0211.D**		**Analyzed: 02/11/15 09:45**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	105	80 - 120	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	104	80 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	109	80 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	104	80 - 120	
LCS (1501292-BS1)		**Lab File ID: BS0211.D**		**Analyzed: 02/11/15 10:12**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	104	85 - 115	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	104	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	103	75 - 120	
Blank (1501292-BLK1)		**Lab File ID: BLK0211.D**		**Analyzed: 02/11/15 11:05**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	104	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
YS34-DP01-2630-0215 (1502155-01)		**Lab File ID: 1502155-01.D**		**Analyzed: 02/11/15 11:58**			
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	101	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	101	75 - 120	
YS34-DP01-4650-0215 (1502155-02)		**Lab File ID: 1502155-02.D**		**Analyzed: 02/11/15 12:24**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	101	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	102	75 - 120	
YS34-DP02-3337-0215 (1502155-03)		**Lab File ID: 1502155-03.D**		**Analyzed: 02/11/15 12:51**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	101	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
YS34-DP02-5155-0215 (1502155-05)		**Lab File ID: 1502155-05.D**		**Analyzed: 02/11/15 13:17**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
YS34-DP03-4145-0215 (1502155-06)		**Lab File ID: 1502155-06.D Analyzed: 02/11/15 13:44**					
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	103	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	
YS34-DP03-5761-0215 (1502155-07)		**Lab File ID: 1502155-07.D Analyzed: 02/11/15 14:10**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	
YS34-TB-021015 (1502155-04)		**Lab File ID: 1502155-04.D Analyzed: 02/11/15 16:22**					
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	105	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	101	75 - 120	
YS34-DP03-4145-0215 (1502155-06RE1)		**Lab File ID: 1502155-06A.DAnalyzed: 02/11/15 16:49**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	104	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
Matrix Spike (1501292-MS1)		**Lab File ID: 1502155-03MSAnalyzed: 02/11/15 17:15**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	103	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	105	75 - 120	
Matrix Spike Dup (1501292-MSD1)		**Lab File ID: 1502155-03MSAnalyzed: 02/11/15 17:42**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	104	85 - 115	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	106	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	109	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	105	75 - 120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

YS34-DP02-3337-0215

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Analyte	Spike Added	Sample Conc.	MS Conc.	MS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	ND	45.9	115	70 - 135	ug/L
1,1-Dichloroethene	40.0	0.330	45.2	112	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	0.590	45.8	113	70 - 125	ug/L
Trichloroethene	40.0	3.18	44.6	104	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MSD1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Analyte	Spike Added	MSD Conc.	MSD % Rec. #	% RPD #	QC Limits RPD	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	47.8	120	4	30	70 - 135	ug/L
1,1-Dichloroethene	40.0	48.0	119	6	30	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	47.8	118	4	30	70 - 125	ug/L
Trichloroethene	40.0	46.2	107	3	30	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-BS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Sequence: 5B12009

Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	46.6	116	70 - 135	ug/L
1,1-Dichloroethene	40.0	47.6	119	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	46.9	117	70 - 125	ug/L
Trichloroethene	40.0	44.2	110	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

METHOD BLANK DATA SHEET
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501292-BLK1
File ID: BLK0211.D
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 11:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Concentration	Unit	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	0.50	ug/L	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	0.50	ug/L	0.22	0.50	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.50	ug/L	0.13	0.50	1.0	U
79-01-6	Trichloroethene	0.20	ug/L	0.10	0.20	1.0	U

System Monitoring Compound	Added (ug/L)	Conc. (ug/L)	% REC	QC Limits	Q
Dibromofluoromethane	40.0	40.2	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.0	102	70 - 120	
Toluene-d8	40.0	41.7	104	85 - 120	
4-Bromofluorobenzene	40.0	40.1	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	632988	6.125	749406	6.125	
Chlorobenzene-d5	586383	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	256664	13.436	325234	13.43	

QC BATCH SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-7

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

QC Batch: 1501292 QC Batch Matrix: Water

Preparation: 5030B Aqueous Purge & Trap

Sample Name	Lab Sample ID	Date Prepared	Observations
Blank	1501292-BLK1	02/11/15 09:00	
LCS	1501292-BS1	02/11/15 09:00	
YS34-DP02-3337-0215	1501292-MS1	02/11/15 09:00	
YS34-DP02-3337-0215	1501292-MSD1	02/11/15 09:00	
YS34-DP01-2630-0215	1502155-01	02/11/15 09:00	
YS34-DP01-4650-0215	1502155-02	02/11/15 09:00	
YS34-DP02-3337-0215	1502155-03	02/11/15 09:00	
YS34-TB-021015	1502155-04	02/11/15 09:00	
YS34-DP02-5155-0215	1502155-05	02/11/15 09:00	
YS34-DP03-4145-0215	1502155-06	02/11/15 09:00	
YS34-DP03-4145-0215	1502155-06RE1	02/11/15 09:00	Added 2/12/2015 by DLV
YS34-DP03-5761-0215	1502155-07	02/11/15 09:00	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B11037-TUN1
Injection Date: 02/06/15
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: BFB0206.D
Injection Time: 10:13
Calibration: 5B11014
Instrument ID: 350

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	17.6	PASS
75	30 - 60% of 95	49.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.24	PASS
173	Less than 2% of 174	0.433	PASS
174	50 - 100% of 95	94.3	PASS
175	5 - 9% of 174	6.61	PASS
176	95 - 101% of 174	97.7	PASS
177	5 - 9% of 176	6.99	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B12009-TUN1
Lab File ID: BFB0211A.D
Injection Date: 02/11/15
Injection Time: 09:17
Sequence: 5B12009
Instrument ID: 350

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	15.5	PASS
75	30 - 60% of 95	47	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.64	PASS
173	Less than 2% of 174	0.576	PASS
174	50 - 100% of 95	91.2	PASS
175	5 - 9% of 174	7.29	PASS
176	95 - 101% of 174	97	PASS
177	5 - 9% of 176	6.21	PASS

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B12009-CCV1)			**Lab File ID: CCV0211.D**			**Analyzed: 02/11/15 09:45**			
Fluorobenzene	628044	6.125	749406	6.125	84	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	609445	10.46	624670	10.46	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	321015	13.43	325234	13.43	99	50 - 200	0.0000	+/-0.50	
LCS (1501292-BS1)			**Lab File ID: BS0211.D**			**Analyzed: 02/11/15 10:12**			
Fluorobenzene	635338	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	606498	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	326013	13.43	325234	13.43	100	50 - 200	0.0000	+/-0.50	
Blank (1501292-BLK1)			**Lab File ID: BLK0211.D**			**Analyzed: 02/11/15 11:05**			
Fluorobenzene	632988	6.125	749406	6.125	84	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	586383	10.46	624670	10.46	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	256664	13.436	325234	13.43	79	50 - 200	0.0060	+/-0.50	
YS34-DP01-2630-0215 (1502155-01)			**Lab File ID: 1502155-01.D**			**Analyzed: 02/11/15 11:58**			
Fluorobenzene	660544	6.125	749406	6.125	88	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	615835	10.46	624670	10.46	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	296667	13.436	325234	13.43	91	50 - 200	0.0060	+/-0.50	
YS34-DP01-4650-0215 (1502155-02)			**Lab File ID: 1502155-02.D**			**Analyzed: 02/11/15 12:24**			
Fluorobenzene	638433	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	598464	10.46	624670	10.46	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	281714	13.436	325234	13.43	87	50 - 200	0.0060	+/-0.50	
YS34-DP02-3337-0215 (1502155-03)			**Lab File ID: 1502155-03.D**			**Analyzed: 02/11/15 12:51**			
Fluorobenzene	661539	6.125	749406	6.125	88	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	609904	10.46	624670	10.46	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	283340	13.436	325234	13.43	87	50 - 200	0.0060	+/-0.50	
YS34-DP02-5155-0215 (1502155-05)			**Lab File ID: 1502155-05.D**			**Analyzed: 02/11/15 13:17**			
Fluorobenzene	655663	6.125	749406	6.125	87	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	604299	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	272014	13.436	325234	13.43	84	50 - 200	0.0060	+/-0.50	
YS34-DP03-4145-0215 (1502155-06)			**Lab File ID: 1502155-06.D**			**Analyzed: 02/11/15 13:44**			
Fluorobenzene	643121	6.125	749406	6.125	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	597454	10.46	624670	10.46	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	262209	13.436	325234	13.43	81	50 - 200	0.0060	+/-0.50	
YS34-DP03-5761-0215 (1502155-07)			**Lab File ID: 1502155-07.D**			**Analyzed: 02/11/15 14:10**			
Fluorobenzene	638076	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	602959	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	270855	13.436	325234	13.43	83	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
YS34-TB-021015 (1502155-04)			**Lab File ID: 1502155-04.D**			**Analyzed: 02/11/15 16:22**			
Fluorobenzene	634248	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	594197	10.46	624670	10.46	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	272518	13.436	325234	13.43	84	50 - 200	0.0060	+/-0.50	
YS34-DP03-4145-0215 (1502155-06RE1)			**Lab File ID: 1502155-06A.D**			**Analyzed: 02/11/15 16:49**			
Fluorobenzene	641301	6.125	749406	6.125	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	593677	10.46	624670	10.46	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	265941	13.436	325234	13.43	82	50 - 200	0.0060	+/-0.50	
Matrix Spike (1501292-MS1)			**Lab File ID: 1502155-03MS.D**			**Analyzed: 02/11/15 17:15**			
Fluorobenzene	651434	6.125	749406	6.125	87	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	627641	10.46	624670	10.46	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	337012	13.43	325234	13.43	104	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (1501292-MSD1)			**Lab File ID: 1502155-03MSD.D**			**Analyzed: 02/11/15 17:42**			
Fluorobenzene	639030	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	621559	10.46	624670	10.46	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	329924	13.43	325234	13.43	101	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-7

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

Method: Volatile Organic Compounds by EPA Method 8260B

Sample Name	Date Collected	Date Received	Date Leached	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
YS34-DP01-2630-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-DP01-4650-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-DP02-3337-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-TB-021015	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP02-5155-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-4145-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-4145-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-5761-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	

TRIMATRIX LABORATORIES

SECTION - C

SAMPLE DATA
- FORMS ONLY -

USEPA-8260B

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP01-2630-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-01
File ID: 1502155-01.D
Sampled: 02/09/15 13:00
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 11:58
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	1.6	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	19	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	94	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.6	101	85 - 115	
1,2-Dichloroethane-d4	40.0	40.9	102	70 - 120	
Toluene-d8	40.0	42.1	105	85 - 120	
4-Bromofluorobenzene	40.0	40.4	101	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	660544	6.125	749406	6.125	
Chlorobenzene-d5	615835	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	296667	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP01-4650-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-02
File ID: 1502155-02.D
Sampled: 02/09/15 15:55
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 12:24
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.16	0.13	0.50	1.0	J
75-35-4	1,1-Dichloroethene	1	3.1	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	8.3	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	1.1	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.4	101	85 - 115	
1,2-Dichloroethane-d4	40.0	40.8	102	70 - 120	
Toluene-d8	40.0	42.7	107	85 - 120	
4-Bromofluorobenzene	40.0	40.7	102	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	638433	6.125	749406	6.125	
Chlorobenzene-d5	598464	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	281714	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-03
File ID: 1502155-03.D
Sampled: 02/09/15 17:20
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 12:51
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	0.33	0.22	0.50	1.0	J
156-59-2	cis-1,2-Dichloroethene	1	0.59	0.13	0.50	1.0	J
79-01-6	Trichloroethene	1	3.2	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.8	100	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	41.9	105	85 - 120	
4-Bromofluorobenzene	40.0	40.0	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	661539	6.125	749406	6.125	
Chlorobenzene-d5	609904	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	283340	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-TB-021015

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-7

Client: CH2M HILL - VA Project: 8012 CTO-WE74 Yorktown Site 34

Matrix: Water Laboratory ID: 1502155-04 File ID: 1502155-04.D

Sampled: 02/10/15 07:00 Prepared: 02/11/15 09:00 Analyzed: 02/11/15 16:22

Solids: Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1501292 Sequence: 5B12009 Calibration: 5B11014 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	0.50	0.22	0.50	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	0.50	0.13	0.50	1.0	U
79-01-6	Trichloroethene	1	0.20	0.10	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.0	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.8	105	70 - 120	
Toluene-d8	40.0	42.6	106	85 - 120	
4-Bromofluorobenzene	40.0	40.3	101	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	634248	6.125	749406	6.125	
Chlorobenzene-d5	594197	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	272518	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP02-5155-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-7

Client: CH2M HILL - VA Project: 8012 CTO-WE74 Yorktown Site 34

Matrix: Ground Water Laboratory ID: 1502155-05 File ID: 1502155-05.D

Sampled: 02/10/15 12:00 Prepared: 02/11/15 09:00 Analyzed: 02/11/15 13:17

Solids: Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1501292 Sequence: 5B12009 Calibration: 5B11014 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	1.5	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	2.6	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	1.1	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.7	99	85 - 115	
1,2-Dichloroethane-d4	40.0	40.7	102	70 - 120	
Toluene-d8	40.0	41.8	105	85 - 120	
4-Bromofluorobenzene	40.0	39.3	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	655663	6.125	749406	6.125	
Chlorobenzene-d5	604299	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	272014	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-4145-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-06
File ID: 1502155-06.D
Sampled: 02/10/15 15:05
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 13:44
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	2.4	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	75	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	8.2	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	410	0.10	0.20	1.0	E

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.9	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.3	103	70 - 120	
Toluene-d8	40.0	42.5	106	85 - 120	
4-Bromofluorobenzene	40.0	39.3	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	643121	6.125	749406	6.125	
Chlorobenzene-d5	597454	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	262209	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-4145-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-06RE1
File ID: 1502155-06A.D
Sampled: 02/10/15 15:05
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 16:49
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	5	2.6	0.63	2.5	5.0	J
75-35-4	1,1-Dichloroethene	5	96	1.1	2.5	5.0	
156-59-2	cis-1,2-Dichloroethene	5	9.0	0.67	2.5	5.0	
79-01-6	Trichloroethene	5	500	0.52	1.0	5.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.7	99	85 - 115	
1,2-Dichloroethane-d4	40.0	41.4	104	70 - 120	
Toluene-d8	40.0	42.4	106	85 - 120	
4-Bromofluorobenzene	40.0	40.1	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	641301	6.125	749406	6.125	
Chlorobenzene-d5	593677	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	265941	13.436	325234	13.43	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-5761-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-07
File ID: 1502155-07.D
Sampled: 02/10/15 16:40
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 14:10
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	3.4	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	0.48	0.13	0.50	1.0	J
79-01-6	Trichloroethene	1	18	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.6	99	85 - 115	
1,2-Dichloroethane-d4	40.0	41.0	102	70 - 120	
Toluene-d8	40.0	42.3	106	85 - 120	
4-Bromofluorobenzene	40.0	39.1	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	638076	6.125	749406	6.125	
Chlorobenzene-d5	602959	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	270855	13.436	325234	13.43	

* Values outside of QC limits

TRIMATRIX LABORATORIES

SECTION - C

STANDARDS DATA
- FORMS ONLY -

USEPA-8260B

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Individual sample results relate only to the sample tested.
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INITIAL CALIBRATION STANDARDS
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
4100538	8260 Tune Working Standard 10-10-14	5B11037-TUN1	BFB0206.D	02/06/15 10:13
5020030	1.0 ug/L A	5B11037-CAL1	1P0206.D	02/06/15 11:08
5020031	5.0 ug/L A	5B11037-CAL2	5P0206.D	02/06/15 11:34
5020032	10 ug/L A	5B11037-CAL3	10P0206.D	02/06/15 12:01
5020033	20 ug/L A	5B11037-CAL4	20P0206.D	02/06/15 12:27
5020034	40 ug/L A	5B11037-CAL5	40P0206.D	02/06/15 12:53
5020035	100 ug/L A	5B11037-CAL6	100P0206.D	02/06/15 13:20
5020036	200 ug/L A	5B11037-CAL7	200P0206.D	02/06/15 14:13
5010204	40 ug/L B	5B11037-SCV1	SCV0206.D	02/06/15 15:32

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	~~0.8154779~~	5	0.2779164	10	0.2021887	20	0.1725308	40	0.1599293	100	0.1482776
Acrolein	1	0.1136924	5	7.541456E-02	10	7.740842E-02	20	7.118377E-02	40	7.047315E-02	100	7.157452E-02
Acrylonitrile	1	0.2019479	5	0.1860771	10	0.1600377	20	0.1620821	40	0.1575808	100	0.1574246
Benzene	1	1.389028	5	1.248557	10	1.221194	20	1.225758	40	1.223713	100	1.218737
Bromobenzene	1	1.78425	5	1.546477	10	1.465361	20	1.366307	40	1.338252	100	1.322102
Bromochloromethane	1	0.2619461	5	0.220883	10	0.2212077	20	0.2153137	40	0.205388	100	0.1977146
Bromodichloromethane	1	0.4866767	5	0.4580912	10	0.4336078	20	0.4263816	40	0.4323918	100	0.4360261
Bromoform	1	0.4487544	5	0.3967357	10	0.3902731	20	0.3887512	40	0.3954696	100	0.4169813
Bromomethane	1	0.2575222	5	0.1961243	10	0.1922515	20	0.2022027	40	0.2104627	100	0.2107288
n-Butylbenzene	1	1.974508	5	1.921647	10	1.908011	20	1.960231	40	2.039559	100	2.210662
sec-Butylbenzene	1	3.970363	5	3.35932	10	3.294579	20	3.453113	40	3.47163	100	3.506083
tert-Butylbenzene	1	3.129824	5	2.708584	10	2.629674	20	2.586075	40	2.534228	100	2.540151
Carbon Disulfide	1	0.9437137	5	0.7071482	10	0.7253139	20	0.7382786	40	0.8596475	100	0.8376728
Carbon Tetrachloride	1	0.4448162	5	0.4034452	10	0.3953725	20	0.4076524	40	0.4207372	100	0.4312856
Chlorobenzene	1	1.316802	5	1.192521	10	1.13054	20	1.131458	40	1.132507	100	1.162027
Chloroethane	1	0.2913645	5	0.2103826	10	0.2138699	20	0.200953	40	0.2014315	100	0.1944337
2-Chloroethyl Vinyl Ether	1	7.244023E-03	5	3.21642E-03	10	3.411126E-03	20	3.220332E-03	40	4.23402E-03	100	5.231202E-03
Chloroform	1	0.6479806	5	0.5668858	10	0.5548179	20	0.556239	40	0.5529513	100	0.5563838
1-Chlorohexane	1	0.3685803	5	0.2952554	10	0.2946824	20	0.3000922	40	0.2980886	100	0.3034491
Chloromethane	1	0.3697769	5	0.2734068	10	0.2533501	20	0.2618189	40	0.253342	100	0.2470111
2-Chlorotoluene	1	1.057248	5	0.9795865	10	0.922334	20	0.9217888	40	0.8690112	100	0.866692
4-Chlorotoluene	1	3.227273	5	2.87076	10	2.768641	20	2.72873	40	2.666649	100	2.681267
Cyclohexane	1	0.5936228	5	0.4806946	10	0.4503673	20	0.4557999	40	0.4451072	100	0.44237
1,2-Dibromo-3-chloropropane	1	0.2771891	5	0.3014827	10	0.2847366	20	0.2893551	40	0.3044915	100	0.3166727
Dibromochloromethane	1	0.5093335	5	0.475779	10	0.473126	20	0.4620224	40	0.4700018	100	0.4867981
1,2-Dibromoethane	1	0.4947062	5	0.4324106	10	0.4091291	20	0.4069334	40	0.4175084	100	0.4216525
Dibromomethane	1	0.2678629	5	0.2383135	10	0.2320059	20	0.2240588	40	0.2216275	100	0.2239922
trans-1,4-Dichloro-2-butene	1	0.4362016	5	0.3087092	10	0.2669918	20	0.2671964	40	0.2445839	100	0.2465071
1,2-Dichlorobenzene	1	1.930888	5	1.795865	10	1.701262	20	1.724031	40	1.719845	100	1.733688
1,3-Dichlorobenzene	1	1.956875	5	1.847002	10	1.757023	20	1.739064	40	1.728085	100	1.748597
1,4-Dichlorobenzene	1	2.114495	5	1.789945	10	1.689486	20	1.731163	40	1.723581	100	1.7639

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.2988298	5	0.2607843	10	0.2503119	20	0.2598189	40	0.2487317	100	0.2442091
1,1-Dichloroethane	1	0.6333267	5	0.5081281	10	0.484857	20	0.4939552	40	0.4894757	100	0.4876021
1,2-Dichloroethane	1	0.485073	5	0.4491604	10	0.4370847	20	0.4414312	40	0.435134	100	0.4352317
1,1-Dichloroethene	1	0.3063503	5	0.2883615	10	0.2811382	20	0.2816536	40	0.2774157	100	0.2744533
cis-1,2-Dichloroethene	1	0.422697	5	0.3576748	10	0.3422368	20	0.3547252	40	0.3488269	100	0.3470254
trans-1,2-Dichloroethene	1	0.383159	5	0.3074168	10	0.2894411	20	0.2902198	40	0.2949803	100	0.2989411
1,2-Dichloroethene (Total)	2	0.402928	10	0.3325458	20	0.315839	40	0.3224725	80	0.3219036	200	0.3229832
Dichlorofluoromethane	1	0.6317783	5	0.5701354	10	0.5471073	20	0.5514325	40	0.5483196	100	0.5441866
1,2-Dichloropropane	1	0.3583856	5	0.2786238	10	0.2868033	20	0.2904654	40	0.286208	100	0.2869666
1,3-Dichloropropane	1	0.8151268	5	0.7000816	10	0.6751797	20	0.6733723	40	0.6554421	100	0.6616422
2,2-Dichloropropane	1	0.5947287	5	0.4646898	10	0.4571457	20	0.4472631	40	0.434324	100	0.4216463
1,1-Dichloropropene	1	0.4459774	5	0.4011794	10	0.3901406	20	0.3958312	40	0.390584	100	0.3885227
cis-1,3-Dichloropropene	1	0.5541401	5	0.4945661	10	0.4986276	20	0.4996482	40	0.4973592	100	0.5046981
trans-1,3-Dichloropropene	1	0.473737	5	0.4413017	10	0.4385819	20	0.4349024	40	0.4425105	100	0.4481076
Ethylbenzene	1	2.116266	5	1.881774	10	1.795248	20	1.807108	40	1.826864	100	1.872236
Ethyl Ether	1	0.2247306	5	0.2446801	10	0.2104039	20	0.2194552	40	0.2101331	100	0.2135136
Hexachlorobutadiene	1	0.4304784	5	0.4530366	10	0.46004	20	0.5166142	40	0.5495059	100	0.5648496
2-Hexanone	1	0.3929361	5	0.3286578	10	0.3256611	20	0.322346	40	0.3439288	100	0.3424933
Iodomethane	1	0.1090474	5	0.1118452	10	0.132831	20	0.1671422	40	0.2239974	100	0.243125
Isopropylbenzene	1	4.4986	5	3.873913	10	3.619914	20	3.57841	40	3.481161	100	3.41407
4-Isopropyltoluene	1	2.995561	5	2.714099	10	2.599977	20	2.751987	40	2.84129	100	3.004612
Methyl Acetate	1	0.3028665	5	0.3147671	10	0.3152549	20	0.296818	40	0.2900831	100	0.2909954
Methyl tert-Butyl Ether	1	1.255815	5	1.099817	10	1.066075	20	1.045788	40	1.03089	100	1.049065
Methylcyclohexane	1	0.6239813	5	0.5577118	10	0.5136486	20	0.5251892	40	0.5233972	100	0.5135792
Methylene Chloride	1	0.7251211	5	0.4087507	10	0.3621606	20	0.337697	40	0.3205098	100	0.3139732
2-Butanone (MEK)	1	0.232417	5	0.1888182	10	0.1829669	20	0.1700688	40	0.1893646	100	0.1904406
4-Methyl-2-pentanone (MIBK)	1	0.3380913	5	0.3355246	10	0.3565065	20	0.3625384	40	0.3893951	100	0.3862686
Naphthalene	1	~~1.051679~~	5	1.079771	10	1.157989	20	1.444618	40	1.771703	100	2.33524
n-Propylbenzene	1	1.109839	5	0.9783095	10	0.9214051	20	0.9336111	40	0.9265483	100	0.9284682
Styrene	1	1.210823	5	1.115339	10	1.132733	20	1.131561	40	1.189247	100	1.248825
1,1,1,2-Tetrachloroethane	1	0.5058837	5	0.4584754	10	0.4360157	20	0.4343464	40	0.4329806	100	0.4370259

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,2,2-Tetrachloroethane	1	1.672106	5	1.266239	10	1.210021	20	1.146225	40	1.065891	100	1.054483
Tetrachloroethene	1	0.646085	5	0.5703598	10	0.5336258	20	0.5290469	40	0.5207742	100	0.5229101
Tetrahydrofuran	1	~~8.958257E-02~~	5	7.138021E-02	10	0.069089	20	6.161089E-02	40	6.028775E-02	100	6.036473E-02
Toluene	1	1.589206	5	1.370659	10	1.36955	20	1.398719	40	1.373003	100	1.397452
1,2,3-Trichlorobenzene	1	0.5645872	5	0.5079757	10	0.5898544	20	0.7142077	40	0.808255	100	0.9908599
1,2,4-Trichlorobenzene	1	0.531176	5	0.5798346	10	0.6235136	20	0.7506953	40	0.867397	100	1.02292
1,1,1-Trichloroethane	1	0.6164608	5	0.5209054	10	0.5027188	20	0.5068819	40	0.5086188	100	0.508328
1,1,2-Trichloroethane	1	0.3375383	5	0.2837192	10	0.2764547	20	0.2679071	40	0.2664123	100	0.2663828
Trichloroethene	1	0.4302728	5	0.3725521	10	0.3623965	20	0.3752702	40	0.3870225	100	0.3835957
Trichlorofluoromethane	1	0.6373081	5	0.5293498	10	0.4987757	20	0.5219822	40	0.5112249	100	0.5023754
1,2,3-Trichloropropane	1	0.5225139	5	0.4453167	10	0.416682	20	0.40553	40	0.3924743	100	0.3795364
1,1,2-Trichloro-1,2,2-trifluoro	1	0.3604316	5	0.3142144	10	0.3113228	20	0.3156246	40	0.3112745	100	0.3033833
1,2,4-Trimethylbenzene	1	3.225727	5	2.745414	10	2.646518	20	2.743918	40	2.751032	100	2.819401
1,3,5-Trimethylbenzene	1	3.459605	5	2.979478	10	2.865357	20	2.966953	40	2.890316	100	2.916369
Vinyl Acetate	1	0.6511879	5	0.5402039	10	0.5393856	20	0.4760645	40	0.4638861	100	0.4711654
Vinyl Chloride	1	0.4434337	5	0.3471634	10	0.331647	20	0.3416596	40	0.3289645	100	0.3221923
Xylene, Meta + Para	2	0.8389652	10	0.7301096	20	0.7178766	40	0.7152056	80	0.7271784	200	0.7462407
Xylene, Ortho	1	0.8556969	5	0.7188636	10	0.7158205	20	0.7052129	40	0.7164407	100	0.7386474
Xylene (Total)	3	0.8445424	15	0.7263609	30	0.7171913	60	0.7118747	120	0.7235991	300	0.7437096
Dichlorobenzenes (Total)	3	2.000753	15	1.810937	30	1.715924	60	1.731419	120	1.723837	300	1.748728
Dibromofluoromethane	40	0.2656289	40	0.2680364	40	0.2685247	40	0.2743985	40	0.2707144	40	0.2755095
1,2-Dichloroethane-d4	40	0.1495863	40	0.1513845	40	0.1517293	40	0.1529885	40	0.1543929	40	0.1490812
Toluene-d8	40	1.009712	40	1.002654	40	1.017138	40	1.013851	40	1.014018	40	1.012935
4-Bromofluorobenzene	40	0.4723272	40	0.4827846	40	0.4860594	40	0.4804726	40	0.4922967	40	0.5068553

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	0.1378287										
Acrolein	200	6.891729E-02										
Acrylonitrile	200	0.1564769										
Benzene	200	1.192318										
Bromobenzene	200	1.252073										
Bromochloromethane	200	0.1933692										
Bromodichloromethane	200	0.4306513										
Bromoform	200	0.416656										
Bromomethane	200	~~0.1421404~~										
n-Butylbenzene	200	2.220655										
sec-Butylbenzene	200	3.317986										
tert-Butylbenzene	200	2.401072										
Carbon Disulfide	200	0.8197455										
Carbon Tetrachloride	200	0.4275101										
Chlorobenzene	200	1.118821										
Chloroethane	200	0.187005										
2-Chloroethyl Vinyl Ether	200	6.465623E-03										
Chloroform	200	0.5430395										
1-Chlorohexane	200	0.2926106										
Chloromethane	200	0.2403982										
2-Chlorotoluene	200	0.8129072										
4-Chlorotoluene	200	2.548674										
Cyclohexane	200	0.4279342										
1,2-Dibromo-3-chloropropane	200	0.303256										
Dibromochloromethane	200	0.4697202										
1,2-Dibromoethane	200	0.407332										
Dibromomethane	200	0.2232672										
trans-1,4-Dichloro-2-butene	200	~~0.2135616~~										
1,2-Dichlorobenzene	200	1.653835										
1,3-Dichlorobenzene	200	1.66994										
1,4-Dichlorobenzene	200	1.680277										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	200	0.2310621										
1,1-Dichloroethane	200	0.4336161										
1,2-Dichloroethane	200	0.4270635										
1,1-Dichloroethene	200	0.2633423										
cis-1,2-Dichloroethene	200	0.3396367										
trans-1,2-Dichloroethene	200	0.2936999										
1,2-Dichloroethene (Total)	400	0.3166683										
Dichlorofluoromethane	200	0.5342087										
1,2-Dichloropropane	200	0.2790131										
1,3-Dichloropropane	200	0.6301884										
2,2-Dichloropropane	200	0.394625										
1,1-Dichloropropene	200	0.3806508										
cis-1,3-Dichloropropene	200	0.4975397										
trans-1,3-Dichloropropene	200	0.4481082										
Ethylbenzene	200	1.794028										
Ethyl Ether	200	0.2085034										
Hexachlorobutadiene	200	0.5331781										
2-Hexanone	200	0.3245663										
Iodomethane	200	0.2460525										
Isopropylbenzene	200	3.215141										
4-Isopropyltoluene	200	2.882238										
Methyl Acetate	200	0.2817902										
Methyl tert-Butyl Ether	200	1.02723										
Methylcyclohexane	200	0.5058977										
Methylene Chloride	200	0.3055188										
2-Butanone (MEK)	200	0.1815379										
4-Methyl-2-pentanone (MIBK)	200	0.3778577										
Naphthalene	200	2.44075										
n-Propylbenzene	200	0.8795134										
Styrene	200	1.247227										
1,1,1,2-Tetrachloroethane	200	0.4167953										

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,2,2-Tetrachloroethane	200	~~0.9763715~~										
Tetrachloroethene	200	0.4943587										
Tetrahydrofuran	200	0.0600045										
Toluene	200	1.373716										
1,2,3-Trichlorobenzene	200	1.023463										
1,2,4-Trichlorobenzene	200	1.055982										
1,1,1-Trichloroethane	200	0.4970593										
1,1,2-Trichloroethane	200	0.2653158										
Trichloroethene	200	0.380017										
Trichlorofluoromethane	200	0.4895082										
1,2,3-Trichloropropane	200	0.3517033										
1,1,2-Trichloro-1,2,2-trifluoroe	200	0.2927471										
1,2,4-Trimethylbenzene	200	2.677302										
1,3,5-Trimethylbenzene	200	2.753165										
Vinyl Acetate	200	0.4403969										
Vinyl Chloride	200	0.3252493										
Xylene, Meta + Para	400	0.725606										
Xylene, Ortho	200	0.7190065										
Xylene (Total)	600	0.7234062										
Dichlorobenzenes (Total)	600	1.668017										
Dibromofluoromethane	40	0.2736657										
1,2-Dichloroethane-d4	40	0.1512457										
Toluene-d8	40	1.027951										
4-Bromofluorobenzene	40	0.5103413										

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Acetone	0.1831119	28.12907	2.148667	2.669109E-02	0.99925		0.99	
Acrolein	7.838059E-02	20.2187	2.015571	0.1579433	0.99970		0.99	
Acrylonitrile	0.1688039	10.61466	2.784	1.209198E-02			15	
Benzene	1.245615	5.244927	5.607	1.162146E-02			15	
Bromobenzene	1.43926	12.54127	12.14543	0.0213555			15	
Bromochloromethane	0.216546	10.52974	4.457429	6.984352E-02			15	
Bromodichloromethane	0.4434038	4.882663	7.525	1.303692E-02			15	
Bromoform	0.4076602	5.284292	11.55486	2.686314E-02			SPCC (0.1)	
Bromomethane	0.2115487	11.21227	1.436	0.1699321			15	
n-Butylbenzene	2.03361	6.460204	13.95657	2.433675E-02			15	
sec-Butylbenzene	3.481868	6.602505	13.25057	1.917221E-02			15	
tert-Butylbenzene	2.647087	8.799469	12.97414	2.428861E-02			15	
Carbon Disulfide	0.8045029	10.63085	2.256	0.1219663			15	
Carbon Tetrachloride	0.4186885	4.161097	5.219	0.0167941			15	
Chlorobenzene	1.169239	5.964877	10.495	1.802279E-02			SPCC (0.3)	
Chloroethane	0.2142057	16.43677	1.506571	0.138537	0.99961		0.99	
2-Chloroethyl Vinyl Ether	4.717535E-03	34.76463	8.032	0.4297432		0.9997537	0.99	
Chloroform	0.5683283	6.300829	4.639429	6.552997E-02			CCC (30)	
1-Chlorohexane	0.3075369	8.832032	10.542	1.293779E-02			15	
Chloromethane	0.2713006	16.47141	1.149	2.032669E-02	0.99981		SPCC (0.1)	
2-Chlorotoluene	0.9185097	8.810231	12.413	0.021917			15	
4-Chlorotoluene	2.784571	7.854423	12.55829	3.159223E-02			15	
Cyclohexane	0.4708423	11.99293	4.995428	1.009054E-02			15	
1,2-Dibromo-3-chloropropane	0.2967405	4.569579	14.88986	9.728884E-03			15	
Dibromochloromethane	0.4781116	3.280052	9.719	1.974401E-02			15	
1,2-Dibromoethane	0.427096	7.30531	9.830572	4.304876E-03			15	
Dibromomethane	0.2330183	7.072928	7.236571	1.181425E-02			15	
trans-1,4-Dichloro-2-butene	0.2950317	24.71136	12.299	3.651582E-02	0.99975		0.99	
1,2-Dichlorobenzene	1.751345	5.122188	13.913	2.055084E-02			15	
1,3-Dichlorobenzene	1.778084	5.322891	13.34543	2.390138E-02			15	
1,4-Dichlorobenzene	1.784692	8.429574	13.46171	2.093375E-02			15	
Dichlorodifluoromethane	0.2562497	8.305178	1.031	0.0245785			15	

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
1,1-Dichloroethane	0.504423	12.17838	3.272	2.011201E-02			SPCC (0.1)	
1,2-Dichloroethane	0.4443112	4.319191	5.669428	5.860629E-02			15	
1,1-Dichloroethene	0.2818164	4.71665	2.084	0.0241817			CCC (30)	
cis-1,2-Dichloroethene	0.3589747	8.025689	4.078	1.739722E-02			15	
trans-1,2-Dichloroethene	0.3082654	10.89294	2.79	1.766833E-02			15	
1,2-Dichloroethene (Total)	0.3336201	9.305657	4.078	1.739722E-02			15	
Dichlorofluoromethane	0.5610241	5.884268	1.648857	1.592384E-02			15	
1,2-Dichloropropane	0.2952094	9.551866	7.066	9.500738E-03			CCC (30)	
1,3-Dichloropropane	0.6872904	8.766028	9.432286	3.027633E-02			15	
2,2-Dichloropropane	0.4592032	13.98472	4.061714	6.968745E-02			15	
1,1-Dichloropropene	0.3989837	5.431205	5.242571	1.649842E-02			15	
cis-1,3-Dichloropropene	0.5066541	4.177483	8.189428	1.425781E-02			15	
trans-1,3-Dichloropropene	0.4467499	2.870511	8.995	2.281239E-02			15	
Ethylbenzene	1.870503	6.094165	10.67757	0.0116675			CCC (30)	
Ethyl Ether	0.2187743	5.85647	1.913	1.520016E-02			15	
Hexachlorobutadiene	0.5011004	10.51575	16.154	1.274812E-02			15	
2-Hexanone	0.3400842	7.309786	9.624143	2.356427E-02			15	
Iodomethane	0.1762915	34.54811	2.204857	0.1371336	0.99933		0.99	
Isopropylbenzene	3.668744	11.38679	11.82071	2.760089E-02			15	
4-Isopropyltoluene	2.827109	5.268836	13.448	2.021993E-02			15	
Methyl Acetate	0.2989393	4.258292	2.443	1.092943E-02			15	
Methyl tert-Butyl Ether	1.082097	7.430565	2.814714	0.1034015			15	
Methylcyclohexane	0.5376293	7.735545	6.989428	3.201986E-03			15	
Methylene Chloride	0.3962473	37.66415	2.519	8.169632E-03	0.99990		0.99	
2-Butanone (MEK)	0.190802	10.29482	4.155857	0.1034434			15	
4-Methyl-2-pentanone (MIBK)	0.3637403	6.015653	8.469428	3.990688E-02			15	
Naphthalene	1.705012	34.20805	16.201	0.0138366	0.99838		0.99	
n-Propylbenzene	0.9539564	7.810411	12.34286	2.329731E-02			15	
Styrene	1.182251	4.762085	11.35743	2.474381E-02			15	
1,1,1,2-Tetrachloroethane	0.4459319	6.525181	10.627	3.045349E-02			15	
1,1,2,2-Tetrachloroethane	1.235828	18.51303	12.22433	1.572156E-02	0.99982		SPCC (0.3)	
Tetrachloroethene	0.5453086	9.133578	9.36	1.888947E-02			15	

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Tetrahydrofuran	6.378951E-02	7.955529	4.561	0.1541099			15	
Toluene	1.410329	5.662674	8.630714	1.140775E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.7427433	27.7941	16.50186	2.088065E-02	0.99861		0.99	
1,2,4-Trichlorobenzene	0.7759312	27.34029	15.91171	1.822572E-02	0.99894		0.99	
1,1,1-Trichloroethane	0.5229961	8.000788	4.913	1.733947E-02			15	
1,1,2-Trichloroethane	0.2805329	9.28062	9.225	6.667248E-03			15	
Trichloroethene	0.3844467	5.658029	6.725	9.732211E-03			15	
Trichlorofluoromethane	0.5272178	9.56424	1.69	2.129429E-02			15	
1,2,3-Trichloropropane	0.4162509	13.27907	12.24886	9.44149E-03			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3155712	6.747363	2.089143	0.1094361			15	
1,2,4-Trimethylbenzene	2.80133	6.970006	13.036	7.983585E-03			15	
1,3,5-Trimethylbenzene	2.975892	7.59816	12.579	0.0239167			15	
Vinyl Acetate	0.5117558	14.11777	3.377143	6.597516E-02			15	
Vinyl Chloride	0.3486157	12.25935	1.219	5.986267E-03			CCC (30)	
Xylene, Meta + Para	0.743026	5.851633	10.836	1.251186E-02			15	
Xylene, Ortho	0.7385269	7.124248	11.33114	2.108013E-02			15	
Xylene (Total)	0.7415263	6.269555	11.33114	2.108013E-02			15	
Dichlorobenzenes (Total)	1.771374	6.197298	13.913	2.055084E-02			15	
Dibromofluoromethane	0.2709254	1.371126	4.931	1.868944E-02			15	
1,2-Dichloroethane-d4	0.1514869	1.211997	5.533572	5.849076E-02			15	
Toluene-d8	1.014037	0.7561193	8.542	1.596701E-02			15	
4-Bromofluorobenzene	0.4901624	2.853327	11.989	9.351284E-03			15	

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Acetone	40.0	41.9	105	80-120
Acrolein	40.0	41.4	104	80-120
Acrylonitrile	40.0	36.6	92	80-120
Benzene	40.0	39.0	98	80-120
Bromobenzene	40.0	37.0	93	80-120
Bromochloromethane	40.0	37.3	93	80-120
Bromodichloromethane	40.0	40.4	101	80-120
Bromoform	40.0	40.6	102	80-120
Bromomethane	40.0	40.4	101	80-120
n-Butylbenzene	40.0	39.1	98	80-120
sec-Butylbenzene	40.0	39.7	99	80-120
tert-Butylbenzene	40.0	38.7	97	80-120
Carbon Disulfide	40.0	43.3	108	80-120
Carbon Tetrachloride	40.0	39.6	99	80-120
Chlorobenzene	40.0	39.1	98	80-120
Chloroethane	40.0	39.1	98	80-120
2-Chloroethyl Vinyl Ether	40.0	43.4	109	80-120
Chloroform	40.0	39.3	98	80-120
1-Chlorohexane	40.0	36.9	92	80-120
Chloromethane	40.0	44.9	112	80-120
2-Chlorotoluene	40.0	38.9	97	80-120
4-Chlorotoluene	40.0	38.3	96	80-120
Cyclohexane	40.0	36.0	90	80-120
1,2-Dibromo-3-chloropropane	40.0	44.8	112	80-120
Dibromochloromethane	40.0	41.1	103	80-120
1,2-Dibromoethane	40.0	40.2	101	80-120
Dibromomethane	40.0	40.0	100	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
trans-1,4-Dichloro-2-butene	40.0	37.3	93	80-120
1,2-Dichlorobenzene	40.0	40.2	101	80-120
1,3-Dichlorobenzene	40.0	39.7	99	80-120
1,4-Dichlorobenzene	40.0	38.6	97	80-120
Dichlorodifluoromethane	40.0	43.6	109	80-120
1,1-Dichloroethane	40.0	39.1	98	80-120
1,2-Dichloroethane	40.0	40.2	101	80-120
1,1-Dichloroethene	40.0	40.9	102	80-120
cis-1,2-Dichloroethene	40.0	39.0	98	80-120
trans-1,2-Dichloroethene	40.0	39.4	99	80-120
1,2-Dichloroethene (Total)	80.0	78.4	98	80-120
Dichlorofluoromethane	40.0	39.2	98	80-120
1,2-Dichloropropane	40.0	39.7	99	80-120
1,3-Dichloropropane	40.0	38.6	97	80-120
2,2-Dichloropropane	40.0	34.5	86	80-120
1,1-Dichloropropene	40.0	40.4	101	80-120
cis-1,3-Dichloropropene	40.0	38.1	95	80-120
trans-1,3-Dichloropropene	40.0	42.0	105	80-120
Ethylbenzene	40.0	39.1	98	80-120
Ethyl Ether	40.0	39.5	99	80-120
Hexachlorobutadiene	40.0	46.7	117	80-120
2-Hexanone	40.0	40.8	102	80-120
Iodomethane	40.0	42.4	106	80-120
Isopropylbenzene	40.0	36.0	90	80-120
4-Isopropyltoluene	40.0	39.8	100	80-120
Methyl Acetate	40.0	37.2	93	80-120
Methyl tert-Butyl Ether	40.0	38.0	95	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Methylcyclohexane	40.0	37.3	93	80-120
Methylene Chloride	40.0	41.6	104	80-120
2-Butanone (MEK)	40.0	39.5	99	80-120
4-Methyl-2-pentanone (MIBK)	40.0	42.0	105	80-120
Naphthalene	40.0	38.5	96	80-120
n-Propylbenzene	40.0	39.8	100	80-120
Styrene	40.0	39.9	100	80-120
1,1,1,2-Tetrachloroethane	40.0	39.3	98	80-120
1,1,2,2-Tetrachloroethane	40.0	40.2	101	80-120
Tetrachloroethene	40.0	39.4	99	80-120
Tetrahydrofuran	40.0	38.9	97	80-120
Toluene	40.0	38.7	97	80-120
1,2,3-Trichlorobenzene	40.0	37.7	94	80-120
1,2,4-Trichlorobenzene	40.0	38.2	96	80-120
1,1,1-Trichloroethane	40.0	38.7	97	80-120
1,1,2-Trichloroethane	40.0	38.6	97	80-120
Trichloroethene	40.0	41.5	104	80-120
Trichlorofluoromethane	40.0	40.4	101	80-120
1,2,3-Trichloropropane	40.0	38.4	96	80-120
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	38.2	96	80-120
1,2,4-Trimethylbenzene	40.0	39.3	98	80-120
1,3,5-Trimethylbenzene	40.0	38.6	97	80-120
Vinyl Acetate	40.0	33.2	83	80-120
Vinyl Chloride	40.0	39.5	99	80-120
Xylene, Meta + Para	80.0	79.6	100	80-120
Xylene, Ortho	40.0	39.8	100	80-120
Xylene (Total)	120	119	99	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B11037-SCV1

Sequence: 5B11037

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 5010204

Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Dichlorobenzenes (Total)	120	118	98	80-120
Dibromofluoromethane	40.0	40.3	101	80-120
1,2-Dichloroethane-d4	40.0	39.7	99	80-120
Toluene-d8	40.0	40.2	101	80-120
4-Bromofluorobenzene	40.0	40.6	102	80-120

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B12009-CCV1
Injection Date: 02/11/15
Calibration Date: 02/06/15 00:00
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: CCV0211.D
Injection Time: 09:45
Calibration: 5B11014
Instrument ID: 350

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1-Dichloroethane	A	40.0	46.6	0.504423	0.5872439	0.1	16.4	20
1,1-Dichloroethene	A	40.0	47.0	0.2818164	0.3308972		17.4	20
cis-1,2-Dichloroethene	A	40.0	46.6	0.3589747	0.417864		16.4	20
Trichloroethene	A	40.0	44.0	0.3844467	0.4230134		10.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk
* Values outside of QC limits

CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

END OF REPORT

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TRIMATRIX LABORATORIES

5560 Corporate Exchange Court, SE
Grand Rapids, MI 49512 616.975.4500

TRANSMITTAL FORM

Date: February 18, 2015

Attention: Ms. Clairette Campbell
To: CH2M HILL
5701 Cleveland Street
Suite 200
Virginia Beach, VA 23462
(757)-518-9666

Project Name: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-7

Work Order(s): 1502155

WE ARE SENDING YOU:

By: ☐ US Mail ☒ FedEx ☐ Courier ☐ Other

ENCLOSED WITH THIS TRANSMITTAL: ☒

☐ Report(s) (Draft)
☒ Report(s) (Final & Summary)
☐ Proposal
☐ Contract Documents

UNDER SEPARATE COVER: ☐

☐ QAPP Information
☒ Data Validation Package

QUANTITY	DESCRIPTION / DOCUMENT NAME
1	Final Report (aka Data Validation Package or DVP) for SDG 50085-7 for 8012 CTO-WE74 Yorktown Site 34. This report consists of 175 pages with this transmittal form page one of the report.
1	CD containing PDF files of the Summary and Final Reports plus EDD
1	copy of invoice 1500526

THESE ARE TRANSMITTED AS CHECKED BELOW:

☒ Furnished As Requested
☐ For File
☒ For Review and Comment
☐ As Corrected
☐ For Submittal To: _____

REMARKS:

cc:

BY: _____
Walt Roudebush
Project Chemist

DATA VALIDATION PACKAGE

Prepared for:

CH2M HILL - VA
5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462

Project:

8012 CTO-WE74 Yorktown Site 34

Sample Delivery Group (SDG):

50085-7

Prepared by:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

Report Date:

February 17, 2015

Walter J. Roudebush, Project Chemist
roudebushw@trimatrixlabs.com

2/18/15
Approval Date

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TRIMATRIX LABORATORIES

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CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

Section	Description	Pages
	Cover Page	**0002**
	Table of Contents	**0003**
	SDG Case Narrative	**0004-0017**
A	**Field COC Records and Receiving Documentation**	**0018-0023**
B	**Internal COC Records**	**0024-0025**
C	**GC/MS Volatile Organics** • USEPA-8260B	**0026-0175** 0027-0175

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

SDG Executive Summary

This case narrative applies to samples received on February 11, 2015. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CH2M HILL - VA and TriMatrix Laboratories, Inc.

Each sample receipt event was assigned a unique TriMatrix work order number. Sample receipt documentation is included in section A of this data package.

Project Technical Issues/Problems

Project-related data qualification designations, narrations, and reporting conventions are included in Attachment 1 - *Project Technical Narrative(s).*

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

This report relates only to the sample(s) as received. Estimates of analytical uncertainties for the test results contained within this report are available upon request. Test results are in compliance with the requirements of the DoD Quality Systems Manual for Environmental Laboratories Version 4.2, the National Environmental Laboratory Accreditation Conference (NELAC), and one or more of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#367345); New York ELAP (#46503); North Carolina DNRE (#659); Texas CEQ (#T104704495-14-4); Virginia DCLS (#2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-09-00163).

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this data package are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report. Hold time reports for each test procedure are presented following the CLP-like forms section of this report.

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Sample Receipt and Login -- Work Order: 1502155

TriMatrix Laboratories received the cooler(s) for this work order on February 11, 2015, at 08:45am. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and FedEx shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix *Sample Receiving / Log-In Checklist* provided in section A of this package. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding COC form. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
YS34-DP01-2630-0215	1502155-01	Ground Water	2/9/2015
YS34-DP01-4650-0215	1502155-02	Ground Water	2/9/2015
YS34-DP02-3337-0215	1502155-03	Ground Water	2/9/2015
YS34-TB-021015	1502155-04	Water	2/10/2015
YS34-DP02-5155-0215	1502155-05	Ground Water	2/10/2015
YS34-DP03-4145-0215	1502155-06	Ground Water	2/10/2015
YS34-DP03-5761-0215	1502155-07	Ground Water	2/10/2015

See the Project Correspondence section of Attachment 1 for any administrative issues that were encountered during the receipt and analysis of this work order.

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SDG CASE NARRATIVE

Attachment 1
Project Technical Narrative(s)

Sample Result Reporting Convention

Sample results are reported as LOD "U" (e.g. 0.001 U) if the target analyte was not detected at or above the detection limit (DL). The LOD is the Limit of Detection as defined in the DoD QSM and numerically determined by TriMatrix.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis. If a sample is reanalyzed for confirmation purposes but that confirmation was not performed simultaneously, the second set of sample results is reported on a second Form 1 since the confirmation analysis did not occur at the same time and/or date.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

a "U" flag as defined above;
a "J" flag if the analyte was detected, but the concentration is greater than the DL and less than the LOQ (the Limit of Quantitation as defined in the DoD QSM);
a "B" flag if the analyte was detected above one-half the LOQ (above the LOQ for a common laboratory contaminant) in the associated method blank, and the sample concentration was less than or equal to ten times the method blank result;
a "E" flag if the analyte exceeded the instrument calibration range;
a "N" flag for a non-target analyte identified as a tentatively identified compound using mass spectrometry;
a LIMS-generated statement of qualification that will be reported in Attachment 2 to this narrative.

Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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Walt Roudebush

From: Clairette.Campbell@ch2m.com
Sent: Thursday, February 12, 2015 1:27 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155 - initial report

Walt,

Thanks! You've included QC forms and provided data (including a second run when needed) in great time. It's also lucky these silty waters didn't cause any issues with the internal standards.

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 12, 2015 11:21 AM
To: Campbell, Clairette/VBO
Cc: Yarberry, Kim-Lee/ATL
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155 - initial report

Clairette,

RE: CTO-WE74 Site 34

A PDF of results-only plus associated batch QC and any text qualifiers for the samples is attached.

Please note that I erred in listing YS34-DP02-5155-0215 in my email below as having three of three vials with headspace. Actually, two of three had headspace and the laboratory used the vial w/o headspace for analysis.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 11, 2015 12:02 PM
To: 'Clairette.Campbell@ch2m.com'
Cc: 'Kim-Lee.Yarberry@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order 1502155

Clairette,

RE: CTO-WE74 Site 34

A PDF of the receipt confirmation for samples received this morning for VOCs and assigned to work order 1502155 and SDG 50085-7 is attached.

Please note that three TB vials were received instead of the two expected. Four sets of two TBs were provided in that order.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, February 11, 2015 11:05 AM
To: roudebushw@trimatrixlabs.com
Cc: Kim-Lee.Yarberry@ch2m.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order TBD

Hello Walt,
Thank you for your message and letting us know about the headspace. Please proceed with the analysis of these samples. Let us know if there are any quality issues with the analysis, and we look forward to the form 1 results for the DPT GW samples (at least the initial analysis) no later than COB tomorrow.
Thanks,
Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 11, 2015 10:28 AM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), 2/11/15 Sample Receipt, VOCs, SDG 50085-7, work order TBD

Clairette,

One cooler of samples was received this morning for VOC and/or Total Cr. The cooler temp blank was 2.9 deg C.

Samples for VOC will be assigned to SDG 50085-7 and a work order TBD.

Samples for Total Cr will be assigned to SDG 50085-8 and a work order TBD.

Except as noted below for VOC, all samples were intact.

Three of three VOC vials for the following samples contained headspace and entrained soil/solid material:

YS34-DP01-4650-0215
YS34-DP02-5155-0215
YS34-DP03-4145-0215
YS34-DP03-5761-0215

Per my voice mail, we will presume that the samples with headspace are also to be logged in and analyzed. Do you concur?

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, February 11, 2015 9:46 AM
To: roudebushw@trimatrixlabs.com; Deb.Patton@alsglobal.com
Subject: Yorktown Site 34 Arriving

Hi Walt,

Today Trimatrix and ALS-Rochester will receive samples for Yorktown Site 34. The ALS work is subbed through Trimatrix to ALS.

COCs are attached. Tracking numbers are below.
804376251452 - to TriMatrix, includes 24hr TAT DPT groundwater samples and 28 calendar day TAT soil and aqueous blank sample for Total Chromium
804376251441 - to ALS-Rochester, includes soil and aqueous blank for CrVI by 7199

Please send me logins (both TriMatrix and ALS) as soon as they're available.

Thanks!
Clairette Campbell
CH2M HILL
Chemist

5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Direct: 757-671-6335, internal ext. 46335
clairette.campbell@ch2m.com

Please note my part-time hours: 9am-3pm Monday-Friday

From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Tuesday, February 03, 2015 3:08 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware to ship (from ALS-Rochester)

Thanks Walt!

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Tuesday, February 03, 2015 2:37 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware to ship (from ALS-Rochester)

Clairette,

The following is from an email that I received from ALS-Rochester regarding their bottle order for CTO-WE74 Site 34:

Bottles have been shipped and should have already arrived via Fed-Ex 629675964083

1/30/2015 - Friday

5:59 am At local FedEx facility	CHESAPEAKE, VA
6:05 am On FedEx vehicle for delivery	CHESAPEAKE, VA
9:55 am Delivered	Virginia Beach, VA

Deb Patton
Project Manager

ALS Life Sciences Division | Environmental

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, January 29, 2015 2:16 PM
To: Clairette.Campbell@ch2m.com
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware to ship

Clairette,

RE: CTO-WE74 Site 34

Soil/GW

Two coolers are shipping today to Brian's attention via FedEx Ground; the master tracking # is 037073061177978.

IDW

One cooler is shipping today to Brian's attention via FedEx Ground; the tracking # is 037073061177961.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 21, 2015 5:26 PM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

PDFs of two bottle orders are attached. Let me know if you have any questions.

(A request has been sent to ALS-Rochester for 7199.)

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Monday, January 19, 2015 12:34 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thank you Walt.
Not invoicing MS/MSD is what I expected, just wanted to check. Thanks.

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Monday, January 19, 2015 12:23 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Your ALS-Rochester contact is:

Deb Patton
ALS

(585) 672-7473 Work
Deb.Patton@ALSGlobal.com

1565 Jefferson Rd
Building 300 Suite 360
Rochester, NY 14623

TriMatrix has not been invoicing for MS/MSDs. I will pass on your request to ALS-Rochester.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Friday, January 16, 2015 1:09 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thanks Walt!

Two little questions pertaining to this project:

- Who is the ALS-Rochester contact? We will most likely be shipping Hexavalent Chromium samples directly to ALS-Rochester, sending COCs and tracking#s to both you and them.
- Can you confirm that MS/MSDs will not be separately invoiced when we send 6-12 DPT GW VOC samples? I know we've not seen eye to eye on that for some past projects (but typically that's for subcontracted work).

Thanks,
Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 14, 2015 5:36 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Revised table is attached.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Wednesday, January 14, 2015 12:38 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Thanks Walt! In the table for TriMatrix bottleware could you add the preservative info too? (Sorry, when I said bottleware I meant bottles+preservative.)

Clairette Campbell
CH2M HILL
Direct: 757-671-6335, internal ext. 46335

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, January 14, 2015 12:14 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

See below for ALS-Rochester and attached table for TriMatrix.

Soil for CrVI by 7199: 4oz soil jar, lab aliquot 2.5g for digestion. We need double volume incase re-digestion is required.

Water for CrVI by 7199: 250mls plastic unpreserved, lab aliquot is 20mls.

Sorry this is a bit late but I was unexpectedly out of the office until mid-morning.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Tuesday, January 13, 2015 3:18 PM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74) Bottleware Details

Clairette,

Hope all is well.

I've just finished as series of worksheets for Bianca Kleist so I can move on to your request.

I should be able to provide no later than noon, tomorrow.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Monday, January 12, 2015 3:25 PM
To: roudebushw@trimatrixlabs.com
Subject: Yorktown Site 34 (CTO-WE74) Bottleware Details

Hi Walt,

We plan to go into the field early/mid-February to collect samples associated with PO 938658. I'll formally order bottleware and hold a brief call to discuss the SOW closer to that date, but for now I'm preparing a table for the fieldteam, which specifies what kind of bottleware to expect (among other things).

Could you tell me what bottleware we should fill, *as well as the aliquot size the lab preps* for each of these analyses?

Soil for Chromium only by 6020A:
Soil for CrVI by 7199 (subbed to ALS-Rochester):
Soil for Full TCLP and RCI:

Water for a select list of VOCs by 8260B:
Water for Chromium only by 602A:
Water for CrVI by 7199 (subbed to ALS-Rochester):
Water for Full TCLP and RCI:

I'd be pleased to receive this information Wednesday or so.
Thank you!
Clairette Campbell
CH2M HILL
Chemist

5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Direct: 757-671-6335, internal ext. 46335
clairette.campbell@ch2m.com

Please note my part-time hours: 9am-2pm Monday-Friday

TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Attachment 1
Project Technical Narrative(s)

No Project Narrative is associated with this report.

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TRIMATRIX LABORATORIES

SDG CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: Concentration exceeds calibration range

Analysis: USEPA-8260B

Sample/Analyte: 1502155-06 YS34-DP03-4145-0215 Trichloroethene

Qualification: Sample integrity for the parameter was suspect upon receipt; container had headspace.

Analysis: USEPA-8260B

Sample/Analyte: 1502155-02 YS34-DP01-4650-0215
1502155-06 YS34-DP03-4145-0215
1502155-06RE1 YS34-DP03-4145-0215
1502155-07 YS34-DP03-5761-0215

Qualification: The result for this analyte was above the linear range of the initial calibration curve and must be considered as estimated "E".

Analysis: USEPA-8260B

Sample/Analyte: 1502155-06 YS34-DP03-4145-0215 Trichloroethene

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TRIMATRIX
LABORATORIES

SECTION - A

FIELD COC RECORDS
AND
RECEIVING DOCUMENTATION

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CTO-WE 74

TRIMATRIX LABORATORIES

5560 Corporate Exchange Court SE
Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 150549

Pg. 1 of 1

For Lab Use Only
Cart: ——
VOA Rack/Tray: 177B, 446B
Receipt Log No.: 35-3
Project Chemist: CWR
Work Order No.: 1502155

Client Name: CH2M HILL
Address: 5701 Cleveland Street, Suite 200
City, State Zip: Virginia Beach, VA 23462
Phone/Fax: 757-671-6335
Email: clairette.campbell@ch2m.com

Project Name: SM34
Client Project No. / P.O. No.: 470624.FI.FS34
Invoice To: ☑ Client ☐ Other (comments)
Contact/Report To: Clairette Campbell

Analyses Requested: D (Flex Vial)

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

	Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Container Type (corresponds to Container Packing List) 1	Total	Sample Comments
											Number of Containers Submitted		
1	01	WG	01	YS34-DPØ1-2030-Ø215		02/09/15	1300		X	W	3	3	
2	01	WG	02	YS34-DPØ1-4650-Ø215		02/09/15	1555		X	W	3	3	
3	02	WG	03	YS34-DPØ2-3337-Ø215		02/09/15	1720		X	W	3	3	
4				YS34-DPØ2-3337-Ø215-MS		02/09/15	1720		X	W	3	3	
5				YS34-DPØ2-3337-Ø215-SD		02/09/15	1720		X	W	3	3	
6	03	WQ	04	YS34-TB-Ø21Ø15		02/10/15	0700		X	W	3	3	Qvtals? (WM)
7	01	WG	05	YS34-DPØ2-5155-Ø215		02/10/15	1200		X	W	3	3	
8	01	WG	06	YS34-DPØ3-4145-Ø215		02/10/15	1505		X	W	3	3	
9	01	WG	07	YS34-DPØ3-5761-Ø215		02/10/15	1640		X	W	3	3	
10													

02/10/15

Sampled By (print): Brian Wachter
Sampler's Signature: Brian Wachter
Company: CH2M HILL

How Shipped? Hand ____ Carrier FedEx
Tracking No.

Comments: 1,1-DCA, 1,1-DCE, cis1,2-DCE, TCE

24 hour Turn Around Time

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time

1. Received By	Date	Time	2. Received By	Date	Time	3. Received For Lab By	Date	Time
							2/11/15	0845

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

FedEx Express **NEW** Package US Airbill

FedEx Tracking Number 8043 7625 1452

Form ID No. 0200

1 From

Date 02/10/15 [redacted]

Sender's Name Brian Walker Phone 804 317-1935

Company CM2M MILL

Address 5701 Cleveland Street Suite 200

Dept./Floor/Suite/Room

City Virginia Beach State VA ZIP 23462

2 Your Internal Billing Reference 470624. FI. FS. 34

3 To

Recipient's Name Walt Roudebush Phone 616 975-4561

Company [redacted] Tri Matrix Laboratory

Address 5560 Corporate Exchange Ct. SE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Grand Rapids State MI ZIP 49512

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☑ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☑ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☒ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

☑ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☑ Sender Acct. No. in Section 1 will be billed ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Obtain recip. Acct. No. ☐

[redacted]

Total Packages 1 Total Weight 49 lbs. [redacted] Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

L44

fedex.com 1.800.GoFedEx 1.800.463.3339

CUSTODY SEAL

DATE 02/10/15

SIGNATURE [signature]

QEC Quality Environmental Containers 800-255-3950 • 304-255-3900

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CH2M Hill	Work Order #: 1502155 New / Add To
Receipt Record Page/Line #: 35-3	Project Chemist: WDR / Sample #s

Recorded by (initials/date): WC 2·11·15	☑ Cooler ☐ Box ☐ Other	Qty Received: 1	Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler # / Time	Cooler # 1m3485 / Time 0915			
Custody Seals:	☐ None ☑ Present / Intact ☐ Present / Not Intact			
Coolant Type:	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None			
Coolant Location:	Dispersed / Top / Middle / Bottom			
Temp Blank Present:	☑ Yes ☐ No			
If Present, Temperature Blank Location is:	☑ Representative ☐ Not Representative			
	Observed °C	Correction Factor °C	Actual °C	
Temp Blank:	2.9	-	2.9	
Sample 1:	3.5	-	3.5	
Sample 2:	3.1	-	3.1	
Sample 3:	3.9	-	3.9	
3 Sample Average °C:	3.5			
☐ Cooler ID on COC?				
☑ VOC Trip Blank received?	(3)			

Cooler # / Time				
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact			
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None			
Coolant Location:	Dispersed / Top / Middle / Bottom			
Temp Blank Present:	☐ Yes ☐ No			
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative			
	Observed °C	Correction Factor °C	Actual °C	
Temp Blank:				
Sample 1:				
Sample 2:				
Sample 3:				
3 Sample Average °C:				
☐ Cooler ID on COC?				
☐ VOC Trip Blank received?				

Cooler # / Time				
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact			
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None			
Coolant Location:	Dispersed / Top / Middle / Bottom			
Temp Blank Present:	☐ Yes ☐ No			
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative			
	Observed °C	Correction Factor °C	Actual °C	
Temp Blank:				
Sample 1:				
Sample 2:				
Sample 3:				
3 Sample Average °C:				
☐ Cooler ID on COC?				
☐ VOC Trip Blank received?				

Cooler # / Time				
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact			
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None			
Coolant Location:	Dispersed / Top / Middle / Bottom			
Temp Blank Present:	☐ Yes ☐ No			
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative			
	Observed °C	Correction Factor °C	Actual °C	
Temp Blank:				
Sample 1:				
Sample 2:				
Sample 3:				
3 Sample Average °C:				
☐ Cooler ID on COC?				
☐ VOC Trip Blank received?				

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐		Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other_____

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☑	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials:_____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☑		Completed Sample Preservation Verification Form?
☑	☐	☑	Samples chemically preserved correctly?
☑	☑	☑	If "No", added orange tag?
	☐		Received pre-preserved VOC soils?
	☐		MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☐ Green-tagged containers
- ☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☑	☐	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

(3)

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
2·11·15 0845	2·11·15 0940	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client: CH2M Hill		Work Order #: 1502155
Receipt Log #: 35.3	Completed By (initials/date): WC 2.11.15	Project Chemist: WSR

List non-conformance issues associated with this work order in the chart below/left. Identify discrepancies between the COC and sample tags in the chart below/right. Add comments as needed.

COC ID #	Line #	Type of Problem: Discrepancy	Missing Container	Broken Container	Label Missing / Incomplete	Label Illegible	Low Volume	Inappropriate Container	Headspace	Not Listed on COC	Preservation	COC: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Sample Tag: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Line Item Comments
150549	2								X			DP01-4650			1	3 of 3						
↓	7								X			DP02-5155			1	2 of 3						
	8								X			DP03-4145			1	3 of 3						
	9								X			DP03-5761			1	3 of 3						

General Comments:

Client informed.

Project Chemist (initials/date): WSR 2/11/15

TRIMATRIX LABORATORIES

WORK ORDER 1502155

Printed: 2/11/2015 10:53:54AM

Client:	**CH2M HILL - VA**	Project Manager:	**Walter J. Roudebush**
Project:	**8012 CTO-WE74 Yorktown Site 34**	Project Number:	**50085**
Work Order:	**DPT Groundwater**	SDG:	**50085-7**

Report To:
CH2M HILL - VA
Ms. Clairette Campbell
5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462
Phone: (757) 671-6335
Fax: (757) 497-6885

Invoice To:
CH2M HILL, Inc.
Accounts Payable
P.O. Box 241329
Denver, CO 80224
Phone: (720) 286-2029
Fax: ---

Package Due Date:	**Feb-19-15 15:00**			
W.O. Due Date:	**Feb-12-15 15:00 (1 day TAT)**		Report Level:	**4DOD**
Date Received:	Feb-11-15 08:45	2.9°C	Received By:	William D. Cole
Date Logged In:	Feb-11-15 10:42		Logged In By:	William D. Cole

W.O. Comments: *4DOD, QSM v4.2, 24 RUSH, all samples for VOC for this week have been received, and SDG 50085-7 is CLOSED. Final report in 14 days.*
VOC Rack #177B & #446B

Analysis	Lab Due Date	TAT	Expires	Analysis Comments
1502155-01 YS34-DP01-2630-0215 [Water] *Sampled Feb-09-15 13:00 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 13:00	
1502155-02 YS34-DP01-4650-0215 [Water] *Sampled Feb-09-15 15:55 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 15:55	
1502155-03 YS34-DP02-3337-0215 [Water] *Sampled Feb-09-15 17:20 Eastern by CH2M HILL*				**client MS/MSD**
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-23-15 17:20	
1502155-04 YS34-TB-021015 [Water] *Sampled Feb-10-15 07:00 Eastern by TriMatrix*				**Trip Blank (2nd vial is back-up)**
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 07:00	
1502155-05 YS34-DP02-5155-0215 [Water] *Sampled Feb-10-15 12:00 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 12:00	
1502155-06 YS34-DP03-4145-0215 [Water] *Sampled Feb-10-15 15:05 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 15:05	
1502155-07 YS34-DP03-5761-0215 [Water] *Sampled Feb-10-15 16:40 Eastern by CH2M HILL*				
8260B DoD VOAs plus custom	Feb-12-15 13:00	1	Feb-24-15 16:40	

Reviewed By _____ Date _____

TRIMATRIX LABORATORIES

SECTION - B

INTERNAL COC RECORDS

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TriMatrix Laboratories, Inc.

Internal Chain of Custody

SDGID: 50085-7 **Work Order #: 1502155**

Client: **CH2M HILL - VA**
Project: **8012 CTO-WE74 Yorktown Site 34**

Project Manager: **Walter J. Roudebush**
Date Received: **Feb-11-15 08:45**

Department: **Volatiles MS** Analysis: 8260B

Lab Number / Sample Name	*Container*	*Removed by (Signature)*	*Date & Time Removed*	*Date & Time Returned*	*Consumed?*	*Extract Container*
1502155-01 YS34-DP01-2630-0215	A	Deane Van Male	2-11-15 11:15	2-12-15 9:30		
1502155-02 YS34-DP01-4650-0215						
1502155-03 YS34-DP02-3337-0215						
1502155-04 YS34-TB-021015						
1502155-05 YS34-DP02-5155-0215						
1502155-06 YS34-DP03-4145-0215	B					
1502155-07 YS34-DP03-5761-0215						

TRIMATRIX LABORATORIES

SECTION - C

GCMS VOLATILE ORGANICS

USEPA-8260B

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TriMatrix Laboratories, Inc.

CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-7

USEPA-8260B

SAMPLE ID SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-7

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

Client Sample Id:	Lab Sample Id:
YS34-DP01-2630-0215	1502155-01
YS34-DP01-4650-0215	1502155-02
YS34-DP02-3337-0215	1502155-03
YS34-TB-021015	1502155-04
YS34-DP02-5155-0215	1502155-05
YS34-DP03-4145-0215	1502155-06
YS34-DP03-4145-0215	1502155-06RE1
YS34-DP03-5761-0215	1502155-07

TRIMATRIX LABORATORIES

SECTION - C

QUALITY CONTROL (QC) SUMMARY

USEPA-8260B

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5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

ANALYSIS BATCH (SEQUENCE) SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B12009-TUN1	BFB0211A.D	02/11/15 09:17
Calibration Check	5B12009-CCV1	CCV0211.D	02/11/15 09:45
LCS	1501292-BS1	BS0211.D	02/11/15 10:12
Blank	1501292-BLK1	BLK0211.D	02/11/15 11:05
YS34-DP01-2630-0215	1502155-01	1502155-01.D	02/11/15 11:58
YS34-DP01-4650-0215	1502155-02	1502155-02.D	02/11/15 12:24
YS34-DP02-3337-0215	1502155-03	1502155-03.D	02/11/15 12:51
YS34-DP02-5155-0215	1502155-05	1502155-05.D	02/11/15 13:17
YS34-DP03-4145-0215	1502155-06	1502155-06.D	02/11/15 13:44
YS34-DP03-5761-0215	1502155-07	1502155-07.D	02/11/15 14:10
YS34-TB-021015	1502155-04	1502155-04.D	02/11/15 16:22
YS34-DP03-4145-0215	1502155-06RE1	1502155-06A.D	02/11/15 16:49
YS34-DP02-3337-0215	1501292-MS1	1502155-03MS.D	02/11/15 17:15
YS34-DP02-3337-0215	1501292-MSD1	1502155-03MSD.D	02/11/15 17:42

SURROGATE STANDARD RECOVERY AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
Calibration Check (5B12009-CCV1)		**Lab File ID: CCV0211.D**		**Analyzed: 02/11/15 09:45**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	105	80 - 120	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	104	80 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	109	80 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	104	80 - 120	
LCS (1501292-BS1)		**Lab File ID: BS0211.D**		**Analyzed: 02/11/15 10:12**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	104	85 - 115	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	104	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	103	75 - 120	
Blank (1501292-BLK1)		**Lab File ID: BLK0211.D**		**Analyzed: 02/11/15 11:05**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	104	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
YS34-DP01-2630-0215 (1502155-01)		**Lab File ID: 1502155-01.D**		**Analyzed: 02/11/15 11:58**			
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	101	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	101	75 - 120	
YS34-DP01-4650-0215 (1502155-02)		**Lab File ID: 1502155-02.D**		**Analyzed: 02/11/15 12:24**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	101	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	102	75 - 120	
YS34-DP02-3337-0215 (1502155-03)		**Lab File ID: 1502155-03.D**		**Analyzed: 02/11/15 12:51**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	101	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
YS34-DP02-5155-0215 (1502155-05)		**Lab File ID: 1502155-05.D**		**Analyzed: 02/11/15 13:17**			
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	105	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
YS34-DP03-4145-0215 (1502155-06)		**Lab File ID: 1502155-06.D Analyzed: 02/11/15 13:44**					
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	103	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	
YS34-DP03-5761-0215 (1502155-07)		**Lab File ID: 1502155-07.D Analyzed: 02/11/15 14:10**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	98	75 - 120	
YS34-TB-021015 (1502155-04)		**Lab File ID: 1502155-04.D Analyzed: 02/11/15 16:22**					
Dibromofluoromethane	4.94	4.93	0.01	+/-1.0	100	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	105	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	101	75 - 120	
YS34-DP03-4145-0215 (1502155-06RE1)		**Lab File ID: 1502155-06A.DAnalyzed: 02/11/15 16:49**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	104	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	106	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	100	75 - 120	
Matrix Spike (1501292-MS1)		**Lab File ID: 1502155-03MSAnalyzed: 02/11/15 17:15**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	103	85 - 115	
1,2-Dichloroethane-d4	5.54	5.53	0.00	+/-1.0	102	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	107	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	105	75 - 120	
Matrix Spike Dup (1501292-MSD1)		**Lab File ID: 1502155-03MSAnalyzed: 02/11/15 17:42**					
Dibromofluoromethane	4.93	4.93	0.00	+/-1.0	104	85 - 115	
1,2-Dichloroethane-d4	5.53	5.53	0.00	+/-1.0	106	70 - 120	
Toluene-d8	8.54	8.54	0.00	+/-1.0	109	85 - 120	
4-Bromofluorobenzene	11.99	11.99	0.00	+/-1.0	105	75 - 120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Analyte	Spike Added	Sample Conc.	MS Conc.	MS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	ND	45.9	115	70 - 135	ug/L
1,1-Dichloroethene	40.0	0.330	45.2	112	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	0.590	45.8	113	70 - 125	ug/L
Trichloroethene	40.0	3.18	44.6	104	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MSD1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Analyte	Spike Added	MSD Conc.	MSD % Rec. #	% RPD #	QC Limits RPD	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	47.8	120	4	30	70 - 135	ug/L
1,1-Dichloroethene	40.0	48.0	119	6	30	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	47.8	118	4	30	70 - 125	ug/L
Trichloroethene	40.0	46.2	107	3	30	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Laboratory ID: 1501292-BS1
Preparation: 5030B Aqueous Purge & Trap
Initial/Final: 5 mL / 5 mL

QC Batch: 1501292
Sequence: 5B12009

Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	46.6	116	70 - 135	ug/L
1,1-Dichloroethene	40.0	47.6	119	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	46.9	117	70 - 125	ug/L
Trichloroethene	40.0	44.2	110	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

METHOD BLANK DATA SHEET
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501292-BLK1
File ID: BLK0211.D
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 11:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Concentration	Unit	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	0.50	ug/L	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	0.50	ug/L	0.22	0.50	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.50	ug/L	0.13	0.50	1.0	U
79-01-6	Trichloroethene	0.20	ug/L	0.10	0.20	1.0	U

System Monitoring Compound	Added (ug/L)	Conc. (ug/L)	% REC	QC Limits	Q
Dibromofluoromethane	40.0	40.2	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.0	102	70 - 120	
Toluene-d8	40.0	41.7	104	85 - 120	
4-Bromofluorobenzene	40.0	40.1	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	632988	6.125	749406	6.125	
Chlorobenzene-d5	586383	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	256664	13.436	325234	13.43	

QC BATCH SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-7

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

QC Batch: 1501292 QC Batch Matrix: Water

Preparation: 5030B Aqueous Purge & Trap

Sample Name	Lab Sample ID	Date Prepared	Observations
Blank	1501292-BLK1	02/11/15 09:00	
LCS	1501292-BS1	02/11/15 09:00	
YS34-DP02-3337-0215	1501292-MS1	02/11/15 09:00	
YS34-DP02-3337-0215	1501292-MSD1	02/11/15 09:00	
YS34-DP01-2630-0215	1502155-01	02/11/15 09:00	
YS34-DP01-4650-0215	1502155-02	02/11/15 09:00	
YS34-DP02-3337-0215	1502155-03	02/11/15 09:00	
YS34-TB-021015	1502155-04	02/11/15 09:00	
YS34-DP02-5155-0215	1502155-05	02/11/15 09:00	
YS34-DP03-4145-0215	1502155-06	02/11/15 09:00	
YS34-DP03-4145-0215	1502155-06RE1	02/11/15 09:00	Added 2/12/2015 by DLV
YS34-DP03-5761-0215	1502155-07	02/11/15 09:00	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B11037-TUN1
Injection Date: 02/06/15
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: BFB0206.D
Injection Time: 10:13
Calibration: 5B11014
Instrument ID: 350

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	17.6	PASS
75	30 - 60% of 95	49.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.24	PASS
173	Less than 2% of 174	0.433	PASS
174	50 - 100% of 95	94.3	PASS
175	5 - 9% of 174	6.61	PASS
176	95 - 101% of 174	97.7	PASS
177	5 - 9% of 176	6.99	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B12009-TUN1
Lab File ID: BFB0211A.D
Injection Date: 02/11/15
Injection Time: 09:17
Sequence: 5B12009
Instrument ID: 350

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	15.5	PASS
75	30 - 60% of 95	47	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.64	PASS
173	Less than 2% of 174	0.576	PASS
174	50 - 100% of 95	91.2	PASS
175	5 - 9% of 174	7.29	PASS
176	95 - 101% of 174	97	PASS
177	5 - 9% of 176	6.21	PASS

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B12009-CCV1)			**Lab File ID:**	**CCV0211.D**		**Analyzed:**	**02/11/15 09:45**		
Fluorobenzene	628044	6.125	749406	6.125	84	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	609445	10.46	624670	10.46	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	321015	13.43	325234	13.43	99	50 - 200	0.0000	+/-0.50	
LCS (1501292-BS1)			**Lab File ID:**	**BS0211.D**		**Analyzed:**	**02/11/15 10:12**		
Fluorobenzene	635338	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	606498	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	326013	13.43	325234	13.43	100	50 - 200	0.0000	+/-0.50	
Blank (1501292-BLK1)			**Lab File ID:**	**BLK0211.D**		**Analyzed:**	**02/11/15 11:05**		
Fluorobenzene	632988	6.125	749406	6.125	84	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	586383	10.46	624670	10.46	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	256664	13.436	325234	13.43	79	50 - 200	0.0060	+/-0.50	
YS34-DP01-2630-0215 (1502155-01)			**Lab File ID:**	**1502155-01.D**		**Analyzed:**	**02/11/15 11:58**		
Fluorobenzene	660544	6.125	749406	6.125	88	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	615835	10.46	624670	10.46	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	296667	13.436	325234	13.43	91	50 - 200	0.0060	+/-0.50	
YS34-DP01-4650-0215 (1502155-02)			**Lab File ID:**	**1502155-02.D**		**Analyzed:**	**02/11/15 12:24**		
Fluorobenzene	638433	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	598464	10.46	624670	10.46	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	281714	13.436	325234	13.43	87	50 - 200	0.0060	+/-0.50	
YS34-DP02-3337-0215 (1502155-03)			**Lab File ID:**	**1502155-03.D**		**Analyzed:**	**02/11/15 12:51**		
Fluorobenzene	661539	6.125	749406	6.125	88	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	609904	10.46	624670	10.46	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	283340	13.436	325234	13.43	87	50 - 200	0.0060	+/-0.50	
YS34-DP02-5155-0215 (1502155-05)			**Lab File ID:**	**1502155-05.D**		**Analyzed:**	**02/11/15 13:17**		
Fluorobenzene	655663	6.125	749406	6.125	87	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	604299	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	272014	13.436	325234	13.43	84	50 - 200	0.0060	+/-0.50	
YS34-DP03-4145-0215 (1502155-06)			**Lab File ID:**	**1502155-06.D**		**Analyzed:**	**02/11/15 13:44**		
Fluorobenzene	643121	6.125	749406	6.125	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	597454	10.46	624670	10.46	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	262209	13.436	325234	13.43	81	50 - 200	0.0060	+/-0.50	
YS34-DP03-5761-0215 (1502155-07)			**Lab File ID:**	**1502155-07.D**		**Analyzed:**	**02/11/15 14:10**		
Fluorobenzene	638076	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	602959	10.46	624670	10.46	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	270855	13.436	325234	13.43	83	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
YS34-TB-021015 (1502155-04)			**Lab File ID: 1502155-04.D**			**Analyzed: 02/11/15 16:22**			
Fluorobenzene	634248	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	594197	10.46	624670	10.46	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	272518	13.436	325234	13.43	84	50 - 200	0.0060	+/-0.50	
YS34-DP03-4145-0215 (1502155-06RE1)			**Lab File ID: 1502155-06A.D**			**Analyzed: 02/11/15 16:49**			
Fluorobenzene	641301	6.125	749406	6.125	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	593677	10.46	624670	10.46	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	265941	13.436	325234	13.43	82	50 - 200	0.0060	+/-0.50	
Matrix Spike (1501292-MS1)			**Lab File ID: 1502155-03MS.D**			**Analyzed: 02/11/15 17:15**			
Fluorobenzene	651434	6.125	749406	6.125	87	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	627641	10.46	624670	10.46	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	337012	13.43	325234	13.43	104	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (1501292-MSD1)			**Lab File ID: 1502155-03MSD.D**			**Analyzed: 02/11/15 17:42**			
Fluorobenzene	639030	6.125	749406	6.125	85	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	621559	10.46	624670	10.46	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	329924	13.43	325234	13.43	101	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-7

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

Method: Volatile Organic Compounds by EPA Method 8260B

Sample Name	Date Collected	Date Received	Date Leached	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
YS34-DP01-2630-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-DP01-4650-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-DP02-3337-0215	02/09/15	02/11/15		02/11/15	2	NA	02/11/15	2	14	
YS34-TB-021015	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP02-5155-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-4145-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-4145-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	
YS34-DP03-5761-0215	02/10/15	02/11/15		02/11/15	1	NA	02/11/15	1	14	

TRIMATRIX LABORATORIES

SECTION - C

SAMPLE DATA

USEPA-8260B

This report shall not be reproduced except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP01-2630-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-01
File ID: 1502155-01.D
Sampled: 02/09/15 13:00
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 11:58
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	1.6	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	19	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	94	0.10	0.20	1.0	

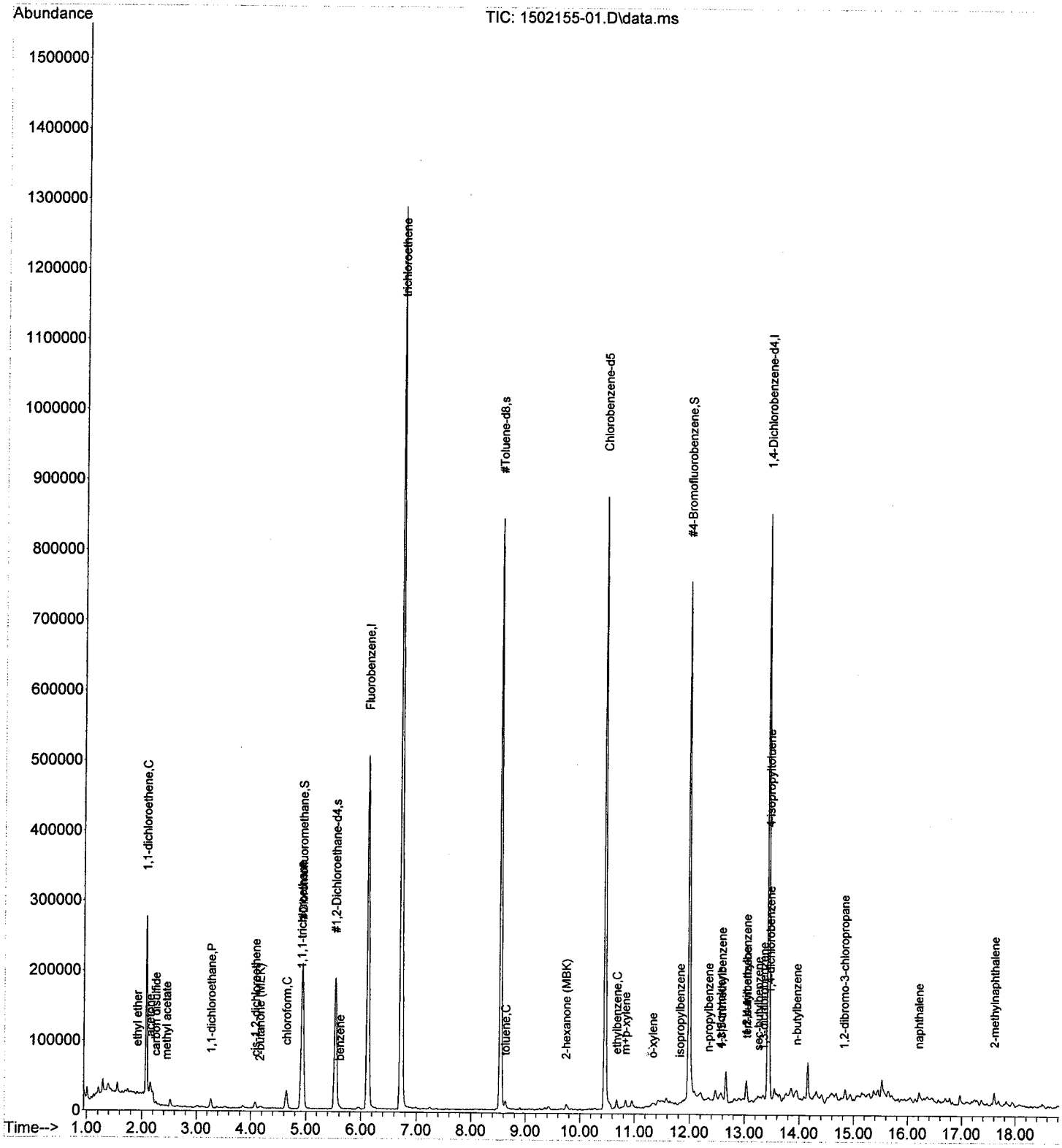
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.6	101	85 - 115	
1,2-Dichloroethane-d4	40.0	40.9	102	70 - 120	
Toluene-d8	40.0	42.1	105	85 - 120	
4-Bromofluorobenzene	40.0	40.4	101	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	660544	6.125	749406	6.125	
Chlorobenzene-d5	615835	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	296667	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	660544	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	615835	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	296667	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.937	111	181481	40.56 ug/L	0.00
Spiked Amount 40.000			Recovery	= 101.40%	
37) #1,2-Dichloroethane-d4	5.537	67	102394	40.93 ug/L	0.00
Spiked Amount 40.000			Recovery	= 102.33%	
46) #Toluene-d8	8.542	98	705601	42.14 ug/L	0.00
Spiked Amount 40.000			Recovery	= 105.35%	
64) #4-Bromofluorobenzene	11.989	95	304861	40.40 ug/L	0.00
Spiked Amount 40.000			Recovery	= 101.00%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1509	Below Cal #	41
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	0.000		0	N.D.	
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	1.913	74	1275	0.35 ug/L #	86
10) acrolein	0.000		0	N.D.	
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	87790	18.86 ug/L	94
13) acetone	2.149	43	21989	3.61 ug/L #	83
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.254	76	4817	0.36 ug/L #	74
16) methyl acetate	2.449	43	1218	0.25 ug/L #	52
17) methylene chloride	2.519	49	4648	Below Cal	90
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	3.272	63	13600	1.63 ug/L	96
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.084	96	6176	1.04 ug/L	89
25) 2-butanone (MEK)	4.166	43	3801	1.21 ug/L	92
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	4.643	83	30282	3.23 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	25617	2.97 ug/L	96
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.613	78	2137	0.10 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	19169	No Calib #	
38) trichloroethene	6.725	130	599839	94.48 ug/L	98

Quantitation Report (Not Reviewed)

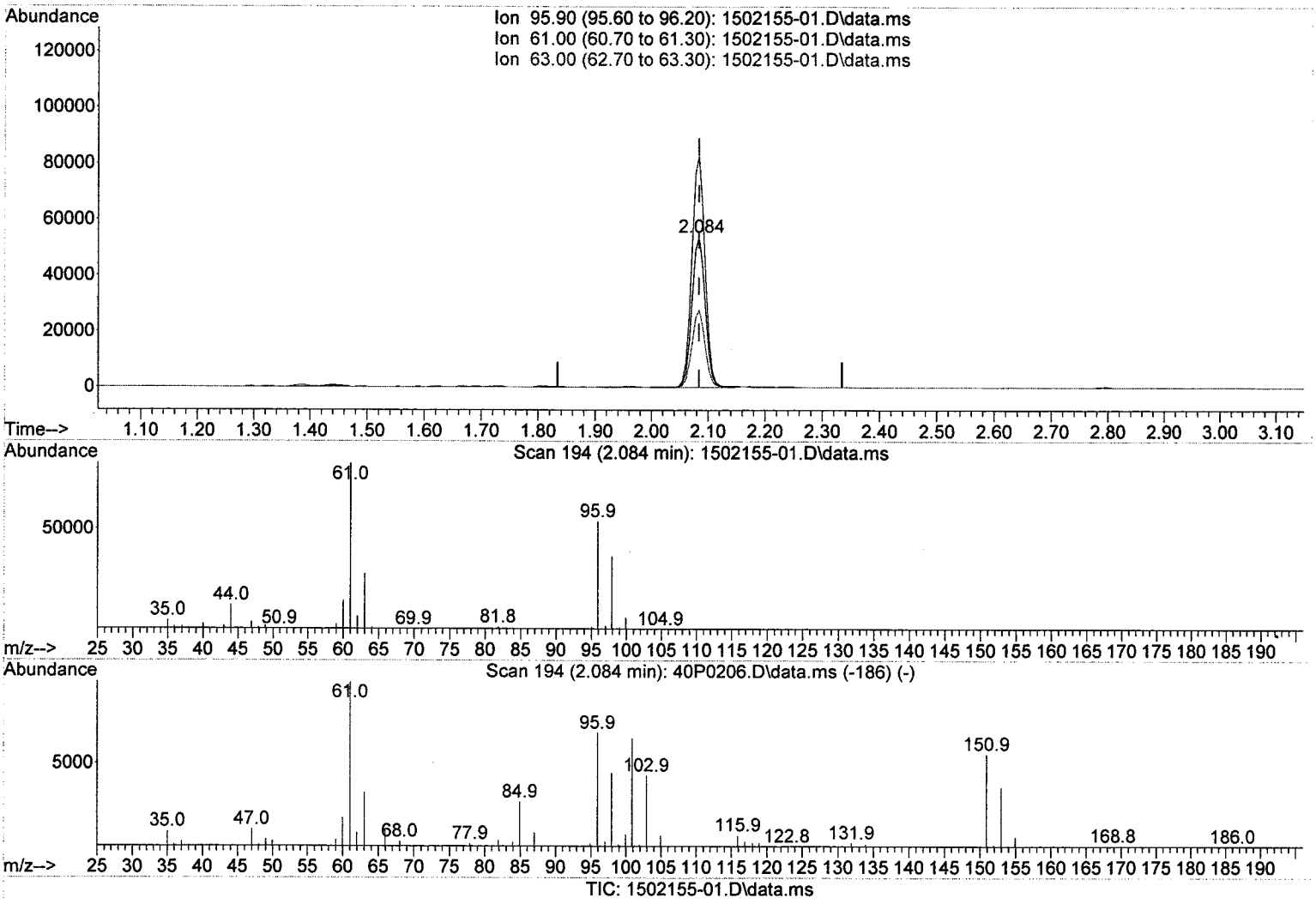
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	0.000		0	N.D.	
40)	1,2-dichloropropane	0.000		0	N.D.	
41)	dibromomethane	0.000		0	N.D.	
42)	bromodichloromethane	0.000		0	N.D.	
43)	2-chloroethyl vinyl ether	0.000		0	N.D.	
44)	cis-1,3-dichloropropene	0.000		0	N.D.	
45)	4-methyl-2-pentanone (...	0.000		0	N.D.	
47)	toluene	8.631	91	9492	0.41 ug/L	100
48)	trans-1,3-dichloropropene	0.000		0	N.D.	
49)	1,1,2-trichloroethane	0.000		0	N.D.	
51)	tetrachloroethene	0.000		0	N.D.	
52)	1,3-dichloropropane	0.000		0	N.D.	
53)	2-hexanone (MBK)	9.742	43	1523	0.29 ug/L #	1
54)	dibromochloromethane	0.000		0	N.D.	
55)	1,2-dibromoethane	0.000		0	N.D.	
56)	chlorobenzene	0.000		0	N.D.	
57)	1-chlorohexane	0.000		0	N.D.	
58)	1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59)	ethylbenzene	10.678	91	10400	0.36 ug/L	98
60)	m+p-xylene	10.836	106	3515	0.31 ug/L	98
61)	o-xylene	11.336	106	1599	0.14 ug/L #	78
62)	styrene	0.000		0	N.D.	
63)	bromoform	0.000		0	N.D.	
66)	isopropylbenzene	11.825	105	1356	0.05 ug/L #	47
67)	bromobenzene	0.000		0	N.D.	
68)	1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69)	1,2,3-trichloropropane	0.000		0	N.D.	
70)	1,4-dichloro-2-butene	0.000		0	N.D.	
71)	n-propylbenzene	12.342	120	1424	0.20 ug/L #	87
72)	2-chlorotoluene	0.000		0	N.D.	
73)	1,3,5-trimethylbenzene	12.583	105	5573	0.25 ug/L	83
74)	4-chlorotoluene	12.566	91	1543	0.07 ug/L #	42
75)	tert-butylbenzene	13.042	119	2074	0.11 ug/L #	62
76)	1,2,4-trimethylbenzene	13.036	105	12717	0.61 ug/L	96
77)	sec-butylbenzene	13.254	105	4779	0.19 ug/L #	54
78)	1,3-dichlorobenzene	13.348	146	1483	0.11 ug/L #	1
79)	4-isopropyltoluene	13.454	119	3645	0.17 ug/L #	59
80)	1,4-dichlorobenzene	13.466	146	1836	0.14 ug/L #	26
81)	1,2-dichlorobenzene	0.000		0	N.D.	
82)	n-butylbenzene	13.954	91	6933	0.46 ug/L	86
83)	hexachloroethane	0.000		0	N.D.	
84)	1,2-dibromo-3-chloropr...	14.824	157	1738	0.79 ug/L #	12
85)	1,2,4-trichlorobenzene	0.000		0	N.D.	
86)	hexachlorobutadiene	0.000		0	N.D.	
87)	naphthalene	16.201	128	6039	7.25 ug/L #	80
88)	1,2,3-trichlorobenzene	0.000		0	N.D.	
89)	2-methylnaphthalene	17.607	142	5990	6.00 ug/L	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(12) 1,1-dichloroethene (C)

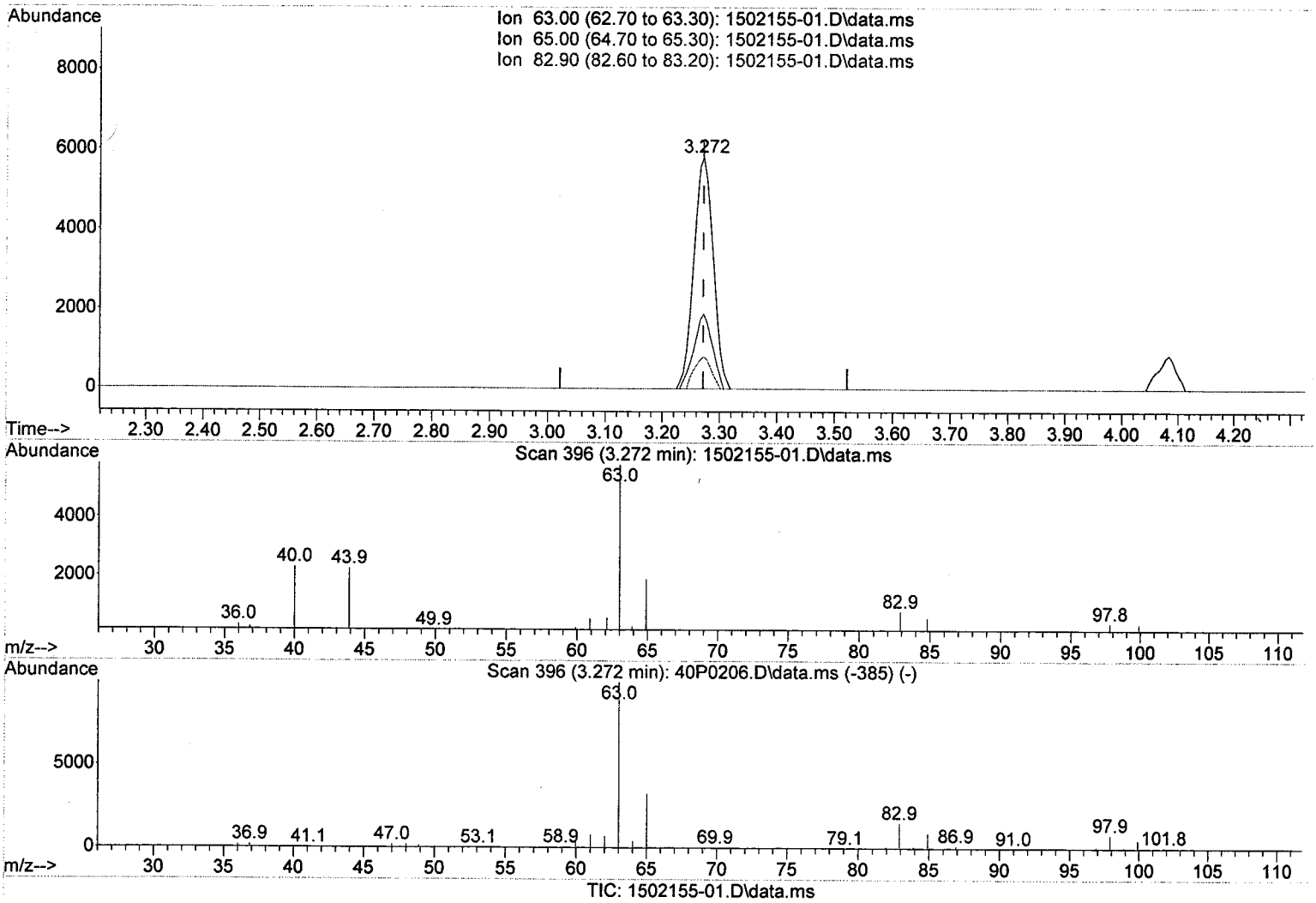
2.084min (-0.000) 18.86 ug/L

response 87790

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	153.05
63.00	47.90	50.00
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(21) 1,1-dichloroethane (P)

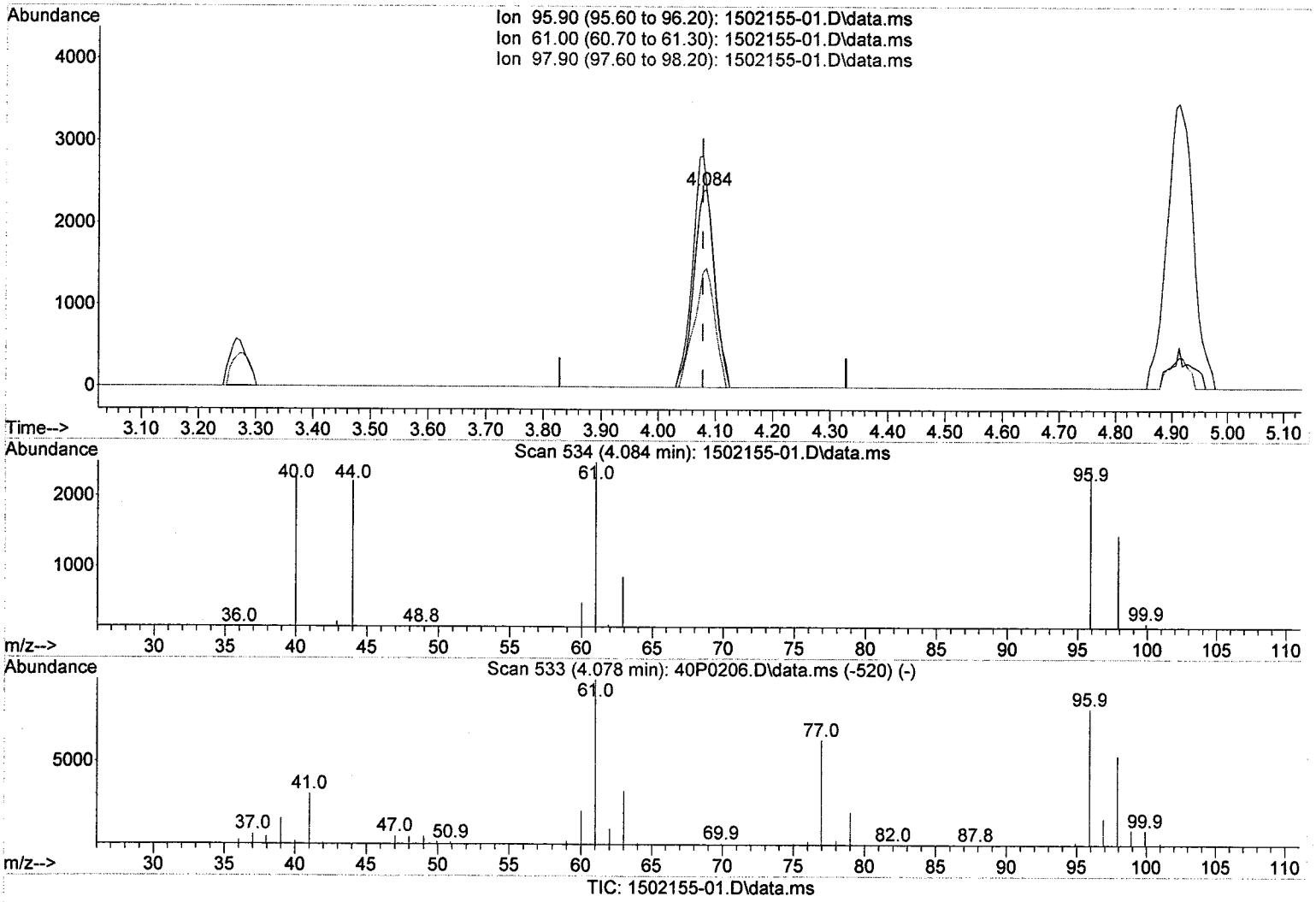
3.272min (+ 0.000) 1.63 ug/L

response 13600

Ion	Exp%	Act%
63.00	100.00	100.00
65.00	32.30	31.07
82.90	15.00	12.09
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(24) cis-1,2-dichloroethene

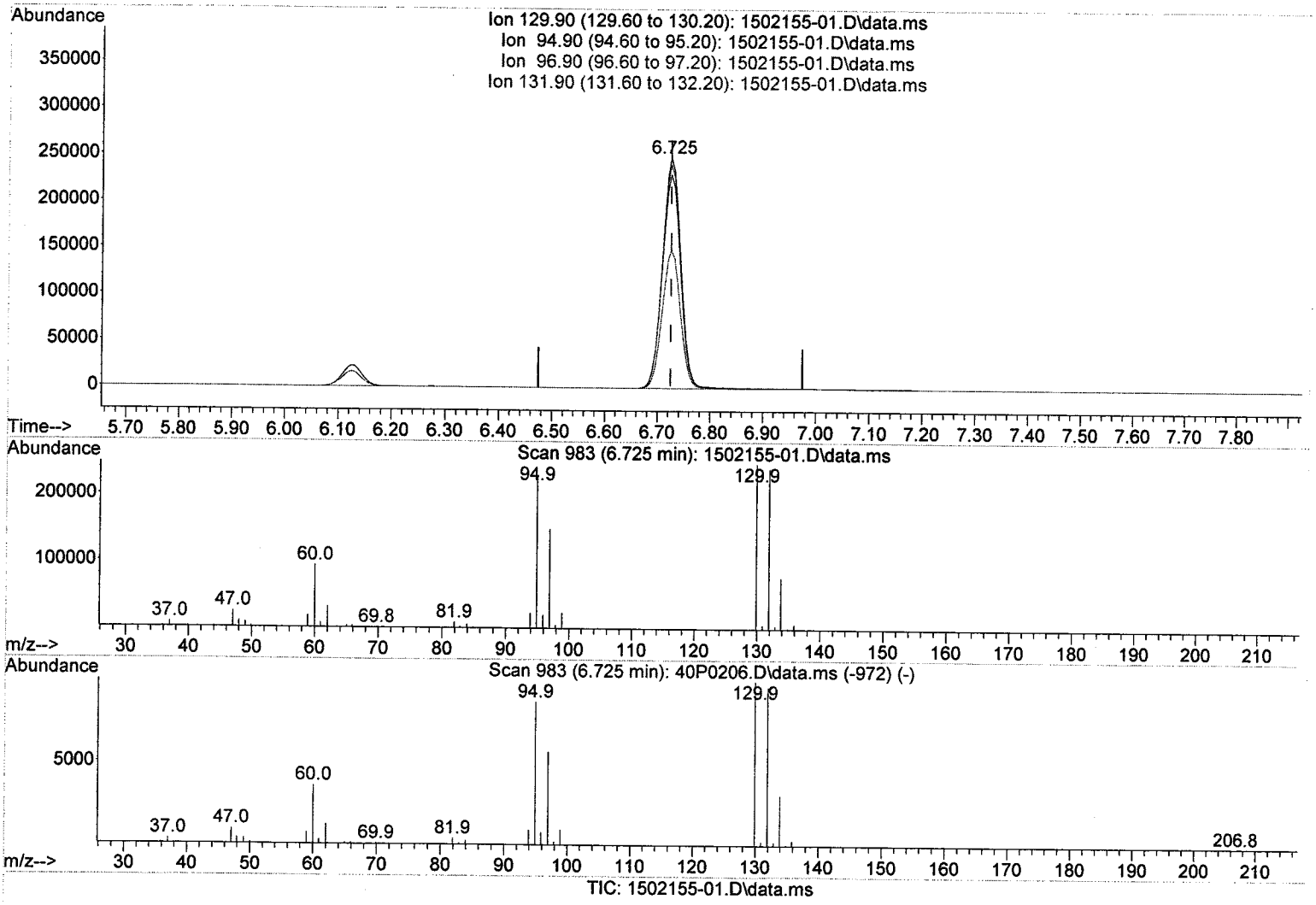
4.084min (+ 0.006) 1.04 ug/L

response 6176

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	114.09
97.90	64.70	58.91
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-01.D
Acq On : 11 Feb 2015 11:58
Operator : DLV
Sample : 1502155-01
Misc : CH2M HILL
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 11 12:23:56 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 94.48 ug/L

response 599839

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	92.51
96.90	57.70	59.58
131.90	96.40	96.65

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP01-4650-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-02
File ID: 1502155-02.D
Sampled: 02/09/15 15:55
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 12:24
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.16	0.13	0.50	1.0	J
75-35-4	1,1-Dichloroethene	1	3.1	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	8.3	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	1.1	0.10	0.20	1.0	

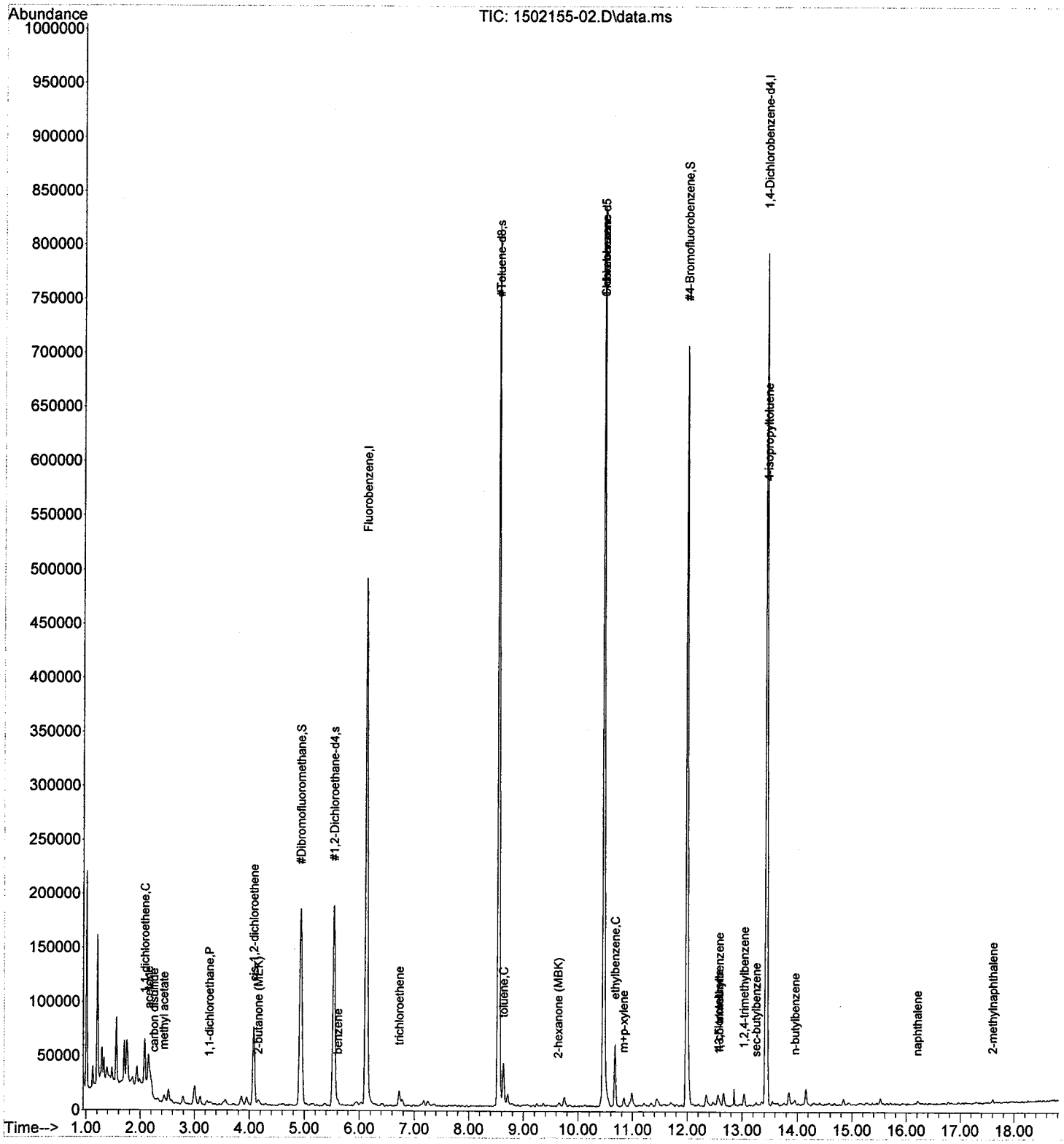
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.4	101	85 - 115	
1,2-Dichloroethane-d4	40.0	40.8	102	70 - 120	
Toluene-d8	40.0	42.7	107	85 - 120	
4-Bromofluorobenzene	40.0	40.7	102	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	638433	6.125	749406	6.125	
Chlorobenzene-d5	598464	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	281714	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	638433	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	598464	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	281714	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	174601	40.38 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.95%	
37) #1,2-Dichloroethane-d4	5.537	67	98718	40.83 ug/L	0.00
Spiked Amount 40.000			Recovery	= 102.08%	
46) #Toluene-d8	8.542	98	690480	42.66 ug/L	0.00
Spiked Amount 40.000			Recovery	= 106.65%	
64) #4-Bromofluorobenzene	11.989	95	298536	40.71 ug/L	0.00
Spiked Amount 40.000			Recovery	= 101.77%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1503	Below Cal #	41
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	0.000		0	N.D.	
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	0.000		0	N.D.	
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	13776	3.06 ug/L	99
13) acetone	2.154	43	36957	10.90 ug/L	98
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.254	76	2020	0.16 ug/L #	74
16) methyl acetate	2.437	43	2380	0.50 ug/L #	52
17) methylene chloride	2.519	49	5822	Below Cal	94
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	3.272	63	1312	0.16 ug/L #	49
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.078	96	47485	8.29 ug/L	91
25) 2-butanone (MEK)	4.160	43	7613	2.50 ug/L	99
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.607	78	4183	0.21 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	19560	No Calib #	
38) trichloroethene	6.725	130	6750	1.10 ug/L	96

Quantitation Report (Not Reviewed)

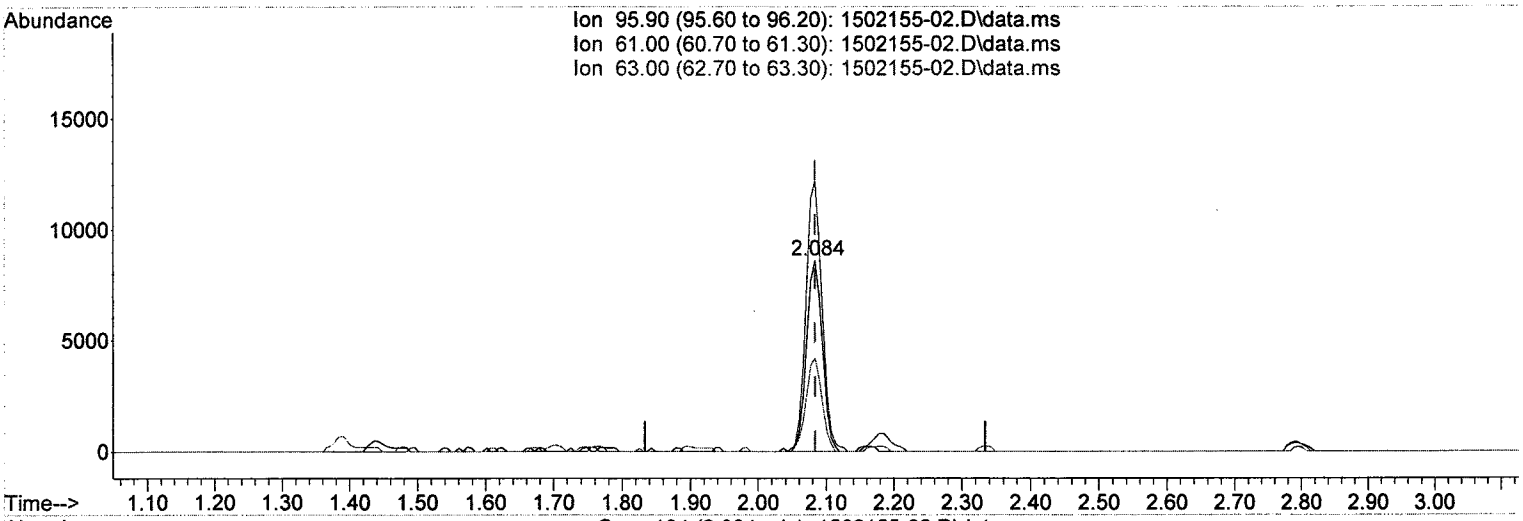
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

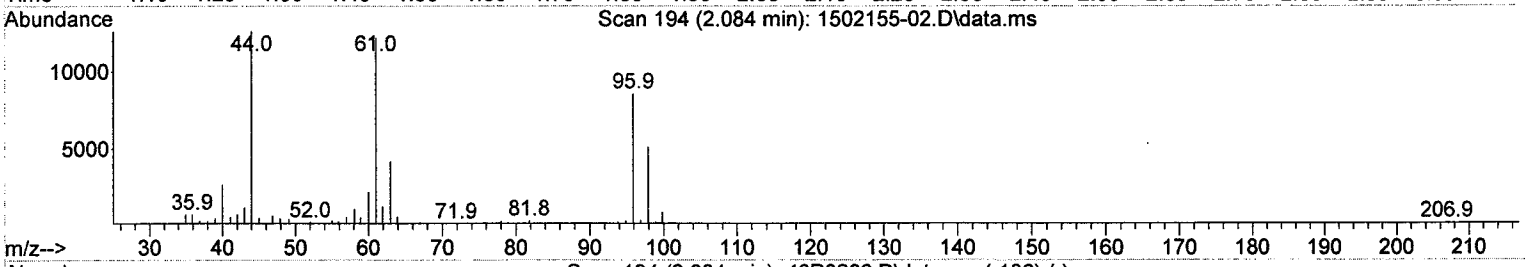
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) bromodichloromethane	0.000		0	N.D.	
43) 2-chloroethyl vinyl ether	0.000		0	N.D.	
44) cis-1,3-dichloropropene	0.000		0	N.D.	
45) 4-methyl-2-pentanone (...	0.000		0	N.D.	
47) toluene	8.630	91	33107	1.47 ug/L	100
48) trans-1,3-dichloropropene	0.000		0	N.D.	
49) 1,1,2-trichloroethane	0.000		0	N.D.	
51) tetrachloroethene	0.000		0	N.D.	
52) 1,3-dichloropropane	0.000		0	N.D.	
53) 2-hexanone (MBK)	9.636	43	2050	0.40 ug/L #	34
54) dibromochloromethane	0.000		0	N.D.	
55) 1,2-dibromoethane	0.000		0	N.D.	
56) chlorobenzene	0.000		0	N.D.	
57) 1-chlorohexane	10.460	55	2547	0.55 ug/L #	1
58) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59) ethylbenzene	10.677	91	48988	1.75 ug/L	98
60) m+p-xylene	10.836	106	2606	0.23 ug/L	100
61) o-xylene	0.000		0	N.D.	
62) styrene	0.000		0	N.D.	
63) bromoform	0.000		0	N.D.	
66) isopropylbenzene	0.000		0	N.D.	
67) bromobenzene	0.000		0	N.D.	
68) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69) 1,2,3-trichloropropane	0.000		0	N.D.	
70) 1,4-dichloro-2-butene	0.000		0	N.D.	
71) n-propylbenzene	0.000		0	N.D.	
72) 2-chlorotoluene	0.000		0	N.D.	
73) 1,3,5-trimethylbenzene	12.583	105	1827	0.09 ug/L #	26
74) 4-chlorotoluene	12.571	91	1429	0.07 ug/L #	42
75) tert-butylbenzene	0.000		0	N.D.	
76) 1,2,4-trimethylbenzene	13.036	105	5317	0.27 ug/L	98
77) sec-butylbenzene	13.254	105	1940	0.08 ug/L #	54
78) 1,3-dichlorobenzene	0.000		0	N.D.	
79) 4-isopropyltoluene	13.448	119	1684	0.08 ug/L #	19
80) 1,4-dichlorobenzene	0.000		0	N.D.	
81) 1,2-dichlorobenzene	0.000		0	N.D.	
82) n-butylbenzene	13.960	91	2994	0.21 ug/L #	77
83) hexachloroethane	0.000		0	N.D.	
84) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85) 1,2,4-trichlorobenzene	0.000		0	N.D.	
86) hexachlorobutadiene	0.000		0	N.D.	
87) naphthalene	16.207	128	1713	7.03 ug/L #	80
88) 1,2,3-trichlorobenzene	0.000		0	N.D.	
89) 2-methylnaphthalene	17.607	142	1378	4.59 ug/L #	17

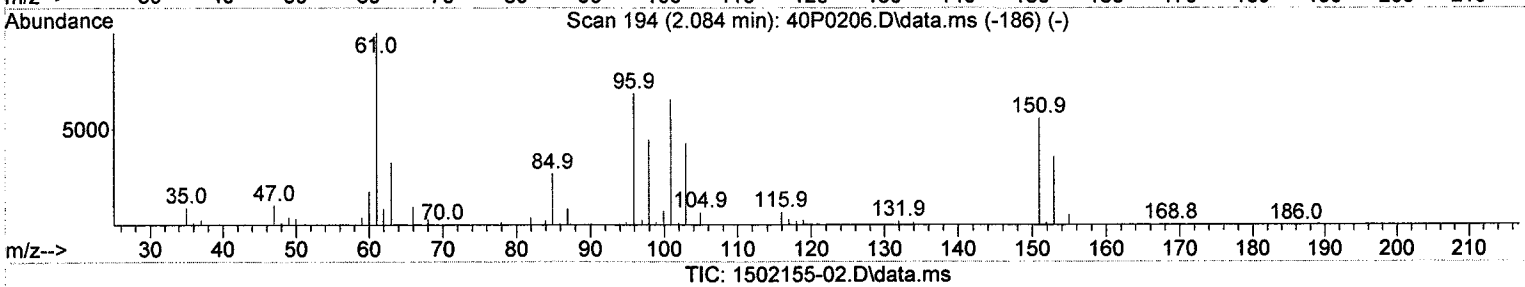
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-02.D\data.ms

(12) 1,1-dichloroethene (C)

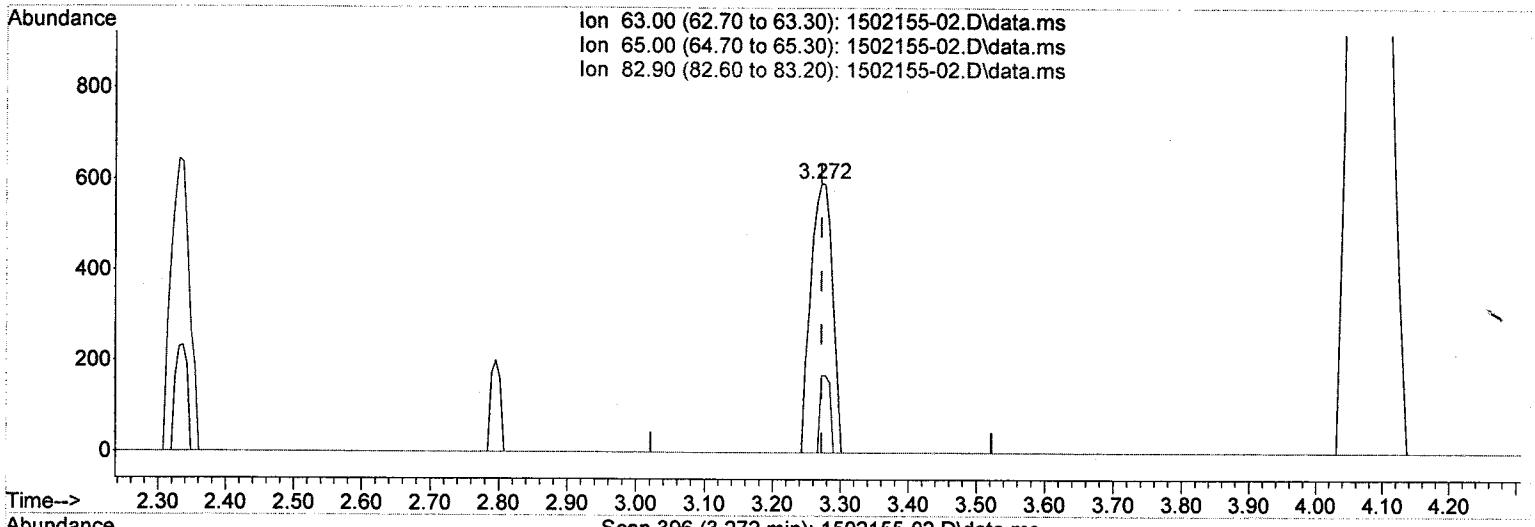
2.084min (-0.000) 3.06 ug/L

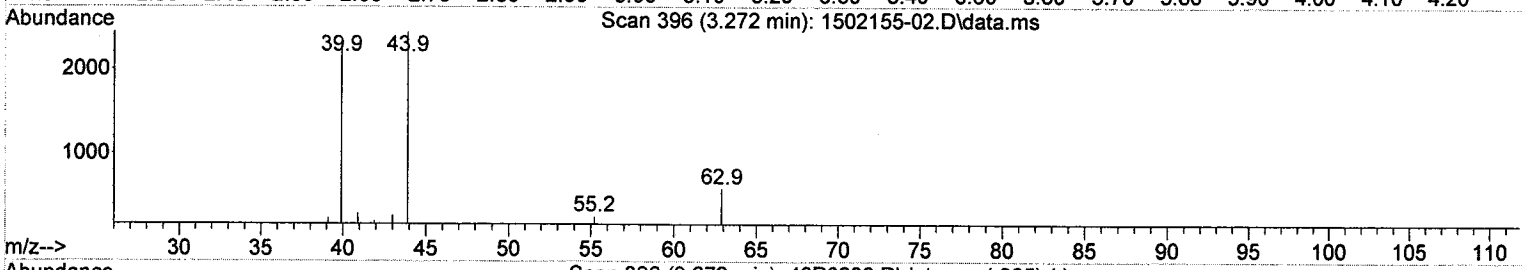
response 13776

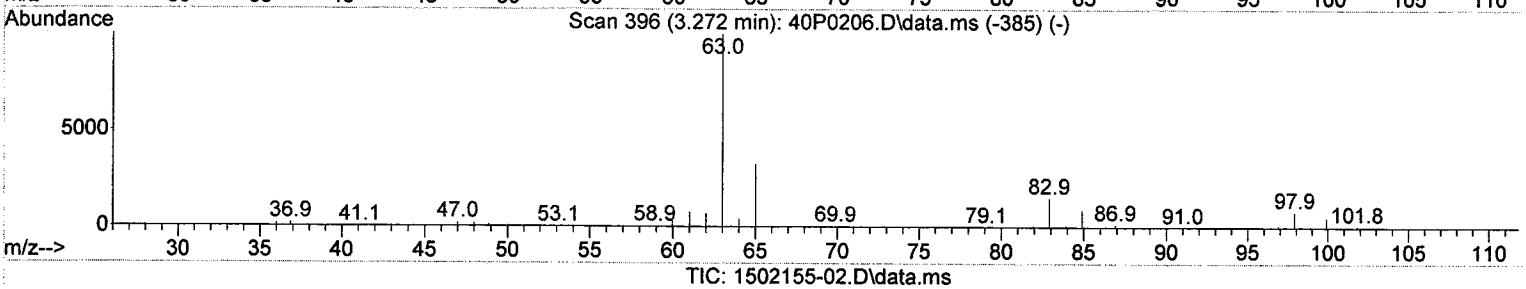
Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	144.22
63.00	47.90	49.63
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-02.D\data.ms

(21) 1,1-dichloroethane (P)

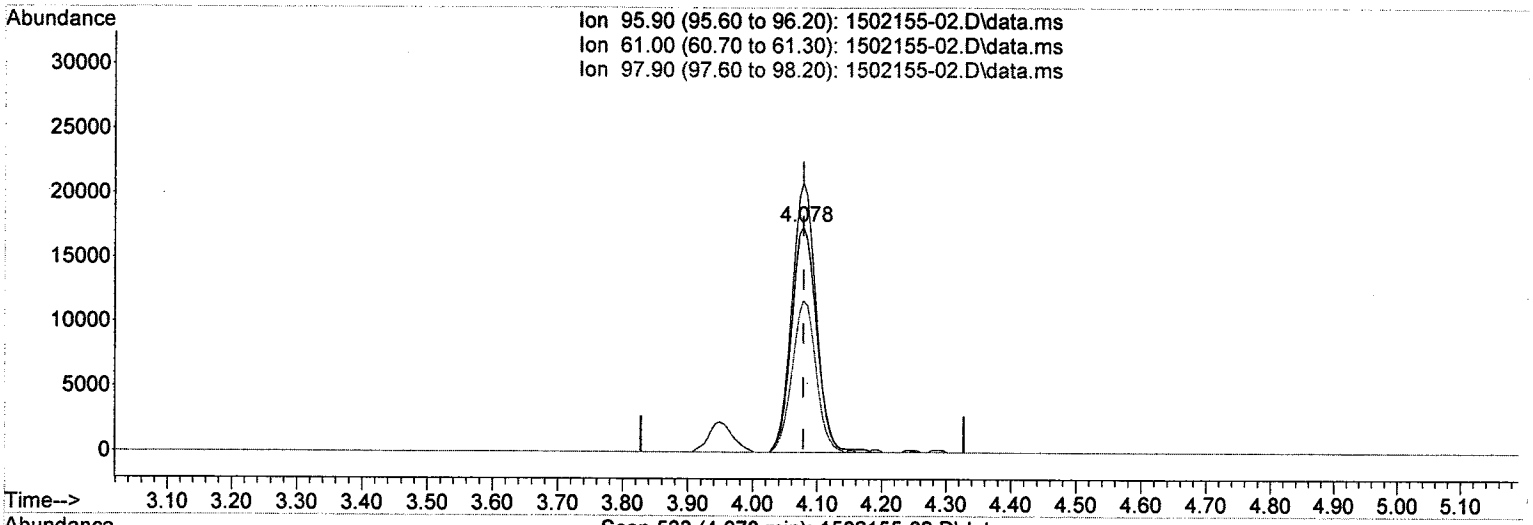
3.272min (-0.000) 0.16 ug/L

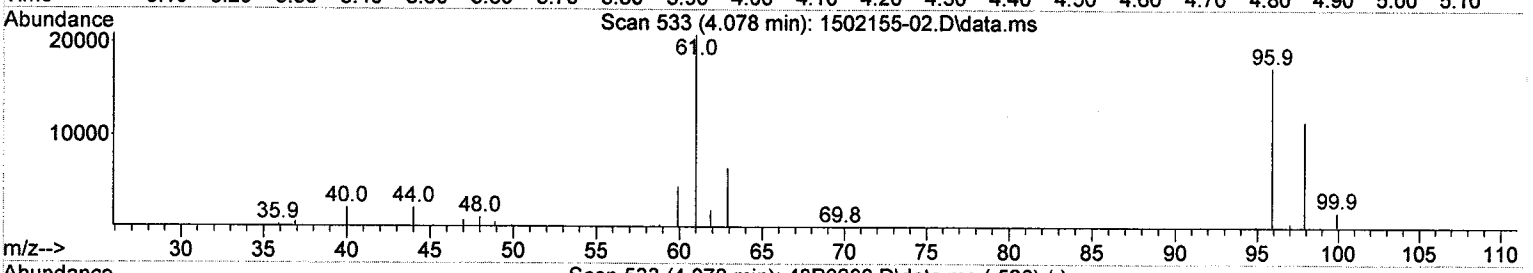
response 1312

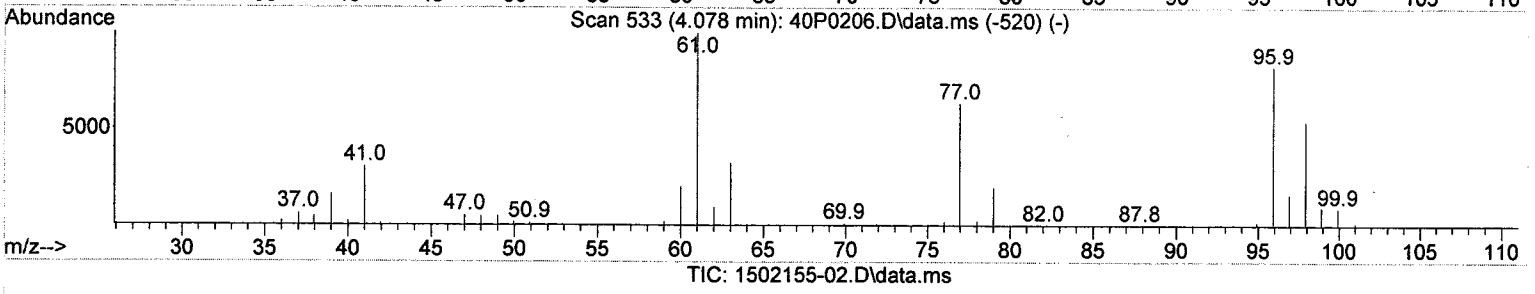
Ion	Exp%	Act%
63.00	100.00	100.00
65.00	32.30	0.00#
82.90	15.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-02.D\data.ms

(24) cis-1,2-dichloroethene

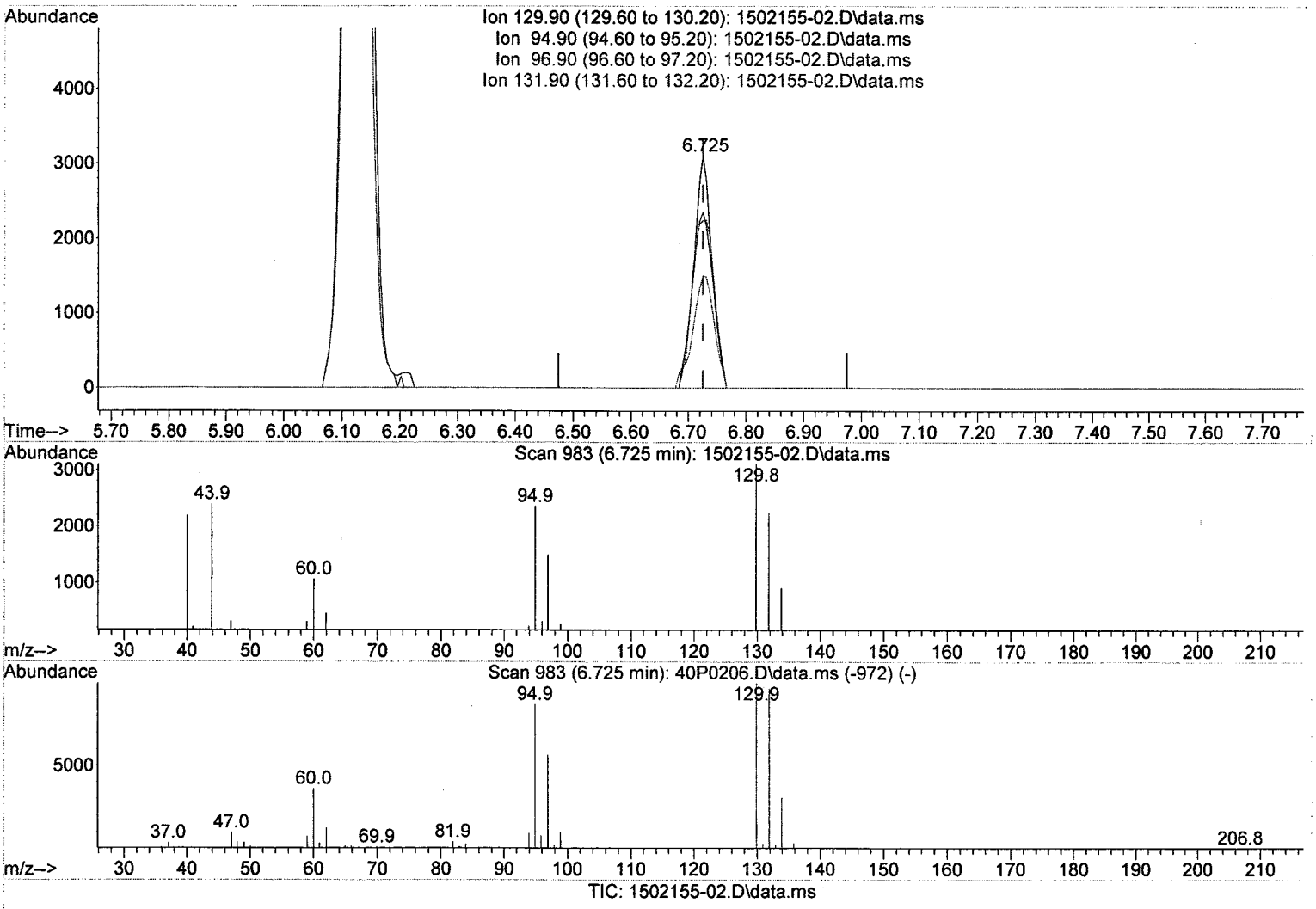
4.078min (-0.000) 8.29 ug/L

response 47485

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	114.61
97.90	64.70	63.72
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-02.D
Acq On : 11 Feb 2015 12:24
Operator : DLV
Sample : 1502155-02
Misc : CH2M HILL
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 11 12:44:52 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 1.10 ug/L

response 6750

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	85.97
96.90	57.70	56.24
131.90	96.40	89.11

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-7

Client: CH2M HILL - VA Project: 8012 CTO-WE74 Yorktown Site 34

Matrix: Ground Water Laboratory ID: 1502155-03 File ID: 1502155-03.D

Sampled: 02/09/15 17:20 Prepared: 02/11/15 09:00 Analyzed: 02/11/15 12:51

Solids: Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1501292 Sequence: 5B12009 Calibration: 5B11014 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	0.33	0.22	0.50	1.0	J
156-59-2	cis-1,2-Dichloroethene	1	0.59	0.13	0.50	1.0	J
79-01-6	Trichloroethene	1	3.2	0.10	0.20	1.0	

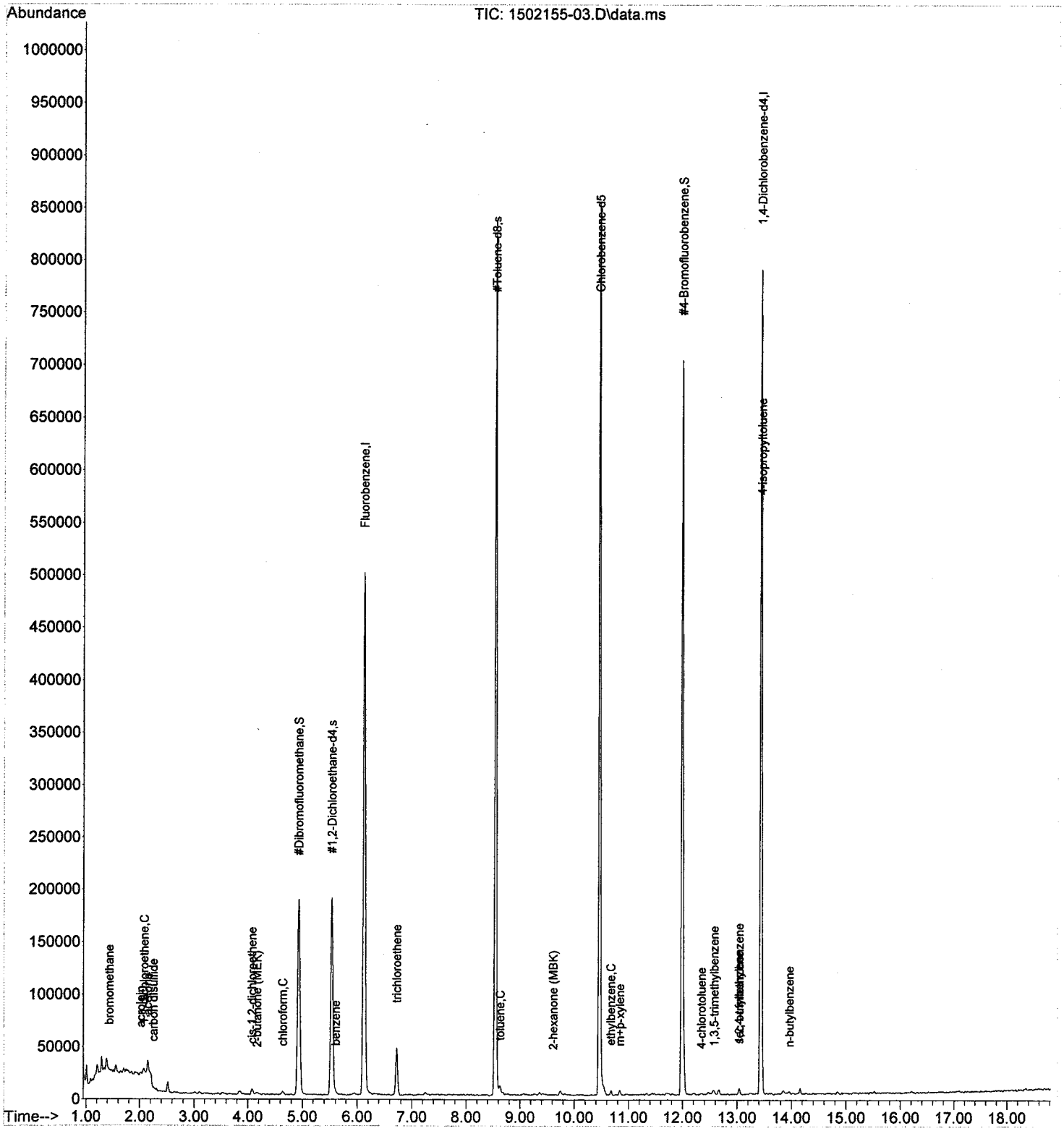
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.8	100	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	41.9	105	85 - 120	
4-Bromofluorobenzene	40.0	40.0	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	661539	6.125	749406	6.125	
Chlorobenzene-d5	609904	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	283340	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	661539	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	609904	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	283340	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	178336	39.80 ug/L	0.00
Spiked Amount 40.000			Recovery	= 99.50%	
37) #1,2-Dichloroethane-d4	5.537	67	100960	40.30 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.75%	
46) #Toluene-d8	8.542	98	702900	41.91 ug/L	0.00
Spiked Amount 40.000			Recovery	= 104.77%	
64) #4-Bromofluorobenzene	11.989	95	298949	40.00 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.00%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1402	Below Cal #	41
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	1.437	94	1900	0.54 ug/L #	2
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	2.019	56	1800	0.52 ug/L #	17
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	1556	0.33 ug/L #	65
13) acetone	2.149	43	19928	2.67 ug/L	89
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.255	76	2099	0.16 ug/L #	74
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.519	49	4957	Below Cal	97
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	0.000		0	N.D.	
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.078	96	3498	0.59 ug/L	89
25) 2-butanone (MEK)	4.172	43	2284	0.72 ug/L #	43
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	4.643	83	4058	0.43 ug/L	94
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.607	78	1716	0.08 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	20871	No Calib #	
38) trichloroethene	6.725	130	20219	3.18 ug/L	94

Quantitation Report (Not Reviewed)

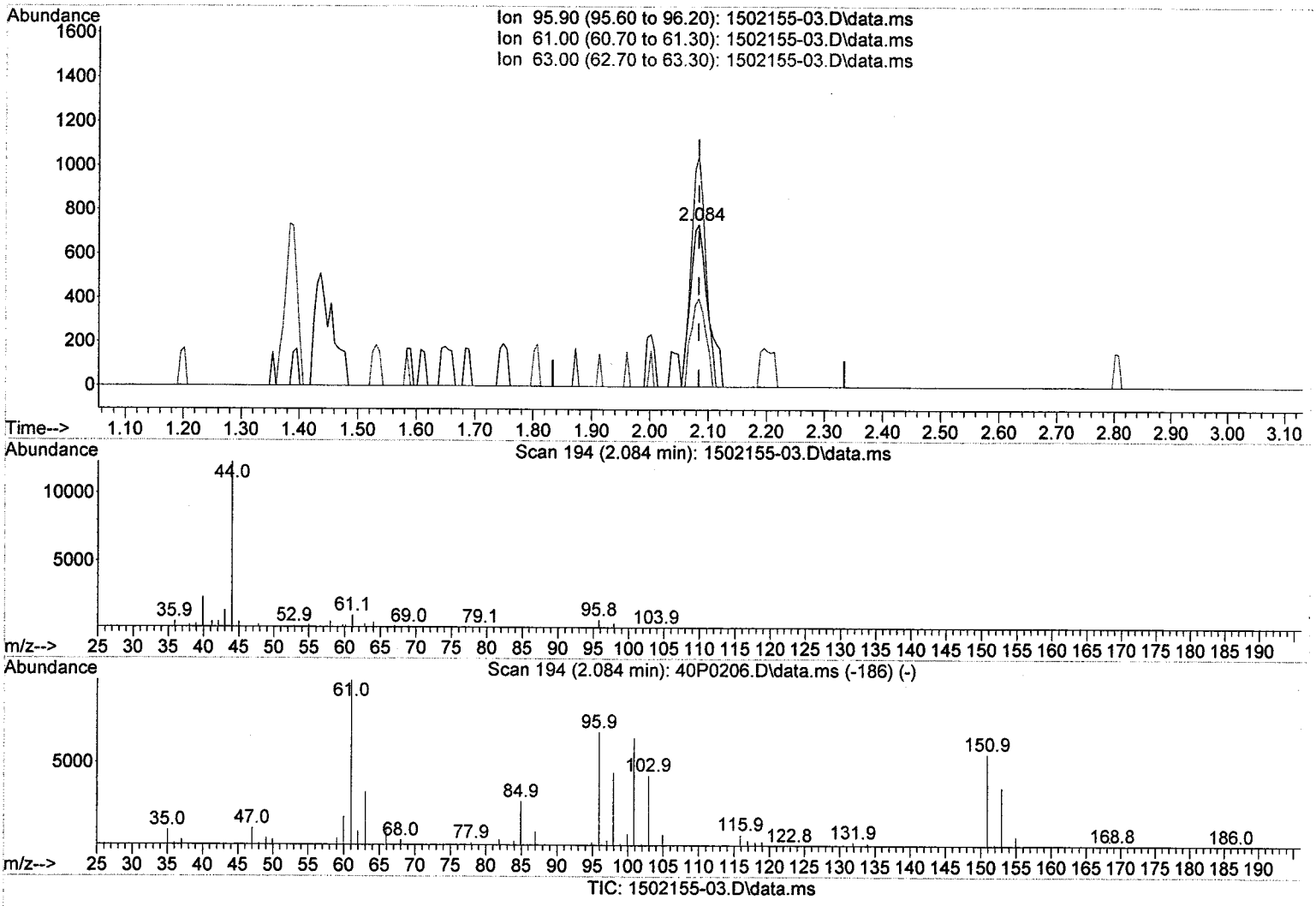
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) bromodichloromethane	0.000		0	N.D.	
43) 2-chloroethyl vinyl ether	0.000		0	N.D.	
44) cis-1,3-dichloropropene	0.000		0	N.D.	
45) 4-methyl-2-pentanone (...	0.000		0	N.D.	
47) toluene	8.631	91	5241	0.22 ug/L	100
48) trans-1,3-dichloropropene	0.000		0	N.D.	
49) 1,1,2-trichloroethane	0.000		0	N.D.	
51) tetrachloroethene	0.000		0	N.D.	
52) 1,3-dichloropropane	0.000		0	N.D.	
53) 2-hexanone (MBK)	9.619	43	1585	0.31 ug/L #	34
54) dibromochloromethane	0.000		0	N.D.	
55) 1,2-dibromoethane	0.000		0	N.D.	
56) chlorobenzene	0.000		0	N.D.	
57) 1-chlorohexane	0.000		0	N.D.	
58) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59) ethylbenzene	10.678	91	4617	0.16 ug/L	100
60) m+p-xylene	10.842	106	1453	0.13 ug/L #	73
61) o-xylene	0.000		0	N.D.	
62) styrene	0.000		0	N.D.	
63) bromoform	0.000		0	N.D.	
66) isopropylbenzene	0.000		0	N.D.	
67) bromobenzene	0.000		0	N.D.	
68) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69) 1,2,3-trichloropropane	0.000		0	N.D.	
70) 1,4-dichloro-2-butene	0.000		0	N.D.	
71) n-propylbenzene	0.000		0	N.D.	
72) 2-chlorotoluene	0.000		0	N.D.	
73) 1,3,5-trimethylbenzene	12.583	105	1270	0.06 ug/L #	26
74) 4-chlorotoluene	12.348	91	1892	0.10 ug/L #	42
75) tert-butylbenzene	0.000		0	N.D.	
76) 1,2,4-trimethylbenzene	13.042	105	3428	0.17 ug/L #	29
77) sec-butylbenzene	13.042	105	3372	0.14 ug/L #	54
78) 1,3-dichlorobenzene	0.000		0	N.D.	
79) 4-isopropyltoluene	13.448	119	1380	0.07 ug/L #	50
80) 1,4-dichlorobenzene	0.000		0	N.D.	
81) 1,2-dichlorobenzene	0.000		0	N.D.	
82) n-butylbenzene	13.966	91	1464	0.10 ug/L #	31
83) hexachloroethane	0.000		0	N.D.	
84) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85) 1,2,4-trichlorobenzene	0.000		0	N.D.	
86) hexachlorobutadiene	0.000		0	N.D.	
87) naphthalene	0.000		0	N.D.	
88) 1,2,3-trichlorobenzene	0.000		0	N.D.	
89) 2-methylnaphthalene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(12) 1,1-dichloroethene (C)

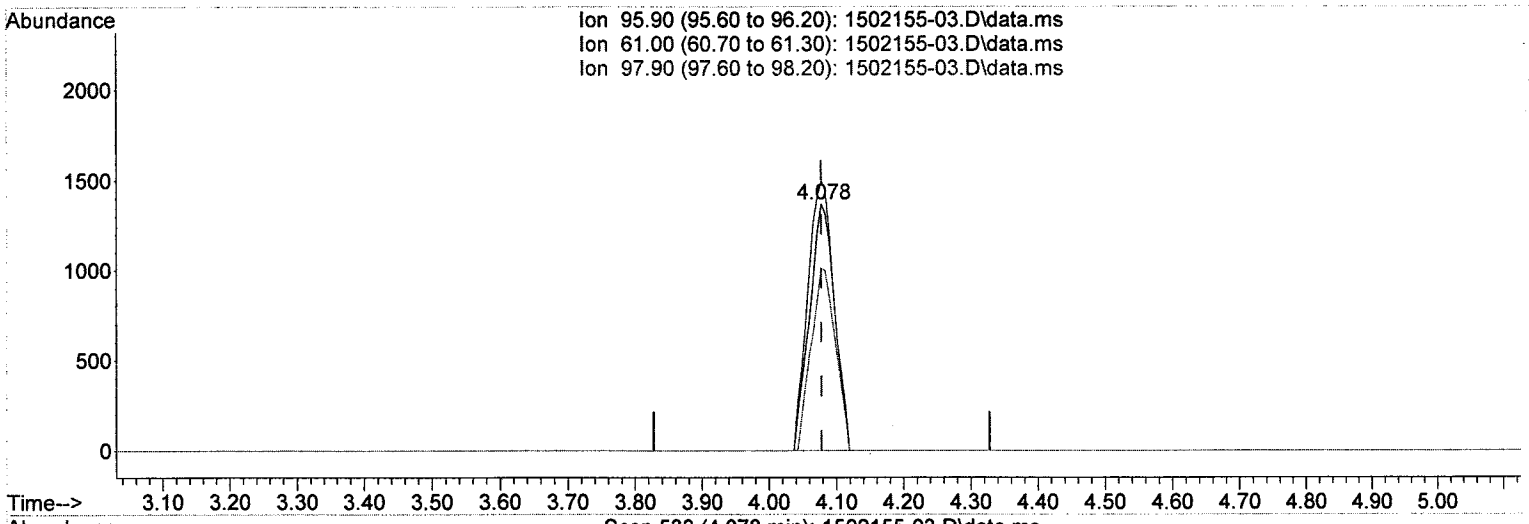
2.084min (-0.000) 0.33 ug/L

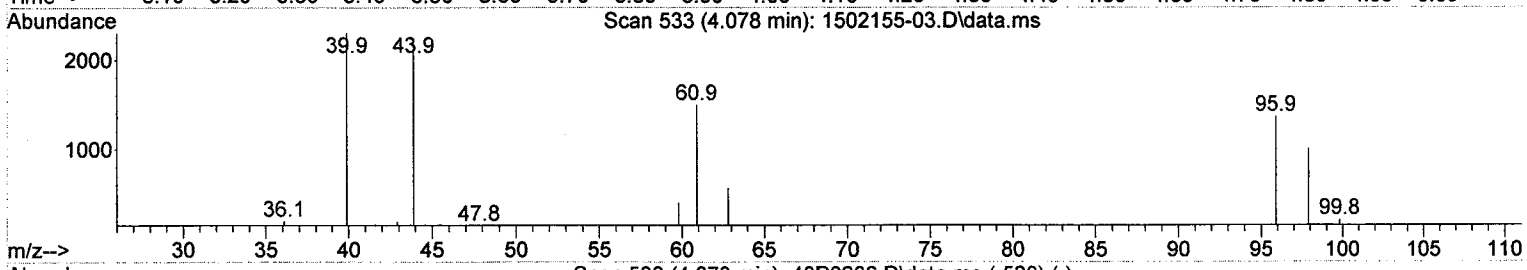
response 1556

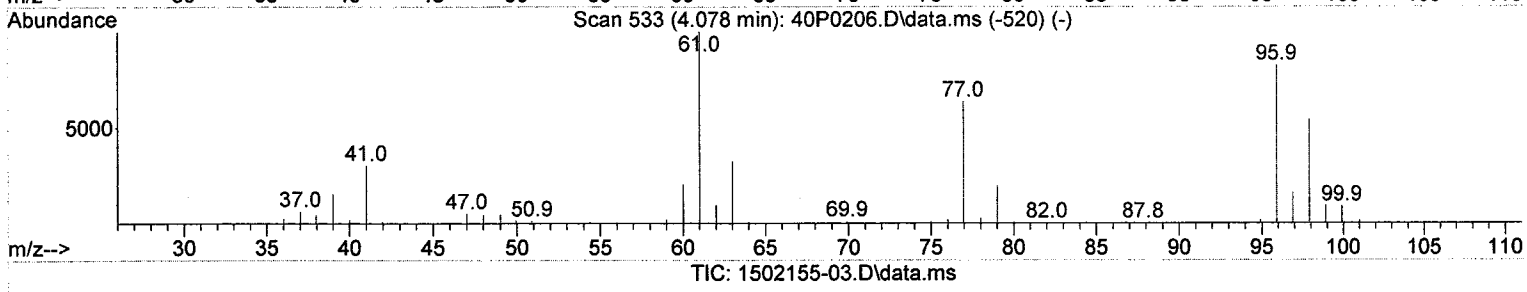
Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	116.13#
63.00	47.90	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-03.D\data.ms

(24) cis-1,2-dichloroethene

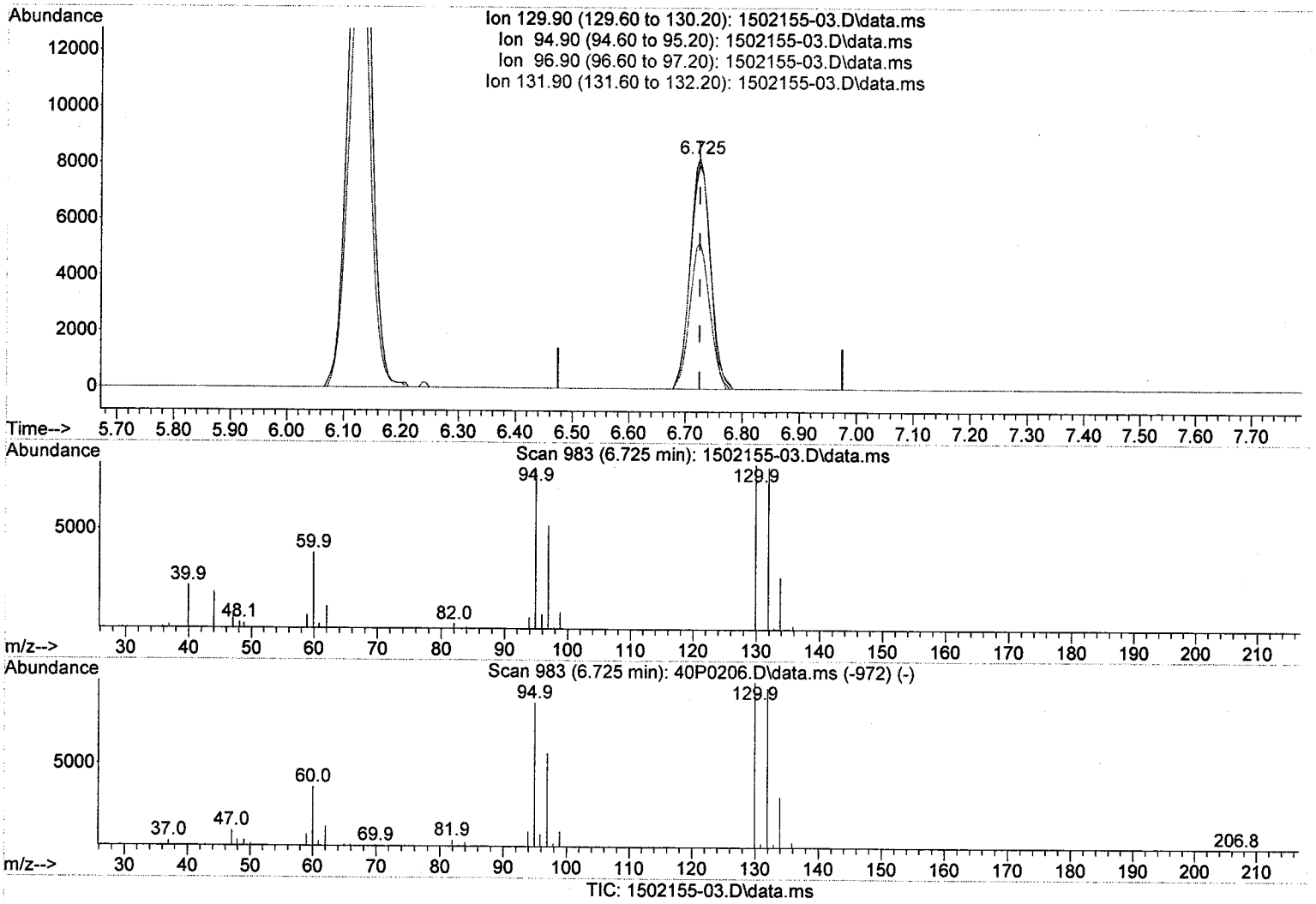
4.078min (-0.000) 0.59 ug/L

response 3498

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	114.49
97.90	64.70	71.93
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03.D
Acq On : 11 Feb 2015 12:51
Operator : DLV
Sample : 1502155-03
Misc : CH2M HILL
ALS Vial : 9 Sample Multiplier: 1
Quant Time: Feb 11 13:38:00 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 3.18 ug/L

response 20219

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	95.67
96.90	57.70	62.46
131.90	96.40	99.46

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-TB-021015

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1502155-04
File ID: 1502155-04.D
Sampled: 02/10/15 07:00
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 16:22
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	0.50	0.22	0.50	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	0.50	0.13	0.50	1.0	U
79-01-6	Trichloroethene	1	0.20	0.10	0.20	1.0	U

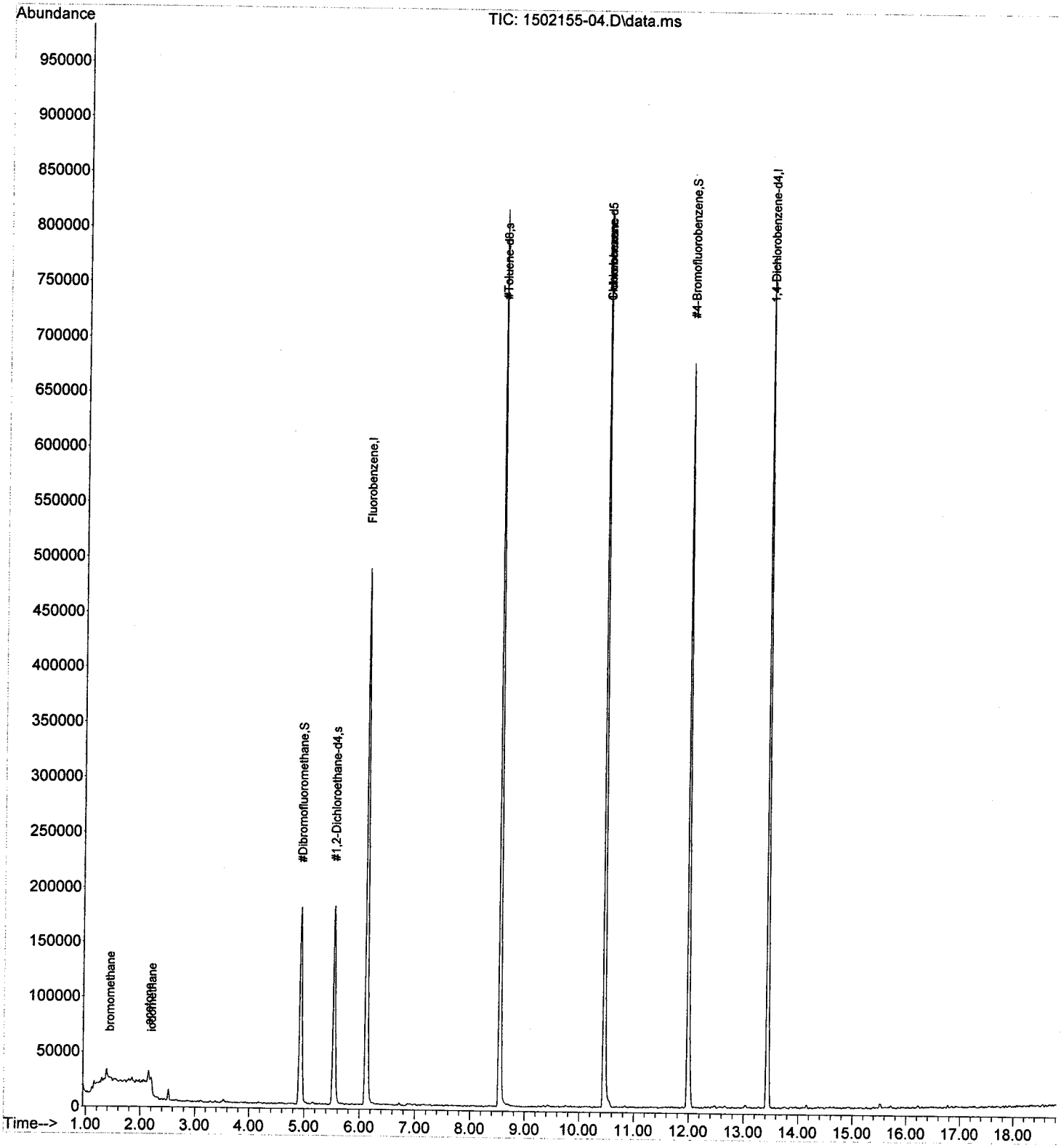
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	40.0	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.8	105	70 - 120	
Toluene-d8	40.0	42.6	106	85 - 120	
4-Bromofluorobenzene	40.0	40.3	101	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	634248	6.125	749406	6.125	
Chlorobenzene-d5	594197	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	272518	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-04.D
Acq On : 11 Feb 2015 16:22
Operator : DLV
Sample : 1502155-04
Misc : CH2M HILL
ALS Vial : 17 Sample Multiplier: 1
Quant Time: Feb 12 07:16:10 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-04.D
Acq On : 11 Feb 2015 16:22
Operator : DLV
Sample : 1502155-04
Misc : CH2M HILL
ALS Vial : 17 Sample Multiplier: 1
Quant Time: Feb 12 07:16:10 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	634248	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	594197	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	272518	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.937	111	171880	40.01 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.02%	
37) #1,2-Dichloroethane-d4	5.537	67	100416	41.81 ug/L	0.00
Spiked Amount 40.000			Recovery	= 104.53%	
46) #Toluene-d8	8.543	98	684303	42.56 ug/L	0.00
Spiked Amount 40.000			Recovery	= 106.40%	
64) #4-Bromofluorobenzene	11.989	95	293606	40.32 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.80%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	4011	Below Cal	88
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	1.437	94	2009	0.60 ug/L #	75
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	0.000		0	N.D.	
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	0.000		0	N.D.	
13) acetone	2.149	43	17204	1.78 ug/L	91
14) iodomethane	2.202	142	3826	4.59 ug/L #	88
15) carbon disulfide	0.000		0	N.D.	
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.519	49	4234	Below Cal	93
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	0.000		0	N.D.	
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	0.000		0	N.D.	
25) 2-butanone (MEK)	0.000		0	N.D.	
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	0.000		0	N.D.	
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	19769	No Calib #	
38) trichloroethene	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-04.D
Acq On : 11 Feb 2015 16:22
Operator : DLV
Sample : 1502155-04
Misc : CH2M HILL
ALS Vial : 17 Sample Multiplier: 1
Quant Time: Feb 12 07:16:10 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	0.000		0	N.D.	
40)	1,2-dichloropropane	0.000		0	N.D.	
41)	dibromomethane	0.000		0	N.D.	
42)	bromodichloromethane	0.000		0	N.D.	
43)	2-chloroethyl vinyl ether	0.000		0	N.D.	
44)	cis-1,3-dichloropropene	0.000		0	N.D.	
45)	4-methyl-2-pentanone (...	8.537	43	1227	N.D.	
47)	toluene	0.000		0	N.D.	
48)	trans-1,3-dichloropropene	0.000		0	N.D.	
49)	1,1,2-trichloroethane	0.000		0	N.D.	
51)	tetrachloroethene	0.000		0	N.D.	
52)	1,3-dichloropropane	0.000		0	N.D.	
53)	2-hexanone (MBK)	0.000		0	N.D.	
54)	dibromochloromethane	0.000		0	N.D.	
55)	1,2-dibromoethane	0.000		0	N.D.	
56)	chlorobenzene	0.000		0	N.D.	
57)	1-chlorohexane	10.466	55	3700	0.81 ug/L #	1
58)	1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59)	ethylbenzene	0.000		0	N.D.	
60)	m+p-xylene	0.000		0	N.D.	
61)	o-xylene	0.000		0	N.D.	
62)	styrene	0.000		0	N.D.	
63)	bromoform	0.000		0	N.D.	
66)	isopropylbenzene	0.000		0	N.D.	
67)	bromobenzene	0.000		0	N.D.	
68)	1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69)	1,2,3-trichloropropane	0.000		0	N.D.	
70)	1,4-dichloro-2-butene	0.000		0	N.D.	
71)	n-propylbenzene	0.000		0	N.D.	
72)	2-chlorotoluene	0.000		0	N.D.	
73)	1,3,5-trimethylbenzene	0.000		0	N.D.	
74)	4-chlorotoluene	0.000		0	N.D.	
75)	tert-butylbenzene	0.000		0	N.D.	
76)	1,2,4-trimethylbenzene	0.000		0	N.D.	
77)	sec-butylbenzene	0.000		0	N.D.	
78)	1,3-dichlorobenzene	0.000		0	N.D.	
79)	4-isopropyltoluene	0.000		0	N.D.	
80)	1,4-dichlorobenzene	0.000		0	N.D.	
81)	1,2-dichlorobenzene	0.000		0	N.D.	
82)	n-butylbenzene	0.000		0	N.D.	
83)	hexachloroethane	0.000		0	N.D.	
84)	1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85)	1,2,4-trichlorobenzene	0.000		0	N.D.	
86)	hexachlorobutadiene	0.000		0	N.D.	
87)	naphthalene	0.000		0	N.D.	
88)	1,2,3-trichlorobenzene	0.000		0	N.D.	
89)	2-methylnaphthalene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP02-5155-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-05
File ID: 1502155-05.D
Sampled: 02/10/15 12:00
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 13:17
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	1.5	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	2.6	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	1.1	0.10	0.20	1.0	

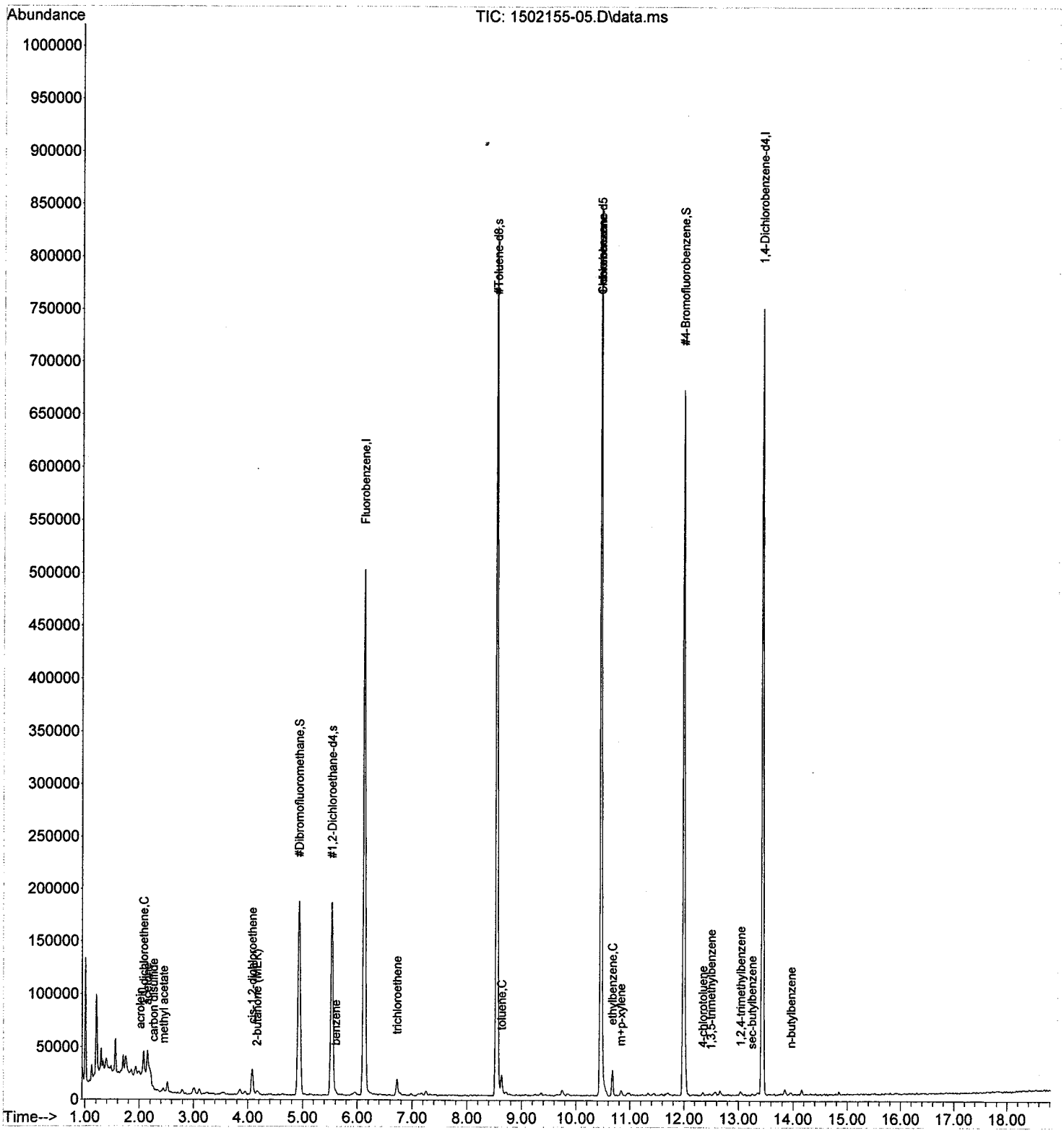
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.7	99	85 - 115	
1,2-Dichloroethane-d4	40.0	40.7	102	70 - 120	
Toluene-d8	40.0	41.8	105	85 - 120	
4-Bromofluorobenzene	40.0	39.3	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	655663	6.125	749406	6.125	
Chlorobenzene-d5	604299	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	272014	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	655663	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	604299	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	272014	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	176128	39.66 ug/L	0.00
Spiked Amount 40.000			Recovery = 99.15%		
37) #1,2-Dichloroethane-d4	5.537	67	101009	40.68 ug/L	0.00
Spiked Amount 40.000			Recovery = 101.70%		
46) #Toluene-d8	8.542	98	695136	41.82 ug/L	0.00
Spiked Amount 40.000			Recovery = 104.55%		
64) #4-Bromofluorobenzene	11.989	95	290797	39.27 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.18%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1268	Below Cal #	41
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	0.000		0	N.D.	
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	2.019	56	1597	0.36 ug/L #	17
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	6810	1.47 ug/L	97
13) acetone	2.149	43	32090	8.25 ug/L	98
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.260	76	2320	0.18 ug/L #	74
16) methyl acetate	2.449	43	1802	0.37 ug/L #	52
17) methylene chloride	2.519	49	4607	Below Cal	96
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	0.000		0	N.D.	
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.078	96	15186	2.58 ug/L	91
25) 2-butanone (MEK)	4.166	43	7331	2.34 ug/L	94
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.607	78	2966	0.15 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	20909	No Calib	
38) trichloroethene	6.725	130	7127	1.13 ug/L	99

Quantitation Report (Not Reviewed)

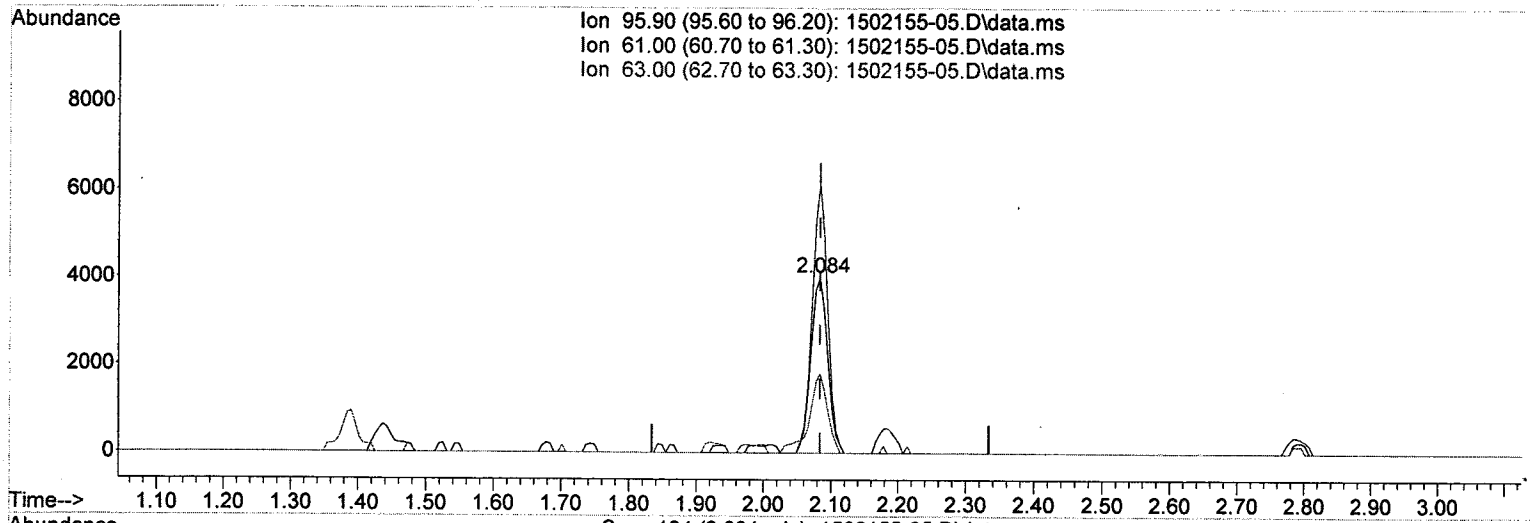
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

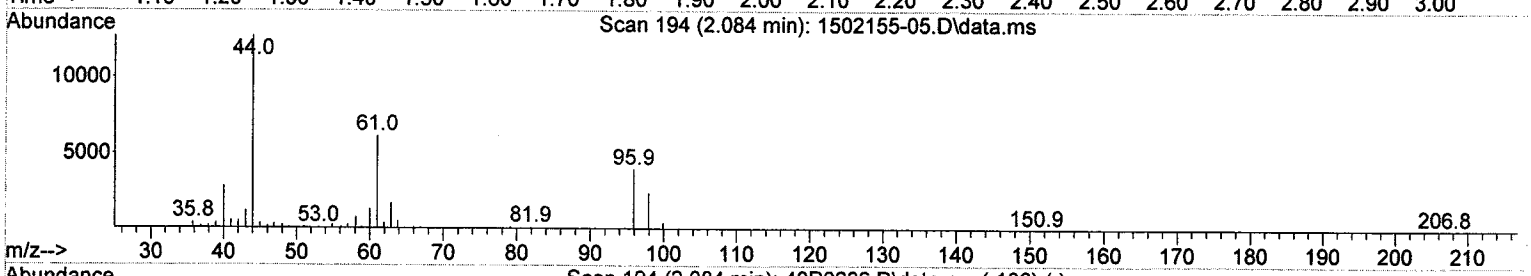
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) bromodichloromethane	0.000		0	N.D.	
43) 2-chloroethyl vinyl ether	0.000		0	N.D.	
44) cis-1,3-dichloropropene	0.000		0	N.D.	
45) 4-methyl-2-pentanone (...	0.000		0	N.D.	
47) toluene	8.631	91	14817	0.64 ug/L	96
48) trans-1,3-dichloropropene	0.000		0	N.D.	
49) 1,1,2-trichloroethane	0.000		0	N.D.	
51) tetrachloroethene	0.000		0	N.D.	
52) 1,3-dichloropropane	0.000		0	N.D.	
53) 2-hexanone (MBK)	0.000		0	N.D.	
54) dibromochloromethane	0.000		0	N.D.	
55) 1,2-dibromoethane	0.000		0	N.D.	
56) chlorobenzene	0.000		0	N.D.	
57) 1-chlorohexane	10.460	55	2890	0.62 ug/L #	1
58) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59) ethylbenzene	10.678	91	21926	0.78 ug/L	96
60) m+p-xylene	10.836	106	1928	0.17 ug/L	94
61) o-xylene	0.000		0	N.D.	
62) styrene	0.000		0	N.D.	
63) bromoform	0.000		0	N.D.	
66) isopropylbenzene	0.000		0	N.D.	
67) bromobenzene	0.000		0	N.D.	
68) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69) 1,2,3-trichloropropane	0.000		0	N.D.	
70) 1,4-dichloro-2-butene	0.000		0	N.D.	
71) n-propylbenzene	0.000		0	N.D.	
72) 2-chlorotoluene	0.000		0	N.D.	
73) 1,3,5-trimethylbenzene	12.495	105	1756	0.09 ug/L #	26
74) 4-chlorotoluene	12.348	91	2600	0.14 ug/L #	42
75) tert-butylbenzene	0.000		0	N.D.	
76) 1,2,4-trimethylbenzene	13.042	105	2863	0.15 ug/L #	29
77) sec-butylbenzene	13.248	105	1207	0.05 ug/L #	54
78) 1,3-dichlorobenzene	0.000		0	N.D.	
79) 4-isopropyltoluene	0.000		0	N.D.	
80) 1,4-dichlorobenzene	0.000		0	N.D.	
81) 1,2-dichlorobenzene	0.000		0	N.D.	
82) n-butylbenzene	13.960	91	1400	0.10 ug/L #	31
83) hexachloroethane	0.000		0	N.D.	
84) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85) 1,2,4-trichlorobenzene	0.000		0	N.D.	
86) hexachlorobutadiene	0.000		0	N.D.	
87) naphthalene	0.000		0	N.D.	
88) 1,2,3-trichlorobenzene	0.000		0	N.D.	
89) 2-methylnaphthalene	0.000		0	N.D.	

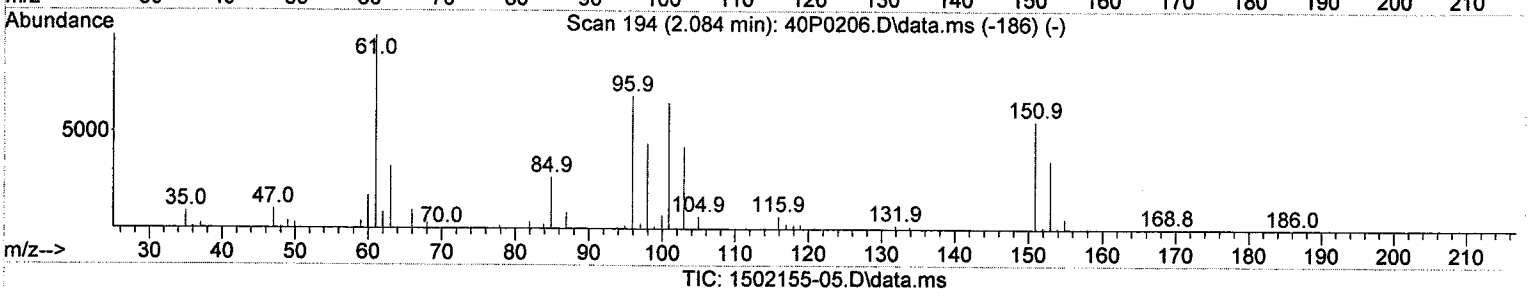
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-05.D\data.ms

(12) 1,1-dichloroethene (C)

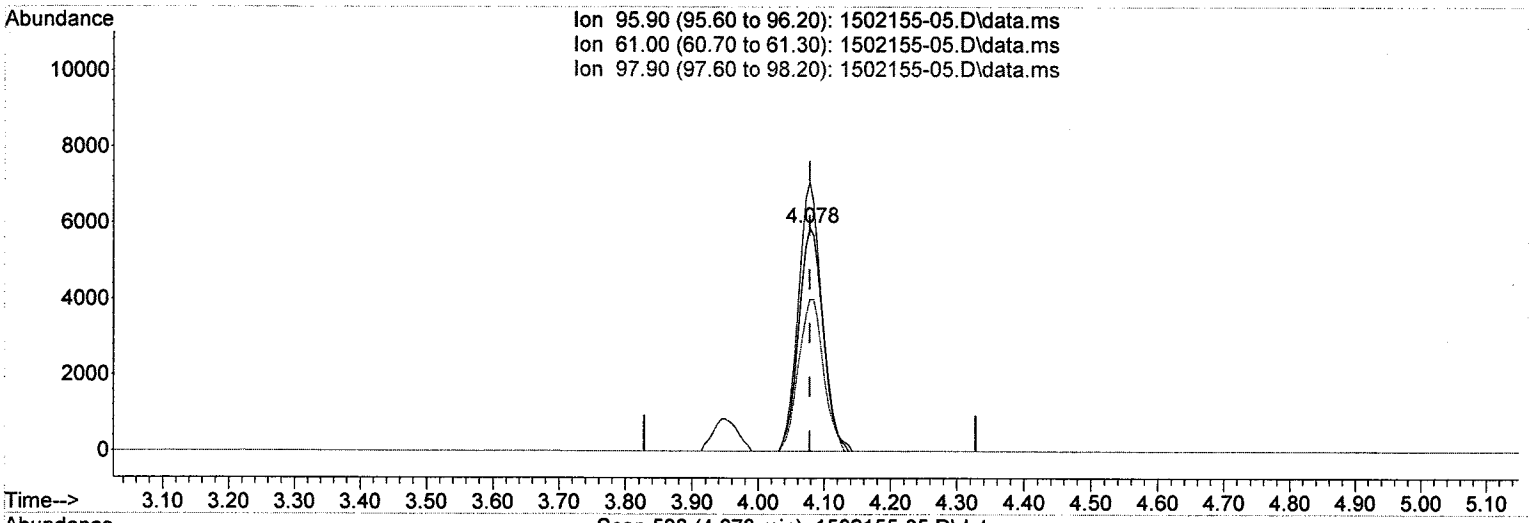
2.084min (-0.000) 1.47 ug/L

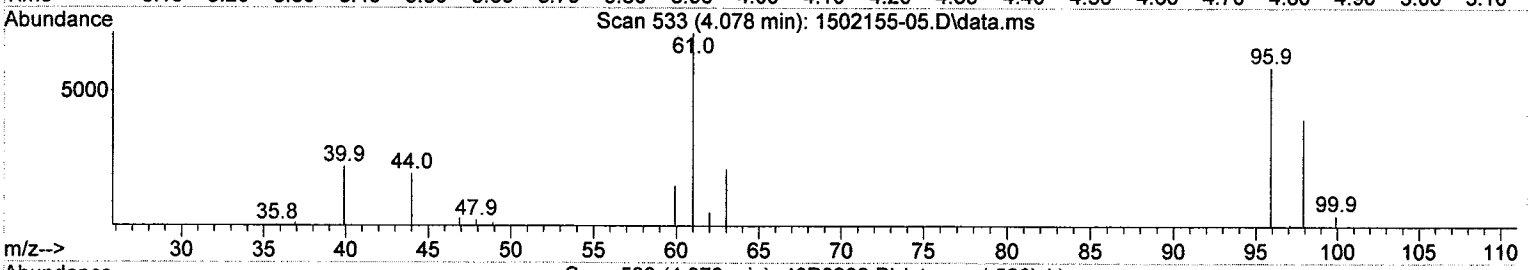
response 6810

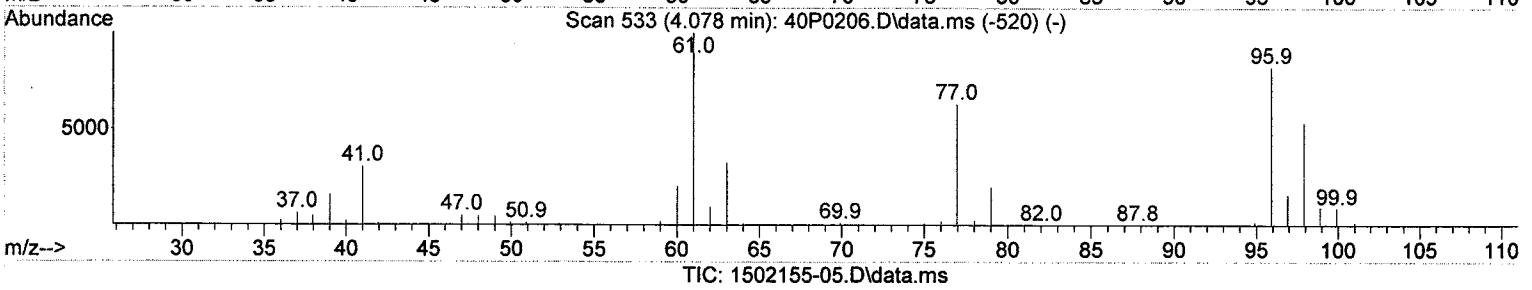
Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	140.98
63.00	47.90	49.74
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-05.D\data.ms

(24) cis-1,2-dichloroethene

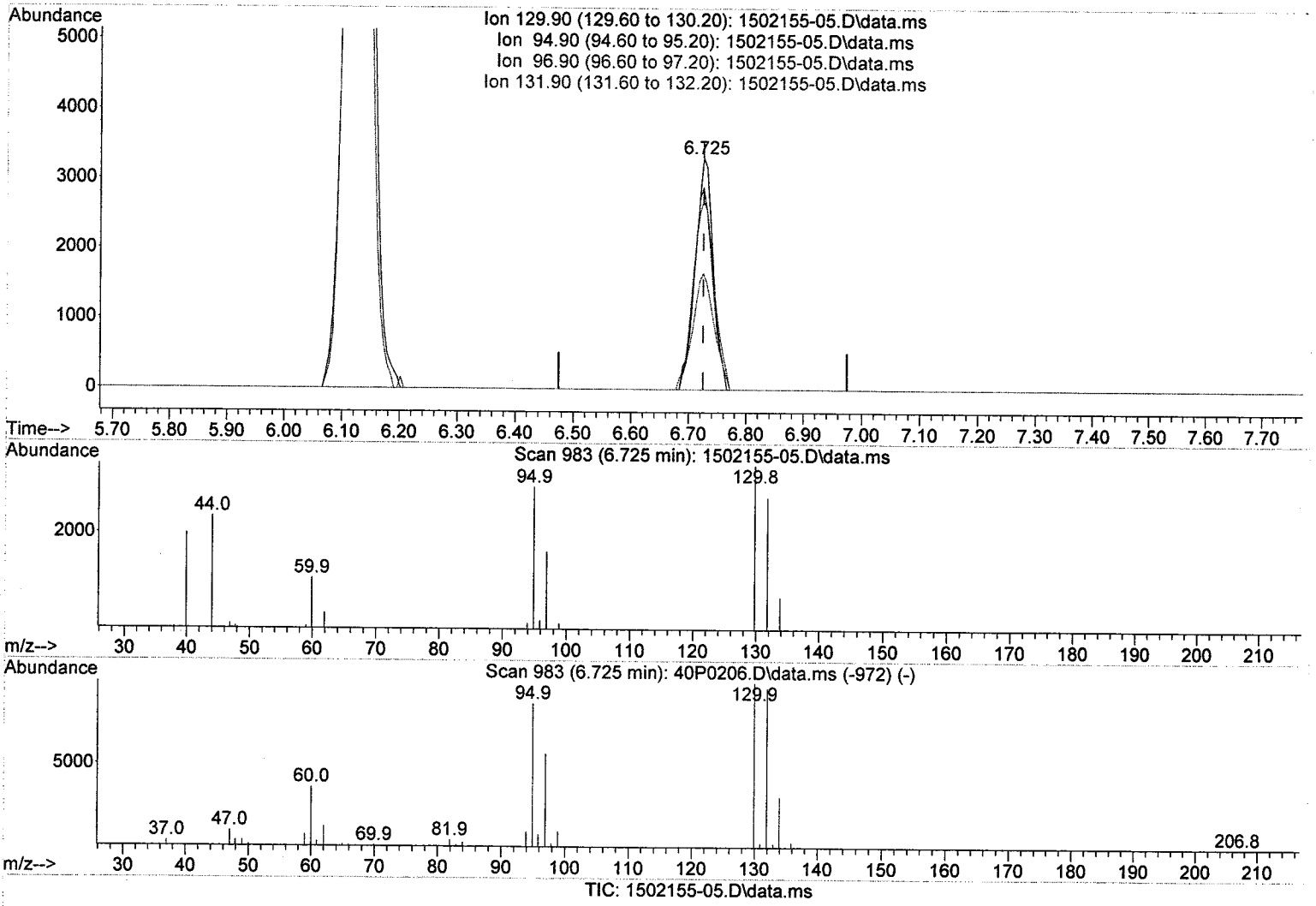
4.078min (-0.000) 2.58 ug/L

response 15186

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	116.03
97.90	64.70	69.38
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-05.D
Acq On : 11 Feb 2015 13:17
Operator : DLV
Sample : 1502155-05
Misc : CH2M HILL
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 11 13:38:06 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 1.13 ug/L

response 7127

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	89.29
96.90	57.70	60.08
131.90	96.40	95.96

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-4145-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-06
File ID: 1502155-06.D
Sampled: 02/10/15 15:05
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 13:44
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	2.4	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	75	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	8.2	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	410	0.10	0.20	1.0	E

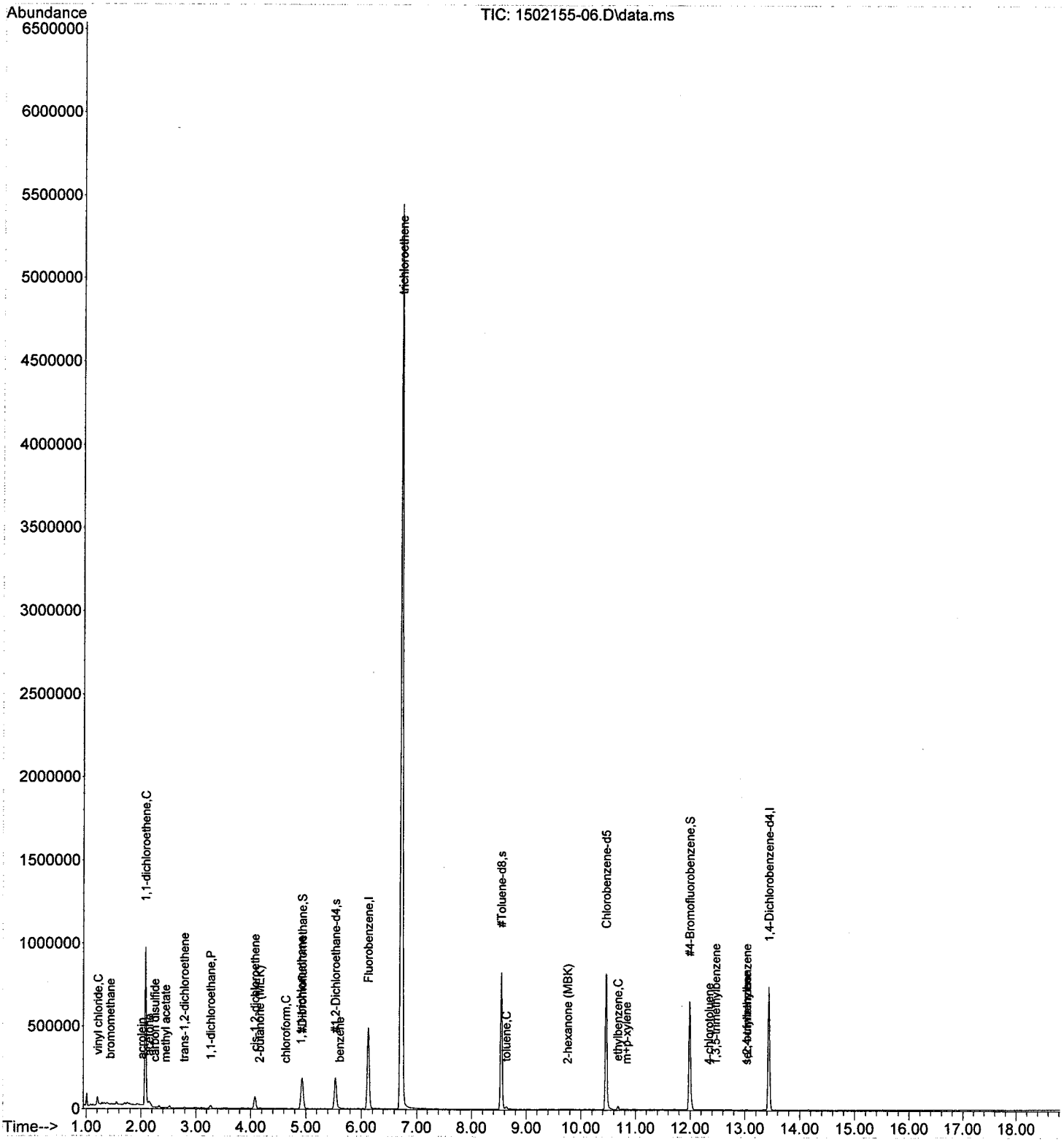
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.9	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.3	103	70 - 120	
Toluene-d8	40.0	42.5	106	85 - 120	
4-Bromofluorobenzene	40.0	39.3	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	643121	6.125	749406	6.125	
Chlorobenzene-d5	597454	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	262209	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	643121	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	597454	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	262209	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.937	111	173792	39.90 ug/L	0.00
Spiked Amount 40.000			Recovery = 99.75%		
37) #1,2-Dichloroethane-d4	5.537	67	100557	41.29 ug/L	0.00
Spiked Amount 40.000			Recovery = 103.22%		
46) #Toluene-d8	8.542	98	693017	42.51 ug/L	0.00
Spiked Amount 40.000			Recovery = 106.27%		
64) #4-Bromofluorobenzene	11.989	95	287417	39.26 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.15%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1224	Below Cal #	41
4) vinyl chloride	1.219	62	1285	0.23 ug/L #	42
5) bromomethane	1.443	94	1293	0.38 ug/L #	2
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	2.013	56	1448	0.25 ug/L #	17
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	340344	✓ 75.11 ug/L	95
13) acetone	2.148	43	24290	4.94 ug/L	89
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.254	76	1459	0.11 ug/L #	74
16) methyl acetate	2.448	43	1555	0.32 ug/L #	52
17) methylene chloride	2.519	49	5797	Below Cal	97
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	2.790	96	1924	0.39 ug/L #	65
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	3.272	63	19779	✓ 2.44 ug/L	99
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.078	96	47063	✓ 8.15 ug/L	90
25) 2-butanone (MEK)	4.166	43	4454	1.45 ug/L #	43
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	4.637	83	2440	0.27 ug/L	96
30) 1,1,1-trichloroethane	4.913	97	4247	0.51 ug/L	93
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.613	78	7372	0.37 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.131	57	19471	✓ No Calib #	
38) trichloroethene	6.725	130	2520684	407.80 ug/L	97

Quantitation Report (Not Reviewed)

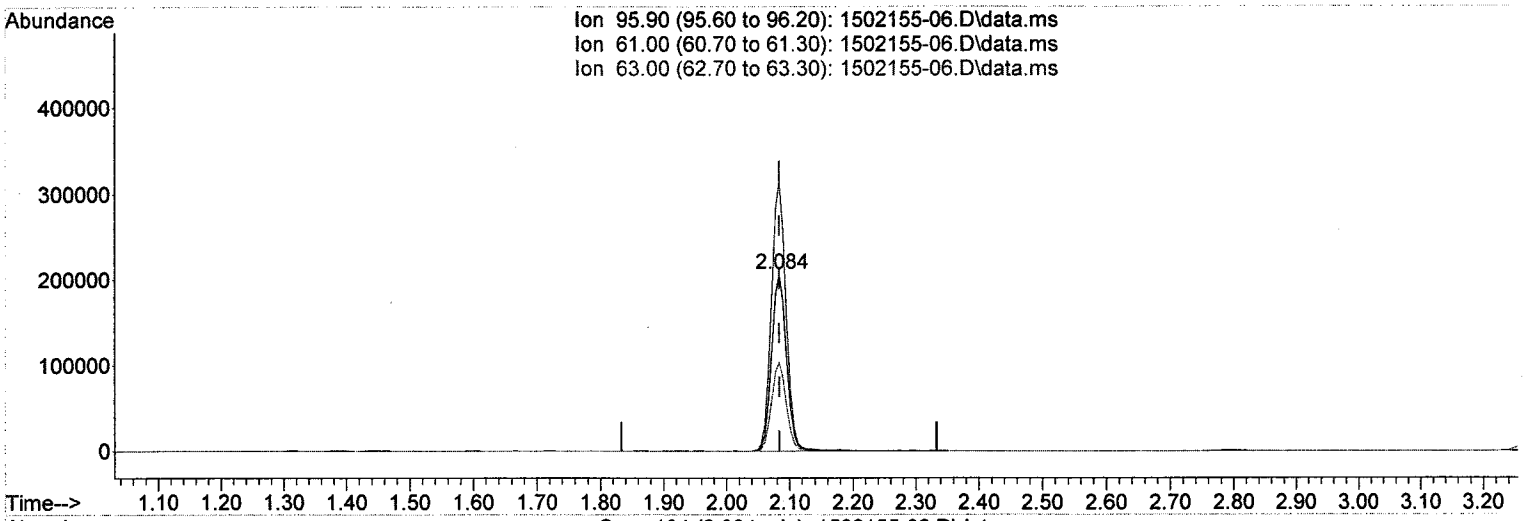
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

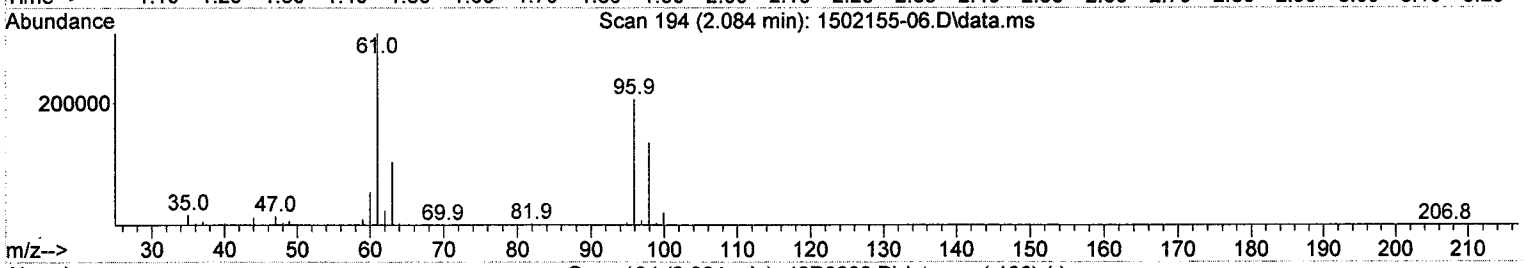
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	0.000		0	N.D.	
40)	1,2-dichloropropane	0.000		0	N.D.	
41)	dibromomethane	0.000		0	N.D.	
42)	bromodichloromethane	0.000		0	N.D.	
43)	2-chloroethyl vinyl ether	0.000		0	N.D.	
44)	cis-1,3-dichloropropene	0.000		0	N.D.	
45)	4-methyl-2-pentanone (...	0.000		0	N.D.	
47)	toluene	8.630	91	13254	0.58 ug/L	96
48)	trans-1,3-dichloropropene	0.000		0	N.D.	
49)	1,1,2-trichloroethane	0.000		0	N.D.	
51)	tetrachloroethene	0.000		0	N.D.	
52)	1,3-dichloropropane	0.000		0	N.D.	
53)	2-hexanone (MBK)	9.760	43	1350	0.27 ug/L #	34
54)	dibromochloromethane	0.000		0	N.D.	
55)	1,2-dibromoethane	0.000		0	N.D.	
56)	chlorobenzene	0.000		0	N.D.	
57)	1-chlorohexane	0.000		0	N.D.	
58)	1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59)	ethylbenzene	10.677	91	18322	0.66 ug/L	99
60)	m+p-xylene	10.836	106	1542	0.14 ug/L	90
61)	o-xylene	0.000		0	N.D.	
62)	styrene	0.000		0	N.D.	
63)	bromoform	0.000		0	N.D.	
66)	isopropylbenzene	0.000		0	N.D.	
67)	bromobenzene	0.000		0	N.D.	
68)	1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69)	1,2,3-trichloropropane	0.000		0	N.D.	
70)	1,4-dichloro-2-butene	0.000		0	N.D.	
71)	n-propylbenzene	0.000		0	N.D.	
72)	2-chlorotoluene	0.000		0	N.D.	
73)	1,3,5-trimethylbenzene	12.466	105	1868	0.10 ug/L #	26
74)	4-chlorotoluene	12.342	91	2408	0.13 ug/L #	42
75)	tert-butylbenzene	0.000		0	N.D.	
76)	1,2,4-trimethylbenzene	13.036	105	1871	0.10 ug/L #	29
77)	sec-butylbenzene	13.036	105	1804	0.08 ug/L #	54
78)	1,3-dichlorobenzene	0.000		0	N.D.	
79)	4-isopropyltoluene	0.000		0	N.D.	
80)	1,4-dichlorobenzene	0.000		0	N.D.	
81)	1,2-dichlorobenzene	0.000		0	N.D.	
82)	n-butylbenzene	0.000		0	N.D.	
83)	hexachloroethane	0.000		0	N.D.	
84)	1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85)	1,2,4-trichlorobenzene	0.000		0	N.D.	
86)	hexachlorobutadiene	0.000		0	N.D.	
87)	naphthalene	0.000		0	N.D.	
88)	1,2,3-trichlorobenzene	0.000		0	N.D.	
89)	2-methylnaphthalene	0.000		0	N.D.	

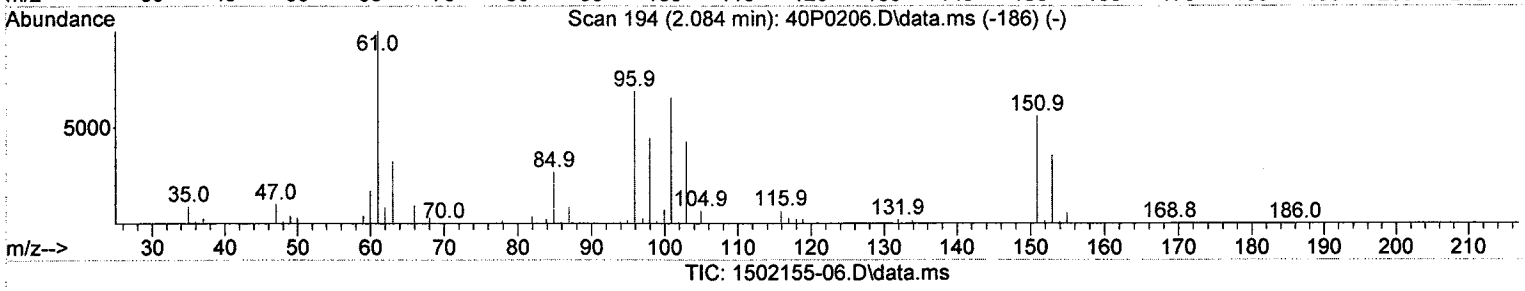
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-06.D\data.ms

(12) 1,1-dichloroethene (C)

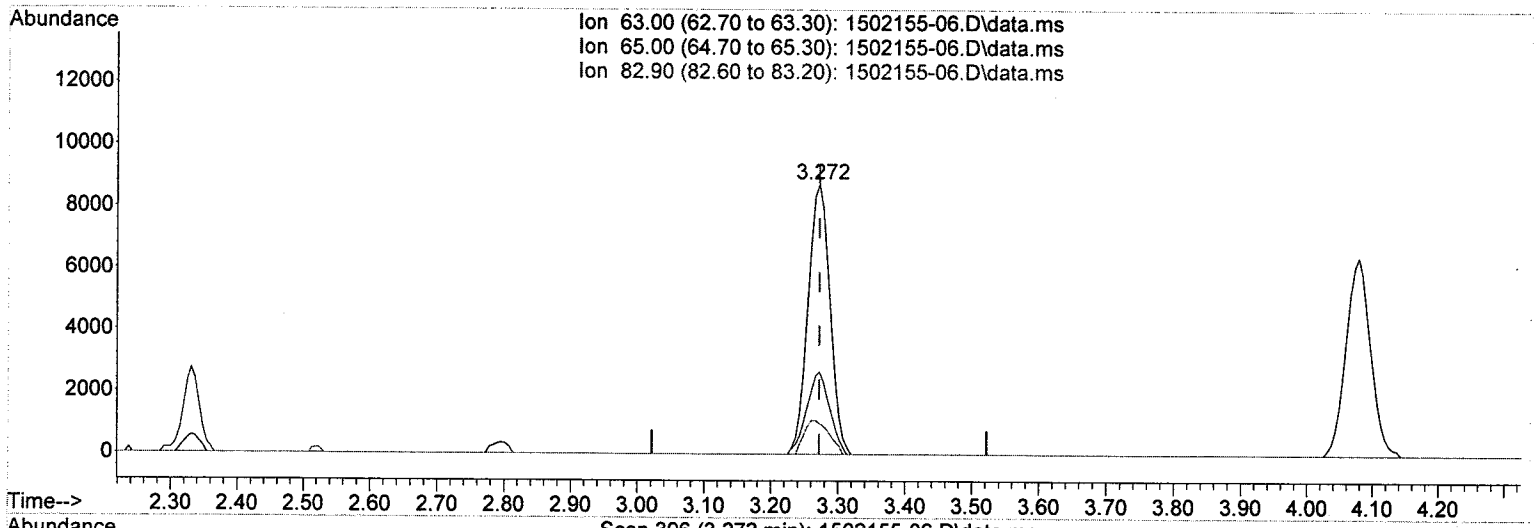
2.084min (-0.000) 75.11 ug/L

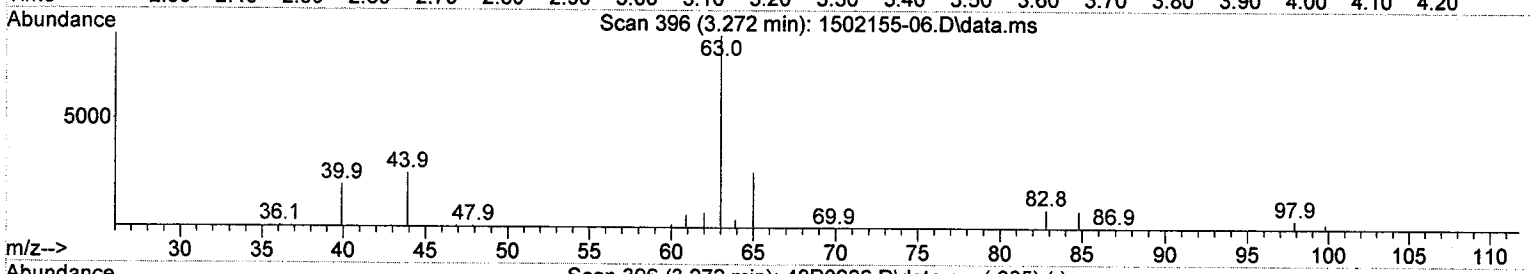
response 340344

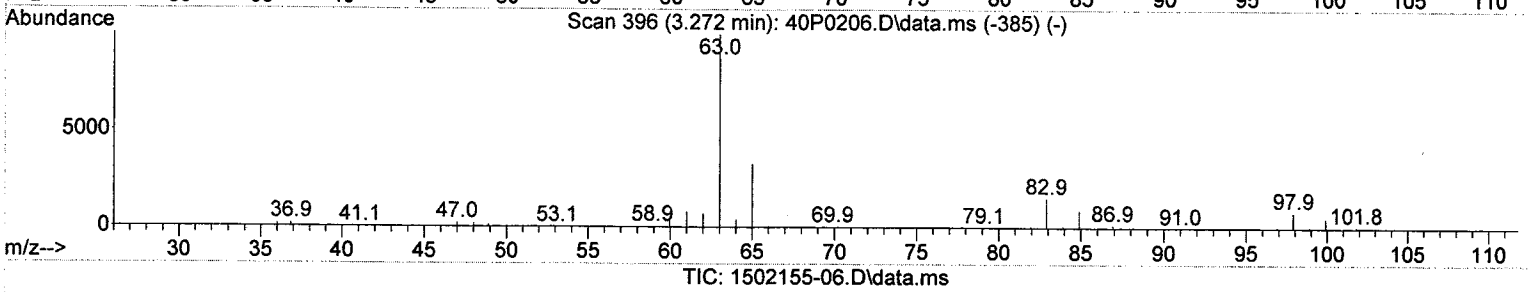
Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	150.47
63.00	47.90	50.12
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-06.D\data.ms

(21) 1,1-dichloroethane (P)

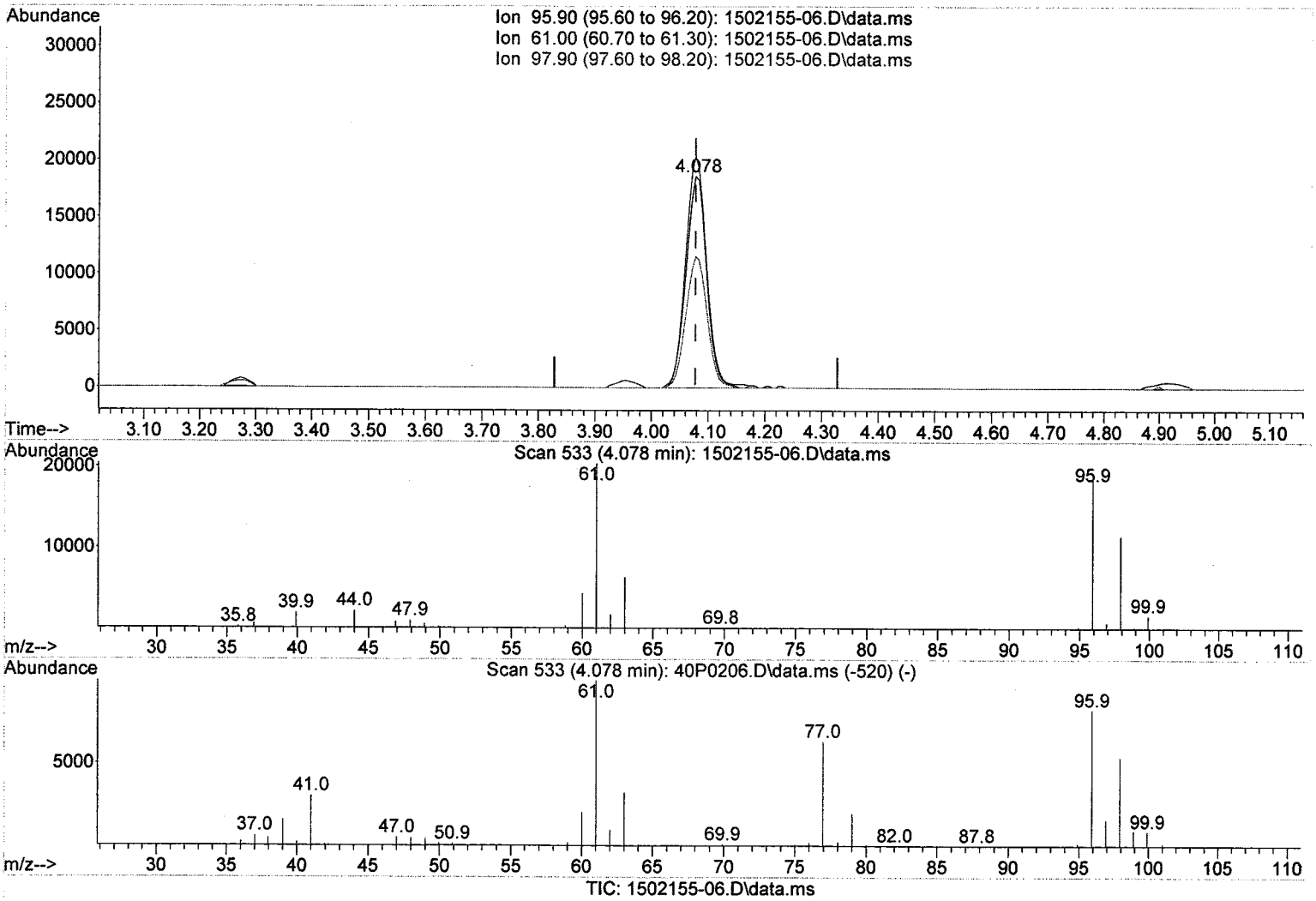
3.272min (-0.000) 2.44 ug/L

response 19779

Ion	Exp%	Act%
63.00	100.00	100.00
65.00	32.30	31.84
82.90	15.00	14.15
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(24) cis-1,2-dichloroethene

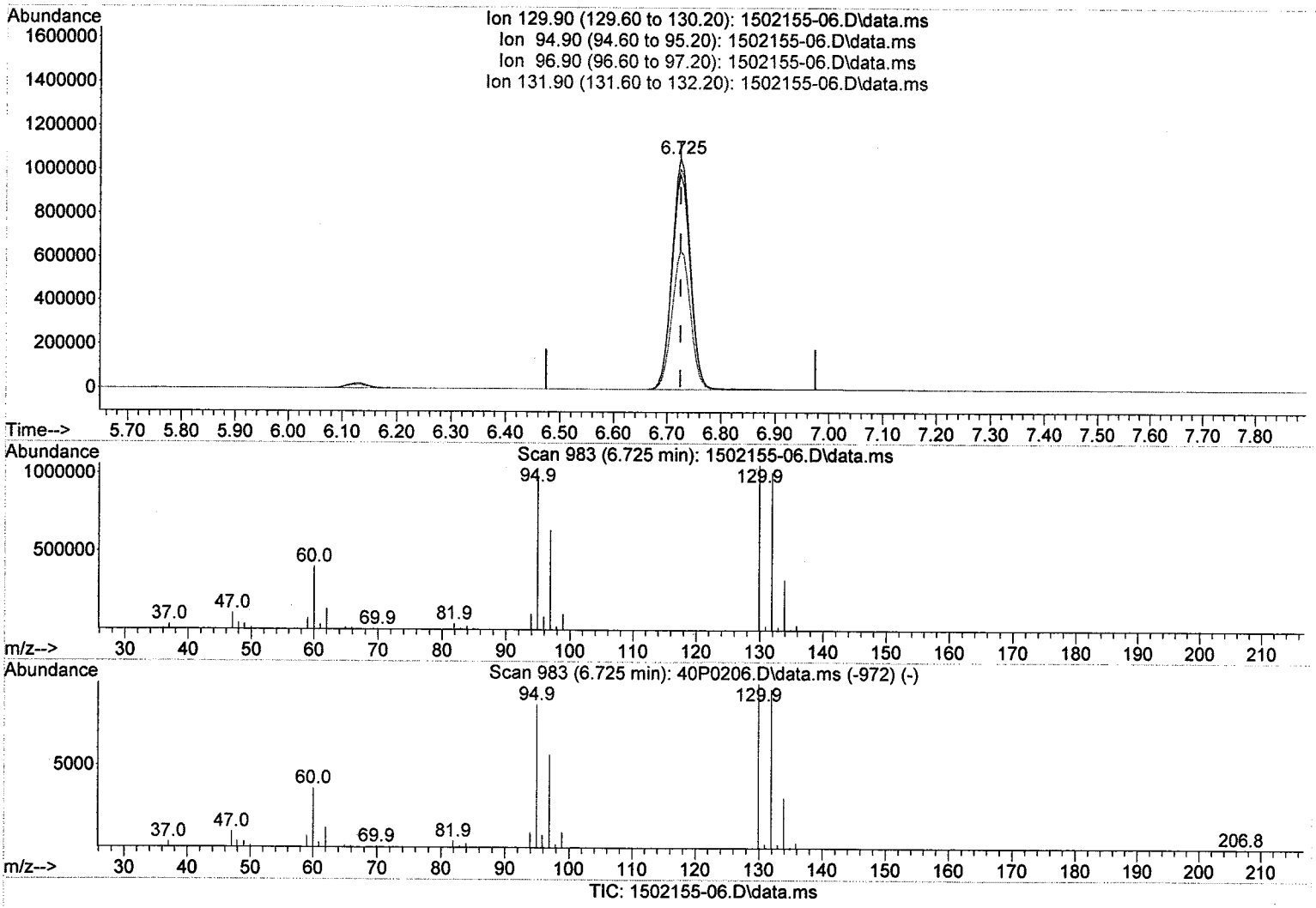
4.078min (-0.000) 8.15 ug/L

response 47063

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	112.23
97.90	64.70	63.85
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06.D
Acq On : 11 Feb 2015 13:44
Operator : DLV
Sample : 1502155-06
Misc : CH2M HILL
ALS Vial : 11 Sample Multiplier: 1
Quant Time: Feb 11 14:03:45 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 407.80 ug/L

response 2520684

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	92.94
96.90	57.70	60.42
131.90	96.40	95.90

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-4145-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-7

Client: CH2M HILL - VA Project: 8012 CTO-WE74 Yorktown Site 34

Matrix: Ground Water Laboratory ID: 1502155-06RE1 File ID: 1502155-06A.D

Sampled: 02/10/15 15:05 Prepared: 02/11/15 09:00 Analyzed: 02/11/15 16:49

Solids: Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1501292 Sequence: 5B12009 Calibration: 5B11014 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	5	2.6	0.63	2.5	5.0	J
75-35-4	1,1-Dichloroethene	5	96	1.1	2.5	5.0	
156-59-2	cis-1,2-Dichloroethene	5	9.0	0.67	2.5	5.0	
79-01-6	Trichloroethene	5	500	0.52	1.0	5.0	

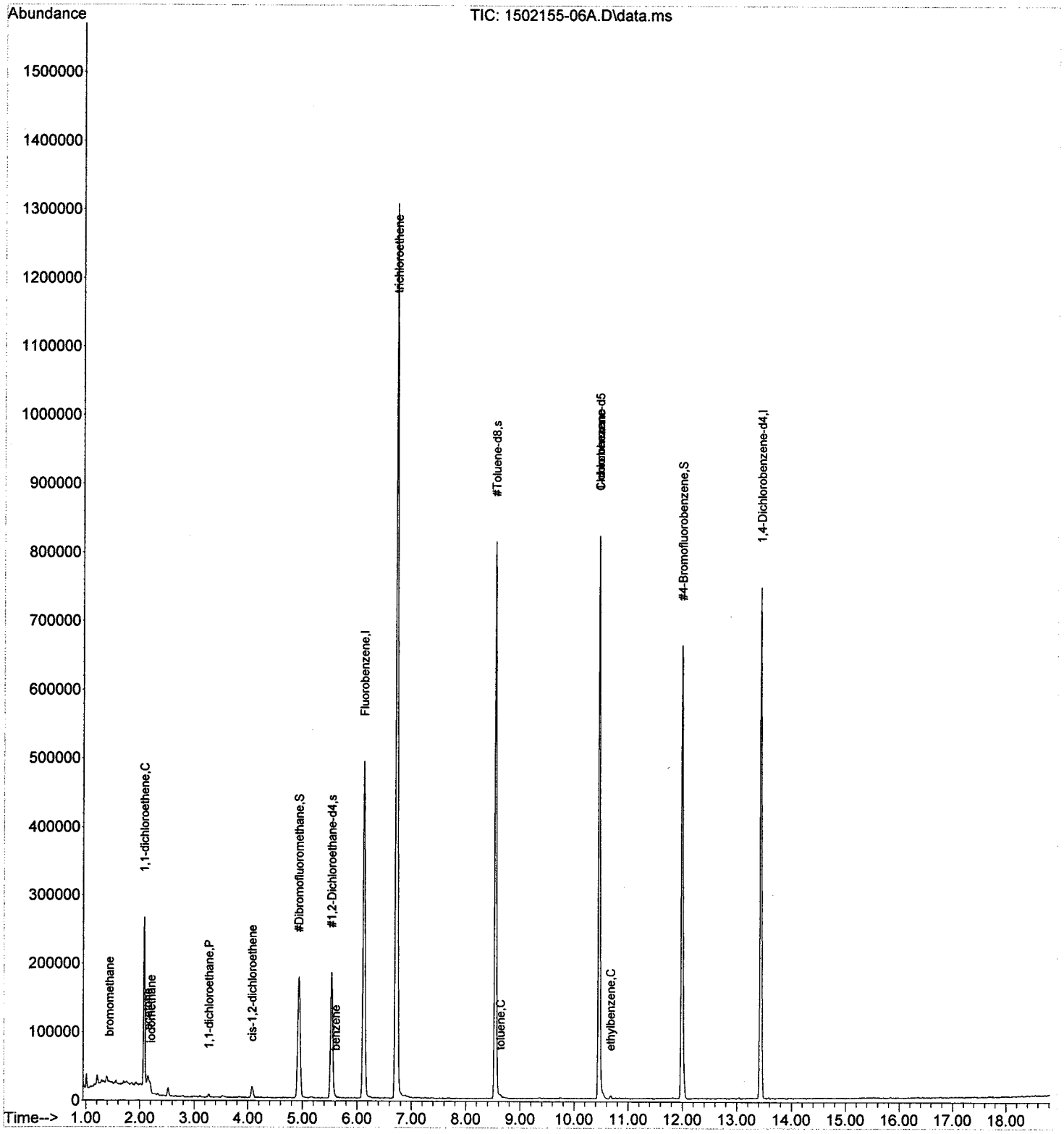
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.7	99	85 - 115	
1,2-Dichloroethane-d4	40.0	41.4	104	70 - 120	
Toluene-d8	40.0	42.4	106	85 - 120	
4-Bromofluorobenzene	40.0	40.1	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	641301	6.125	749406	6.125	
Chlorobenzene-d5	593677	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	265941	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	641301	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	593677	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	265941	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	172266	39.66 ug/L	0.00
Spiked Amount 40.000			Recovery	= 99.15%	
37) #1,2-Dichloroethane-d4	5.537	67	100603	41.42 ug/L	0.00
Spiked Amount 40.000			Recovery	= 103.55%	
46) #Toluene-d8	8.543	98	689366	42.40 ug/L	0.00
Spiked Amount 40.000			Recovery	= 106.00%	
64) #4-Bromofluorobenzene	11.989	95	291577	40.08 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.20%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	3596	Below Cal	99
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	1.437	94	1344	0.40 ug/L	89
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	0.000		0	N.D.	
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	86893	19.23 ug/L	94
13) acetone	2.149	43	20136	3.05 ug/L #	84
14) iodomethane	2.208	142	1729	4.06 ug/L #	44
15) carbon disulfide	0.000		0	N.D.	
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.519	49	6717	Below Cal	93
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	3.272	63	4139	0.51 ug/L #	79
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.078	96	10413	1.81 ug/L	89
25) 2-butanone (MEK)	0.000		0	N.D.	
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.607	78	1987	0.10 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	19262	No Calib #	
38) trichloroethene	6.725	130	612554	99.38 ug/L	98

Quantitation Report (Not Reviewed)

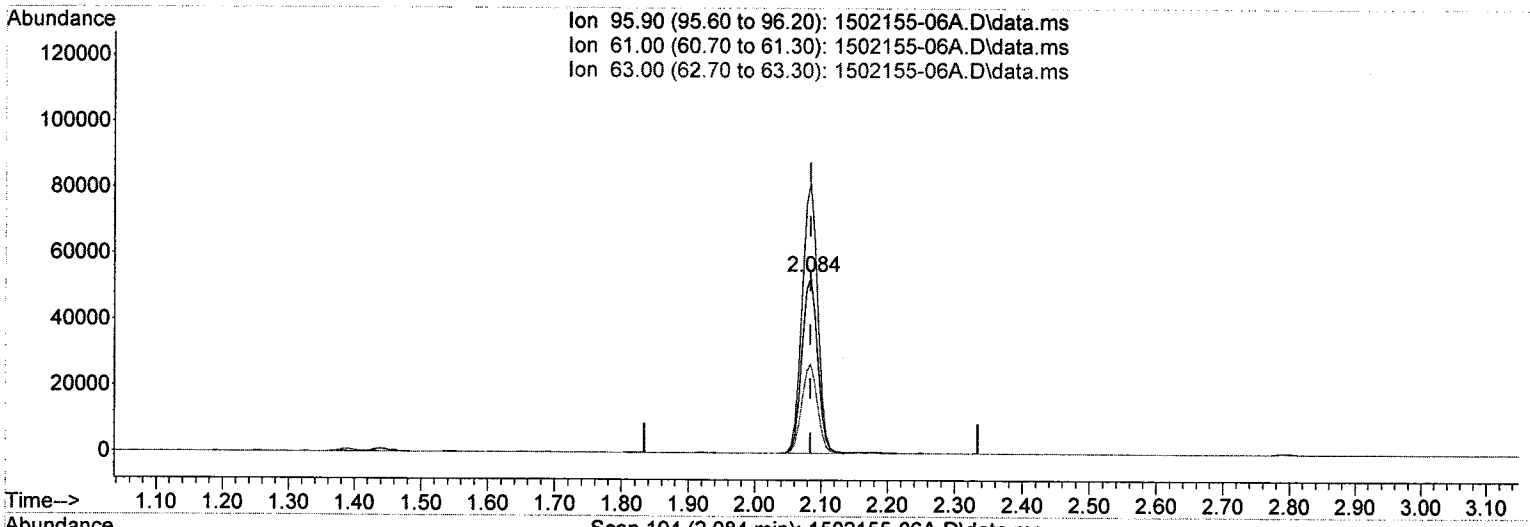
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

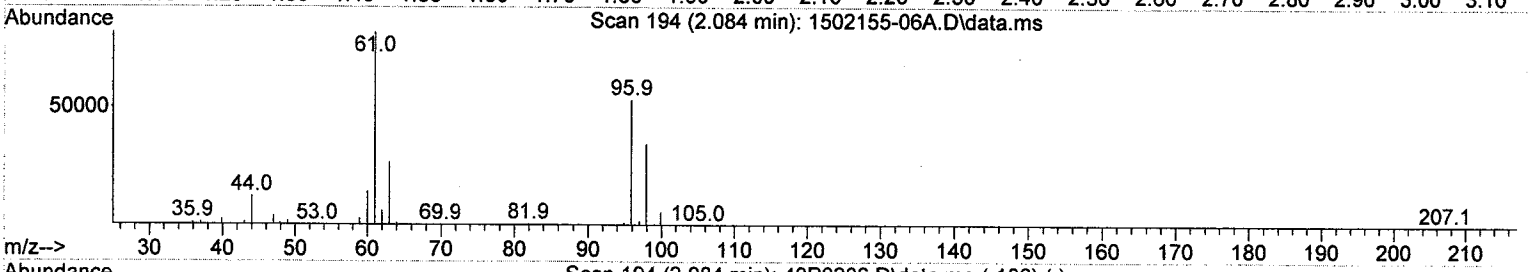
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	0.000		0	N.D.	
40)	1,2-dichloropropane	0.000		0	N.D.	
41)	dibromomethane	0.000		0	N.D.	
42)	bromodichloromethane	0.000		0	N.D.	
43)	2-chloroethyl vinyl ether	0.000		0	N.D.	
44)	cis-1,3-dichloropropene	0.000		0	N.D.	
45)	4-methyl-2-pentanone (...	8.537	43	1431	N.D.	
47)	toluene	8.637	91	3209	0.14 ug/L	95
48)	trans-1,3-dichloropropene	0.000		0	N.D.	
49)	1,1,2-trichloroethane	0.000		0	N.D.	
51)	tetrachloroethene	0.000		0	N.D.	
52)	1,3-dichloropropane	0.000		0	N.D.	
53)	2-hexanone (MBK)	0.000		0	N.D.	
54)	dibromochloromethane	0.000		0	N.D.	
55)	1,2-dibromoethane	0.000		0	N.D.	
56)	chlorobenzene	0.000		0	N.D.	
57)	1-chlorohexane	10.460	55	3654	0.80 ug/L #	1
58)	1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59)	ethylbenzene	10.678	91	4295	0.15 ug/L	98
60)	m+p-xylene	0.000		0	N.D.	
61)	o-xylene	0.000		0	N.D.	
62)	styrene	0.000		0	N.D.	
63)	bromoform	0.000		0	N.D.	
66)	isopropylbenzene	0.000		0	N.D.	
67)	bromobenzene	0.000		0	N.D.	
68)	1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69)	1,2,3-trichloropropane	0.000		0	N.D.	
70)	1,4-dichloro-2-butene	0.000		0	N.D.	
71)	n-propylbenzene	0.000		0	N.D.	
72)	2-chlorotoluene	0.000		0	N.D.	
73)	1,3,5-trimethylbenzene	0.000		0	N.D.	
74)	4-chlorotoluene	0.000		0	N.D.	
75)	tert-butylbenzene	0.000		0	N.D.	
76)	1,2,4-trimethylbenzene	0.000		0	N.D.	
77)	sec-butylbenzene	0.000		0	N.D.	
78)	1,3-dichlorobenzene	0.000		0	N.D.	
79)	4-isopropyltoluene	0.000		0	N.D.	
80)	1,4-dichlorobenzene	0.000		0	N.D.	
81)	1,2-dichlorobenzene	0.000		0	N.D.	
82)	n-butylbenzene	0.000		0	N.D.	
83)	hexachloroethane	0.000		0	N.D.	
84)	1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85)	1,2,4-trichlorobenzene	0.000		0	N.D.	
86)	hexachlorobutadiene	0.000		0	N.D.	
87)	naphthalene	0.000		0	N.D.	
88)	1,2,3-trichlorobenzene	0.000		0	N.D.	
89)	2-methylnaphthalene	0.000		0	N.D.	

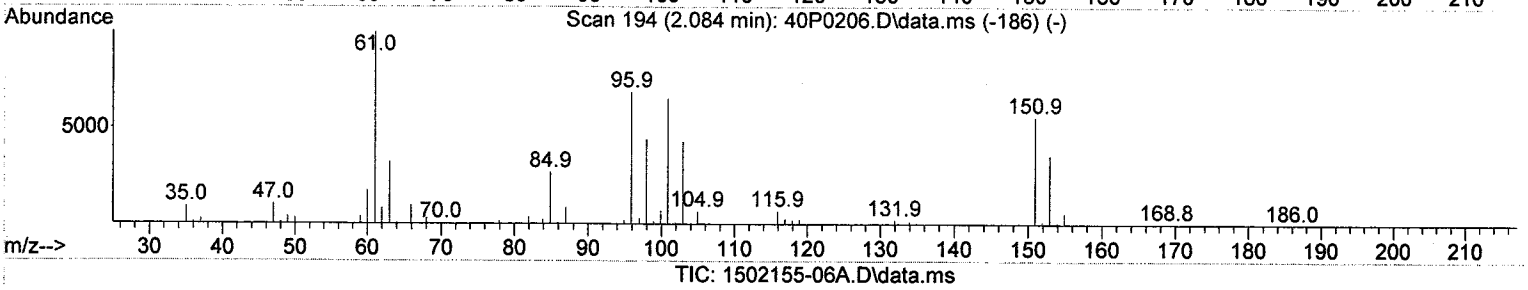
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-06A.D\data.ms

(12) 1,1-dichloroethene (C)

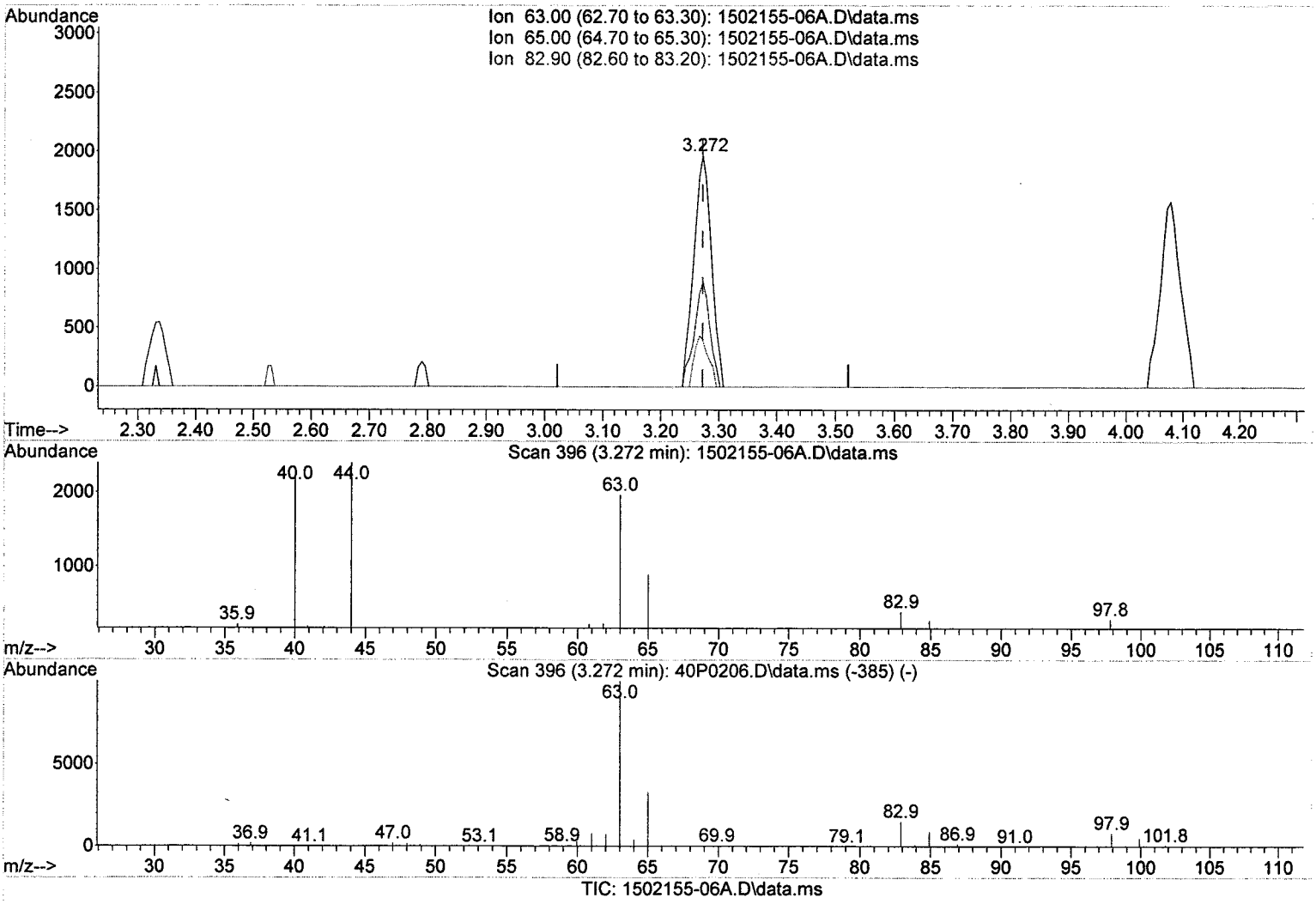
2.084min (+ 0.000) 19.23 ug/L

response 86893

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	152.32
63.00	47.90	50.58
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(21) 1,1-dichloroethane (P)

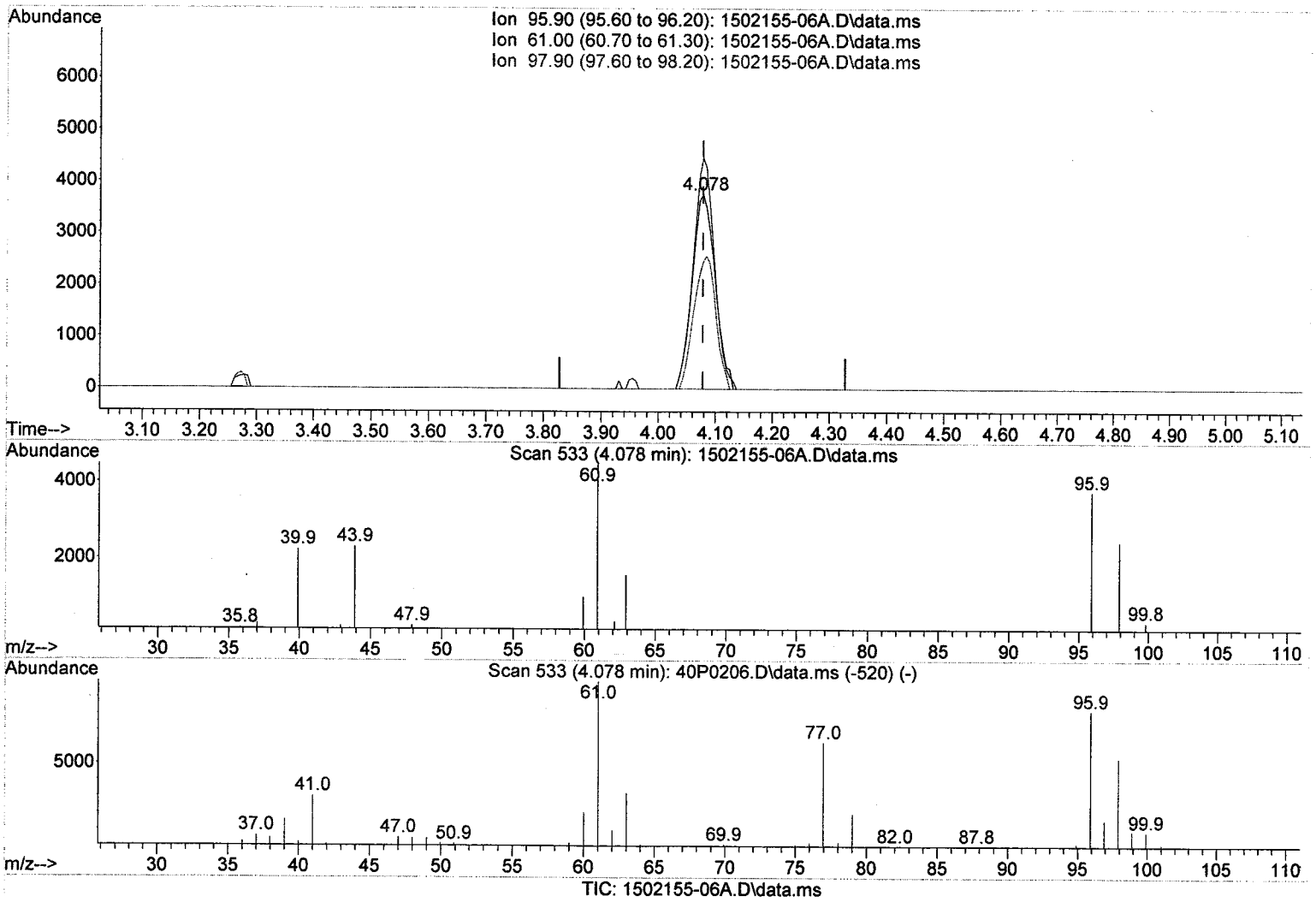
3.272min (+ 0.000) 0.51 ug/L

response 4139

Ion	Exp%	Act%
63.00	100.00	100.00
65.00	32.30	40.40
82.90	15.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(24) cis-1,2-dichloroethene

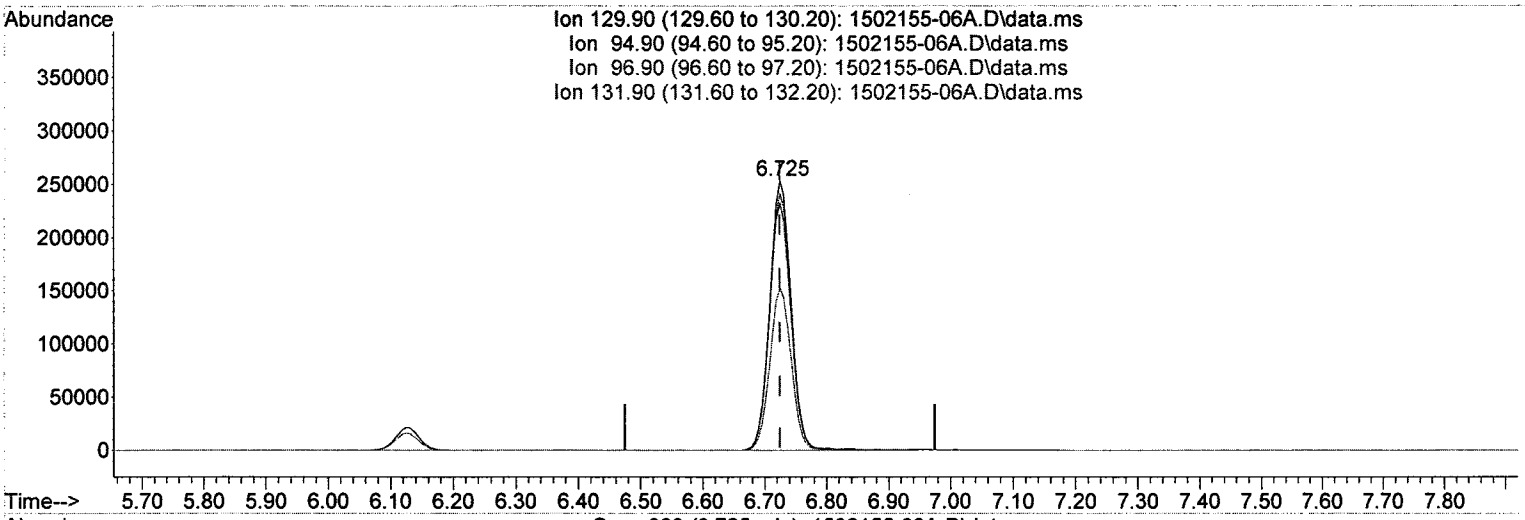
4.078min (+ 0.000) 1.81 ug/L

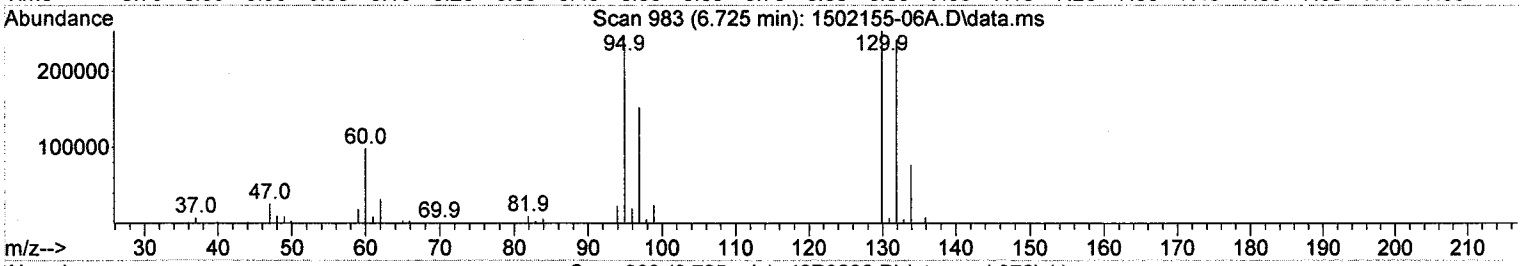
response 10413

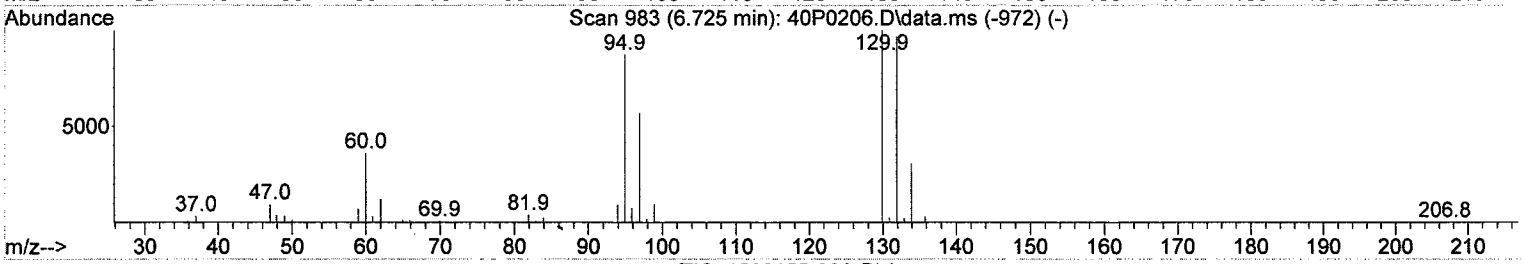
Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	110.37
97.90	64.70	65.17
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-06A.D
Acq On : 11 Feb 2015 16:49
Operator : DLV
Sample : 1502155-06RE1
Misc : CH2M HILL
ALS Vial : 18 Sample Multiplier: 5
Quant Time: Feb 12 07:16:37 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-06A.D\data.ms

(38) trichloroethene

6.725min (-0.000) 99.38 ug/L

response 612554

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	91.67
96.90	57.70	60.26
131.90	96.40	95.55

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP03-5761-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502155-07
File ID: 1502155-07.D
Sampled: 02/10/15 16:40
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 14:10
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.50	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	1	3.4	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	0.48	0.13	0.50	1.0	J
79-01-6	Trichloroethene	1	18	0.10	0.20	1.0	

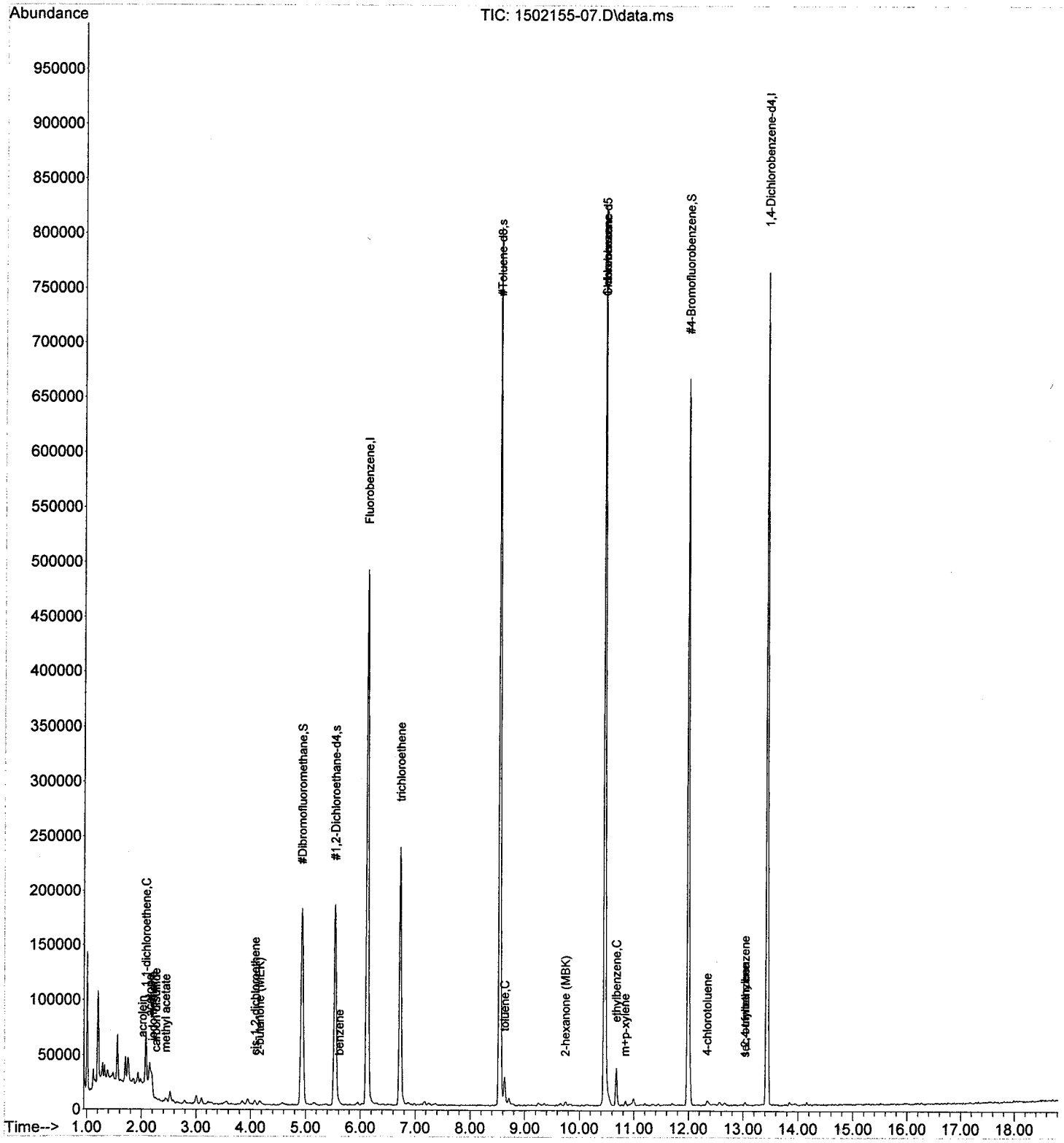
System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.6	99	85 - 115	
1,2-Dichloroethane-d4	40.0	41.0	102	70 - 120	
Toluene-d8	40.0	42.3	106	85 - 120	
4-Bromofluorobenzene	40.0	39.1	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	638076	6.125	749406	6.125	
Chlorobenzene-d5	602959	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	270855	13.436	325234	13.43	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	638076	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	602959	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	270855	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	171309	39.64 ug/L	0.00
Spiked Amount 40.000			Recovery	= 99.10%	
37) #1,2-Dichloroethane-d4	5.537	67	99074	41.00 ug/L	0.00
Spiked Amount 40.000			Recovery	= 102.50%	
46) #Toluene-d8	8.542	98	683742	42.27 ug/L	0.00
Spiked Amount 40.000			Recovery	= 105.68%	
64) #4-Bromofluorobenzene	11.989	95	288659	39.07 ug/L	0.00
Spiked Amount 40.000			Recovery	= 97.67%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	3804	Below Cal	100
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	0.000		0	N.D.	
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	2.019	56	1644	0.44 ug/L #	17
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	2.084	96	15290	3.40 ug/L	100
13) acetone	2.149	43	23863	4.83 ug/L	100
14) iodomethane	2.207	142	1233	3.93 ug/L #	44
15) carbon disulfide	2.260	76	1750	0.14 ug/L #	74
16) methyl acetate	2.443	43	1506	0.32 ug/L #	52
17) methylene chloride	2.519	49	4742	Below Cal	99
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	0.000		0	N.D.	
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	4.084	96	2733	0.48 ug/L	96
25) 2-butanone (MEK)	4.166	43	7525	2.47 ug/L	81
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	5.613	78	3965	0.20 ug/L #	67
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	18132	No Calib #	
38) trichloroethene	6.725	130	112388	18.33 ug/L	97

Quantitation Report (Not Reviewed)

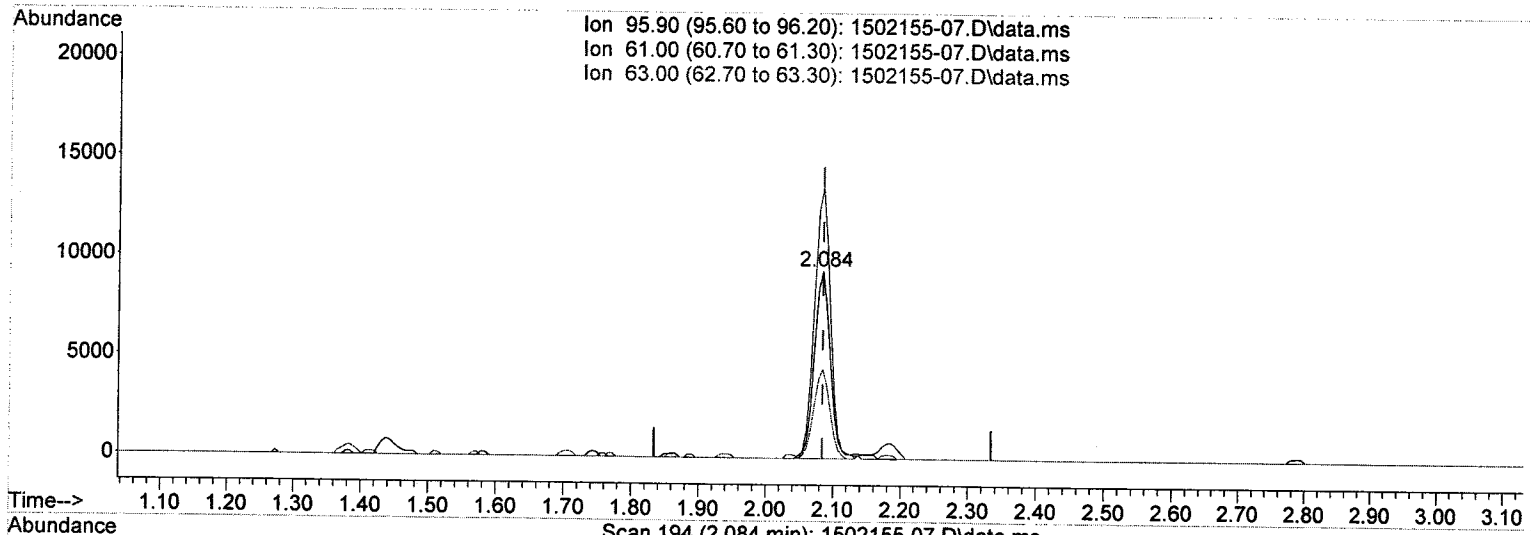
InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

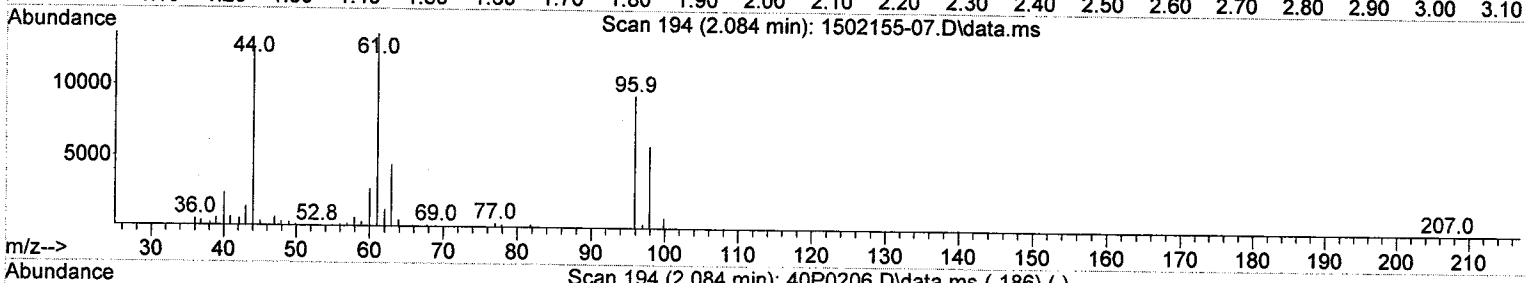
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	0.000		0	N.D.	
40)	1,2-dichloropropane	0.000		0	N.D.	
41)	dibromomethane	0.000		0	N.D.	
42)	bromodichloromethane	0.000		0	N.D.	
43)	2-chloroethyl vinyl ether	0.000		0	N.D.	
44)	cis-1,3-dichloropropene	0.000		0	N.D.	
45)	4-methyl-2-pentanone (...	0.000		0	N.D.	
47)	toluene	8.631	91	21034	0.93 ug/L	98
48)	trans-1,3-dichloropropene	0.000		0	N.D.	
49)	1,1,2-trichloroethane	0.000		0	N.D.	
51)	tetrachloroethene	0.000		0	N.D.	
52)	1,3-dichloropropane	0.000		0	N.D.	
53)	2-hexanone (MBK)	9.748	43	2069	0.40 ug/L #	34
54)	dibromochloromethane	0.000		0	N.D.	
55)	1,2-dibromoethane	0.000		0	N.D.	
56)	chlorobenzene	0.000		0	N.D.	
57)	1-chlorohexane	10.460	55	2794	0.60 ug/L #	1
58)	1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59)	ethylbenzene	10.678	91	30973	1.10 ug/L	95
60)	m+p-xylene	10.836	106	1424	0.13 ug/L	93
61)	o-xylene	0.000		0	N.D.	
62)	styrene	0.000		0	N.D.	
63)	bromoform	0.000		0	N.D.	
66)	isopropylbenzene	0.000		0	N.D.	
67)	bromobenzene	0.000		0	N.D.	
68)	1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69)	1,2,3-trichloropropane	0.000		0	N.D.	
70)	1,4-dichloro-2-butene	0.000		0	N.D.	
71)	n-propylbenzene	0.000		0	N.D.	
72)	2-chlorotoluene	0.000		0	N.D.	
73)	1,3,5-trimethylbenzene	0.000		0	N.D.	
74)	4-chlorotoluene	12.342	91	2671	0.14 ug/L #	42
75)	tert-butylbenzene	0.000		0	N.D.	
76)	1,2,4-trimethylbenzene	13.036	105	1829	0.10 ug/L #	29
77)	sec-butylbenzene	13.036	105	1829	0.08 ug/L #	54
78)	1,3-dichlorobenzene	0.000		0	N.D.	
79)	4-isopropyltoluene	0.000		0	N.D.	
80)	1,4-dichlorobenzene	0.000		0	N.D.	
81)	1,2-dichlorobenzene	0.000		0	N.D.	
82)	n-butylbenzene	0.000		0	N.D.	
83)	hexachloroethane	0.000		0	N.D.	
84)	1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85)	1,2,4-trichlorobenzene	0.000		0	N.D.	
86)	hexachlorobutadiene	0.000		0	N.D.	
87)	naphthalene	0.000		0	N.D.	
88)	1,2,3-trichlorobenzene	0.000		0	N.D.	
89)	2-methylnaphthalene	0.000		0	N.D.	

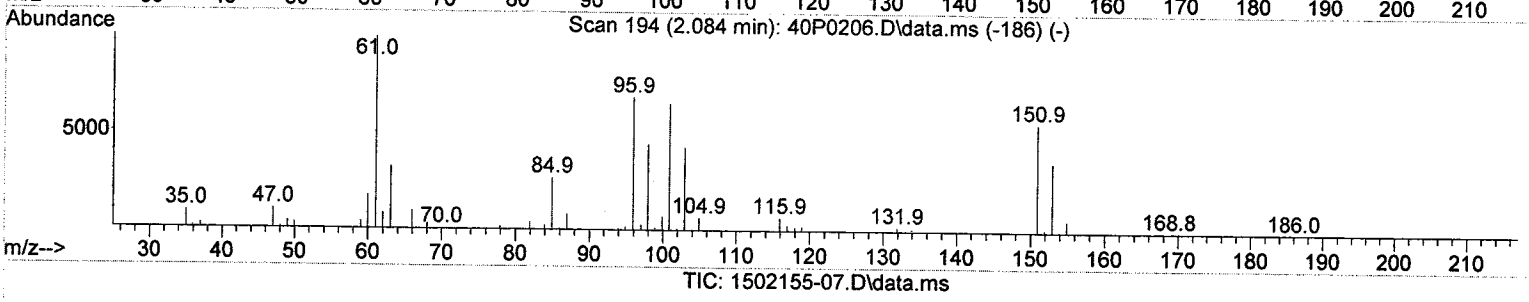
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration







TIC: 1502155-07.D\data.ms

(12) 1,1-dichloroethene (C)

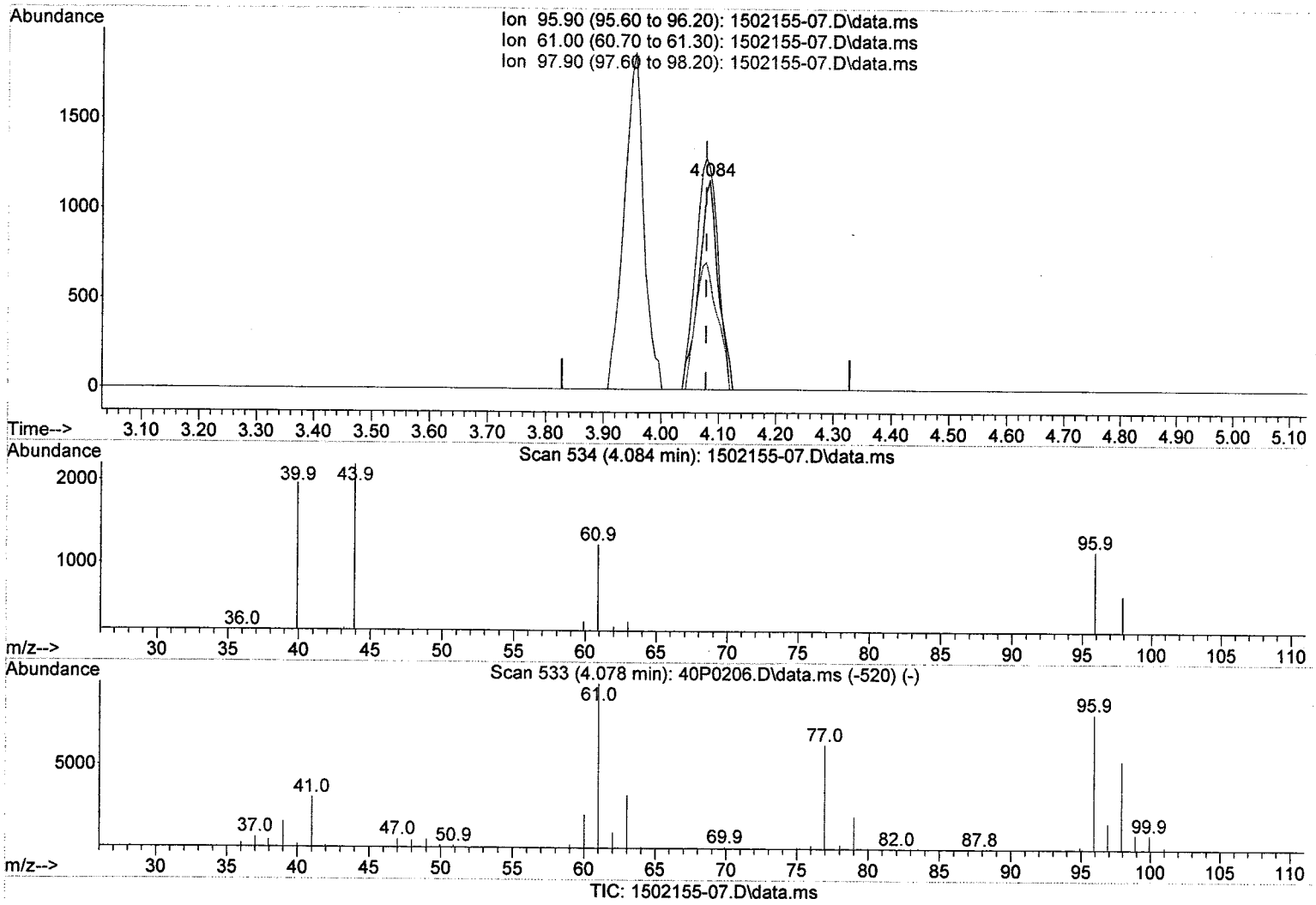
2.084min (-0.000) 3.40 ug/L

response 15290

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	144.20	144.62
63.00	47.90	48.14
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(24) cis-1,2-dichloroethene

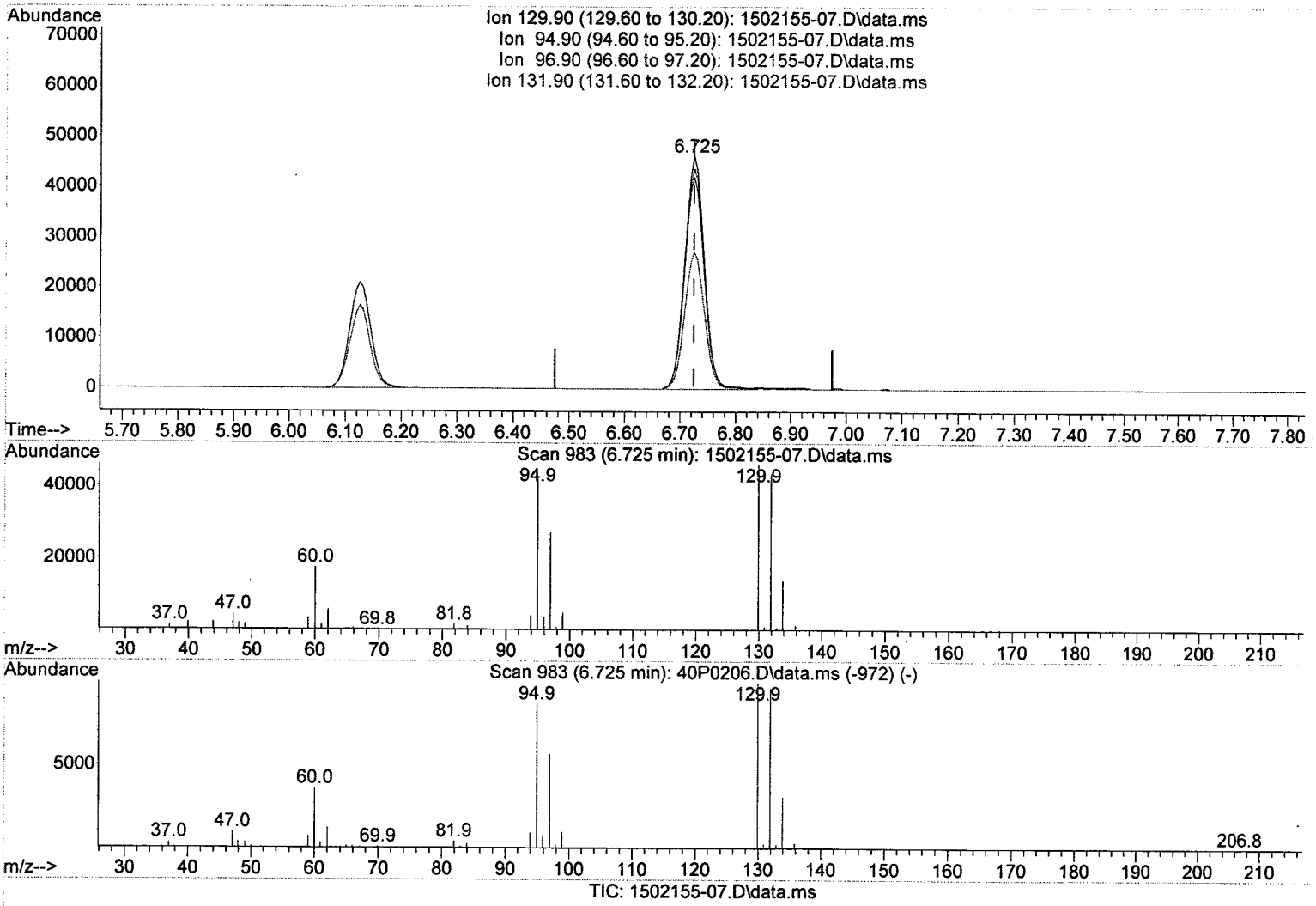
4.084min (+ 0.006) 0.48 ug/L

response 2733

Ion	Exp%	Act%
95.90	100.00	100.00
61.00	128.90	124.44
97.90	64.70	68.13
0.00	0.00	0.00

Quantitation Report (Qedit)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-07.D
Acq On : 11 Feb 2015 14:10
Operator : DLV
Sample : 1502155-07
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Feb 11 14:55:58 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



(38) trichloroethene

6.725min (-0.000) 18.33 ug/L

response 112388

Ion	Exp%	Act%
129.90	100.00	100.00
94.90	88.60	92.20
96.90	57.70	60.47
131.90	96.40	94.84

TRIMATRIX LABORATORIES

SECTION - C

STANDARDS DATA

USEPA-8260B

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

INITIAL CALIBRATION STANDARDS
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B11014
Instrument: 350

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
4100538	8260 Tune Working Standard 10-10-14	5B11037-TUN1	BFB0206.D	02/06/15 10:13
5020030	1.0 ug/L A	5B11037-CAL1	1P0206.D	02/06/15 11:08
5020031	5.0 ug/L A	5B11037-CAL2	5P0206.D	02/06/15 11:34
5020032	10 ug/L A	5B11037-CAL3	10P0206.D	02/06/15 12:01
5020033	20 ug/L A	5B11037-CAL4	20P0206.D	02/06/15 12:27
5020034	40 ug/L A	5B11037-CAL5	40P0206.D	02/06/15 12:53
5020035	100 ug/L A	5B11037-CAL6	100P0206.D	02/06/15 13:20
5020036	200 ug/L A	5B11037-CAL7	200P0206.D	02/06/15 14:13
5010204	40 ug/L B	5B11037-SCV1	SCV0206.D	02/06/15 15:32

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	~~0.8154779~~	5	0.2779164	10	0.2021887	20	0.1725308	40	0.1599293	100	0.1482776
Acrolein	1	0.1136924	5	7.541456E-02	10	7.740842E-02	20	7.118377E-02	40	7.047315E-02	100	7.157452E-02
Acrylonitrile	1	0.2019479	5	0.1860771	10	0.1600377	20	0.1620821	40	0.1575808	100	0.1574246
Benzene	1	1.389028	5	1.248557	10	1.221194	20	1.225758	40	1.223713	100	1.218737
Bromobenzene	1	1.78425	5	1.546477	10	1.465361	20	1.366307	40	1.338252	100	1.322102
Bromochloromethane	1	0.2619461	5	0.220883	10	0.2212077	20	0.2153137	40	0.205388	100	0.1977146
Bromodichloromethane	1	0.4866767	5	0.4580912	10	0.4336078	20	0.4263816	40	0.4323918	100	0.4360261
Bromoform	1	0.4487544	5	0.3967357	10	0.3902731	20	0.3887512	40	0.3954696	100	0.4169813
Bromomethane	1	0.2575222	5	0.1961243	10	0.1922515	20	0.2022027	40	0.2104627	100	0.2107288
n-Butylbenzene	1	1.974508	5	1.921647	10	1.908011	20	1.960231	40	2.039559	100	2.210662
sec-Butylbenzene	1	3.970363	5	3.35932	10	3.294579	20	3.453113	40	3.47163	100	3.506083
tert-Butylbenzene	1	3.129824	5	2.708584	10	2.629674	20	2.586075	40	2.534228	100	2.540151
Carbon Disulfide	1	0.9437137	5	0.7071482	10	0.7253139	20	0.7382786	40	0.8596475	100	0.8376728
Carbon Tetrachloride	1	0.4448162	5	0.4034452	10	0.3953725	20	0.4076524	40	0.4207372	100	0.4312856
Chlorobenzene	1	1.316802	5	1.192521	10	1.13054	20	1.131458	40	1.132507	100	1.162027
Chloroethane	1	0.2913645	5	0.2103826	10	0.2138699	20	0.200953	40	0.2014315	100	0.1944337
2-Chloroethyl Vinyl Ether	1	7.244023E-03	5	3.21642E-03	10	3.411126E-03	20	3.220332E-03	40	4.23402E-03	100	5.231202E-03
Chloroform	1	0.6479806	5	0.5668858	10	0.5548179	20	0.556239	40	0.5529513	100	0.5563838
1-Chlorohexane	1	0.3685803	5	0.2952554	10	0.2946824	20	0.3000922	40	0.2980886	100	0.3034491
Chloromethane	1	0.3697769	5	0.2734068	10	0.2533501	20	0.2618189	40	0.253342	100	0.2470111
2-Chlorotoluene	1	1.057248	5	0.9795865	10	0.922334	20	0.9217888	40	0.8690112	100	0.866692
4-Chlorotoluene	1	3.227273	5	2.87076	10	2.768641	20	2.72873	40	2.666649	100	2.681267
Cyclohexane	1	0.5936228	5	0.4806946	10	0.4503673	20	0.4557999	40	0.4451072	100	0.44237
1,2-Dibromo-3-chloropropane	1	0.2771891	5	0.3014827	10	0.2847366	20	0.2893551	40	0.3044915	100	0.3166727
Dibromochloromethane	1	0.5093335	5	0.475779	10	0.473126	20	0.4620224	40	0.4700018	100	0.4867981
1,2-Dibromoethane	1	0.4947062	5	0.4324106	10	0.4091291	20	0.4069334	40	0.4175084	100	0.4216525
Dibromomethane	1	0.2678629	5	0.2383135	10	0.2320059	20	0.2240588	40	0.2216275	100	0.2239922
trans-1,4-Dichloro-2-butene	1	0.4362016	5	0.3087092	10	0.2669918	20	0.2671964	40	0.2445839	100	0.2465071
1,2-Dichlorobenzene	1	1.930888	5	1.795865	10	1.701262	20	1.724031	40	1.719845	100	1.733688
1,3-Dichlorobenzene	1	1.956875	5	1.847002	10	1.757023	20	1.739064	40	1.728085	100	1.748597
1,4-Dichlorobenzene	1	2.114495	5	1.789945	10	1.689486	20	1.731163	40	1.723581	100	1.7639

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.2988298	5	0.2607843	10	0.2503119	20	0.2598189	40	0.2487317	100	0.2442091
1,1-Dichloroethane	1	0.6333267	5	0.5081281	10	0.484857	20	0.4939552	40	0.4894757	100	0.4876021
1,2-Dichloroethane	1	0.485073	5	0.4491604	10	0.4370847	20	0.4414312	40	0.435134	100	0.4352317
1,1-Dichloroethene	1	0.3063503	5	0.2883615	10	0.2811382	20	0.2816536	40	0.2774157	100	0.2744533
cis-1,2-Dichloroethene	1	0.422697	5	0.3576748	10	0.3422368	20	0.3547252	40	0.3488269	100	0.3470254
trans-1,2-Dichloroethene	1	0.383159	5	0.3074168	10	0.2894411	20	0.2902198	40	0.2949803	100	0.2989411
1,2-Dichloroethene (Total)	2	0.402928	10	0.3325458	20	0.315839	40	0.3224725	80	0.3219036	200	0.3229832
Dichlorofluoromethane	1	0.6317783	5	0.5701354	10	0.5471073	20	0.5514325	40	0.5483196	100	0.5441866
1,2-Dichloropropane	1	0.3583856	5	0.2786238	10	0.2868033	20	0.2904654	40	0.286208	100	0.2869666
1,3-Dichloropropane	1	0.8151268	5	0.7000816	10	0.6751797	20	0.6733723	40	0.6554421	100	0.6616422
2,2-Dichloropropane	1	0.5947287	5	0.4646898	10	0.4571457	20	0.4472631	40	0.434324	100	0.4216463
1,1-Dichloropropene	1	0.4459774	5	0.4011794	10	0.3901406	20	0.3958312	40	0.390584	100	0.3885227
cis-1,3-Dichloropropene	1	0.5541401	5	0.4945661	10	0.4986276	20	0.4996482	40	0.4973592	100	0.5046981
trans-1,3-Dichloropropene	1	0.473737	5	0.4413017	10	0.4385819	20	0.4349024	40	0.4425105	100	0.4481076
Ethylbenzene	1	2.116266	5	1.881774	10	1.795248	20	1.807108	40	1.826864	100	1.872236
Ethyl Ether	1	0.2247306	5	0.2446801	10	0.2104039	20	0.2194552	40	0.2101331	100	0.2135136
Hexachlorobutadiene	1	0.4304784	5	0.4530366	10	0.46004	20	0.5166142	40	0.5495059	100	0.5648496
2-Hexanone	1	0.3929361	5	0.3286578	10	0.3256611	20	0.322346	40	0.3439288	100	0.3424933
Iodomethane	1	0.1090474	5	0.1118452	10	0.132831	20	0.1671422	40	0.2239974	100	0.243125
Isopropylbenzene	1	4.4986	5	3.873913	10	3.619914	20	3.57841	40	3.481161	100	3.41407
4-Isopropyltoluene	1	2.995561	5	2.714099	10	2.599977	20	2.751987	40	2.84129	100	3.004612
Methyl Acetate	1	0.3028665	5	0.3147671	10	0.3152549	20	0.296818	40	0.2900831	100	0.2909954
Methyl tert-Butyl Ether	1	1.255815	5	1.099817	10	1.066075	20	1.045788	40	1.03089	100	1.049065
Methylcyclohexane	1	0.6239813	5	0.5577118	10	0.5136486	20	0.5251892	40	0.5233972	100	0.5135792
Methylene Chloride	1	0.7251211	5	0.4087507	10	0.3621606	20	0.337697	40	0.3205098	100	0.3139732
2-Butanone (MEK)	1	0.232417	5	0.1888182	10	0.1829669	20	0.1700688	40	0.1893646	100	0.1904406
4-Methyl-2-pentanone (MIBK)	1	0.3380913	5	0.3355246	10	0.3565065	20	0.3625384	40	0.3893951	100	0.3862686
Naphthalene	1	~~1.051679~~	5	1.079771	10	1.157989	20	1.444618	40	1.771703	100	2.33524
n-Propylbenzene	1	1.109839	5	0.9783095	10	0.9214051	20	0.9336111	40	0.9265483	100	0.9284682
Styrene	1	1.210823	5	1.115339	10	1.132733	20	1.131561	40	1.189247	100	1.248825
1,1,1,2-Tetrachloroethane	1	0.5058837	5	0.4584754	10	0.4360157	20	0.4343464	40	0.4329806	100	0.4370259

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,2,2-Tetrachloroethane	1	1.672106	5	1.266239	10	1.210021	20	1.146225	40	1.065891	100	1.054483
Tetrachloroethene	1	0.646085	5	0.5703598	10	0.5336258	20	0.5290469	40	0.5207742	100	0.5229101
Tetrahydrofuran	1	~~8.958257E-02~~	5	7.138021E-02	10	0.069089	20	6.161089E-02	40	6.028775E-02	100	6.036473E-02
Toluene	1	1.589206	5	1.370659	10	1.36955	20	1.398719	40	1.373003	100	1.397452
1,2,3-Trichlorobenzene	1	0.5645872	5	0.5079757	10	0.5898544	20	0.7142077	40	0.808255	100	0.9908599
1,2,4-Trichlorobenzene	1	0.531176	5	0.5798346	10	0.6235136	20	0.7506953	40	0.867397	100	1.02292
1,1,1-Trichloroethane	1	0.6164608	5	0.5209054	10	0.5027188	20	0.5068819	40	0.5086188	100	0.508328
1,1,2-Trichloroethane	1	0.3375383	5	0.2837192	10	0.2764547	20	0.2679071	40	0.2664123	100	0.2663828
Trichloroethene	1	0.4302728	5	0.3725521	10	0.3623965	20	0.3752702	40	0.3870225	100	0.3835957
Trichlorofluoromethane	1	0.6373081	5	0.5293498	10	0.4987757	20	0.5219822	40	0.5112249	100	0.5023754
1,2,3-Trichloropropane	1	0.5225139	5	0.4453167	10	0.416682	20	0.40553	40	0.3924743	100	0.3795364
1,1,2-Trichloro-1,2,2-trifluoro	1	0.3604316	5	0.3142144	10	0.3113228	20	0.3156246	40	0.3112745	100	0.3033833
1,2,4-Trimethylbenzene	1	3.225727	5	2.745414	10	2.646518	20	2.743918	40	2.751032	100	2.819401
1,3,5-Trimethylbenzene	1	3.459605	5	2.979478	10	2.865357	20	2.966953	40	2.890316	100	2.916369
Vinyl Acetate	1	0.6511879	5	0.5402039	10	0.5393856	20	0.4760645	40	0.4638861	100	0.4711654
Vinyl Chloride	1	0.4434337	5	0.3471634	10	0.331647	20	0.3416596	40	0.3289645	100	0.3221923
Xylene, Meta + Para	2	0.8389652	10	0.7301096	20	0.7178766	40	0.7152056	80	0.7271784	200	0.7462407
Xylene, Ortho	1	0.8556969	5	0.7188636	10	0.7158205	20	0.7052129	40	0.7164407	100	0.7386474
Xylene (Total)	3	0.8445424	15	0.7263609	30	0.7171913	60	0.7118747	120	0.7235991	300	0.7437096
Dichlorobenzenes (Total)	3	2.000753	15	1.810937	30	1.715924	60	1.731419	120	1.723837	300	1.748728
Dibromofluoromethane	40	0.2656289	40	0.2680364	40	0.2685247	40	0.2743985	40	0.2707144	40	0.2755095
1,2-Dichloroethane-d4	40	0.1495863	40	0.1513845	40	0.1517293	40	0.1529885	40	0.1543929	40	0.1490812
Toluene-d8	40	1.009712	40	1.002654	40	1.017138	40	1.013851	40	1.014018	40	1.012935
4-Bromofluorobenzene	40	0.4723272	40	0.4827846	40	0.4860594	40	0.4804726	40	0.4922967	40	0.5068553

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B11014

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/06/15 00:00

Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	0.1378287										
Acrolein	200	6.891729E-02										
Acrylonitrile	200	0.1564769										
Benzene	200	1.192318										
Bromobenzene	200	1.252073										
Bromochloromethane	200	0.1933692										
Bromodichloromethane	200	0.4306513										
Bromoform	200	0.416656										
Bromomethane	200	~~0.1421404~~										
n-Butylbenzene	200	2.220655										
sec-Butylbenzene	200	3.317986										
tert-Butylbenzene	200	2.401072										
Carbon Disulfide	200	0.8197455										
Carbon Tetrachloride	200	0.4275101										
Chlorobenzene	200	1.118821										
Chloroethane	200	0.187005										
2-Chloroethyl Vinyl Ether	200	6.465623E-03										
Chloroform	200	0.5430395										
1-Chlorohexane	200	0.2926106										
Chloromethane	200	0.2403982										
2-Chlorotoluene	200	0.8129072										
4-Chlorotoluene	200	2.548674										
Cyclohexane	200	0.4279342										
1,2-Dibromo-3-chloropropane	200	0.303256										
Dibromochloromethane	200	0.4697202										
1,2-Dibromoethane	200	0.407332										
Dibromomethane	200	0.2232672										
trans-1,4-Dichloro-2-butene	200	~~0.2135616~~										
1,2-Dichlorobenzene	200	1.653835										
1,3-Dichlorobenzene	200	1.66994										
1,4-Dichlorobenzene	200	1.680277										

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	200	0.2310621										
1,1-Dichloroethane	200	0.4336161										
1,2-Dichloroethane	200	0.4270635										
1,1-Dichloroethene	200	0.2633423										
cis-1,2-Dichloroethene	200	0.3396367										
trans-1,2-Dichloroethene	200	0.2936999										
1,2-Dichloroethene (Total)	400	0.3166683										
Dichlorofluoromethane	200	0.5342087										
1,2-Dichloropropane	200	0.2790131										
1,3-Dichloropropane	200	0.6301884										
2,2-Dichloropropane	200	0.394625										
1,1-Dichloropropene	200	0.3806508										
cis-1,3-Dichloropropene	200	0.4975397										
trans-1,3-Dichloropropene	200	0.4481082										
Ethylbenzene	200	1.794028										
Ethyl Ether	200	0.2085034										
Hexachlorobutadiene	200	0.5331781										
2-Hexanone	200	0.3245663										
Iodomethane	200	0.2460525										
Isopropylbenzene	200	3.215141										
4-Isopropyltoluene	200	2.882238										
Methyl Acetate	200	0.2817902										
Methyl tert-Butyl Ether	200	1.02723										
Methylcyclohexane	200	0.5058977										
Methylene Chloride	200	0.3055188										
2-Butanone (MEK)	200	0.1815379										
4-Methyl-2-pentanone (MIBK)	200	0.3778577										
Naphthalene	200	2.44075										
n-Propylbenzene	200	0.8795134										
Styrene	200	1.247227										
1,1,1,2-Tetrachloroethane	200	0.4167953										

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,2,2-Tetrachloroethane	200	~~0.9763715~~										
Tetrachloroethene	200	0.4943587										
Tetrahydrofuran	200	0.0600045										
Toluene	200	1.373716										
1,2,3-Trichlorobenzene	200	1.023463										
1,2,4-Trichlorobenzene	200	1.055982										
1,1,1-Trichloroethane	200	0.4970593										
1,1,2-Trichloroethane	200	0.2653158										
Trichloroethene	200	0.380017										
Trichlorofluoromethane	200	0.4895082										
1,2,3-Trichloropropane	200	0.3517033										
1,1,2-Trichloro-1,2,2-trifluoro	200	0.2927471										
1,2,4-Trimethylbenzene	200	2.677302										
1,3,5-Trimethylbenzene	200	2.753165										
Vinyl Acetate	200	0.4403969										
Vinyl Chloride	200	0.3252493										
Xylene, Meta + Para	400	0.725606										
Xylene, Ortho	200	0.7190065										
Xylene (Total)	600	0.7234062										
Dichlorobenzenes (Total)	600	1.668017										
Dibromofluoromethane	40	0.2736657										
1,2-Dichloroethane-d4	40	0.1512457										
Toluene-d8	40	1.027951										
4-Bromofluorobenzene	40	0.5103413										

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Acetone	0.1831119	28.12907	2.148667	2.669109E-02	0.99925		0.99	
Acrolein	7.838059E-02	20.2187	2.015571	0.1579433	0.99970		0.99	
Acrylonitrile	0.1688039	10.61466	2.784	1.209198E-02			15	
Benzene	1.245615	5.244927	5.607	1.162146E-02			15	
Bromobenzene	1.43926	12.54127	12.14543	0.0213555			15	
Bromochloromethane	0.216546	10.52974	4.457429	6.984352E-02			15	
Bromodichloromethane	0.4434038	4.882663	7.525	1.303692E-02			15	
Bromoform	0.4076602	5.284292	11.55486	2.686314E-02			SPCC (0.1)	
Bromomethane	0.2115487	11.21227	1.436	0.1699321			15	
n-Butylbenzene	2.03361	6.460204	13.95657	2.433675E-02			15	
sec-Butylbenzene	3.481868	6.602505	13.25057	1.917221E-02			15	
tert-Butylbenzene	2.647087	8.799469	12.97414	2.428861E-02			15	
Carbon Disulfide	0.8045029	10.63085	2.256	0.1219663			15	
Carbon Tetrachloride	0.4186885	4.161097	5.219	0.0167941			15	
Chlorobenzene	1.169239	5.964877	10.495	1.802279E-02			SPCC (0.3)	
Chloroethane	0.2142057	16.43677	1.506571	0.138537	0.99961		0.99	
2-Chloroethyl Vinyl Ether	4.717535E-03	34.76463	8.032	0.4297432		0.9997537	0.99	
Chloroform	0.5683283	6.300829	4.639429	6.552997E-02			CCC (30)	
1-Chlorohexane	0.3075369	8.832032	10.542	1.293779E-02			15	
Chloromethane	0.2713006	16.47141	1.149	2.032669E-02	0.99981		SPCC (0.1)	
2-Chlorotoluene	0.9185097	8.810231	12.413	0.021917			15	
4-Chlorotoluene	2.784571	7.854423	12.55829	3.159223E-02			15	
Cyclohexane	0.4708423	11.99293	4.995428	1.009054E-02			15	
1,2-Dibromo-3-chloropropane	0.2967405	4.569579	14.88986	9.728884E-03			15	
Dibromochloromethane	0.4781116	3.280052	9.719	1.974401E-02			15	
1,2-Dibromoethane	0.427096	7.30531	9.830572	4.304876E-03			15	
Dibromomethane	0.2330183	7.072928	7.236571	1.181425E-02			15	
trans-1,4-Dichloro-2-butene	0.2950317	24.71136	12.299	3.651582E-02	0.99975		0.99	
1,2-Dichlorobenzene	1.751345	5.122188	13.913	2.055084E-02			15	
1,3-Dichlorobenzene	1.778084	5.322891	13.34543	2.390138E-02			15	
1,4-Dichlorobenzene	1.784692	8.429574	13.46171	2.093375E-02			15	
Dichlorodifluoromethane	0.2562497	8.305178	1.031	0.0245785			15	

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
1,1-Dichloroethane	0.504423	12.17838	3.272	2.011201E-02			SPCC (0.1)	
1,2-Dichloroethane	0.4443112	4.319191	5.669428	5.860629E-02			15	
1,1-Dichloroethene	0.2818164	4.71665	2.084	0.0241817			CCC (30)	
cis-1,2-Dichloroethene	0.3589747	8.025689	4.078	1.739722E-02			15	
trans-1,2-Dichloroethene	0.3082654	10.89294	2.79	1.766833E-02			15	
1,2-Dichloroethene (Total)	0.3336201	9.305657	4.078	1.739722E-02			15	
Dichlorofluoromethane	0.5610241	5.884268	1.648857	1.592384E-02			15	
1,2-Dichloropropane	0.2952094	9.551866	7.066	9.500738E-03			CCC (30)	
1,3-Dichloropropane	0.6872904	8.766028	9.432286	3.027633E-02			15	
2,2-Dichloropropane	0.4592032	13.98472	4.061714	6.968745E-02			15	
1,1-Dichloropropene	0.3989837	5.431205	5.242571	1.649842E-02			15	
cis-1,3-Dichloropropene	0.5066541	4.177483	8.189428	1.425781E-02			15	
trans-1,3-Dichloropropene	0.4467499	2.870511	8.995	2.281239E-02			15	
Ethylbenzene	1.870503	6.094165	10.67757	0.0116675			CCC (30)	
Ethyl Ether	0.2187743	5.85647	1.913	1.520016E-02			15	
Hexachlorobutadiene	0.5011004	10.51575	16.154	1.274812E-02			15	
2-Hexanone	0.3400842	7.309786	9.624143	2.356427E-02			15	
Iodomethane	0.1762915	34.54811	2.204857	0.1371336	0.99933		0.99	
Isopropylbenzene	3.668744	11.38679	11.82071	2.760089E-02			15	
4-Isopropyltoluene	2.827109	5.268836	13.448	2.021993E-02			15	
Methyl Acetate	0.2989393	4.258292	2.443	1.092943E-02			15	
Methyl tert-Butyl Ether	1.082097	7.430565	2.814714	0.1034015			15	
Methylcyclohexane	0.5376293	7.735545	6.989428	3.201986E-03			15	
Methylene Chloride	0.3962473	37.66415	2.519	8.169632E-03	0.99990		0.99	
2-Butanone (MEK)	0.190802	10.29482	4.155857	0.1034434			15	
4-Methyl-2-pentanone (MIBK)	0.3637403	6.015653	8.469428	3.990688E-02			15	
Naphthalene	1.705012	34.20805	16.201	0.0138366	0.99838		0.99	
n-Propylbenzene	0.9539564	7.810411	12.34286	2.329731E-02			15	
Styrene	1.182251	4.762085	11.35743	2.474381E-02			15	
1,1,1,2-Tetrachloroethane	0.4459319	6.525181	10.627	3.045349E-02			15	
1,1,2,2-Tetrachloroethane	1.235828	18.51303	12.22433	1.572156E-02	0.99982		SPCC (0.3)	
Tetrachloroethene	0.5453086	9.133578	9.36	1.888947E-02			15	

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B11014

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/06/15 00:00
Instrument: 350

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Tetrahydrofuran	6.378951E-02	7.955529	4.561	0.1541099			15	
Toluene	1.410329	5.662674	8.630714	1.140775E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.7427433	27.7941	16.50186	2.088065E-02	0.99861		0.99	
1,2,4-Trichlorobenzene	0.7759312	27.34029	15.91171	1.822572E-02	0.99894		0.99	
1,1,1-Trichloroethane	0.5229961	8.000788	4.913	1.733947E-02			15	
1,1,2-Trichloroethane	0.2805329	9.28062	9.225	6.667248E-03			15	
Trichloroethene	0.3844467	5.658029	6.725	9.732211E-03			15	
Trichlorofluoromethane	0.5272178	9.56424	1.69	2.129429E-02			15	
1,2,3-Trichloropropane	0.4162509	13.27907	12.24886	9.44149E-03			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3155712	6.747363	2.089143	0.1094361			15	
1,2,4-Trimethylbenzene	2.80133	6.970006	13.036	7.983585E-03			15	
1,3,5-Trimethylbenzene	2.975892	7.59816	12.579	0.0239167			15	
Vinyl Acetate	0.5117558	14.11777	3.377143	6.597516E-02			15	
Vinyl Chloride	0.3486157	12.25935	1.219	5.986267E-03			CCC (30)	
Xylene, Meta + Para	0.743026	5.851633	10.836	1.251186E-02			15	
Xylene, Ortho	0.7385269	7.124248	11.33114	2.108013E-02			15	
Xylene (Total)	0.7415263	6.269555	11.33114	2.108013E-02			15	
Dichlorobenzenes (Total)	1.771374	6.197298	13.913	2.055084E-02			15	
Dibromofluoromethane	0.2709254	1.371126	4.931	1.868944E-02			15	
1,2-Dichloroethane-d4	0.1514869	1.211997	5.533572	5.849076E-02			15	
Toluene-d8	1.014037	0.7561193	8.542	1.596701E-02			15	
4-Bromofluorobenzene	0.4901624	2.853327	11.989	9.351284E-03			15	

Response Factor Report 350

C: 5B09009 (5B09017)
B: 5B11014 (5B11037)

Method Path : C:\gcms\1\methods\
Method File : 8260B-W40.M
Title : 8260B : 5030
Last Update : Mon Feb 09 07:25:43 2015
Response Via : Initial Calibration

Calibration Files
1 =1P0206.D 2 =5P0206.D 3 =10P0206.D 4 =20P0206.D 5 =40P0206.D 6 =100P0206.D 7 =200P0206.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------								
2)		dichlorodifluo...	0.299	0.261	0.250	0.260	0.249	0.244	0.231	0.256	8.31
3)	P	chloromethane	0.370	0.273	0.253	0.262	0.253	0.247	0.240	0.271	16.47
4)	C	vinyl chloride	0.443	0.347	0.332	0.342	0.329	0.322	0.325	0.349	12.26#
5)		bromomethane	0.258	0.196	0.192	0.202	0.210	0.211		0.212	11.21
6)		chloroethane	0.291	0.210	0.214	0.201	0.201	0.194	0.187	0.214	16.44
7)		dichlorofluoro...	0.632	0.570	0.547	0.551	0.548	0.544	0.534	0.561	5.88
8)		trichlorofluor...	0.637	0.529	0.499	0.522	0.511	0.502	0.490	0.527	9.56
9)		ethyl ether	0.225	0.245	0.210	0.219	0.210	0.214	0.209	0.219	5.86
10)		acrolein	0.114	0.075	0.077	0.071	0.070	0.072	0.069	0.078	20.22
11)		1,1,2-trichlor...	0.360	0.314	0.311	0.316	0.311	0.303	0.293	0.316	6.75
12)	C	1,1-dichloroet...	0.306	0.288	0.281	0.282	0.277	0.274	0.263	0.282	4.72#
13)		acetone		0.278	0.202	0.173	0.160	0.148	0.138	0.183	28.13
14)		iodomethane	0.109	0.112	0.133	0.167	0.224	0.243	0.246	0.176	34.55
15)		carbon disulfide	0.944	0.707	0.725	0.738	0.860	0.838	0.820	0.805	10.63
16)		methyl acetate	0.303	0.315	0.315	0.297	0.290	0.291	0.282	0.299	4.26
17)		methylene chlo...	0.725	0.409	0.362	0.338	0.321	0.314	0.306	0.396	37.66
18)		acrylonitrile	0.202	0.186	0.160	0.162	0.158	0.157	0.156	0.169	10.61
19)		trans-1,2-dich...	0.383	0.307	0.289	0.290	0.295	0.299	0.294	0.308	10.89
20)		methyl (tert) ...	1.256	1.100	1.066	1.046	1.031	1.049	1.027	1.082	7.43
21)	P	1,1-dichloroet...	0.633	0.508	0.485	0.494	0.489	0.488	0.434	0.504	12.18
22)		vinyl acetate	0.651	0.540	0.539	0.476	0.464	0.471	0.440	0.512	14.12
23)		2,2-dichloropr...	0.595	0.465	0.457	0.447	0.434	0.422	0.395	0.459	13.98
24)		cis-1,2-dichlo...	0.423	0.358	0.342	0.355	0.349	0.347	0.340	0.359	8.03
25)		2-butanone (MEK)	0.232	0.189	0.183	0.170	0.189	0.190	0.182	0.191	10.29
26)		bromochloromet...	0.262	0.221	0.221	0.215	0.205	0.198	0.193	0.217	10.53
27)		tetrahydrofuran		0.071	0.069	0.062	0.060	0.060	0.060	0.064	7.96
28)	C	chloroform	0.648	0.567	0.555	0.556	0.553	0.556	0.543	0.568	6.30#
29)	S	#Dibromofluoro...	0.266	0.268	0.269	0.274	0.271	0.276	0.274	0.271	1.37
30)		1,1,1-trichlor...	0.616	0.521	0.503	0.507	0.509	0.508	0.497	0.523	8.00
31)		cyclohexane	0.594	0.481	0.450	0.456	0.445	0.442	0.428	0.471	11.99
32)		carbon tetrach...	0.445	0.403	0.395	0.408	0.421	0.431	0.428	0.419	4.16
33)		1,1-dichloropr...	0.446	0.401	0.390	0.396	0.391	0.389	0.381	0.399	5.43
34)		benzene	1.389	1.249	1.221	1.226	1.224	1.219	1.192	1.246	5.24
35)		1,2-dichloroet...	0.485	0.449	0.437	0.441	0.435	0.435	0.427	0.444	4.32
36)		heptane								0.000	-1.00
37)	s	#1,2-Dichloroe...	0.150	0.151	0.152	0.153	0.154	0.149	0.151	0.151	1.21
38)		trichloroethene	0.430	0.373	0.362	0.375	0.387	0.384	0.380	0.384	5.66

00112

KCW 2-9-15

Method Path : C:\gcms\1\methods\
Method File : 8260B-W40.M

39)		methylcyclohexane	0.624	0.558	0.514	0.525	0.523	0.514	0.506	0.538	7.74
40)	C	1,2-dichloropr...	0.358	0.279	0.287	0.290	0.286	0.287	0.279	0.295	9.55#
41)		dibromomethane	0.268	0.238	0.232	0.224	0.222	0.224	0.223	0.233	7.07
42)		bromodichlorom...	0.487	0.458	0.434	0.426	0.432	0.436	0.431	0.443	4.88
43)		2-chloroethyl ...	0.007	0.003	0.003	0.003	0.004	0.005	0.006	0.005	34.76
44)		cis-1,3-dichlo...	0.554	0.495	0.499	0.500	0.497	0.505	0.498	0.507	4.18
45)		4-methyl-2-pen...	0.338	0.336	0.357	0.363	0.389	0.386	0.378	0.364	6.02
46)	s	#Toluene-d8	1.010	1.003	1.017	1.014	1.014	1.013	1.028	1.014	0.76
47)	C	toluene	1.589	1.371	1.370	1.399	1.373	1.397	1.374	1.410	5.66#
48)		trans-1,3-dich...	0.474	0.441	0.439	0.435	0.443	0.448	0.448	0.447	2.87
49)		1,1,2-trichlor...	0.338	0.284	0.276	0.268	0.266	0.266	0.265	0.281	9.28
50)		Chlorobenzene-d5	----------ISTD----------								
51)		tetrachloroethene	0.646	0.570	0.534	0.529	0.521	0.523	0.494	0.545	9.13
52)		1,3-dichloropr...	0.815	0.700	0.675	0.673	0.655	0.662	0.630	0.687	8.77
53)		2-hexanone (MBK)	0.393	0.329	0.326	0.322	0.344	0.342	0.325	0.340	7.31
54)		dibromochlorom...	0.509	0.476	0.473	0.462	0.470	0.487	0.470	0.478	3.28
55)		1,2-dibromoethane	0.495	0.432	0.409	0.407	0.418	0.422	0.407	0.427	7.31
56)	P	chlorobenzene	1.317	1.193	1.131	1.131	1.133	1.162	1.119	1.169	5.96
57)		1-chlorohexane	0.369	0.295	0.295	0.300	0.298	0.303	0.293	0.308	8.83
58)		1,1,1,2-tetrac...	0.506	0.458	0.436	0.434	0.433	0.437	0.417	0.446	6.53
59)	C	ethylbenzene	2.116	1.882	1.795	1.807	1.827	1.872	1.794	1.871	6.09#
60)		m+p-xylene	0.839	0.730	0.718	0.715	0.727	0.746	0.726	0.743	5.85
61)		o-xylene	0.856	0.719	0.716	0.705	0.716	0.739	0.719	0.739	7.12
62)		styrene	1.211	1.115	1.133	1.132	1.189	1.249	1.247	1.182	4.76
63)	P	bromoform	0.449	0.397	0.390	0.389	0.395	0.417	0.417	0.408	5.28
64)	S	#4-Bromofluoro...	0.472	0.483	0.486	0.480	0.492	0.507	0.510	0.490	2.85
65)	I	1,4-Dichlorobenzen...	----------ISTD----------								
66)		isopropylbenzene	4.499	3.874	3.620	3.578	3.481	3.414	3.215	3.669	11.39
67)		bromobenzene	1.784	1.546	1.465	1.366	1.338	1.322	1.252	1.439	12.54
68)	P	1,1,2,2-tetrac...	1.672	1.266	1.210	1.146	1.066	1.054		1.236	18.51
69)		1,2,3-trichlor...	0.523	0.445	0.417	0.406	0.392	0.380	0.352	0.416	13.28
70)		1,4-dichloro-2...	0.436	0.309	0.267	0.267	0.245	0.247		0.295	24.71
71)		n-propylbenzene	1.110	0.978	0.921	0.934	0.927	0.928	0.880	0.954	7.81
72)		2-chlorotoluene	1.057	0.980	0.922	0.922	0.869	0.867	0.813	0.919	8.81
73)		1,3,5-trimethy...	3.460	2.979	2.865	2.967	2.890	2.916	2.753	2.976	7.60
74)		4-chlorotoluene	3.227	2.871	2.769	2.729	2.667	2.681	2.549	2.785	7.85
75)		tert-butylbenzene	3.130	2.709	2.630	2.586	2.534	2.540	2.401	2.647	8.80
76)		1,2,4-trimethy...	3.226	2.745	2.647	2.744	2.751	2.819	2.677	2.801	6.97
77)		sec-butylbenzene	3.970	3.359	3.295	3.453	3.472	3.506	3.318	3.482	6.60
78)		1,3-dichlorobe...	1.957	1.847	1.757	1.739	1.728	1.749	1.670	1.778	5.32
79)		4-isopropyltol...	2.996	2.714	2.600	2.752	2.841	3.005	2.882	2.827	5.27
80)		1,4-dichlorobe...	2.114	1.790	1.689	1.731	1.724	1.764	1.680	1.785	8.43
81)		1,2-dichlorobe...	1.931	1.796	1.701	1.724	1.720	1.734	1.654	1.751	5.12
82)		n-butylbenzene	1.975	1.922	1.908	1.960	2.040	2.211	2.221	2.034	6.46
83)		hexachloroethane	0.579	0.581	0.540	0.530	0.526	0.542	0.517	0.545	4.63
84)		1,2-dibromo-3-...	0.277	0.301	0.285	0.289	0.304	0.317	0.303	0.297	4.57

C1160

Response Factor Report 350

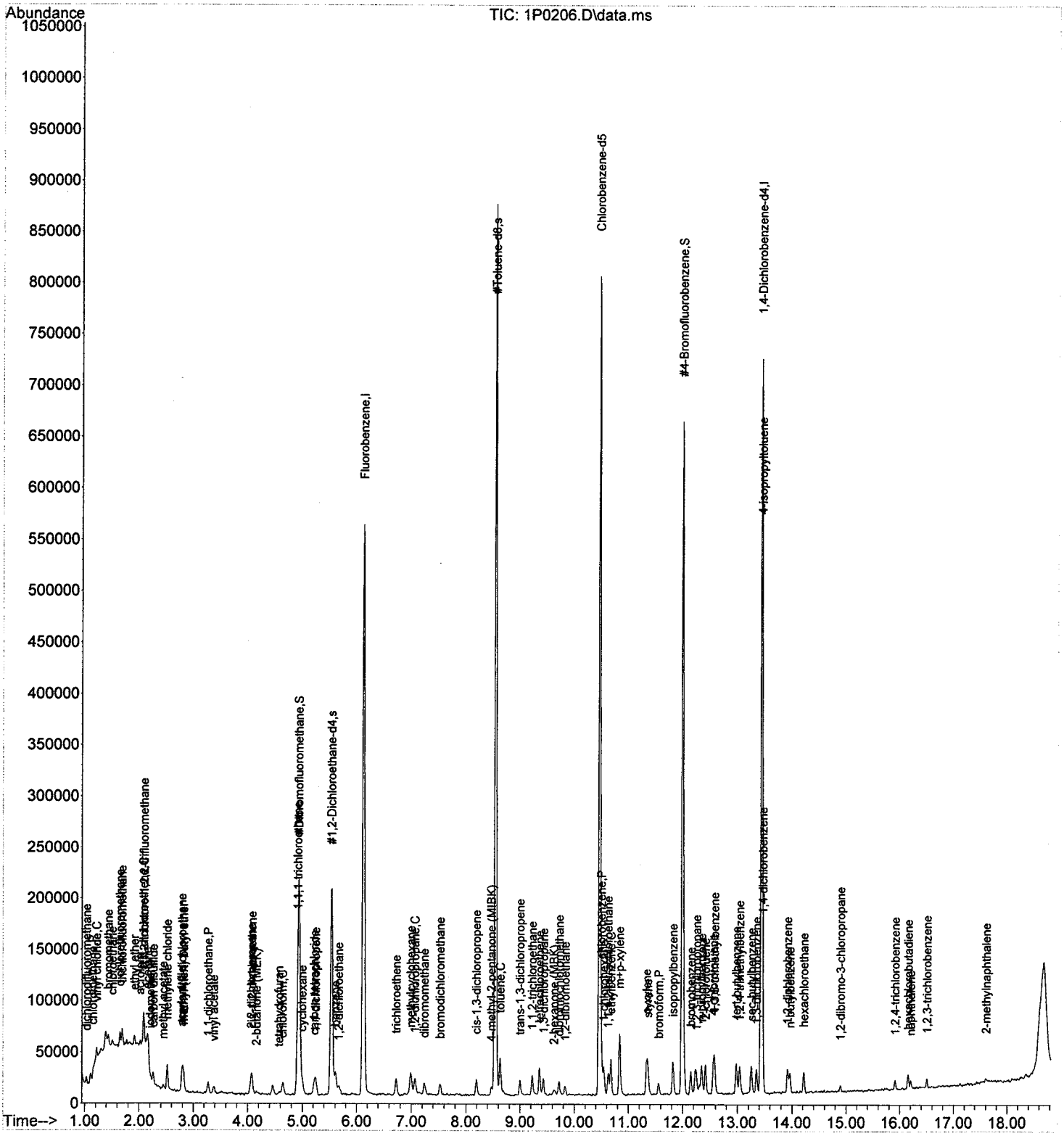
Method Path : C:\gcms\1\methods\
Method File : 8260B-W40.M

85)	1,2,4-trichlor...	0.531	0.580	0.624	0.751	0.867	1.023	1.056	0.776	27.34
86)	hexachlorobuta...	0.430	0.453	0.460	0.517	0.550	0.565	0.533	0.501	10.52
87)	naphthalene		1.080	1.158	1.445	1.772	2.335	2.441	1.705	34.21
88)	1,2,3-trichlor...	0.565	0.508	0.590	0.714	0.808	0.991	1.023	0.743	27.79
89)	2-methylnaphth...		0.304	0.271	0.332	0.397	0.570	0.727	0.434	41.21

(#) = Out of Range

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 1P0206.D
Acq On : 06 Feb 2015 11:08
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 09 07:18:36 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 1P0206.D
Acq On : 06 Feb 2015 11:08
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 09 07:18:36 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	723355	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	579738	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	258596	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	192144	37.92 ug/L	0.00
Spiked Amount 40.000			Recovery = 94.80%		
37) #1,2-Dichloroethane-d4	5.537	67	108204	35.87 ug/L	0.00
Spiked Amount 40.000			Recovery = 89.67%		
46) #Toluene-d8	8.542	98	730380	39.19 ug/L	0.00
Spiked Amount 40.000			Recovery = 97.97%		
64) #4-Bromofluorobenzene	11.989	95	273826	37.69 ug/L	0.00
Spiked Amount 40.000			Recovery = 94.22%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	5404	1.06 ug/L	92
3) chloromethane	1.149	50	6687	1.11 ug/L	89
4) vinyl chloride	1.219	62	8019	1.06 ug/L	86
5) bromomethane	1.437	94	4657	0.95 ug/L	96
6) chloroethane	1.508	64	5269	1.12 ug/L	91
7) dichlorofluoromethane	1.649	67	11425	0.91 ug/L	95
8) trichlorofluoromethane	1.690	101	11525	1.02 ug/L	81
9) ethyl ether	1.913	74	4064	0.86 ug/L #	69
10) acrolein	2.019	56	2056	0.77 ug/L #	59
11) 1,1,2-trichloro-1,2,2-...	2.090	101	6518	1.02 ug/L	98
12) 1,1-dichloroethene	2.084	96	5540	0.90 ug/L	96
13) acetone	2.149	43	14747	2.42 ug/L	96
14) iodomethane	2.208	142	1972	2.27 ug/L #	67
15) carbon disulfide	2.260	76	17066	1.02 ug/L	99
16) methyl acetate	2.443	43	5477	0.79 ug/L	80
17) methylene chloride	2.519	49	13113	1.00 ug/L #	82
18) acrylonitrile	2.784	53	3652	2.06 ug/L #	90
19) trans-1,2-dichloroethene	2.790	96	6929	1.24 ug/L #	86
20) methyl (tert) butyl ether	2.819	73	22710	1.13 ug/L	88
21) 1,1-dichloroethane	3.272	63	11453	1.07 ug/L	92
22) vinyl acetate	3.378	43	11776	1.04 ug/L	98
23) 2,2-dichloropropane	4.066	77	10755	1.19 ug/L	90
24) cis-1,2-dichloroethene	4.078	96	7644	1.13 ug/L #	85
25) 2-butanone (MEK)	4.160	43	4203	0.93 ug/L	90
26) bromochloromethane	4.460	49	4737	N.D.	
27) tetrahydrofuran	4.572	71	1620	1.30 ug/L #	76
28) chloroform	4.637	83	11718	1.01 ug/L	97
30) 1,1,1-trichloroethane	4.913	97	11148	1.06 ug/L	94
31) cyclohexane	4.996	56	10735	1.09 ug/L #	95
32) carbon tetrachloride	5.219	117	8044	0.92 ug/L	92
33) 1,1-dichloropropene	5.243	75	8065	0.99 ug/L	87
34) benzene	5.607	78	25119	1.02 ug/L #	78
35) 1,2-dichloroethane	5.666	62	8772	0.92 ug/L	95
36) heptane	6.125	57	23662	No Calib	
38) trichloroethene	6.725	130	7781	1.10 ug/L	95

Quantitation Report (Not Reviewed)

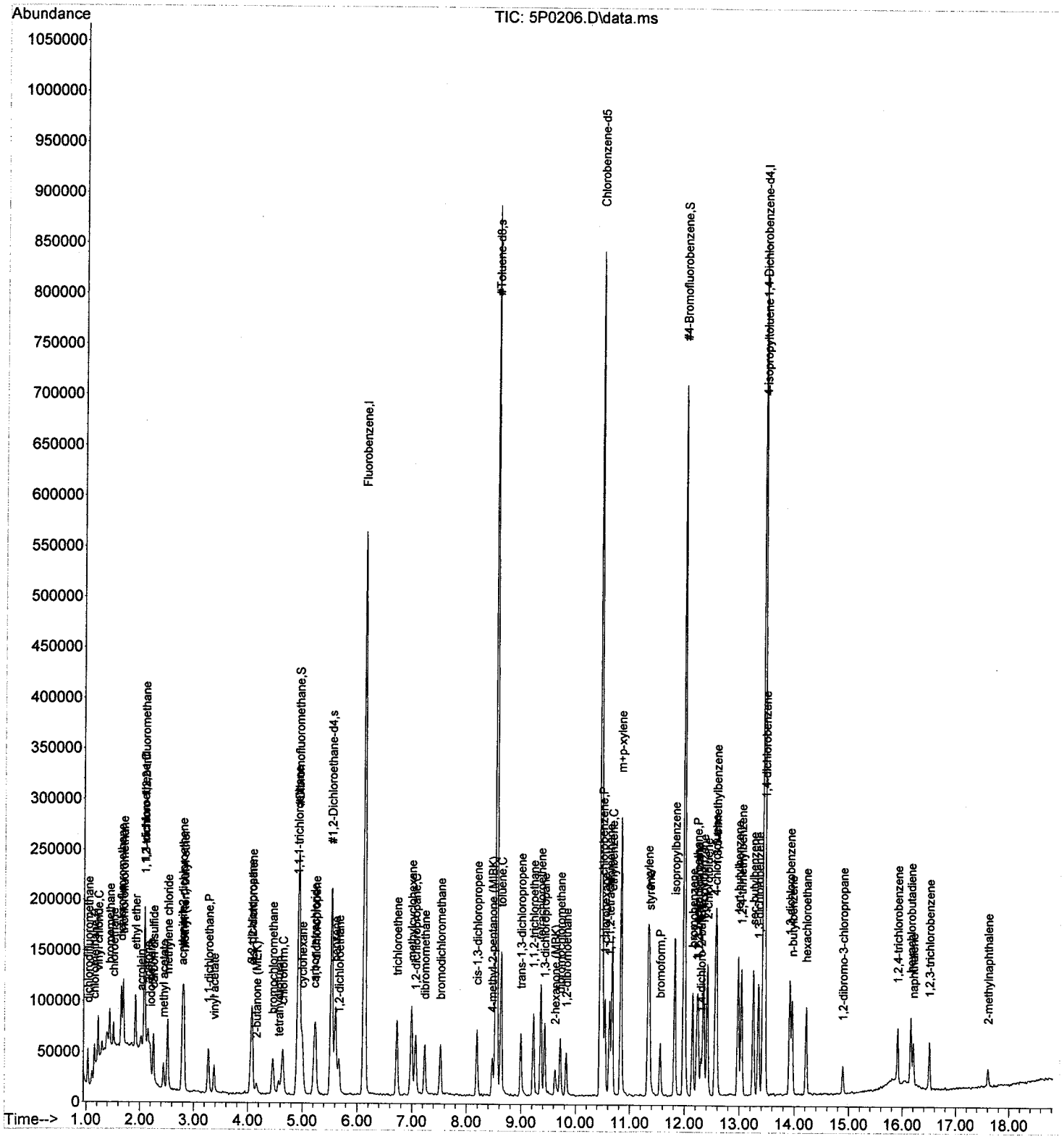
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 1P0206.D
Acq On : 06 Feb 2015 11:08
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 09 07:18:36 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	6.990	83	11284	1.12 ug/L	87
40)	1,2-dichloropropane	7.066	63	6481	1.03 ug/L	95
41)	dibromomethane	7.237	93	4844	1.06 ug/L	98
42)	bromodichloromethane	7.525	83	8801	0.98 ug/L	99
43)	2-chloroethyl vinyl ether	7.954	63	131	Below Cal #	50
44)	cis-1,3-dichloropropene	8.190	75	10021	0.99 ug/L	82
45)	4-methyl-2-pentanone (...	8.472	43	6114	0.66 ug/L	76
47)	toluene	8.631	91	28739	1.06 ug/L	99
48)	trans-1,3-dichloropropene	8.995	75	8567	0.95 ug/L	94
49)	1,1,2-trichloroethane	9.225	83	6104	1.13 ug/L	94
51)	tetrachloroethene	9.360	166	9364	1.18 ug/L	97
52)	1,3-dichloropropane	9.437	76	11814	1.04 ug/L	89
53)	2-hexanone (MBK)	9.625	43	5695	0.85 ug/L	95
54)	dibromochloromethane	9.719	129	7382	0.95 ug/L	94
55)	1,2-dibromoethane	9.831	109	7170	1.10 ug/L #	100
56)	chlorobenzene	10.495	112	19085	1.07 ug/L #	71
57)	1-chlorohexane	10.542	55	5342	0.98 ug/L #	85
58)	1,1,1,2-tetrachloroethane	10.625	131	7332	1.10 ug/L	98
59)	ethylbenzene	10.678	91	30672	1.02 ug/L	95
60)	m+p-xylene	10.836	106	24319	2.11 ug/L	91
61)	o-xylene	11.336	106	12402	1.06 ug/L	93
62)	styrene	11.360	104	17549	0.94 ug/L	98
63)	bromoform	11.560	173	6504	1.08 ug/L	96
66)	isopropylbenzene	11.825	105	29083	1.13 ug/L	100
67)	bromobenzene	12.148	77	11535	0.84 ug/L	92
68)	1,1,2,2-tetrachloroethane	12.225	83	10810	Below Cal #	100
69)	1,2,3-trichloropropane	12.254	110	3378	1.14 ug/L	90
70)	1,4-dichloro-2-butene	12.307	53	2820	Below Cal	96
71)	n-propylbenzene	12.348	120	7175	1.05 ug/L	95
72)	2-chlorotoluene	12.413	126	6835	1.06 ug/L	94
73)	1,3,5-trimethylbenzene	12.583	105	22366	1.06 ug/L	99
74)	4-chlorotoluene	12.560	91	20864	1.03 ug/L	96
75)	tert-butylbenzene	12.978	119	20234	1.11 ug/L	98
76)	1,2,4-trimethylbenzene	13.036	105	20854	1.07 ug/L	96
77)	sec-butylbenzene	13.254	105	25668	1.06 ug/L	98
78)	1,3-dichlorobenzene	13.348	146	12651	1.05 ug/L	98
79)	4-isopropyltoluene	13.448	119	19366	0.98 ug/L	92
80)	1,4-dichlorobenzene	13.466	146	13670	1.14 ug/L #	82
81)	1,2-dichlorobenzene	13.913	146	12483	1.06 ug/L	96
82)	n-butylbenzene	13.960	91	12765	0.86 ug/L	91
83)	hexachloroethane	14.219	201	3743	1.12 ug/L	90
84)	1,2-dibromo-3-chloropr...	14.895	157	1792	0.94 ug/L	87
85)	1,2,4-trichlorobenzene	15.913	180	3434	5.86 ug/L	92
86)	hexachlorobutadiene	16.154	225	2783	0.84 ug/L	89
87)	naphthalene	16.201	128	6799	9.09 ug/L	89
88)	1,2,3-trichlorobenzene	16.507	180	3650	6.39 ug/L	91
89)	2-methylnaphthalene	17.607	142	1836	1.74 ug/L	83

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 5P0206.D
Acq On : 06 Feb 2015 11:34
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 4 Sample Multiplier: 1
Quant Time: Feb 09 07:18:46 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 5P0206.D
Acq On : 06 Feb 2015 11:34
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 4 Sample Multiplier: 1
Quant Time: Feb 09 07:18:46 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	723786	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	584389	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	275651	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	194001	38.26 ug/L	0.00
Spiked Amount 40.000			Recovery = 95.65%		
37) #1,2-Dichloroethane-d4	5.537	67	109570	36.30 ug/L	0.00
Spiked Amount 40.000			Recovery = 90.75%		
46) #Toluene-d8	8.542	98	725707	38.91 ug/L	0.00
Spiked Amount 40.000			Recovery = 97.27%		
64) #4-Bromofluorobenzene	11.989	95	282134	38.52 ug/L	0.00
Spiked Amount 40.000			Recovery = 96.30%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	23594	4.61 ug/L	93
3) chloromethane	1.149	50	24736	4.10 ug/L	95
4) vinyl chloride	1.219	62	31409	4.15 ug/L	99
5) bromomethane	1.437	94	17744	3.63 ug/L	96
6) chloroethane	1.508	64	19034	4.05 ug/L	94
7) dichlorofluoromethane	1.649	67	51582	4.12 ug/L	97
8) trichlorofluoromethane	1.690	101	47892	4.22 ug/L	95
9) ethyl ether	1.913	74	22137	4.67 ug/L #	83
10) acrolein	2.019	56	6823	3.64 ug/L #	76
11) 1,1,2-trichloro-1,2,2-...	2.090	101	28428	4.45 ug/L	97
12) 1,1-dichloroethene	2.084	96	26089	4.21 ug/L #	87
13) acetone	2.149	43	25144	5.11 ug/L	91
14) iodomethane	2.202	142	10119	3.93 ug/L	97
15) carbon disulfide	2.255	76	63978	3.82 ug/L	97
16) methyl acetate	2.443	43	28478	4.10 ug/L	90
17) methylene chloride	2.519	49	36981	4.15 ug/L	85
18) acrylonitrile	2.784	53	16835	5.72 ug/L	92
19) trans-1,2-dichloroethene	2.790	96	27813	4.96 ug/L	87
20) methyl (tert) butyl ether	2.819	73	99504	4.93 ug/L	95
21) 1,1-dichloroethane	3.272	63	45972	4.29 ug/L	97
22) vinyl acetate	3.378	43	48874	4.30 ug/L	95
23) 2,2-dichloropropane	4.066	77	42042	4.64 ug/L	94
24) cis-1,2-dichloroethene	4.078	96	32360	4.80 ug/L	88
25) 2-butanone (MEK)	4.160	43	17083	3.77 ug/L	83
26) bromochloromethane	4.454	49	19984	3.17 ug/L #	74
27) tetrahydrofuran	4.572	71	6458	5.16 ug/L #	63
28) chloroform	4.643	83	51288	4.42 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	47128	4.49 ug/L	96
31) cyclohexane	4.996	56	43490	4.40 ug/L	93
32) carbon tetrachloride	5.219	117	36501	4.15 ug/L	97
33) 1,1-dichloropropene	5.243	75	36296	4.45 ug/L	98
34) benzene	5.607	78	112961	4.60 ug/L	87
35) 1,2-dichloroethane	5.672	62	40637	4.25 ug/L	95
36) heptane	6.125	57	23030	No Calib	
38) trichloroethene	6.725	130	33706	4.76 ug/L	98

Quantitation Report (Not Reviewed)

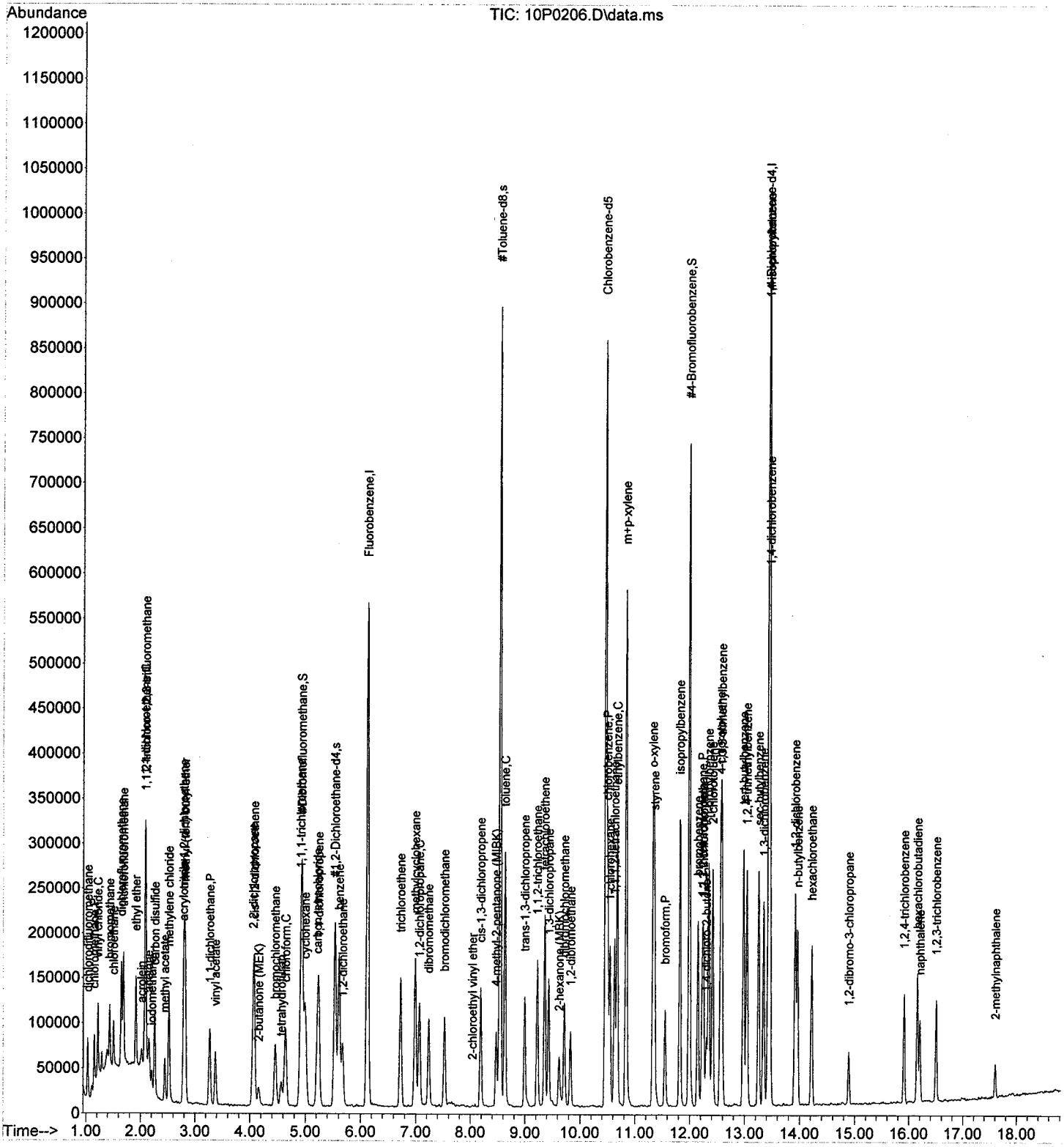
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 5P0206.D
Acq On : 06 Feb 2015 11:34
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 4 Sample Multiplier: 1
Quant Time: Feb 09 07:18:46 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.990	83	50458	5.00 ug/L	91
40) 1,2-dichloropropane	7.066	63	25208	3.99 ug/L	95
41) dibromomethane	7.237	93	21561	4.71 ug/L	96
42) bromodichloromethane	7.525	83	41445	4.61 ug/L	98
43) 2-chloroethyl vinyl ether	8.048	63	291	Below Cal #	50
44) cis-1,3-dichloropropene	8.190	75	44745	4.43 ug/L	93
45) 4-methyl-2-pentanone (...	8.472	43	30356	3.28 ug/L	86
47) toluene	8.631	91	124008	4.59 ug/L	99
48) trans-1,3-dichloropropene	8.995	75	39926	4.42 ug/L	91
49) 1,1,2-trichloroethane	9.225	83	25669	4.76 ug/L	99
51) tetrachloroethene	9.360	166	41664	5.21 ug/L	98
52) 1,3-dichloropropane	9.431	76	51140	4.47 ug/L	98
53) 2-hexanone (MBK)	9.625	43	24008	3.54 ug/L	89
54) dibromochloromethane	9.719	129	34755	4.45 ug/L	100
55) 1,2-dibromoethane	9.831	109	31587	4.80 ug/L #	100
56) chlorobenzene	10.495	112	87112	4.82 ug/L	98
57) 1-chlorohexane	10.542	55	21568	3.91 ug/L #	78
58) 1,1,1,2-tetrachloroethane	10.625	131	33491	4.97 ug/L	97
59) ethylbenzene	10.678	91	137461	4.54 ug/L	96
60) m+p-xylene	10.836	106	106667	9.18 ug/L	96
61) o-xylene	11.331	106	52512	4.46 ug/L	100
62) styrene	11.360	104	81474	4.33 ug/L	97
63) bromoform	11.554	173	28981	4.78 ug/L	97
66) isopropylbenzene	11.825	105	133481	4.87 ug/L	100
67) bromobenzene	12.148	77	53286	4.81 ug/L	95
68) 1,1,2,2-tetrachloroethane	12.225	83	43630	3.89 ug/L #	97
69) 1,2,3-trichloropropane	12.248	110	15344	4.86 ug/L	94
70) 1,4-dichloro-2-butene	12.301	53	10637	4.18 ug/L #	86
71) n-propylbenzene	12.342	120	33709	4.64 ug/L #	90
72) 2-chlorotoluene	12.413	126	33753	4.93 ug/L	91
73) 1,3,5-trimethylbenzene	12.578	105	102662	4.58 ug/L	97
74) 4-chlorotoluene	12.560	91	98916	4.58 ug/L	97
75) tert-butylbenzene	12.978	119	93328	4.80 ug/L	99
76) 1,2,4-trimethylbenzene	13.036	105	94597	4.56 ug/L	98
77) sec-butylbenzene	13.254	105	115750	4.46 ug/L	99
78) 1,3-dichlorobenzene	13.348	146	63641	4.95 ug/L	97
79) 4-isopropyltoluene	13.448	119	93518	4.42 ug/L	100
80) 1,4-dichlorobenzene	13.466	146	61675	4.81 ug/L	98
81) 1,2-dichlorobenzene	13.913	146	61879	4.94 ug/L	98
82) n-butylbenzene	13.960	91	66213	4.17 ug/L	97
83) hexachloroethane	14.219	201	20003	5.61 ug/L	90
84) 1,2-dibromo-3-chloropr...	14.889	157	10388	5.09 ug/L	88
85) 1,2,4-trichlorobenzene	15.913	180	19979	7.85 ug/L	98
86) hexachlorobutadiene	16.154	225	15610	4.40 ug/L	98
87) naphthalene	16.201	128	37205	10.69 ug/L	98
88) 1,2,3-trichlorobenzene	16.501	180	17503	8.13 ug/L	98
89) 2-methylnaphthalene	17.607	142	10484	5.77 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 10P0206.D
Acq On : 06 Feb 2015 12:01
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 09 07:19:10 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 10P0206.D
Acq On : 06 Feb 2015 12:01
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 09 07:19:10 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	729378	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	598217	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	292818	40.00 ug/L	0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	195856	38.33 ug/L	0.00
Spiked Amount 40.000			Recovery = 95.82%		
37) #1,2-Dichloroethane-d4	5.537	67	110668	36.38 ug/L	0.00
Spiked Amount 40.000			Recovery = 90.95%		
46) #Toluene-d8	8.542	98	741878	39.48 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.70%		
64) #4-Bromofluorobenzene	11.989	95	290769	38.78 ug/L	0.00
Spiked Amount 40.000			Recovery = 96.95%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	45643	8.85 ug/L	98
3) chloromethane	1.149	50	46197	7.60 ug/L	96
4) vinyl chloride	1.219	62	60474	7.93 ug/L	95
5) bromomethane	1.437	94	35056	7.11 ug/L	92
6) chloroethane	1.507	64	38998	8.24 ug/L	98
7) dichlorofluoromethane	1.649	67	99762	7.90 ug/L	100
8) trichlorofluoromethane	1.690	101	90949	7.96 ug/L	99
9) ethyl ether	1.913	74	38366	8.03 ug/L	92
10) acrolein	2.019	56	14115	7.97 ug/L	95
11) 1,1,2-trichloro-1,2,2-...	2.090	101	56768	8.82 ug/L	98
12) 1,1-dichloroethene	2.084	96	51264	8.22 ug/L #	87
13) acetone	2.149	43	36868	8.08 ug/L	92
14) iodomethane	2.207	142	24221	6.76 ug/L	94
15) carbon disulfide	2.260	76	132257	7.83 ug/L	98
16) methyl acetate	2.443	43	57485	8.21 ug/L	94
17) methylene chloride	2.519	49	66038	7.91 ug/L	87
18) acrylonitrile	2.784	53	29182	9.08 ug/L	98
19) trans-1,2-dichloroethene	2.790	96	52778	9.34 ug/L	93
20) methyl (tert) butyl ether	2.813	73	194393	9.56 ug/L	97
21) 1,1-dichloroethane	3.272	63	88411	8.19 ug/L	98
22) vinyl acetate	3.378	43	98354	8.59 ug/L	93
23) 2,2-dichloropropane	4.060	77	83358	9.12 ug/L	95
24) cis-1,2-dichloroethene	4.078	96	62405	9.18 ug/L	91
25) 2-butanone (MEK)	4.160	43	33363	7.31 ug/L	80
26) bromochloromethane	4.454	49	40336	7.28 ug/L #	77
27) tetrahydrofuran	4.566	71	12598	10.00 ug/L #	65
28) chloroform	4.643	83	101168	8.64 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	91668	8.67 ug/L	97
31) cyclohexane	4.995	56	82122	8.24 ug/L	89
32) carbon tetrachloride	5.219	117	72094	8.14 ug/L	98
33) 1,1-dichloropropene	5.242	75	71140	8.66 ug/L	99
34) benzene	5.607	78	222678	9.00 ug/L	89
35) 1,2-dichloroethane	5.672	62	79700	8.28 ug/L	97
36) heptane	6.125	57	23816	No Calib	
38) trichloroethene	6.725	130	66081	9.26 ug/L	98

Quantitation Report (Not Reviewed)

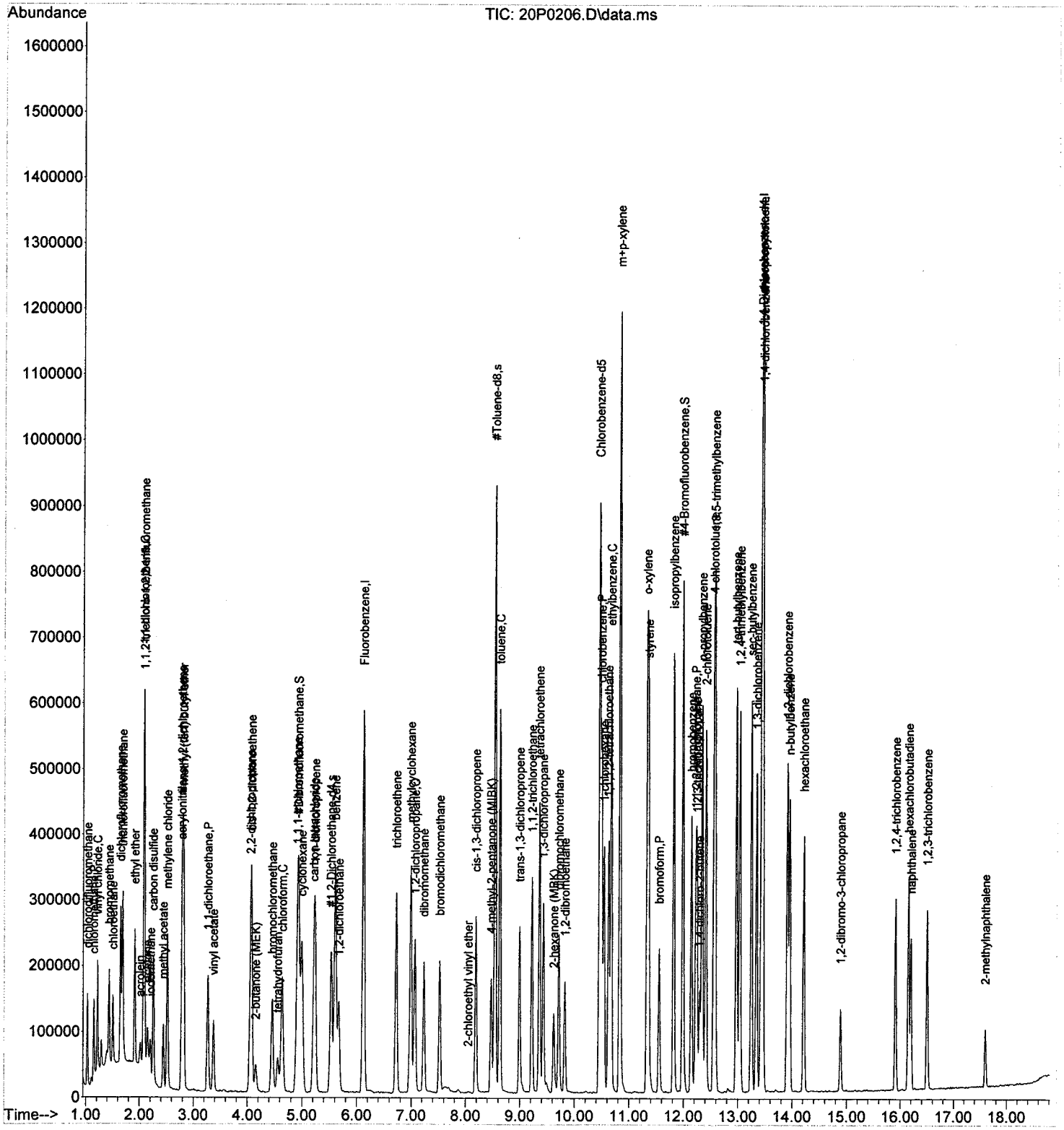
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 10P0206.D
Acq On : 06 Feb 2015 12:01
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 09 07:19:10 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.989	83	93661	9.22 ug/L	93
40) 1,2-dichloropropane	7.066	63	52297	8.21 ug/L	96
41) dibromomethane	7.236	93	42305	9.17 ug/L	95
42) bromodichloromethane	7.525	83	79066	8.72 ug/L	99
43) 2-chloroethyl vinyl ether	8.042	63	622	3.64 ug/L #	54
44) cis-1,3-dichloropropene	8.189	75	90922	8.94 ug/L	91
45) 4-methyl-2-pentanone (...	8.472	43	65007	6.97 ug/L	87
47) toluene	8.631	91	249730	9.17 ug/L	99
48) trans-1,3-dichloropropene	8.995	75	79973	8.79 ug/L	91
49) 1,1,2-trichloroethane	9.225	83	50410	9.27 ug/L	96
51) tetrachloroethene	9.360	166	79806	9.76 ug/L	98
52) 1,3-dichloropropane	9.436	76	100976	8.62 ug/L	97
53) 2-hexanone (MBK)	9.625	43	48704	7.01 ug/L	88
54) dibromochloromethane	9.719	129	70758	8.85 ug/L	98
55) 1,2-dibromoethane	9.830	109	61187	9.08 ug/L #	100
56) chlorobenzene	10.495	112	169077	9.15 ug/L	99
57) 1-chlorohexane	10.542	55	44071	7.81 ug/L #	80
58) 1,1,1,2-tetrachloroethane	10.630	131	65208	9.46 ug/L	97
59) ethylbenzene	10.677	91	268487	8.67 ug/L	96
60) m+p-xylene	10.836	106	214723	18.05 ug/L	96
61) o-xylene	11.330	106	107054	8.89 ug/L	97
62) styrene	11.360	104	169405	8.79 ug/L	96
63) bromoform	11.554	173	58367	9.41 ug/L	98
66) isopropylbenzene	11.819	105	264994	9.11 ug/L	99
67) bromobenzene	12.148	77	107271	9.44 ug/L	95
68) 1,1,2,2-tetrachloroethane	12.224	83	88579	8.97 ug/L #	95
69) 1,2,3-trichloropropane	12.248	110	30503	9.09 ug/L	92
70) 1,4-dichloro-2-butene	12.301	53	19545	8.66 ug/L #	82
71) n-propylbenzene	12.342	120	67451	8.74 ug/L #	92
72) 2-chlorotoluene	12.413	126	67519	9.28 ug/L	95
73) 1,3,5-trimethylbenzene	12.583	105	209757	8.81 ug/L	98
74) 4-chlorotoluene	12.560	91	202677	8.83 ug/L	98
75) tert-butylbenzene	12.977	119	192504	9.32 ug/L	98
76) 1,2,4-trimethylbenzene	13.036	105	193737	8.79 ug/L	99
77) sec-butylbenzene	13.254	105	241178	8.76 ug/L	99
78) 1,3-dichlorobenzene	13.348	146	128622	9.41 ug/L	95
79) 4-isopropyltoluene	13.448	119	190330	8.47 ug/L	98
80) 1,4-dichlorobenzene	13.460	146	123678	9.07 ug/L	99
81) 1,2-dichlorobenzene	13.913	146	124540	9.37 ug/L	99
82) n-butylbenzene	13.960	91	139675	8.27 ug/L	98
83) hexachloroethane	14.218	201	39496	10.43 ug/L	93
84) 1,2-dibromo-3-chloropr...	14.889	157	20844	9.61 ug/L	96
85) 1,2,4-trichlorobenzene	15.912	180	45644	10.65 ug/L	96
86) hexachlorobutadiene	16.154	225	33677	8.94 ug/L	99
87) naphthalene	16.201	128	84770	12.97 ug/L	99
88) 1,2,3-trichlorobenzene	16.501	180	43180	11.07 ug/L	97
89) 2-methylnaphthalene	17.607	142	19873	9.47 ug/L	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 20P0206.D
Acq On : 06 Feb 2015 12:27
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 6 Sample Multiplier: 1
Quant Time: Feb 09 07:19:22 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 20P0206.D
Acq On : 06 Feb 2015 12:27
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 6 Sample Multiplier: 1
Quant Time: Feb 09 07:19:22 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	748991	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	623355	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	309585	40.00 ug/L	0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	205522	39.17 ug/L	0.00
Spiked Amount 40.000			Recovery = 97.93%		
37) #1,2-Dichloroethane-d4	5.531	67	114587	36.68 ug/L	0.00
Spiked Amount 40.000			Recovery = 91.70%		
46) #Toluene-d8	8.542	98	759365	39.35 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.38%		
64) #4-Bromofluorobenzene	11.989	95	299505	38.34 ug/L	0.00
Spiked Amount 40.000			Recovery = 95.85%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	97301	18.36 ug/L	98
3) chloromethane	1.149	50	98050	15.71 ug/L	99
4) vinyl chloride	1.219	62	127950	16.33 ug/L	98
5) bromomethane	1.437	94	75724	14.97 ug/L	97
6) chloroethane	1.507	64	75256	15.48 ug/L	98
7) dichlorofluoromethane	1.648	67	206509	15.93 ug/L	99
8) trichlorofluoromethane	1.690	101	195480	16.65 ug/L	97
9) ethyl ether	1.913	74	82185	16.75 ug/L	85
10) acrolein	2.013	56	26658	15.06 ug/L #	97
11) 1,1,2-trichloro-1,2,2-...	2.090	101	118200	17.88 ug/L	99
12) 1,1-dichloroethene	2.084	96	105478	16.46 ug/L	87
13) acetone	2.148	43	64612	14.77 ug/L	97
14) iodomethane	2.207	142	62594	14.17 ug/L	94
15) carbon disulfide	2.254	76	276482	15.93 ug/L	98
16) methyl acetate	2.443	43	111157	15.47 ug/L	92
17) methylene chloride	2.519	49	126466	15.38 ug/L	84
18) acrylonitrile	2.784	53	60699	17.30 ug/L	96
19) trans-1,2-dichloroethene	2.790	96	108686	18.73 ug/L	93
20) methyl (tert) butyl ether	2.813	73	391643	18.76 ug/L	95
21) 1,1-dichloroethane	3.272	63	184984	16.69 ug/L	99
22) vinyl acetate	3.378	43	178284	15.16 ug/L	92
23) 2,2-dichloropropane	4.060	77	167498	17.85 ug/L	97
24) cis-1,2-dichloroethene	4.078	96	132843	19.03 ug/L	89
25) 2-butanone (MEK)	4.154	43	63690	13.58 ug/L	81
26) bromochloromethane	4.460	49	80634	15.04 ug/L #	72
27) tetrahydrofuran	4.560	71	23073	17.83 ug/L #	71
28) chloroform	4.642	83	208309	17.33 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	189825	17.48 ug/L	96
31) cyclohexane	4.995	56	170695	16.67 ug/L	91
32) carbon tetrachloride	5.219	117	152664	16.78 ug/L	97
33) 1,1-dichloropropene	5.242	75	148237	17.57 ug/L	98
34) benzene	5.607	78	459041	18.06 ug/L	90
35) 1,2-dichloroethane	5.672	62	165314	16.72 ug/L	96
36) heptane	6.125	57	23518	No Calib	
38) trichloroethene	6.725	130	140537	19.18 ug/L	98

Quantitation Report (Not Reviewed)

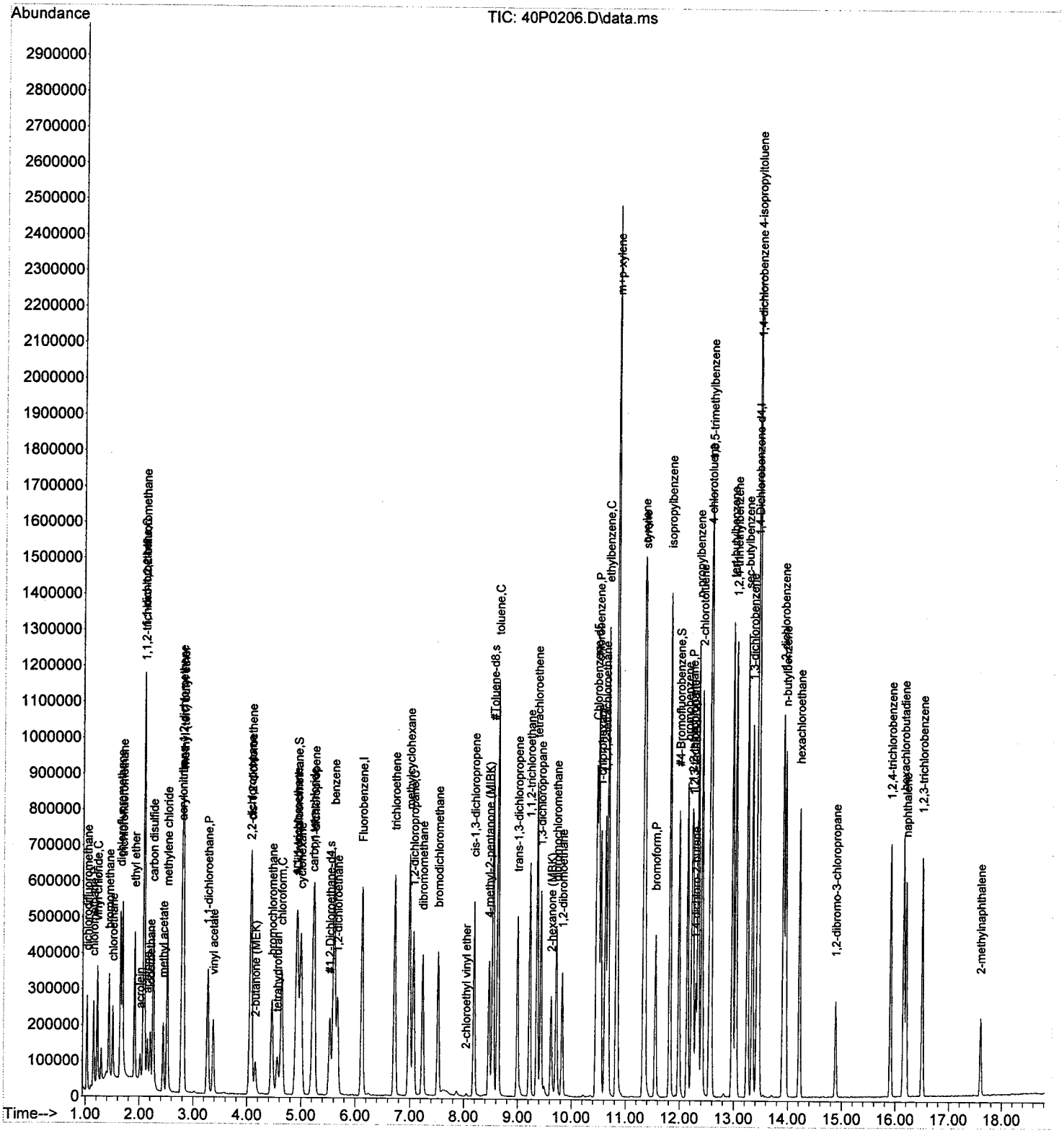
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 20P0206.D
Acq On : 06 Feb 2015 12:27
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 6 Sample Multiplier: 1
Quant Time: Feb 09 07:19:22 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.989	83	196681	18.85 ug/L	91
40) 1,2-dichloropropane	7.066	63	108778	16.63 ug/L	96
41) dibromomethane	7.236	93	83909	17.71 ug/L	91
42) bromodichloromethane	7.525	83	159678	17.15 ug/L	98
43) 2-chloroethyl vinyl ether	8.048	63	1206	11.66 ug/L	75
44) cis-1,3-dichloropropene	8.189	75	187116	17.92 ug/L	92
45) 4-methyl-2-pentanone (...	8.472	43	135769	14.17 ug/L	88
47) toluene	8.630	91	523814	18.72 ug/L	99
48) trans-1,3-dichloropropene	8.995	75	162869	17.43 ug/L	91
49) 1,1,2-trichloroethane	9.225	83	100330	17.96 ug/L	98
51) tetrachloroethene	9.360	166	164892	19.35 ug/L	99
52) 1,3-dichloropropane	9.430	76	209875	17.20 ug/L	98
53) 2-hexanone (MBK)	9.625	43	100468	13.88 ug/L	93
54) dibromochloromethane	9.719	129	144002	17.28 ug/L	98
55) 1,2-dibromoethane	9.830	109	126832	18.06 ug/L #	100
56) chlorobenzene	10.495	112	352650	18.31 ug/L	98
57) 1-chlorohexane	10.542	55	93532	15.92 ug/L #	79
58) 1,1,1,2-tetrachloroethane	10.624	131	135376	18.84 ug/L	99
59) ethylbenzene	10.677	91	563235	17.45 ug/L	97
60) m+p-xylene	10.836	106	445827	35.97 ug/L	98
61) o-xylene	11.330	106	219799	17.51 ug/L	99
62) styrene	11.360	104	352682	17.57 ug/L	96
63) bromoform	11.554	173	121165	18.75 ug/L	97
66) isopropylbenzene	11.819	105	553911	18.00 ug/L	99
67) bromobenzene	12.148	77	211494	17.91 ug/L	92
68) 1,1,2,2-tetrachloroethane	12.224	83	177427	18.51 ug/L #	99
69) 1,2,3-trichloropropane	12.248	110	62773	17.69 ug/L	91
70) 1,4-dichloro-2-butene	12.295	53	41360	19.29 ug/L	89
71) n-propylbenzene	12.342	120	144516	17.70 ug/L #	89
72) 2-chlorotoluene	12.413	126	142686	18.55 ug/L	93
73) 1,3,5-trimethylbenzene	12.577	105	459262	18.24 ug/L	100
74) 4-chlorotoluene	12.560	91	422387	17.40 ug/L	97
75) tert-butylbenzene	12.971	119	400305	18.33 ug/L	99
76) 1,2,4-trimethylbenzene	13.036	105	424738	18.22 ug/L	98
77) sec-butylbenzene	13.248	105	534516	18.36 ug/L	98
78) 1,3-dichlorobenzene	13.348	146	269194	18.64 ug/L	99
79) 4-isopropyltoluene	13.448	119	425987	17.94 ug/L	98
80) 1,4-dichlorobenzene	13.460	146	267971	18.60 ug/L	98
81) 1,2-dichlorobenzene	13.913	146	266867	18.98 ug/L	97
82) n-butylbenzene	13.954	91	303429	16.99 ug/L	97
83) hexachloroethane	14.218	201	82029	20.50 ug/L	95
84) 1,2-dibromo-3-chloropr...	14.889	157	44790	19.53 ug/L	93
85) 1,2,4-trichlorobenzene	15.912	180	116202	18.03 ug/L	97
86) hexachlorobutadiene	16.154	225	79968	20.08 ug/L	94
87) naphthalene	16.201	128	223616	19.34 ug/L	98
88) 1,2,3-trichlorobenzene	16.501	180	110554	18.42 ug/L	95
89) 2-methylnaphthalene	17.601	142	51340	20.53 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 40P0206.D
Acq On : 06 Feb 2015 12:53
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 09 07:19:43 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 40P0206.D
Acq On : 06 Feb 2015 12:53
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 09 07:19:43 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	749406	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	624670	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	325234	40.00 ug/L	0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	202875	38.65 ug/L	0.00
Spiked Amount 40.000			Recovery =	96.63%	
37) #1,2-Dichloroethane-d4	5.531	67	115703	37.02 ug/L	0.00
Spiked Amount 40.000			Recovery =	92.55%	
46) #Toluene-d8	8.542	98	759911	39.35 ug/L	0.00
Spiked Amount 40.000			Recovery =	98.38%	
64) #4-Bromofluorobenzene	11.989	95	307523	39.28 ug/L	0.00
Spiked Amount 40.000			Recovery =	98.20%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	186401	35.16 ug/L	96
3) chloromethane	1.149	50	189856	30.41 ug/L	99
4) vinyl chloride	1.219	62	246528	31.45 ug/L	99
5) bromomethane	1.437	94	157722	31.16 ug/L	98
6) chloroethane	1.507	64	150954	31.03 ug/L	98
7) dichlorofluoromethane	1.649	67	410914	31.67 ug/L	100
8) trichlorofluoromethane	1.690	101	383115	32.62 ug/L	98
9) ethyl ether	1.913	74	157475	32.07 ug/L	90
10) acrolein	2.013	56	52813	30.29 ug/L	98
11) 1,1,2-trichloro-1,2,2-...	2.090	101	233271	35.27 ug/L	99
12) 1,1-dichloroethene	2.084	96	207897	32.43 ug/L	89
13) acetone	2.148	43	119852	28.58 ug/L	97
14) iodomethane	2.207	142	167865	34.84 ug/L	94
15) carbon disulfide	2.254	76	644225	37.11 ug/L	99
16) methyl acetate	2.443	43	217390	30.24 ug/L	92
17) methylene chloride	2.519	49	240192	29.85 ug/L	82
18) acrylonitrile	2.784	53	118092	32.65 ug/L	99
19) trans-1,2-dichloroethene	2.790	96	221060	38.07 ug/L	91
20) methyl (tert) butyl ether	2.813	73	772555	36.99 ug/L	96
21) 1,1-dichloroethane	3.272	63	366816	33.08 ug/L	99
22) vinyl acetate	3.378	43	347639	29.55 ug/L	93
23) 2,2-dichloropropane	4.060	77	325485	34.67 ug/L	97
24) cis-1,2-dichloroethene	4.078	96	261413	37.43 ug/L	89
25) 2-butanone (MEK)	4.154	43	141911	30.24 ug/L	89
26) bromochloromethane	4.460	49	153919	29.54 ug/L #	71
27) tetrahydrofuran	4.560	71	45180	34.90 ug/L #	71
28) chloroform	4.637	83	414385	34.46 ug/L	100
30) 1,1,1-trichloroethane	4.913	97	381162	35.08 ug/L	97
31) cyclohexane	4.995	56	333566	32.56 ug/L	89
32) carbon tetrachloride	5.219	117	315303	34.64 ug/L	100
33) 1,1-dichloropropene	5.242	75	292706	34.68 ug/L	98
34) benzene	5.607	78	917058	36.06 ug/L	89
35) 1,2-dichloroethane	5.672	62	326092	32.96 ug/L	96
36) heptane	6.125	57	24299	No Calib	
38) trichloroethene	6.725	130	290037	39.56 ug/L	96

Quantitation Report (Not Reviewed)

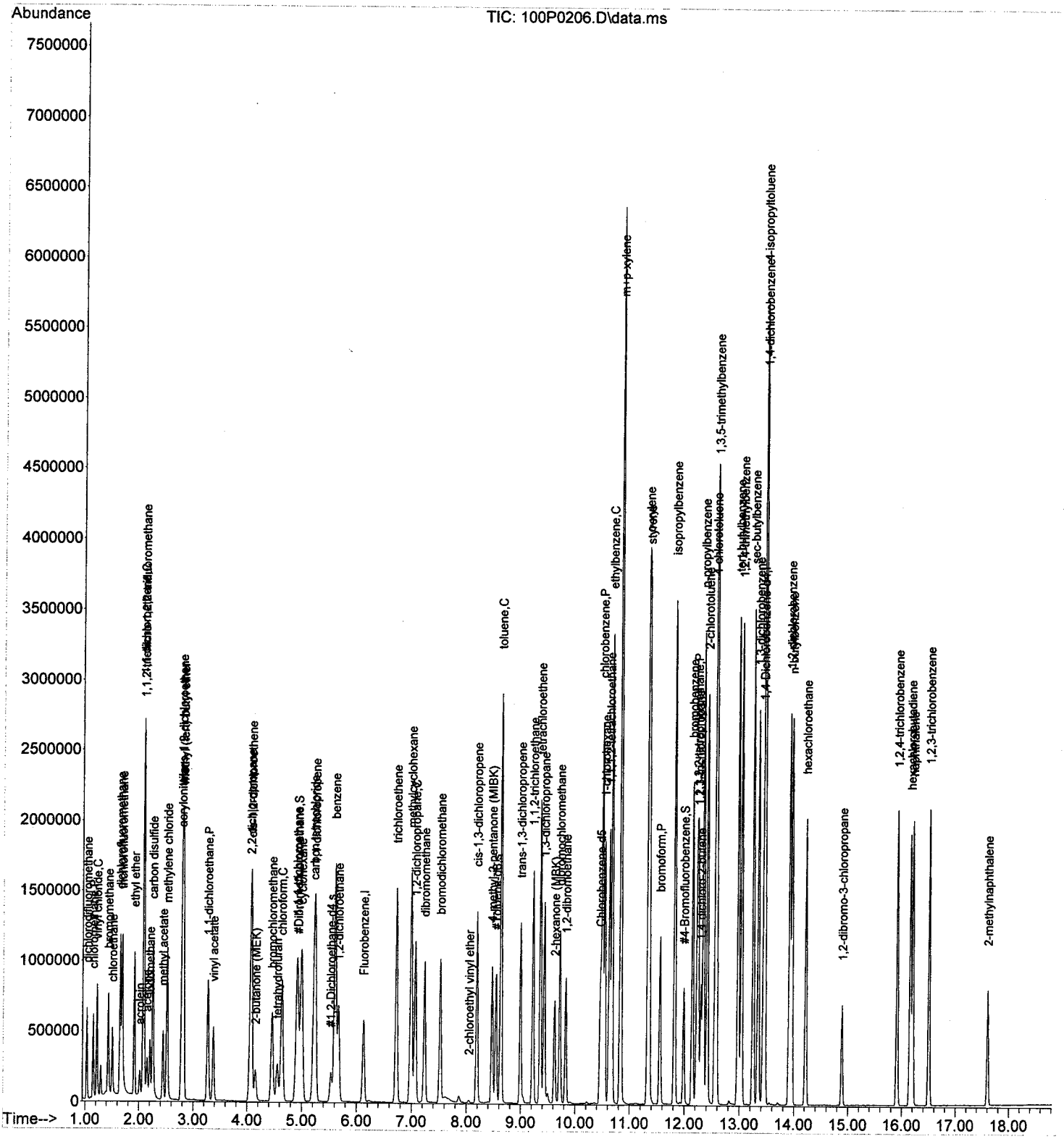
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 40P0206.D
Acq On : 06 Feb 2015 12:53
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 7 Sample Multiplier: 1
Quant Time: Feb 09 07:19:43 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.989	83	392237	37.57 ug/L	92
40) 1,2-dichloropropane	7.066	63	214486	32.77 ug/L	99
41) dibromomethane	7.236	93	166089	35.03 ug/L	93
42) bromodichloromethane	7.525	83	324037	34.79 ug/L	99
43) 2-chloroethyl vinyl ether	8.042	63	3173	37.23 ug/L #	71
44) cis-1,3-dichloropropene	8.189	75	372724	35.68 ug/L	92
45) 4-methyl-2-pentanone (...	8.466	43	291815	30.44 ug/L	88
47) toluene	8.630	91	1028937	36.76 ug/L	98
48) trans-1,3-dichloropropene	8.995	75	331620	35.47 ug/L	91
49) 1,1,2-trichloroethane	9.225	83	199651	35.73 ug/L	97
51) tetrachloroethene	9.360	166	325312	38.09 ug/L	99
52) 1,3-dichloropropane	9.430	76	409435	33.47 ug/L	98
53) 2-hexanone (MBK)	9.625	43	214842	29.61 ug/L	90
54) dibromochloromethane	9.719	129	293596	35.15 ug/L	99
55) 1,2-dibromoethane	9.830	109	260805	37.06 ug/L #	100
56) chlorobenzene	10.495	112	707443	36.65 ug/L	97
57) 1-chlorohexane	10.542	55	186207	31.62 ug/L #	79
58) 1,1,1,2-tetrachloroethane	10.624	131	270470	37.56 ug/L	100
59) ethylbenzene	10.677	91	1141187	35.28 ug/L	97
60) m+p-xylene	10.836	106	908493	73.14 ug/L	97
61) o-xylene	11.330	106	447539	35.58 ug/L	98
62) styrene	11.354	104	742887	36.93 ug/L	94
63) bromoform	11.554	173	247038	38.14 ug/L	99
66) isopropylbenzene	11.819	105	1132192	35.03 ug/L	98
67) bromobenzene	12.142	77	435245	35.43 ug/L	91
68) 1,1,2,2-tetrachloroethane	12.224	83	346664	35.87 ug/L #	98
69) 1,2,3-trichloropropane	12.248	110	127646	34.24 ug/L	89
70) 1,4-dichloro-2-butene	12.295	53	79547	36.95 ug/L #	82
71) n-propylbenzene	12.342	120	301345	35.14 ug/L #	92
72) 2-chlorotoluene	12.413	126	282632	34.98 ug/L	95
73) 1,3,5-trimethylbenzene	12.577	105	940029	35.53 ug/L	99
74) 4-chlorotoluene	12.560	91	867285	34.01 ug/L	97
75) tert-butylbenzene	12.971	119	824217	35.92 ug/L	99
76) 1,2,4-trimethylbenzene	13.036	105	894729	36.54 ug/L	98
77) sec-butylbenzene	13.248	105	1129092	36.91 ug/L	98
78) 1,3-dichlorobenzene	13.342	146	562032	37.04 ug/L	98
79) 4-isopropyltoluene	13.448	119	924084	37.04 ug/L	98
80) 1,4-dichlorobenzene	13.460	146	560567	37.03 ug/L	97
81) 1,2-dichlorobenzene	13.913	146	559352	37.88 ug/L	97
82) n-butylbenzene	13.954	91	663334	35.37 ug/L	97
83) hexachloroethane	14.218	201	171109	40.70 ug/L	95
84) 1,2-dibromo-3-chloropr...	14.889	157	99031	41.09 ug/L	93
85) 1,2,4-trichlorobenzene	15.912	180	282107	34.56 ug/L	97
86) hexachlorobutadiene	16.154	225	178718	42.72 ug/L	95
87) naphthalene	16.201	128	576218	34.79 ug/L	98
88) 1,2,3-trichlorobenzene	16.501	180	262872	34.24 ug/L	97
89) 2-methylnaphthalene	17.601	142	128974	42.32 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 100P0206.D
Acq On : 06 Feb 2015 13:20
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 09 07:19:51 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 100P0206.D
Acq On : 06 Feb 2015 13:20
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 09 07:19:51 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	740174	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	618940	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	337282	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	203925	39.33 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.32%		
37) #1,2-Dichloroethane-d4	5.531	67	110346	35.74 ug/L	0.00
Spiked Amount 40.000			Recovery = 89.35%		
46) #Toluene-d8	8.542	98	749748	39.31 ug/L	0.00
Spiked Amount 40.000			Recovery = 98.28%		
64) #4-Bromofluorobenzene	11.989	95	313713	40.44 ug/L	0.00
Spiked Amount 40.000			Recovery = 101.10%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	451893	86.30 ug/L	97
3) chloromethane	1.149	50	457078	74.11 ug/L	99
4) vinyl chloride	1.219	62	596196	77.00 ug/L	99
5) bromomethane	1.431	94	389940	77.99 ug/L	99
6) chloroethane	1.507	64	359787	74.88 ug/L	99
7) dichlorofluoromethane	1.649	67	1006982	78.59 ug/L	100
8) trichlorofluoromethane	1.690	101	929613	80.13 ug/L	97
9) ethyl ether	1.913	74	395093	81.46 ug/L	87
10) acrolein	2.013	56	132444	77.63 ug/L #	98
11) 1,1,2-trichloro-1,2,2-...	2.090	101	561391	85.93 ug/L	98
12) 1,1-dichloroethene	2.084	96	507858	80.22 ug/L	88
13) acetone	2.149	43	274378	68.09 ug/L	97
14) iodomethane	2.201	142	449887	91.32 ug/L	93
15) carbon disulfide	2.254	76	1550059	90.40 ug/L	99
16) methyl acetate	2.443	43	538468	75.83 ug/L	92
17) methylene chloride	2.519	49	580987	74.16 ug/L	83
18) acrylonitrile	2.784	53	291304	79.98 ug/L	97
19) trans-1,2-dichloroethene	2.790	96	553171	96.44 ug/L	90
20) methyl (tert) butyl ether	2.813	73	1941226	94.09 ug/L	96
21) 1,1-dichloroethane	3.272	63	902276	82.38 ug/L	99
22) vinyl acetate	3.378	43	871861	75.03 ug/L	91
23) 2,2-dichloropropane	4.060	77	780229	84.15 ug/L	96
24) cis-1,2-dichloroethene	4.078	96	642148	93.09 ug/L	90
25) 2-butanone (MEK)	4.154	43	352398	76.04 ug/L	86
26) bromochloromethane	4.454	49	365858	72.38 ug/L #	69
27) tetrahydrofuran	4.554	71	111701	87.36 ug/L #	72
28) chloroform	4.637	83	1029552	86.69 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	940628	87.66 ug/L	96
31) cyclohexane	4.995	56	818577	80.90 ug/L	89
32) carbon tetrachloride	5.219	117	798066	88.77 ug/L	99
33) 1,1-dichloropropene	5.243	75	718936	86.25 ug/L	98
34) benzene	5.607	78	2255193	89.79 ug/L	90
35) 1,2-dichloroethane	5.666	62	805368	82.42 ug/L	97
36) heptane	6.125	57	22152	No Calib	
38) trichloroethene	6.725	130	709819	98.02 ug/L	97

Quantitation Report (Not Reviewed)

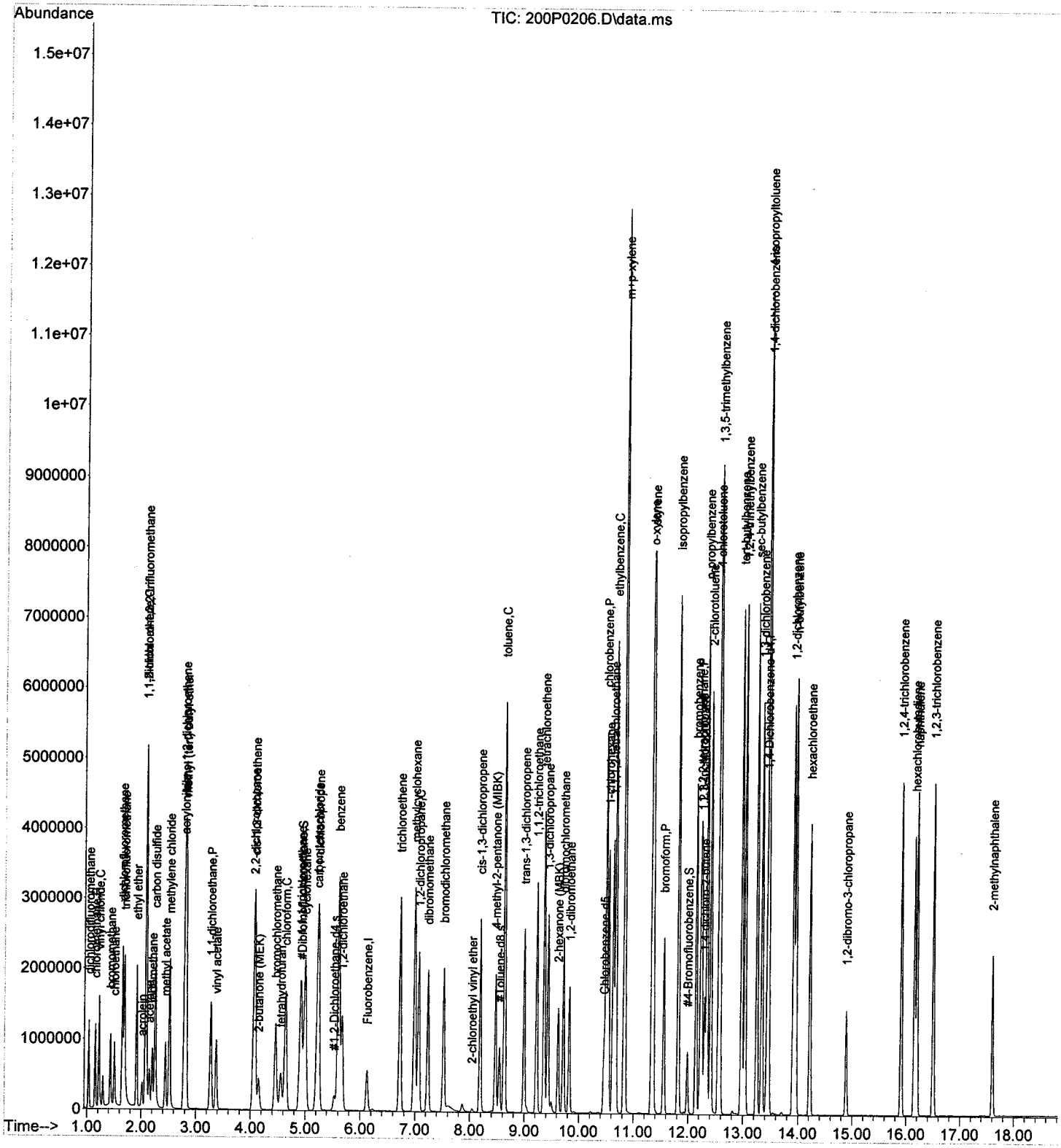
InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 100P0206.D
Acq On : 06 Feb 2015 13:20
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 8 Sample Multiplier: 1
Quant Time: Feb 09 07:19:51 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	6.989	83	950345	92.16 ug/L	92
40)	1,2-dichloropropane	7.066	63	531013	82.15 ug/L	98
41)	dibromomethane	7.237	93	414483	88.52 ug/L	91
42)	bromodichloromethane	7.525	83	806838	87.71 ug/L	98
43)	2-chloroethyl vinyl ether	8.048	63	9680	107.52 ug/L	81
44)	cis-1,3-dichloropropene	8.189	75	933911	90.51 ug/L	91
45)	4-methyl-2-pentanone (...	8.466	43	714765	75.49 ug/L	88
47)	toluene	8.631	91	2585895	93.53 ug/L	99
48)	trans-1,3-dichloropropene	8.995	75	829194	89.79 ug/L	90
49)	1,1,2-trichloroethane	9.225	83	492924	89.31 ug/L	96
51)	tetrachloroethene	9.360	166	809125	95.62 ug/L	98
52)	1,3-dichloropropane	9.431	76	1023792	84.48 ug/L	100
53)	2-hexanone (MBK)	9.625	43	529957	73.72 ug/L	91
54)	dibromochloromethane	9.719	129	753247	91.01 ug/L	100
55)	1,2-dibromoethane	9.831	109	652444	93.58 ug/L #	100
56)	chlorobenzene	10.495	112	1798062	94.02 ug/L	96
57)	1-chlorohexane	10.542	55	469542	80.47 ug/L #	78
58)	1,1,1,2-tetrachloroethane	10.630	131	676232	94.78 ug/L	99
59)	ethylbenzene	10.678	91	2897005	90.38 ug/L	97
60)	m+p-xylene	10.836	106	2309391	187.64 ug/L	97
61)	o-xylene	11.330	106	1142946	91.70 ug/L	98
62)	styrene	11.354	104	1932369	96.96 ug/L	95
63)	bromoform	11.554	173	645216	100.54 ug/L	99
66)	isopropylbenzene	11.819	105	2878761	85.89 ug/L	98
67)	bromobenzene	12.142	77	1114803	88.03 ug/L	91
68)	1,1,2,2-tetrachloroethane	12.224	83	889145	91.21 ug/L #	98
69)	1,2,3-trichloropropane	12.248	110	320027	82.78 ug/L	89
70)	1,4-dichloro-2-butene	12.295	53	207856	96.09 ug/L	86
71)	n-propylbenzene	12.342	120	782889	88.02 ug/L #	90
72)	2-chlorotoluene	12.413	126	730799	87.20 ug/L	93
73)	1,3,5-trimethylbenzene	12.577	105	2459097	89.63 ug/L	99
74)	4-chlorotoluene	12.554	91	2260858	85.50 ug/L	97
75)	tert-butylbenzene	12.972	119	2141868	90.01 ug/L	98
76)	1,2,4-trimethylbenzene	13.036	105	2377333	93.62 ug/L	97
77)	sec-butylbenzene	13.248	105	2956347	93.20 ug/L	98
78)	1,3-dichlorobenzene	13.342	146	1474426	93.69 ug/L	99
79)	4-isopropyltoluene	13.448	119	2533504	97.91 ug/L	98
80)	1,4-dichlorobenzene	13.460	146	1487329	94.75 ug/L	97
81)	1,2-dichlorobenzene	13.913	146	1461854	95.45 ug/L	98
82)	n-butylbenzene	13.954	91	1864041	95.83 ug/L	96
83)	hexachloroethane	14.219	201	457407	104.91 ug/L #	93
84)	1,2-dibromo-3-chloropr...	14.889	157	267020	106.84 ug/L	92
85)	1,2,4-trichlorobenzene	15.913	180	862531	91.33 ug/L	98
86)	hexachlorobutadiene	16.154	225	476284	109.78 ug/L	96
87)	naphthalene	16.201	128	1969086	94.65 ug/L	97
88)	1,2,3-trichlorobenzene	16.501	180	835498	92.76 ug/L	96
89)	2-methylnaphthalene	17.601	142	480501	109.59 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 200P0206.D
Acq On : 06 Feb 2015 14:13
Operator : DLV
Sample : STD7
Misc :
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 09 07:20:26 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 200P0206.D
Acq On : 06 Feb 2015 14:13
Operator : DLV
Sample : STD7
Misc :
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 09 07:20:26 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	746904	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	646289	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	367996	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	204402	39.07 ug/L	0.00
Spiked Amount 40.000			Recovery	= 97.67%	
37) #1,2-Dichloroethane-d4	5.531	67	112966	36.26 ug/L	0.00
Spiked Amount 40.000			Recovery	= 90.65%	
46) #Toluene-d8	8.542	98	767781	39.90 ug/L	0.00
Spiked Amount 40.000			Recovery	= 99.75%	
64) #4-Bromofluorobenzene	11.989	95	329828	40.72 ug/L	0.00
Spiked Amount 40.000			Recovery	= 101.80%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	862906	163.31 ug/L	95
3) chloromethane	1.149	50	897772	144.26 ug/L	100
4) vinyl chloride	1.219	62	1214650	155.46 ug/L	100
5) bromomethane	1.431	94	530826	105.21 ug/L	99
6) chloroethane	1.502	64	698374	144.04 ug/L	98
7) dichlorofluoromethane	1.649	67	1995013	154.29 ug/L	100
8) trichlorofluoromethane	1.690	101	1828078	156.16 ug/L	98
9) ethyl ether	1.913	74	778660	159.10 ug/L	87
10) acrolein	2.013	56	257373	149.93 ug/L #	99
11) 1,1,2-trichloro-1,2,2-...	2.084	101	1093270	165.84 ug/L	98
12) 1,1-dichloroethene	2.084	96	983457	153.94 ug/L	89
13) acetone	2.149	43	514724	127.79 ug/L	94
14) iodomethane	2.202	142	918888	182.91 ug/L	93
15) carbon disulfide	2.255	76	3061356	176.93 ug/L	98
16) methyl acetate	2.443	43	1052351	146.86 ug/L	91
17) methylene chloride	2.519	49	1140966	145.00 ug/L	83
18) acrylonitrile	2.784	53	584366	157.96 ug/L	97
19) trans-1,2-dichloroethene	2.790	96	1096828	189.50 ug/L	90
20) methyl (tert) butyl ether	2.813	73	3836211	184.27 ug/L	96
21) 1,1-dichloroethane	3.272	63	1619348	146.51 ug/L	99
22) vinyl acetate	3.372	43	1644671	140.27 ug/L	92
23) 2,2-dichloropropane	4.060	77	1473735	157.52 ug/L	96
24) cis-1,2-dichloroethene	4.078	96	1268380	182.21 ug/L	89
25) 2-butanone (MEK)	4.149	43	677957	144.97 ug/L	85
26) bromochloromethane	4.460	49	722141	142.47 ug/L #	70
27) tetrahydrofuran	4.554	71	224088	173.67 ug/L #	70
28) chloroform	4.637	83	2027992	169.23 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	1856278	171.43 ug/L	96
31) cyclohexane	4.996	56	1598129	156.52 ug/L	88
32) carbon tetrachloride	5.219	117	1596545	175.99 ug/L	98
33) 1,1-dichloropropene	5.243	75	1421548	169.01 ug/L	98
34) benzene	5.607	78	4452734	175.70 ug/L	90
35) 1,2-dichloroethane	5.666	62	1594877	161.74 ug/L	97
36) heptane	6.125	57	23566	No Calib	
38) trichloroethene	6.725	130	1419181	194.22 ug/L	97

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : 200P0206.D
Acq On : 06 Feb 2015 14:13
Operator : DLV
Sample : STD7
Misc :
ALS Vial : 10 Sample Multiplier: 1
Quant Time: Feb 09 07:20:26 2015
Quant Method : C:\gcms\1\methods\8260B-W39.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:17:22 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.990	83	1889285	181.56 ug/L	91
40) 1,2-dichloropropane	7.066	63	1041980	159.74 ug/L	98
41) dibromomethane	7.237	93	833796	176.46 ug/L	92
42) bromodichloromethane	7.525	83	1608276	173.27 ug/L	98
43) 2-chloroethyl vinyl ether	8.042	63	24146	220.63 ug/L	81
44) cis-1,3-dichloropropene	8.190	75	1858072	178.46 ug/L	90
45) 4-methyl-2-pentanone (...	8.466	43	1411117	147.70 ug/L	87
47) toluene	8.631	91	5130169	183.89 ug/L	98
48) trans-1,3-dichloropropene	8.995	75	1673469	179.58 ug/L	89
49) 1,1,2-trichloroethane	9.225	83	990827	177.90 ug/L	97
51) tetrachloroethene	9.360	166	1597493	180.80 ug/L	98
52) 1,3-dichloropropane	9.431	76	2036419	160.92 ug/L	100
53) 2-hexanone (MBK)	9.619	43	1048818	139.73 ug/L	90
54) dibromochloromethane	9.719	129	1517875	175.64 ug/L	100
55) 1,2-dibromoethane	9.831	109	1316271	180.80 ug/L #	100
56) chlorobenzene	10.495	112	3615408	181.04 ug/L	96
57) 1-chlorohexane	10.542	55	945555	155.19 ug/L #	76
58) 1,1,1,2-tetrachloroethane	10.631	131	1346851	180.79 ug/L	98
59) ethylbenzene	10.678	91	5797302	173.21 ug/L	97
60) m+p-xylene	10.836	106	4689512	364.90 ug/L	95
61) o-xylene	11.331	106	2323430	178.52 ug/L	99
62) styrene	11.354	104	4030346	193.67 ug/L	93
63) bromoform	11.554	173	1346401	200.92 ug/L	98
66) isopropylbenzene	11.819	105	5915796	161.77 ug/L	98
67) bromobenzene	12.142	77	2303789	167.06 ug/L	91
68) 1,1,2,2-tetrachloroethane	12.225	83	1796504	170.34 ug/L #	98
69) 1,2,3-trichloropropane	12.248	110	647127	153.42 ug/L	88
70) 1,4-dichloro-2-butene	12.295	53	392949	167.94 ug/L #	81
71) n-propylbenzene	12.342	120	1618287	166.76 ug/L #	89
72) 2-chlorotoluene	12.413	126	1495733	163.59 ug/L	93
73) 1,3,5-trimethylbenzene	12.578	105	5065769	169.23 ug/L	99
74) 4-chlorotoluene	12.554	91	4689510	162.54 ug/L	97
75) tert-butylbenzene	12.972	119	4417925	170.16 ug/L	98
76) 1,2,4-trimethylbenzene	13.036	105	4926183	177.81 ug/L	96
77) sec-butylbenzene	13.248	105	6105027	176.40 ug/L	98
78) 1,3-dichlorobenzene	13.342	146	3072657	178.95 ug/L	98
79) 4-isopropyltoluene	13.448	119	5303261	187.85 ug/L	97
80) 1,4-dichlorobenzene	13.460	146	3091676	180.51 ug/L	97
81) 1,2-dichlorobenzene	13.913	146	3043023	182.11 ug/L	98
82) n-butylbenzene	13.954	91	4085961	192.53 ug/L	96
83) hexachloroethane	14.219	201	951205	199.96 ug/L #	92
84) 1,2-dibromo-3-chloropr...	14.889	157	557985	204.63 ug/L	93
85) 1,2,4-trichlorobenzene	15.907	180	1942985	182.80 ug/L	99
86) hexachlorobutadiene	16.154	225	981037	207.24 ug/L	96
87) naphthalene	16.201	128	4490932	188.36 ug/L	97
88) 1,2,3-trichlorobenzene	16.501	180	1883152	185.34 ug/L	97
89) 2-methylnaphthalene	17.601	142	1338070	202.73 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Acetone	40.0	41.9	105	80-120
Acrolein	40.0	41.4	104	80-120
Acrylonitrile	40.0	36.6	92	80-120
Benzene	40.0	39.0	98	80-120
Bromobenzene	40.0	37.0	93	80-120
Bromochloromethane	40.0	37.3	93	80-120
Bromodichloromethane	40.0	40.4	101	80-120
Bromoform	40.0	40.6	102	80-120
Bromomethane	40.0	40.4	101	80-120
n-Butylbenzene	40.0	39.1	98	80-120
sec-Butylbenzene	40.0	39.7	99	80-120
tert-Butylbenzene	40.0	38.7	97	80-120
Carbon Disulfide	40.0	43.3	108	80-120
Carbon Tetrachloride	40.0	39.6	99	80-120
Chlorobenzene	40.0	39.1	98	80-120
Chloroethane	40.0	39.1	98	80-120
2-Chloroethyl Vinyl Ether	40.0	43.4	109	80-120
Chloroform	40.0	39.3	98	80-120
1-Chlorohexane	40.0	36.9	92	80-120
Chloromethane	40.0	44.9	112	80-120
2-Chlorotoluene	40.0	38.9	97	80-120
4-Chlorotoluene	40.0	38.3	96	80-120
Cyclohexane	40.0	36.0	90	80-120
1,2-Dibromo-3-chloropropane	40.0	44.8	112	80-120
Dibromochloromethane	40.0	41.1	103	80-120
1,2-Dibromoethane	40.0	40.2	101	80-120
Dibromomethane	40.0	40.0	100	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
trans-1,4-Dichloro-2-butene	40.0	37.3	93	80-120
1,2-Dichlorobenzene	40.0	40.2	101	80-120
1,3-Dichlorobenzene	40.0	39.7	99	80-120
1,4-Dichlorobenzene	40.0	38.6	97	80-120
Dichlorodifluoromethane	40.0	43.6	109	80-120
1,1-Dichloroethane	40.0	39.1	98	80-120
1,2-Dichloroethane	40.0	40.2	101	80-120
1,1-Dichloroethene	40.0	40.9	102	80-120
cis-1,2-Dichloroethene	40.0	39.0	98	80-120
trans-1,2-Dichloroethene	40.0	39.4	99	80-120
1,2-Dichloroethene (Total)	80.0	78.4	98	80-120
Dichlorofluoromethane	40.0	39.2	98	80-120
1,2-Dichloropropane	40.0	39.7	99	80-120
1,3-Dichloropropane	40.0	38.6	97	80-120
2,2-Dichloropropane	40.0	34.5	86	80-120
1,1-Dichloropropene	40.0	40.4	101	80-120
cis-1,3-Dichloropropene	40.0	38.1	95	80-120
trans-1,3-Dichloropropene	40.0	42.0	105	80-120
Ethylbenzene	40.0	39.1	98	80-120
Ethyl Ether	40.0	39.5	99	80-120
Hexachlorobutadiene	40.0	46.7	117	80-120
2-Hexanone	40.0	40.8	102	80-120
Iodomethane	40.0	42.4	106	80-120
Isopropylbenzene	40.0	36.0	90	80-120
4-Isopropyltoluene	40.0	39.8	100	80-120
Methyl Acetate	40.0	37.2	93	80-120
Methyl tert-Butyl Ether	40.0	38.0	95	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B11037-SCV1
Sequence: 5B11037

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Methylcyclohexane	40.0	37.3	93	80-120
Methylene Chloride	40.0	41.6	104	80-120
2-Butanone (MEK)	40.0	39.5	99	80-120
4-Methyl-2-pentanone (MIBK)	40.0	42.0	105	80-120
Naphthalene	40.0	38.5	96	80-120
n-Propylbenzene	40.0	39.8	100	80-120
Styrene	40.0	39.9	100	80-120
1,1,1,2-Tetrachloroethane	40.0	39.3	98	80-120
1,1,2,2-Tetrachloroethane	40.0	40.2	101	80-120
Tetrachloroethene	40.0	39.4	99	80-120
Tetrahydrofuran	40.0	38.9	97	80-120
Toluene	40.0	38.7	97	80-120
1,2,3-Trichlorobenzene	40.0	37.7	94	80-120
1,2,4-Trichlorobenzene	40.0	38.2	96	80-120
1,1,1-Trichloroethane	40.0	38.7	97	80-120
1,1,2-Trichloroethane	40.0	38.6	97	80-120
Trichloroethene	40.0	41.5	104	80-120
Trichlorofluoromethane	40.0	40.4	101	80-120
1,2,3-Trichloropropane	40.0	38.4	96	80-120
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	38.2	96	80-120
1,2,4-Trimethylbenzene	40.0	39.3	98	80-120
1,3,5-Trimethylbenzene	40.0	38.6	97	80-120
Vinyl Acetate	40.0	33.2	83	80-120
Vinyl Chloride	40.0	39.5	99	80-120
Xylene, Meta + Para	80.0	79.6	100	80-120
Xylene, Ortho	40.0	39.8	100	80-120
Xylene (Total)	120	119	99	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B11037-SCV1

Sequence: 5B11037

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 5010204

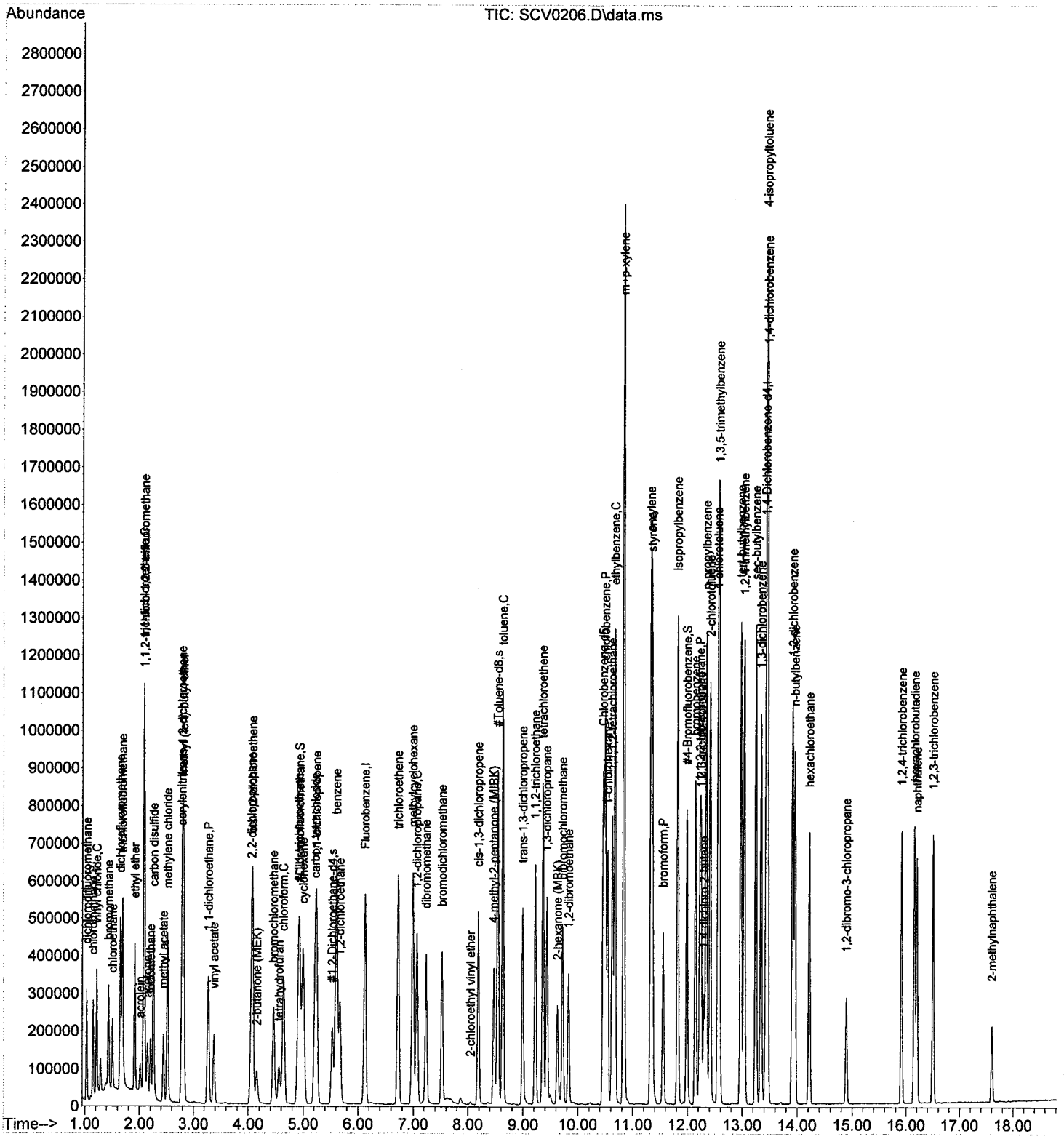
Calibration: 5B11014

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Dichlorobenzenes (Total)	120	118	98	80-120
Dibromofluoromethane	40.0	40.3	101	80-120
1,2-Dichloroethane-d4	40.0	39.7	99	80-120
Toluene-d8	40.0	40.2	101	80-120
4-Bromofluorobenzene	40.0	40.6	102	80-120

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : SCV0206.D
Acq On : 06 Feb 2015 15:32
Operator : DLV
Sample : SCV1
Misc :
ALS Vial : 13 Sample Multiplier: 1
Quant Time: Feb 09 07:26:22 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



00140

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : SCV0206.D
Acq On : 06 Feb 2015 15:32
Operator : DLV
Sample : SCV1
Misc :
ALS Vial : 13 Sample Multiplier: 1
Quant Time: Feb 09 07:26:22 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.125	96	721553	40.00	ug/L	0.00
50) Chlorobenzene-d5	10.460	117	602981	40.00	ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	320052	40.00	ug/L	# 0.00
System Monitoring Compounds						
29) #Dibromofluoromethane	4.931	111	196874	40.28	ug/L	0.00
Spiked Amount 40.000			Recovery = 100.70%			
37) #1,2-Dichloroethane-d4	5.531	67	108392	39.67	ug/L	0.00
Spiked Amount 40.000			Recovery = 99.17%			
46) #Toluene-d8	8.542	98	735084	40.19	ug/L	0.00
Spiked Amount 40.000			Recovery = 100.48%			
64) #4-Bromofluorobenzene	11.989	95	299709	40.56	ug/L	0.00
Spiked Amount 40.000			Recovery = 101.40%			
Target Compounds						Qvalue
2) dichlorodifluoromethane	1.031	85	201533	43.60	ug/L	98
3) chloromethane	1.149	50	199902	44.88	ug/L	99
4) vinyl chloride	1.219	62	248245	39.48	ug/L	99
5) bromomethane	1.437	94	154050	40.37	ug/L	98
6) chloroethane	1.508	64	137336	39.10	ug/L	100
7) dichlorofluoromethane	1.649	67	397152	39.24	ug/L	99
8) trichlorofluoromethane	1.690	101	383843	40.36	ug/L	98
9) ethyl ether	1.913	74	155765	39.47	ug/L	98
10) acrolein	2.013	56	52886	41.44	ug/L #	97
11) 1,1,2-trichloro-1,2,2-...	2.090	101	217687	38.24	ug/L	99
12) 1,1-dichloroethene	2.084	96	207827	40.88	ug/L	99
13) acetone	2.149	43	117281	41.94	ug/L	99
14) iodomethane	2.208	142	175134	42.39	ug/L	98
15) carbon disulfide	2.260	76	628769	43.33	ug/L	99
16) methyl acetate	2.443	43	200390	37.16	ug/L	99
17) methylene chloride	2.519	49	238975	41.60	ug/L	99
18) acrylonitrile	2.784	53	111407	36.59	ug/L	98
19) trans-1,2-dichloroethene	2.790	96	218964	39.38	ug/L	99
20) methyl (tert) butyl ether	2.813	73	741509	37.99	ug/L	100
21) 1,1-dichloroethane	3.272	63	355678	39.09	ug/L	100
22) vinyl acetate	3.378	43	306674	33.22	ug/L	99
23) 2,2-dichloropropane	4.060	77	285822	34.51	ug/L	100
24) cis-1,2-dichloroethene	4.078	96	252451	38.99	ug/L	98
25) 2-butanone (MEK)	4.154	43	135957	39.50	ug/L	98
26) bromochloromethane	4.454	49	145592	37.27	ug/L	100
27) tetrahydrofuran	4.560	71	44711	38.86	ug/L	95
28) chloroform	4.637	83	402550	39.27	ug/L	99
30) 1,1,1-trichloroethane	4.913	97	364713	38.66	ug/L	100
31) cyclohexane	4.996	56	305571	35.98	ug/L	98
32) carbon tetrachloride	5.219	117	299151	39.61	ug/L	98
33) 1,1-dichloropropene	5.243	75	290646	40.38	ug/L	100
34) benzene	5.607	78	875209	38.95	ug/L	99
35) 1,2-dichloroethane	5.666	62	322572	40.25	ug/L	99
36) heptane	6.125	57	21551	No Calib	#	
38) trichloroethene	6.725	130	288077	41.54	ug/L	99

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\020615\
Data File : SCV0206.D
Acq On : 06 Feb 2015 15:32
Operator : DLV
Sample : SCV1
Misc :
ALS Vial : 13 Sample Multiplier: 1
Quant Time: Feb 09 07:26:22 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.990	83	362009	37.33 ug/L	99
40) 1,2-dichloropropane	7.066	63	211284	39.68 ug/L	99
41) dibromomethane	7.237	93	168127	40.00 ug/L	100
42) bromodichloromethane	7.525	83	323521	40.45 ug/L	99
43) 2-chloroethyl vinyl ether	8.048	63	3417	43.41 ug/L #	40
44) cis-1,3-dichloropropene	8.190	75	348320	38.11 ug/L	100
45) 4-methyl-2-pentanone (...	8.466	43	275485	41.99 ug/L	99
47) toluene	8.631	91	984335	38.69 ug/L	99
48) trans-1,3-dichloropropene	8.995	75	338272	41.98 ug/L	99
49) 1,1,2-trichloroethane	9.225	83	195135	38.56 ug/L	99
51) tetrachloroethene	9.360	166	323654	39.37 ug/L	99
52) 1,3-dichloropropane	9.431	76	399713	38.58 ug/L	100
53) 2-hexanone (MBK)	9.625	43	208898	40.75 ug/L	99
54) dibromochloromethane	9.719	129	296230	41.10 ug/L	99
55) 1,2-dibromoethane	9.831	109	258730	40.19 ug/L #	100
56) chlorobenzene	10.495	112	689384	39.11 ug/L	98
57) 1-chlorohexane	10.542	55	171042	36.89 ug/L	99
58) 1,1,1,2-tetrachloroethane	10.625	131	264062	39.28 ug/L	99
59) ethylbenzene	10.678	91	1103643	39.14 ug/L	100
60) m+p-xylene	10.836	106	891802	79.62 ug/L	98
61) o-xylene	11.331	106	443371	39.83 ug/L	99
62) styrene	11.354	104	710326	39.86 ug/L	99
63) bromoform	11.554	173	249399	40.58 ug/L	99
66) isopropylbenzene	11.819	105	1056623	35.99 ug/L	100
67) bromobenzene	12.142	77	426504	37.04 ug/L	100
68) 1,1,2,2-tetrachloroethane	12.225	83	345652	40.22 ug/L #	98
69) 1,2,3-trichloropropane	12.248	110	127976	38.42 ug/L	99
70) 1,4-dichloro-2-butene	12.301	53	74755	37.30 ug/L	99
71) n-propylbenzene	12.342	120	303998	39.83 ug/L	95
72) 2-chlorotoluene	12.413	126	285884	38.90 ug/L	99
73) 1,3,5-trimethylbenzene	12.578	105	919897	38.63 ug/L	98
74) 4-chlorotoluene	12.554	91	853577	38.31 ug/L	100
75) tert-butylbenzene	12.972	119	818964	38.67 ug/L	100
76) 1,2,4-trimethylbenzene	13.036	105	881155	39.31 ug/L	100
77) sec-butylbenzene	13.248	105	1106698	39.72 ug/L	100
78) 1,3-dichlorobenzene	13.342	146	564364	39.67 ug/L	99
79) 4-isopropyltoluene	13.448	119	901215	39.84 ug/L	99
80) 1,4-dichlorobenzene	13.460	146	550487	38.55 ug/L	99
81) 1,2-dichlorobenzene	13.913	146	562844	40.17 ug/L	99
82) n-butylbenzene	13.954	91	636205	39.10 ug/L	100
83) hexachloroethane	14.219	201	160956	36.92 ug/L	97
84) 1,2-dibromo-3-chloropr...	14.889	157	106342	44.79 ug/L	98
85) 1,2,4-trichlorobenzene	15.913	180	293181	38.20 ug/L	99
86) hexachlorobutadiene	16.154	225	187364	46.73 ug/L	99
87) naphthalene	16.201	128	634651	38.47 ug/L	100
88) 1,2,3-trichlorobenzene	16.501	180	277710	37.71 ug/L	97
89) 2-methylnaphthalene	17.601	142	120899	35.63 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

CONTINUING CALIBRATION CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B12009-CCV1
Injection Date: 02/11/15
Calibration Date: 02/06/15 00:00
Sequence: 5B12009

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: CCV0211.D
Injection Time: 09:45
Calibration: 5B11014
Instrument ID: 350

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1-Dichloroethane	A	40.0	46.6	0.504423	0.5872439	0.1	16.4	20
1,1-Dichloroethene	A	40.0	47.0	0.2818164	0.3308972		17.4	20
cis-1,2-Dichloroethene	A	40.0	46.6	0.3589747	0.417864		16.4	20
Trichloroethene	A	40.0	44.0	0.3844467	0.4230134		10.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk
* Values outside of QC limits

Evaluate Continuing Calibration Report

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : CCV0211.D
Acq On : 11 Feb 2015 09:45
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1
Quant Time: Feb 11 11:57:16 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	84	0.00
2		dichlorodifluoromethane	0.256	0.307	-19.9	103	0.00
3	P	chloromethane	0.271	0.319	-17.7	106	0.00
4	C	vinyl chloride	0.349	0.405	-16.0	103	0.00
5		bromomethane	0.212	0.246	-16.0	98	0.00
6		chloroethane	0.214	0.247	-15.4	103	0.00
7		dichlorofluoromethane	0.561	0.671	-19.6	102	0.00
8		trichlorofluoromethane	0.527	0.586	-11.2	96	0.00
9		ethyl ether	0.219	0.264	-20.5	105	0.00
10		acrolein	0.078	0.097	-24.4	116	0.00
11		1,1,2-trichloro-1,2,2-trifl	0.316	0.372	-17.7	100	0.00
12	C	1,1-dichloroethene	0.282	0.331	-17.4	100	0.00
13		acetone	0.183	0.185	-1.1	97	0.00
14		iodomethane	0.176	0.301	-71.0#	113	0.00
15		carbon disulfide	0.805	1.020	-26.7#	99	0.00
16		methyl acetate	0.299	0.343	-14.7	99	0.00
17		methylene chloride	0.396	0.394	0.5	103	0.00
18		acrylonitrile	0.169	0.193	-14.2	102	0.00
19		trans-1,2-dichloroethene	0.308	0.359	-16.6	102	0.00
20		methyl (tert) butyl ether	1.082	1.181	-9.1	96	0.00
21	P	1,1-dichloroethane	0.504	0.587	-16.5	101	0.00
22		vinyl acetate	0.512	0.691	-35.0#	125	0.00
23		2,2-dichloropropane	0.459	0.505	-10.0	97	0.00
24		cis-1,2-dichloroethene	0.359	0.418	-16.4	100	0.00
25		2-butanone (MEK)	0.191	0.214	-12.0	95	0.00
26		bromochloromethane	0.217	0.252	-16.1	103	0.00
27		tetrahydrofuran	0.064	0.069	-7.8	96	0.00
28	C	chloroform	0.568	0.660	-16.2	100	0.00
29	S	#Dibromofluoromethane	0.271	0.285	-5.2	88	0.00
30		1,1,1-trichloroethane	0.523	0.563	-7.6	93	0.00
31		cyclohexane	0.471	0.531	-12.7	100	0.00
32		carbon tetrachloride	0.419	0.332	20.8	66	0.00
33		1,1-dichloropropene	0.399	0.462	-15.8	99	0.00
34		benzene	1.246	1.465	-17.6	100	0.00
35		1,2-dichloroethane	0.444	0.517	-16.4	100	0.00
36		heptane	0.000	0.000	0.0	0#	0.00
37	s	#1,2-Dichloroethane-d4	0.151	0.158	-4.6	86	0.00
38		trichloroethene	0.384	0.423	-10.2	92	0.00
39		methylcyclohexane	0.538	0.653	-21.4	105	0.00
40	C	1,2-dichloropropane	0.295	0.342	-15.9	100	0.00
41		dibromomethane	0.233	0.262	-12.4	99	0.00
42		bromodichloromethane	0.443	0.469	-5.9	91	0.00
43		2-chloroethyl vinyl ether	0.005	0.025	-400.0#	488#	0.00
44		cis-1,3-dichloropropene	0.507	0.547	-7.9	92	0.00
45		4-methyl-2-pentanone (MIBK)	0.364	0.441	-21.2	95	0.00
46	s	#Toluene-d8	1.014	1.109	-9.4	92	0.00
47	C	toluene	1.410	1.652	-17.2	101	0.00

Evaluate Continuing Calibration Report

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : CCV0211.D
Acq On : 11 Feb 2015 09:45
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1
Quant Time: Feb 11 11:57:16 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

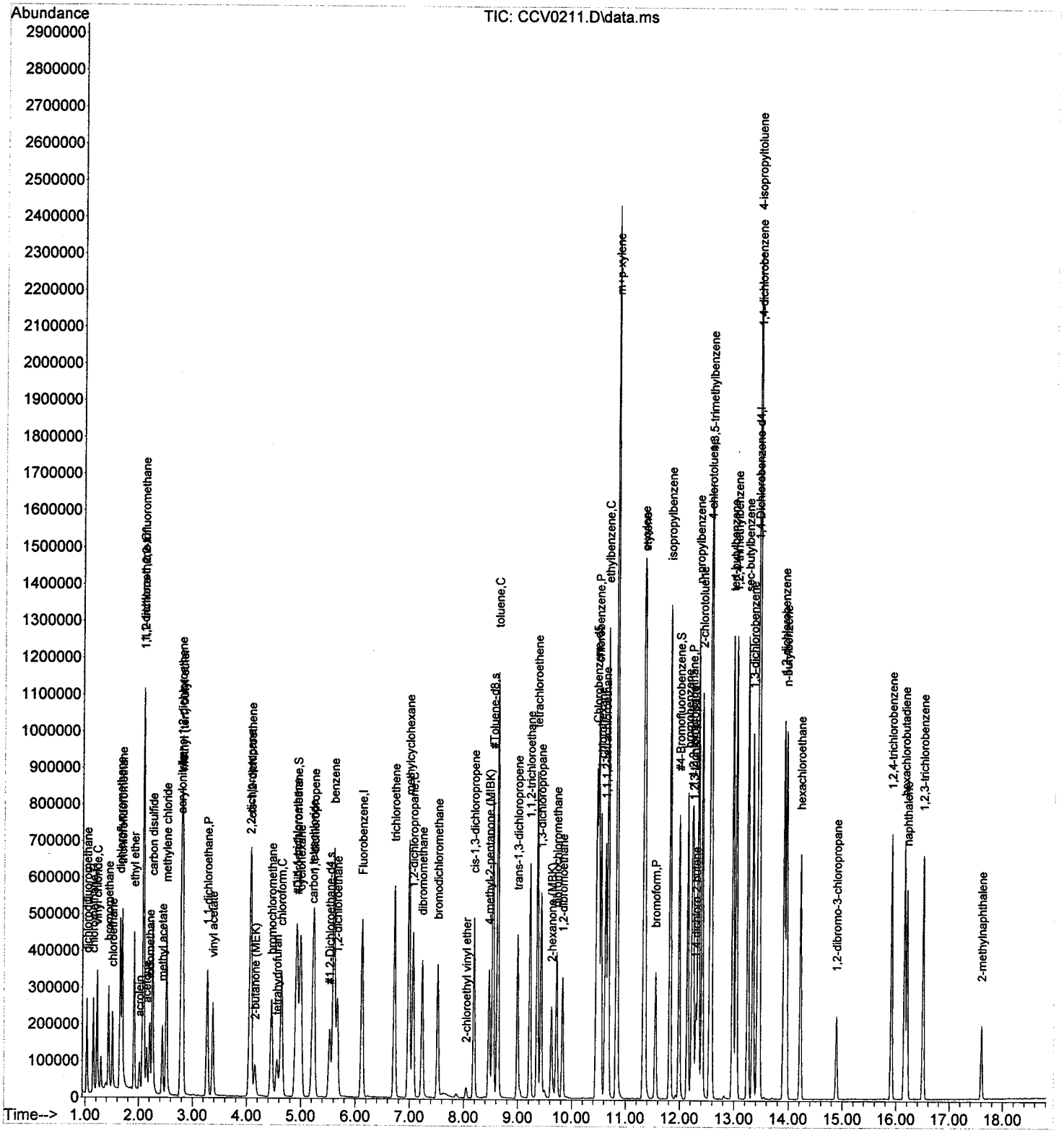
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		trans-1,3-dichloropropene	0.447	0.468	-4.7	89	0.00
49		1,1,2-trichloroethane	0.281	0.319	-13.5	100	0.00
50		Chlorobenzene-d5	1.000	1.000	0.0	98	0.00
51		tetrachloroethene	0.545	0.532	2.4	100	0.00
52		1,3-dichloropropane	0.687	0.676	1.6	101	0.00
53		2-hexanone (MBK)	0.340	0.325	4.4	92	0.00
54		dibromochloromethane	0.478	0.411	14.0	85	0.00
55		1,2-dibromoethane	0.427	0.411	3.7	96	0.00
56	P	chlorobenzene	1.169	1.142	2.3	98	0.00
57		1-chlorohexane	0.308	0.327	-6.2	107	0.00
58		1,1,1,2-tetrachloroethane	0.446	0.373	16.4	84	0.00
59	C	ethylbenzene	1.871	1.866	0.3	100	0.00
60		m+p-xylene	0.743	0.738	0.7	99	0.00
61		o-xylene	0.739	0.711	3.8	97	0.00
62		styrene	1.182	1.180	0.2	97	0.00
63	P	bromoform	0.408	0.313	23.3	77	0.00
64	S	#4-Bromofluorobenzene	0.490	0.511	-4.3	101	0.00
65	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00
66		isopropylbenzene	3.669	3.406	7.2	97	0.00
67		bromobenzene	1.439	1.338	7.0	99	0.00
68	P	1,1,2,2-tetrachloroethane	1.236	1.122	9.2	104	0.00
69		1,2,3-trichloropropane	0.416	0.372	10.6	93	0.00
70		1,4-dichloro-2-butene	0.295	0.221	25.1#	89	0.00
71		n-propylbenzene	0.954	0.932	2.3	99	0.00
72		2-chlorotoluene	0.919	0.862	6.2	98	0.00
73		1,3,5-trimethylbenzene	2.976	2.922	1.8	100	0.00
74		4-chlorotoluene	2.785	2.732	1.9	101	0.00
75		tert-butylbenzene	2.647	2.491	5.9	97	0.00
76		1,2,4-trimethylbenzene	2.801	2.792	0.3	100	0.00
77		sec-butylbenzene	3.482	3.496	-0.4	99	0.00
78		1,3-dichlorobenzene	1.778	1.700	4.4	97	0.00
79		4-isopropyltoluene	2.827	2.875	-1.7	100	0.00
80		1,4-dichlorobenzene	1.785	1.678	6.0	96	0.00
81		1,2-dichlorobenzene	1.751	1.650	5.8	95	0.00
82		n-butylbenzene	2.034	2.209	-8.6	107	0.00
83		hexachloroethane	0.545	0.393	27.9#	74	0.00
84		1,2-dibromo-3-chloropropane	0.297	0.254	14.5	82	0.00
85		1,2,4-trichlorobenzene	0.776	0.875	-12.8	100	0.00
86		hexachlorobutadiene	0.501	0.524	-4.6	94	0.00
87		naphthalene	1.705	1.722	-1.0	96	0.00
88		1,2,3-trichlorobenzene	0.743	0.817	-10.0	100	0.00
89		2-methylnaphthalene	0.434	0.358	17.5	89	0.00

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

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : CCV0211.D
Acq On : 11 Feb 2015 09:45
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1
Quant Time: Feb 11 11:57:16 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : CCV0211.D
Acq On : 11 Feb 2015 09:45
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1
Quant Time: Feb 11 11:57:16 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	628044	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	609445	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	321015	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	178796	42.03 ug/L	0.00
Spiked Amount 40.000			Recovery	= 105.08%	
37) #1,2-Dichloroethane-d4	5.531	67	99410	41.80 ug/L	0.00
Spiked Amount 40.000			Recovery	= 104.50%	
46) #Toluene-d8	8.542	98	696462	43.74 ug/L	0.00
Spiked Amount 40.000			Recovery	= 109.35%	
64) #4-Bromofluorobenzene	11.989	95	311238	41.68 ug/L	0.00
Spiked Amount 40.000			Recovery	= 104.20%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	192593	47.87 ug/L	97
3) chloromethane	1.149	50	200379	51.88 ug/L	100
4) vinyl chloride	1.219	62	254522	46.50 ug/L	100
5) bromomethane	1.437	94	154221	46.43 ug/L	97
6) chloroethane	1.507	64	154844	51.14 ug/L	99
7) dichlorofluoromethane	1.649	67	421159	47.81 ug/L	100
8) trichlorofluoromethane	1.690	101	368165	44.48 ug/L	98
9) ethyl ether	1.913	74	165610	48.21 ug/L	96
10) acrolein	2.013	56	61124	55.38 ug/L #	95
11) 1,1,2-trichloro-1,2,2-...	2.090	101	233829	47.19 ug/L	97
12) 1,1-dichloroethene	2.084	96	207818	46.97 ug/L	97
13) acetone	2.149	43	116296	48.65 ug/L	98
14) iodomethane	2.207	142	188959	51.67 ug/L	98
15) carbon disulfide	2.260	76	640810	50.73 ug/L	100
16) methyl acetate	2.443	43	215539	45.92 ug/L	100
17) methylene chloride	2.519	49	247419	49.87 ug/L	100
18) acrylonitrile	2.784	53	120927	45.63 ug/L	99
19) trans-1,2-dichloroethene	2.790	96	225598	46.61 ug/L	100
20) methyl (tert) butyl ether	2.813	73	741835	43.66 ug/L	100
21) 1,1-dichloroethane	3.272	63	368815	46.57 ug/L	100
22) vinyl acetate	3.378	43	433738	53.98 ug/L	97
23) 2,2-dichloropropane	4.060	77	317222	44.00 ug/L	99
24) cis-1,2-dichloroethene	4.078	96	262437	46.56 ug/L	99
25) 2-butanone (MEK)	4.154	43	134127	44.77 ug/L	97
26) bromochloromethane	4.460	49	158085	46.50 ug/L	94
27) tetrahydrofuran	4.560	71	43183	43.12 ug/L	95
28) chloroform	4.637	83	414555	46.46 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	353630	43.06 ug/L	99
31) cyclohexane	4.990	56	333446	45.10 ug/L	100
32) carbon tetrachloride	5.219	117	208323	31.69 ug/L	100
33) 1,1-dichloropropene	5.242	75	290153	46.32 ug/L	100
34) benzene	5.607	78	920062	47.04 ug/L	98
35) 1,2-dichloroethane	5.666	62	324819	46.56 ug/L	99
36) heptane	6.125	57	18904	No Calib #	
38) trichloroethene	6.725	130	265671	44.01 ug/L	98

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : CCV0211.D
Acq On : 11 Feb 2015 09:45
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1
Quant Time: Feb 11 11:57:16 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.989	83	410044	48.58 ug/L	99
40) 1,2-dichloropropane	7.066	63	214752	46.33 ug/L	100
41) dibromomethane	7.237	93	164592	44.99 ug/L	95
42) bromodichloromethane	7.525	83	294404	42.29 ug/L	100
43) 2-chloroethyl vinyl ether	8.048	63	15497	164.23 ug/L	97
44) cis-1,3-dichloropropene	8.189	75	343606	43.19 ug/L	98
45) 4-methyl-2-pentanone (...	8.472	43	276658	48.44 ug/L	99
47) toluene	8.631	91	1037818	46.87 ug/L	100
48) trans-1,3-dichloropropene	8.995	75	294073	41.92 ug/L	98
49) 1,1,2-trichloroethane	9.225	83	200095	45.43 ug/L	98
51) tetrachloroethene	9.360	166	324182	39.02 ug/L	97
52) 1,3-dichloropropane	9.431	76	411741	39.32 ug/L	100
53) 2-hexanone (MBK)	9.625	43	197833	38.18 ug/L	98
54) dibromochloromethane	9.719	129	250356	34.37 ug/L	98
55) 1,2-dibromoethane	9.830	109	250286	38.46 ug/L #	100
56) chlorobenzene	10.495	112	696002	39.07 ug/L	99
57) 1-chlorohexane	10.542	55	199214	42.52 ug/L	96
58) 1,1,1,2-tetrachloroethane	10.630	131	227503	33.48 ug/L	98
59) ethylbenzene	10.672	91	1137291	39.91 ug/L	99
60) m+p-xylene	10.836	106	899564	79.46 ug/L	100
61) o-xylene	11.330	106	433529	38.53 ug/L	99
62) styrene	11.354	104	719237	39.93 ug/L	100
63) bromoform	11.554	173	190685	30.70 ug/L	98
66) isopropylbenzene	11.819	105	1093218	37.13 ug/L	100
67) bromobenzene	12.148	77	429462	37.18 ug/L	94
68) 1,1,2,2-tetrachloroethane	12.224	83	360143	41.83 ug/L #	99
69) 1,2,3-trichloropropane	12.248	110	119308	35.71 ug/L	96
70) 1,4-dichloro-2-butene	12.301	53	70865	35.19 ug/L	91
71) n-propylbenzene	12.342	120	299211	39.08 ug/L	98
72) 2-chlorotoluene	12.413	126	276832	37.55 ug/L	95
73) 1,3,5-trimethylbenzene	12.577	105	937965	39.27 ug/L	97
74) 4-chlorotoluene	12.560	91	877021	39.25 ug/L	98
75) tert-butylbenzene	12.971	119	799760	37.65 ug/L	99
76) 1,2,4-trimethylbenzene	13.036	105	896210	39.86 ug/L	99
77) sec-butylbenzene	13.248	105	1122224	40.16 ug/L	98
78) 1,3-dichlorobenzene	13.342	146	545658	38.24 ug/L	99
79) 4-isopropyltoluene	13.448	119	922939	40.68 ug/L	100
80) 1,4-dichlorobenzene	13.460	146	538804	37.62 ug/L	99
81) 1,2-dichlorobenzene	13.913	146	529705	37.69 ug/L	100
82) n-butylbenzene	13.954	91	709014	43.44 ug/L	98
83) hexachloroethane	14.218	201	126167	28.85 ug/L #	88
84) 1,2-dibromo-3-chloropr...	14.889	157	81435	34.20 ug/L	97
85) 1,2,4-trichlorobenzene	15.913	180	281032	36.68 ug/L	100
86) hexachlorobutadiene	16.154	225	168209	41.83 ug/L	99
87) naphthalene	16.201	128	552827	34.32 ug/L	100
88) 1,2,3-trichlorobenzene	16.501	180	262376	35.78 ug/L	99
89) 2-methylnaphthalene	17.607	142	114887	34.13 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

TRIMATRIX LABORATORIES

SECTION - C

RAW QUALITY CONTROL DATA

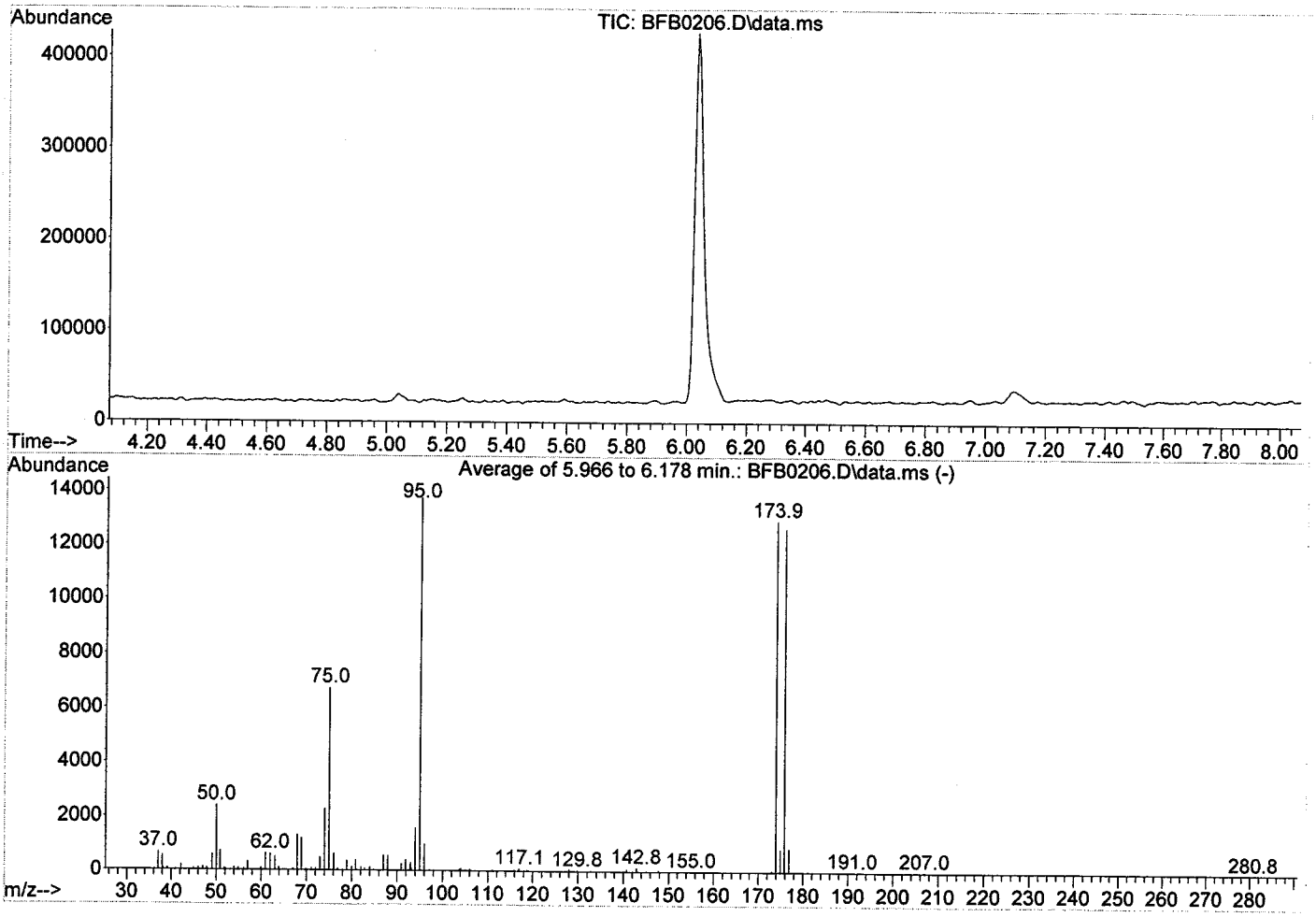
USEPA-8260B

This report shall not be reproduced except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

Data Path : C:\gcms\1\data\020615\
Data File : BFB0206.D
Acq On : 06 Feb 2015 10:13
Operator : DLV
Sample : BFB
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\gcms\1\methods\8260B-W40.M
Title : 8260B : 5030
Last Update : Mon Feb 09 07:25:43 2015



AutoFind: Averaged scan 854 to 890; Bkg corrected with scan 853

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	2413	PASS
75	95	30	60	49.2	6755	PASS
95	95	100	100	100.0	13723	PASS
96	95	5	9	7.2	993	PASS
173	174	0.00	2	0.4	56	PASS
174	95	50	100	94.3	12939	PASS
175	174	5	9	6.6	855	PASS
176	174	95	101	97.7	12638	PASS
177	176	5	9	7.0	884	PASS

Average of 5.966 to 6.178 min.: BFB0206.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.25	14	41.00	40	50.90	734	57.00	331
35.65	21	42.20	189	51.80	95	58.90	21
35.80	14	44.95	62	52.10	57	59.95	100
36.15	42	46.00	103	53.00	22	60.95	646
37.00	683	47.00	138	53.15	36	62.00	627
37.45	9	47.20	36	53.70	8	63.05	527
38.00	546	47.85	105	53.80	5	63.95	122
38.15	74	48.10	45	53.95	110	64.20	23
39.00	78	49.05	590	54.90	97	64.80	47
39.15	68	50.00	2413	55.15	30	64.90	27
39.90	6	50.30	4	56.10	69	65.70	4

Average of 5.966 to 6.178 min.: BFB0206.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
65.80	4	71.75	10	80.00	149	85.75	9
67.10	84	72.05	90	80.70	16	86.10	20
67.95	1335	72.95	497	80.90	409	87.00	578
68.70	13	73.20	12	81.15	29	87.95	562
68.80	23	74.00	2302	82.05	142	88.30	4
68.90	1220	75.00	6755	82.80	20	88.70	5
69.85	52	76.05	641	82.90	77	90.90	269
70.10	61	76.95	83	83.25	15	91.70	9
70.85	10	77.95	38	83.90	54	91.95	412
71.10	105	78.95	381	84.05	126	92.95	240
71.25	26	79.20	5	84.85	43	93.00	306

Average of 5.966 to 6.178 min.: BFB0206.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.10	91	102.80	8	111.00	48	118.00	36
93.80	18	103.75	68	111.20	5	118.20	5
94.00	1615	104.05	96	111.95	14	118.80	55
95.00	13723	105.05	49	113.10	4	118.90	24
96.00	993	105.95	82	114.80	30	119.05	36
96.15	20	107.10	5	114.90	36	119.95	17
97.20	40	107.80	17	115.05	24	120.80	13
97.80	19	108.15	17	115.95	55	121.05	23
97.90	4	109.10	4	116.85	53	123.20	5
98.05	39	109.90	4	117.05	101	124.10	9
98.25	15	110.10	10	117.60	19	128.00	86

Average of 5.966 to 6.178 min.: BFB0206.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
128.70	4	140.75	101	155.00	25	174.95	855
128.80	5	142.10	9	155.85	15	175.90	12638
129.80	54	142.85	162	156.70	5	176.90	884
130.75	10	143.90	22	156.95	22	177.95	20
131.00	5	144.80	13	158.10	9	187.20	5
132.75	54	145.00	5	158.75	16	191.00	24
134.80	20	145.95	28	160.80	14	193.00	19
134.90	20	146.70	4	163.00	4	206.75	30
135.05	25	147.75	57	173.00	56	207.00	41
136.80	11	148.80	9	173.40	5	207.20	11
137.90	4	151.80	4	173.90	12939	207.70	5

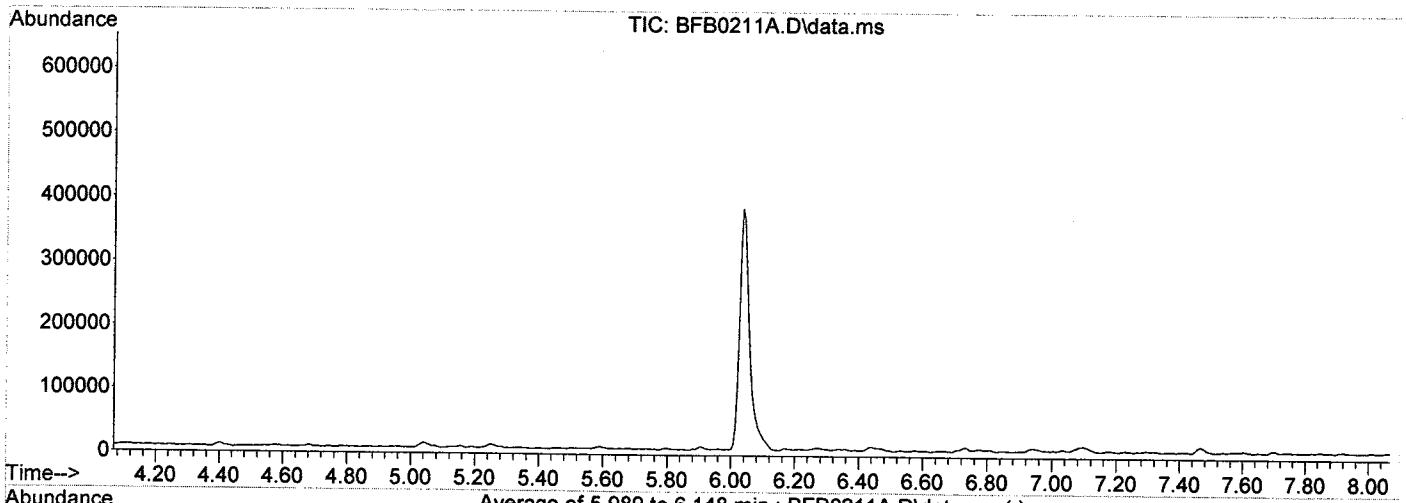
Average of 5.966 to 6.178 min.: BFB0206.D\data.ms
BFB
Modified:subtracted

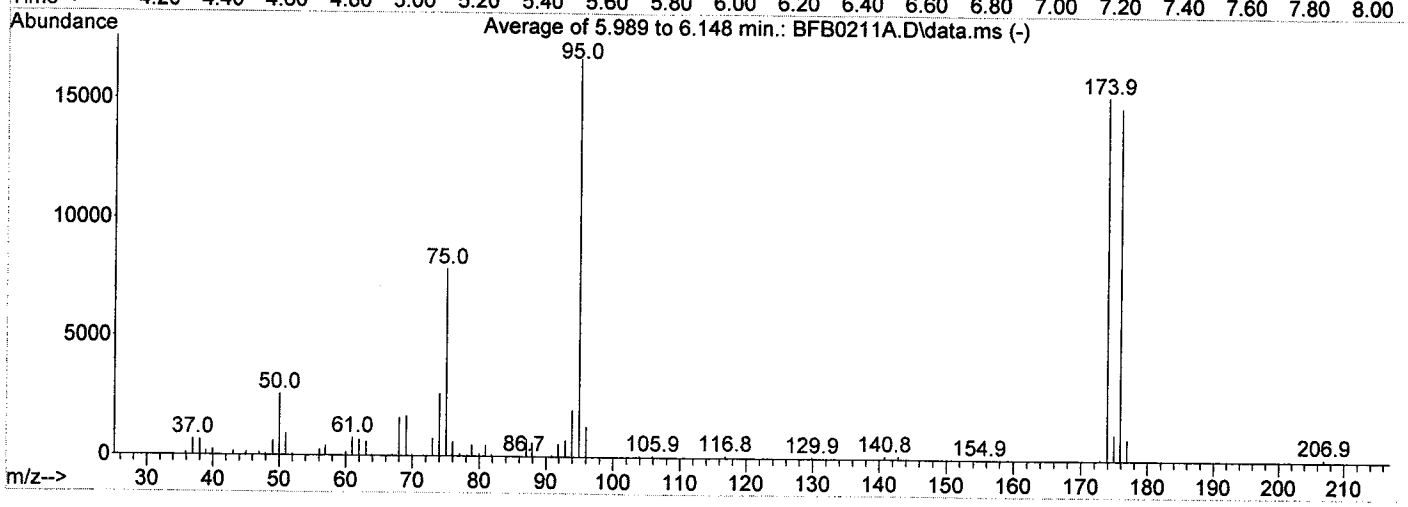
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
209.10	9						
280.75	9						

Data Path : C:\gcms\1\data\021115\
Data File : BFB0211A.D
Acq On : 11 Feb 2015 09:17
Operator : DLV
Sample : BFB
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\gcms\1\methods\8260B-W40.M
Title : 8260B : 5030
Last Update : Mon Feb 09 07:25:43 2015





AutoFind: Averaged scan 858 to 885; Bkg corrected with scan 857

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.5	2590	PASS
75	95	30	60	47.0	7877	PASS
95	95	100	100	100.0	16761	PASS
96	95	5	9	7.6	1280	PASS
173	174	0.00	2	0.6	88	PASS
174	95	50	100	91.2	15290	PASS
175	174	5	9	7.3	1115	PASS
176	174	95	101	97.0	14830	PASS
177	176	5	9	6.2	921	PASS

LEW 2-12-15

Average of 5.989 to 6.148 min.: BFB0211A.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.10	5	41.85	12	50.70	6	56.95	429
35.90	123	43.10	196	51.00	937	57.85	41
36.95	689	44.90	74	51.95	62	58.80	6
37.30	27	45.05	166	52.85	12	60.00	161
38.00	650	45.25	23	53.60	6	60.95	766
38.20	13	46.00	30	54.80	17	61.95	688
38.70	15	47.00	142	54.90	5	63.00	611
38.95	189	47.20	28	55.00	6	63.85	58
39.15	26	47.95	85	55.20	24	67.00	63
39.95	260	49.05	618	55.75	13	67.70	5
41.30	27	50.00	2590	56.05	264	68.00	1623

Average of 5.989 to 6.148 min.: BFB0211A.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
69.05	1700	77.80	12	91.90	552	115.85	42
69.95	72	78.10	52	92.95	705	116.85	112
70.15	31	78.85	494	93.95	1986	117.70	16
71.70	55	79.95	121	95.00	16761	117.95	34
72.15	40	80.90	463	96.00	1280	118.40	6
73.00	753	81.85	95	96.90	28	118.75	34
74.00	2640	86.10	11	103.70	16	118.95	54
75.00	7877	86.70	34	103.90	66	127.70	43
75.90	114	87.00	748	105.90	89	129.90	76
76.00	610	87.90	604	106.80	6	130.90	19
77.05	128	90.95	64	114.90	6	134.60	11

Average of 5.989 to 6.148 min.: BFB0211A.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
140.80	149	176.90	921				
142.85	146	206.95	137				
145.70	13						
147.80	27						
154.95	32						
172.85	88						
173.60	8						
173.90	15290						
174.10	8						
174.90	1115						
175.90	14830						

METHOD BLANK DATA SHEET
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-7
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501292-BLK1
File ID: BLK0211.D
Prepared: 02/11/15 09:00
Analyzed: 02/11/15 11:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501292
Sequence: 5B12009
Calibration: 5B11014
Instrument: 350

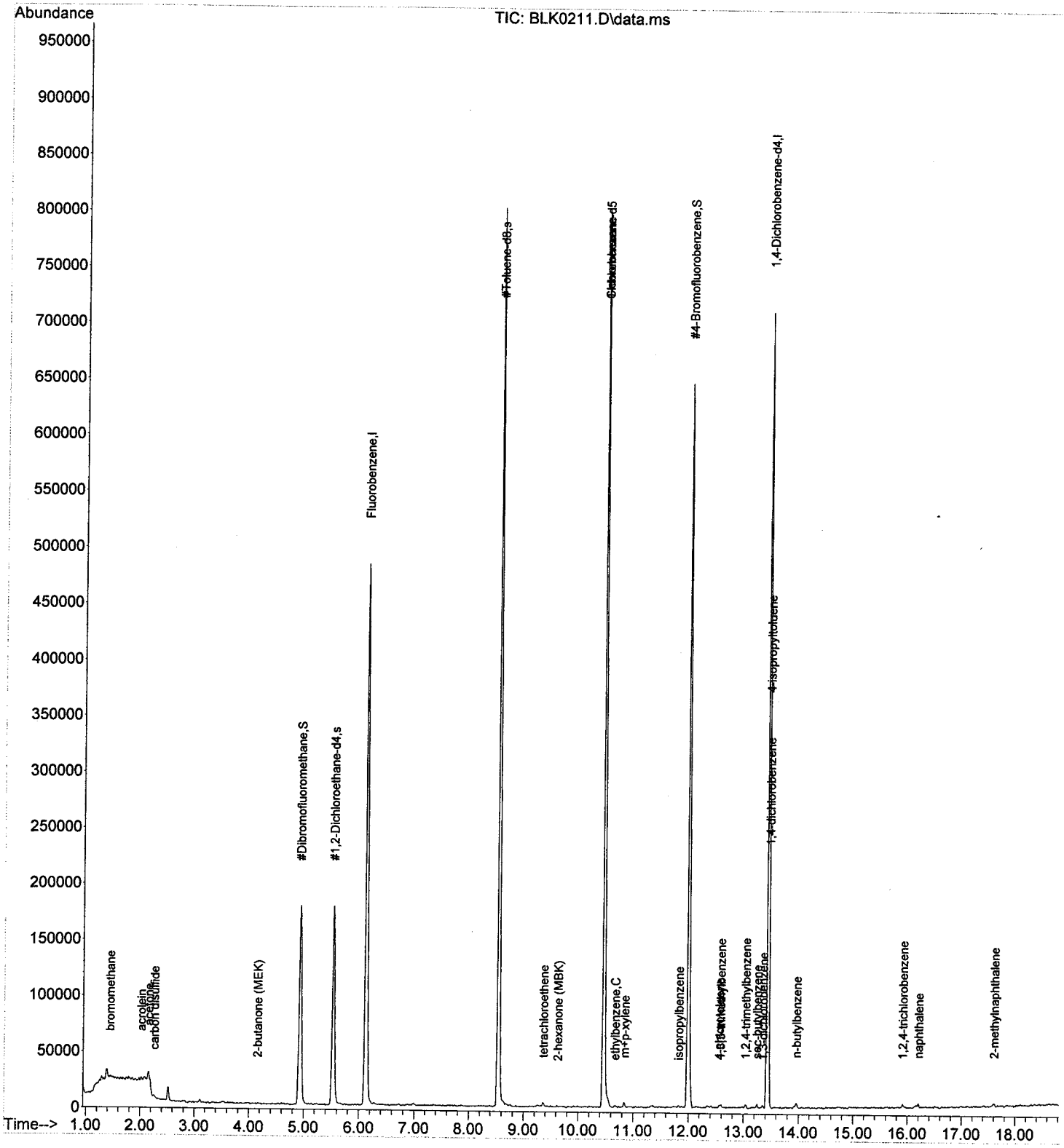
CAS No.	Analyte	Concentration	Unit	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	0.50	ug/L	0.13	0.50	1.0	U
75-35-4	1,1-Dichloroethene	0.50	ug/L	0.22	0.50	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.50	ug/L	0.13	0.50	1.0	U
79-01-6	Trichloroethene	0.20	ug/L	0.10	0.20	1.0	U

System Monitoring Compound	Added (ug/L)	Conc. (ug/L)	% REC	QC Limits	Q
Dibromofluoromethane	40.0	40.2	100	85 - 115	
1,2-Dichloroethane-d4	40.0	41.0	102	70 - 120	
Toluene-d8	40.0	41.7	104	85 - 120	
4-Bromofluorobenzene	40.0	40.1	100	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	632988	6.125	749406	6.125	
Chlorobenzene-d5	586383	10.46	624670	10.46	
1,4-Dichlorobenzene-d4	256664	13.436	325234	13.43	

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BLK0211.D
Acq On : 11 Feb 2015 11:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 11 11:58:02 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BLK0211.D
Acq On : 11 Feb 2015 11:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 11 11:58:02 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	632988	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	586383	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.436	152	256664	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	172319	40.19 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.48%	
37) #1,2-Dichloroethane-d4	5.537	67	98254	40.99 ug/L	0.00
Spiked Amount 40.000			Recovery	= 102.48%	
46) #Toluene-d8	8.542	98	669336	41.71 ug/L	0.00
Spiked Amount 40.000			Recovery	= 104.28%	
64) #4-Bromofluorobenzene	11.989	95	287857	40.06 ug/L	0.00
Spiked Amount 40.000			Recovery	= 100.15%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.149	50	1205	Below Cal #	41
4) vinyl chloride	0.000		0	N.D.	
5) bromomethane	1.443	94	1969	0.59 ug/L #	2
6) chloroethane	0.000		0	N.D.	
7) dichlorofluoromethane	0.000		0	N.D.	
8) trichlorofluoromethane	0.000		0	N.D.	
9) ethyl ether	0.000		0	N.D.	
10) acrolein	2.019	56	1330	0.16 ug/L #	41
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	0.000		0	N.D.	
13) acetone	2.155	43	14846	0.69 ug/L #	82
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.260	76	3179	0.25 ug/L #	74
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.519	49	6460	Below Cal	96
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	0.000		0	N.D.	
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	0.000		0	N.D.	
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	0.000		0	N.D.	
25) 2-butanone (MEK)	4.160	43	1359	0.45 ug/L #	43
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	0.000		0	N.D.	
31) cyclohexane	0.000		0	N.D.	
32) carbon tetrachloride	0.000		0	N.D.	
33) 1,1-dichloropropene	0.000		0	N.D.	
34) benzene	0.000		0	N.D.	
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	6.125	57	19170	No Calib #	
38) trichloroethene	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BLK0211.D
Acq On : 11 Feb 2015 11:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1
Quant Time: Feb 11 11:58:02 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) bromodichloromethane	0.000		0	N.D.	
43) 2-chloroethyl vinyl ether	0.000		0	N.D.	
44) cis-1,3-dichloropropene	0.000		0	N.D.	
45) 4-methyl-2-pentanone (...	0.000		0	N.D.	
47) toluene	0.000		0	N.D.	
48) trans-1,3-dichloropropene	0.000		0	N.D.	
49) 1,1,2-trichloroethane	0.000		0	N.D.	
51) tetrachloroethene	9.366	166	1279	0.16 ug/L #	15
52) 1,3-dichloropropane	0.000		0	N.D.	
53) 2-hexanone (MBK)	9.631	43	1564	0.31 ug/L #	34
54) dibromochloromethane	0.000		0	N.D.	
55) 1,2-dibromoethane	0.000		0	N.D.	
56) chlorobenzene	0.000		0	N.D.	
57) 1-chlorohexane	10.460	55	2949	0.65 ug/L #	1
58) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
59) ethylbenzene	10.672	91	2048	0.07 ug/L #	42
60) m+p-xylene	10.842	106	1687	0.15 ug/L #	81
61) o-xylene	0.000		0	N.D.	
62) styrene	0.000		0	N.D.	
63) bromoform	0.000		0	N.D.	
66) isopropylbenzene	11.825	105	1655	0.07 ug/L #	47
67) bromobenzene	0.000		0	N.D.	
68) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
69) 1,2,3-trichloropropane	0.000		0	N.D.	
70) 1,4-dichloro-2-butene	0.000		0	N.D.	
71) n-propylbenzene	0.000		0	N.D.	
72) 2-chlorotoluene	0.000		0	N.D.	
73) 1,3,5-trimethylbenzene	12.583	105	1586	0.08 ug/L #	26
74) 4-chlorotoluene	12.560	91	2295	0.13 ug/L #	42
75) tert-butylbenzene	0.000		0	N.D.	
76) 1,2,4-trimethylbenzene	13.036	105	1939	0.11 ug/L #	29
77) sec-butylbenzene	13.248	105	2653	0.12 ug/L #	54
78) 1,3-dichlorobenzene	13.354	146	1401	0.12 ug/L #	25
79) 4-isopropyltoluene	13.454	119	2862	0.16 ug/L #	51
80) 1,4-dichlorobenzene	13.460	146	1693	0.15 ug/L #	20
81) 1,2-dichlorobenzene	0.000		0	N.D.	
82) n-butylbenzene	13.960	91	3290	0.25 ug/L #	76
83) hexachloroethane	0.000		0	N.D.	
84) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
85) 1,2,4-trichlorobenzene	15.913	180	1259	4.18 ug/L #	86
86) hexachlorobutadiene	0.000		0	N.D.	
87) naphthalene	16.201	128	3278	7.13 ug/L #	80
88) 1,2,3-trichlorobenzene	0.000		0	N.D.	
89) 2-methylnaphthalene	17.607	142	1614	4.72 ug/L #	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY
USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

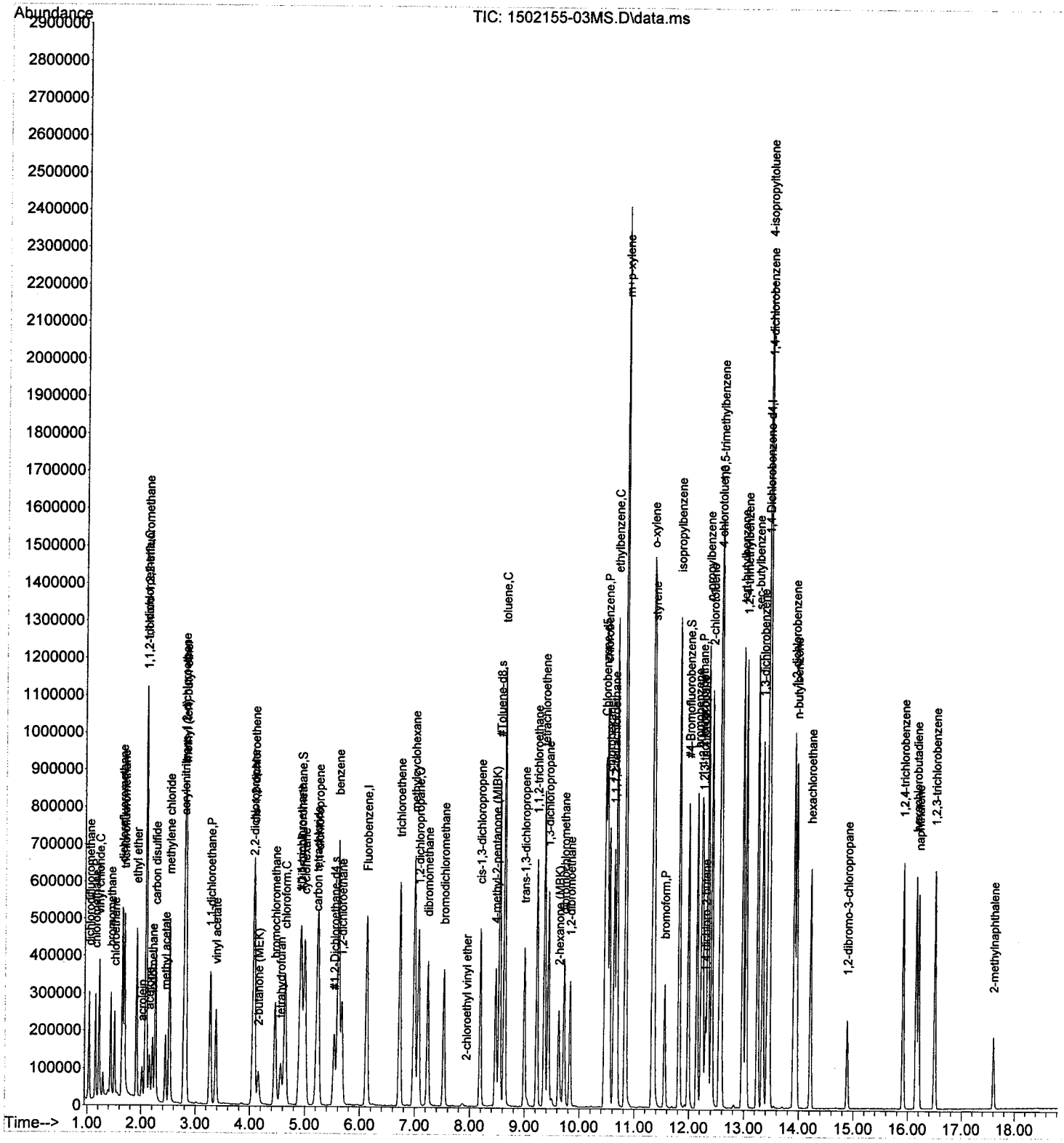
Analyte	Spike Added	Sample Conc.	MS Conc.	MS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	ND	45.9	115	70 - 135	ug/L
1,1-Dichloroethene	40.0	0.330	45.2	112	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	0.590	45.8	113	70 - 125	ug/L
Trichloroethene	40.0	3.18	44.6	104	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MS.D
Acq On : 11 Feb 2015 17:15
Operator : DLV
Sample : 1502155-03MS
Misc : CH2M HILL
ALS Vial : 19 Sample Multiplier: 1
Quant Time: Feb 12 07:16:50 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MS.D
Acq On : 11 Feb 2015 17:15
Operator : DLV
Sample : 1502155-03MS
Misc : CH2M HILL
ALS Vial : 19 Sample Multiplier: 1
Quant Time: Feb 12 07:16:50 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	651434	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	627641	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	337012	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	182508	41.36 ug/L	0.00
Spiked Amount 40.000			Recovery = 103.40%		
37) #1,2-Dichloroethane-d4	5.537	67	100922	40.91 ug/L	0.00
Spiked Amount 40.000			Recovery = 102.27%		
46) #Toluene-d8	8.542	98	706793	42.80 ug/L	0.00
Spiked Amount 40.000			Recovery = 107.00%		
64) #4-Bromofluorobenzene	11.989	95	324110	42.14 ug/L	0.00
Spiked Amount 40.000			Recovery = 105.35%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	198782	47.63 ug/L	100
3) chloromethane	1.149	50	213553	53.34 ug/L	100
4) vinyl chloride	1.219	62	269303	47.43 ug/L	99
5) bromomethane	1.437	94	147977	42.95 ug/L	99
6) chloroethane	1.507	64	161777	51.52 ug/L	98
7) dichlorofluoromethane	1.649	67	442100	48.39 ug/L	100
8) trichlorofluoromethane	1.690	101	361500	42.10 ug/L	100
9) ethyl ether	1.913	74	171273	48.07 ug/L	93
10) acrolein	2.013	56	63808	55.74 ug/L #	99
11) 1,1,2-trichloro-1,2,2-...	2.090	101	222707	43.33 ug/L	94
12) 1,1-dichloroethene	2.084	96	207416	45.19 ug/L	93
13) acetone	2.149	43	121638	49.11 ug/L	98
14) iodomethane	2.207	142	180532	47.88 ug/L	99
15) carbon disulfide	2.260	76	572305	43.68 ug/L	99
16) methyl acetate	2.443	43	210189	43.17 ug/L	99
17) methylene chloride	2.519	49	261666	50.89 ug/L	99
18) acrylonitrile	2.784	53	130050	47.31 ug/L	98
19) trans-1,2-dichloroethene	2.790	96	228211	45.46 ug/L	97
20) methyl (tert) butyl ether	2.813	73	764238	43.37 ug/L	100
21) 1,1-dichloroethane	3.272	63	377424	45.94 ug/L	99
22) vinyl acetate	3.378	43	416178	49.94 ug/L	98
23) 2,2-dichloropropane	4.060	77	269934	36.09 ug/L	100
24) cis-1,2-dichloroethene	4.078	96	267906	45.83 ug/L	99
25) 2-butanone (MEK)	4.154	43	140385	45.18 ug/L	100
26) bromochloromethane	4.454	49	165654	46.97 ug/L	91
27) tetrahydrofuran	4.560	71	48693	46.87 ug/L	99
28) chloroform	4.643	83	417494	45.11 ug/L	99
30) 1,1,1-trichloroethane	4.913	97	352470	41.38 ug/L	98
31) cyclohexane	4.995	56	332371	43.34 ug/L	98
32) carbon tetrachloride	5.219	117	217447	31.89 ug/L	99
33) 1,1-dichloropropene	5.243	75	300928	46.31 ug/L	97
34) benzene	5.607	78	951778	46.92 ug/L	99
35) 1,2-dichloroethane	5.672	62	334358	46.21 ug/L	98
36) heptane	6.125	57	19341	No Calib #	
38) trichloroethene	6.725	130	279144	44.58 ug/L	98

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MS.D
Acq On : 11 Feb 2015 17:15
Operator : DLV
Sample : 1502155-03MS
Misc : CH2M HILL
ALS Vial : 19 Sample Multiplier: 1
Quant Time: Feb 12 07:16:50 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	6.989	83	382010	43.63 ug/L	99
40)	1,2-dichloropropane	7.066	63	225089	46.82 ug/L	99
41)	dibromomethane	7.237	93	170969	45.05 ug/L	93
42)	bromodichloromethane	7.525	83	293529	40.65 ug/L	99
43)	2-chloroethyl vinyl ether	7.936	63	1345	21.04 ug/L #	40
44)	cis-1,3-dichloropropene	8.189	75	333140	40.37 ug/L	99
45)	4-methyl-2-pentanone (...	8.472	43	288679	48.73 ug/L	99
47)	toluene	8.631	91	1037702	45.18 ug/L	99
48)	trans-1,3-dichloropropene	8.995	75	280317	38.53 ug/L	99
49)	1,1,2-trichloroethane	9.225	83	204076	44.67 ug/L	98
51)	tetrachloroethene	9.360	166	309200	36.14 ug/L	97
52)	1,3-dichloropropane	9.431	76	427871	39.68 ug/L	100
53)	2-hexanone (MBK)	9.625	43	201394	37.74 ug/L	99
54)	dibromochloromethane	9.719	129	239856	31.97 ug/L	99
55)	1,2-dibromoethane	9.831	109	251426	37.52 ug/L #	100
56)	chlorobenzene	10.495	112	695771	37.92 ug/L	98
57)	1-chlorohexane	10.542	55	192914	39.98 ug/L	93
58)	1,1,1,2-tetrachloroethane	10.630	131	225593	32.24 ug/L	99
59)	ethylbenzene	10.678	91	1132815	38.60 ug/L	99
60)	m+p-xylene	10.836	106	877264	75.24 ug/L	98
61)	o-xylene	11.330	106	439160	37.90 ug/L	100
62)	styrene	11.360	104	694677	37.45 ug/L	99
63)	bromoform	11.554	173	180892	28.28 ug/L	99
66)	isopropylbenzene	11.819	105	1083112	35.04 ug/L	99
67)	bromobenzene	12.148	77	433900	35.78 ug/L	93
68)	1,1,2,2-tetrachloroethane	12.225	83	382489	42.33 ug/L #	99
69)	1,2,3-trichloropropane	12.248	110	122272	34.86 ug/L	94
70)	1,4-dichloro-2-butene	12.301	53	67527	31.84 ug/L	85
71)	n-propylbenzene	12.342	120	282912	35.20 ug/L	94
72)	2-chlorotoluene	12.413	126	270083	34.90 ug/L	94
73)	1,3,5-trimethylbenzene	12.577	105	878905	35.05 ug/L	98
74)	4-chlorotoluene	12.560	91	845356	36.03 ug/L	98
75)	tert-butylbenzene	12.972	119	775665	34.78 ug/L	98
76)	1,2,4-trimethylbenzene	13.036	105	852608	36.12 ug/L	98
77)	sec-butylbenzene	13.248	105	1064892	36.30 ug/L	98
78)	1,3-dichlorobenzene	13.342	146	521376	34.80 ug/L	99
79)	4-isopropyltoluene	13.448	119	871472	36.59 ug/L	99
80)	1,4-dichlorobenzene	13.460	146	514539	34.22 ug/L	99
81)	1,2-dichlorobenzene	13.913	146	521015	35.31 ug/L	99
82)	n-butylbenzene	13.954	91	639966	37.35 ug/L	98
83)	hexachloroethane	14.219	201	112981	24.61 ug/L #	83
84)	1,2-dibromo-3-chloropr...	14.889	157	81030	32.41 ug/L	95
85)	1,2,4-trichlorobenzene	15.913	180	262087	33.03 ug/L	99
86)	hexachlorobutadiene	16.154	225	148371	35.14 ug/L	99
87)	naphthalene	16.201	128	550345	32.91 ug/L	99
88)	1,2,3-trichlorobenzene	16.501	180	245888	32.40 ug/L	98
89)	2-methylnaphthalene	17.607	142	110408	31.80 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

USEPA-8260B

YS34-DP02-3337-0215

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501292

SDG: 50085-7

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501292-MSD1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

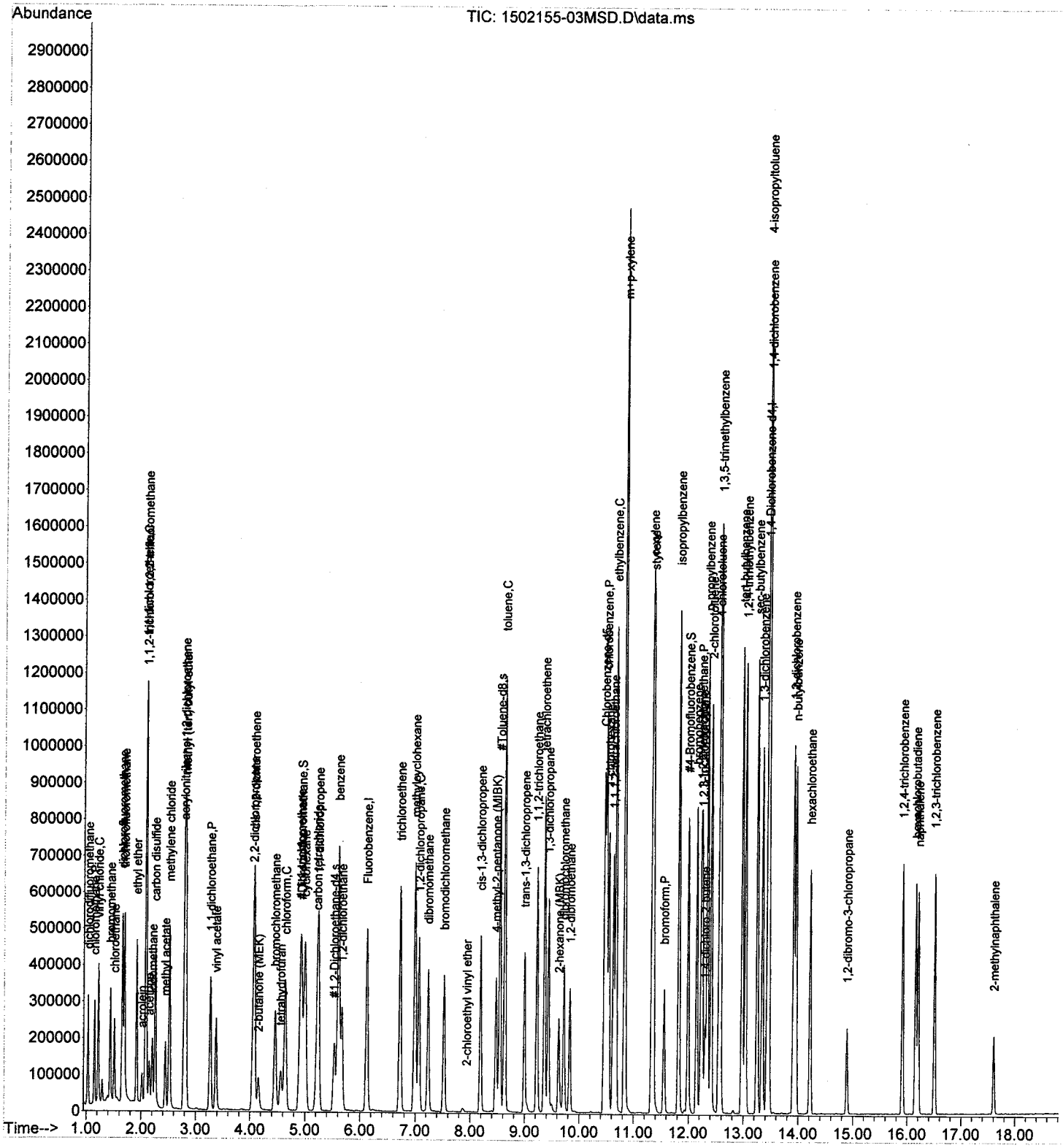
Analyte	Spike Added	MSD Conc.	MSD % Rec. #	% RPD #	QC Limits RPD	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	47.8	120	4	30	70 - 135	ug/L
1,1-Dichloroethene	40.0	48.0	119	6	30	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	47.8	118	4	30	70 - 125	ug/L
Trichloroethene	40.0	46.2	107	3	30	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MSD.D
Acq On : 11 Feb 2015 17:42
Operator : DLV
Sample : 1502155-03MSD
Misc : CH2M HILL
ALS Vial : 20 Sample Multiplier: 1
Quant Time: Feb 12 07:16:55 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MSD.D
Acq On : 11 Feb 2015 17:42
Operator : DLV
Sample : 1502155-03MSD
Misc : CH2M HILL
ALS Vial : 20 Sample Multiplier: 1
Quant Time: Feb 12 07:16:55 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	639030	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	621559	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	329924	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	179367	41.44 ug/L	0.00
Spiked Amount 40.000			Recovery	= 103.60%	
37) #1,2-Dichloroethane-d4	5.531	67	102265	42.26 ug/L	0.00
Spiked Amount 40.000			Recovery	= 105.65%	
46) #Toluene-d8	8.542	98	705708	43.56 ug/L	0.00
Spiked Amount 40.000			Recovery	= 108.90%	
64) #4-Bromofluorobenzene	11.989	95	320094	42.03 ug/L	0.00
Spiked Amount 40.000			Recovery	= 105.08%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	208140	50.84 ug/L	100
3) chloromethane	1.149	50	218710	55.74 ug/L	98
4) vinyl chloride	1.219	62	280703	50.40 ug/L	99
5) bromomethane	1.437	94	164282	48.61 ug/L	98
6) chloroethane	1.508	64	168497	54.81 ug/L	99
7) dichlorofluoromethane	1.649	67	453091	50.55 ug/L	100
8) trichlorofluoromethane	1.690	101	378445	44.93 ug/L	98
9) ethyl ether	1.913	74	170623	48.82 ug/L	94
10) acrolein	2.013	56	62511	55.66 ug/L #	98
11) 1,1,2-trichloro-1,2,2-...	2.090	101	231256	45.87 ug/L	94
12) 1,1-dichloroethene	2.084	96	216183	48.02 ug/L	94
13) acetone	2.149	43	122041	50.37 ug/L	99
14) iodomethane	2.208	142	196218	52.66 ug/L	99
15) carbon disulfide	2.255	76	614703	47.83 ug/L	99
16) methyl acetate	2.443	43	206829	43.31 ug/L	100
17) methylene chloride	2.519	49	261771	51.94 ug/L	99
18) acrylonitrile	2.784	53	130565	48.42 ug/L	99
19) trans-1,2-dichloroethene	2.790	96	235743	47.87 ug/L	98
20) methyl (tert) butyl ether	2.813	73	759396	43.93 ug/L	99
21) 1,1-dichloroethane	3.272	63	385612	47.85 ug/L	99
22) vinyl acetate	3.378	43	415854	50.86 ug/L	99
23) 2,2-dichloropropane	4.060	77	275022	37.49 ug/L	99
24) cis-1,2-dichloroethene	4.078	96	274072	47.79 ug/L	99
25) 2-butanone (MEK)	4.154	43	139427	45.74 ug/L	99
26) bromochloromethane	4.454	49	161802	46.77 ug/L	93
27) tetrahydrofuran	4.560	71	48832	47.92 ug/L	97
28) chloroform	4.643	83	432945	47.68 ug/L	100
30) 1,1,1-trichloroethane	4.913	97	363834	43.55 ug/L	98
31) cyclohexane	4.996	56	348248	46.30 ug/L	98
32) carbon tetrachloride	5.219	117	231790	34.65 ug/L	98
33) 1,1-dichloropropene	5.243	75	308905	48.46 ug/L	98
34) benzene	5.607	78	968319	48.66 ug/L	99
35) 1,2-dichloroethane	5.672	62	334332	47.10 ug/L	99
36) heptane	6.125	57	19659	No Calib #	
38) trichloroethene	6.725	130	283423	46.15 ug/L	96

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : 1502155-03MSD.D
Acq On : 11 Feb 2015 17:42
Operator : DLV
Sample : 1502155-03MSD
Misc : CH2M HILL
ALS Vial : 20 Sample Multiplier: 1
Quant Time: Feb 12 07:16:55 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39)	methylcyclohexane	6.990	83	395053	46.00 ug/L	99
40)	1,2-dichloropropane	7.066	63	225091	47.73 ug/L	100
41)	dibromomethane	7.237	93	174466	46.87 ug/L	92
42)	bromodichloromethane	7.525	83	300496	42.42 ug/L	100
43)	2-chloroethyl vinyl ether	7.937	63	1319	21.04 ug/L #	40
44)	cis-1,3-dichloropropene	8.190	75	339093	41.89 ug/L	99
45)	4-methyl-2-pentanone (...	8.472	43	282537	48.62 ug/L	98
47)	toluene	8.631	91	1076308	47.77 ug/L	100
48)	trans-1,3-dichloropropene	8.995	75	285767	40.04 ug/L	100
49)	1,1,2-trichloroethane	9.225	83	206892	46.16 ug/L	97
51)	tetrachloroethene	9.360	166	319975	37.76 ug/L	98
52)	1,3-dichloropropane	9.431	76	431554	40.41 ug/L	100
53)	2-hexanone (MBK)	9.625	43	204703	38.74 ug/L	99
54)	dibromochloromethane	9.719	129	244152	32.86 ug/L	98
55)	1,2-dibromoethane	9.831	109	250946	37.81 ug/L #	100
56)	chlorobenzene	10.495	112	709402	39.05 ug/L	98
57)	1-chlorohexane	10.542	55	198426	41.52 ug/L	95
58)	1,1,1,2-tetrachloroethane	10.631	131	232315	33.53 ug/L	98
59)	ethylbenzene	10.678	91	1165759	40.11 ug/L	100
60)	m+p-xylene	10.836	106	903667	78.27 ug/L	100
61)	o-xylene	11.331	106	443666	38.66 ug/L	99
62)	styrene	11.354	104	708541	38.57 ug/L	100
63)	bromoform	11.554	173	185732	29.32 ug/L	98
66)	isopropylbenzene	11.819	105	1109597	36.67 ug/L	99
67)	bromobenzene	12.142	77	432396	36.42 ug/L	93
68)	1,1,2,2-tetrachloroethane	12.225	83	377428	42.68 ug/L #	99
69)	1,2,3-trichloropropane	12.248	110	121990	35.53 ug/L	93
70)	1,4-dichloro-2-butene	12.301	53	68221	32.89 ug/L	85
71)	n-propylbenzene	12.342	120	288874	36.71 ug/L	93
72)	2-chlorotoluene	12.413	126	275127	36.32 ug/L	94
73)	1,3,5-trimethylbenzene	12.578	105	904476	36.85 ug/L	99
74)	4-chlorotoluene	12.554	91	857982	37.36 ug/L	98
75)	tert-butylbenzene	12.972	119	790932	36.23 ug/L	97
76)	1,2,4-trimethylbenzene	13.036	105	871828	37.73 ug/L	98
77)	sec-butylbenzene	13.248	105	1091541	38.01 ug/L	98
78)	1,3-dichlorobenzene	13.342	146	525461	35.83 ug/L	99
79)	4-isopropyltoluene	13.448	119	899773	38.59 ug/L	99
80)	1,4-dichlorobenzene	13.460	146	525154	35.68 ug/L	99
81)	1,2-dichlorobenzene	13.913	146	519551	35.97 ug/L	99
82)	n-butylbenzene	13.954	91	672577	40.10 ug/L	97
83)	hexachloroethane	14.219	201	120126	26.73 ug/L #	84
84)	1,2-dibromo-3-chloropr...	14.889	157	81130	33.15 ug/L	96
85)	1,2,4-trichlorobenzene	15.913	180	267913	34.31 ug/L	99
86)	hexachlorobutadiene	16.154	225	151799	36.73 ug/L	99
87)	naphthalene	16.201	128	586134	35.19 ug/L	99
88)	1,2,3-trichlorobenzene	16.501	180	255785	34.16 ug/L	99
89)	2-methylnaphthalene	17.607	142	127016	36.18 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LCS / LCS DUPLICATE RECOVERY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water

SDG: 50085-7
Project: 8012 CTO-WE74 Yorktown Site 34
Laboratory ID: 1501292-BS1
Preparation: 5030B Aqueous Purge & Trap
Initial/Final: 5 mL / 5 mL

QC Batch: 1501292
Sequence: 5B12009

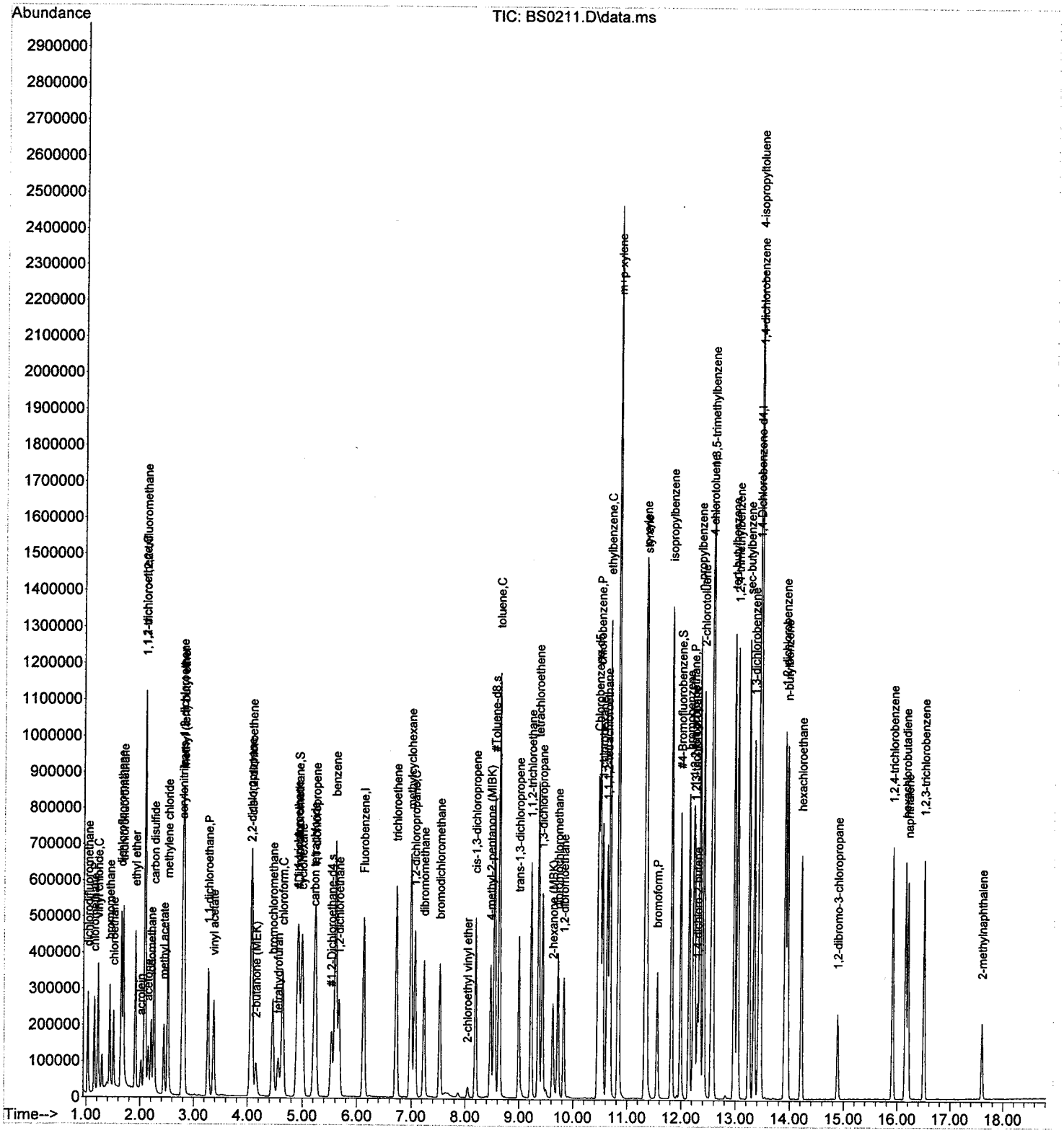
Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	46.6	116	70 - 135	ug/L
1,1-Dichloroethene	40.0	47.6	119	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	46.9	117	70 - 125	ug/L
Trichloroethene	40.0	44.2	110	70 - 125	ug/L

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BS0211.D
Acq On : 11 Feb 2015 10:12
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 11 11:57:35 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BS0211.D
Acq On : 11 Feb 2015 10:12
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 11 11:57:35 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.125	96	635338	40.00 ug/L	0.00
50) Chlorobenzene-d5	10.460	117	606498	40.00 ug/L	0.00
65) 1,4-Dichlorobenzene-d4	13.430	152	326013	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.931	111	178505	41.48 ug/L	0.00
Spiked Amount 40.000			Recovery = 103.70%		
37) #1,2-Dichloroethane-d4	5.531	67	99757	41.46 ug/L	0.00
Spiked Amount 40.000			Recovery = 103.65%		
46) #Toluene-d8	8.542	98	690918	42.90 ug/L	0.00
Spiked Amount 40.000			Recovery = 107.25%		
64) #4-Bromofluorobenzene	11.989	95	307317	41.35 ug/L	0.00
Spiked Amount 40.000			Recovery = 103.38%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.031	85	200129	49.17 ug/L	99
3) chloromethane	1.149	50	204887	52.45 ug/L	98
4) vinyl chloride	1.219	62	265684	47.98 ug/L	100
5) bromomethane	1.437	94	150776	44.87 ug/L	97
6) chloroethane	1.507	64	159205	52.00 ug/L	100
7) dichlorofluoromethane	1.648	67	430311	48.29 ug/L	99
8) trichlorofluoromethane	1.690	101	377709	45.10 ug/L	99
9) ethyl ether	1.913	74	167843	48.30 ug/L	94
10) acrolein	2.013	56	61706	55.26 ug/L #	95
11) 1,1,2-trichloro-1,2,2-...	2.090	101	227699	45.43 ug/L	96
12) 1,1-dichloroethene	2.084	96	213175	47.62 ug/L	96
13) acetone	2.148	43	129843	54.34 ug/L	99
14) iodomethane	2.207	142	198598	53.54 ug/L	96
15) carbon disulfide	2.260	76	634467	49.65 ug/L	100
16) methyl acetate	2.443	43	220734	46.49 ug/L	98
17) methylene chloride	2.519	49	253438	50.53 ug/L	99
18) acrylonitrile	2.784	53	124926	46.59 ug/L	99
19) trans-1,2-dichloroethene	2.790	96	232760	47.54 ug/L	99
20) methyl (tert) butyl ether	2.813	73	746078	43.41 ug/L	99
21) 1,1-dichloroethane	3.272	63	373080	46.57 ug/L	99
22) vinyl acetate	3.378	43	441548	54.32 ug/L	99
23) 2,2-dichloropropane	4.060	77	312834	42.89 ug/L	99
24) cis-1,2-dichloroethene	4.078	96	267598	46.93 ug/L	99
25) 2-butanone (MEK)	4.154	43	145608	48.05 ug/L	100
26) bromochloromethane	4.460	49	156419	45.48 ug/L	94
27) tetrahydrofuran	4.560	71	46739	46.13 ug/L	97
28) chloroform	4.642	83	421134	46.65 ug/L	100
30) 1,1,1-trichloroethane	4.913	97	361947	43.57 ug/L	98
31) cyclohexane	4.995	56	340090	45.48 ug/L	99
32) carbon tetrachloride	5.219	117	221369	33.29 ug/L	99
33) 1,1-dichloropropene	5.242	75	301186	47.53 ug/L	98
34) benzene	5.607	78	948005	47.92 ug/L	98
35) 1,2-dichloroethane	5.672	62	320697	45.44 ug/L	99
36) heptane	6.125	57	19373	No Calib #	
38) trichloroethene	6.725	130	269892	44.20 ug/L	97

Quantitation Report (Not Reviewed)

InstName : 350
Data Path : C:\gcms\1\data\021115\
Data File : BS0211.D
Acq On : 11 Feb 2015 10:12
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1
Quant Time: Feb 11 11:57:35 2015
Quant Method : C:\gcms\1\methods\8260B-W40.M
Quant Title : 8260B : 5030
QLast Update : Mon Feb 09 07:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) methylcyclohexane	6.989	83	390737	45.76 ug/L	98
40) 1,2-dichloropropane	7.066	63	216594	46.19 ug/L	99
41) dibromomethane	7.236	93	168236	45.46 ug/L	94
42) bromodichloromethane	7.525	83	300879	42.72 ug/L	98
43) 2-chloroethyl vinyl ether	8.042	63	16462	170.25 ug/L	94
44) cis-1,3-dichloropropene	8.189	75	351082	43.63 ug/L	98
45) 4-methyl-2-pentanone (...	8.472	43	282843	48.96 ug/L	98
47) toluene	8.630	91	1055098	47.10 ug/L	100
48) trans-1,3-dichloropropene	8.995	75	293556	41.37 ug/L	98
49) 1,1,2-trichloroethane	9.225	83	201854	45.30 ug/L	97
51) tetrachloroethene	9.360	166	326928	39.54 ug/L	99
52) 1,3-dichloropropane	9.430	76	415796	39.90 ug/L	99
53) 2-hexanone (MBK)	9.625	43	210557	40.83 ug/L	99
54) dibromochloromethane	9.719	129	249583	34.43 ug/L	100
55) 1,2-dibromoethane	9.830	109	250426	38.67 ug/L #	100
56) chlorobenzene	10.495	112	696325	39.28 ug/L	98
57) 1-chlorohexane	10.542	55	195553	41.94 ug/L	96
58) 1,1,1,2-tetrachloroethane	10.630	131	238486	35.27 ug/L	99
59) ethylbenzene	10.677	91	1150598	40.57 ug/L	99
60) m+p-xylene	10.836	106	901309	80.00 ug/L	99
61) o-xylene	11.330	106	436618	38.99 ug/L	98
62) styrene	11.354	104	724189	40.40 ug/L	99
63) bromoform	11.554	173	192571	31.15 ug/L	98
66) isopropylbenzene	11.819	105	1107854	37.05 ug/L	99
67) bromobenzene	12.148	77	428541	36.53 ug/L	95
68) 1,1,2,2-tetrachloroethane	12.224	83	365550	41.81 ug/L #	100
69) 1,2,3-trichloropropane	12.248	110	120850	35.62 ug/L	97
70) 1,4-dichloro-2-butene	12.301	53	70391	34.39 ug/L	91
71) n-propylbenzene	12.342	120	299677	38.54 ug/L	99
72) 2-chlorotoluene	12.413	126	273558	36.54 ug/L	92
73) 1,3,5-trimethylbenzene	12.577	105	925103	38.14 ug/L	99
74) 4-chlorotoluene	12.560	91	872772	38.46 ug/L	97
75) tert-butylbenzene	12.971	119	794205	36.81 ug/L	98
76) 1,2,4-trimethylbenzene	13.036	105	879950	38.54 ug/L	99
77) sec-butylbenzene	13.248	105	1116679	39.35 ug/L	97
78) 1,3-dichlorobenzene	13.342	146	537763	37.11 ug/L	99
79) 4-isopropyltoluene	13.448	119	923678	40.09 ug/L	100
80) 1,4-dichlorobenzene	13.460	146	537187	36.93 ug/L	99
81) 1,2-dichlorobenzene	13.913	146	527055	36.92 ug/L	99
82) n-butylbenzene	13.954	91	686263	41.40 ug/L	98
83) hexachloroethane	14.218	201	125993	28.37 ug/L #	87
84) 1,2-dibromo-3-chloropr...	14.889	157	85717	35.44 ug/L	98
85) 1,2,4-trichlorobenzene	15.912	180	281473	36.23 ug/L	97
86) hexachlorobutadiene	16.154	225	160778	39.37 ug/L	99
87) naphthalene	16.201	128	585572	35.50 ug/L	99
88) 1,2,3-trichlorobenzene	16.501	180	255952	34.54 ug/L	97
89) 2-methylnaphthalene	17.606	142	124413	35.92 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

TRIMATRIX LABORATORIES

SECTION - C

PREPARATION LOGS / MISCELLANEOUS

USEPA-8260B

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TriMatrix Laboratories, Inc.

PREPARATION BATCH 1501292

Printed: 2/12/2015 9:06:24AM

Volatiles MS, Water, 5030B Aqueous Purge & Trap

Surrogate #1 = 5010689 (Static)

Batch Comments: (none)

Standard	Description	Solvent	LotNum
5010689	8260B Static Surrogate 11-12-14	MeOH 38701	CJ-0680a
5020411	8260B Working Std A 02-09-15	Solvent Lot #62345	N/A

Work Order	Analysis	Work Order	Analysis	Work Order	Analysis
1502155	8260B DoD VOAs plus custom				

Balance ID: none

pH Meter: none

Lab Number	Contain	Prepared	By	Initial (mL)	Final (mL)	uL Surrogate	Source ID	Spike ID	uL Spike	Client / QC Type	Extraction Comments
1501292-BLK1		Feb-11-15 09:00	DLV	5	5	1				BLANK	
1501292-BS1		Feb-11-15 09:00	DLV	5	5	1		5020411	2	LCS	
1501292-MS1		Feb-11-15 09:00	DLV	5	5	1	1502155-03	5020411	2	MATRIX SPIKE	
1501292-MSD1		Feb-11-15 09:00	DLV	5	5	1	1502155-03	5020411	2	MATRIX SPIKE DUP	
1502155-01	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-02	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-03	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-04	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-05	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-06	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	
1502155-06RE1	B	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	Added 2/12/2015 by DLV
1502155-07	A	Feb-11-15 09:00	DLV	5	5	1				CH2M HILL - VA	

Comments:

Analyst Initials:

Volatiles MS, Water, Feb-11-15

Instrument = 350, Calibration = 5B11014

Sequence Analyses:
8260B DoD VOAs plus custom

Lab Number	*Analysis*	*Contain*	*STD ID*	*ISTD ID*	*Client / QC Type*	*Extraction Comments*
5B12009-TUN1	QC		5020346	5020055	MS TUNE	
5B12009-CCV1	QC		5020034	5020055	CALIBRATION CHECK	
1501292-BS1	QC			5020055	LCS	
1501292-BLK1	QC			5020055	BLANK	
1502155-01	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-02	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-03	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-05	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-06	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-07	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-04	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502155-06RE1	8260B DoD VOAs plus custom	B		5020055	CH2M HILL - VA	Added 2/12/2015 by DLV
1501292-MS1	QC			5020055	MATRIX SPIKE	
1501292-MSD1	QC			5020055	MATRIX SPIKE DUP	

Comments:

Analyst Initials:

TRIMATRIX LABORATORIES

Instrument Number:	350	Acquisition Information		Temperature Program		Standard Information	
Column Type:	DB-624	Multiplier Voltage:		Step #1	40° C for 5 minutes	Curve Date:	2-6-15
Column Installation Date:	6/1/2013	Scan Range:	35-300	Step #2	12° C/minute to 200° C, hold for 0.5 minute	IS/SS Std.:	5020055
Injector Temperature:	200° C	Scan Rate:		Step #3		Working Std:	5020377
Detector Temperature:	230° C	Filament Delay:		Step #4		App. IX Std:	
Purge Flow (mL/min):		Quantitation Method:		Step #5		LCS Std:	5020152

Date	Analyst	Method	Standard Prep uL Used	Standard Prep Final Vol. (mL)	Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
2-6-15	DW	8260.	25	50			10:13		BFB0206		
			1	200			10:41		0.5P0206		
			1	100			11:08		1P0206		
			5	100			11:34		5P0206		
			5	50			12:01		10P0206		
			10				12:27		20P0206		
			20				12:53		40P0206		
			50				13:20		100P0206		
							13:46		R1		
			100	50			14:13		200P0206		
							14:39		R2		
							15:06		R3		
			20	50			15:32		SCV0206		
							15:58		R4		
			5	100			16:25		5245CV		
			25	50			17:17		BFB0206A		
			20				17:44		CCV0206A		
			20				18:10		BS0206A		
							18:36		B1		
							19:29		BLK0206A		

00178

TRIMATRIX LABORATORIES

Instrument Number:	350	Acquisition Information		Temperature Program		Standard Information	
Column Type:	DB-624	Multiplier Voltage:		Step #1	40° C for 5 minutes	Curve Date:	2-6-15
Column Installation Date:	6/1/2013	Scan Range:	35-300	Step #2	12° C/minute to 200° C, hold for 0.5 minute	IS/SS Std.:	5020055
Injector Temperature:	200° C	Scan Rate:		Step #3		Working Std:	5020555
Detector Temperature:	230° C	Filament Delay:		Step #4		App. IX Std:	5010761
Purge Flow (mL/min):		Quantitation Method:		Step #5		LCS Std:	4111097

Date	Analyst	Method	Standard Prep uL Used	Standard Prep Final Vol. (mL)	Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
2-11-15	DLV	8260B	25	50			9:17	QC	BFB0211A		
			20				9:45		CCV0211		
			20				10:12		BS0211		
							10:38		B		
							11:05		BLK0211		
							11:31	[redacted]	1502020-08	5x	HLSOIL
						✓	11:58	CH2MHill	1502155-01		
						No	12:24		02		
						✓	12:51		03		
						✓	13:17		05		
					rr 5x	No	13:44		06		
						No	14:10		07		
							14:37	[redacted]	1502043-04		HLSOIL
							15:03		01		
							15:29		02		
							15:56		03		
						✓	16:22	CH2MHill	1502155-04		
						No	16:49		06A	5x	
							17:15		15503MS		
							17:42		15503MSD		

CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

END OF REPORT

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