N00109.AR.003071
NWS YORKTOWN
5090.3a

VALIDATED DATA PACKAGE, 50085-9, NWS YORKTOWN VA
2/27/2015
TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

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

TRANSMITTAL FORM

Date: March 03, 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: 50085-9

Work Order(s): 1502266

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 50085-9 for 8012 CTO-WE74 Yorktown Site 34. This report consists of 63 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):

50085-9

Prepared by:

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

Report Date:

February 27, 2015

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

3/2/15
Approval Date

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TRIMATRIX LABORATORIES

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CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

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B	**Internal COC Records**	**0019-0020**
C	**GC/MS Volatile Organics**	**0021-0063**
	• USEPA-8260B	0022-0063

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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 19, 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: 1502266

TriMatrix Laboratories received the cooler(s) for this work order on February 19, 2015, at 10:15am. 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-DP07-3943-0215	1502266-01	Ground Water	2/16/2015
YS34-DP07-5357-0215	1502266-02	Ground Water	2/16/2015
YS34-DP08-3943-0215	1502266-03	Ground Water	2/16/2015
YS34-TB-021615	1502266-04	Water	2/16/2015

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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TRIMATRIX LABORATORIES

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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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:		
	1502266-01 YS34-DP07-3943-0215	1,1-Dichloroethene
	1502266-01 YS34-DP07-3943-0215	Trichloroethene

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:		
	1502266-01 YS34-DP07-3943-0215	1,1-Dichloroethene
	1502266-01 YS34-DP07-3943-0215	Trichloroethene

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Walt Roudebush

From: Walt Roudebush <roudebushw@trimatrixlabs.com>
Sent: Friday, February 20, 2015 10:59 AM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226 - initial report
Attachments: 50085-9_prpt.pdf

Clairette,

RE: CTO-WE74 Site 34

A PDF of results-only plus associated batch QC and any text qualifiers for the samples 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: Friday, February 20, 2015 10:00 AM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Thanks Walt.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Friday, February 20, 2015 9:17 AM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

A receipt confirmation for samples received on 2/19/15 and assigned to work order 1502226 and SDG 50085-9 is attached.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

TriMatrix Laboratories, Inc.

00010

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Thursday, February 19, 2015 4:11 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Hi Walt,

Nope. We've suspended sampling until next week. Probably will resume sampling Tuesday.
Thank you for asking.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 3:43 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

Should we still expect additional samples for VOCs on Friday? Would you have an estimate of the number of samples?

Thanks,

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Thursday, February 19, 2015 12:31 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Thanks Walt! Login looks good so far. Thanks for the word about the headspace.
Please ensure these are to be analyzed for just the select list of VOCs like in SDG 50085-7.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 12:04 PM

To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

A complete receipt confirmation won't be available until tomorrow am but, in the interim, a PDF of the work order is attached.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 10:45 AM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order TBD

Clairette,

Two of three vials for two samples contain headspace (the lab will use vials without headspace first) . Otherwise, all containers were intact and the cooler temp blank is 2.6 deg C.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Thursday, February 19, 2015 10:30 AM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), SDG 50085-7, final reports to mail

Thank you Walt!

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 18, 2015 12:17 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), SDG 50085-7, final reports to mail

TRIMATRIX
LABORATORIES

SECTION - A

FIELD COC RECORDS
AND
RECEIVING DOCUMENTATION

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Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 150547

Pg. 1 of 1

Analyses Requested

For Lab Use Only
Cart ——
VOA Rack/Tray 2253 ~~[illegible]~~
Receipt Log No. 472
Project Chemist WR
Work Order No. 1502266

Client Name	CH2M HILL
Address	5701 Cleveland Street, Suite 200
City, State Zip	Virginia Beach, VA 23462
Phone/Fax	757-671-6335
Email	claiette.campbell@ch2m.com
Project Name	Yorktown Site 34
Client Project No. / P.O. No.	470624.FI.FS.34
Invoice To	☑ Client ☐ Other (comments)
Contact/Report To	Clairette Campbell

D
Select VOCs

Container Type (corresponds to Container Packing List)

⇦ 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	Number of Containers Submitted	Total	Sample Comments
01	WG	01	1	YS34-DP07-3943-0215	TM 1550	02/16/15	1330		x	W	3	3	
01	WG	02	2	YS34-DP07-5357-0215	↓	02/16/15	1530		x	W	3	3	
01	WG	03	3	YS34-DP08-3943-0215	↓	02/16/15	1720		x	W	3	3	
03	WQ	04	4	YS34-TB-021615	↓	02/16/15	1730		x	W	2	2	
			5										
			6										
			7										
			8										
			9										
			10										

[signature] 02/18/15

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

How Shipped? Hand ____ Carrier FedEx
Tracking No.

Comments: CTO WE74
VOCs - 1,1-DCA; 1,1-DCE; cis-1,2-DCE; TCE

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
[signature]	02/18/15	1730						

1. Received By	Date	Time	2. Received By	Date	Time	3. Received For Lab By	Date	Time
						[signature]	2/19/15	1015

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

00014

FedEx. Express *NEW Package US Airbill*

FedEx Tracking Number 8070 4186 9870

23 15 15

0200

Recipient's Copy

1 From

Date 02/18/15 [redacted]

Sender's Name Brian Wachter Phone 804 317 1925

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.FI.FS.34

3 To

Recipient's Name Walt Roudebush Phone 616 975-4561

Company TriMatrix Laboratory

Address 5560 Corporate Exchange Ct SE Dept./Floor/Suite/Room

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

Address

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

City Grand Rapids State MI 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.

Cooler(s) Assigned: Tracking No(s):

02/18/15

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	2 or 3 Business Days
☐ FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day A.M. Second business morning.* Saturday Delivery NOT available.
☑ FedEx Priority Overnight Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☐ FedEx Standard Overnight Next business afternoon.* Saturday Delivery NOT available.	☐ 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 37 lbs. [redacted] Credit Card Auth.

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

644

Rate Date 1/13 • Part #167002 • ©2013 FedEx • PRINTED IN U.S.A. SRF

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fedex.com 1.800.GoFedEx 1.800.463.3339

00015

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CH2M Hill | Work Order #: 1502166
Receipt Record Page/Line #: 47.2 | New / Add To | Project Chemist: CMR | Sample #s

Recorded by (initials/date): WC 2.19.15
☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler # Tm 1550 | Time 1030

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:	2.6	-	2.6
Sample 1:	3.0	-	3.0
Sample 2:	3.0	-	3.0
Sample 3:	3.4	-	3.4

3 Sample Average °C: 3.1
☑ 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?

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 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

Rush

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
2.19.15 1015	2.19.15 1038	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client: CH2M Hill | Work Order #: 1502216

Receipt Log #: 47.2 | Completed By (initials/date): WR 2-19-15 | Project Chemist: WR

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										COC					Sample Tag					Line Item Comments
		Discrepancy	Missing Container	Broken Container	Label Missing / Incomplete	Label Illegible	Low Volume	Inappropriate Container	Headspace	Not Listed on COC	Preservation	Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	
150547	1								X			DP07-3943			1	2 of 3						
↓	2								X			DP07-5357			1	2 of 3						

General Comments:

Client informed.

Project Chemist (initials/date): WR 2/19/15

150547

TRIMATRIX LABORATORIES

WORK ORDER **1502266**

Printed: 2/19/2015 4:22:38PM

Client:	**CH2M HILL - VA**	Project Manager:	**Walter J. Roudebush**
Project:	**8012 CTO-WE74 Yorktown Site 34**	Project Number:	**50085**
Work Order:	**DPT Groundwater**	SDG:	**50085-9**

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:	**Mar-03-15 23:00**			
W.O. Due Date:	**Feb-20-15 15:00 (1 day TAT)**		Report Level:	**4DOD**
Date Received:	Feb-19-15 10:15	3.1°C	Received By:	William D. Cole
Date Logged In:	Feb-19-15 10:56		Logged In By:	William D. Cole

W.O. Comments: *4DOD, QSM v4.2, samples are on a 24 RUSH TAT, no further samples expected this week and SDG 50085-9 is CLOSED.*
VOC Rack #225B

Analysis	Lab Due Date	TAT	Expires	Analysis Comments
1502266-01 YS34-DP07-3943-0215 [Water]				
Sampled Feb-16-15 13:30 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 13:30	
1502266-02 YS34-DP07-5357-0215 [Water]				
Sampled Feb-16-15 15:30 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 15:30	
1502266-03 YS34-DP08-3943-0215 [Water]				
Sampled Feb-16-15 17:20 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 17:20	
1502266-04 YS34-TB-021615 [Water]				**Trip Blank (2nd vial is back-up)**
Sampled Feb-16-15 17:30 Eastern by TriMatrix				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 17:30	

Volatiles MS Analysis Detail

* indicates custom

	Analyte	CLrept?	QCrept?	MDL	RL
Water	**8260B DoD VOAs plus custom**			ug/L	
	1,1-Dichloroethane	Y	Y	0.126	1
	1,1-Dichloroethene	Y	Y	0.223	1
	cis-1,2-Dichloroethene	Y	Y	0.134	1
	Trichloroethene	Y	Y	0.104	1

Reviewed By

Date

TRIMATRIX
LABORATORIES

SECTION - B

INTERNAL COC RECORDS

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

Internal Chain of Custody

SDGID: 50085-9 **Work Order #: 1502266**

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

Project Manager: **Walter J. Roudebush**
Date Received: **Feb-19-15 10:15**

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

Lab Number / Sample Name	*Container*	*Removed by (Signature)*	*Date & Time Removed*	*Date & Time Returned*	*Consumed?*	*Extract Container*
1502266-01 YS34-DP07-3943-0215	A	Diane VanMale	2-19-15 11:00	2-19-15 15:30		
1502266-02 YS34-DP07-5357-0215						
1502266-03 YS34-DP08-3943-0215						
1502266-04 YS34-TB-021615						

TRIMATRIX LABORATORIES

SECTION – C

GCMS VOLATILE ORGANICS

USEPA-8260B

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-9

USEPA-8260B

SAMPLE ID SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-9

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

Client Sample Id:	Lab Sample Id:
YS34-DP07-3943-0215	1502266-01
YS34-DP07-3943-0215	1502266-01RE1
YS34-DP07-5357-0215	1502266-02
YS34-DP08-3943-0215	1502266-03
YS34-TB-021615	1502266-04

TRIMATRIX
LABORATORIES

SECTION - C

QUALITY CONTROL (QC) SUMMARY
- FORMS ONLY -

USEPA-8260B

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Individual sample results relate only to the sample tested.

ANALYSIS BATCH (SEQUENCE) SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B20002-TUN1	BFB0219.D	02/19/15 08:11
Calibration Check	5B20002-CCV1	CCV0219.D	02/19/15 08:39
LCS	1501603-BS1	BS0219.D	02/19/15 09:08
Blank	1501603-BLK1	BLK0219.D	02/19/15 10:05
YS34-TB-021615	1502266-04	1502266-04.D	02/19/15 11:30
YS34-DP07-3943-0215	1502266-01	1502266-01.D	02/19/15 11:59
YS34-DP07-3943-0215	1502266-01RE1	1502266-01A.D	02/19/15 13:54
YS34-DP07-5357-0215	1502266-02	1502266-02A.D	02/19/15 14:22
YS34-DP08-3943-0215	1502266-03	1502266-03A.D	02/19/15 14:51

SURROGATE STANDARD RECOVERY AND RT SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
Calibration Check (5B20002-CCV1)		**Lab File ID: CCV0219.D**		**Analyzed: 02/19/15 08:39**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	103	80 - 120	
1,2-Dichloroethane-d4	5.29	5.30	-0.01	+/-1.0	100	80 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	80 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	94	80 - 120	
LCS (1501603-BS1)		**Lab File ID: BS0219.D**		**Analyzed: 02/19/15 09:08**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	102	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	99	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	102	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	100	75 - 120	
Blank (1501603-BLK1)		**Lab File ID: BLK0219.D**		**Analyzed: 02/19/15 10:05**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	100	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	
YS34-TB-021615 (1502266-04)		**Lab File ID: 1502266-04.D**		**Analyzed: 02/19/15 11:30**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	100	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	
YS34-DP07-3943-0215 (1502266-01)		**Lab File ID: 1502266-01.D**		**Analyzed: 02/19/15 11:59**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	103	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	101	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	98	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	99	75 - 120	
YS34-DP07-3943-0215 (1502266-01RE1)		**Lab File ID: 1502266-01A.D**		**Analyzed: 02/19/15 13:54**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	98	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	101	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	98	75 - 120	
YS34-DP07-5357-0215 (1502266-02)		**Lab File ID: 1502266-02A.D**		**Analyzed: 02/19/15 14:22**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	102	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	99	75 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

Sequence: 5B20002

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration: 5B12010

Instrument: 328

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
YS34-DP08-3943-0215 (1502266-03)		**Lab File ID: 1502266-03A.D Analyzed: 02/19/15 14:51**					
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	102	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	

LCS / LCS DUPLICATE RECOVERY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501603

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501603-BS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Sequence: 5B20002

Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	42.2	106	70 - 135	ug/L
1,1-Dichloroethene	40.0	40.3	101	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	42.5	106	70 - 125	ug/L
Trichloroethene	40.0	42.9	107	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: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501603-BLK1
File ID: BLK0219.D
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 10:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

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	39.0	97	85 - 115	
1,2-Dichloroethane-d4	40.0	39.9	100	70 - 120	
Toluene-d8	40.0	39.9	100	85 - 120	
4-Bromofluorobenzene	40.0	38.9	97	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	737711	5.86	854305	5.879	
Chlorobenzene-d5	584325	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	307706	13.273	359463	13.286	

QC BATCH SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-9

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

QC Batch: 1501603 QC Batch Matrix: Water

Preparation: 5030B Aqueous Purge & Trap

Sample Name	Lab Sample ID	Date Prepared	Observations
Blank	1501603-BLK1	02/19/15 08:00	
LCS	1501603-BS1	02/19/15 08:00	
YS34-DP07-3943-0215	1502266-01	02/19/15 08:00	
YS34-DP07-3943-0215	1502266-01RE1	02/19/15 08:00	Added 2/20/2015 by DLV
YS34-DP07-5357-0215	1502266-02	02/19/15 08:00	
YS34-DP08-3943-0215	1502266-03	02/19/15 08:00	
YS34-TB-021615	1502266-04	02/19/15 08:00	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Lab Sample ID: 5B12049-TUN1

Injection Date: 02/11/15

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Lab File ID: BFB0211.D

Injection Time: 09:01

Calibration: 5B12010

Instrument ID: 328

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	17.4	PASS
75	30 - 60% of 95	47.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.98	PASS
173	Less than 2% of 174	0.525	PASS
174	50 - 100% of 95	86.3	PASS
175	5 - 9% of 174	7.17	PASS
176	95 - 101% of 174	97.2	PASS
177	5 - 9% of 176	6.64	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Lab Sample ID: 5B20002-TUN1

Injection Date: 02/19/15

Sequence: 5B20002

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Lab File ID: BFB0219.D

Injection Time: 08:11

Instrument ID: 328

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	16.4	PASS
75	30 - 60% of 95	45.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0.529	PASS
174	50 - 100% of 95	86.1	PASS
175	5 - 9% of 174	6.92	PASS
176	95 - 101% of 174	96.7	PASS
177	5 - 9% of 176	6.22	PASS

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B20002-CCV1)			**Lab File ID: CCV0219.D**			**Analyzed: 02/19/15 08:39**			
Fluorobenzene	952406	5.866	854305	5.879	111	50 - 200	-0.0130	+/-0.50	
Chlorobenzene-d5	714865	10.274	677916	10.286	105	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	348926	13.273	359463	13.286	97	50 - 200	-0.0130	+/-0.50	
LCS (1501603-BS1)			**Lab File ID: BS0219.D**			**Analyzed: 02/19/15 09:08**			
Fluorobenzene	831506	5.86	854305	5.879	97	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	665342	10.274	677916	10.286	98	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	349312	13.273	359463	13.286	97	50 - 200	-0.0130	+/-0.50	
Blank (1501603-BLK1)			**Lab File ID: BLK0219.D**			**Analyzed: 02/19/15 10:05**			
Fluorobenzene	737711	5.86	854305	5.879	86	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	584325	10.274	677916	10.286	86	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	307706	13.273	359463	13.286	86	50 - 200	-0.0130	+/-0.50	
YS34-TB-021615 (1502266-04)			**Lab File ID: 1502266-04.D**			**Analyzed: 02/19/15 11:30**			
Fluorobenzene	845626	5.86	854305	5.879	99	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	669646	10.274	677916	10.286	99	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	352359	13.273	359463	13.286	98	50 - 200	-0.0130	+/-0.50	
YS34-DP07-3943-0215 (1502266-01)			**Lab File ID: 1502266-01.D**			**Analyzed: 02/19/15 11:59**			
Fluorobenzene	928819	5.866	854305	5.879	109	50 - 200	-0.0130	+/-0.50	
Chlorobenzene-d5	721840	10.274	677916	10.286	106	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	385562	13.273	359463	13.286	107	50 - 200	-0.0130	+/-0.50	
YS34-DP07-3943-0215 (1502266-01RE1)			**Lab File ID: 1502266-01A.D**			**Analyzed: 02/19/15 13:54**			
Fluorobenzene	845406	5.86	854305	5.879	99	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	668179	10.274	677916	10.286	99	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	355438	13.273	359463	13.286	99	50 - 200	-0.0130	+/-0.50	
YS34-DP07-5357-0215 (1502266-02)			**Lab File ID: 1502266-02A.D**			**Analyzed: 02/19/15 14:22**			
Fluorobenzene	927356	5.86	854305	5.879	109	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	744061	10.274	677916	10.286	110	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	398920	13.273	359463	13.286	111	50 - 200	-0.0130	+/-0.50	
YS34-DP08-3943-0215 (1502266-03)			**Lab File ID: 1502266-03A.D**			**Analyzed: 02/19/15 14:51**			
Fluorobenzene	856965	5.86	854305	5.879	100	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	680519	10.274	677916	10.286	100	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	361207	13.273	359463	13.286	100	50 - 200	-0.0130	+/-0.50	

HOLDING TIME SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-9

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-DP07-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP07-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP07-5357-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP08-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-TB-021615	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	

TRIMATRIX
LABORATORIES

SECTION - C

SAMPLE DATA
- FORMS ONLY -

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.

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-3943-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502266-01
File ID: 1502266-01.D
Sampled: 02/16/15 13:30
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 11:59
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	91	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	860	0.22	0.50	1.0	E
156-59-2	cis-1,2-Dichloroethene	1	190	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	2500	0.10	0.20	1.0	E

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	41.2	103	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	39.1	98	85 - 120	
4-Bromofluorobenzene	40.0	39.8	99	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	928819	5.866	854305	5.879	
Chlorobenzene-d5	721840	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	385562	13.273	359463	13.286	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-3943-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-9

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

Matrix: Ground Water Laboratory ID: 1502266-01RE1 File ID: 1502266-01A.D

Sampled: 02/16/15 13:30 Prepared: 02/19/15 08:00 Analyzed: 02/19/15 13:54

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

QC Batch: 1501603 Sequence: 5B20002 Calibration: 5B12010 Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	50	90	6.3	25	50	
75-35-4	1,1-Dichloroethene	50	970	11	25	50	
156-59-2	cis-1,2-Dichloroethene	50	190	6.7	25	50	
79-01-6	Trichloroethene	50	5700	5.2	10	50	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.4	98	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	39.8	99	85 - 120	
4-Bromofluorobenzene	40.0	39.1	98	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	845406	5.86	854305	5.879	
Chlorobenzene-d5	668179	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	355438	13.273	359463	13.286	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-5357-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502266-02
File ID: 1502266-02A.D
Sampled: 02/16/15 15:30
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 14:22
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	1.7	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	16	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	12	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	77	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	40.8	102	70 - 120	
Toluene-d8	40.0	40.1	100	85 - 120	
4-Bromofluorobenzene	40.0	39.5	99	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	927356	5.86	854305	5.879	
Chlorobenzene-d5	744061	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	398920	13.273	359463	13.286	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP08-3943-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502266-03
File ID: 1502266-03A.D
Sampled: 02/16/15 17:20
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 14:51
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.20	0.13	0.50	1.0	J
75-35-4	1,1-Dichloroethene	1	1.7	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	1.3	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	11	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.0	97	85 - 115	
1,2-Dichloroethane-d4	40.0	40.8	102	70 - 120	
Toluene-d8	40.0	39.9	100	85 - 120	
4-Bromofluorobenzene	40.0	38.9	97	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	856965	5.86	854305	5.879	
Chlorobenzene-d5	680519	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	361207	13.273	359463	13.286	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-TB-021615

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-9

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

Matrix: Water Laboratory ID: 1502266-04 File ID: 1502266-04.D

Sampled: 02/16/15 17:30 Prepared: 02/19/15 08:00 Analyzed: 02/19/15 11:30

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

QC Batch: 1501603 Sequence: 5B20002 Calibration: 5B12010 Instrument: 328

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	38.7	97	85 - 115	
1,2-Dichloroethane-d4	40.0	40.1	100	70 - 120	
Toluene-d8	40.0	39.8	99	85 - 120	
4-Bromofluorobenzene	40.0	38.8	97	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	845626	5.86	854305	5.879	
Chlorobenzene-d5	669646	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	352359	13.273	359463	13.286	

* 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.

INITIAL CALIBRATION STANDARDS

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration: 5B12010

Instrument: 328

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
5020346	8260 Tune Working Standard 02-09-15	5B12049-TUN1	BFB0211.D	02/11/15 09:01
5020573	1.0 ug/L A	5B12049-CAL1	1P0211.D	02/11/15 11:16
5020574	5.0 ug/L A	5B12049-CAL2	5P0211.D	02/11/15 11:45
5020575	10 ug/L A	5B12049-CAL3	10P0211.D	02/11/15 12:13
5020576	20 ug/L A	5B12049-CAL4	20P0211.D	02/11/15 12:42
5020577	40 ug/L A	5B12049-CAL5	40P0211.D	02/11/15 13:11
5020578	100 ug/L A	5B12049-CAL6	100P0211.D	02/11/15 13:39
5020579	200 ug/L A	5B12049-CAL7	200P0211.D	02/11/15 14:37
5010204	40 ug/L B	5B12049-SCV1	SCV0211.D	02/11/15 16:31
5010812	1.0 ug/L OXY	5B12049-CAL8	1X0211.D	02/11/15 17:57
5010813	5.0 ug/L OXY	5B12049-CAL9	5X0211.D	02/11/15 18:26
5010814	10 ug/L OXY	5B12049-CALA	10X0211.D	02/11/15 18:54
5010815	20 ug/L OXY	5B12049-CALB	20X0211.D	02/11/15 19:23
5010816	40 ug/L OXY	5B12049-CALC	40X0211.D	02/11/15 19:52
5010817	100 ug/L OXY	5B12049-CALD	100X0211.D	02/11/15 20:21
4120624	OXY SCV 12-10-14	5B12049-SCV2	SCVX0211.D	02/11/15 20:49

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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	~~0.3898305~~	5	0.1934257	10	0.1361697	20	0.1251978	40	0.1212096	100	0.1173466
Acrolein	1	3.470627E-02	5	2.794902E-02	10	2.963528E-02	20	2.944861E-02	40	2.739186E-02	100	2.989372E-02
Acrylonitrile	1	0.1588741	5	0.1444419	10	0.1421263	20	0.1546754	40	0.1468539	100	0.1454085
tert-Amyl Methyl Ether												
Benzene	1	1.557385	5	1.363868	10	1.32038	20	1.375001	40	1.343061	100	1.3237
Bromobenzene	1	1.465701	5	1.417141	10	1.327837	20	1.383608	40	1.356084	100	1.375228
Bromochloromethane	1	0.2838272	5	0.2677683	10	0.2533029	20	0.2689498	40	0.259185	100	0.2523121
Bromodichloromethane	1	0.3274848	5	0.3250472	10	0.3192537	20	0.3568211	40	0.3649329	100	0.3808536
Bromoform	1	0.1688483	5	0.1962854	10	0.1926623	20	0.2302477	40	0.2525416	100	0.2788576
Bromomethane	1	0.2453519	5	0.1335767	10	0.1162471	20	0.1068081	40	0.103792	100	8.556949E-02
n-Butylbenzene	1	2.628701	5	2.596865	10	2.486895	20	2.686542	40	2.577656	100	2.598819
sec-Butylbenzene	1	3.759667	5	3.627822	10	3.452459	20	3.680976	40	3.567816	100	3.598644
tert-Butylbenzene	1	2.705408	5	2.529478	10	2.42528	20	2.580993	40	2.51032	100	2.520274
Carbon Disulfide	1	0.9561238	5	0.7777547	10	0.7746919	20	0.7794102	40	0.9431257	100	1.003449
Carbon Tetrachloride	1	0.3752779	5	0.3478962	10	0.3452412	20	0.3767626	40	0.3947115	100	0.4142313
Chlorobenzene	1	1.307393	5	1.211713	10	1.130534	20	1.179404	40	1.146905	100	1.113136
Chloroethane	1	0.1931616	5	0.1545007	10	0.1496237	20	0.1511457	40	0.1493542	100	0.1501579
2-Chloroethyl Vinyl Ether	1	0.1295596	5	0.1468911	10	0.161148	20	0.1812213	40	0.2052581	100	0.2157383
Chloroform	1	0.6647586	5	0.5618427	10	0.5373536	20	0.5652057	40	0.5535634	100	0.5537145
1-Chlorohexane	1	0.5213198	5	0.4613107	10	0.4458764	20	0.4634591	40	0.4493359	100	0.4327037
Chloromethane	1	0.2162468	5	0.1872372	10	0.2026915	20	0.2334367	40	0.2420529	100	0.2785412
2-Chlorotoluene	1	0.9458918	5	0.8904438	10	0.8417018	20	0.8640493	40	0.8475893	100	0.8526476
4-Chlorotoluene	1	3.022624	5	2.967213	10	2.786478	20	2.926441	40	2.829855	100	2.833925
Cyclohexane	1	0.6570636	5	0.6264389	10	0.6211545	20	0.6493051	40	0.6409526	100	0.6354288
1,2-Dibromo-3-chloropropane	1	0.1731862	5	0.1873989	10	0.1890183	20	0.2218295	40	0.2372539	100	0.2657911
Dibromochloromethane	1	0.2592956	5	0.2961135	10	0.2801358	20	0.3313458	40	0.3523844	100	0.3724188
1,2-Dibromoethane	1	0.3312408	5	0.3414101	10	0.3326212	20	0.361323	40	0.3534037	100	0.3480482
Dibromomethane	1	0.2040499	5	0.1967921	10	0.1865103	20	0.2024072	40	0.1951938	100	0.1932139
trans-1,4-Dichloro-2-butene	1	0.1902045	5	0.2044308	10	0.1955971	20	0.2251691	40	0.2305995	100	0.251806
1,2-Dichlorobenzene	1	1.622619	5	1.592795	10	1.467965	20	1.547137	40	1.484008	100	1.486859
1,3-Dichlorobenzene	1	1.795931	5	1.708622	10	1.584407	20	1.660846	40	1.600218	100	1.599454

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
1,4-Dichlorobenzene	1	1.951723	5	1.766583	10	1.618166	20	1.676626	40	1.606393	100	1.582874
Dichlorodifluoromethane	1	0.3598355	5	0.3304999	10	0.3106289	20	0.3160037	40	0.3121719	100	0.3104894
1,1-Dichloroethane	1	0.619897	5	0.550645	10	0.5375998	20	0.5710087	40	0.5677317	100	0.5745819
1,2-Dichloroethane	1	0.4439053	5	0.4012946	10	0.384727	20	0.4064654	40	0.3926326	100	0.3856063
1,1-Dichloroethene	1	0.3548101	5	0.3086386	10	0.3032349	20	0.3099973	40	0.3006736	100	0.3081116
cis-1,2-Dichloroethene	1	0.3942277	5	0.3570076	10	0.3464079	20	0.3631786	40	0.3563002	100	0.3546784
trans-1,2-Dichloroethene	1	0.3679493	5	0.3210256	10	0.3116234	20	0.3268714	40	0.3226822	100	0.3203554
1,2-Dichloroethene (Total)	2	0.3810885	10	0.3390166	20	0.3290156	40	0.345025	80	0.3394912	200	0.3375169
Dichlorofluoromethane	1	0.5776003	5	0.4956641	10	0.4883766	20	0.5033234	40	0.4922457	100	0.5067541
1,2-Dichloropropane	1	0.3338189	5	0.3190199	10	0.3090143	20	0.3297209	40	0.3254458	100	0.3254988
1,3-Dichloropropane	1	0.7020813	5	0.6723897	10	0.6324654	20	0.6782775	40	0.655624	100	0.637665
2,2-Dichloropropane	1	0.3116236	5	0.2745615	10	0.2776511	20	0.3044508	40	0.3195159	100	0.3443667
1,1-Dichloropropene	1	0.4977183	5	0.4447351	10	0.4390945	20	0.4596129	40	0.4559718	100	0.4549483
cis-1,3-Dichloropropene	1	0.2984844	5	0.3363054	10	0.3493123	20	0.4083998	40	0.4371682	100	0.4658766
trans-1,3-Dichloropropene	1	0.2001238	5	0.2328749	10	0.2433736	20	0.3018991	40	0.3318862	100	0.3693779
Ethylbenzene	1	2.218588	5	2.060761	10	1.989971	20	2.060498	40	2.005216	100	1.936051
Ethyl Ether	1	0.1912248	5	0.1657791	10	0.1632451	20	0.1737526	40	0.1644085	100	0.1685009
Ethyl tert-Butyl Ether												
Hexachlorobutadiene	1	0.5118002	5	0.4564888	10	0.4241695	20	0.4713518	40	0.4543694	100	0.4627868
2-Hexanone	1	~~0.2038558~~	5	0.2293706	10	0.2502928	20	0.2815384	40	0.3077933	100	0.3080372
Iodomethane	1	0.5336286	5	0.4165744	10	0.4124178	20	0.421916	40	0.4825068	100	0.5083838
Isopropylbenzene	1	3.756663	5	3.614234	10	3.503021	20	3.665804	40	3.614734	100	3.686475
Isopropyl Ether												
4-Isopropyltoluene	1	3.303426	5	3.089977	10	2.952921	20	3.13843	40	3.028011	100	3.034653
Methyl Acetate	1	0.2929879	5	0.25905	10	0.2535835	20	0.2729274	40	0.260455	100	0.2021853
Methyl tert-Butyl Ether	1	0.8672904	5	0.7937702	10	0.7786498	20	0.8498409	40	0.8357601	100	0.8522051
Methylcyclohexane	1	0.6452854	5	0.6211575	10	0.6147893	20	0.6468188	40	0.63217	100	0.6294624
Methylene Chloride	1	0.8075097	5	0.4754961	10	0.4193294	20	0.4235526	40	0.409417	100	0.4058289
2-Butanone (MEK)	1	0.161125	5	0.1516584	10	0.155029	20	0.1614565	40	0.1659372	100	0.1656827
4-Methyl-2-pentanone (MIBK)	1	~~0.2349348~~	5	0.2819696	10	0.2935665	20	0.3116605	40	0.3384985	100	0.3391913
Naphthalene	1	1.733614	5	1.822128	10	1.86887	20	2.056946	40	2.016722	100	2.080738

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Calibration Date: 02/11/15 00:00
Instrument: 328

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
n-Propylbenzene	1	1.05601	5	1.002012	10	0.9681814	20	1.02165	40	0.995012	100	1.000775
Styrene	1	1.148594	5	1.242598	10	1.186502	20	1.268506	40	1.23228	100	1.183958
t-Butanol												
1,1,1,2-Tetrachloroethane	1	0.2943031	5	0.3090372	10	0.3041049	20	0.3410383	40	0.3522885	100	0.3602935
1,1,2,2-Tetrachloroethane	1	0.9601572	5	0.9539307	10	0.8847965	20	0.9161297	40	0.8652657	100	0.8829323
Tetrachloroethene	1	0.593864	5	0.5115937	10	0.4930609	20	0.5084878	40	0.5	100	0.4870952
Tetrahydrofuran	1	3.491566E-02	5	3.754421E-02	10	0.0392249	20	4.337642E-02	40	4.278683E-02	100	0.0433885
Toluene	1	1.612402	5	1.439168	10	1.392957	20	1.434937	40	1.41059	100	1.380715
1,2,3-Trichlorobenzene	1	0.9298746	5	0.8942233	10	0.8541932	20	0.9228262	40	0.8893933	100	0.9219616
1,2,4-Trichlorobenzene	1	1.027855	5	1.00139	10	0.9512848	20	1.046882	40	1.020992	100	1.059237
1,1,1-Trichloroethane	1	0.4486689	5	0.3978678	10	0.4059344	20	0.4386037	40	0.4485599	100	0.4659731
1,1,2-Trichloroethane	1	0.2546174	5	0.2477313	10	0.2268773	20	0.2442075	40	0.2373824	100	0.2332101
Trichloroethene	1	0.4136485	5	0.3616137	10	0.3509073	20	0.3673983	40	0.3705316	100	0.3697743
Trichlorofluoromethane	1	0.5232115	5	0.458634	10	0.4391584	20	0.4391121	40	0.4265994	100	0.4226195
1,2,3-Trichloropropane	1	0.2940661	5	0.2968864	10	0.2742145	20	0.2855528	40	0.2741868	100	0.275116
1,1,2-Trichloro-1,2,2-trifluoroe	1	0.4333311	5	0.3828904	10	0.3770967	20	0.381101	40	0.366773	100	0.3674238
1,2,4-Trimethylbenzene	1	2.839928	5	2.878226	10	2.761869	20	2.894978	40	2.814537	100	2.842153
1,3,5-Trimethylbenzene	1	3.101334	5	3.049741	10	2.892497	20	3.028284	40	2.947989	100	2.966267
Vinyl Acetate	1	0.4785592	5	0.4795479	10	0.5362115	20	0.535636	40	0.535063	100	0.5656192
Vinyl Chloride	1	0.401661	5	0.3370915	10	0.3314278	20	0.337727	40	0.3281545	100	0.3446428
Xylene, Meta + Para	2	0.8351899	10	0.7922712	20	0.7644107	40	0.7964894	80	0.7707658	200	0.727517
Xylene, Ortho	1	0.7446761	5	0.7376189	10	0.7122088	20	0.7508603	40	0.7337369	100	0.7101689
Xylene (Total)	3	0.8050186	15	0.7740538	30	0.7470101	60	0.7812797	120	0.7584229	300	0.7217343
Dichlorobenzenes (Total)	3	1.790091	15	1.689333	30	1.556846	60	1.628203	120	1.56354	300	1.556396
Dibromofluoromethane	40	0.2524764	40	0.2560805	40	0.2560806	40	0.2586813	40	0.2598732	40	0.2608655
1,2-Dichloroethane-d4	40	0.1523673	40	0.1526852	40	0.1523189	40	0.1527374	40	0.1520183	40	0.1522211
Toluene-d8	40	0.9813827	40	0.9860255	40	0.9885643	40	0.9911598	40	0.9907808	40	0.9891858
4-Bromofluorobenzene	40	0.5117477	40	0.5115825	40	0.5156145	40	0.5173111	40	0.5153942	40	0.5061098

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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	0.1145579										
Acrolein	200	3.213451E-02										
Acrylonitrile	200	0.1444483										
tert-Amyl Methyl Ether			1	0.566821	5	0.5589481	10	0.5924367	20	0.5927862	40	0.6199926
Benzene	200	1.300795										
Bromobenzene	200	1.394123										
Bromochloromethane	200	0.2484819										
Bromodichloromethane	200	0.3816945										
Bromoform	200	0.2881644										
Bromomethane	200	~~5.315986E-02~~										
n-Butylbenzene	200	2.635694										
sec-Butylbenzene	200	3.635037										
tert-Butylbenzene	200	2.531929										
Carbon Disulfide	200	1.002941										
Carbon Tetrachloride	200	0.4246732										
Chlorobenzene	200	1.081618										
Chloroethane	200	0.1375545										
2-Chloroethyl Vinyl Ether	200	0.211484										
Chloroform	200	0.5494599										
1-Chlorohexane	200	0.4250359										
Chloromethane	200	0.3041332										
2-Chlorotoluene	200	0.8529435										
4-Chlorotoluene	200	2.810061										
Cyclohexane	200	0.630088										
1,2-Dibromo-3-chloropropane	200	0.2840988										
Dibromochloromethane	200	0.3784881										
1,2-Dibromoethane	200	0.3403761										
Dibromomethane	200	0.1893338										
trans-1,4-Dichloro-2-butene	200	0.2614516										
1,2-Dichlorobenzene	200	1.492911										
1,3-Dichlorobenzene	200	1.604687										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
1,4-Dichlorobenzene	200	1.559249										
Dichlorodifluoromethane	200	0.3191763										
1,1-Dichloroethane	200	0.5772969										
1,2-Dichloroethane	200	0.3763774										
1,1-Dichloroethene	200	0.3104162										
cis-1,2-Dichloroethene	200	0.3520766										
trans-1,2-Dichloroethene	200	0.3183503										
1,2-Dichloroethene (Total)	400	0.3352135										
Dichlorofluoromethane	200	0.5139173										
1,2-Dichloropropane	200	0.3199502										
1,3-Dichloropropane	200	0.6228001										
2,2-Dichloropropane	200	0.3470118										
1,1-Dichloropropene	200	0.4531999										
cis-1,3-Dichloropropene	200	0.4696909										
trans-1,3-Dichloropropene	200	0.3767005										
Ethylbenzene	200	1.866105										
Ethyl Ether	200	0.1663914										
Ethyl tert-Butyl Ether			1	0.7203208	5	0.7005392	10	0.7326622	20	0.7242343	40	0.751672
Hexachlorobutadiene	200	0.4748085										
2-Hexanone	200	0.2942269										
Iodomethane	200	0.4946698										
Isopropylbenzene	200	3.713359										
Isopropyl Ether			1	0.911773	5	0.8759777	10	0.9162975	20	0.892212	40	0.925977
4-Isopropyltoluene	200	3.003186										
Methyl Acetate	200	0.2015083										
Methyl tert-Butyl Ether	200	0.8434947	1		5		10		20		40	
Methylcyclohexane	200	0.6200673										
Methylene Chloride	200	0.3982197										
2-Butanone (MEK)	200	0.1586356										
4-Methyl-2-pentanone (MIBK)	200	0.3223415										
Naphthalene	200	2.147883										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
n-Propylbenzene	200	0.998621										
Styrene	200	1.129881										
t-Butanol			5	1.850583E-02	25	1.851653E-02	50	1.924914E-02	100	1.997308E-02	200	2.054648E-02
1,1,1,2-Tetrachloroethane	200	0.3581169										
1,1,2,2-Tetrachloroethane	200	0.8600081										
Tetrachloroethene	200	0.474367										
Tetrahydrofuran	200	4.364811E-02										
Toluene	200	1.33467										
1,2,3-Trichlorobenzene	200	0.9481535										
1,2,4-Trichlorobenzene	200	1.086888										
1,1,1-Trichloroethane	200	0.4746712										
1,1,2-Trichloroethane	200	0.2260914										
Trichloroethene	200	0.3747351										
Trichlorofluoromethane	200	0.4313994										
1,2,3-Trichloropropane	200	0.2780459										
1,1,2-Trichloro-1,2,2-trifluoroe	200	0.3651303										
1,2,4-Trimethylbenzene	200	2.863922										
1,3,5-Trimethylbenzene	200	2.925222										
Vinyl Acetate	200	0.4440132										
Vinyl Chloride	200	0.3576768										
Xylene, Meta + Para	400	0.6646692										
Xylene, Ortho	200	0.6802237										
Xylene (Total)	600	0.6698541										
Dichlorobenzenes (Total)	600	1.552282										
Dibromofluoromethane	40	0.2598038	40	~~0.2470074~~	40	~~0.2459703~~	40	~~0.2446365~~	40	~~0.2436148~~	40	~~0.2423292~~
1,2-Dichloroethane-d4	40	0.1503434	40	~~0.1509993~~	40	~~0.1500506~~	40	~~0.1518395~~	40	~~0.1505725~~	40	~~0.1503765~~
Toluene-d8	40	0.9873948	40	~~0.9833324~~	40	~~0.9770907~~	40	~~0.977977~~	40	~~0.9730595~~	40	~~0.9804122~~
4-Bromofluorobenzene	40	0.5054969	40	~~0.5056283~~	40	~~0.5076771~~	40	~~0.5064143~~	40	~~0.5070891~~	40	~~0.5068406~~

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone												
Acrolein												
Acrylonitrile												
tert-Amyl Methyl Ether	100	0.6334605										
Benzene												
Bromobenzene												
Bromochloromethane												
Bromodichloromethane												
Bromoform												
Bromomethane												
n-Butylbenzene												
sec-Butylbenzene												
tert-Butylbenzene												
Carbon Disulfide												
Carbon Tetrachloride												
Chlorobenzene												
Chloroethane												
2-Chloroethyl Vinyl Ether												
Chloroform												
1-Chlorohexane												
Chloromethane												
2-Chlorotoluene												
4-Chlorotoluene												
Cyclohexane												
1,2-Dibromo-3-chloropropane												
Dibromochloromethane												
1,2-Dibromoethane												
Dibromomethane												
trans-1,4-Dichloro-2-butene												
1,2-Dichlorobenzene												
1,3-Dichlorobenzene												

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,4-Dichlorobenzene												
Dichlorodifluoromethane												
1,1-Dichloroethane												
1,2-Dichloroethane												
1,1-Dichloroethene												
cis-1,2-Dichloroethene												
trans-1,2-Dichloroethene												
1,2-Dichloroethene (Total)												
Dichlorofluoromethane												
1,2-Dichloropropane												
1,3-Dichloropropane												
2,2-Dichloropropane												
1,1-Dichloropropene												
cis-1,3-Dichloropropene												
trans-1,3-Dichloropropene												
Ethylbenzene												
Ethyl Ether												
Ethyl tert-Butyl Ether	100	0.7540117										
Hexachlorobutadiene												
2-Hexanone												
Iodomethane												
Isopropylbenzene												
Isopropyl Ether	100	0.9088777										
4-Isopropyltoluene												
Methyl Acetate												
Methyl tert-Butyl Ether	100											
Methylcyclohexane												
Methylene Chloride												
2-Butanone (MEK)												
4-Methyl-2-pentanone (MIBK)												
Naphthalene												

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B12010

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/11/15 00:00
Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
n-Propylbenzene												
Styrene												
t-Butanol	500	0.021282										
1,1,1,2-Tetrachloroethane												
1,1,2,2-Tetrachloroethane												
Tetrachloroethene												
Tetrahydrofuran												
Toluene												
1,2,3-Trichlorobenzene												
1,2,4-Trichlorobenzene												
1,1,1-Trichloroethane												
1,1,2-Trichloroethane												
Trichloroethene												
Trichlorofluoromethane												
1,2,3-Trichloropropane												
1,1,2-Trichloro-1,2,2-trifluoroe												
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
Vinyl Acetate												
Vinyl Chloride												
Xylene, Meta + Para												
Xylene, Ortho												
Xylene (Total)												
Dichlorobenzenes (Total)												
Dibromofluoromethane	40	~~0.2409916~~										
1,2-Dichloroethane-d4	40	~~0.1510886~~										
Toluene-d8	40	~~0.9817011~~										
4-Bromofluorobenzene	40	~~0.5093157~~										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Acetone	0.1346512	22.10577	2.074	6.560203E-03	0.99991		0.99	
Acrolein	3.016561E-02	8.339398	1.946857	0.1177098			15	
Acrylonitrile	0.1481183	4.184705	2.685714	0.1082934			15	
tert-Amyl Methyl Ether	0.5940742	4.880941	5.622167	1.316926E-02			15	
Benzene	1.36917	6.345658	5.342	1.170271E-02			15	
Bromobenzene	1.388532	3.186037	11.98786	2.778334E-02			15	
Bromochloromethane	0.2619753	4.721929	4.245857	5.036019E-02			15	
Bromodichloromethane	0.3508697	7.625905	7.335571	8.321737E-03			15	
Bromoform	0.2296582	19.91255	11.414	1.504978E-02	0.99944		SPCC (0.1)	
Bromomethane	0.1318909	43.79935	1.398	7.377879E-03		0.9998178	0.99	
n-Butylbenzene	2.601596	2.373286	13.804	0.0104315			15	
sec-Butylbenzene	3.617489	2.639844	13.09143	1.342767E-02			15	
tert-Butylbenzene	2.543383	3.350352	12.81257	3.191695E-02			15	
Carbon Disulfide	0.8910709	12.20259	2.16	1.332006E-02			15	
Carbon Tetrachloride	0.3826848	7.986811	4.915	3.81499E-03			15	
Chlorobenzene	1.167243	6.428999	10.32386	2.675306E-02			SPCC (0.3)	
Chloroethane	0.1550712	11.35386	1.463286	0.2010874			15	
2-Chloroethyl Vinyl Ether	0.1787572	18.96109	7.866	5.71046E-03	0.99967		0.99	
Chloroform	0.5694141	7.550053	4.415	2.351095E-02			CCC (30)	
1-Chlorohexane	0.4570059	6.91484	10.36171	3.033886E-02			15	
Chloromethane	0.2377628	17.46898	1.173714	0.2500776	0.99780		SPCC (0.1)	
2-Chlorotoluene	0.8707524	4.220664	12.25243	2.840637E-02			15	
4-Chlorotoluene	2.882371	3.114108	12.40186	1.211141E-02			15	
Cyclohexane	0.6372045	2.007867	4.680429	7.108779E-02			15	
1,2-Dibromo-3-chloropropane	0.2226538	18.94114	14.773	1.775763E-02	0.99868		0.99	
Dibromochloromethane	0.3243117	14.38615	9.561	1.240984E-02			15	
1,2-Dibromoethane	0.3440604	3.177195	9.664	2.085872E-02			15	
Dibromomethane	0.1953573	3.280967	7.038714	0.0399234			15	
trans-1,4-Dichloro-2-butene	0.2227512	12.35121	12.17086	2.085974E-02			15	
1,2-Dichlorobenzene	1.527756	3.961742	13.76871	1.620491E-02			15	
1,3-Dichlorobenzene	1.650595	4.708215	13.19486	0.0259139			15	
1,4-Dichlorobenzene	1.680231	8.225105	13.31343	0.0259413			15	

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Dichlorodifluoromethane	0.3226865	5.518719	1.013857	3.525033E-02			15	
1,1-Dichloroethane	0.5712516	4.510551	3.120429	0.101597			SPCC (0.1)	
1,2-Dichloroethane	0.3987155	5.619703	5.442286	6.339248E-02			15	
1,1-Dichloroethene	0.3136975	5.893208	1.995	9.982982E-03			CCC (30)	
cis-1,2-Dichloroethene	0.3605539	4.352983	3.879	1.258776E-02			15	
trans-1,2-Dichloroethene	0.3269797	5.703263	2.659857	2.082056E-02			15	
1,2-Dichloroethene (Total)	0.3437668	4.989458	3.879	1.258776E-02			15	
Dichlorofluoromethane	0.5111259	5.987605	1.599	1.963815E-02			15	
1,2-Dichloropropane	0.3232098	2.509975	6.857429	4.587318E-02			CCC (30)	
1,3-Dichloropropane	0.657329	4.333491	9.271429	3.812178E-02			15	
2,2-Dichloropropane	0.3113116	9.240568	3.853571	5.182609E-02			15	
1,1-Dichloropropene	0.4578973	4.133944	4.951143	4.206556E-02			15	
cis-1,3-Dichloropropene	0.3950339	17.10904	8.004285	4.021929E-02	0.99983		0.99	
trans-1,3-Dichloropropene	0.293748	23.72051	8.829	1.331006E-02	0.99955		0.99	
Ethylbenzene	2.019599	5.520738	10.496	3.451332E-02			CCC (30)	
Ethyl Ether	0.1704718	5.732542	1.836857	1.013214E-02			15	
Ethyl tert-Butyl Ether	0.7305734	2.769023	3.684	1.848113E-02			15	
Hexachlorobutadiene	0.4651107	5.67773	16.00486	1.776995E-02			15	
2-Hexanone	0.2785432	11.5738	9.464	3.176251E-02			15	
Iodomethane	0.4671567	10.59994	2.121286	0.138808			15	
Isopropylbenzene	3.650613	2.266982	11.65286	2.823066E-02			15	
Isopropyl Ether	0.9051858	1.997229	3.213	7.566515E-02			15	
4-Isopropyltoluene	3.078658	3.756031	13.292	1.210823E-02			15	
Methyl Acetate	0.2489568	13.92196	2.341857	0.1120555			15	
Methyl tert-Butyl Ether	0.831573	3.935063	2.672	8.614171E-03			15	
Methylcyclohexane	0.6299644	1.975991	6.717429	5.043494E-02			15	
Methylene Chloride	0.4770505	31.00467	2.416857	9.573029E-02	0.99994		0.99	
2-Butanone (MEK)	0.1599321	3.299237	3.968286	0.1147403			15	
4-Methyl-2-pentanone (MIBK)	0.314538	7.458176	8.294	2.050141E-02			15	
Naphthalene	1.960986	7.818749	16.07271	1.537812E-02			15	
n-Propylbenzene	1.006037	2.690096	12.17771	2.945771E-02			15	
Styrene	1.198903	4.244894	11.19543	2.109438E-02			15	

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
t-Butanol	1.967884E-02	5.713616	2.576	0.1905799			15	
1,1,1,2-Tetrachloroethane	0.3313118	8.446838	10.46386	1.695208E-02			15	
1,1,2,2-Tetrachloroethane	0.9033172	4.528203	12.09957	3.287924E-02			SPCC (0.3)	
Tetrachloroethene	0.5097812	7.689193	9.152858	1.902943E-02			15	
Tetrahydrofuran	0.0406978	8.57248	4.318857	0.1688485			15	
Toluene	1.429348	6.16841	8.428714	3.424673E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.9086608	3.460867	16.37629	1.666687E-02			15	
1,2,4-Trichlorobenzene	1.02779	4.248909	15.77814	1.749859E-02			15	
1,1,1-Trichloroethane	0.4400399	6.535666	4.641	1.288613E-02			15	
1,1,2-Trichloroethane	0.2385882	4.513551	9.066143	2.060384E-02			15	
Trichloroethene	0.3726584	5.276736	6.482	1.415482E-02			15	
Trichlorofluoromethane	0.4486763	7.774971	1.623	1.266012E-02			15	
1,2,3-Trichloropropane	0.2825812	3.425329	12.11929	3.319715E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3819638	6.222503	1.995	9.982982E-03			15	
1,2,4-Trimethylbenzene	2.84223	1.558898	12.87871	1.869921E-02			15	
1,3,5-Trimethylbenzene	2.987333	2.497956	12.41743	3.415761E-02			15	
Vinyl Acetate	0.5106643	8.510587	3.216714	0.1061236			15	
Vinyl Chloride	0.3483402	7.297045	1.19	8.220071E-03			CCC (30)	
Xylene, Meta + Para	0.7644733	7.197448	10.65971	2.773188E-02			15	
Xylene, Ortho	0.7242134	3.417635	11.16229	2.693757E-02			15	
Xylene (Total)	0.7510534	5.924256	11.16229	2.693757E-02			15	
Dichlorobenzenes (Total)	1.619527	5.614674	13.76871	1.620491E-02			15	
Dibromofluoromethane	0.2576945	1.149685	4.696857	0.0515504			15	
1,2-Dichloroethane-d4	0.1520988	0.5352109	5.300714	5.554391E-02			15	
Toluene-d8	0.9877848	0.3386822	8.335857	3.460741E-02			15	
4-Bromofluorobenzene	0.5118938	0.9091077	11.835	1.897278E-02			15	

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B12049-SCV1
Sequence: 5B12049

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Acetone	40.0	41.9	105	80-120
Acrolein	40.0	32.6	82	80-120
Acrylonitrile	40.0	37.2	93	80-120
Benzene	40.0	40.0	100	80-120
Bromobenzene	40.0	40.4	101	80-120
Bromochloromethane	40.0	39.7	99	80-120
Bromodichloromethane	40.0	42.6	107	80-120
Bromoform	40.0	36.1	90	80-120
Bromomethane	40.0	46.4	116	80-120
n-Butylbenzene	40.0	42.3	106	80-120
sec-Butylbenzene	40.0	42.1	105	80-120
tert-Butylbenzene	40.0	41.6	104	80-120
Carbon Disulfide	40.0	45.8	115	80-120
Carbon Tetrachloride	40.0	42.1	105	80-120
Chlorobenzene	40.0	40.0	100	80-120
Chloroethane	40.0	38.7	97	80-120
Chloroform	40.0	39.5	99	80-120
1-Chlorohexane	40.0	38.9	97	80-120
Chloromethane	40.0	38.7	97	80-120
2-Chlorotoluene	40.0	40.9	102	80-120
4-Chlorotoluene	40.0	40.9	102	80-120
Cyclohexane	40.0	40.6	102	80-120
1,2-Dibromo-3-chloropropane	40.0	36.1	90	80-120
Dibromochloromethane	40.0	41.9	105	80-120
1,2-Dibromoethane	40.0	40.8	102	80-120
Dibromomethane	40.0	40.7	102	80-120
trans-1,4-Dichloro-2-butene	40.0	40.8	102	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Laboratory ID: 5B12049-SCV1
Sequence: 5B12049

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
1,2-Dichlorobenzene	40.0	40.3	101	80-120
1,3-Dichlorobenzene	40.0	40.4	101	80-120
1,4-Dichlorobenzene	40.0	39.4	99	80-120
Dichlorodifluoromethane	40.0	41.2	103	80-120
1,1-Dichloroethane	40.0	41.4	104	80-120
1,2-Dichloroethane	40.0	39.9	100	80-120
1,1-Dichloroethene	40.0	40.6	102	80-120
cis-1,2-Dichloroethene	40.0	40.6	102	80-120
trans-1,2-Dichloroethene	40.0	41.7	104	80-120
1,2-Dichloroethene (Total)	80.0	82.3	103	80-120
Dichlorofluoromethane	40.0	39.5	99	80-120
1,2-Dichloropropane	40.0	41.7	104	80-120
1,3-Dichloropropane	40.0	39.1	98	80-120
2,2-Dichloropropane	40.0	45.3	113	80-120
1,1-Dichloropropene	40.0	42.4	106	80-120
cis-1,3-Dichloropropene	40.0	38.7	97	80-120
trans-1,3-Dichloropropene	40.0	40.5	101	80-120
Ethylbenzene	40.0	40.5	101	80-120
Ethyl Ether	40.0	36.6	92	80-120
Hexachlorobutadiene	40.0	43.1	108	80-120
2-Hexanone	40.0	45.4	114	80-120
Iodomethane	40.0	41.6	104	80-120
Isopropylbenzene	40.0	40.3	101	80-120
4-Isopropyltoluene	40.0	41.4	104	80-120
Methyl Acetate	40.0	43.5	109	80-120
Methyl tert-Butyl Ether	40.0	39.6	99	80-120
Methylcyclohexane	40.0	40.6	102	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Laboratory ID: 5B12049-SCV1
Standard ID: 5010204
Sequence: 5B12049
Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Methylene Chloride	40.0	40.9	102	80-120
2-Butanone (MEK)	40.0	43.2	108	80-120
4-Methyl-2-pentanone (MIBK)	40.0	44.1	110	80-120
Naphthalene	40.0	43.3	108	80-120
n-Propylbenzene	40.0	42.0	105	80-120
Styrene	40.0	40.8	102	80-120
1,1,1,2-Tetrachloroethane	40.0	42.5	106	80-120
1,1,2,2-Tetrachloroethane	40.0	39.4	99	80-120
Tetrachloroethene	40.0	40.2	101	80-120
Tetrahydrofuran	40.0	39.6	99	80-120
Toluene	40.0	40.3	101	80-120
1,2,3-Trichlorobenzene	40.0	40.1	100	80-120
1,2,4-Trichlorobenzene	40.0	40.7	102	80-120
1,1,1-Trichloroethane	40.0	42.1	105	80-120
1,1,2-Trichloroethane	40.0	39.9	100	80-120
Trichloroethene	40.0	41.3	103	80-120
Trichlorofluoromethane	40.0	39.2	98	80-120
1,2,3-Trichloropropane	40.0	39.6	99	80-120
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	37.8	95	80-120
1,2,4-Trimethylbenzene	40.0	41.7	104	80-120
1,3,5-Trimethylbenzene	40.0	41.0	103	80-120
Vinyl Acetate	40.0	38.8	97	80-120
Vinyl Chloride	40.0	39.4	99	80-120
Xylene, Meta + Para	80.0	82.2	103	80-120
Xylene, Ortho	40.0	41.3	103	80-120
Xylene (Total)	120	123	103	80-120
Dichlorobenzenes (Total)	120	120	100	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B12049-SCV1

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 5010204

Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Dibromofluoromethane	40.0	40.1	100	80-120
1,2-Dichloroethane-d4	40.0	39.4	99	80-120
Toluene-d8	40.0	40.0	100	80-120
4-Bromofluorobenzene	40.0	40.2	101	80-120

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B12049-SCV2

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 4120624

Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
tert-Amyl Methyl Ether	20.0	21.1	106	80-120
Ethyl tert-Butyl Ether	20.0	21.4	107	80-120
Isopropyl Ether	20.0	21.4	107	80-120
t-Butanol	200	216	108	80-120
Dibromofluoromethane	40.0	39.8	100	80-120
1,2-Dichloroethane-d4	40.0	40.3	101	80-120
Toluene-d8	40.0	39.9	100	80-120
4-Bromofluorobenzene	40.0	39.9	100	80-120

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B20002-CCV1
Injection Date: 02/19/15
Calibration Date: 02/11/15 00:00
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: CCV0219.D
Injection Time: 08:39
Calibration: 5B12010
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	L	40.0	31.9	0.1346512	9.799077E-02		-20.4	20 *
Acrolein	A	40.0	25.6	3.016561E-02	1.930689E-02		-36.0	20 *
Acrylonitrile	A	40.0	33.9	0.1481183	0.1255357		-15.2	20
Benzene	A	40.0	40.7	1.36917	1.392953		1.7	20
Bromobenzene	A	40.0	42.1	1.388532	1.461591		5.3	20
Bromochloromethane	A	40.0	36.9	0.2619753	0.2418433		-7.7	20
Bromodichloromethane	A	40.0	42.6	0.3508697	0.3732505		6.4	20
Bromoform	L	40.0	36.3	0.2296582	0.2421045	0.1	-9.3	20
Bromomethane	Q	40.0	47.9	0.1318909	0.1199247		19.8	20
n-Butylbenzene	A	40.0	44.2	2.601596	2.875188		10.5	20
sec-Butylbenzene	A	40.0	43.5	3.617489	3.934614		8.8	20
tert-Butylbenzene	A	40.0	43.3	2.543383	2.750428		8.1	20
Carbon Disulfide	A	40.0	40.5	0.8910709	0.9014674		1.2	20
Carbon Tetrachloride	A	40.0	44.4	0.3826848	0.4249553		11.0	20
Chlorobenzene	A	40.0	41.8	1.167243	1.218732	0.3	4.4	20
Chloroethane	A	40.0	36.9	0.1550712	0.1430934		-7.7	20
2-Chloroethyl Vinyl Ether	L	40.0	34.7	0.1787572	0.1772752		-13.3	20
Chloroform	A	40.0	40.8	0.5694141	0.5800625		1.9	20
1-Chlorohexane	A	40.0	39.6	0.4570059	0.4523497		-1.0	20
Chloromethane	L	40.0	34.6	0.2377628	0.2331086	0.1	-13.6	20
2-Chlorotoluene	A	40.0	43.0	0.8707524	0.9353359		7.4	20
4-Chlorotoluene	A	40.0	42.7	2.882371	3.074156		6.7	20
Cyclohexane	A	40.0	40.4	0.6372045	0.6431784		0.9	20
1,2-Dibromo-3-chloropropane	L	40.0	33.7	0.2226538	0.2151631		-15.8	20
Dibromochloromethane	A	40.0	45.6	0.3243117	0.3700531		14.1	20
1,2-Dibromoethane	A	40.0	42.8	0.3440604	0.3685017		7.1	20
Dibromomethane	A	40.0	41.2	0.1953573	0.2011243		3.0	20
trans-1,4-Dichloro-2-butene	A	40.0	41.9	0.2227512	0.2334994		4.8	20
1,2-Dichlorobenzene	A	40.0	42.5	1.527756	1.623995		6.3	20

CONTINUING CALIBRATION CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B20002-CCV1
Lab File ID: CCV0219.D
Injection Date: 02/19/15
Injection Time: 08:39
Calibration Date: 02/11/15 00:00
Calibration: 5B12010
Sequence: 5B20002
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,3-Dichlorobenzene	A	40.0	42.6	1.650595	1.75692		6.4	20
1,4-Dichlorobenzene	A	40.0	42.0	1.680231	1.762207		4.9	20
Dichlorodifluoromethane	A	40.0	31.2	0.3226865	0.251734		-22.0	20 *
1,1-Dichloroethane	A	40.0	41.7	0.5712516	0.5950781	0.1	4.2	20
1,2-Dichloroethane	A	40.0	40.2	0.3987155	0.4008448		0.5	20
1,1-Dichloroethene	A	40.0	39.4	0.3136975	0.3093166		-1.4	20
cis-1,2-Dichloroethene	A	40.0	42.0	0.3605539	0.3782767		4.9	20
trans-1,2-Dichloroethene	A	40.0	42.6	0.3269797	0.3479671		6.4	20
1,2-Dichloroethene (Total)	A	80.0	84.5	0.3437668	0.3631219		5.6	20
Dichlorofluoromethane	A	40.0	35.8	0.5111259	0.4577544		-10.4	20
1,2-Dichloropropane	A	40.0	41.0	0.3232098	0.3315403		2.6	20
1,3-Dichloropropane	A	40.0	42.1	0.657329	0.6918453		5.3	20
2,2-Dichloropropane	A	40.0	50.5	0.3113116	0.3927852		26.2	20 *
1,1-Dichloropropene	A	40.0	42.1	0.4578973	0.4819793		5.3	20
cis-1,3-Dichloropropene	L	40.0	40.4	0.3950339	0.4557689		1.1	20
trans-1,3-Dichloropropene	L	40.0	38.8	0.293748	0.3411654		-3.0	20
Ethylbenzene	A	40.0	41.9	2.019599	2.117463		4.8	20
Ethyl Ether	A	40.0	36.6	0.1704718	0.1558275		-8.6	20
Hexachlorobutadiene	A	40.0	42.0	0.4651107	0.4881436		5.0	20
2-Hexanone	A	40.0	35.4	0.2785432	0.2464102		-11.5	20
Iodomethane	A	40.0	31.0	0.4671567	0.3622594		-22.5	20 *
Isopropylbenzene	A	40.0	44.5	3.650613	4.063337		11.3	20
4-Isopropyltoluene	A	40.0	43.2	3.078658	3.325376		8.0	20
Methyl Acetate	A	40.0	39.1	0.2489568	0.2431379		-2.3	20
Methyl tert-Butyl Ether	A	40.0	39.2	0.831573	0.8144436		-2.1	20
Methylcyclohexane	A	40.0	41.2	0.6299644	0.6493859		3.1	20
Methylene Chloride	L	40.0	38.8	0.4770505	0.3963278		-3.0	20
2-Butanone (MEK)	A	40.0	34.7	0.1599321	0.1386426		-13.3	20
4-Methyl-2-pentanone (MIBK)	A	40.0	34.5	0.314538	0.2711291		-13.8	20

CONTINUING CALIBRATION CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B20002-CCV1
Lab File ID: CCV0219.D
Injection Date: 02/19/15
Injection Time: 08:39
Calibration Date: 02/11/15 00:00
Calibration: 5B12010
Sequence: 5B20002
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Naphthalene	A	40.0	41.8	1.960986	2.049483		4.5	20
n-Propylbenzene	A	40.0	43.7	1.006037	1.098454		9.2	20
Styrene	A	40.0	42.2	1.198903	1.263222		5.4	20
1,1,1,2-Tetrachloroethane	A	40.0	45.9	0.3313118	0.3799375		14.7	20
1,1,2,2-Tetrachloroethane	A	40.0	41.2	0.9033172	0.9312318	0.3	3.1	20
Tetrachloroethene	A	40.0	43.4	0.5097812	0.5534737		8.6	20
Tetrahydrofuran	A	40.0	37.5	0.0406978	0.0381497		-6.3	20
Toluene	A	40.0	40.7	1.429348	1.453882		1.7	20
1,2,3-Trichlorobenzene	A	40.0	40.7	0.9086608	0.924752		1.8	20
1,2,4-Trichlorobenzene	A	40.0	42.2	1.02779	1.084608		5.5	20
1,1,1-Trichloroethane	A	40.0	44.1	0.4400399	0.48504		10.2	20
1,1,2-Trichloroethane	A	40.0	40.1	0.2385882	0.2393108		0.3	20
Trichloroethene	A	40.0	41.1	0.3726584	0.3827485		2.7	20
Trichlorofluoromethane	A	40.0	38.2	0.4486763	0.4287919		-4.4	20
1,2,3-Trichloropropane	A	40.0	41.2	0.2825812	0.2909442		3.0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	40.0	39.2	0.3819638	0.3745094		-2.0	20
1,2,4-Trimethylbenzene	A	40.0	44.1	2.84223	3.133725		10.3	20
1,3,5-Trimethylbenzene	A	40.0	43.6	2.987333	3.256825		9.0	20
Vinyl Acetate	A	40.0	46.5	0.5106643	0.5936502		16.3	20
Vinyl Chloride	A	40.0	33.8	0.3483402	0.2939429		-15.6	20
Xylene, Meta + Para	A	80.0	83.7	0.7644733	0.8001385		4.7	20
Xylene, Ortho	A	40.0	41.8	0.7242134	0.7562183		4.4	20
Xylene (Total)	A	120	126	0.7510534	0.7854984		4.6	20
Dichlorobenzenes (Total)	A	120	127	1.619527	1.714374		5.9	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

SDG: 50085-9

February 27, 2015

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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

TRIMATRIX LABORATORIES

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

TRANSMITTAL FORM

Date: March 03, 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: 50085-9

Work Order(s): 1502266

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) (Final & Summary)	☐ Contract Documents	☒ Data Validation Package

QUANTITY	*DESCRIPTION / DOCUMENT NAME*
1	Final Report (aka Data Validation Package or DVP) for SDG 50085-9 for 8012 CTO-WE74 Yorktown Site 34. This report consists of 145 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 1500629

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 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):

50085-9

Prepared by:

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

Report Date:

February 27, 2015

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

3/2/15
Approval Date

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TRIMATRIX LABORATORIES

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CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

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B	**Internal COC Records**	**0019-0020**
C	**GC/MS Volatile Organics** • USEPA-8260B	**0021-0145** 0022-0145

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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 19, 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: 1502266

TriMatrix Laboratories received the cooler(s) for this work order on February 19, 2015, at 10:15am. 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-DP07-3943-0215	1502266-01	Ground Water	2/16/2015
YS34-DP07-5357-0215	1502266-02	Ground Water	2/16/2015
YS34-DP08-3943-0215	1502266-03	Ground Water	2/16/2015
YS34-TB-021615	1502266-04	Water	2/16/2015

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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TRIMATRIX LABORATORIES

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: Walt Roudebush <roudebushw@trimatrixlabs.com>
Sent: Friday, February 20, 2015 10:59 AM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226 - initial report
Attachments: 50085-9_prpt.pdf

Clairette,

RE: CTO-WE74 Site 34

A PDF of results-only plus associated batch QC and any text qualifiers for the samples 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: Friday, February 20, 2015 10:00 AM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Thanks Walt.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Friday, February 20, 2015 9:17 AM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

A receipt confirmation for samples received on 2/19/15 and assigned to work order 1502226 and SDG 50085-9 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: Thursday, February 19, 2015 4:11 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Hi Walt,

Nope. We've suspended sampling until next week. Probably will resume sampling Tuesday.
Thank you for asking.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 3:43 PM
To: Campbell, Clairette/VBO
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

Should we still expect additional samples for VOCs on Friday? Would you have an estimate of the number of samples?

Thanks,

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Thursday, February 19, 2015 12:31 PM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Thanks Walt! Login looks good so far. Thanks for the word about the headspace.
Please ensure these are to be analyzed for just the select list of VOCs like in SDG 50085-7.

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 12:04 PM

To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order 1502226

Clairette,

A complete receipt confirmation won't be available until tomorrow am but, in the interim, a PDF of the work order is attached.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Thursday, February 19, 2015 10:45 AM
To: 'Clairette.Campbell@ch2m.com'
Subject: RE: Yorktown Site 34 (CTO-WE74), 2/19/15 Sample Receipt, SDG 50085-9, work order TBD

Clairette,

Two of three vials for two samples contain headspace (the lab will use vials without headspace first) . Otherwise, all containers were intact and the cooler temp blank is 2.6 deg C.

Walt Roudebush
Project Chemist
Direct: 616.975.4561

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From: Clairette.Campbell@ch2m.com [mailto:Clairette.Campbell@ch2m.com]
Sent: Thursday, February 19, 2015 10:30 AM
To: roudebushw@trimatrixlabs.com
Subject: RE: Yorktown Site 34 (CTO-WE74), SDG 50085-7, final reports to mail

Thank you Walt!

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

From: Walt Roudebush [mailto:roudebushw@trimatrixlabs.com]
Sent: Wednesday, February 18, 2015 12:17 PM
To: Campbell, Clairette/VBO
Subject: FW: Yorktown Site 34 (CTO-WE74), SDG 50085-7, final reports to mail

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:		
	1502266-01 YS34-DP07-3943-0215	1,1-Dichloroethene
	1502266-01 YS34-DP07-3943-0215	Trichloroethene

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:		
	1502266-01 YS34-DP07-3943-0215	1,1-Dichloroethene
	1502266-01 YS34-DP07-3943-0215	Trichloroethene

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TRIMATRIX
LABORATORIES

SECTION - A

FIELD COC RECORDS
AND
RECEIVING DOCUMENTATION

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www.trimatrixlabs.com

Chain of Custody Record

COC No. 150547

Pg. 1 of 1

For Lab Use Only
Cart
VOA Rack/Tray 2253 [illegible]
Receipt Log No. 472
Project Chemist
Work Order No. 150221do

Client Name	CH2M HILL
Address	5701 Cleveland Street, Suite 200
City, State Zip	Virginia Beach, VA 23462
Phone/Fax	757-671-6335
Email	claisette.campbell@ch2m.com
Project Name	Yorktown S/A 34
Client Project No. / P.O. No.	470624.FI.FS.34
Invoice To	☑ Client ☐ Other (comments)
Contact/Report To	Claisette Campbell

Analyses Requested

Container Type (corresponds to Container Packing List)

Number of Containers Submitted

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	D: Select VOCs	Total	Sample Comments
01	WG	01	1	YS34-DP07-3943-0215	TM 1550	02/16/15	1330		x	W	3	3	
01	WG	02	2	YS34-DP07-5357-0215		02/16/15	1530		x	W	3	3	
01	WG	03	3	YS34-DP08-3943-0215		02/16/15	1720		x	W	3	3	
03	WQ	04	4	YS34-TB-021615		02/16/15	1730		x	W	2	2	
			5										
			6										
			7										
			8										
			9										
			10										

02/18/15

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)

Sampled By (print) Brian Wachter
How Shipped? Hand ___ Carrier FedEx
Sampler's Signature
Tracking No.
Company CH2M HILL

Comments CTO WE74
VOCs - 1,1-DCA; 1,1-DCE; cis-1,2-DCE; TCE

	Relinquished By	Date	Time	Received By	Date	Time
1		02/18/15	1730			
2						
3					2/19/15	1015

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

FedEx. Express **NEW Package US Airbill**

FedEx Tracking Number **8070 4186 9870**

1 From

Date 02/18/15

Sender's Name Brian Wachter Phone 804 317 1925

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.FI.FS.34

3 To

Recipient's Name Walt Rudebusch Phone 616 975-4561

Company TriMatrix 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 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.

Cooler(s) Assigned: Tracking No(s):

02/18/15

Recipient's Copy

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	2 or 3 Business Days
☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
☑ FedEx Priority Overnight — Next business morning.* Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.	☐ 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

Total Packages 1 Total Weight 37 lbs. Credit Card Auth.

Your liability is limited to USD 100 unless you declare a higher value. See the current FedEx Service Guide for details.

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5 1 5 0 0 6 . . 0 0 0 6

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CH2M Hill | Work Order #: 1502166
Receipt Record Page/Line #: 47.2 | New / Add To
Project Chemist: CMR | Sample #s

Recorded by (initials/date): WC 2.19.15

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler # / Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:	Observed °C	Correction Factor °C	Actual °C	3 Sample Average °C	Cooler ID on COC?	VOC Trip Blank received?
Tm 1550 / 1030	☐ None ☑ Present / Intact ☐ Present / Not Intact	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	(Dispersed) / Top / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative	Temp Blank: 2.6	-	2.6	3.1	☑	☑
						Sample 1: 3.0	-	3.0			
						Sample 2: 3.0	-	3.0			
						Sample 3: 3.4	-	3.4			
Cooler # / Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:	Observed °C	Correction Factor °C	Actual °C	3 Sample Average °C	Cooler ID on COC?	VOC Trip Blank received?
	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative	Temp Blank:				☐	☐
						Sample 1:					
						Sample 2:					
						Sample 3:					
Cooler # / Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:	Observed °C	Correction Factor °C	Actual °C	3 Sample Average °C	Cooler ID on COC?	VOC Trip Blank received?
	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative	Temp Blank:				☐	☐
						Sample 1:					
						Sample 2:					
						Sample 3:					
Cooler # / Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:	Observed °C	Correction Factor °C	Actual °C	3 Sample Average °C	Cooler ID on COC?	VOC Trip Blank received?
	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative	Temp Blank:				☐	☐
						Sample 1:					
						Sample 2:					
						Sample 3:					

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?

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?

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)

Notes

Rush

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
2.19.15 1015	2.19.15 1038	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client	CH2M Hill	Work Order #	1502216
Receipt Log #	47.2	Completed By (initials/date)	WC 2-19-15
		Project Chemist	WR

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										COC					Sample Tag					Line Item Comments
		Discrepancy	Missing Container	Broken Container	Label Missing / Incomplete	Label Illegible	Low Volume	Inappropriate Container	Headspace	Not Listed on COC	Preservation	Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	
150547	1								X			DP07-3943			1	2 of 3						
↓	2								X			DP07-5357			1	2 of 3						

General Comments:

Client informed.

Project Chemist (initials/date)

WR 2/19/15

Client:	**CH2M HILL - VA**	Project Manager:	**Walter J. Roudebush**
Project:	**8012 CTO-WE74 Yorktown Site 34**	Project Number:	**50085**
Work Order:	**DPT Groundwater**	SDG:	**50085-9**

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:	**Mar-03-15 23:00**			
W.O. Due Date:	**Feb-20-15 15:00 (1 day TAT)**		Report Level:	**4DOD**
Date Received:	Feb-19-15 10:15	3.1°C	Received By:	William D. Cole
Date Logged In:	Feb-19-15 10:56		Logged In By:	William D. Cole
W.O. Comments:	*4DOD, QSM v4.2, samples are on a 24 RUSH TAT, no further samples expected this week and SDG 50085-9 is CLOSED.*			
	VOC Rack #225B			

Analysis	Lab Due Date	TAT	Expires	Analysis Comments
1502266-01 YS34-DP07-3943-0215 [Water]				
Sampled Feb-16-15 13:30 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 13:30	
1502266-02 YS34-DP07-5357-0215 [Water]				
Sampled Feb-16-15 15:30 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 15:30	
1502266-03 YS34-DP08-3943-0215 [Water]				
Sampled Feb-16-15 17:20 Eastern by CH2M HILL				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 17:20	
1502266-04 YS34-TB-021615 [Water]				**Trip Blank (2nd vial is back-up)**
Sampled Feb-16-15 17:30 Eastern by TriMatrix				
8260B DoD VOAs plus custom	Feb-20-15 14:00	1	Mar-02-15 17:30	

Volatiles MS Analysis Detail

* indicates custom

	Analyte	CLrept?	QCrept?	MDL	RL
Water	**8260B DoD VOAs plus custom**			**ug/L**	
	1,1-Dichloroethane	Y	Y	0.126	1
	1,1-Dichloroethene	Y	Y	0.223	1
	cis-1,2-Dichloroethene	Y	Y	0.134	1
	Trichloroethene	Y	Y	0.104	1

Reviewed By

Date

TRIMATRIX
LABORATORIES

SECTION - B

INTERNAL COC RECORDS

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.

TriMatrix Laboratories, Inc.

Internal Chain of Custody

SDGID: 50085-9 **Work Order #: 1502266**

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

Project Manager: **Walter J. Roudebush**
Date Received: **Feb-19-15 10:15**

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

Lab Number / Sample Name	*Container*	*Removed by (Signature)*	*Date & Time Removed*	*Date & Time Returned*	*Consumed?*	*Extract Container*
1502266-01 YS34-DP07-3943-0215	A	Diane Van Male	2-19-15 11:00	2-19-15 15:30		
1502266-02 YS34-DP07-5357-0215						
1502266-03 YS34-DP08-3943-0215						
1502266-04 YS34-TB-021615						

TRIMATRIX
LABORATORIES

SECTION - C

GCMS VOLATILE ORGANICS

USEPA-8260B

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

SDG: 50085-9

USEPA-8260B

SAMPLE ID SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Client Sample Id:	Lab Sample Id:
YS34-DP07-3943-0215	1502266-01
YS34-DP07-3943-0215	1502266-01RE1
YS34-DP07-5357-0215	1502266-02
YS34-DP08-3943-0215	1502266-03
YS34-TB-021615	1502266-04

TRIMATRIX
LABORATORIES

SECTION - C

QUALITY CONTROL (QC) SUMMARY

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.

ANALYSIS BATCH (SEQUENCE) SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B20002-TUN1	BFB0219.D	02/19/15 08:11
Calibration Check	5B20002-CCV1	CCV0219.D	02/19/15 08:39
LCS	1501603-BS1	BS0219.D	02/19/15 09:08
Blank	1501603-BLK1	BLK0219.D	02/19/15 10:05
YS34-TB-021615	1502266-04	1502266-04.D	02/19/15 11:30
YS34-DP07-3943-0215	1502266-01	1502266-01.D	02/19/15 11:59
YS34-DP07-3943-0215	1502266-01RE1	1502266-01A.D	02/19/15 13:54
YS34-DP07-5357-0215	1502266-02	1502266-02A.D	02/19/15 14:22
YS34-DP08-3943-0215	1502266-03	1502266-03A.D	02/19/15 14:51

SURROGATE STANDARD RECOVERY AND RT SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
Calibration Check (5B20002-CCV1)		**Lab File ID: CCV0219.D**		**Analyzed: 02/19/15 08:39**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	103	80 - 120	
1,2-Dichloroethane-d4	5.29	5.30	-0.01	+/-1.0	100	80 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	80 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	94	80 - 120	
LCS (1501603-BS1)		**Lab File ID: BS0219.D**		**Analyzed: 02/19/15 09:08**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	102	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	99	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	102	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	100	75 - 120	
Blank (1501603-BLK1)		**Lab File ID: BLK0219.D**		**Analyzed: 02/19/15 10:05**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	100	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	
YS34-TB-021615 (1502266-04)		**Lab File ID: 1502266-04.D**		**Analyzed: 02/19/15 11:30**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	100	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	
YS34-DP07-3943-0215 (1502266-01)		**Lab File ID: 1502266-01.D**		**Analyzed: 02/19/15 11:59**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	103	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	101	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	98	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	99	75 - 120	
YS34-DP07-3943-0215 (1502266-01RE1)		**Lab File ID: 1502266-01A.D**		**Analyzed: 02/19/15 13:54**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	98	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	101	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	99	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	98	75 - 120	
YS34-DP07-5357-0215 (1502266-02)		**Lab File ID: 1502266-02A.D**		**Analyzed: 02/19/15 14:22**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	99	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	102	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	99	75 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Lab Sample Id Surrogate Compound Name	RT	Calibration Mean RT	RT Diff	RT Diff Limit	% Recovery	Recovery Limits	Q
YS34-DP08-3943-0215 (1502266-03)		**Lab File ID: 1502266-03A.D**		**Analyzed: 02/19/15 14:51**			
Dibromofluoromethane	4.68	4.70	-0.02	+/-1.0	97	85 - 115	
1,2-Dichloroethane-d4	5.28	5.30	-0.02	+/-1.0	102	70 - 120	
Toluene-d8	8.32	8.34	-0.01	+/-1.0	100	85 - 120	
4-Bromofluorobenzene	11.82	11.84	-0.01	+/-1.0	97	75 - 120	

LCS / LCS DUPLICATE RECOVERY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Matrix: Water

QC Batch: 1501603

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501603-BS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

Sequence: 5B20002

Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	42.2	106	70 - 135	ug/L
1,1-Dichloroethene	40.0	40.3	101	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	42.5	106	70 - 125	ug/L
Trichloroethene	40.0	42.9	107	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: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501603-BLK1
File ID: BLK0219.D
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 10:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

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	39.0	97	85 - 115	
1,2-Dichloroethane-d4	40.0	39.9	100	70 - 120	
Toluene-d8	40.0	39.9	100	85 - 120	
4-Bromofluorobenzene	40.0	38.9	97	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	737711	5.86	854305	5.879	
Chlorobenzene-d5	584325	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	307706	13.273	359463	13.286	

QC BATCH SUMMARY

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-9

Client: CH2M HILL - VA

Project: 8012 CTO-WE74 Yorktown Site 34

QC Batch: 1501603 QC Batch Matrix: Water

Preparation: 5030B Aqueous Purge & Trap

Sample Name	Lab Sample ID	Date Prepared	Observations
Blank	1501603-BLK1	02/19/15 08:00	
LCS	1501603-BS1	02/19/15 08:00	
YS34-DP07-3943-0215	1502266-01	02/19/15 08:00	
YS34-DP07-3943-0215	1502266-01RE1	02/19/15 08:00	Added 2/20/2015 by DLV
YS34-DP07-5357-0215	1502266-02	02/19/15 08:00	
YS34-DP08-3943-0215	1502266-03	02/19/15 08:00	
YS34-TB-021615	1502266-04	02/19/15 08:00	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Lab Sample ID: 5B12049-TUN1

Injection Date: 02/11/15

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Lab File ID: BFB0211.D

Injection Time: 09:01

Calibration: 5B12010

Instrument ID: 328

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	17.4	PASS
75	30 - 60% of 95	47.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.98	PASS
173	Less than 2% of 174	0.525	PASS
174	50 - 100% of 95	86.3	PASS
175	5 - 9% of 174	7.17	PASS
176	95 - 101% of 174	97.2	PASS
177	5 - 9% of 176	6.64	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Lab Sample ID: 5B20002-TUN1

Injection Date: 02/19/15

Sequence: 5B20002

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Lab File ID: BFB0219.D

Injection Time: 08:11

Instrument ID: 328

m/z	Ion Abundance Criteria	% Relative Abundance	
50	15 - 40% of 95	16.4	PASS
75	30 - 60% of 95	45.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0.529	PASS
174	50 - 100% of 95	86.1	PASS
175	5 - 9% of 174	6.92	PASS
176	95 - 101% of 174	96.7	PASS
177	5 - 9% of 176	6.22	PASS

INTERNAL STANDARD AREA AND RT SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Matrix: Water
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration: 5B12010
Instrument: 328

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B20002-CCV1)			**Lab File ID: CCV0219.D**			**Analyzed: 02/19/15 08:39**			
Fluorobenzene	952406	5.866	854305	5.879	111	50 - 200	-0.0130	+/-0.50	
Chlorobenzene-d5	714865	10.274	677916	10.286	105	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	348926	13.273	359463	13.286	97	50 - 200	-0.0130	+/-0.50	
LCS (1501603-BS1)			**Lab File ID: BS0219.D**			**Analyzed: 02/19/15 09:08**			
Fluorobenzene	831506	5.86	854305	5.879	97	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	665342	10.274	677916	10.286	98	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	349312	13.273	359463	13.286	97	50 - 200	-0.0130	+/-0.50	
Blank (1501603-BLK1)			**Lab File ID: BLK0219.D**			**Analyzed: 02/19/15 10:05**			
Fluorobenzene	737711	5.86	854305	5.879	86	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	584325	10.274	677916	10.286	86	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	307706	13.273	359463	13.286	86	50 - 200	-0.0130	+/-0.50	
YS34-TB-021615 (1502266-04)			**Lab File ID: 1502266-04.D**			**Analyzed: 02/19/15 11:30**			
Fluorobenzene	845626	5.86	854305	5.879	99	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	669646	10.274	677916	10.286	99	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	352359	13.273	359463	13.286	98	50 - 200	-0.0130	+/-0.50	
YS34-DP07-3943-0215 (1502266-01)			**Lab File ID: 1502266-01.D**			**Analyzed: 02/19/15 11:59**			
Fluorobenzene	928819	5.866	854305	5.879	109	50 - 200	-0.0130	+/-0.50	
Chlorobenzene-d5	721840	10.274	677916	10.286	106	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	385562	13.273	359463	13.286	107	50 - 200	-0.0130	+/-0.50	
YS34-DP07-3943-0215 (1502266-01RE1)			**Lab File ID: 1502266-01A.D**			**Analyzed: 02/19/15 13:54**			
Fluorobenzene	845406	5.86	854305	5.879	99	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	668179	10.274	677916	10.286	99	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	355438	13.273	359463	13.286	99	50 - 200	-0.0130	+/-0.50	
YS34-DP07-5357-0215 (1502266-02)			**Lab File ID: 1502266-02A.D**			**Analyzed: 02/19/15 14:22**			
Fluorobenzene	927356	5.86	854305	5.879	109	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	744061	10.274	677916	10.286	110	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	398920	13.273	359463	13.286	111	50 - 200	-0.0130	+/-0.50	
YS34-DP08-3943-0215 (1502266-03)			**Lab File ID: 1502266-03A.D**			**Analyzed: 02/19/15 14:51**			
Fluorobenzene	856965	5.86	854305	5.879	100	50 - 200	-0.0190	+/-0.50	
Chlorobenzene-d5	680519	10.274	677916	10.286	100	50 - 200	-0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	361207	13.273	359463	13.286	100	50 - 200	-0.0130	+/-0.50	

HOLDING TIME SUMMARY
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

SDG: 50085-9

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-DP07-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP07-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP07-5357-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-DP08-3943-0215	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	14	
YS34-TB-021615	02/16/15	02/19/15		02/19/15	3	NA	02/19/15	3	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.

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-3943-0215

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Ground Water
Laboratory ID: 1502266-01
File ID: 1502266-01.D
Sampled: 02/16/15 13:30
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 11:59
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	91	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	860	0.22	0.50	1.0	E
156-59-2	cis-1,2-Dichloroethene	1	190	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	2500	0.10	0.20	1.0	E

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	41.2	103	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	39.1	98	85 - 120	
4-Bromofluorobenzene	40.0	39.8	99	75 - 120	

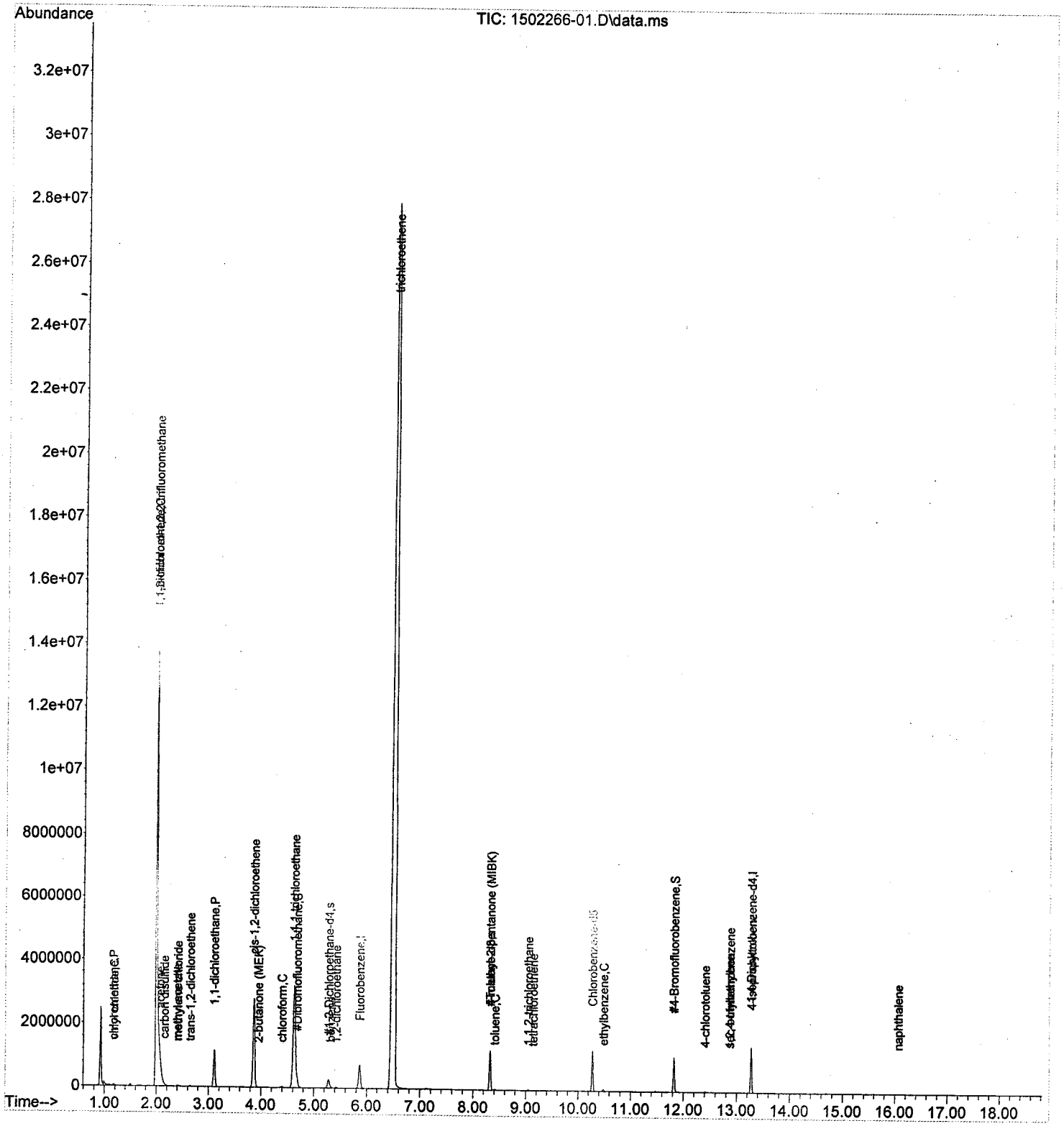
Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	928819	5.866	854305	5.879	
Chlorobenzene-d5	721840	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	385562	13.273	359463	13.286	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



00037

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.866	96	928819	40.00 ug/L	-0.01
51) Chlorobenzene-d5	10.274	117	721840	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	385562	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.677	111	246682	41.23 ug/L	-0.02
Spiked Amount 40.000			Recovery = 103.07%		
37) #1,2-Dichloroethane-d4	5.281	67	142200	40.26 ug/L	-0.02
Spiked Amount 40.000			Recovery = 100.65%		
47) #Toluene-d8	8.323	98	895926	39.06 ug/L	-0.01
Spiked Amount 40.000			Recovery = 97.65%		
65) #4-Bromofluorobenzene	11.822	95	367610	39.79 ug/L	-0.01
Spiked Amount 40.000			Recovery = 99.48%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.172	50	2555	4.39 ug/L #	42
4) vinyl chloride	1.184	62	9604	1.19 ug/L	97
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-...	1.989	101	14858	1.68 ug/L #	13
12) 1,1-dichloroethene	1.989	96	6236663	856.19 ug/L	98
13) acetone	2.068	43	16864	3.66 ug/L	91
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.147	76	3042	0.15 ug/L #	75
16) methyl acetate	2.397	43	2140	0.37 ug/L #	59
17) methylene chloride	2.410	49	24643	1.53 ug/L	97
18) acrylonitrile	0.000		0	N.D.	
19) trans-1,2-dichloroethene	2.647	96	11033	1.45 ug/L	97
20) methyl (tert) butyl ether	0.000		0	N.D.	
21) 1,1-dichloroethane	3.105	63	1201313	90.56 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	3.861	96	1598247	190.90 ug/L	91
25) 2-butanone (MEK)	3.952	43	4716	1.27 ug/L #	49
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	0.000		0	N.D.	
28) chloroform	4.397	83	32383	2.45 ug/L	100
30) 1,1,1-trichloroethane	4.623	97	3204047	313.57 ug/L	99
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	5.318	78	10915	0.34 ug/L #	65
35) 1,2-dichloroethane	5.421	62	22848	2.47 ug/L	99
36) heptane	5.860	57	30034	No Calib #	
38) trichloroethene	6.506	130	21653717	2502.36 ug/L	96
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

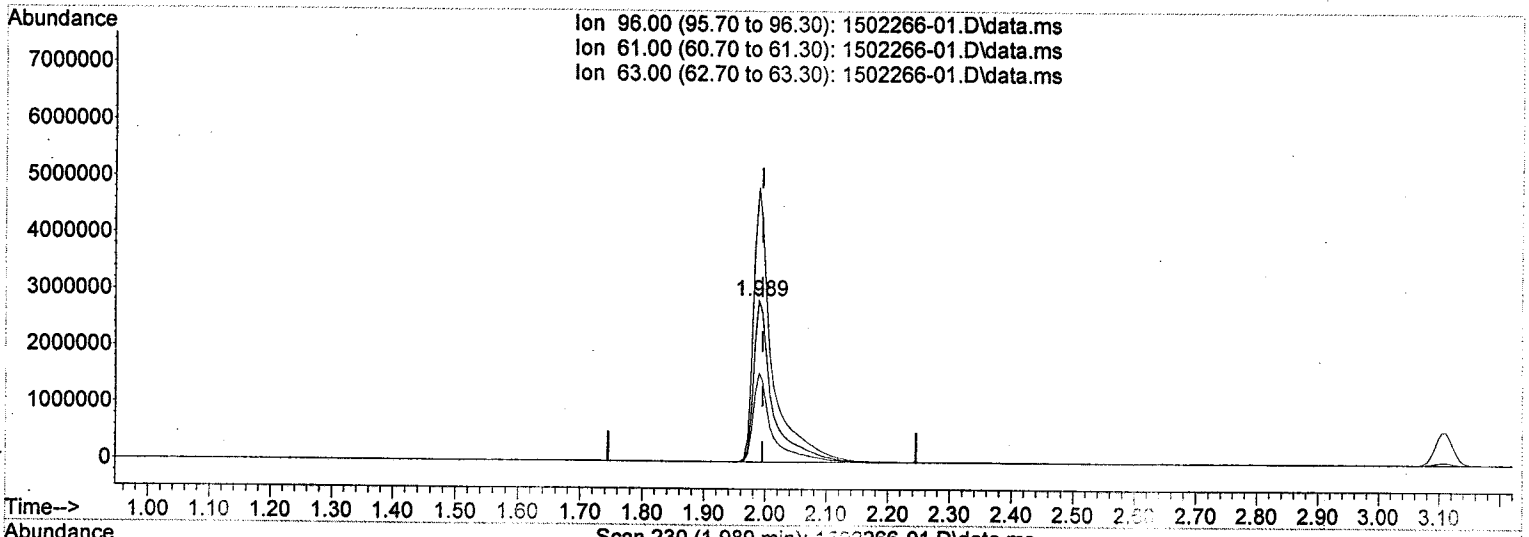
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	4206	0.58 ug/L #	1
48) toluene	8.415	91	21982	0.66 ug/L	99
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	9.049	83	8733	1.58 ug/L	97
52) tetrachloroethene	9.140	166	3003	0.33 ug/L	96
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	0.000		0	N.D.	
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	10.487	91	42213	1.16 ug/L	100
61) m+p-xylene	0.000		0	N.D.	
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	12.408	91	3142	0.11 ug/L #	44
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	12.871	105	1412	0.05 ug/L #	30
78) sec-butylbenzene	12.871	105	1320	0.04 ug/L #	55
79) 1,3-dichlorobenzene	0.000		0	N.D.	
80) 4-isopropyltoluene	13.279	119	1839	0.06 ug/L #	25
81) 1,4-dichlorobenzene	0.000		0	N.D.	
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	0.000		0	N.D.	
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	0.000		0	N.D.	
87) hexachlorobutadiene	0.000		0	N.D.	
88) naphthalene	16.065	128	2068	0.11 ug/L #	78
89) 1,2,3-trichlorobenzene	0.000		0	N.D.	
90) 2-methylnaphthalene	0.000		0	N.D.	

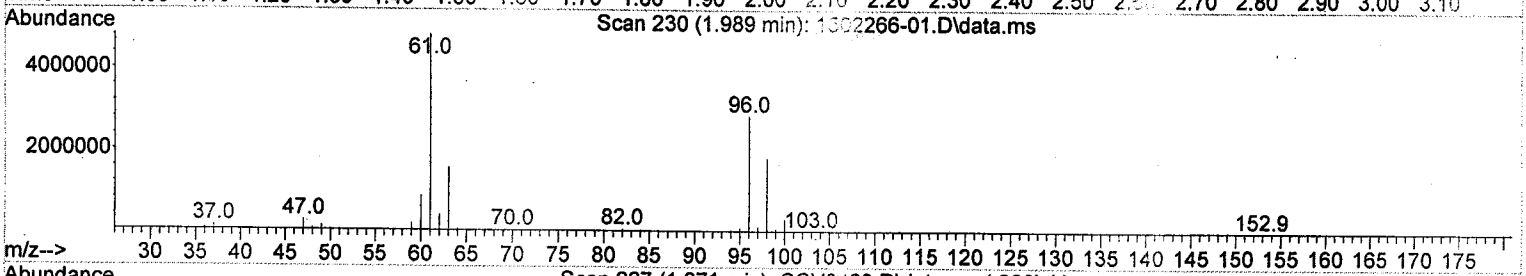
(#) = qualifier out of range (m) = manual integration (+) = signals summed

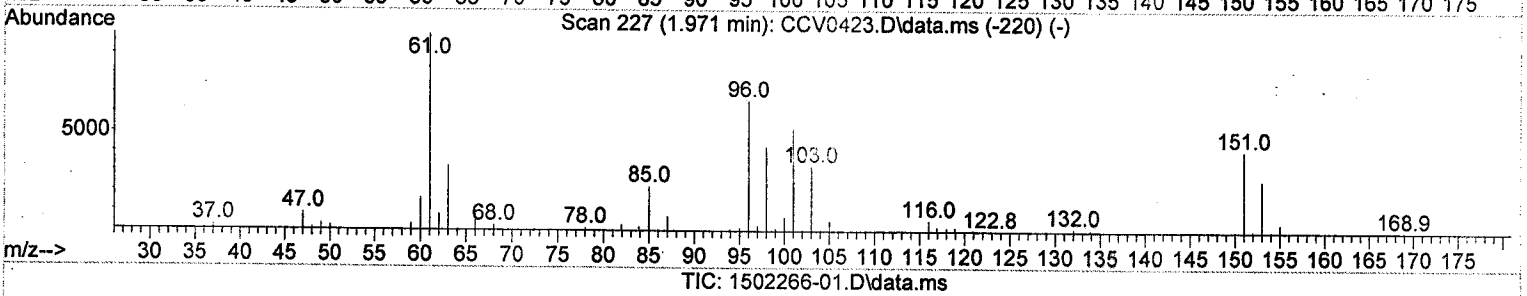
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-01.D\data.ms

(12) 1,1-dichloroethene (C)

1.989min (-0.006) 856.19 ug/L

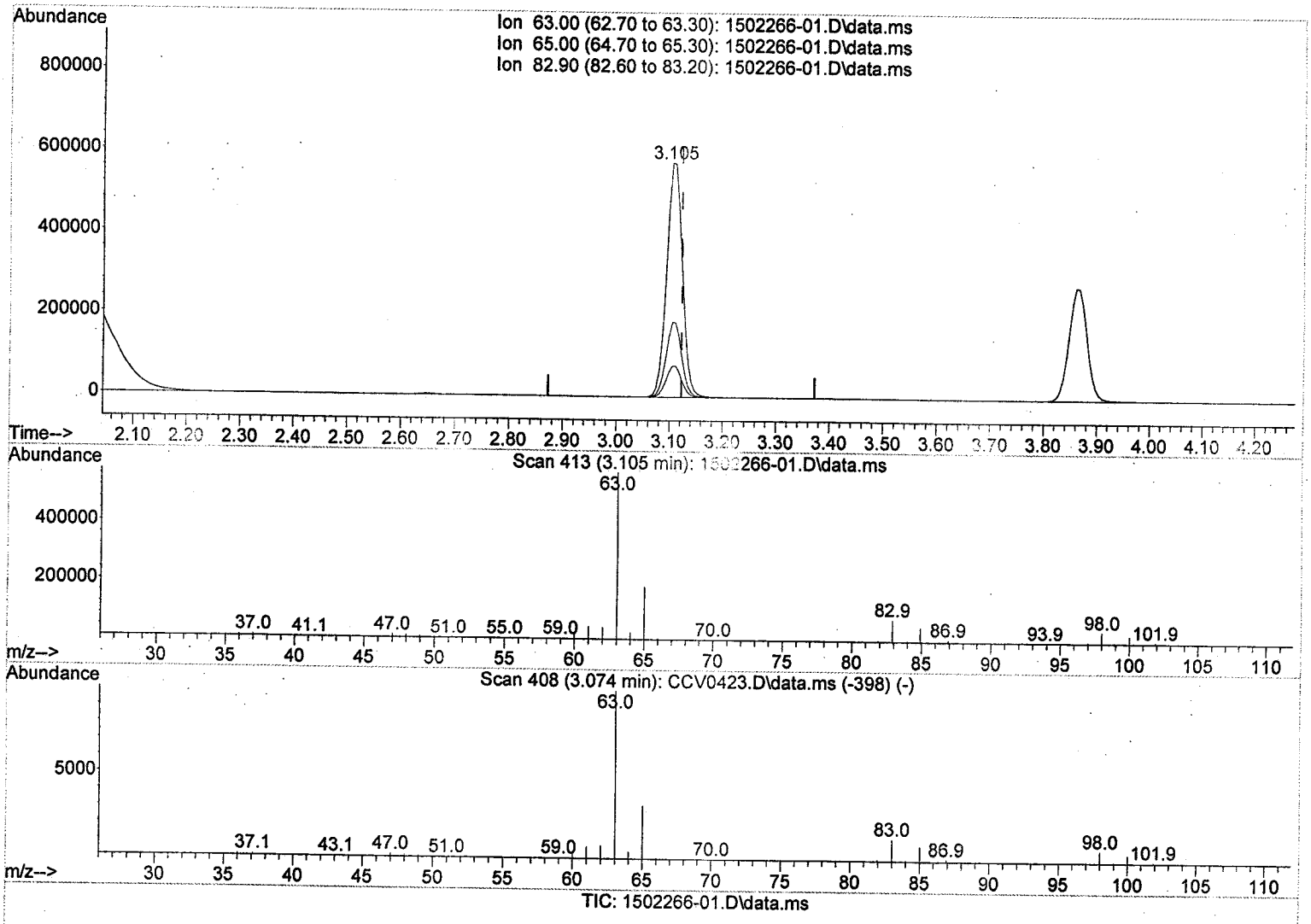
response 6236663

Ion	Exp%	Act%
96.00	100	100
61.00	165.00	167.73
63.00	52.90	54.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



(21) 1,1-dichloroethane (P)

3.105min (-0.018) 90.56 ug/L

response 1201313

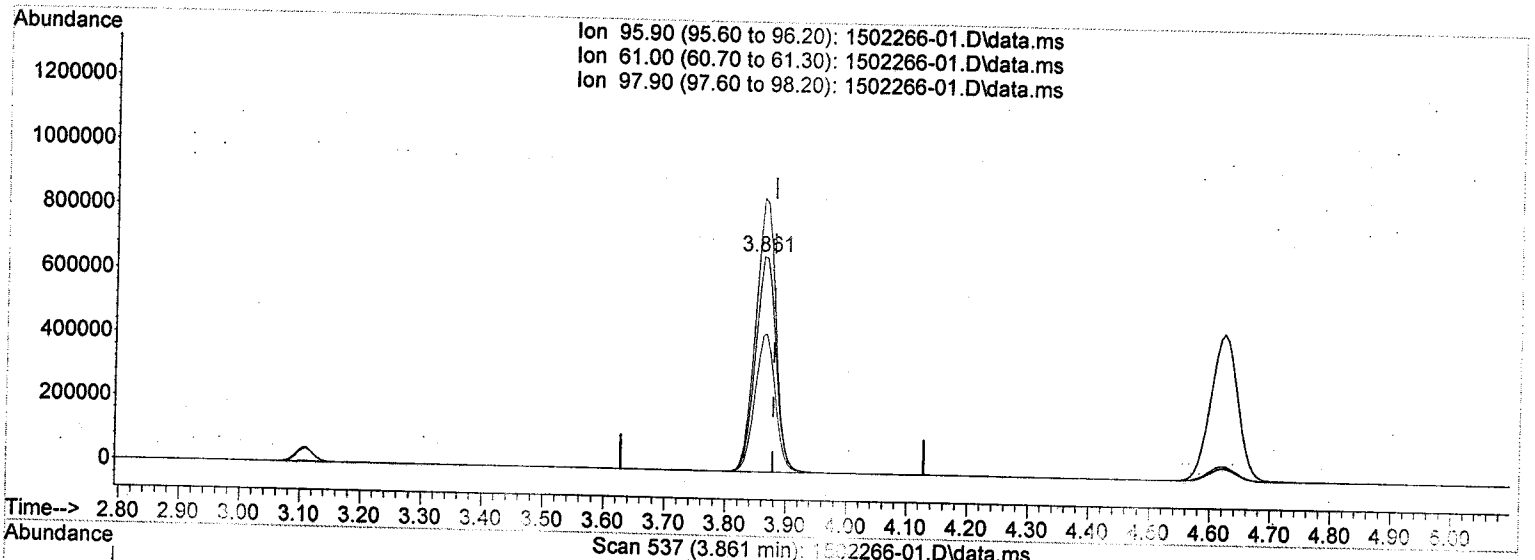
Ion	Exp%	Act%
63.00	100	100
65.00	31.40	31.97
82.90	13.20	13.29
0.00	0.00	0.00

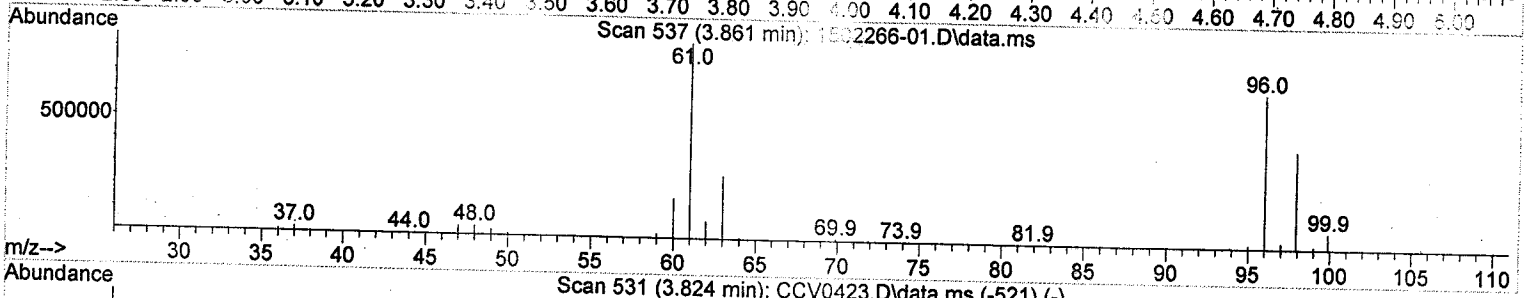
00041

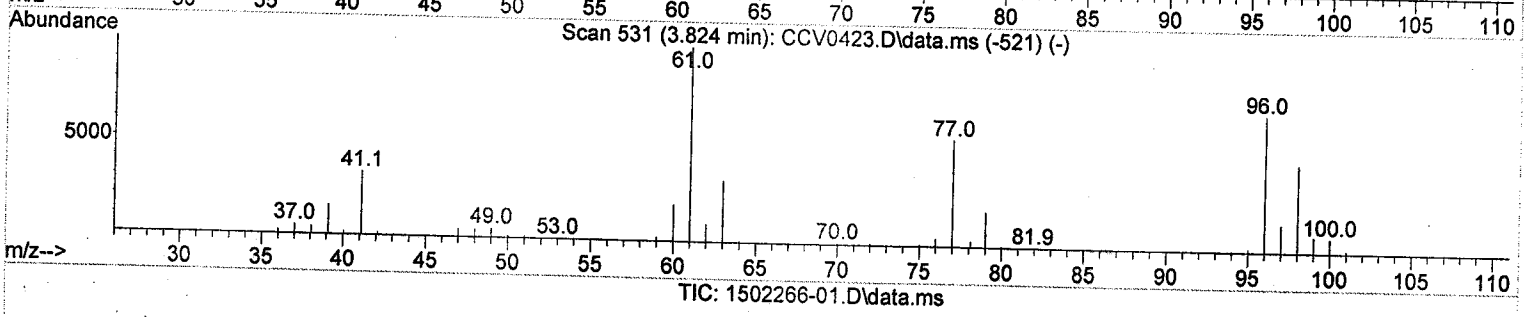
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-01.D\data.ms

(24) cis-1,2-dichloroethene

3.861min (-0.018) 190.90 ug/L

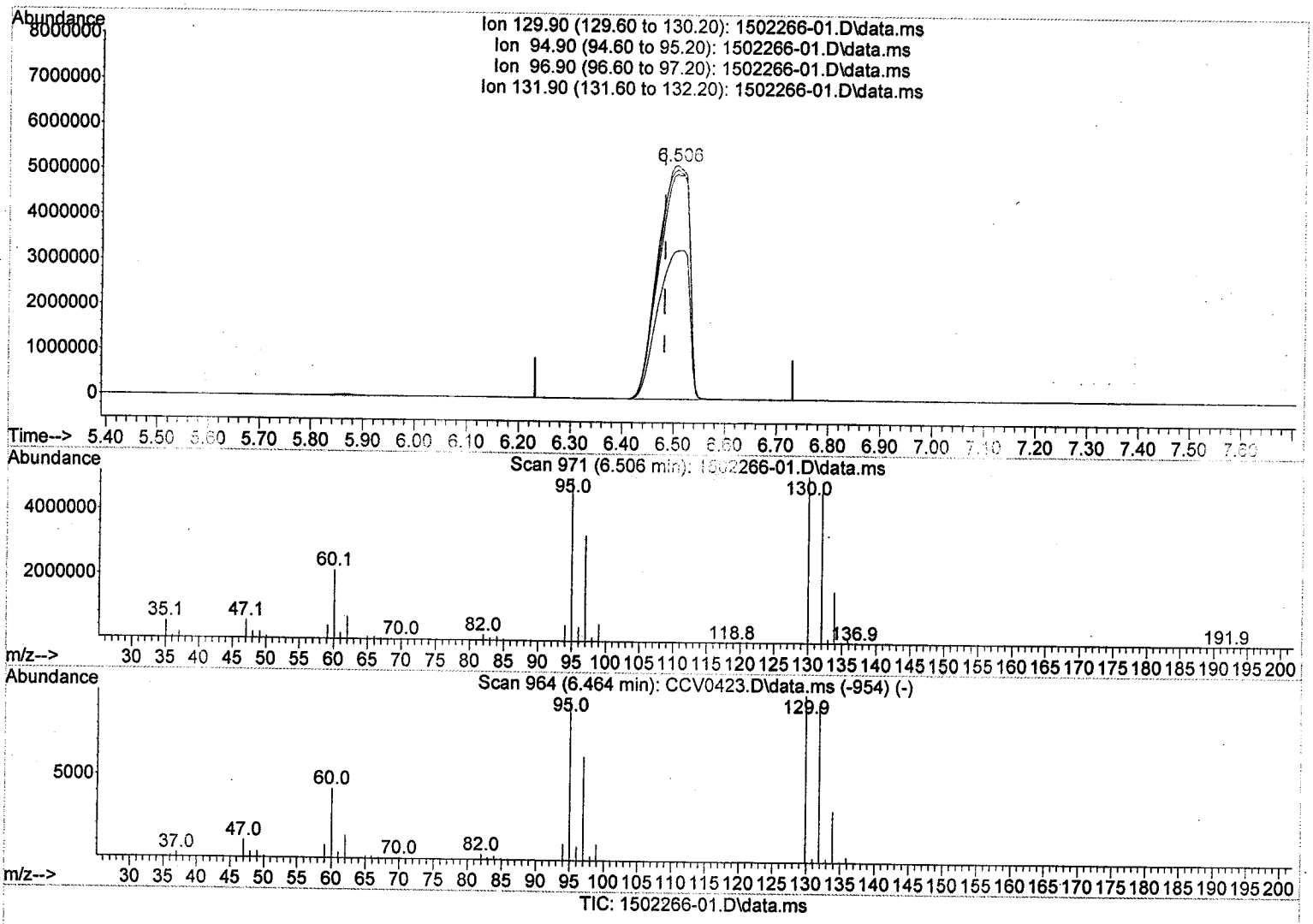
response 1598247

Ion	Exp%	Act%
95.90	100	100
61.00	141.00	125.97
97.90	64.70	64.14
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01.D
Acq On : 19 Feb 2015 11:59
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 19 12:18:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



TIC: 1502266-01.D\data.ms

(38) trichloroethene

6.506min (+0.024) 2502.36 ug/L

response 21653717

Ion	Exp%	Act%
129.90	100	100
94.90	94.20	99.50
96.90	60.80	64.19
131.90	96.90	95.37

00043

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-3943-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-9

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

Matrix: Ground Water Laboratory ID: 1502266-01RE1 File ID: 1502266-01A.D

Sampled: 02/16/15 13:30 Prepared: 02/19/15 08:00 Analyzed: 02/19/15 13:54

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

QC Batch: 1501603 Sequence: 5B20002 Calibration: 5B12010 Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	50	90	6.3	25	50	
75-35-4	1,1-Dichloroethene	50	970	11	25	50	
156-59-2	cis-1,2-Dichloroethene	50	190	6.7	25	50	
79-01-6	Trichloroethene	50	5700	5.2	10	50	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.4	98	85 - 115	
1,2-Dichloroethane-d4	40.0	40.3	101	70 - 120	
Toluene-d8	40.0	39.8	99	85 - 120	
4-Bromofluorobenzene	40.0	39.1	98	75 - 120	

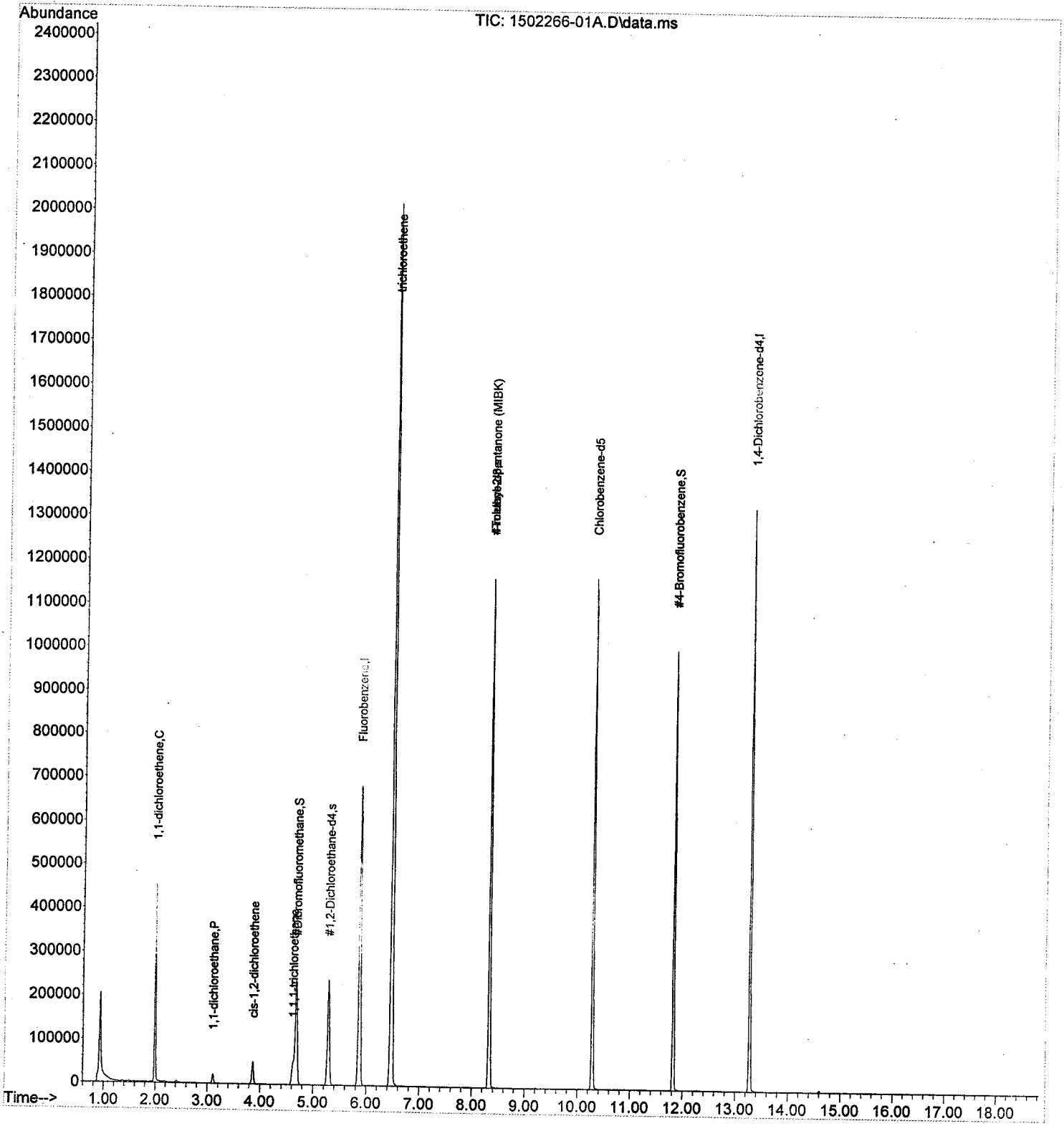
Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	845406	5.86	854305	5.879	
Chlorobenzene-d5	668179	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	355438	13.273	359463	13.286	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01 RE1
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



8260-WN42.M Thu Feb 19 14:48:53 2015

00045

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01 RE1
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50 ✓

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.860	96	845406	40.00 ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	668179	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	355438	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.677	111	214422	39.37 ug/L	-0.02
Spiked Amount 40.000			Recovery = 98.42%		
37) #1,2-Dichloroethane-d4	5.281	67	129638	40.33 ug/L	-0.02
Spiked Amount 40.000			Recovery = 100.82%		
47) #Toluene-d8	8.323	98	830613	39.79 ug/L	-0.01
Spiked Amount 40.000			Recovery = 99.48%		
65) #4-Bromofluorobenzene	11.822	95	333964	39.06 ug/L	-0.01
Spiked Amount 40.000			Recovery = 97.65%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	0.000		0	N.D.	
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	1.989	96	128133 ✓	19.33 ug/L	99
13) acetone	2.068	43	2166	Below Cal #	43
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	0.000		0	N.D.	
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.410	49	3465	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	3.105	63	21731 ✓	1.80 ug/L	100
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D. ✓	
24) cis-1,2-dichloroethene	3.867	96	28913	3.79 ug/L	92
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	4.623	97	46418	4.99 ug/L	98
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	5.860	57	27611 ✓	No Calib #	
38) trichloroethene	6.470	130	892555	113.32 ug/L	100
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01 RE1
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

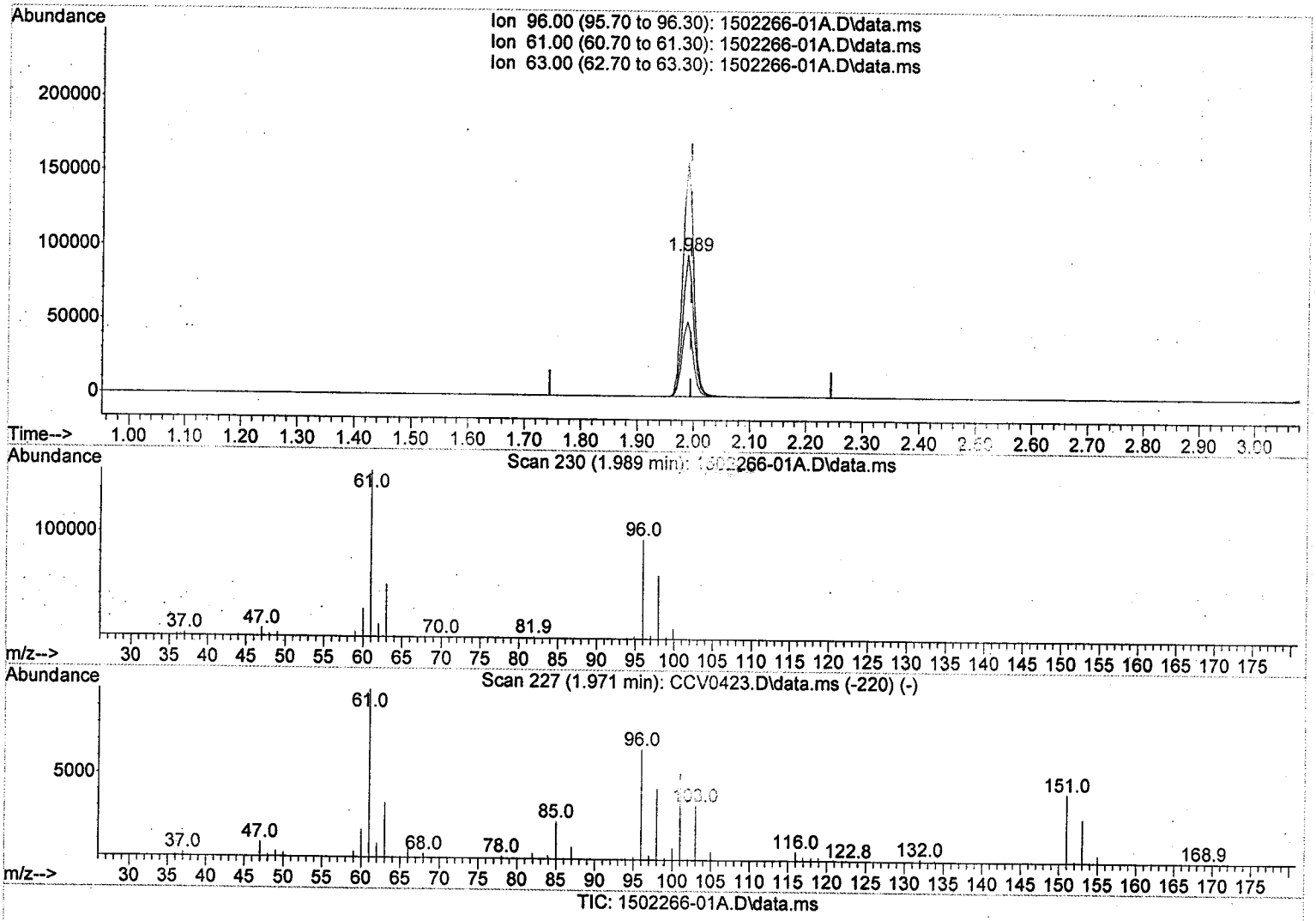
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	3249	0.49 ug/L #	1
48) toluene	0.000		0	N.D.	
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	0.000		0	N.D.	
52) tetrachloroethene	0.000		0	N.D.	
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	0.000		0	N.D.	
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	0.000		0	N.D.	
61) m+p-xylene	0.000		0	N.D.	
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	0.000		0	N.D.	
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	0.000		0	N.D.	
78) sec-butylbenzene	0.000		0	N.D.	
79) 1,3-dichlorobenzene	0.000		0	N.D.	
80) 4-isopropyltoluene	0.000		0	N.D.	
81) 1,4-dichlorobenzene	0.000		0	N.D.	
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	0.000		0	N.D.	
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	0.000		0	N.D.	
87) hexachlorobutadiene	0.000		0	N.D.	
88) naphthalene	0.000		0	N.D.	
89) 1,2,3-trichlorobenzene	0.000		0	N.D.	
90) 2-methylnaphthalene	0.000		0	N.D.	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



TIC: 1502266-01A.D\data.ms

(12) 1,1-dichloroethene (C)

1.989min (-0.006) 19.33 ug/L

response 128133

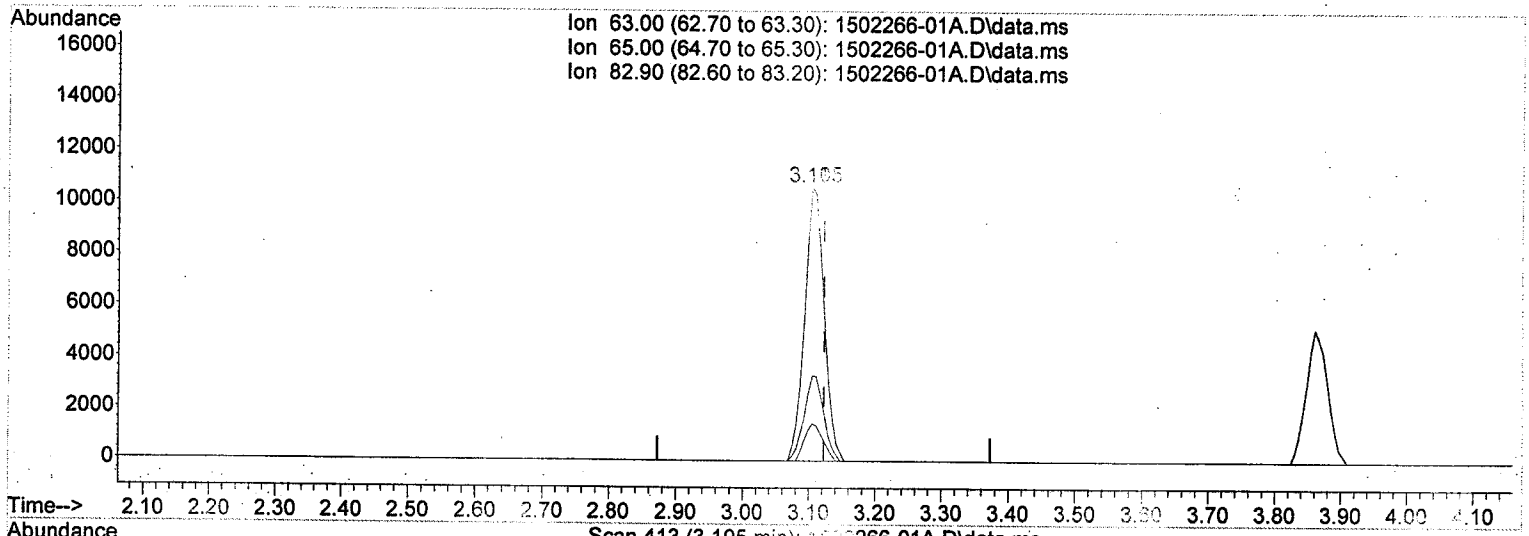
Ion	Exp%	Act%
96.00	100	100
61.00	165.00	166.65
63.00	52.90	54.06
0.00	0.00	0.00

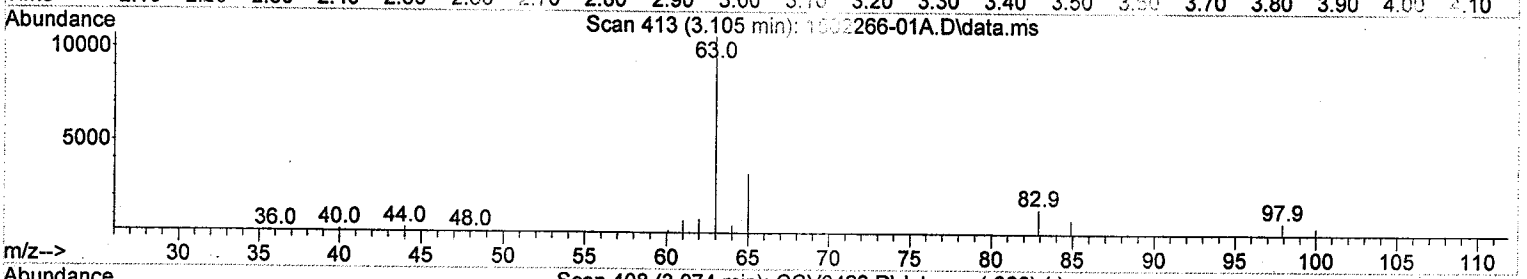
00048

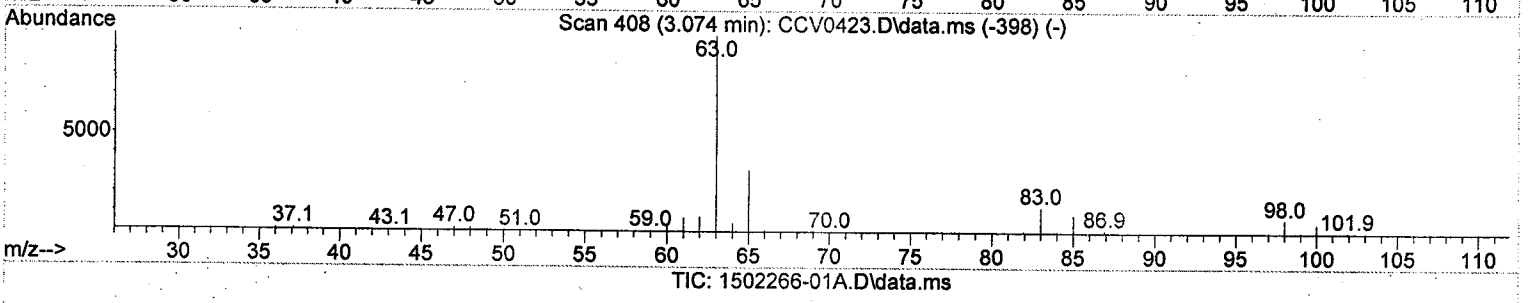
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-01A.D\data.ms

(21) 1,1-dichloroethane (P)

3.105min (-0.018) 1.80 ug/L

response 21731

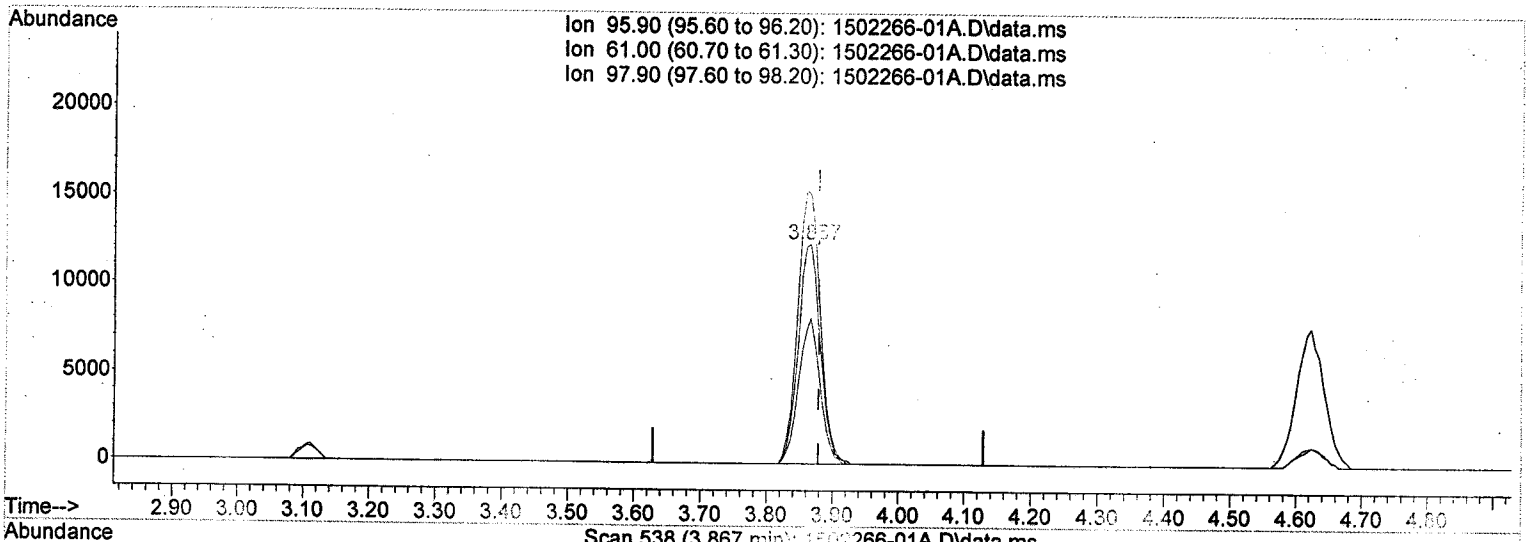
Ion	Exp%	Act%
63.00	100	100
65.00	31.40	31.54
82.90	13.20	12.91
0.00	0.00	0.00

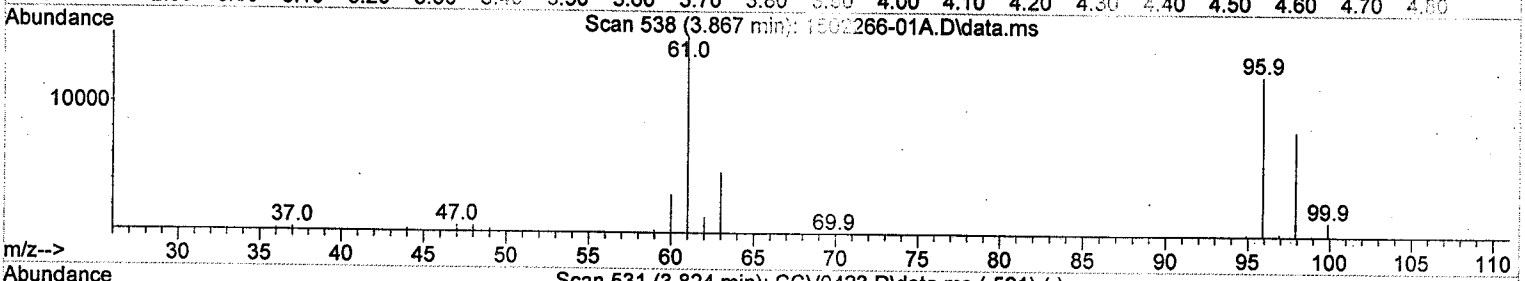
00049

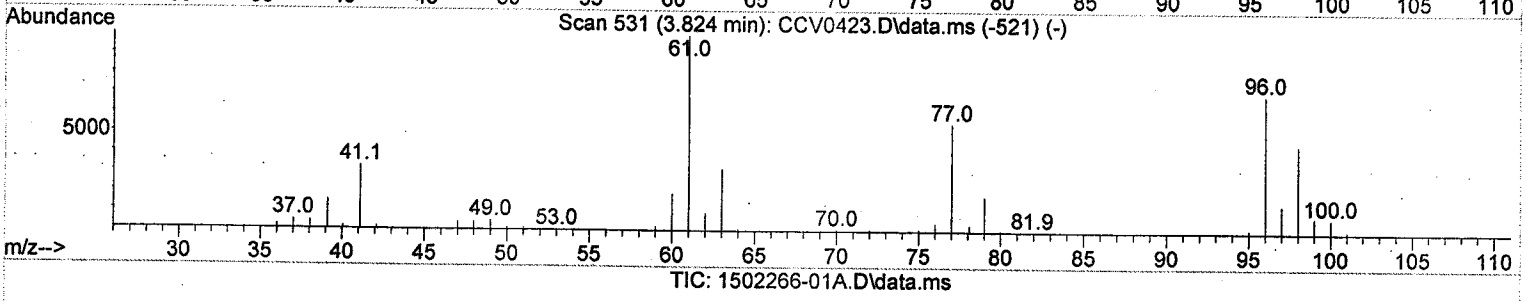
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-01A.D\data.ms

(24) cis-1,2-dichloroethene

3.867min (-0.012) 3.79 ug/L

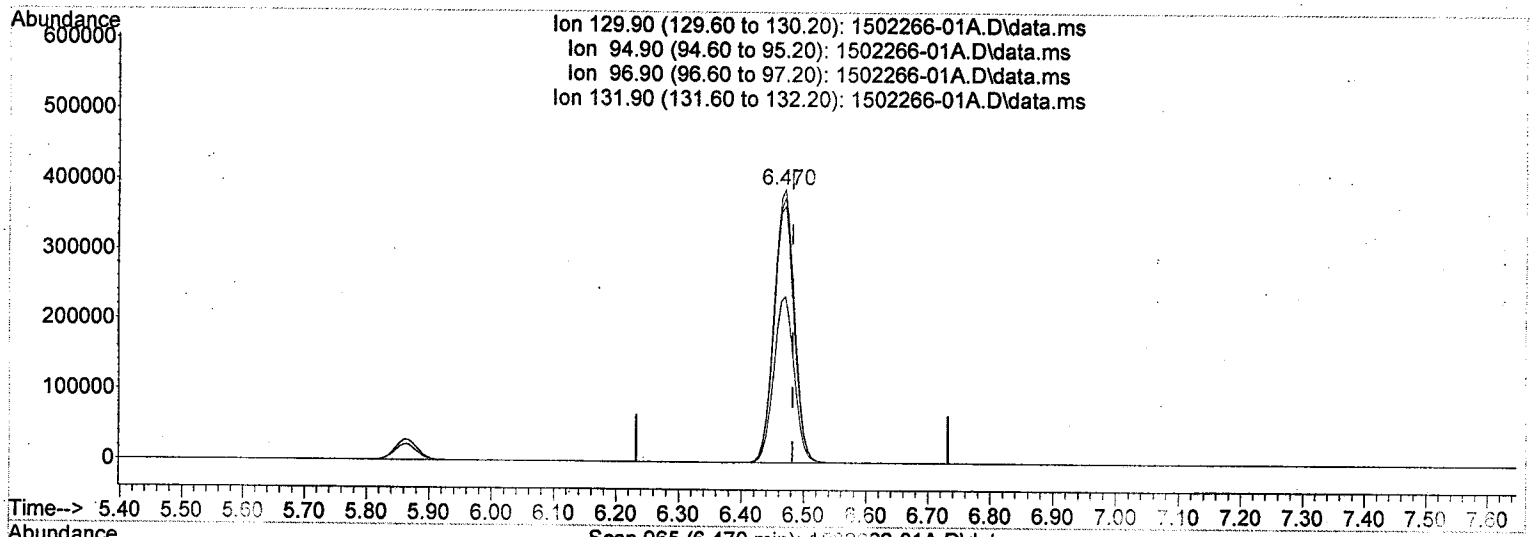
response. 28913

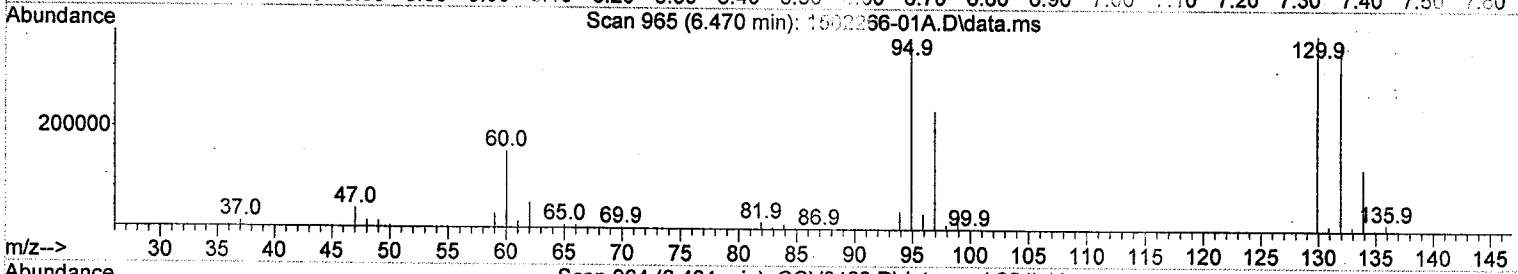
Ion	Exp%	Act%
95.90	100	100
61.00	141.00	127.40
97.90	64.70	64.40
0.00	0.00	0.00

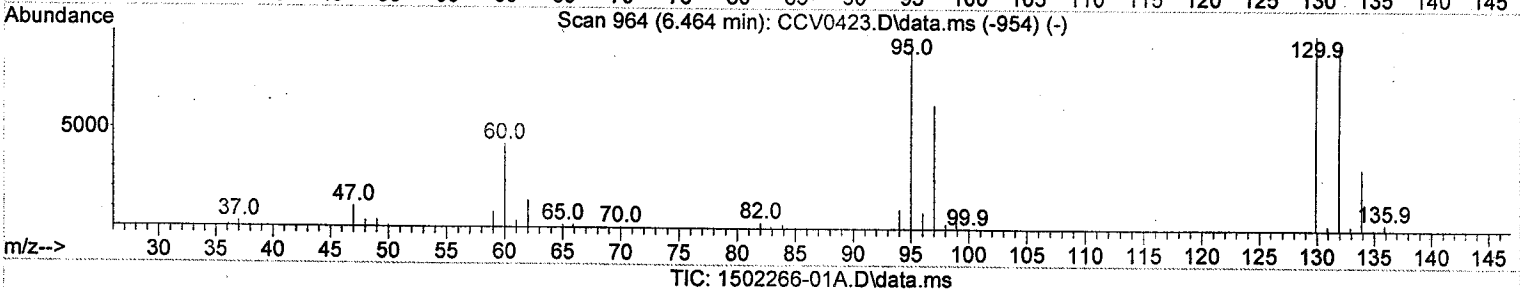
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-01A.D
Acq On : 19 Feb 2015 13:54
Operator : DLV
Sample : 1502266-01
Misc : CH2M HILL 50x = 1mL:50mL
ALS Vial : 13 Sample Multiplier: 50

Quant Time: Feb 19 14:48:51 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-01A.D\data.ms

(38) trichloroethene

6.470min (-0.012) 113.32 ug/L

response 892555

Ion	Exp%	Act%
129.90	100	100
94.90	94.20	93.82
96.90	60.80	60.44
131.90	96.90	96.32

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP07-5357-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-9

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

Matrix: Ground Water Laboratory ID: 1502266-02 File ID: 1502266-02A.D

Sampled: 02/16/15 15:30 Prepared: 02/19/15 08:00 Analyzed: 02/19/15 14:22

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

QC Batch: 1501603 Sequence: 5B20002 Calibration: 5B12010 Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	1.7	0.13	0.50	1.0	
75-35-4	1,1-Dichloroethene	1	16	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	12	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	77	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	40.8	102	70 - 120	
Toluene-d8	40.0	40.1	100	85 - 120	
4-Bromofluorobenzene	40.0	39.5	99	75 - 120	

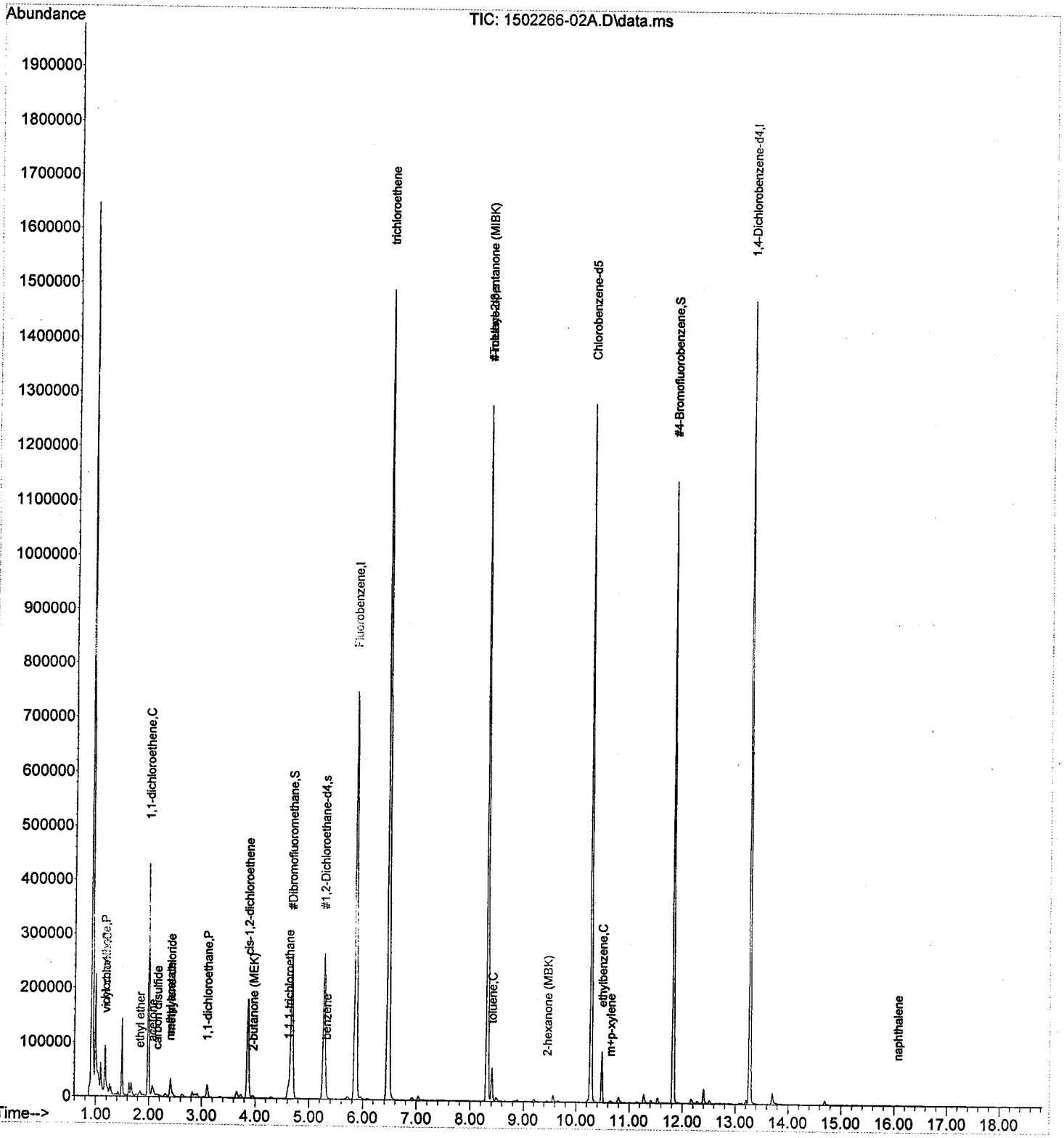
Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	927356	5.86	854305	5.879	
Chlorobenzene-d5	744061	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	398920	13.273	359463	13.286	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.860	96	927356	40.00 ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	744061	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	398920	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.678	111	236599	39.60 ug/L	-0.02
Spiked Amount 40.000			Recovery = 99.00%		
37) #1,2-Dichloroethane-d4	5.281	67	143765	40.77 ug/L	-0.02
Spiked Amount 40.000			Recovery = 101.93%		
47) #Toluene-d8	8.323	98	917670	40.07 ug/L	-0.01
Spiked Amount 40.000			Recovery = 100.18%		
65) #4-Bromofluorobenzene	11.823	95	375807	39.47 ug/L	-0.01
Spiked Amount 40.000			Recovery = 98.67%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	1.172	50	4135	4.62 ug/L #	42
4) vinyl chloride	1.184	62	2781	0.34 ug/L #	43
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	1.831	74	1271	0.32 ug/L	91
10) acrolein	0.000		0	N.D.	
11) 1,1,2-trichloro-1,2,2-...	0.000		0	N.D.	
12) 1,1-dichloroethene	1.989	96	118756	16.33 ug/L	97
13) acetone	2.062	43	22230	5.71 ug/L	96
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.154	76	2723	0.13 ug/L #	75
16) methyl acetate	2.398	43	3632	0.63 ug/L #	59
17) methylene chloride	2.410	49	19732	1.00 ug/L	95
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	3.105	63	22230	1.68 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	3.867	96	104245	12.47 ug/L	92
25) 2-butanone (MEK)	3.958	43	8261	2.23 ug/L	100
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	4.623	97	22762	2.23 ug/L	97
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	5.324	78	3276	0.10 ug/L #	56
35) 1,2-dichloroethane	0.000		0	N.D.	
36) heptane	5.860	57	30484	No Calib	
38) trichloroethene	6.470	130	663400	76.79 ug/L	100
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

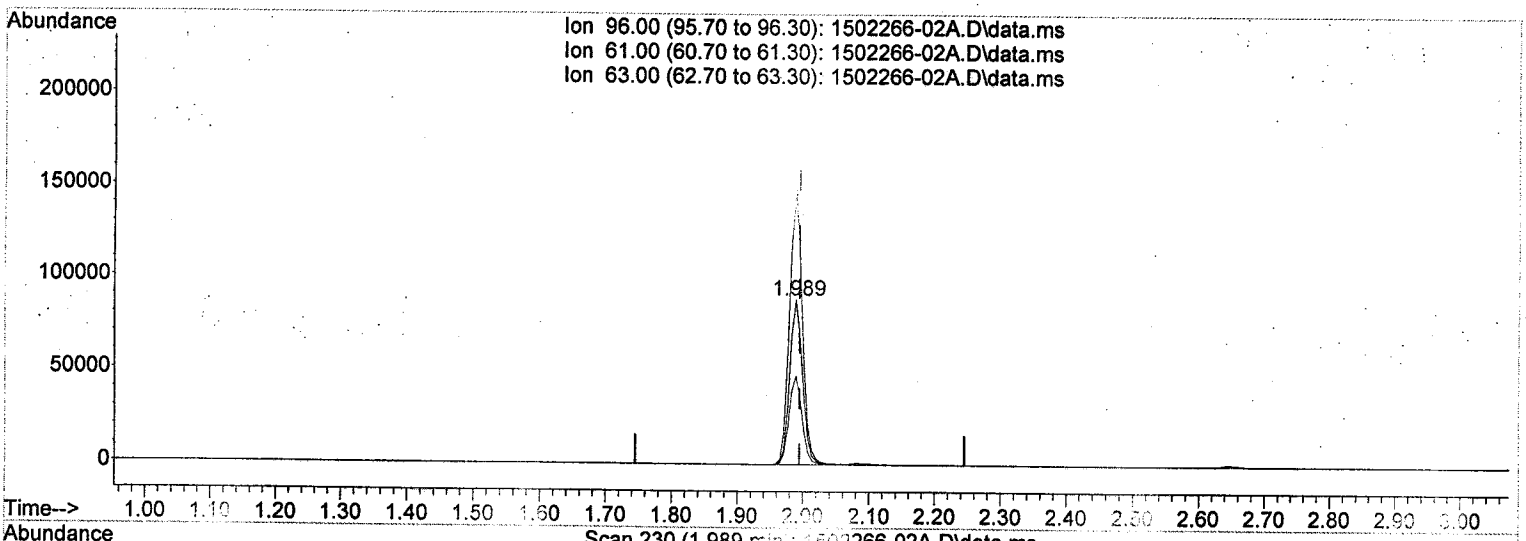
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	4313	0.59 ug/L #	1
48) toluene	8.415	91	46525	1.40 ug/L	99
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	0.000		0	N.D.	
52) tetrachloroethene	0.000		0	N.D.	
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	9.457	43	1793	0.35 ug/L #	37
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	10.487	91	70019	1.86 ug/L	99
61) m+p-xylene	10.646	106	1320	0.09 ug/L	99
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	0.000		0	N.D.	
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	0.000		0	N.D.	
78) sec-butylbenzene	0.000		0	N.D.	
79) 1,3-dichlorobenzene	0.000		0	N.D.	
80) 4-isopropyltoluene	0.000		0	N.D.	
81) 1,4-dichlorobenzene	0.000		0	N.D.	
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	0.000		0	N.D.	
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	0.000		0	N.D.	
87) hexachlorobutadiene	0.000		0	N.D.	
88) naphthalene	16.066	128	1246	0.06 ug/L #	78
89) 1,2,3-trichlorobenzene	0.000		0	N.D.	
90) 2-methylnaphthalene	0.000		0	N.D.	

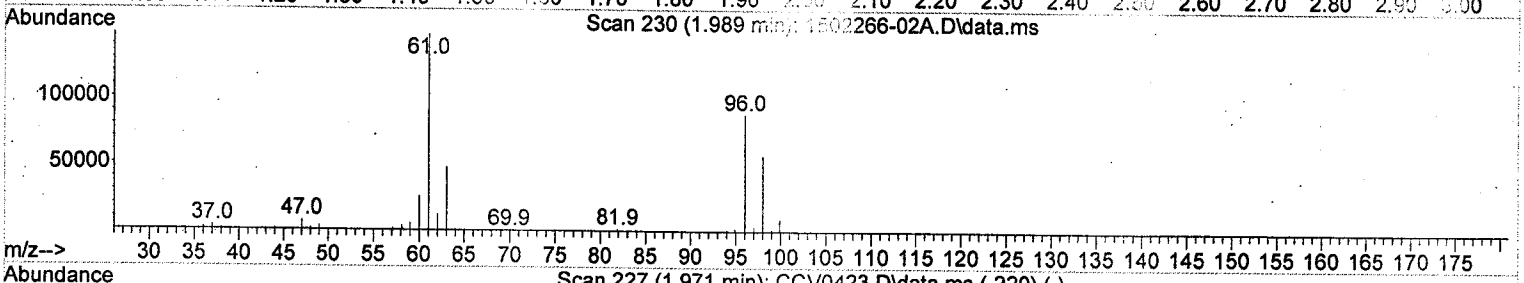
(#) = qualifier out of range (m) = manual integration (+) = signals summed

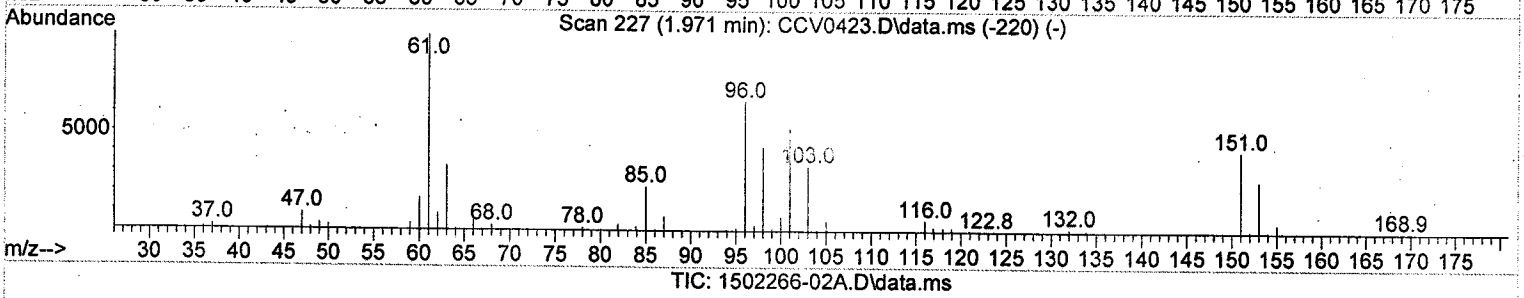
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-02A.D\data.ms

(12) 1,1-dichloroethene (C)

1.989min (-0.006) 16.33 ug/L

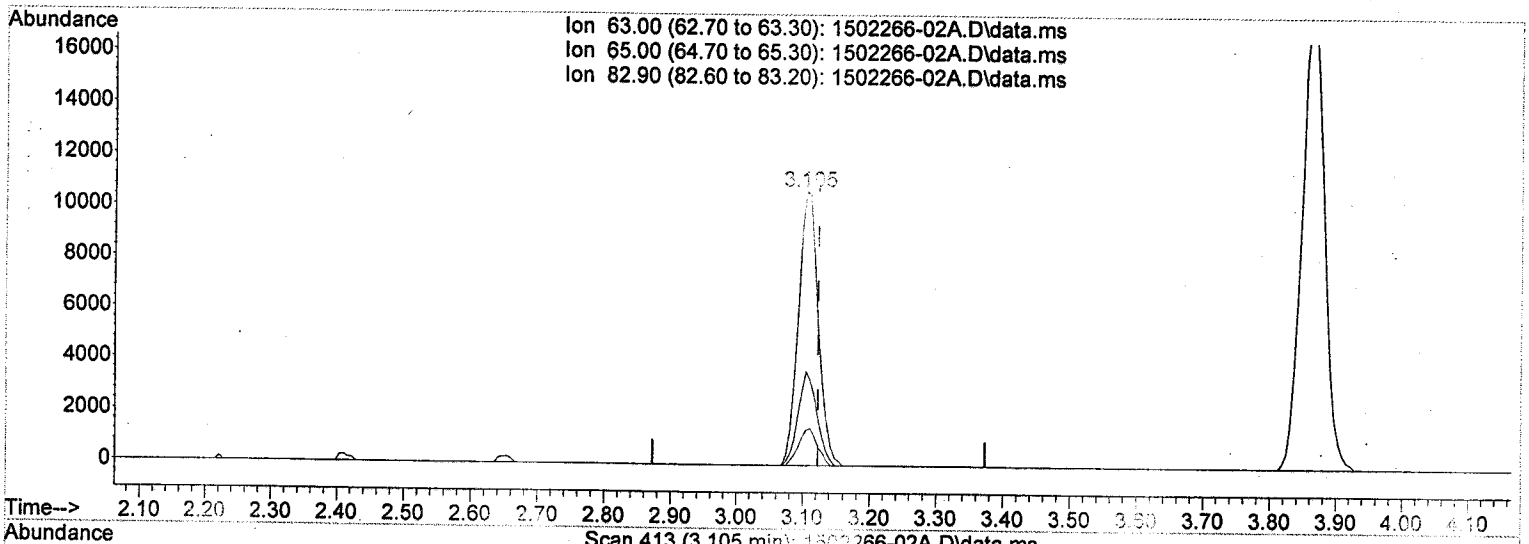
response 118756

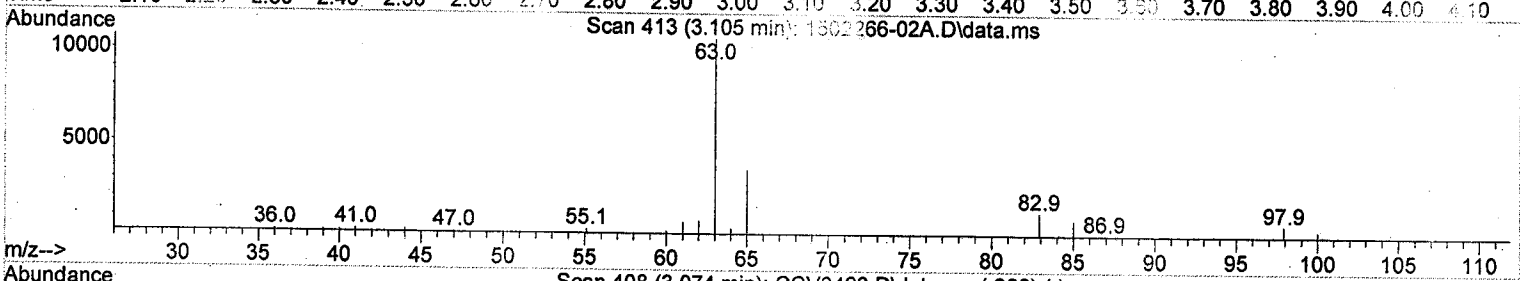
Ion	Exp%	Act%
96.00	100	100
61.00	165.00	168.55
63.00	52.90	54.39
0.00	0.00	0.00

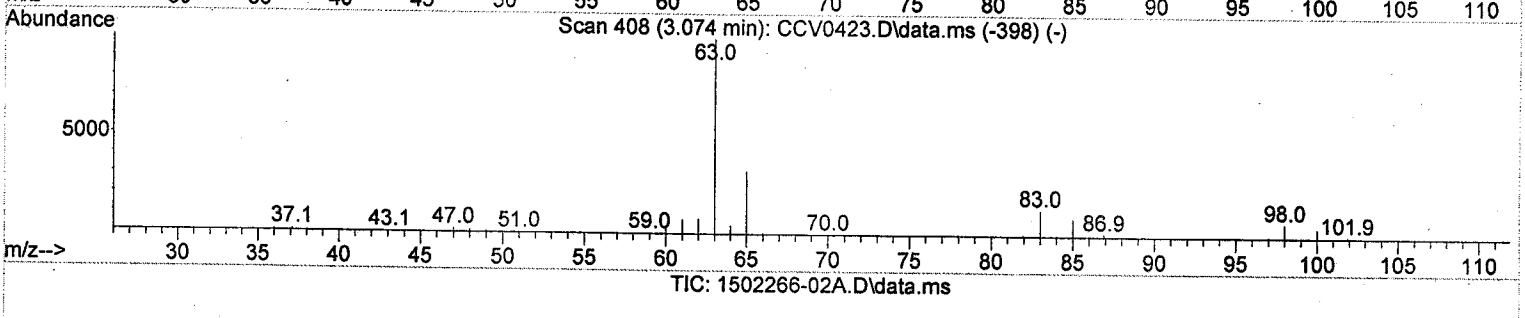
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-02A.D\data.ms

(21) 1,1-dichloroethane (P)

3.105min (-0.018) 1.68 ug/L

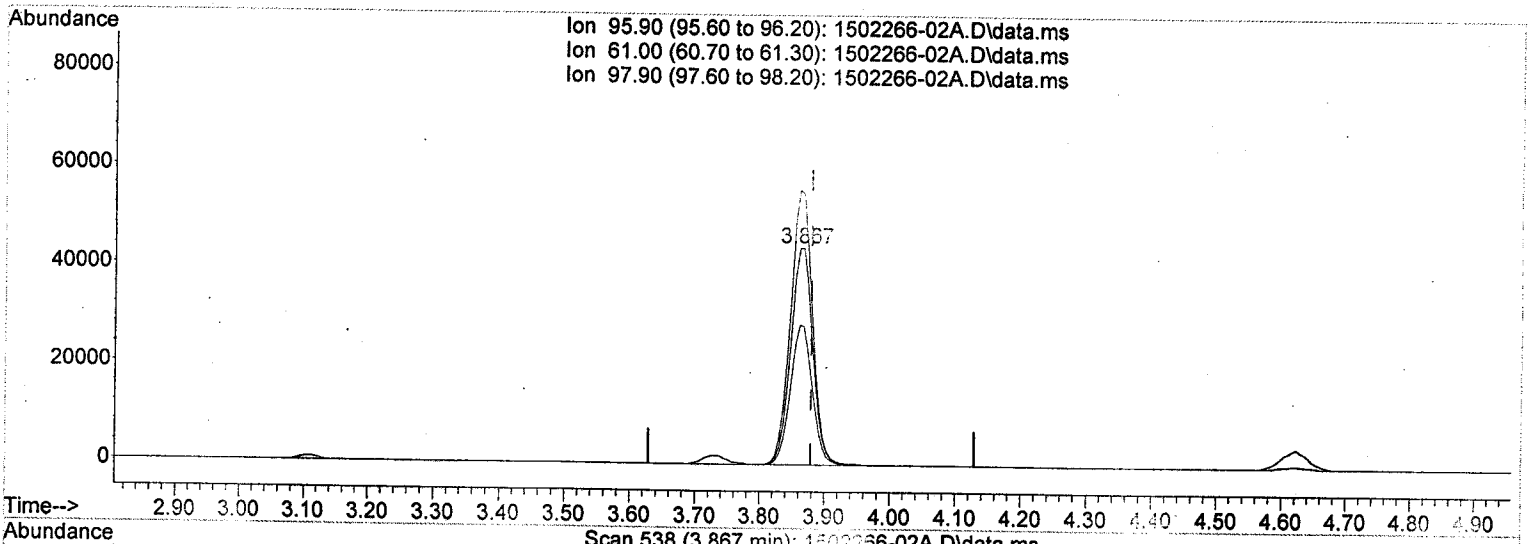
response 22230

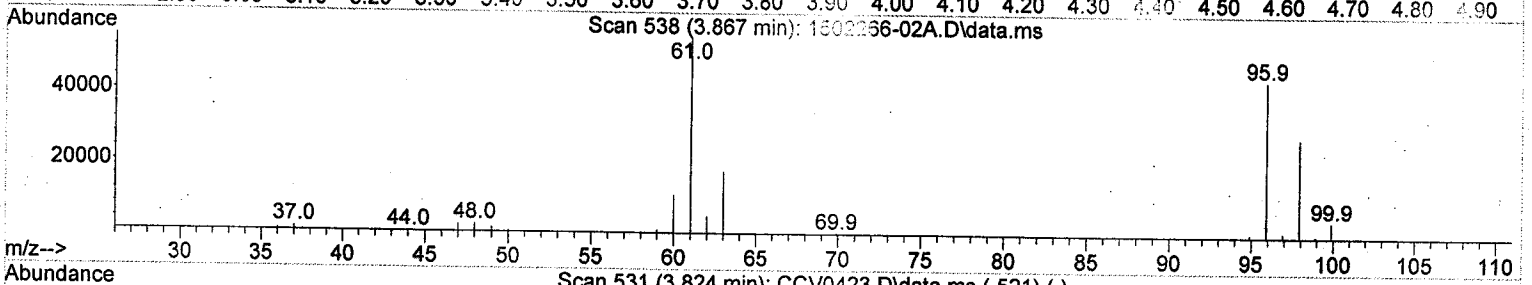
Ion	Exp%	Act%
63.00	100	100
65.00	31.40	32.17
82.90	13.20	12.65
0.00	0.00	0.00

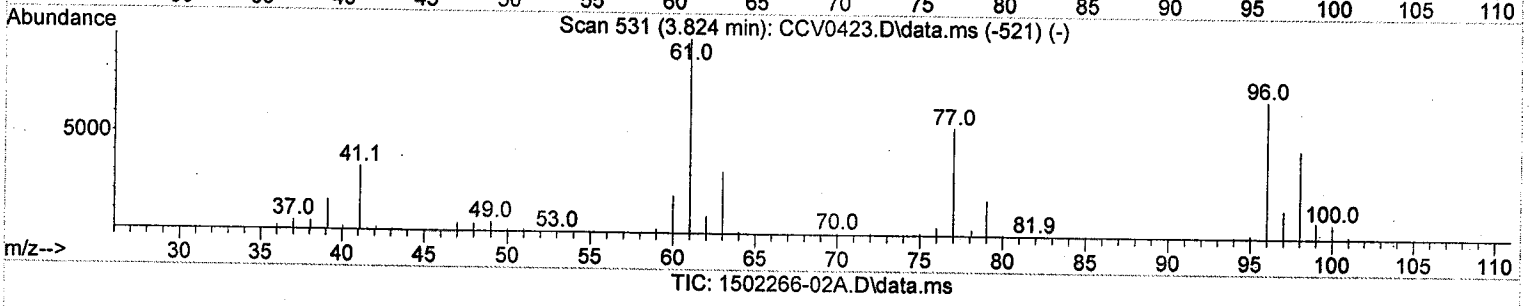
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-02A.D\data.ms

(24) cis-1,2-dichloroethene

3.867min (-0.012) 12.47 ug/L

response 104245

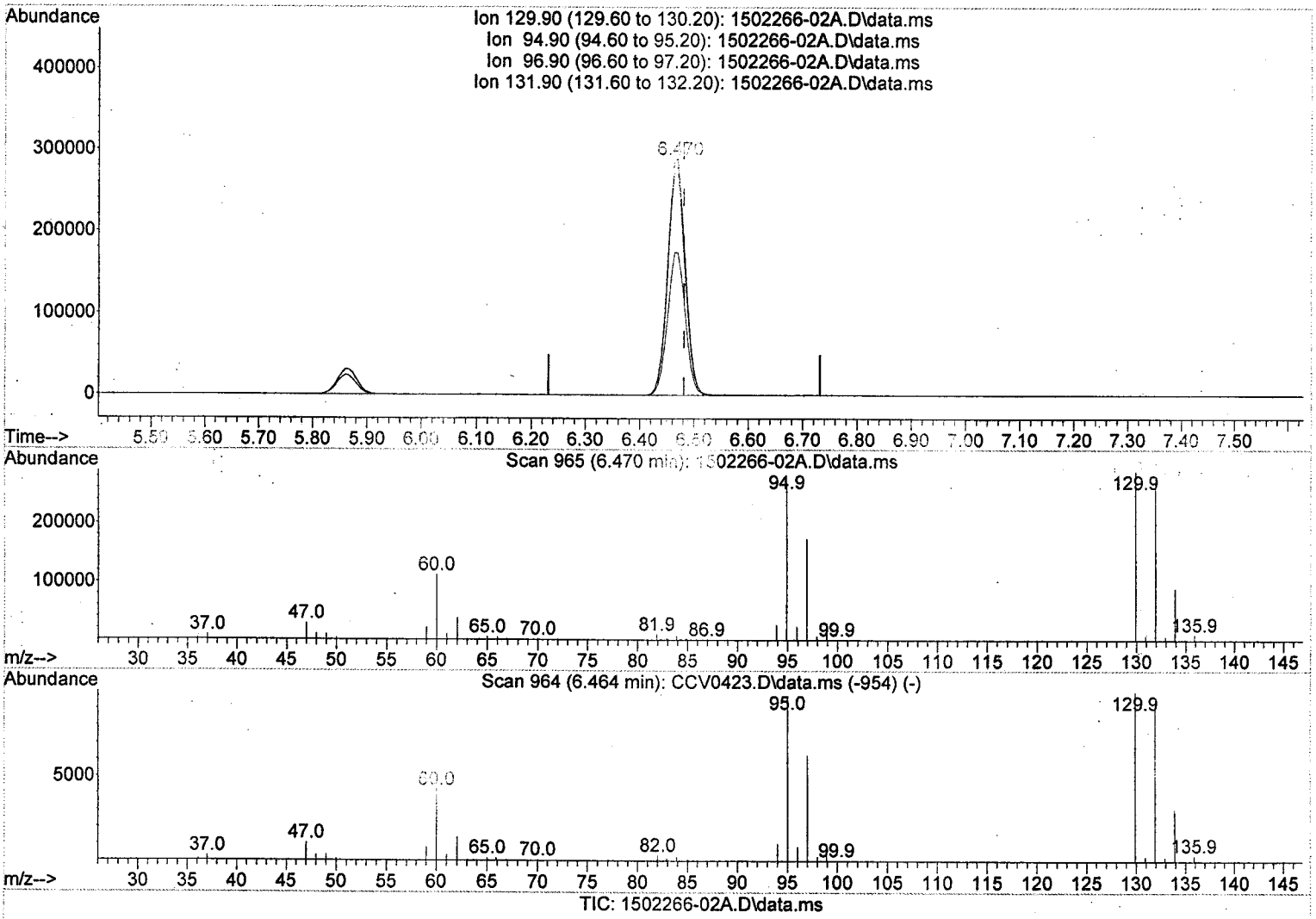
Ion	Exp%	Act%
95.90	100	100
61.00	141.00	126.24
97.90	64.70	64.15
0.00	0.00	0.00

00058

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-02A.D
Acq On : 19 Feb 2015 14:22
Operator : DLV
Sample : 1502266-02
Misc : CH2M HILL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 19 14:48:58 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



TIC: 1502266-02A.D\data.ms

(38) trichloroethene

6.470min (-0.012) 76.79 ug/L

response 663400

Ion	Exp%	Act%
129.90	100	100
94.90	94.20	93.98
96.90	60.80	60.58
131.90	96.90	96.47

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-DP08-3943-0215

Laboratory: TriMatrix Laboratories, Inc. SDG: 50085-9

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

Matrix: Ground Water Laboratory ID: 1502266-03 File ID: 1502266-03A.D

Sampled: 02/16/15 17:20 Prepared: 02/19/15 08:00 Analyzed: 02/19/15 14:51

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

QC Batch: 1501603 Sequence: 5B20002 Calibration: 5B12010 Instrument: 328

CAS No.	Analyte	Dilution	CONC. (ug/L)	DL	LOD	LOQ	Q
75-34-3	1,1-Dichloroethane	1	0.20	0.13	0.50	1.0	J
75-35-4	1,1-Dichloroethene	1	1.7	0.22	0.50	1.0	
156-59-2	cis-1,2-Dichloroethene	1	1.3	0.13	0.50	1.0	
79-01-6	Trichloroethene	1	11	0.10	0.20	1.0	

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.0	97	85 - 115	
1,2-Dichloroethane-d4	40.0	40.8	102	70 - 120	
Toluene-d8	40.0	39.9	100	85 - 120	
4-Bromofluorobenzene	40.0	38.9	97	75 - 120	

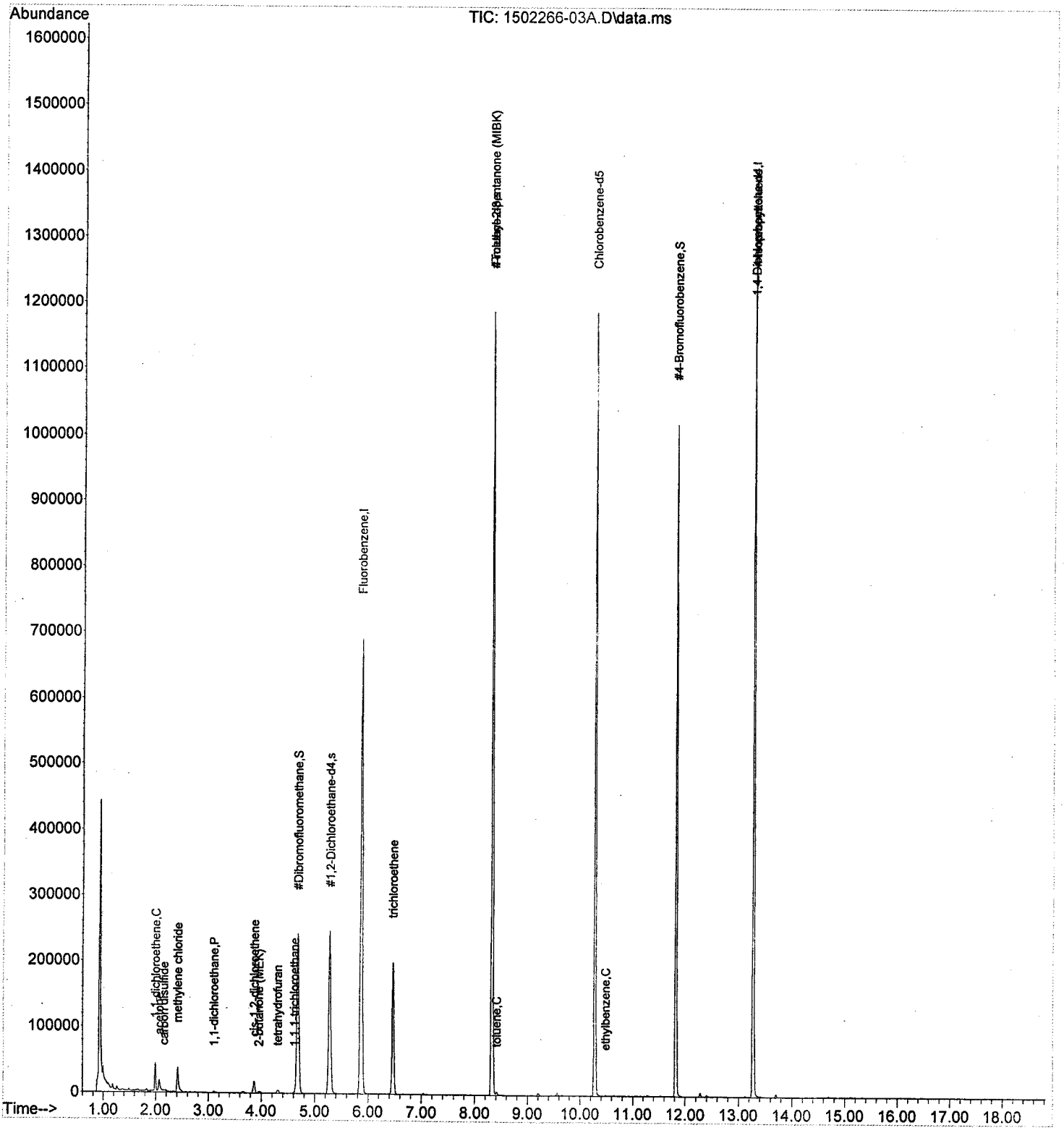
Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	856965	5.86	854305	5.879	
Chlorobenzene-d5	680519	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	361207	13.273	359463	13.286	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.860	96	856965	40.00 ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	680519	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	361207	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.677	111	215256	38.99 ug/L	-0.02
Spiked Amount 40.000			Recovery =	97.47%	
37) #1,2-Dichloroethane-d4	5.281	67	132924	40.79 ug/L	-0.02
Spiked Amount 40.000			Recovery =	101.97%	
47) #Toluene-d8	8.323	98	843998	39.88 ug/L	-0.01
Spiked Amount 40.000			Recovery =	99.70%	
65) #4-Bromofluorobenzene	11.822	95	339054	38.93 ug/L	-0.01
Spiked Amount 40.000			Recovery =	97.32%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	0.000		0	N.D.	
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	1.989	96	11486	1.71 ug/L	100
13) acetone	2.062	43	20364	5.64 ug/L	99
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	2.147	76	1378	0.07 ug/L #	75
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.410	49	24253	1.71 ug/L	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	3.105	63	2458	0.20 ug/L #	50
22) vinyl acetate	0.000		0	N.D.	
23) 2,2-dichloropropane	0.000		0	N.D.	
24) cis-1,2-dichloroethene	3.867	96	10208	1.32 ug/L	91
25) 2-butanone (MEK)	3.952	43	5253	1.53 ug/L #	49
26) bromochloromethane	0.000		0	N.D.	
27) tetrahydrofuran	4.306	71	1366	1.57 ug/L	84
28) chloroform	0.000		0	N.D.	
30) 1,1,1-trichloroethane	4.617	97	2341	0.25 ug/L #	70
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	5.860	57	27518	No Calib	
38) trichloroethene	6.464	130	88510	11.09 ug/L	99
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	3670	0.54 ug/L #	1
48) toluene	8.415	91	3650	0.12 ug/L	97
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	0.000		0	N.D.	
52) tetrachloroethene	0.000		0	N.D.	
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	0.000		0	N.D.	
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	10.481	91	1472	0.04 ug/L #	43
61) m+p-xylene	0.000		0	N.D.	
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	0.000		0	N.D.	
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	0.000		0	N.D.	
78) sec-butylbenzene	0.000		0	N.D.	
79) 1,3-dichlorobenzene	0.000		0	N.D.	
80) 4-isopropyltoluene	13.279	119	1587	0.06 ug/L #	18
81) 1,4-dichlorobenzene	0.000		0	N.D.	
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	0.000		0	N.D.	
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	0.000		0	N.D.	
87) hexachlorobutadiene	0.000		0	N.D.	
88) naphthalene	0.000		0	N.D.	
89) 1,2,3-trichlorobenzene	0.000		0	N.D.	
90) 2-methylnaphthalene	0.000		0	N.D.	

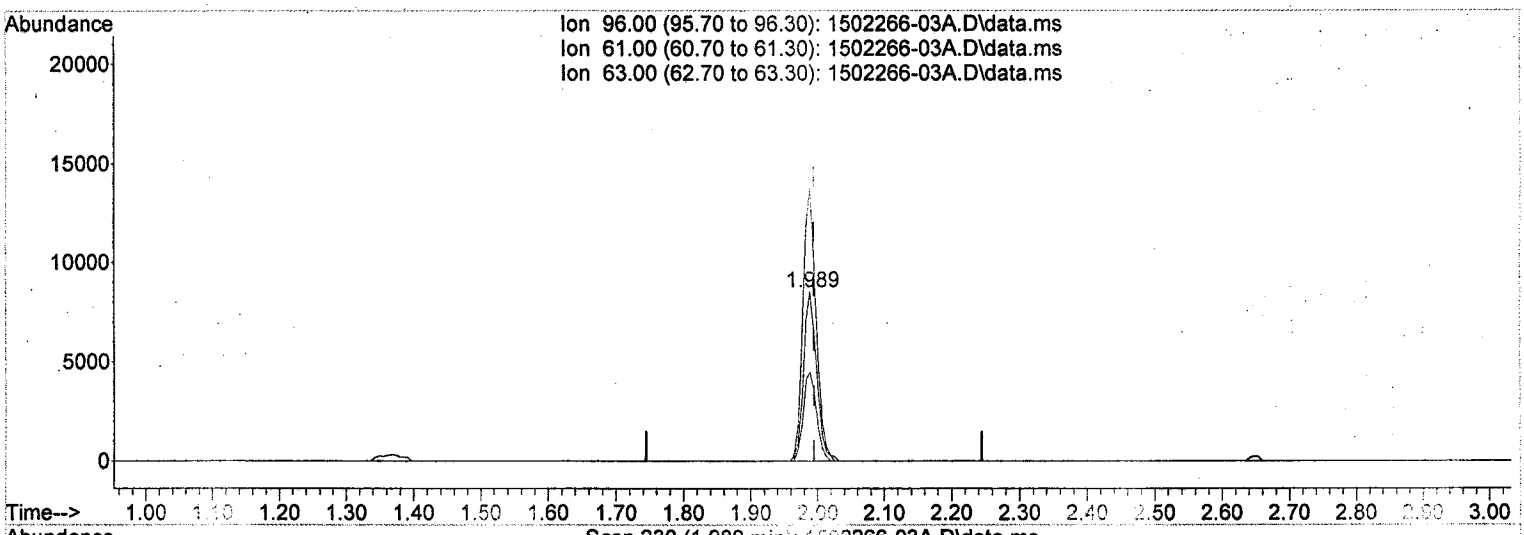
(#) = qualifier out of range (m) = manual integration (+) = signals summed

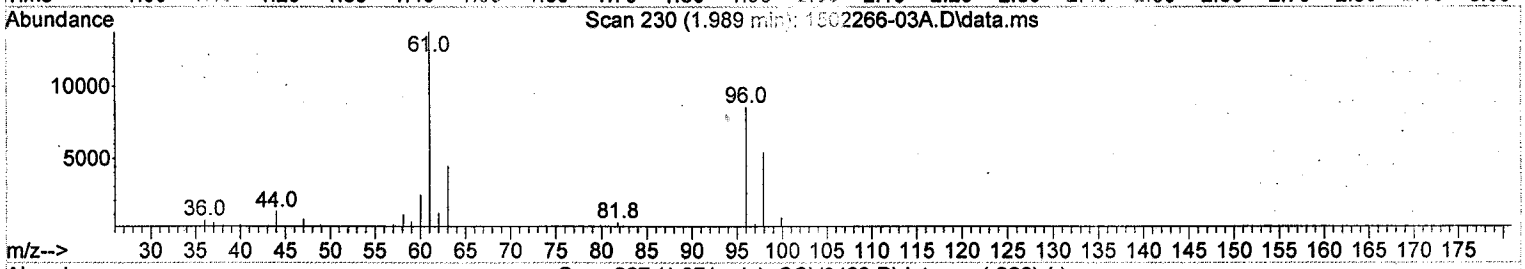
000053

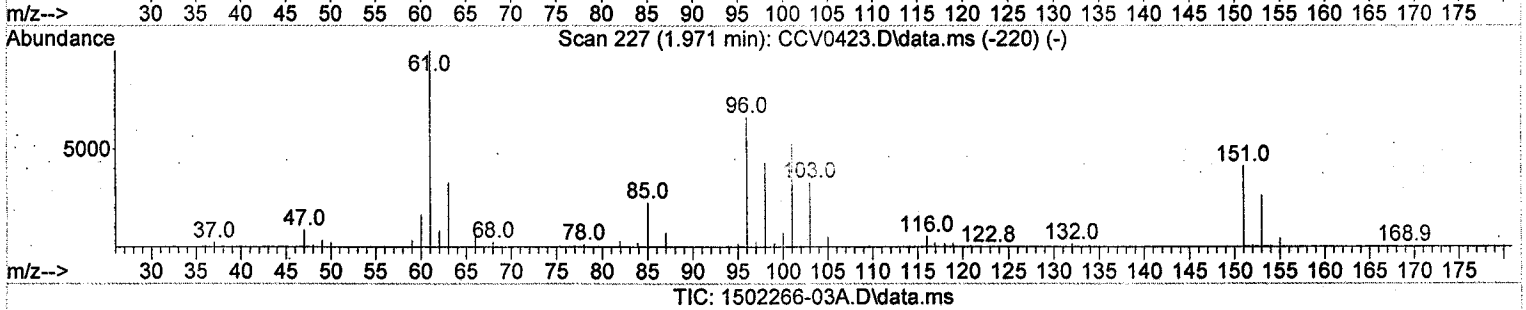
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-03A.D\data.ms

(12) 1,1-dichloroethene (C)

1.989min (-0.006) 1.71 ug/L

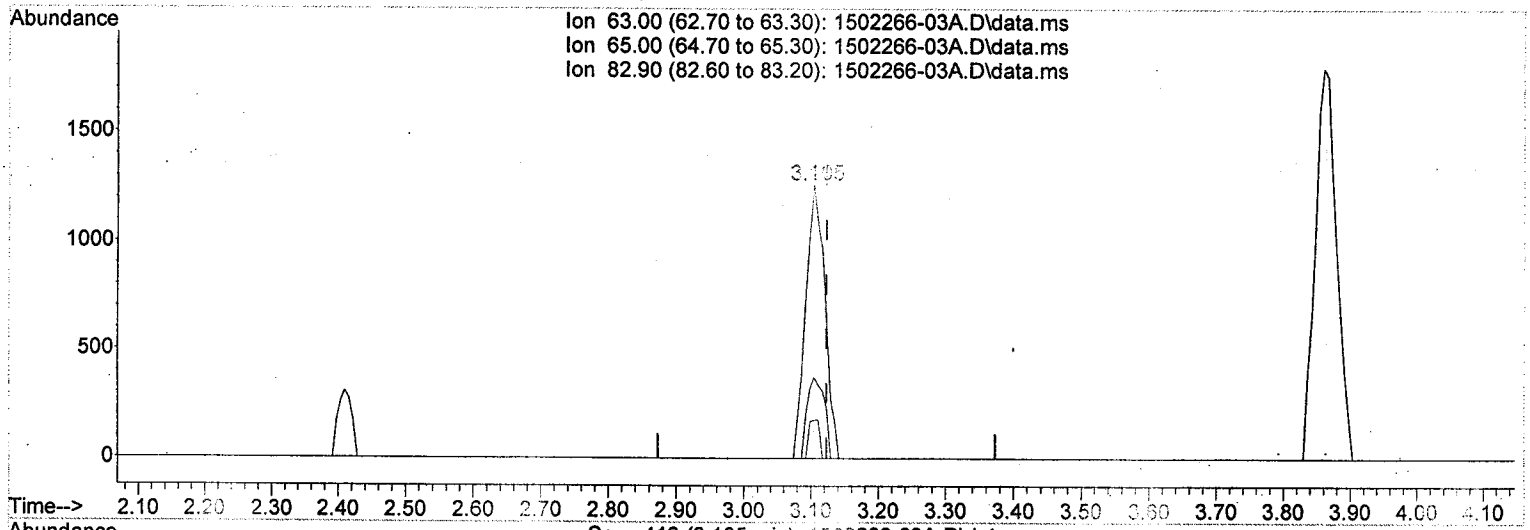
response 11486

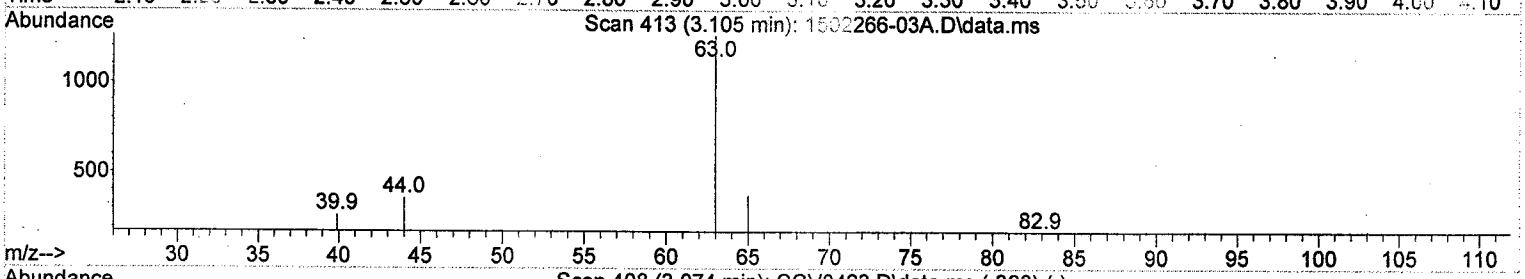
Ion	Exp%	Act%
96.00	100	100
61.00	165.00	165.27
63.00	52.90	53.17
0.00	0.00	0.00

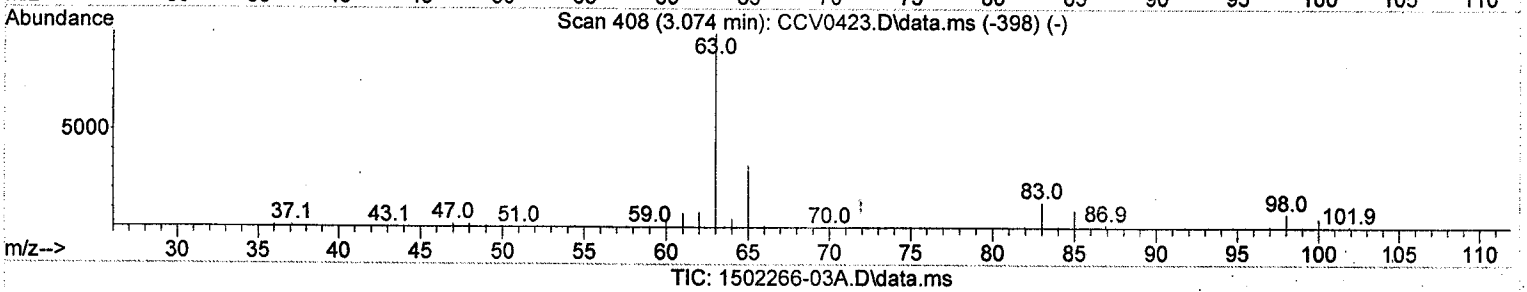
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-03A.D\data.ms

(21) 1,1-dichloroethane (P)

3.105min (-0.018) 0.20 ug/L

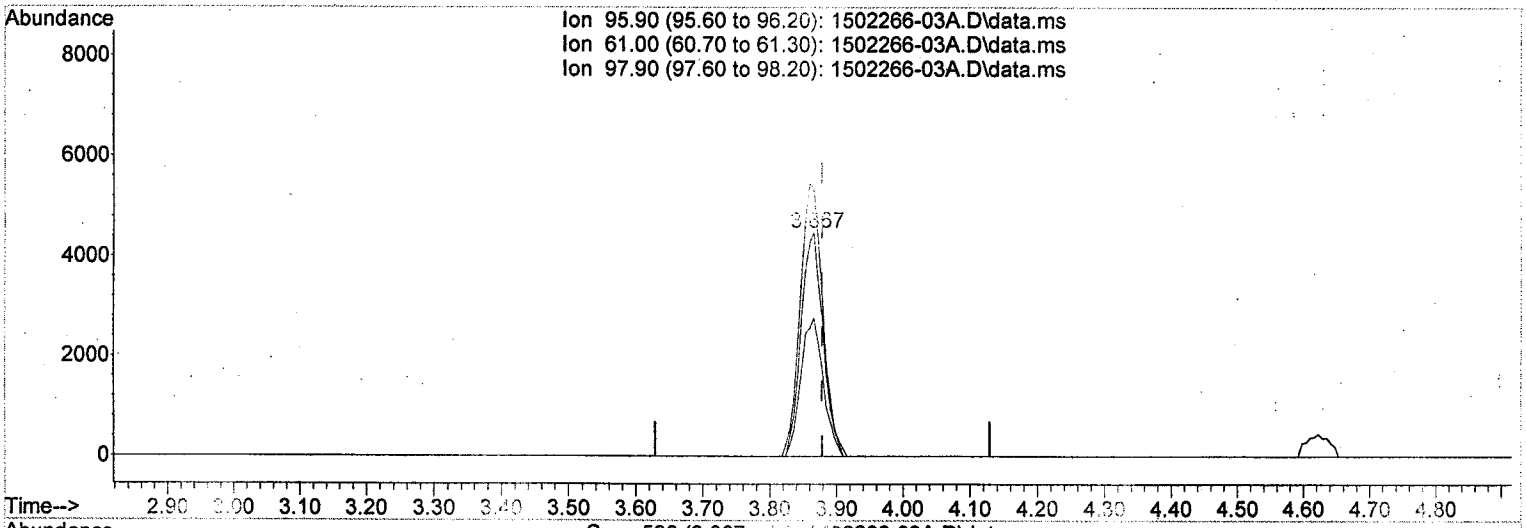
response 2458

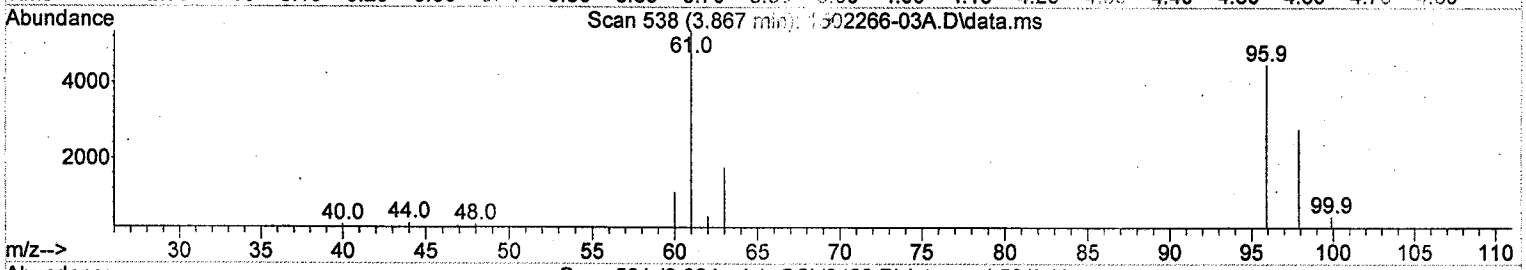
Ion	Exp%	Act%
63.00	100	100
65.00	31.40	0.00#
82.90	13.20	0.00
0.00	0.00	0.00

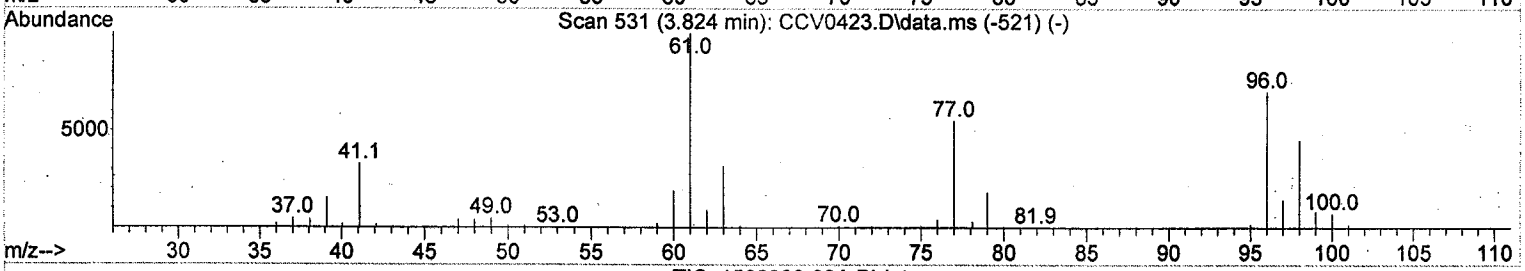
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-03A.D\data.ms

(24) cis-1,2-dichloroethene

3.867min (-0.012) 1.32 ug/L

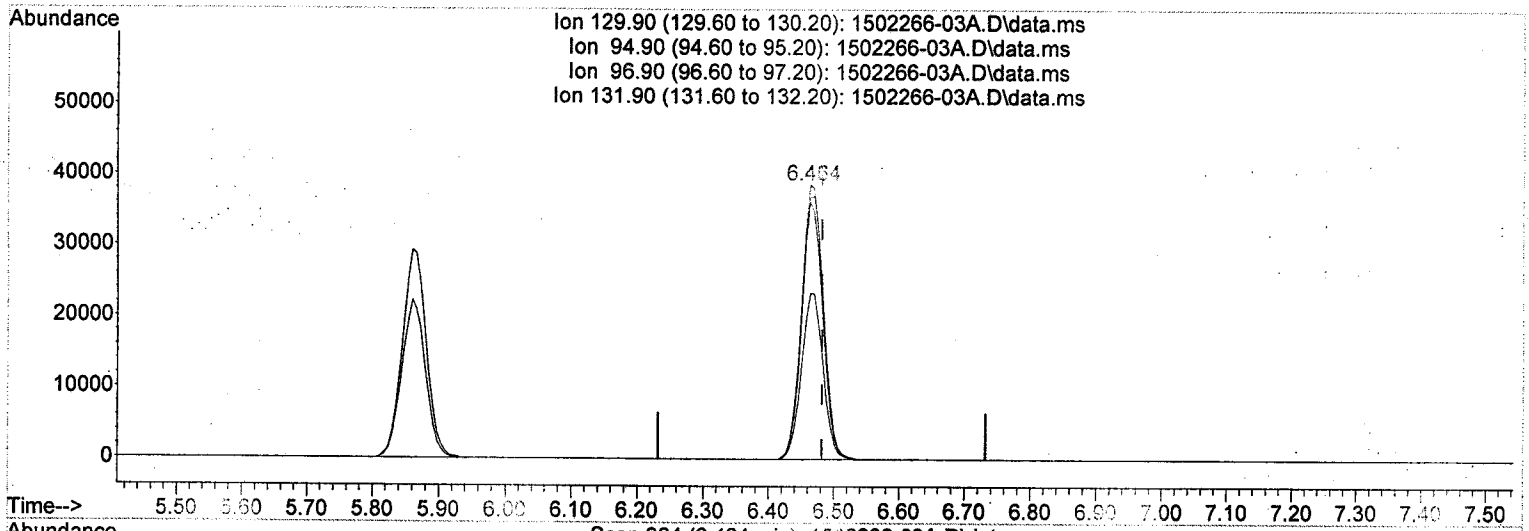
response 10208

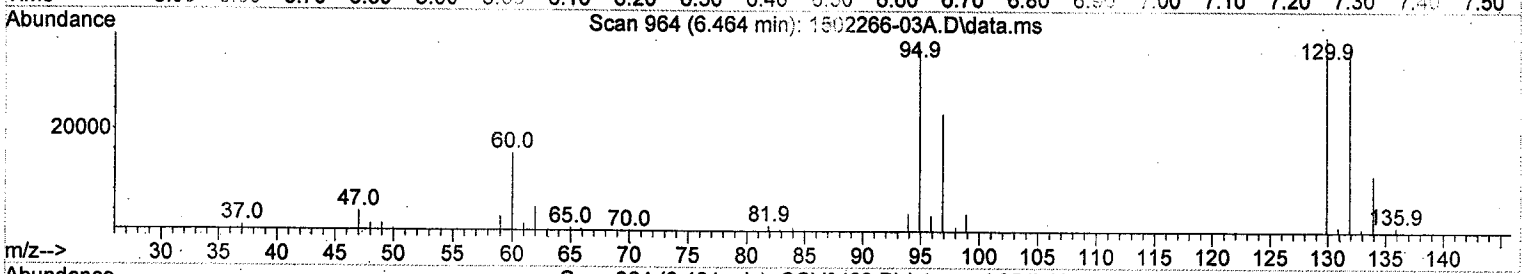
Ion	Exp%	Act%
95.90	100	100
61.00	141.00	125.66
97.90	64.70	63.07
0.00	0.00	0.00

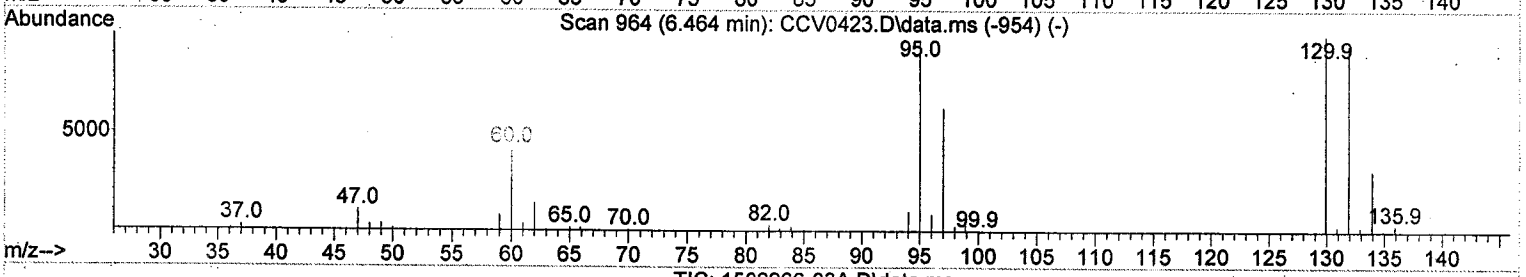
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-03A.D
Acq On : 19 Feb 2015 14:51
Operator : DLV
Sample : 1502266-03
Misc : CH2M HILL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 19 15:15:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration







TIC: 1502266-03A.D\data.ms

(38) trichloroethene

6.464min (-0.018) 11.09 ug/L

response 88510

Ion	Exp%	Act%
129.90	100	100
94.90	94.20	92.85
96.90	60.80	60.38
131.90	96.90	97.06

ORGANIC ANALYSIS DATA SHEET
USEPA-8260B

YS34-TB-021615

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1502266-04
File ID: 1502266-04.D
Sampled: 02/16/15 17:30
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 11:30
Solids:
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

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	38.7	97	85 - 115	
1,2-Dichloroethane-d4	40.0	40.1	100	70 - 120	
Toluene-d8	40.0	39.8	99	85 - 120	
4-Bromofluorobenzene	40.0	38.8	97	75 - 120	

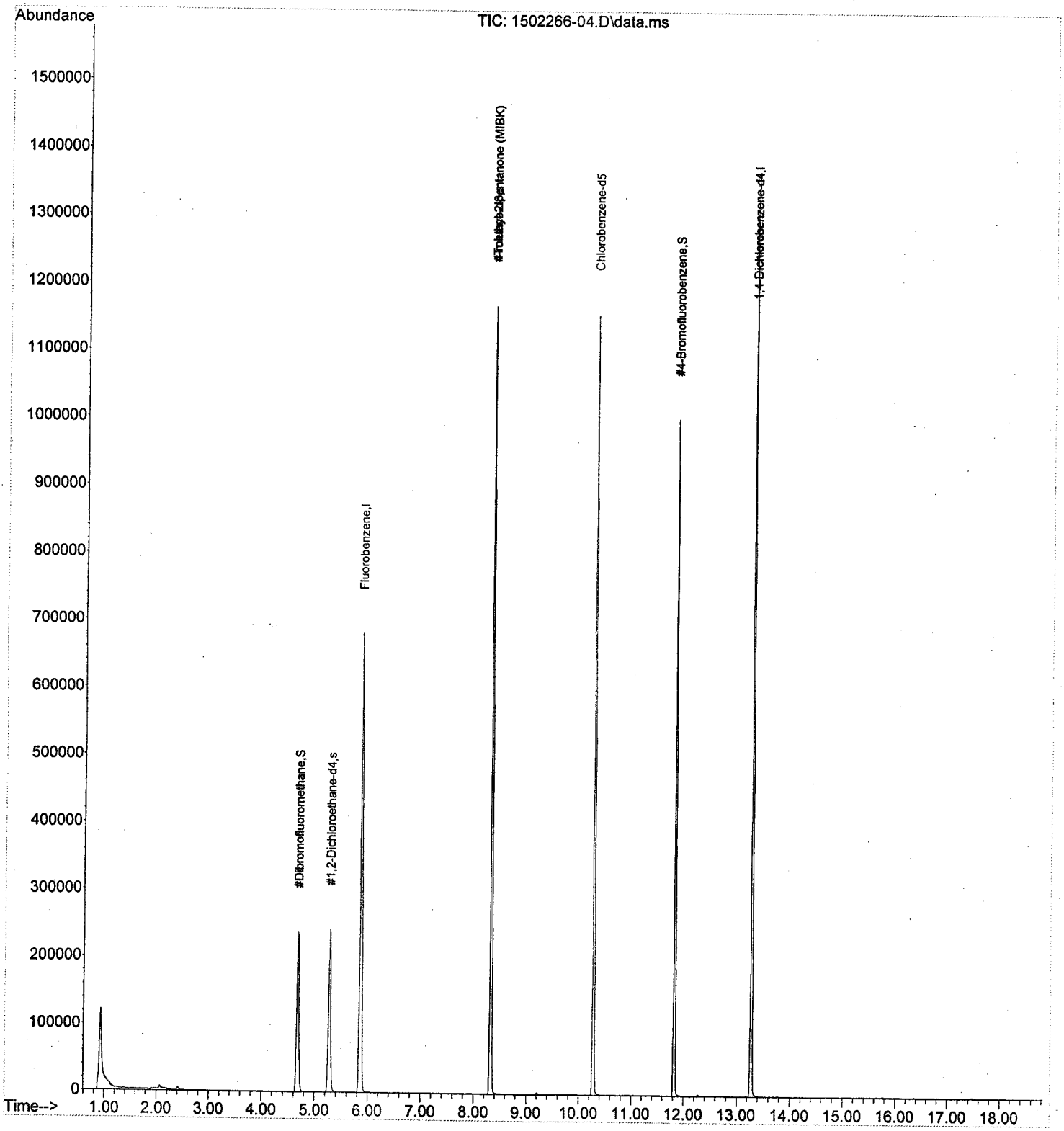
Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	845626	5.86	854305	5.879	
Chlorobenzene-d5	669646	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	352359	13.273	359463	13.286	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-04.D
Acq On : 19 Feb 2015 11:30
Operator : DLV
Sample : 1502266-04
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 19 12:02:07 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-04.D
Acq On : 19 Feb 2015 11:30
Operator : DLV
Sample : 1502266-04
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 19 12:02:07 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.860	96	845626	40.00 ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	669646	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	352359	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.677	111	211009	38.73 ug/L	-0.02
Spiked Amount 40.000			Recovery = 96.82%		
37) #1,2-Dichloroethane-d4	5.281	67	128901	40.09 ug/L	-0.02
Spiked Amount 40.000			Recovery = 100.23%		
47) #Toluene-d8	8.323	98	830441	39.77 ug/L	-0.01
Spiked Amount 40.000			Recovery = 99.43%		
65) #4-Bromofluorobenzene	11.822	95	332045	38.75 ug/L	-0.01
Spiked Amount 40.000			Recovery = 96.88%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	0.000		0	N.D.	
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	0.000		0	N.D.	
13) acetone	2.062	43	5970	Below Cal	94
14) iodomethane	0.000		0	N.D.	
15) carbon disulfide	0.000		0	N.D.	
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.410	49	3344	Below Cal	95
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	5.860	57	27155	No Calib	#
38) trichloroethene	0.000		0	N.D.	
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

00070

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : 1502266-04.D
Acq On : 19 Feb 2015 11:30
Operator : DLV
Sample : 1502266-04
Misc : CH2M HILL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 19 12:02:07 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	3108	0.47 ug/L #	1
48) toluene	0.000		0	N.D.	
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	0.000		0	N.D.	
52) tetrachloroethene	0.000		0	N.D.	
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	0.000		0	N.D.	
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	0.000		0	N.D.	
61) m+p-xylene	0.000		0	N.D.	
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	0.000		0	N.D.	
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	0.000		0	N.D.	
78) sec-butylbenzene	0.000		0	N.D.	
79) 1,3-dichlorobenzene	0.000		0	N.D.	
80) 4-isopropyltoluene	0.000		0	N.D.	
81) 1,4-dichlorobenzene	0.000		0	N.D.	
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	0.000		0	N.D.	
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	0.000		0	N.D.	
87) hexachlorobutadiene	0.000		0	N.D.	
88) naphthalene	0.000		0	N.D.	
89) 1,2,3-trichlorobenzene	0.000		0	N.D.	
90) 2-methylnaphthalene	0.000		0	N.D.	

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

TRIMATRIX
LABORATORIES

SECTION - C

STANDARDS 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.

INITIAL CALIBRATION STANDARDS

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration: 5B12010

Instrument: 328

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
5020346	8260 Tune Working Standard 02-09-15	5B12049-TUN1	BFB0211.D	02/11/15 09:01
5020573	1.0 ug/L A	5B12049-CAL1	1P0211.D	02/11/15 11:16
5020574	5.0 ug/L A	5B12049-CAL2	5P0211.D	02/11/15 11:45
5020575	10 ug/L A	5B12049-CAL3	10P0211.D	02/11/15 12:13
5020576	20 ug/L A	5B12049-CAL4	20P0211.D	02/11/15 12:42
5020577	40 ug/L A	5B12049-CAL5	40P0211.D	02/11/15 13:11
5020578	100 ug/L A	5B12049-CAL6	100P0211.D	02/11/15 13:39
5020579	200 ug/L A	5B12049-CAL7	200P0211.D	02/11/15 14:37
5010204	40 ug/L B	5B12049-SCV1	SCV0211.D	02/11/15 16:31
5010812	1.0 ug/L OXY	5B12049-CAL8	1X0211.D	02/11/15 17:57
5010813	5.0 ug/L OXY	5B12049-CAL9	5X0211.D	02/11/15 18:26
5010814	10 ug/L OXY	5B12049-CALA	10X0211.D	02/11/15 18:54
5010815	20 ug/L OXY	5B12049-CALB	20X0211.D	02/11/15 19:23
5010816	40 ug/L OXY	5B12049-CALC	40X0211.D	02/11/15 19:52
5010817	100 ug/L OXY	5B12049-CALD	100X0211.D	02/11/15 20:21
4120624	OXY SCV 12-10-14	5B12049-SCV2	SCVX0211.D	02/11/15 20:49

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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	~~0.3898305~~	5	0.1934257	10	0.1361697	20	0.1251978	40	0.1212096	100	0.1173466
Acrolein	1	3.470627E-02	5	2.794902E-02	10	2.963528E-02	20	2.944861E-02	40	2.739186E-02	100	2.989372E-02
Acrylonitrile	1	0.1588741	5	0.1444419	10	0.1421263	20	0.1546754	40	0.1468539	100	0.1454085
tert-Amyl Methyl Ether												
Benzene	1	1.557385	5	1.363868	10	1.32038	20	1.375001	40	1.343061	100	1.3237
Bromobenzene	1	1.465701	5	1.417141	10	1.327837	20	1.383608	40	1.356084	100	1.375228
Bromochloromethane	1	0.2838272	5	0.2677683	10	0.2533029	20	0.2689498	40	0.259185	100	0.2523121
Bromodichloromethane	1	0.3274848	5	0.3250472	10	0.3192537	20	0.3568211	40	0.3649329	100	0.3808536
Bromoform	1	0.1688483	5	0.1962854	10	0.1926623	20	0.2302477	40	0.2525416	100	0.2788576
Bromomethane	1	0.2453519	5	0.1335767	10	0.1162471	20	0.1068081	40	0.103792	100	8.556949E-02
n-Butylbenzene	1	2.628701	5	2.596865	10	2.486895	20	2.686542	40	2.577656	100	2.598819
sec-Butylbenzene	1	3.759667	5	3.627822	10	3.452459	20	3.680976	40	3.567816	100	3.598644
tert-Butylbenzene	1	2.705408	5	2.529478	10	2.42528	20	2.580993	40	2.51032	100	2.520274
Carbon Disulfide	1	0.9561238	5	0.7777547	10	0.7746919	20	0.7794102	40	0.9431257	100	1.003449
Carbon Tetrachloride	1	0.3752779	5	0.3478962	10	0.3452412	20	0.3767626	40	0.3947115	100	0.4142313
Chlorobenzene	1	1.307393	5	1.211713	10	1.130534	20	1.179404	40	1.146905	100	1.113136
Chloroethane	1	0.1931616	5	0.1545007	10	0.1496237	20	0.1511457	40	0.1493542	100	0.1501579
2-Chloroethyl Vinyl Ether	1	0.1295596	5	0.1468911	10	0.161148	20	0.1812213	40	0.2052581	100	0.2157383
Chloroform	1	0.6647586	5	0.5618427	10	0.5373536	20	0.5652057	40	0.5535634	100	0.5537145
1-Chlorohexane	1	0.5213198	5	0.4613107	10	0.4458764	20	0.4634591	40	0.4493359	100	0.4327037
Chloromethane	1	0.2162468	5	0.1872372	10	0.2026915	20	0.2334367	40	0.2420529	100	0.2785412
2-Chlorotoluene	1	0.9458918	5	0.8904438	10	0.8417018	20	0.8640493	40	0.8475893	100	0.8526476
4-Chlorotoluene	1	3.022624	5	2.967213	10	2.786478	20	2.926441	40	2.829855	100	2.833925
Cyclohexane	1	0.6570636	5	0.6264389	10	0.6211545	20	0.6493051	40	0.6409526	100	0.6354288
1,2-Dibromo-3-chloropropane	1	0.1731862	5	0.1873989	10	0.1890183	20	0.2218295	40	0.2372539	100	0.2657911
Dibromochloromethane	1	0.2592956	5	0.2961135	10	0.2801358	20	0.3313458	40	0.3523844	100	0.3724188
1,2-Dibromoethane	1	0.3312408	5	0.3414101	10	0.3326212	20	0.361323	40	0.3534037	100	0.3480482
Dibromomethane	1	0.2040499	5	0.1967921	10	0.1865103	20	0.2024072	40	0.1951938	100	0.1932139
trans-1,4-Dichloro-2-butene	1	0.1902045	5	0.2044308	10	0.1955971	20	0.2251691	40	0.2305995	100	0.251806
1,2-Dichlorobenzene	1	1.622619	5	1.592795	10	1.467965	20	1.547137	40	1.484008	100	1.486859
1,3-Dichlorobenzene	1	1.795931	5	1.708622	10	1.584407	20	1.660846	40	1.600218	100	1.599454

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
1,4-Dichlorobenzene	1	1.951723	5	1.766583	10	1.618166	20	1.676626	40	1.606393	100	1.582874
Dichlorodifluoromethane	1	0.3598355	5	0.3304999	10	0.3106289	20	0.3160037	40	0.3121719	100	0.3104894
1,1-Dichloroethane	1	0.619897	5	0.550645	10	0.5375998	20	0.5710087	40	0.5677317	100	0.5745819
1,2-Dichloroethane	1	0.4439053	5	0.4012946	10	0.384727	20	0.4064654	40	0.3926326	100	0.3856063
1,1-Dichloroethene	1	0.3548101	5	0.3086386	10	0.3032349	20	0.3099973	40	0.3006736	100	0.3081116
cis-1,2-Dichloroethene	1	0.3942277	5	0.3570076	10	0.3464079	20	0.3631786	40	0.3563002	100	0.3546784
trans-1,2-Dichloroethene	1	0.3679493	5	0.3210256	10	0.3116234	20	0.3268714	40	0.3226822	100	0.3203554
1,2-Dichloroethene (Total)	2	0.3810885	10	0.3390166	20	0.3290156	40	0.345025	80	0.3394912	200	0.3375169
Dichlorofluoromethane	1	0.5776003	5	0.4956641	10	0.4883766	20	0.5033234	40	0.4922457	100	0.5067541
1,2-Dichloropropane	1	0.3338189	5	0.3190199	10	0.3090143	20	0.3297209	40	0.3254458	100	0.3254988
1,3-Dichloropropane	1	0.7020813	5	0.6723897	10	0.6324654	20	0.6782775	40	0.655624	100	0.637665
2,2-Dichloropropane	1	0.3116236	5	0.2745615	10	0.2776511	20	0.3044508	40	0.3195159	100	0.3443667
1,1-Dichloropropene	1	0.4977183	5	0.4447351	10	0.4390945	20	0.4596129	40	0.4559718	100	0.4549483
cis-1,3-Dichloropropene	1	0.2984844	5	0.3363054	10	0.3493123	20	0.4083998	40	0.4371682	100	0.4658766
trans-1,3-Dichloropropene	1	0.2001238	5	0.2328749	10	0.2433736	20	0.3018991	40	0.3318862	100	0.3693779
Ethylbenzene	1	2.218588	5	2.060761	10	1.989971	20	2.060498	40	2.005216	100	1.936051
Ethyl Ether	1	0.1912248	5	0.1657791	10	0.1632451	20	0.1737526	40	0.1644085	100	0.1685009
Ethyl tert-Butyl Ether												
Hexachlorobutadiene	1	0.5118002	5	0.4564888	10	0.4241695	20	0.4713518	40	0.4543694	100	0.4627868
2-Hexanone	1	~~0.2038558~~	5	0.2293706	10	0.2502928	20	0.2815384	40	0.3077933	100	0.3080372
Iodomethane	1	0.5336286	5	0.4165744	10	0.4124178	20	0.421916	40	0.4825068	100	0.5083838
Isopropylbenzene	1	3.756663	5	3.614234	10	3.503021	20	3.665804	40	3.614734	100	3.686475
Isopropyl Ether												
4-Isopropyltoluene	1	3.303426	5	3.089977	10	2.952921	20	3.13843	40	3.028011	100	3.034653
Methyl Acetate	1	0.2929879	5	0.25905	10	0.2535835	20	0.2729274	40	0.260455	100	0.2021853
Methyl tert-Butyl Ether	1	0.8672904	5	0.7937702	10	0.7786498	20	0.8498409	40	0.8357601	100	0.8522051
Methylcyclohexane	1	0.6452854	5	0.6211575	10	0.6147893	20	0.6468188	40	0.63217	100	0.6294624
Methylene Chloride	1	0.8075097	5	0.4754961	10	0.4193294	20	0.4235526	40	0.409417	100	0.4058289
2-Butanone (MEK)	1	0.161125	5	0.1516584	10	0.155029	20	0.1614565	40	0.1659372	100	0.1656827
4-Methyl-2-pentanone (MIBK)	1	~~0.2349348~~	5	0.2819696	10	0.2935665	20	0.3116605	40	0.3384985	100	0.3391913
Naphthalene	1	1.733614	5	1.822128	10	1.86887	20	2.056946	40	2.016722	100	2.080738

INITIAL CALIBRATION DATA
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
n-Propylbenzene	1	1.05601	5	1.002012	10	0.9681814	20	1.02165	40	0.995012	100	1.000775
Styrene	1	1.148594	5	1.242598	10	1.186502	20	1.268506	40	1.23228	100	1.183958
t-Butanol												
1,1,1,2-Tetrachloroethane	1	0.2943031	5	0.3090372	10	0.3041049	20	0.3410383	40	0.3522885	100	0.3602935
1,1,2,2-Tetrachloroethane	1	0.9601572	5	0.9539307	10	0.8847965	20	0.9161297	40	0.8652657	100	0.8829323
Tetrachloroethene	1	0.593864	5	0.5115937	10	0.4930609	20	0.5084878	40	0.5	100	0.4870952
Tetrahydrofuran	1	3.491566E-02	5	3.754421E-02	10	0.0392249	20	4.337642E-02	40	4.278683E-02	100	0.0433885
Toluene	1	1.612402	5	1.439168	10	1.392957	20	1.434937	40	1.41059	100	1.380715
1,2,3-Trichlorobenzene	1	0.9298746	5	0.8942233	10	0.8541932	20	0.9228262	40	0.8893933	100	0.9219616
1,2,4-Trichlorobenzene	1	1.027855	5	1.00139	10	0.9512848	20	1.046882	40	1.020992	100	1.059237
1,1,1-Trichloroethane	1	0.4486689	5	0.3978678	10	0.4059344	20	0.4386037	40	0.4485599	100	0.4659731
1,1,2-Trichloroethane	1	0.2546174	5	0.2477313	10	0.2268773	20	0.2442075	40	0.2373824	100	0.2332101
Trichloroethene	1	0.4136485	5	0.3616137	10	0.3509073	20	0.3673983	40	0.3705316	100	0.3697743
Trichlorofluoromethane	1	0.5232115	5	0.458634	10	0.4391584	20	0.4391121	40	0.4265994	100	0.4226195
1,2,3-Trichloropropane	1	0.2940661	5	0.2968864	10	0.2742145	20	0.2855528	40	0.2741868	100	0.275116
1,1,2-Trichloro-1,2,2-trifluoroe	1	0.4333311	5	0.3828904	10	0.3770967	20	0.381101	40	0.366773	100	0.3674238
1,2,4-Trimethylbenzene	1	2.839928	5	2.878226	10	2.761869	20	2.894978	40	2.814537	100	2.842153
1,3,5-Trimethylbenzene	1	3.101334	5	3.049741	10	2.892497	20	3.028284	40	2.947989	100	2.966267
Vinyl Acetate	1	0.4785592	5	0.4795479	10	0.5362115	20	0.535636	40	0.535063	100	0.5656192
Vinyl Chloride	1	0.401661	5	0.3370915	10	0.3314278	20	0.337727	40	0.3281545	100	0.3446428
Xylene, Meta + Para	2	0.8351899	10	0.7922712	20	0.7644107	40	0.7964894	80	0.7707658	200	0.727517
Xylene, Ortho	1	0.7446761	5	0.7376189	10	0.7122088	20	0.7508603	40	0.7337369	100	0.7101689
Xylene (Total)	3	0.8050186	15	0.7740538	30	0.7470101	60	0.7812797	120	0.7584229	300	0.7217343
Dichlorobenzenes (Total)	3	1.790091	15	1.689333	30	1.556846	60	1.628203	120	1.56354	300	1.556396
Dibromofluoromethane	40	0.2524764	40	0.2560805	40	0.2560806	40	0.2586813	40	0.2598732	40	0.2608655
1,2-Dichloroethane-d4	40	0.1523673	40	0.1526852	40	0.1523189	40	0.1527374	40	0.1520183	40	0.1522211
Toluene-d8	40	0.9813827	40	0.9860255	40	0.9885643	40	0.9911598	40	0.9907808	40	0.9891858
4-Bromofluorobenzene	40	0.5117477	40	0.5115825	40	0.5156145	40	0.5173111	40	0.5153942	40	0.5061098

INITIAL CALIBRATION DATA (Continued)
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Calibration: 5B12010

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Calibration Date: 02/11/15 00:00
Instrument: 328

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	0.1145579										
Acrolein	200	3.213451E-02										
Acrylonitrile	200	0.1444483										
tert-Amyl Methyl Ether			1	0.566821	5	0.5589481	10	0.5924367	20	0.5927862	40	0.6199926
Benzene	200	1.300795										
Bromobenzene	200	1.394123										
Bromochloromethane	200	0.2484819										
Bromodichloromethane	200	0.3816945										
Bromoform	200	0.2881644										
Bromomethane	200	~~5.315986E-02~~										
n-Butylbenzene	200	2.635694										
sec-Butylbenzene	200	3.635037										
tert-Butylbenzene	200	2.531929										
Carbon Disulfide	200	1.002941										
Carbon Tetrachloride	200	0.4246732										
Chlorobenzene	200	1.081618										
Chloroethane	200	0.1375545										
2-Chloroethyl Vinyl Ether	200	0.211484										
Chloroform	200	0.5494599										
1-Chlorohexane	200	0.4250359										
Chloromethane	200	0.3041332										
2-Chlorotoluene	200	0.8529435										
4-Chlorotoluene	200	2.810061										
Cyclohexane	200	0.630088										
1,2-Dibromo-3-chloropropane	200	0.2840988										
Dibromochloromethane	200	0.3784881										
1,2-Dibromoethane	200	0.3403761										
Dibromomethane	200	0.1893338										
trans-1,4-Dichloro-2-butene	200	0.2614516										
1,2-Dichlorobenzene	200	1.492911										
1,3-Dichlorobenzene	200	1.604687										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
1,4-Dichlorobenzene	200	1.559249										
Dichlorodifluoromethane	200	0.3191763										
1,1-Dichloroethane	200	0.5772969										
1,2-Dichloroethane	200	0.3763774										
1,1-Dichloroethene	200	0.3104162										
cis-1,2-Dichloroethene	200	0.3520766										
trans-1,2-Dichloroethene	200	0.3183503										
1,2-Dichloroethene (Total)	400	0.3352135										
Dichlorofluoromethane	200	0.5139173										
1,2-Dichloropropane	200	0.3199502										
1,3-Dichloropropane	200	0.6228001										
2,2-Dichloropropane	200	0.3470118										
1,1-Dichloropropene	200	0.4531999										
cis-1,3-Dichloropropene	200	0.4696909										
trans-1,3-Dichloropropene	200	0.3767005										
Ethylbenzene	200	1.866105										
Ethyl Ether	200	0.1663914										
Ethyl tert-Butyl Ether			1	0.7203208	5	0.7005392	10	0.7326622	20	0.7242343	40	0.751672
Hexachlorobutadiene	200	0.4748085										
2-Hexanone	200	0.2942269										
Iodomethane	200	0.4946698										
Isopropylbenzene	200	3.713359										
Isopropyl Ether			1	0.911773	5	0.8759777	10	0.9162975	20	0.892212	40	0.925977
4-Isopropyltoluene	200	3.003186										
Methyl Acetate	200	0.2015083										
Methyl tert-Butyl Ether	200	0.8434947	1		5		10		20		40	
Methylcyclohexane	200	0.6200673										
Methylene Chloride	200	0.3982197										
2-Butanone (MEK)	200	0.1586356										
4-Methyl-2-pentanone (MIBK)	200	0.3223415										
Naphthalene	200	2.147883										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

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
n-Propylbenzene	200	0.998621										
Styrene	200	1.129881										
t-Butanol			5	1.850583E-02	25	1.851653E-02	50	1.924914E-02	100	1.997308E-02	200	2.054648E-02
1,1,1,2-Tetrachloroethane	200	0.3581169										
1,1,2,2-Tetrachloroethane	200	0.8600081										
Tetrachloroethene	200	0.474367										
Tetrahydrofuran	200	4.364811E-02										
Toluene	200	1.33467										
1,2,3-Trichlorobenzene	200	0.9481535										
1,2,4-Trichlorobenzene	200	1.086888										
1,1,1-Trichloroethane	200	0.4746712										
1,1,2-Trichloroethane	200	0.2260914										
Trichloroethene	200	0.3747351										
Trichlorofluoromethane	200	0.4313994										
1,2,3-Trichloropropane	200	0.2780459										
1,1,2-Trichloro-1,2,2-trifluoroe	200	0.3651303										
1,2,4-Trimethylbenzene	200	2.863922										
1,3,5-Trimethylbenzene	200	2.925222										
Vinyl Acetate	200	0.4440132										
Vinyl Chloride	200	0.3576768										
Xylene, Meta + Para	400	0.6646692										
Xylene, Ortho	200	0.6802237										
Xylene (Total)	600	0.6698541										
Dichlorobenzenes (Total)	600	1.552282										
Dibromofluoromethane	40	0.2598038	40	~~0.2470074~~	40	~~0.2459703~~	40	~~0.2446365~~	40	~~0.2436148~~	40	~~0.2423292~~
1,2-Dichloroethane-d4	40	0.1503434	40	~~0.1509993~~	40	~~0.1500506~~	40	~~0.1518395~~	40	~~0.1505725~~	40	~~0.1503765~~
Toluene-d8	40	0.9873948	40	~~0.9833324~~	40	~~0.9770907~~	40	~~0.977977~~	40	~~0.9730595~~	40	~~0.9804122~~
4-Bromofluorobenzene	40	0.5054969	40	~~0.5056283~~	40	~~0.5076771~~	40	~~0.5064143~~	40	~~0.5070891~~	40	~~0.5068406~~

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone												
Acrolein												
Acrylonitrile												
tert-Amyl Methyl Ether	100	0.6334605										
Benzene												
Bromobenzene												
Bromochloromethane												
Bromodichloromethane												
Bromoform												
Bromomethane												
n-Butylbenzene												
sec-Butylbenzene												
tert-Butylbenzene												
Carbon Disulfide												
Carbon Tetrachloride												
Chlorobenzene												
Chloroethane												
2-Chloroethyl Vinyl Ether												
Chloroform												
1-Chlorohexane												
Chloromethane												
2-Chlorotoluene												
4-Chlorotoluene												
Cyclohexane												
1,2-Dibromo-3-chloropropane												
Dibromochloromethane												
1,2-Dibromoethane												
Dibromomethane												
trans-1,4-Dichloro-2-butene												
1,2-Dichlorobenzene												
1,3-Dichlorobenzene												

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,4-Dichlorobenzene												
Dichlorodifluoromethane												
1,1-Dichloroethane												
1,2-Dichloroethane												
1,1-Dichloroethene												
cis-1,2-Dichloroethene												
trans-1,2-Dichloroethene												
1,2-Dichloroethene (Total)												
Dichlorofluoromethane												
1,2-Dichloropropane												
1,3-Dichloropropane												
2,2-Dichloropropane												
1,1-Dichloropropene												
cis-1,3-Dichloropropene												
trans-1,3-Dichloropropene												
Ethylbenzene												
Ethyl Ether												
Ethyl tert-Butyl Ether	100	0.7540117										
Hexachlorobutadiene												
2-Hexanone												
Iodomethane												
Isopropylbenzene												
Isopropyl Ether	100	0.9088777										
4-Isopropyltoluene												
Methyl Acetate												
Methyl tert-Butyl Ether	100											
Methylcyclohexane												
Methylene Chloride												
2-Butanone (MEK)												
4-Methyl-2-pentanone (MIBK)												
Naphthalene												

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
n-Propylbenzene												
Styrene												
t-Butanol	500	0.021282										
1,1,1,2-Tetrachloroethane												
1,1,2,2-Tetrachloroethane												
Tetrachloroethene												
Tetrahydrofuran												
Toluene												
1,2,3-Trichlorobenzene												
1,2,4-Trichlorobenzene												
1,1,1-Trichloroethane												
1,1,2-Trichloroethane												
Trichloroethene												
Trichlorofluoromethane												
1,2,3-Trichloropropane												
1,1,2-Trichloro-1,2,2-trifluoroe												
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
Vinyl Acetate												
Vinyl Chloride												
Xylene, Meta + Para												
Xylene, Ortho												
Xylene (Total)												
Dichlorobenzenes (Total)												
Dibromofluoromethane	40	~~0.2409916~~										
1,2-Dichloroethane-d4	40	~~0.1510886~~										
Toluene-d8	40	~~0.9817011~~										
4-Bromofluorobenzene	40	~~0.5093157~~										

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Acetone	0.1346512	22.10577	2.074	6.560203E-03	0.99991		0.99	
Acrolein	3.016561E-02	8.339398	1.946857	0.1177098			15	
Acrylonitrile	0.1481183	4.184705	2.685714	0.1082934			15	
tert-Amyl Methyl Ether	0.5940742	4.880941	5.622167	1.316926E-02			15	
Benzene	1.36917	6.345658	5.342	1.170271E-02			15	
Bromobenzene	1.388532	3.186037	11.98786	2.778334E-02			15	
Bromochloromethane	0.2619753	4.721929	4.245857	5.036019E-02			15	
Bromodichloromethane	0.3508697	7.625905	7.335571	8.321737E-03			15	
Bromoform	0.2296582	19.91255	11.414	1.504978E-02	0.99944		SPCC (0.1)	
Bromomethane	0.1318909	43.79935	1.398	7.377879E-03		0.9998178	0.99	
n-Butylbenzene	2.601596	2.373286	13.804	0.0104315			15	
sec-Butylbenzene	3.617489	2.639844	13.09143	1.342767E-02			15	
tert-Butylbenzene	2.543383	3.350352	12.81257	3.191695E-02			15	
Carbon Disulfide	0.8910709	12.20259	2.16	1.332006E-02			15	
Carbon Tetrachloride	0.3826848	7.986811	4.915	3.81499E-03			15	
Chlorobenzene	1.167243	6.428999	10.32386	2.675306E-02			SPCC (0.3)	
Chloroethane	0.1550712	11.35386	1.463286	0.2010874			15	
2-Chloroethyl Vinyl Ether	0.1787572	18.96109	7.866	5.71046E-03	0.99967		0.99	
Chloroform	0.5694141	7.550053	4.415	2.351095E-02			CCC (30)	
1-Chlorohexane	0.4570059	6.91484	10.36171	3.033886E-02			15	
Chloromethane	0.2377628	17.46898	1.173714	0.2500776	0.99780		SPCC (0.1)	
2-Chlorotoluene	0.8707524	4.220664	12.25243	2.840637E-02			15	
4-Chlorotoluene	2.882371	3.114108	12.40186	1.211141E-02			15	
Cyclohexane	0.6372045	2.007867	4.680429	7.108779E-02			15	
1,2-Dibromo-3-chloropropane	0.2226538	18.94114	14.773	1.775763E-02	0.99868		0.99	
Dibromochloromethane	0.3243117	14.38615	9.561	1.240984E-02			15	
1,2-Dibromoethane	0.3440604	3.177195	9.664	2.085872E-02			15	
Dibromomethane	0.1953573	3.280967	7.038714	0.0399234			15	
trans-1,4-Dichloro-2-butene	0.2227512	12.35121	12.17086	2.085974E-02			15	
1,2-Dichlorobenzene	1.527756	3.961742	13.76871	1.620491E-02			15	
1,3-Dichlorobenzene	1.650595	4.708215	13.19486	0.0259139			15	
1,4-Dichlorobenzene	1.680231	8.225105	13.31343	0.0259413			15	

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
Dichlorodifluoromethane	0.3226865	5.518719	1.013857	3.525033E-02			15	
1,1-Dichloroethane	0.5712516	4.510551	3.120429	0.101597			SPCC (0.1)	
1,2-Dichloroethane	0.3987155	5.619703	5.442286	6.339248E-02			15	
1,1-Dichloroethene	0.3136975	5.893208	1.995	9.982982E-03			CCC (30)	
cis-1,2-Dichloroethene	0.3605539	4.352983	3.879	1.258776E-02			15	
trans-1,2-Dichloroethene	0.3269797	5.703263	2.659857	2.082056E-02			15	
1,2-Dichloroethene (Total)	0.3437668	4.989458	3.879	1.258776E-02			15	
Dichlorofluoromethane	0.5111259	5.987605	1.599	1.963815E-02			15	
1,2-Dichloropropane	0.3232098	2.509975	6.857429	4.587318E-02			CCC (30)	
1,3-Dichloropropane	0.657329	4.333491	9.271429	3.812178E-02			15	
2,2-Dichloropropane	0.3113116	9.240568	3.853571	5.182609E-02			15	
1,1-Dichloropropene	0.4578973	4.133944	4.951143	4.206556E-02			15	
cis-1,3-Dichloropropene	0.3950339	17.10904	8.004285	4.021929E-02	0.99983		0.99	
trans-1,3-Dichloropropene	0.293748	23.72051	8.829	1.331006E-02	0.99955		0.99	
Ethylbenzene	2.019599	5.520738	10.496	3.451332E-02			CCC (30)	
Ethyl Ether	0.1704718	5.732542	1.836857	1.013214E-02			15	
Ethyl tert-Butyl Ether	0.7305734	2.769023	3.684	1.848113E-02			15	
Hexachlorobutadiene	0.4651107	5.67773	16.00486	1.776995E-02			15	
2-Hexanone	0.2785432	11.5738	9.464	3.176251E-02			15	
Iodomethane	0.4671567	10.59994	2.121286	0.138808			15	
Isopropylbenzene	3.650613	2.266982	11.65286	2.823066E-02			15	
Isopropyl Ether	0.9051858	1.997229	3.213	7.566515E-02			15	
4-Isopropyltoluene	3.078658	3.756031	13.292	1.210823E-02			15	
Methyl Acetate	0.2489568	13.92196	2.341857	0.1120555			15	
Methyl tert-Butyl Ether	0.831573	3.935063	2.672	8.614171E-03			15	
Methylcyclohexane	0.6299644	1.975991	6.717429	5.043494E-02			15	
Methylene Chloride	0.4770505	31.00467	2.416857	9.573029E-02	0.99994		0.99	
2-Butanone (MEK)	0.1599321	3.299237	3.968286	0.1147403			15	
4-Methyl-2-pentanone (MIBK)	0.314538	7.458176	8.294	2.050141E-02			15	
Naphthalene	1.960986	7.818749	16.07271	1.537812E-02			15	
n-Propylbenzene	1.006037	2.690096	12.17771	2.945771E-02			15	
Styrene	1.198903	4.244894	11.19543	2.109438E-02			15	

INITIAL CALIBRATION DATA (Continued)

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Calibration: 5B12010

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Calibration Date: 02/11/15 00:00

Instrument: 328

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	Limit	Q
t-Butanol	1.967884E-02	5.713616	2.576	0.1905799			15	
1,1,1,2-Tetrachloroethane	0.3313118	8.446838	10.46386	1.695208E-02			15	
1,1,2,2-Tetrachloroethane	0.9033172	4.528203	12.09957	3.287924E-02			SPCC (0.3)	
Tetrachloroethene	0.5097812	7.689193	9.152858	1.902943E-02			15	
Tetrahydrofuran	0.0406978	8.57248	4.318857	0.1688485			15	
Toluene	1.429348	6.16841	8.428714	3.424673E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.9086608	3.460867	16.37629	1.666687E-02			15	
1,2,4-Trichlorobenzene	1.02779	4.248909	15.77814	1.749859E-02			15	
1,1,1-Trichloroethane	0.4400399	6.535666	4.641	1.288613E-02			15	
1,1,2-Trichloroethane	0.2385882	4.513551	9.066143	2.060384E-02			15	
Trichloroethene	0.3726584	5.276736	6.482	1.415482E-02			15	
Trichlorofluoromethane	0.4486763	7.774971	1.623	1.266012E-02			15	
1,2,3-Trichloropropane	0.2825812	3.425329	12.11929	3.319715E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3819638	6.222503	1.995	9.982982E-03			15	
1,2,4-Trimethylbenzene	2.84223	1.558898	12.87871	1.869921E-02			15	
1,3,5-Trimethylbenzene	2.987333	2.497956	12.41743	3.415761E-02			15	
Vinyl Acetate	0.5106643	8.510587	3.216714	0.1061236			15	
Vinyl Chloride	0.3483402	7.297045	1.19	8.220071E-03			CCC (30)	
Xylene, Meta + Para	0.7644733	7.197448	10.65971	2.773188E-02			15	
Xylene, Ortho	0.7242134	3.417635	11.16229	2.693757E-02			15	
Xylene (Total)	0.7510534	5.924256	11.16229	2.693757E-02			15	
Dichlorobenzenes (Total)	1.619527	5.614674	13.76871	1.620491E-02			15	
Dibromofluoromethane	0.2576945	1.149685	4.696857	0.0515504			15	
1,2-Dichloroethane-d4	0.1520988	0.5352109	5.300714	5.554391E-02			15	
Toluene-d8	0.9877848	0.3386822	8.335857	3.460741E-02			15	
4-Bromofluorobenzene	0.5118938	0.9091077	11.835	1.897278E-02			15	

Response Factor Report 328

Oxy 5B12010 (5B12049)
TCLP 5B18001 (5B18003)
AIX 5B18002 (5B18004 5B18005)

Method Path : C:\msdchem\1\METHODS\
Method File : 8260-WN42.M
Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
Last Update : Thu Feb 12 08:00:43 2015
Response Via : Initial Calibration

Calibration Files
1 =1P0211.D 2 =5P0211.D 3 =10P0211.D 4 =20P0211.D 5 =40P0211.D 6 =100P0211.D 7 =200P0211.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------								
2)		dichlorodifluo...	0.360	0.330	0.311	0.316	0.312	0.310	0.319	0.323	5.52
3)	P	chloromethane	0.216	0.187	0.203	0.233	0.242	0.279	0.304	0.238	17.47
4)	C	vinyl chloride	0.402	0.337	0.331	0.338	0.328	0.345	0.358	0.348	7.30#
5)		bromomethane	0.245	0.134	0.116	0.107	0.104	0.086		0.132	43.80
6)		chloroethane	0.193	0.155	0.150	0.151	0.149	0.150	0.138	0.155	11.35
7)		dichlorofluoro...	0.578	0.496	0.488	0.503	0.492	0.507	0.514	0.511	5.99
8)		trichlorofluor...	0.523	0.459	0.439	0.439	0.427	0.423	0.431	0.449	7.77
9)		ethyl ether	0.191	0.166	0.163	0.174	0.164	0.169	0.166	0.170	5.73
10)		acrolein	0.035	0.028	0.030	0.029	0.027	0.030	0.032	0.030	8.34
11)		1,1,2-trichlor...	0.433	0.383	0.377	0.381	0.367	0.367	0.365	0.382	6.22
12)	C	1,1-dichloroet...	0.355	0.309	0.303	0.310	0.301	0.308	0.310	0.314	5.89#
13)		acetone		0.193	0.136	0.125	0.121	0.117	0.115	0.135	22.11
14)		iodomethane	0.534	0.417	0.412	0.422	0.483	0.508	0.495	0.467	10.60
15)		carbon disulfide	0.956	0.778	0.775	0.779	0.943	1.003	1.003	0.891	12.20
16)		methyl acetate	0.293	0.259	0.254	0.273	0.260	0.202	0.202	0.249	13.92
17)		methylene chlo...	0.808	0.475	0.419	0.424	0.409	0.406	0.398	0.477	31.00
18)		acrylonitrile	0.159	0.144	0.142	0.155	0.147	0.145	0.144	0.148	4.18
19)		trans-1,2-dich...	0.368	0.321	0.312	0.327	0.323	0.320	0.318	0.327	5.70
20)		methyl (tert) ...	0.867	0.794	0.779	0.850	0.836	0.852	0.843	0.832	3.94
21)	P	1,1-dichloroet...	0.620	0.551	0.538	0.571	0.568	0.575	0.577	0.571	4.51
22)		vinyl acetate	0.479	0.480	0.536	0.536	0.535	0.566	0.444	0.511	8.51
23)		2,2-dichloropr...	0.312	0.275	0.278	0.304	0.320	0.344	0.347	0.311	9.24
24)		cis-1,2-dichlo...	0.394	0.357	0.346	0.363	0.356	0.355	0.352	0.361	4.35
25)		2-butanone (MEK)	0.161	0.152	0.155	0.161	0.166	0.166	0.159	0.160	3.30
26)		bromochloromet...	0.284	0.268	0.253	0.269	0.259	0.252	0.248	0.262	4.72
27)		tetrahydrofuran	0.035	0.038	0.039	0.043	0.043	0.043	0.044	0.041	8.57
28)	C	chloroform	0.665	0.562	0.537	0.565	0.554	0.554	0.549	0.569	7.55#
29)	S	#Dibromofluoro...	0.252	0.256	0.256	0.259	0.260	0.261	0.260	0.258	1.15
30)		1,1,1-trichlor...	0.449	0.398	0.406	0.439	0.449	0.466	0.475	0.440	6.54
31)		cyclohexane	0.657	0.626	0.621	0.649	0.641	0.635	0.630	0.637	2.01
32)		carbon tetrach...	0.375	0.348	0.345	0.377	0.395	0.414	0.425	0.383	7.99
33)		1,1-dichloropr...	0.498	0.445	0.439	0.460	0.456	0.455	0.453	0.458	4.13
34)		benzene	1.557	1.364	1.320	1.375	1.343	1.324	1.301	1.369	6.35
35)		1,2-dichloroet...	0.444	0.401	0.385	0.406	0.393	0.386	0.376	0.399	5.62
36)		heptane								0.000	-1.00
37)	s	#1,2-Dichloroe...	0.152	0.153	0.152	0.153	0.152	0.152	0.150	0.152	0.54
38)		trichloroethene	0.414	0.362	0.351	0.367	0.371	0.370	0.375	0.373	5.28
39)		methylcyclohexane	0.645	0.621	0.615	0.647	0.632	0.629	0.620	0.630	1.98
40)	C	1,2-dichloropr...	0.334	0.319	0.309	0.330	0.325	0.325	0.320	0.323	2.51#
41)		dibromomethane	0.204	0.197	0.187	0.202	0.195	0.193	0.189	0.195	3.28

LCW 2-19-15

Method Path : C:\msdchem\1\METHODS\
Method File : 8260-WN42.M

42)		1,4-dioxane								0.000	-1.00
43)		bromodichlorom...	0.327	0.325	0.319	0.357	0.365	0.381	0.382	0.351	7.63
44)		2-chloroethyl ...	0.130	0.147	0.161	0.181	0.205	0.216	0.211	0.179	18.96
45)		cis-1,3-dichlo...	0.298	0.336	0.349	0.408	0.437	0.466	0.470	0.395	17.11
46)		4-methyl-2-pen...		0.282	0.294	0.312	0.338	0.339	0.322	0.315	7.46
47)	s	#Toluene-d8	0.981	0.986	0.989	0.991	0.991	0.989	0.987	0.988	0.34
48)	C	toluene	1.612	1.439	1.393	1.435	1.411	1.381	1.335	1.429	6.17#
49)		trans-1,3-dich...	0.200	0.233	0.243	0.302	0.332	0.369	0.377	0.294	23.72
50)		1,1,2-trichlor...	0.255	0.248	0.227	0.244	0.237	0.233	0.226	0.239	4.51
51)		Chlorobenzene-d5	----------	ISTD	----------						
52)		tetrachloroethene	0.594	0.512	0.493	0.508	0.500	0.487	0.474	0.510	7.69
53)		1,3-dichloropr...	0.702	0.672	0.632	0.678	0.656	0.638	0.623	0.657	4.33
54)		2-hexanone (MBK)		0.229	0.250	0.282	0.308	0.308	0.294	0.279	11.57
55)		dibromochlorom...	0.259	0.296	0.280	0.331	0.352	0.372	0.378	0.324	14.39
56)		1,2-dibromoethane	0.331	0.341	0.333	0.361	0.353	0.348	0.340	0.344	3.18
57)	P	chlorobenzene	1.307	1.212	1.131	1.179	1.147	1.113	1.082	1.167	6.43
58)		1-chlorohexane	0.521	0.461	0.446	0.463	0.449	0.433	0.425	0.457	6.91
59)		1,1,1,2-tetrac...	0.294	0.309	0.304	0.341	0.352	0.360	0.358	0.331	8.45
60)	C	ethylbenzene	2.219	2.061	1.990	2.060	2.005	1.936	1.866	2.020	5.52#
61)		m+p-xylene	0.835	0.792	0.764	0.796	0.771	0.728	0.665	0.764	7.20
62)		o-xylene	0.745	0.738	0.712	0.751	0.734	0.710	0.680	0.724	3.42
63)		styrene	1.149	1.243	1.187	1.269	1.232	1.184	1.130	1.199	4.24
64)	P	bromoform	0.169	0.196	0.193	0.230	0.253	0.279	0.288	0.230	19.91
65)	S	#4-Bromofluoro...	0.512	0.512	0.516	0.517	0.515	0.506	0.505	0.512	0.91
66)	I	1,4-Dichlorobenzen...	----------	ISTD	----------						
67)		isopropylbenzene	3.757	3.614	3.503	3.666	3.615	3.686	3.713	3.651	2.27
68)		bromobenzene	1.466	1.417	1.328	1.384	1.356	1.375	1.394	1.389	3.19
69)	P	1,1,2,2-tetrac...	0.960	0.954	0.885	0.916	0.865	0.883	0.860	0.903	4.53
70)		1,2,3-trichlor...	0.294	0.297	0.274	0.286	0.274	0.275	0.278	0.283	3.43
71)		1,4-dichloro-2...	0.190	0.204	0.196	0.225	0.231	0.252	0.261	0.223	12.35
72)		n-propylbenzene	1.056	1.002	0.968	1.022	0.995	1.001	0.999	1.006	2.69
73)		2-chlorotoluene	0.946	0.890	0.842	0.864	0.848	0.853	0.853	0.871	4.22
74)		1,3,5-trimethy...	3.101	3.050	2.892	3.028	2.948	2.966	2.925	2.987	2.50
75)		4-chlorotoluene	3.023	2.967	2.786	2.926	2.830	2.834	2.810	2.882	3.11
76)		tert-butylbenzene	2.705	2.529	2.425	2.581	2.510	2.520	2.532	2.543	3.35
77)		1,2,4-trimethy...	2.840	2.878	2.762	2.895	2.815	2.842	2.864	2.842	1.56
78)		sec-butylbenzene	3.760	3.628	3.452	3.681	3.568	3.599	3.635	3.617	2.64
79)		1,3-dichlorobe...	1.796	1.709	1.584	1.661	1.600	1.599	1.605	1.651	4.71
80)		4-isopropyltol...	3.303	3.090	2.953	3.138	3.028	3.035	3.003	3.079	3.76
81)		1,4-dichlorobe...	1.952	1.767	1.618	1.677	1.606	1.583	1.559	1.680	8.23
82)		1,2-dichlorobe...	1.623	1.593	1.468	1.547	1.484	1.487	1.493	1.528	3.96
83)		n-butylbenzene	2.629	2.597	2.487	2.687	2.578	2.599	2.636	2.602	2.37
84)		hexachloroethane	0.229	0.242	0.244	0.302	0.344	0.402	0.441	0.315	26.64
85)		1,2-dibromo-3-...	0.173	0.187	0.189	0.222	0.237	0.266	0.284	0.223	18.94
86)		1,2,4-trichlor...	1.028	1.001	0.951	1.047	1.021	1.059	1.087	1.028	4.25
87)		hexachlorobuta...	0.512	0.456	0.424	0.471	0.454	0.463	0.475	0.465	5.68
88)		naphthalene	1.734	1.822	1.869	2.057	2.017	2.081	2.148	1.961	7.82
89)		1,2,3-trichlor...	0.930	0.894	0.854	0.923	0.889	0.922	0.948	0.909	3.46
90)		2-methylnaphth...	0.420	0.336	0.399	0.463	0.473	0.496	0.486	0.439	13.06

7999

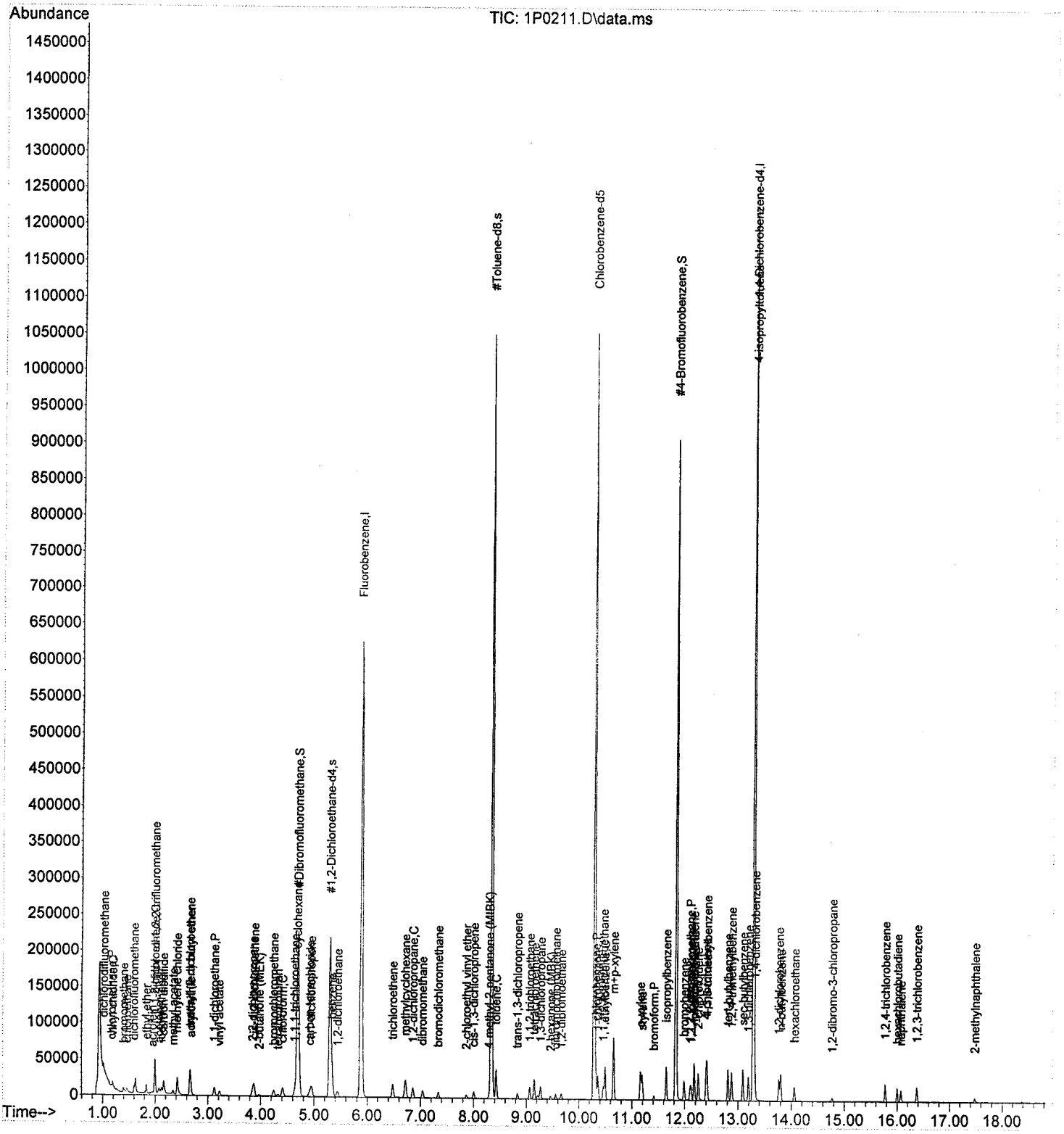
Method Path : C:\msdchem\1\METHODS\
Method File : 8260-WN42.M

(#) = Out of Range

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 1P0211.D
Acq On : 11 Feb 2015 11:16
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 11 12:37:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 1P0211.D
Acq On : 11 Feb 2015 11:16
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 11 12:37:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.879	96	764127	40.00 ug/L	0.01
51) Chlorobenzene-d5	10.286	117	601013	40.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	319656	40.00 ug/L	# 0.00
System Monitoring Compounds					
29) #Dibromofluoromethane	4.696	111	192924	39.30 ug/L	0.01
Spiked Amount 40.000			Recovery =	98.25%	
37) #1,2-Dichloroethane-d4	5.299	67	116428	37.27 ug/L	0.01
Spiked Amount 40.000			Recovery =	93.18%	
47) #Toluene-d8	8.335	98	749901	40.66 ug/L	0.00
Spiked Amount 40.000			Recovery =	101.65%	
65) #4-Bromofluorobenzene	11.835	95	307567	40.48 ug/L	0.00
Spiked Amount 40.000			Recovery =	101.20%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	1.014	85	6874	1.04 ug/L	88
3) chloromethane	1.172	50	4131	0.42 ug/L	88
4) vinyl chloride	1.190	62	7673	0.67 ug/L	89
5) bromomethane	1.398	94	4687	0.69 ug/L	97
6) chloroethane	1.465	64	3690	0.56 ug/L	98
7) dichlorofluoromethane	1.599	67	11034	0.68 ug/L	100
8) trichlorofluoromethane	1.623	101	9995	Below Cal	100
9) ethyl ether	1.837	74	3653	0.65 ug/L	92
10) acrolein	1.952	56	663	0.78 ug/L #	88
11) 1,1,2-trichloro-1,2,2-...	1.995	101	8278	0.74 ug/L	97
12) 1,1-dichloroethene	1.995	96	6778	0.72 ug/L	85
13) acetone	2.074	43	7447	0.71 ug/L #	84
14) iodomethane	2.117	142	10194	3.17 ug/L	94
15) carbon disulfide	2.160	76	18265	3.48 ug/L	100
16) methyl acetate	2.343	43	5597	0.89 ug/L	89
17) methylene chloride	2.416	49	15426	0.95 ug/L	90
18) acrylonitrile	2.684	53	3035	1.05 ug/L	95
19) trans-1,2-dichloroethene	2.660	96	7029	1.04 ug/L	97
20) methyl (tert) butyl ether	2.672	73	16568	0.96 ug/L	99
21) 1,1-dichloroethane	3.123	63	11842	1.02 ug/L	99
22) vinyl acetate	3.214	43	9142	1.47 ug/L	95
23) 2,2-dichloropropane	3.855	77	5953	4.30 ug/L	98
24) cis-1,2-dichloroethene	3.879	96	7531	1.07 ug/L	97
25) 2-butanone (MEK)	3.976	43	3078	1.03 ug/L	74
26) bromochloromethane	4.245	49	5422	1.16 ug/L	92
27) tetrahydrofuran	4.330	71	667	0.88 ug/L #	71
28) chloroform	4.415	83	12699	1.13 ug/L	99
30) 1,1,1-trichloroethane	4.641	97	8571	1.02 ug/L	99
31) cyclohexane	4.678	56	12552	0.97 ug/L	99
32) carbon tetrachloride	4.915	117	7169	4.68 ug/L	99
33) 1,1-dichloropropene	4.946	75	9508	1.05 ug/L	100
34) benzene	5.342	78	29751	1.10 ug/L #	68
35) 1,2-dichloroethane	5.446	62	8480	1.04 ug/L	97
36) heptane	5.879	57	25502	No Calib	
38) trichloroethene	6.482	130	7902	1.17 ug/L	94
39) methylcyclohexane	6.714	83	12327	1.04 ug/L	99
40) 1,2-dichloropropane	6.860	63	6377	1.01 ug/L	91
41) dibromomethane	7.037	93	3898	1.06 ug/L #	87
42) 1,4-dioxane	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 1P0211.D
Acq On : 11 Feb 2015 11:16
Operator : DLV
Sample : STD1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 11 12:37:25 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.336	83	6256	4.12 ug/L	100
44) 2-chloroethyl vinyl ether	7.866	63	2475	3.89 ug/L	95
45) cis-1,3-dichloropropene	8.000	75	5702	4.75 ug/L	95
46) 4-methyl-2-pentanone (...	8.293	43	4488	0.80 ug/L #	50
48) toluene	8.427	91	30802	1.10 ug/L	100
49) trans-1,3-dichloropropene	8.829	75	3823	5.74 ug/L	95
50) 1,1,2-trichloroethane	9.067	83	4864	1.07 ug/L	98
52) tetrachloroethene	9.152	166	8923	1.23 ug/L	94
53) 1,3-dichloropropane	9.274	76	10549	0.99 ug/L	99
54) 2-hexanone (MBK)	9.469	43	3063	3.54 ug/L	88
55) dibromochloromethane	9.561	129	3896	5.66 ug/L	98
56) 1,2-dibromoethane	9.664	109	4977	0.95 ug/L	98
57) chlorobenzene	10.323	112	19644	1.08 ug/L	97
58) 1-chlorohexane	10.359	55	7833	1.05 ug/L	88
59) 1,1,1,2-tetrachloroethane	10.463	131	4422	4.99 ug/L	97
60) ethylbenzene	10.493	91	33335	1.00 ug/L	99
61) m+p-xylene	10.658	106	25098	1.94 ug/L	99
62) o-xylene	11.158	106	11189	0.96 ug/L	96
63) styrene	11.195	104	17258	0.89 ug/L	97
64) bromoform	11.414	173	2537	7.40 ug/L	96
67) isopropylbenzene	11.652	105	30021	0.96 ug/L	98
68) bromobenzene	11.987	77	11713	0.97 ug/L	91
69) 1,1,2,2-tetrachloroethane	12.097	83	7673	1.07 ug/L #	98
70) 1,2,3-trichloropropane	12.121	110	2350	1.03 ug/L	96
71) 1,4-dichloro-2-butene	12.170	53	1520	2.75 ug/L #	68
72) n-propylbenzene	12.176	120	8439	1.01 ug/L #	89
73) 2-chlorotoluene	12.249	126	7559	1.09 ug/L #	90
74) 1,3,5-trimethylbenzene	12.414	105	24784	0.96 ug/L	98
75) 4-chlorotoluene	12.402	91	24155	0.94 ug/L	95
76) tert-butylbenzene	12.810	119	21620	1.05 ug/L	97
77) 1,2,4-trimethylbenzene	12.877	105	22695	0.95 ug/L	97
78) sec-butylbenzene	13.091	105	30045	0.98 ug/L	97
79) 1,3-dichlorobenzene	13.194	146	14352	1.11 ug/L	98
80) 4-isopropyltoluene	13.292	119	26399	1.00 ug/L	96
81) 1,4-dichlorobenzene	13.310	146	15597	1.13 ug/L #	79
82) 1,2-dichlorobenzene	13.767	146	12967	1.10 ug/L	97
83) n-butylbenzene	13.804	91	21007	0.95 ug/L	98
84) hexachloroethane	14.060	201	1830	7.11 ug/L #	74
85) 1,2-dibromo-3-chloropr...	14.773	157	1384	4.01 ug/L	91
86) 1,2,4-trichlorobenzene	15.773	180	8214	1.24 ug/L	99
87) hexachlorobutadiene	16.005	225	4090	1.48 ug/L	98
88) naphthalene	16.072	128	13854	1.01 ug/L	96
89) 1,2,3-trichlorobenzene	16.376	180	7431	1.30 ug/L	98
90) 2-methylnaphthalene	17.486	142	3360	1.36 ug/L	95

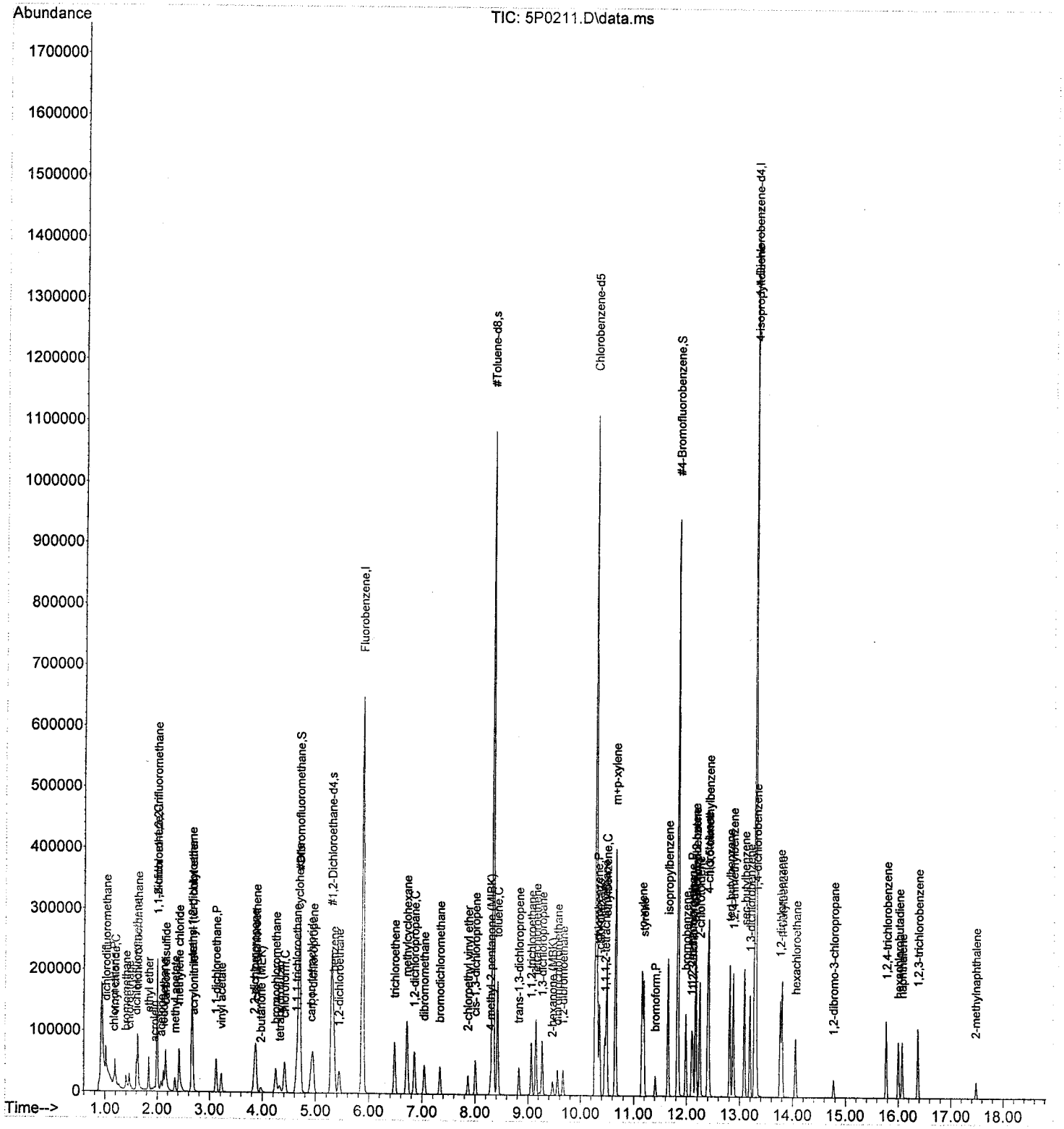
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00091

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 5P0211.D
Acq On : 11 Feb 2015 11:45
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 11 12:38:04 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 5P0211.D
Acq On : 11 Feb 2015 11:45
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 11 12:38:04 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.879	96	793731	40.00	ug/L	0.01
51) Chlorobenzene-d5	10.286	117	628921	40.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	334431	40.00	ug/L #	0.00
System Monitoring Compounds						
29) #Dibromofluoromethane	4.696	111	203259	39.86	ug/L	0.01
Spiked Amount 40.000			Recovery =	99.65%		
37) #1,2-Dichloroethane-d4	5.299	67	121191	37.35	ug/L	0.01
Spiked Amount 40.000			Recovery =	93.38%		
47) #Toluene-d8	8.335	98	782639	40.85	ug/L	0.00
Spiked Amount 40.000			Recovery =	102.13%		
65) #4-Bromofluorobenzene	11.835	95	321745	40.46	ug/L	0.00
Spiked Amount 40.000			Recovery =	101.15%		
Target Compounds						Qvalue
2) dichlorodifluoromethane	1.014	85	32791	4.75	ug/L	99
3) chloromethane	1.172	50	18577	1.81	ug/L	100
4) vinyl chloride	1.190	62	33445	2.82	ug/L	97
5) bromomethane	1.398	94	13253	2.33	ug/L	98
6) chloroethane	1.465	64	15329	2.26	ug/L	98
7) dichlorofluoromethane	1.599	67	49178	2.93	ug/L	99
8) trichlorofluoromethane	1.623	101	45504	1.83	ug/L	99
9) ethyl ether	1.837	74	16448	2.80	ug/L	94
10) acrolein	1.946	56	2773	3.14	ug/L #	98
11) 1,1,2-trichloro-1,2,2-...	1.995	101	37989	3.26	ug/L	97
12) 1,1-dichloroethene	1.995	96	30622	3.13	ug/L	87
13) acetone	2.074	43	19191	4.53	ug/L #	75
14) iodomethane	2.123	142	41331	5.18	ug/L	95
15) carbon disulfide	2.160	76	77166	5.29	ug/L	100
16) methyl acetate	2.343	43	25702	3.95	ug/L	93
17) methylene chloride	2.416	49	47177	4.08	ug/L	90
18) acrylonitrile	2.690	53	14331	4.79	ug/L	96
19) trans-1,2-dichloroethene	2.660	96	31851	4.53	ug/L	97
20) methyl (tert) butyl ether	2.672	73	78755	4.41	ug/L	99
21) 1,1-dichloroethane	3.117	63	54633	4.54	ug/L	99
22) vinyl acetate	3.221	43	47579	7.35	ug/L	99
23) 2,2-dichloropropane	3.849	77	27241	6.98	ug/L	97
24) cis-1,2-dichloroethene	3.879	96	35421	4.86	ug/L	97
25) 2-butanone (MEK)	3.970	43	15047	4.84	ug/L	94
26) bromochloromethane	4.245	49	26567	5.45	ug/L	91
27) tetrahydrofuran	4.324	71	3725	4.75	ug/L	88
28) chloroform	4.415	83	55744	4.78	ug/L	100
30) 1,1,1-trichloroethane	4.641	97	39475	4.53	ug/L	98
31) cyclohexane	4.678	56	62153	4.61	ug/L	98
32) carbon tetrachloride	4.915	117	34517	7.86	ug/L	99
33) 1,1-dichloropropene	4.952	75	44125	4.71	ug/L	99
34) benzene	5.342	78	135318	4.83	ug/L #	69
35) 1,2-dichloroethane	5.440	62	39815	4.71	ug/L	99
36) heptane	5.879	57	26527	No Calib		
38) trichloroethene	6.482	130	35878	5.10	ug/L	95
39) methylcyclohexane	6.714	83	61629	5.01	ug/L	99
40) 1,2-dichloropropane	6.854	63	31652	4.84	ug/L	100
41) dibromomethane	7.037	93	19525	5.09	ug/L	90
42) 1,4-dioxane	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 5P0211.D
Acq On : 11 Feb 2015 11:45
Operator : DLV
Sample : STD2
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 11 12:38:04 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

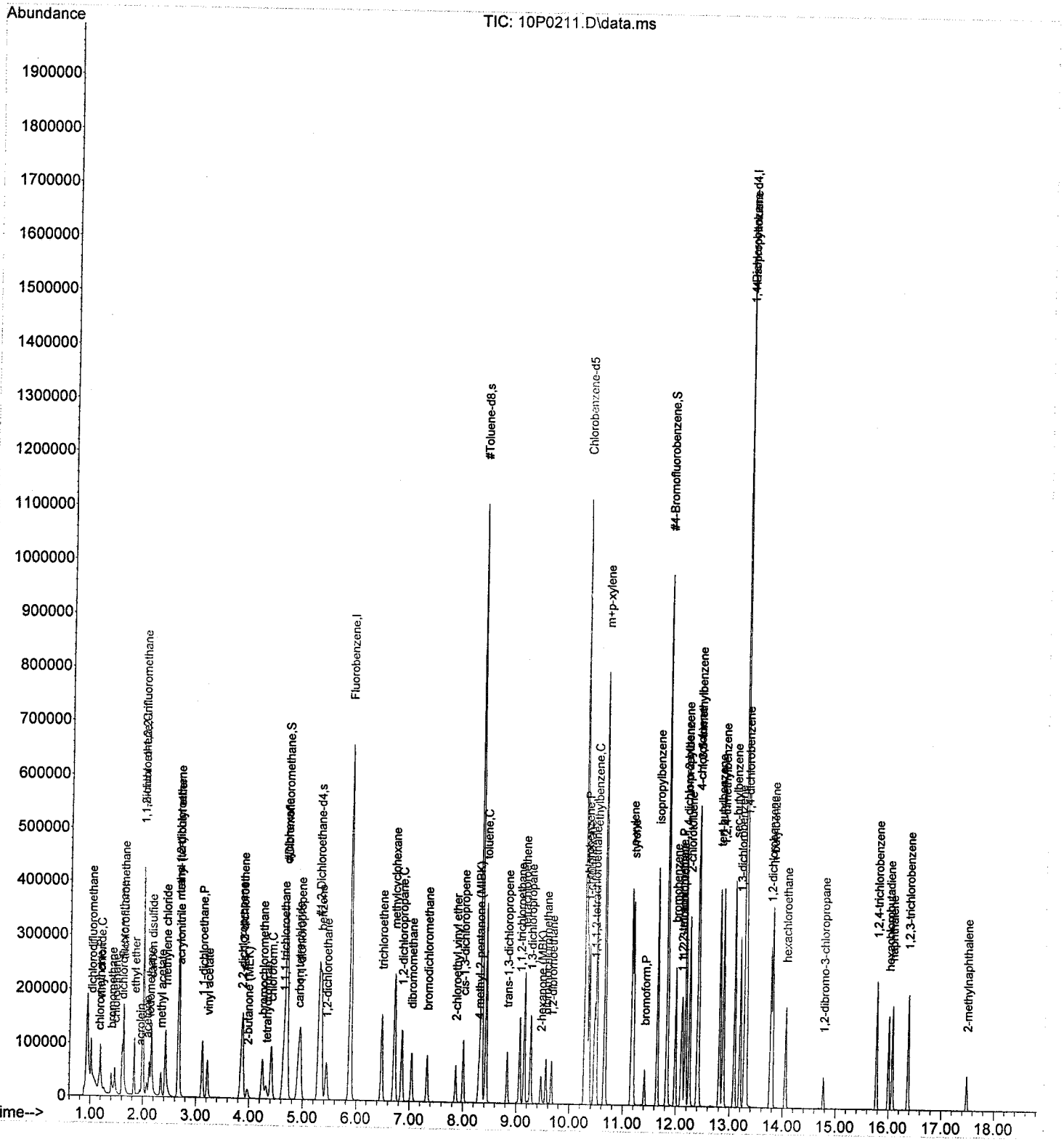
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.336	83	32250	7.26 ug/L	99
44) 2-chloroethyl vinyl ether	7.866	63	14574	6.52 ug/L	97
45) cis-1,3-dichloropropene	8.000	75	33367	7.42 ug/L	99
46) 4-methyl-2-pentanone (...	8.293	43	27976	4.81 ug/L #	90
48) toluene	8.427	91	142789	4.92 ug/L	99
49) trans-1,3-dichloropropene	8.829	75	23105	8.02 ug/L	99
50) 1,1,2-trichloroethane	9.061	83	24579	5.23 ug/L	98
52) tetrachloroethene	9.152	166	40219	5.29 ug/L	97
53) 1,3-dichloropropane	9.268	76	52860	4.76 ug/L	99
54) 2-hexanone (MBK)	9.463	43	18032	6.44 ug/L	95
55) dibromochloromethane	9.561	129	23279	8.62 ug/L	98
56) 1,2-dibromoethane	9.664	109	26840	4.91 ug/L	100
57) chlorobenzene	10.323	112	95259	5.01 ug/L	99
58) 1-chlorohexane	10.359	55	36266	4.65 ug/L	94
59) 1,1,1,2-tetrachloroethane	10.463	131	24295	7.99 ug/L	99
60) ethylbenzene	10.494	91	162007	4.64 ug/L	99
61) m+p-xylene	10.658	106	124569	9.20 ug/L	97
62) o-xylene	11.158	106	57988	4.77 ug/L	95
63) styrene	11.195	104	97687	4.79 ug/L	96
64) bromoform	11.414	173	15431	10.26 ug/L	98
67) isopropylbenzene	11.652	105	151089	4.61 ug/L	98
68) bromobenzene	11.987	77	59242	4.71 ug/L	90
69) 1,1,2,2-tetrachloroethane	12.097	83	39878	5.31 ug/L #	99
70) 1,2,3-trichloropropane	12.115	110	12411	5.22 ug/L	97
71) 1,4-dichloro-2-butene	12.170	53	8546	5.77 ug/L #	72
72) n-propylbenzene	12.176	120	41888	4.81 ug/L #	88
73) 2-chlorotoluene	12.249	126	37224	5.11 ug/L #	89
74) 1,3,5-trimethylbenzene	12.414	105	127491	4.71 ug/L	97
75) 4-chlorotoluene	12.402	91	124041	4.59 ug/L	96
76) tert-butylbenzene	12.810	119	105742	4.89 ug/L	97
77) 1,2,4-trimethylbenzene	12.877	105	120321	4.82 ug/L	98
78) sec-butylbenzene	13.091	105	151657	4.74 ug/L	97
79) 1,3-dichlorobenzene	13.194	146	71427	5.26 ug/L	99
80) 4-isopropyltoluene	13.292	119	129173	4.67 ug/L	99
81) 1,4-dichlorobenzene	13.310	146	73850	5.13 ug/L	96
82) 1,2-dichlorobenzene	13.767	146	66585	5.41 ug/L	99
83) n-butylbenzene	13.804	91	108559	4.67 ug/L	98
84) hexachloroethane	14.060	201	10112	10.20 ug/L	91
85) 1,2-dibromo-3-chloropr...	14.773	157	7834	8.40 ug/L	92
86) 1,2,4-trichlorobenzene	15.779	180	41862	6.04 ug/L	98
87) hexachlorobutadiene	16.005	225	19083	6.59 ug/L	100
88) naphthalene	16.072	128	76172	5.31 ug/L	98
89) 1,2,3-trichlorobenzene	16.377	180	37382	6.25 ug/L	98
90) 2-methylnaphthalene	17.480	142	14053	4.99 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 10P0211.D
Acq On : 11 Feb 2015 12:13
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 11 12:38:14 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 10P0211.D
Acq On : 11 Feb 2015 12:13
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 11 12:38:14 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.878	96	812545	40.00	ug/L		0.01
51) Chlorobenzene-d5	10.286	117	642160	40.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	342316	40.00	ug/L	#	0.00
System Monitoring Compounds							
29) #Dibromofluoromethane	4.696	111	208077	39.86	ug/L		0.01
Spiked Amount 40.000			Recovery =	99.65%			
37) #1,2-Dichloroethane-d4	5.305	67	123766	37.26	ug/L		0.02
Spiked Amount 40.000			Recovery =	93.15%			
47) #Toluene-d8	8.335	98	803253	40.95	ug/L		0.00
Spiked Amount 40.000			Recovery =	102.38%			
65) #4-Bromofluorobenzene	11.835	95	331107	40.78	ug/L		0.00
Spiked Amount 40.000			Recovery =	101.95%			
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	63100	8.94	ug/L		100
3) chloromethane	1.172	50	41174	3.92	ug/L		99
4) vinyl chloride	1.190	62	67325	5.54	ug/L		99
5) bromomethane	1.398	94	23614	4.27	ug/L		97
6) chloroethane	1.465	64	30394	4.37	ug/L		100
7) dichlorofluoromethane	1.599	67	99207	5.78	ug/L		99
8) trichlorofluoromethane	1.623	101	89209	6.17	ug/L		100
9) ethyl ether	1.837	74	33161	5.51	ug/L		92
10) acrolein	1.946	56	6020	6.66	ug/L	#	99
11) 1,1,2-trichloro-1,2,2-...	1.995	101	76602	6.42	ug/L		98
12) 1,1-dichloroethene	1.995	96	61598	6.15	ug/L		89
13) acetone	2.074	43	27661	7.14	ug/L	#	86
14) iodomethane	2.123	142	83777	7.83	ug/L		96
15) carbon disulfide	2.160	76	157368	7.68	ug/L		100
16) methyl acetate	2.336	43	51512	7.73	ug/L		94
17) methylene chloride	2.422	49	85181	7.70	ug/L		91
18) acrylonitrile	2.684	53	28871	9.44	ug/L		99
19) trans-1,2-dichloroethene	2.660	96	63302	8.79	ug/L		99
20) methyl (tert) butyl ether	2.672	73	158172	8.65	ug/L		100
21) 1,1-dichloroethane	3.117	63	109206	8.86	ug/L		100
22) vinyl acetate	3.220	43	108924	16.44	ug/L		100
23) 2,2-dichloropropane	3.854	77	56401	10.52	ug/L		97
24) cis-1,2-dichloroethene	3.879	96	70368	9.43	ug/L		97
25) 2-butanone (MEK)	3.970	43	31492	9.90	ug/L		97
26) bromochloromethane	4.245	49	51455	10.32	ug/L		90
27) tetrahydrofuran	4.324	71	7968	9.92	ug/L		94
28) chloroform	4.415	83	109156	9.15	ug/L		99
30) 1,1,1-trichloroethane	4.641	97	82460	9.25	ug/L		99
31) cyclohexane	4.684	56	126179	9.14	ug/L		98
32) carbon tetrachloride	4.915	117	70131	11.85	ug/L		100
33) 1,1-dichloropropene	4.952	75	89196	9.30	ug/L		99
34) benzene	5.342	78	268217	9.35	ug/L	#	68
35) 1,2-dichloroethane	5.439	62	78152	9.02	ug/L		99
36) heptane	5.878	57	26602	No Calib			
38) trichloroethene	6.482	130	71282	9.90	ug/L		95
39) methylcyclohexane	6.714	83	124886	9.91	ug/L		98
40) 1,2-dichloropropane	6.854	63	62772	9.38	ug/L		99
41) dibromomethane	7.037	93	37887	9.65	ug/L		90
42) 1,4-dioxane	0.000		0	N.D.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 10P0211.D
Acq On : 11 Feb 2015 12:13
Operator : DLV
Sample : STD3
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 11 12:38:14 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

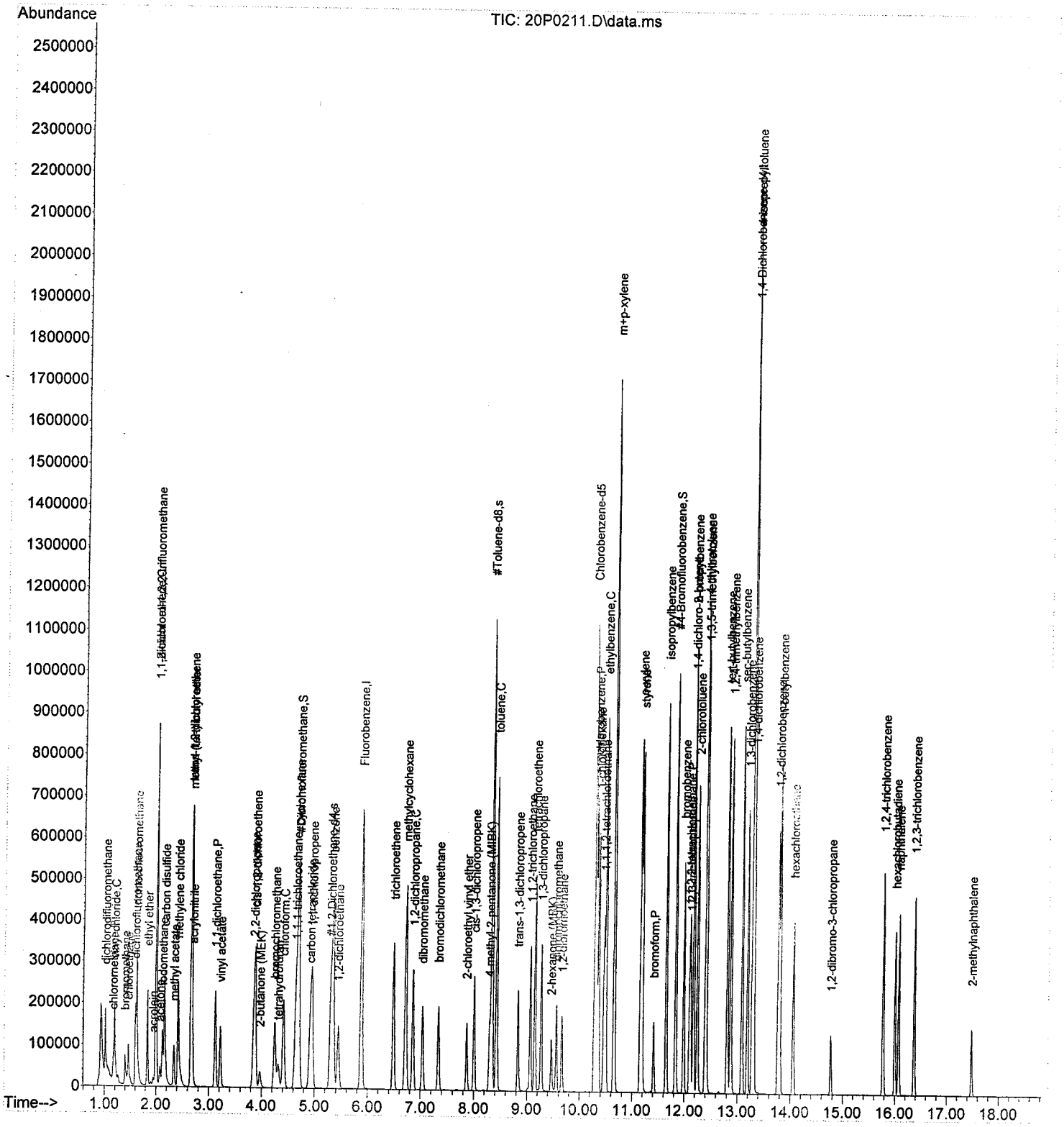
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.335	83	64852	11.05 ug/L	99
44) 2-chloroethyl vinyl ether	7.866	63	32735	10.34 ug/L	97
45) cis-1,3-dichloropropene	8.006	75	70958	10.91 ug/L	98
46) 4-methyl-2-pentanone (...	8.293	43	59634	10.02 ug/L #	95
48) toluene	8.427	91	282960	9.53 ug/L	99
49) trans-1,3-dichloropropene	8.829	75	49438	11.02 ug/L	99
50) 1,1,2-trichloroethane	9.067	83	46087	9.58 ug/L	97
52) tetrachloroethene	9.152	166	79156	10.20 ug/L	97
53) 1,3-dichloropropane	9.268	76	101536	8.95 ug/L	100
54) 2-hexanone (MBK)	9.463	43	40182	10.61 ug/L	97
55) dibromochloromethane	9.561	129	44973	11.82 ug/L	99
56) 1,2-dibromoethane	9.664	109	53399	9.57 ug/L	99
57) chlorobenzene	10.323	112	181496	9.35 ug/L	98
58) 1-chlorohexane	10.359	55	71581	8.99 ug/L	97
59) 1,1,1,2-tetrachloroethane	10.463	131	48821	11.57 ug/L	98
60) ethylbenzene	10.493	91	319470	8.96 ug/L	99
61) m+p-xylene	10.658	106	245437	17.76 ug/L	97
62) o-xylene	11.164	106	114338	9.22 ug/L	96
63) styrene	11.194	104	190481	9.15 ug/L	97
64) bromoform	11.414	173	30930	13.58 ug/L	98
67) isopropylbenzene	11.652	105	299785	8.94 ug/L	99
68) bromobenzene	11.987	77	113635	8.82 ug/L	90
69) 1,1,2,2-tetrachloroethane	12.097	83	75720	9.85 ug/L #	98
70) 1,2,3-trichloropropane	12.115	110	23467	9.65 ug/L	99
71) 1,4-dichloro-2-butene	12.170	53	16739	9.16 ug/L #	81
72) n-propylbenzene	12.176	120	82856	9.30 ug/L #	87
73) 2-chlorotoluene	12.249	126	72032	9.66 ug/L #	89
74) 1,3,5-trimethylbenzene	12.414	105	247537	8.93 ug/L	96
75) 4-chlorotoluene	12.402	91	238464	8.63 ug/L	97
76) tert-butylbenzene	12.810	119	207553	9.38 ug/L	96
77) 1,2,4-trimethylbenzene	12.877	105	236358	9.26 ug/L	98
78) sec-butylbenzene	13.090	105	295458	9.02 ug/L	97
79) 1,3-dichlorobenzene	13.194	146	135592	9.76 ug/L	99
80) 4-isopropyltoluene	13.292	119	252708	8.92 ug/L	98
81) 1,4-dichlorobenzene	13.310	146	138481	9.40 ug/L	98
82) 1,2-dichlorobenzene	13.767	146	125627	9.97 ug/L	98
83) n-butylbenzene	13.804	91	212826	8.94 ug/L	98
84) hexachloroethane	14.060	201	20910	14.09 ug/L	98
85) 1,2-dibromo-3-chloropr...	14.773	157	16176	13.86 ug/L	91
86) 1,2,4-trichlorobenzene	15.779	180	81410	11.48 ug/L	99
87) hexachlorobutadiene	16.005	225	36300	12.25 ug/L	99
88) naphthalene	16.072	128	159936	10.89 ug/L	98
89) 1,2,3-trichlorobenzene	16.376	180	73101	11.93 ug/L	99
90) 2-methylnaphthalene	17.486	142	34121	11.63 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 20P0211.D
Acq On : 11 Feb 2015 12:42
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 11 13:31:56 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 20P0211.D
Acq On : 11 Feb 2015 12:42
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 11 13:31:56 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.878	96	826117	40.00	ug/L	0.01
51) Chlorobenzene-d5	10.286	117	651229	40.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4	13.285	152	348538	40.00	ug/L	0.00
System Monitoring Compounds						
29) #Dibromofluoromethane	4.696	111	213701	40.26	ug/L	0.01
Spiked Amount 40.000			Recovery =	100.65%		
37) #1,2-Dichloroethane-d4	5.299	67	126179	37.36	ug/L	0.01
Spiked Amount 40.000			Recovery =	93.40%		
47) #Toluene-d8	8.335	98	818814	41.06	ug/L	0.00
Spiked Amount 40.000			Recovery =	102.65%		
65) #4-Bromofluorobenzene	11.835	95	336888	40.92	ug/L	0.00
Spiked Amount 40.000			Recovery =	102.30%		
Target Compounds						Qvalue
2) dichlorodifluoromethane	1.013	85	130528	18.18	ug/L	100
3) chloromethane	1.172	50	96423	9.03	ug/L	99
4) vinyl chloride	1.190	62	139501	11.30	ug/L	100
5) bromomethane	1.398	94	44118	8.15	ug/L	98
6) chloroethane	1.465	64	62432	8.83	ug/L	99
7) dichlorofluoromethane	1.599	67	207902	11.92	ug/L	100
8) trichlorofluoromethane	1.623	101	181379	15.27	ug/L	99
9) ethyl ether	1.836	74	71770	11.73	ug/L	96
10) acrolein	1.946	56	12164	13.23	ug/L	97
11) 1,1,2-trichloro-1,2,2-...	1.995	101	157417	12.99	ug/L	97
12) 1,1-dichloroethene	1.995	96	128047	12.58	ug/L	88
13) acetone	2.074	43	51714	14.70	ug/L	88
14) iodomethane	2.123	142	174276	13.43	ug/L	95
15) carbon disulfide	2.160	76	321942	12.53	ug/L	100
16) methyl acetate	2.342	43	112735	16.64	ug/L	94
17) methylene chloride	2.416	49	174952	16.23	ug/L	91
18) acrylonitrile	2.690	53	63890	20.54	ug/L	99
19) trans-1,2-dichloroethene	2.659	96	135017	18.44	ug/L	98
20) methyl (tert) butyl ether	2.672	73	351034	18.88	ug/L	100
21) 1,1-dichloroethane	3.123	63	235860	18.83	ug/L	100
22) vinyl acetate	3.220	43	221249	32.84	ug/L	100
23) 2,2-dichloropropane	3.854	77	125756	18.88	ug/L	98
24) cis-1,2-dichloroethene	3.879	96	150014	19.77	ug/L	97
25) 2-butanone (MEK)	3.970	43	66691	20.63	ug/L	99
26) bromochloromethane	4.245	49	111092	21.91	ug/L	91
27) tetrahydrofuran	4.318	71	17917	21.94	ug/L	94
28) chloroform	4.415	83	233463	19.25	ug/L	100
30) 1,1,1-trichloroethane	4.641	97	181169	19.99	ug/L	99
31) cyclohexane	4.677	56	268201	19.11	ug/L	99
32) carbon tetrachloride	4.915	117	155625	21.37	ug/L	100
33) 1,1-dichloropropene	4.952	75	189847	19.48	ug/L	98
34) benzene	5.342	78	567956	19.47	ug/L	91
35) 1,2-dichloroethane	5.439	62	167894	19.06	ug/L	99
36) heptane	5.878	57	27488	No Calib		
38) trichloroethene	6.482	130	151757	20.73	ug/L	95
39) methylcyclohexane	6.720	83	267174	20.85	ug/L	99
40) 1,2-dichloropropane	6.860	63	136194	20.02	ug/L	99
41) dibromomethane	7.037	93	83606	20.94	ug/L	91
42) 1,4-dioxane	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 20P0211.D
Acq On : 11 Feb 2015 12:42
Operator : DLV
Sample : STD4
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 11 13:31:56 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

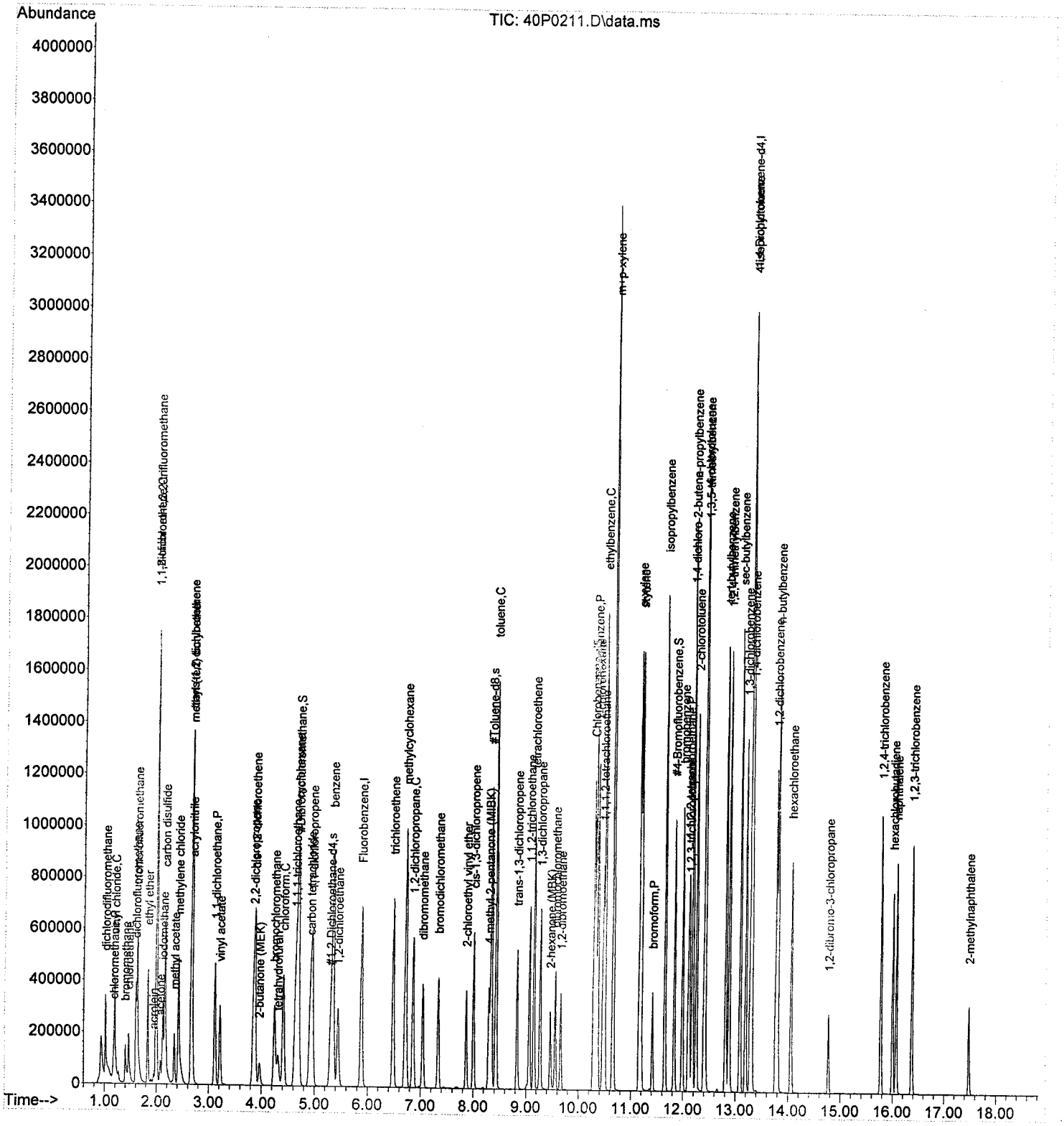
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) bromodichloromethane	7.335	83	147388	20.58	ug/L		100
44) 2-chloroethyl vinyl ether	7.866	63	74855	19.10	ug/L		97
45) cis-1,3-dichloropropene	8.006	75	168693	19.92	ug/L		98
46) 4-methyl-2-pentanone (...	8.293	43	128734	21.27	ug/L	#	98
48) toluene	8.427	91	592713	19.63	ug/L		99
49) trans-1,3-dichloropropene	8.829	75	124702	19.53	ug/L		97
50) 1,1,2-trichloroethane	9.067	83	100872	20.62	ug/L		98
52) tetrachloroethene	9.152	166	165571	21.05	ug/L		97
53) 1,3-dichloropropane	9.268	76	220857	19.19	ug/L		100
54) 2-hexanone (MBK)	9.463	43	91673	20.22	ug/L		98
55) dibromochloromethane	9.561	129	107891	21.11	ug/L		100
56) 1,2-dibromoethane	9.664	109	117652	20.78	ug/L		99
57) chlorobenzene	10.323	112	384031	19.50	ug/L		97
58) 1-chlorohexane	10.359	55	150909	18.69	ug/L		100
59) 1,1,1,2-tetrachloroethane	10.463	131	111047	20.64	ug/L		98
60) ethylbenzene	10.493	91	670928	18.56	ug/L		98
61) m+p-xylene	10.658	106	518697	37.01	ug/L		97
62) o-xylene	11.164	106	244491	19.43	ug/L		96
63) styrene	11.194	104	413044	19.56	ug/L		96
64) bromoform	11.414	173	74972	22.99	ug/L		99
67) isopropylbenzene	11.652	105	638836	18.71	ug/L		99
68) bromobenzene	11.987	77	241120	18.39	ug/L		89
69) 1,1,2,2-tetrachloroethane	12.097	83	159653	20.39	ug/L	#	98
70) 1,2,3-trichloropropane	12.121	110	49763	20.10	ug/L		98
71) 1,4-dichloro-2-butene	12.170	53	39240	18.41	ug/L		92
72) n-propylbenzene	12.176	120	178042	19.62	ug/L	#	86
73) 2-chlorotoluene	12.255	126	150577	19.82	ug/L	#	90
74) 1,3,5-trimethylbenzene	12.420	105	527736	18.69	ug/L		97
75) 4-chlorotoluene	12.401	91	509988	18.12	ug/L		97
76) tert-butylbenzene	12.810	119	449787	19.96	ug/L		96
77) 1,2,4-trimethylbenzene	12.877	105	504505	19.41	ug/L		98
78) sec-butylbenzene	13.090	105	641480	19.24	ug/L		97
79) 1,3-dichlorobenzene	13.194	146	289434	20.47	ug/L		99
80) 4-isopropyltoluene	13.292	119	546931	18.97	ug/L		98
81) 1,4-dichlorobenzene	13.316	146	292184	19.47	ug/L		99
82) 1,2-dichlorobenzene	13.767	146	269618	21.01	ug/L		99
83) n-butylbenzene	13.804	91	468181	19.32	ug/L		98
84) hexachloroethane	14.060	201	52545	25.38	ug/L		88
85) 1,2-dibromo-3-chloropr...	14.773	157	38658	28.47	ug/L		92
86) 1,2,4-trichlorobenzene	15.779	180	182439	25.26	ug/L		99
87) hexachlorobutadiene	16.004	225	82142	27.22	ug/L		99
88) naphthalene	16.071	128	358462	23.98	ug/L		98
89) 1,2,3-trichlorobenzene	16.376	180	160820	25.79	ug/L		98
90) 2-methylnaphthalene	17.486	142	80720	26.81	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 40P0211.D
Acq On : 11 Feb 2015 13:11
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 11 13:32:02 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



00101

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 40P0211.D
Acq On : 11 Feb 2015 13:11
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 11 13:32:02 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.879	96	854305	40.00	ug/L		0.01
51) Chlorobenzene-d5	10.286	117	677916	40.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	359463	40.00	ug/L		0.00
System Monitoring Compounds							
29) #Dibromofluoromethane	4.696	111	222011	40.45	ug/L		0.01
Spiked Amount 40.000			Recovery =	101.13%			
37) #1,2-Dichloroethane-d4	5.299	67	129870	37.19	ug/L		0.01
Spiked Amount 40.000			Recovery =	92.97%			
47) #Toluene-d8	8.335	98	846429	41.05	ug/L		0.00
Spiked Amount 40.000			Recovery =	102.62%			
65) #4-Bromofluorobenzene	11.835	95	349394	40.76	ug/L		0.00
Spiked Amount 40.000			Recovery =	101.90%			
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	266690	35.92	ug/L		100
3) chloromethane	1.178	50	206787	18.72	ug/L		99
4) vinyl chloride	1.190	62	280344	21.96	ug/L		100
5) bromomethane	1.398	94	88670	16.54	ug/L		98
6) chloroethane	1.465	64	127594	17.45	ug/L		100
7) dichlorofluoromethane	1.599	67	420528	23.32	ug/L		100
8) trichlorofluoromethane	1.623	101	364446	32.41	ug/L		100
9) ethyl ether	1.837	74	140455	22.21	ug/L		94
10) acrolein	1.946	56	23401	24.62	ug/L	#	95
11) 1,1,2-trichloro-1,2,2-...	1.995	101	313336	24.99	ug/L		97
12) 1,1-dichloroethene	1.995	96	256867	24.39	ug/L		87
13) acetone	2.074	43	103550	30.21	ug/L		87
14) iodomethane	2.123	142	412208	27.52	ug/L		95
15) carbon disulfide	2.160	76	805717	26.23	ug/L		100
16) methyl acetate	2.343	43	222508	31.76	ug/L		95
17) methylene chloride	2.416	49	349767	31.99	ug/L		91
18) acrylonitrile	2.684	53	125458	39.00	ug/L		99
19) trans-1,2-dichloroethene	2.660	96	275669	36.40	ug/L		98
20) methyl (tert) butyl ether	2.672	73	713994	37.13	ug/L		100
21) 1,1-dichloroethane	3.123	63	485016	37.45	ug/L		100
22) vinyl acetate	3.214	43	457107	65.61	ug/L		100
23) 2,2-dichloropropane	3.855	77	272964	35.76	ug/L		98
24) cis-1,2-dichloroethene	3.879	96	304389	38.79	ug/L		97
25) 2-butanone (MEK)	3.964	43	141761	42.40	ug/L		100
26) bromochloromethane	4.245	49	221423	42.23	ug/L		90
27) tetrahydrofuran	4.312	71	36553	43.28	ug/L		98
28) chloroform	4.415	83	472912	37.71	ug/L		99
30) 1,1,1-trichloroethane	4.641	97	383207	40.89	ug/L		98
31) cyclohexane	4.678	56	547569	37.73	ug/L		98
32) carbon tetrachloride	4.915	117	337204	40.60	ug/L		100
33) 1,1-dichloropropene	4.952	75	389539	38.64	ug/L		98
34) benzene	5.342	78	1147384	38.04	ug/L		98
35) 1,2-dichloroethane	5.440	62	335428	36.83	ug/L		99
36) heptane	5.879	57	28435	No Calib			
38) trichloroethene	6.482	130	316547	41.82	ug/L		95
39) methylcyclohexane	6.720	83	540066	40.76	ug/L		98
40) 1,2-dichloropropane	6.854	63	278030	39.51	ug/L		98
41) dibromomethane	7.037	93	166755	40.39	ug/L		90
42) 1,4-dioxane	7.336	88	124	No Calib		#	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 40P0211.D
Acq On : 11 Feb 2015 13:11
Operator : DLV
Sample : STD5
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 11 13:32:02 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) bromodichloromethane	7.336	83	311764	38.63	ug/L		99
44) 2-chloroethyl vinyl ether	7.866	63	175353	39.06	ug/L		97
45) cis-1,3-dichloropropene	8.006	75	373475	37.87	ug/L		97
46) 4-methyl-2-pentanone (...	8.293	43	289181	46.20	ug/L	#	99
48) toluene	8.427	91	1205074	38.59	ug/L		99
49) trans-1,3-dichloropropene	8.829	75	283532	36.63	ug/L		97
50) 1,1,2-trichloroethane	9.067	83	202797	40.08	ug/L		99
52) tetrachloroethene	9.152	166	338958	41.39	ug/L		97
53) 1,3-dichloropropane	9.274	76	444458	37.11	ug/L		100
54) 2-hexanone (MBK)	9.463	43	208658	40.77	ug/L		99
55) dibromochloromethane	9.561	129	238887	39.23	ug/L		100
56) 1,2-dibromoethane	9.664	109	239578	40.65	ug/L		100
57) chlorobenzene	10.323	112	777505	37.93	ug/L		96
58) 1-chlorohexane	10.366	55	304612	36.24	ug/L		97
59) 1,1,1,2-tetrachloroethane	10.463	131	238822	38.08	ug/L		98
60) ethylbenzene	10.500	91	1359368	36.13	ug/L		98
61) m+p-xylene	10.658	106	1045029	71.64	ug/L		96
62) o-xylene	11.164	106	497412	37.98	ug/L		95
63) styrene	11.195	104	835382	38.00	ug/L		96
64) bromoform	11.414	173	171202	42.30	ug/L		99
67) isopropylbenzene	11.652	105	1299363	36.91	ug/L		98
68) bromobenzene	11.987	77	487462	36.04	ug/L		90
69) 1,1,2,2-tetrachloroethane	12.103	83	311031	38.52	ug/L	#	99
70) 1,2,3-trichloropropane	12.121	110	98560	38.59	ug/L		96
71) 1,4-dichloro-2-butene	12.170	53	82892	35.55	ug/L		91
72) n-propylbenzene	12.176	120	357670	38.22	ug/L	#	86
73) 2-chlorotoluene	12.255	126	304677	38.89	ug/L	#	89
74) 1,3,5-trimethylbenzene	12.420	105	1059693	36.40	ug/L		97
75) 4-chlorotoluene	12.402	91	1017228	35.05	ug/L		96
76) tert-butylbenzene	12.816	119	902367	38.83	ug/L		96
77) 1,2,4-trimethylbenzene	12.877	105	1011722	37.74	ug/L		98
78) sec-butylbenzene	13.091	105	1282498	37.30	ug/L		97
79) 1,3-dichlorobenzene	13.194	146	575219	39.45	ug/L		99
80) 4-isopropyltoluene	13.292	119	1088458	36.60	ug/L		98
81) 1,4-dichlorobenzene	13.316	146	577439	37.32	ug/L		99
82) 1,2-dichlorobenzene	13.767	146	533446	40.31	ug/L		99
83) n-butylbenzene	13.804	91	926572	37.08	ug/L		97
84) hexachloroethane	14.060	201	123748	49.74	ug/L	#	77
85) 1,2-dibromo-3-chloropr...	14.773	157	85284	57.46	ug/L		90
86) 1,2,4-trichlorobenzene	15.779	180	367009	49.27	ug/L		99
87) hexachlorobutadiene	16.005	225	163329	52.48	ug/L		100
88) naphthalene	16.072	128	724937	47.02	ug/L		98
89) 1,2,3-trichlorobenzene	16.377	180	319704	49.71	ug/L		98
90) 2-methylnaphthalene	17.486	142	169971	54.59	ug/L		98

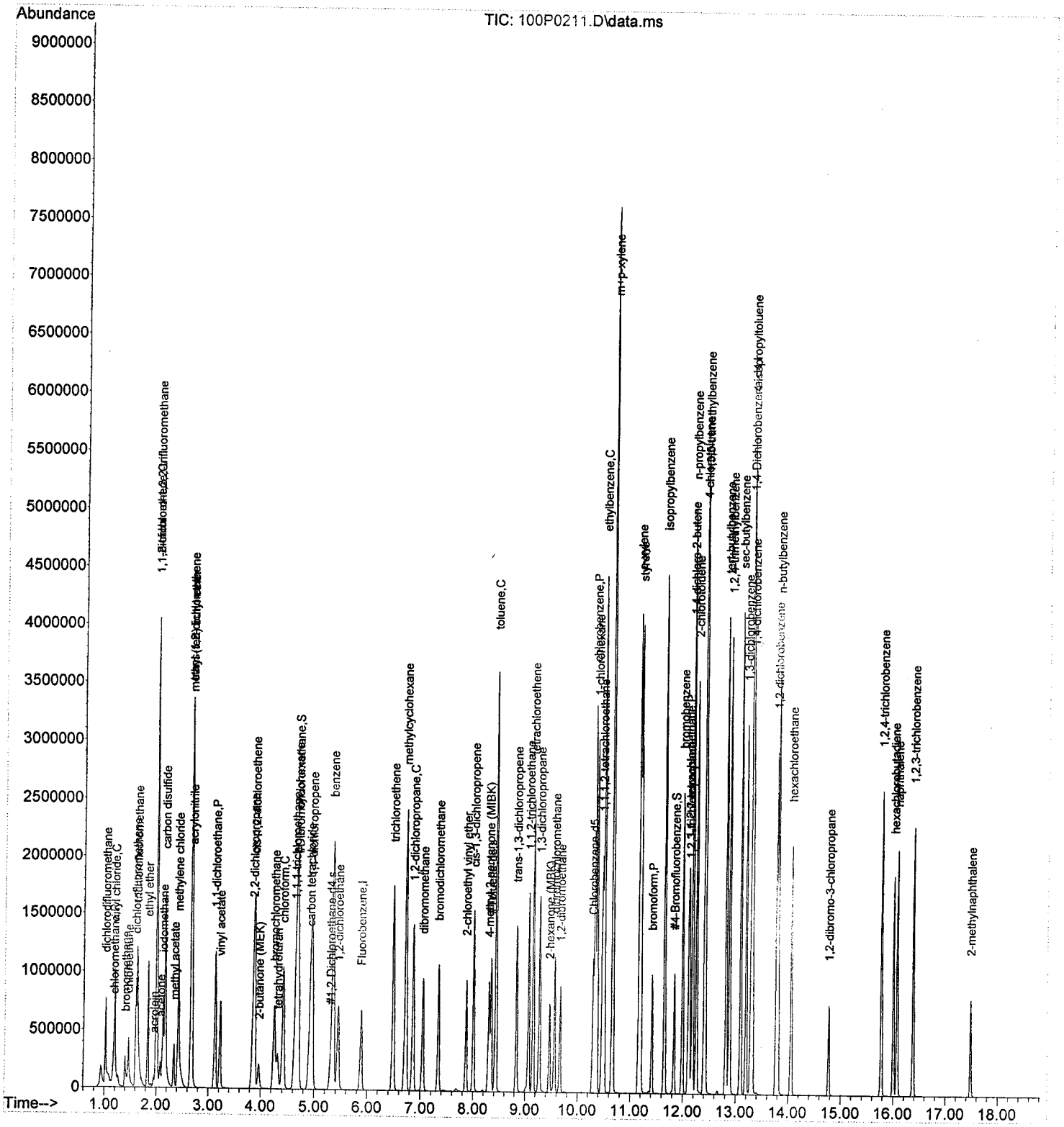
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00109

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 100P0211.D
Acq On : 11 Feb 2015 13:39
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 11 14:26:28 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 100P0211.D
Acq On : 11 Feb 2015 13:39
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 11 14:26:28 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.878	96	837420	40.00	ug/L		0.01
51) Chlorobenzene-d5	10.286	117	669906	40.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	336988	40.00	ug/L	#	0.00
System Monitoring Compounds							
29) #Dibromofluoromethane	4.696	111	218454	40.60	ug/L		0.01
Spiked Amount 40.000			Recovery =	101.50%			
37) #1,2-Dichloroethane-d4	5.299	67	127473	37.24	ug/L		0.01
Spiked Amount 40.000			Recovery =	93.10%			
47) #Toluene-d8	8.335	98	828364	40.98	ug/L		0.00
Spiked Amount 40.000			Recovery =	102.45%			
65) #4-Bromofluorobenzene	11.835	95	339046	40.03	ug/L		0.00
Spiked Amount 40.000			Recovery =	100.08%			
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	650025	89.32	ug/L		100
3) chloromethane	1.178	50	583140	53.87	ug/L		100
4) vinyl chloride	1.190	62	721527	57.65	ug/L		100
5) bromomethane	1.398	94	179144	36.86	ug/L		99
6) chloroethane	1.459	64	314363	43.87	ug/L		100
7) dichlorofluoromethane	1.599	67	1060915	60.01	ug/L		99
8) trichlorofluoromethane	1.623	101	884775	84.58	ug/L		100
9) ethyl ether	1.837	74	352765	56.90	ug/L		95
10) acrolein	1.946	56	62584	67.17	ug/L	#	99
11) 1,1,2-trichloro-1,2,2-...	1.995	101	769220	62.60	ug/L		97
12) 1,1-dichloroethene	1.995	96	645047	62.49	ug/L		88
13) acetone	2.074	43	245671	75.78	ug/L		89
14) iodomethane	2.123	142	1064327	68.44	ug/L		95
15) carbon disulfide	2.160	76	2100771	64.98	ug/L		100
16) methyl acetate	2.343	43	423285	61.65	ug/L		97
17) methylene chloride	2.416	49	849623	80.26	ug/L		91
18) acrylonitrile	2.684	53	304420	96.53	ug/L		99
19) trans-1,2-dichloroethene	2.660	96	670680	90.35	ug/L		98
20) methyl (tert) butyl ether	2.672	73	1784134	94.66	ug/L		100
21) 1,1-dichloroethane	3.123	63	1202916	94.75	ug/L		100
22) vinyl acetate	3.214	43	1184152	173.40	ug/L		99
23) 2,2-dichloropropane	3.854	77	720949	90.39	ug/L		99
24) cis-1,2-dichloroethene	3.879	96	742537	96.55	ug/L		98
25) 2-butanone (MEK)	3.964	43	346865	105.83	ug/L		100
26) bromochloromethane	4.251	49	528228	102.78	ug/L		89
27) tetrahydrofuran	4.312	71	90836	109.73	ug/L		98
28) chloroform	4.415	83	1159229	94.30	ug/L		99
30) 1,1,1-trichloroethane	4.641	97	975538	106.21	ug/L		97
31) cyclohexane	4.684	56	1330302	93.52	ug/L		98
32) carbon tetrachloride	4.915	117	867214	100.33	ug/L		100
33) 1,1-dichloropropene	4.952	75	952457	96.39	ug/L		98
34) benzene	5.342	78	2771232	93.72	ug/L		92
35) 1,2-dichloroethane	5.446	62	807286	90.42	ug/L		100
36) heptane	5.878	57	27925	No Calib			
38) trichloroethene	6.482	130	774141	104.33	ug/L		95
39) methylcyclohexane	6.720	83	1317811	101.46	ug/L		98
40) 1,2-dichloropropane	6.860	63	681448	98.80	ug/L		99
41) dibromomethane	7.043	93	404503	99.94	ug/L		90
42) 1,4-dioxane	7.335	88	730	No Calib		#	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 100P0211.D
Acq On : 11 Feb 2015 13:39
Operator : DLV
Sample : STD6
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 11 14:26:28 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

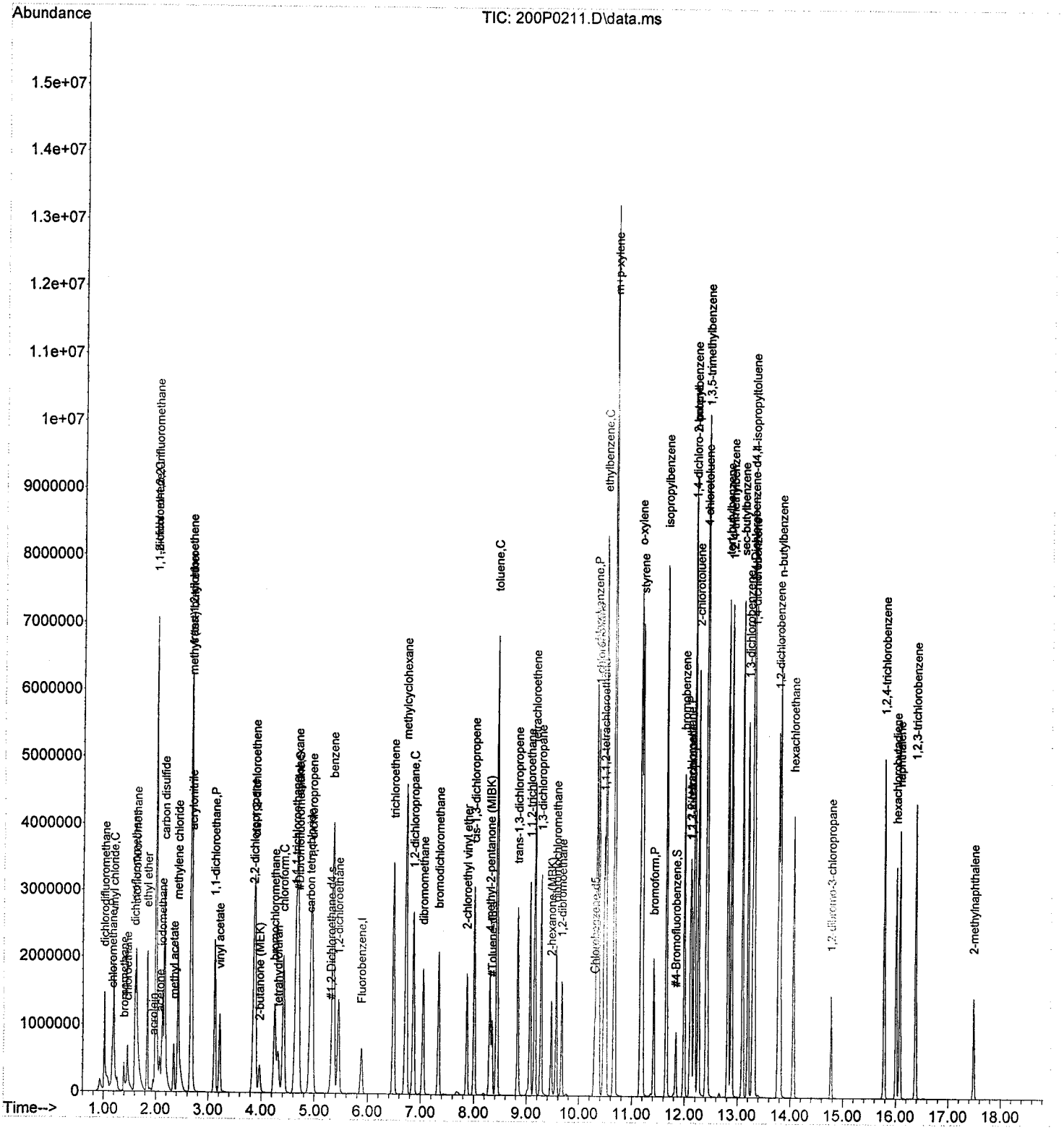
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.335	83	797336	95.42 ug/L	99
44) 2-chloroethyl vinyl ether	7.866	63	451659	97.22 ug/L	97
45) cis-1,3-dichloropropene	8.006	75	975336	93.95 ug/L	97
46) 4-methyl-2-pentanone (...	8.293	43	710114	115.75 ug/L #	99
48) toluene	8.433	91	2890596	94.42 ug/L	98
49) trans-1,3-dichloropropene	8.829	75	773311	92.55 ug/L	96
50) 1,1,2-trichloroethane	9.067	83	488237	98.44 ug/L	99
52) tetrachloroethene	9.152	166	815770	100.80 ug/L	97
53) 1,3-dichloropropane	9.274	76	1067939	90.22 ug/L	100
54) 2-hexanone (MBK)	9.463	43	515890	97.63 ug/L	99
55) dibromochloromethane	9.561	129	623714	95.40 ug/L	100
56) 1,2-dibromoethane	9.664	109	582899	100.10 ug/L	100
57) chlorobenzene	10.323	112	1864241	92.03 ug/L	96
58) 1-chlorohexane	10.365	55	724677	87.25 ug/L	94
59) 1,1,1,2-tetrachloroethane	10.463	131	603407	90.69 ug/L	99
60) ethylbenzene	10.499	91	3242430	87.20 ug/L	98
61) m+p-xylene	10.664	106	2436840	169.04 ug/L	97
62) o-xylene	11.164	106	1189366	91.90 ug/L	94
63) styrene	11.194	104	1982852	91.27 ug/L	97
64) bromoform	11.414	173	467021	104.78 ug/L	99
67) isopropylbenzene	11.652	105	3105745	94.09 ug/L	98
68) bromobenzene	11.987	77	1158588	91.38 ug/L	90
69) 1,1,2,2-tetrachloroethane	12.103	83	743844	98.25 ug/L #	99
70) 1,2,3-trichloropropane	12.121	110	231777	96.81 ug/L	95
71) 1,4-dichloro-2-butene	12.170	53	212139	93.50 ug/L #	73
72) n-propylbenzene	12.182	120	843123	96.11 ug/L #	87
73) 2-chlorotoluene	12.255	126	718330	97.81 ug/L #	88
74) 1,3,5-trimethylbenzene	12.420	105	2498991	91.56 ug/L	97
75) 4-chlorotoluene	12.402	91	2387497	87.76 ug/L	97
76) tert-butylbenzene	12.816	119	2123255	97.47 ug/L	96
77) 1,2,4-trimethylbenzene	12.883	105	2394429	95.28 ug/L	98
78) sec-butylbenzene	13.090	105	3031750	94.06 ug/L	97
79) 1,3-dichlorobenzene	13.194	146	1347492	98.57 ug/L	99
80) 4-isopropyltoluene	13.292	119	2556604	91.71 ug/L	98
81) 1,4-dichlorobenzene	13.316	146	1333524	91.93 ug/L	99
82) 1,2-dichlorobenzene	13.773	146	1252634	100.97 ug/L	99
83) n-butylbenzene	13.804	91	2189427	93.46 ug/L	97
84) hexachloroethane	14.060	201	338340	132.81 ug/L #	67
85) 1,2-dibromo-3-chloropr...	14.773	157	223921	155.49 ug/L	90
86) 1,2,4-trichlorobenzene	15.779	180	892375	127.80 ug/L	99
87) hexachlorobutadiene	16.005	225	389884	133.64 ug/L	100
88) naphthalene	16.072	128	1752959	121.28 ug/L	98
89) 1,2,3-trichlorobenzene	16.376	180	776725	128.82 ug/L	98
90) 2-methylnaphthalene	17.486	142	417920	142.93 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 200P0211.D
Acq On : 11 Feb 2015 14:37
Operator : DLV
Sample : STD7
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 11 15:08:33 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration



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QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.878	96	818945	40.00	ug/L		0.01
51) Chlorobenzene-d5	10.292	117	648180	40.00	ug/L		0.01
66) 1,4-Dichlorobenzene-d4	13.286	152	309938	40.00	ug/L	#	0.00
System Monitoring Compounds							
29) #Dibromofluoromethane	4.702	111	212765	40.44	ug/L		0.02
Spiked Amount 40.000			Recovery = 101.10%				
37) #1,2-Dichloroethane-d4	5.305	67	123123	36.78	ug/L		0.02
Spiked Amount 40.000			Recovery = 91.95%				
47) #Toluene-d8	8.341	98	808622	40.91	ug/L		0.01
Spiked Amount 40.000			Recovery = 102.27%				
65) #4-Bromofluorobenzene	11.835	95	327653	39.98	ug/L		0.00
Spiked Amount 40.000			Recovery = 99.95%				
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	1306939	183.64	ug/L		99
3) chloromethane	1.172	50	1245342	117.63	ug/L		99
4) vinyl chloride	1.190	62	1464588	119.66	ug/L		100
5) bromomethane	1.392	94	217675	47.72	ug/L		99
6) chloroethane	1.459	64	563248	80.37	ug/L		99
7) dichlorofluoromethane	1.599	67	2104350	121.72	ug/L		99
8) trichlorofluoromethane	1.623	101	1766462	175.72	ug/L		100
9) ethyl ether	1.837	74	681327	112.37	ug/L		95
10) acrolein	1.946	56	131582	144.42	ug/L	#	98
11) 1,1,2-trichloro-1,2,2-...	1.995	101	1495108	124.41	ug/L		99
12) 1,1-dichloroethene	1.995	96	1271069	125.92	ug/L		88
13) acetone	2.074	43	469083	149.74	ug/L		89
14) iodomethane	2.117	142	2025537	130.84	ug/L		95
15) carbon disulfide	2.160	76	4106766	127.01	ug/L		100
16) methyl acetate	2.343	43	825121	122.88	ug/L		97
17) methylene chloride	2.416	49	1630600	158.14	ug/L		91
18) acrylonitrile	2.684	53	591476	191.78	ug/L		99
19) trans-1,2-dichloroethene	2.660	96	1303557	179.57	ug/L		98
20) methyl (tert) butyl ether	2.672	73	3453879	187.38	ug/L		100
21) 1,1-dichloroethane	3.117	63	2363872	190.39	ug/L		100
22) vinyl acetate	3.214	43	1818112	272.25	ug/L		99
23) 2,2-dichloropropane	3.854	77	1420918	178.60	ug/L		99
24) cis-1,2-dichloroethene	3.879	96	1441657	191.67	ug/L		98
25) 2-butanone (MEK)	3.964	43	649569	202.67	ug/L		99
26) bromochloromethane	4.245	49	1017465	202.43	ug/L		89
27) tetrahydrofuran	4.312	71	178727	220.78	ug/L		98
28) chloroform	4.415	83	2249887	187.15	ug/L		99
30) 1,1,1-trichloroethane	4.641	97	1943648	216.38	ug/L		97
31) cyclohexane	4.684	56	2580037	185.48	ug/L		98
32) carbon tetrachloride	4.915	117	1738920	201.72	ug/L		100
33) 1,1-dichloropropene	4.952	75	1855729	192.05	ug/L		98
34) benzene	5.342	78	5326397	184.20	ug/L		90
35) 1,2-dichloroethane	5.446	62	1541162	176.51	ug/L		99
36) heptane	5.878	57	27194	No Calib			
38) trichloroethene	6.482	130	1534437	211.47	ug/L		95
39) methylcyclohexane	6.720	83	2539005	199.88	ug/L		98
40) 1,2-dichloropropane	6.860	63	1310108	194.23	ug/L		99
41) dibromomethane	7.043	93	775270	195.87	ug/L		91
42) 1,4-dioxane	7.329	88	1684	No Calib		#	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : 200P0211.D
Acq On : 11 Feb 2015 14:37
Operator : DLV
Sample : STD7
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 11 15:08:33 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN41.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Mon Feb 09 08:52:08 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) bromodichloromethane	7.336	83	1562934	187.92	ug/L		99
44) 2-chloroethyl vinyl ether	7.866	63	865969	187.41	ug/L		97
45) cis-1,3-dichloropropene	8.006	75	1923255	185.19	ug/L		96
46) 4-methyl-2-pentanone (...	8.299	43	1319900	220.00	ug/L		98
48) toluene	8.433	91	5465107	182.54	ug/L		98
49) trans-1,3-dichloropropene	8.829	75	1542485	183.29	ug/L		95
50) 1,1,2-trichloroethane	9.067	83	925782	190.87	ug/L		98
52) tetrachloroethene	9.158	166	1537376	196.33	ug/L		98
53) 1,3-dichloropropane	9.274	76	2018433	176.24	ug/L		100
54) 2-hexanone (MBK)	9.469	43	953560	183.86	ug/L		98
55) dibromochloromethane	9.561	129	1226642	188.71	ug/L		100
56) 1,2-dibromoethane	9.664	109	1103125	195.78	ug/L		100
57) chlorobenzene	10.329	112	3505417	178.85	ug/L		96
58) 1-chlorohexane	10.365	55	1377499	171.40	ug/L		93
59) 1,1,1,2-tetrachloroethane	10.469	131	1160621	176.06	ug/L		99
60) ethylbenzene	10.500	91	6047861	168.10	ug/L		98
61) m+p-xylene	10.664	106	4308253	308.88	ug/L		99
62) o-xylene	11.164	106	2204537	176.06	ug/L		96
63) styrene	11.201	104	3661832	174.19	ug/L		97
64) bromoform	11.414	173	933912	209.30	ug/L		99
67) isopropylbenzene	11.658	105	5754556	189.56	ug/L		99
68) bromobenzene	11.993	77	2160459	185.26	ug/L		90
69) 1,1,2,2-tetrachloroethane	12.103	83	1332746	191.41	ug/L	#	99
70) 1,2,3-trichloropropane	12.121	110	430885	195.67	ug/L		95
71) 1,4-dichloro-2-butene	12.176	53	405169	191.94	ug/L	#	62
72) n-propylbenzene	12.182	120	1547553	191.81	ug/L	#	87
73) 2-chlorotoluene	12.255	126	1321798	195.68	ug/L	#	90
74) 1,3,5-trimethylbenzene	12.420	105	4533187	180.58	ug/L		98
75) 4-chlorotoluene	12.402	91	4354724	174.04	ug/L		98
76) tert-butylbenzene	12.816	119	3923705	195.83	ug/L		97
77) 1,2,4-trimethylbenzene	12.883	105	4438191	192.03	ug/L		98
78) sec-butylbenzene	13.097	105	5633181	190.02	ug/L		97
79) 1,3-dichlorobenzene	13.200	146	2486767	197.78	ug/L		100
80) 4-isopropyltoluene	13.292	119	4654008	181.52	ug/L		98
81) 1,4-dichlorobenzene	13.316	146	2416352	181.11	ug/L		99
82) 1,2-dichlorobenzene	13.773	146	2313550	202.76	ug/L		100
83) n-butylbenzene	13.804	91	4084509	189.57	ug/L		97
84) hexachloroethane	14.060	201	683679	284.14	ug/L	#	63
85) 1,2-dibromo-3-chloropr...	14.773	157	440265	328.95	ug/L		90
86) 1,2,4-trichlorobenzene	15.779	180	1684339	262.26	ug/L		99
87) hexachlorobutadiene	16.005	225	735806	274.22	ug/L		100
88) naphthalene	16.078	128	3328553	250.38	ug/L		99
89) 1,2,3-trichlorobenzene	16.376	180	1469344	264.95	ug/L		98
90) 2-methylnaphthalene	17.486	142	753163	279.91	ug/L		98

(#) = 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: 5B12049-SCV1
Sequence: 5B12049

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Standard ID: 5010204
Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Acetone	40.0	41.9	105	80-120
Acrolein	40.0	32.6	82	80-120
Acrylonitrile	40.0	37.2	93	80-120
Benzene	40.0	40.0	100	80-120
Bromobenzene	40.0	40.4	101	80-120
Bromochloromethane	40.0	39.7	99	80-120
Bromodichloromethane	40.0	42.6	107	80-120
Bromoform	40.0	36.1	90	80-120
Bromomethane	40.0	46.4	116	80-120
n-Butylbenzene	40.0	42.3	106	80-120
sec-Butylbenzene	40.0	42.1	105	80-120
tert-Butylbenzene	40.0	41.6	104	80-120
Carbon Disulfide	40.0	45.8	115	80-120
Carbon Tetrachloride	40.0	42.1	105	80-120
Chlorobenzene	40.0	40.0	100	80-120
Chloroethane	40.0	38.7	97	80-120
Chloroform	40.0	39.5	99	80-120
1-Chlorohexane	40.0	38.9	97	80-120
Chloromethane	40.0	38.7	97	80-120
2-Chlorotoluene	40.0	40.9	102	80-120
4-Chlorotoluene	40.0	40.9	102	80-120
Cyclohexane	40.0	40.6	102	80-120
1,2-Dibromo-3-chloropropane	40.0	36.1	90	80-120
Dibromochloromethane	40.0	41.9	105	80-120
1,2-Dibromoethane	40.0	40.8	102	80-120
Dibromomethane	40.0	40.7	102	80-120
trans-1,4-Dichloro-2-butene	40.0	40.8	102	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B12049-SCV1

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 5010204

Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
1,2-Dichlorobenzene	40.0	40.3	101	80-120
1,3-Dichlorobenzene	40.0	40.4	101	80-120
1,4-Dichlorobenzene	40.0	39.4	99	80-120
Dichlorodifluoromethane	40.0	41.2	103	80-120
1,1-Dichloroethane	40.0	41.4	104	80-120
1,2-Dichloroethane	40.0	39.9	100	80-120
1,1-Dichloroethene	40.0	40.6	102	80-120
cis-1,2-Dichloroethene	40.0	40.6	102	80-120
trans-1,2-Dichloroethene	40.0	41.7	104	80-120
1,2-Dichloroethene (Total)	80.0	82.3	103	80-120
Dichlorofluoromethane	40.0	39.5	99	80-120
1,2-Dichloropropane	40.0	41.7	104	80-120
1,3-Dichloropropane	40.0	39.1	98	80-120
2,2-Dichloropropane	40.0	45.3	113	80-120
1,1-Dichloropropene	40.0	42.4	106	80-120
cis-1,3-Dichloropropene	40.0	38.7	97	80-120
trans-1,3-Dichloropropene	40.0	40.5	101	80-120
Ethylbenzene	40.0	40.5	101	80-120
Ethyl Ether	40.0	36.6	92	80-120
Hexachlorobutadiene	40.0	43.1	108	80-120
2-Hexanone	40.0	45.4	114	80-120
Iodomethane	40.0	41.6	104	80-120
Isopropylbenzene	40.0	40.3	101	80-120
4-Isopropyltoluene	40.0	41.4	104	80-120
Methyl Acetate	40.0	43.5	109	80-120
Methyl tert-Butyl Ether	40.0	39.6	99	80-120
Methylcyclohexane	40.0	40.6	102	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Laboratory ID: 5B12049-SCV1
Standard ID: 5010204
Sequence: 5B12049
Calibration: 5B12010

Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Methylene Chloride	40.0	40.9	102	80-120
2-Butanone (MEK)	40.0	43.2	108	80-120
4-Methyl-2-pentanone (MIBK)	40.0	44.1	110	80-120
Naphthalene	40.0	43.3	108	80-120
n-Propylbenzene	40.0	42.0	105	80-120
Styrene	40.0	40.8	102	80-120
1,1,1,2-Tetrachloroethane	40.0	42.5	106	80-120
1,1,2,2-Tetrachloroethane	40.0	39.4	99	80-120
Tetrachloroethene	40.0	40.2	101	80-120
Tetrahydrofuran	40.0	39.6	99	80-120
Toluene	40.0	40.3	101	80-120
1,2,3-Trichlorobenzene	40.0	40.1	100	80-120
1,2,4-Trichlorobenzene	40.0	40.7	102	80-120
1,1,1-Trichloroethane	40.0	42.1	105	80-120
1,1,2-Trichloroethane	40.0	39.9	100	80-120
Trichloroethene	40.0	41.3	103	80-120
Trichlorofluoromethane	40.0	39.2	98	80-120
1,2,3-Trichloropropane	40.0	39.6	99	80-120
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	37.8	95	80-120
1,2,4-Trimethylbenzene	40.0	41.7	104	80-120
1,3,5-Trimethylbenzene	40.0	41.0	103	80-120
Vinyl Acetate	40.0	38.8	97	80-120
Vinyl Chloride	40.0	39.4	99	80-120
Xylene, Meta + Para	80.0	82.2	103	80-120
Xylene, Ortho	40.0	41.3	103	80-120
Xylene (Total)	120	123	103	80-120
Dichlorobenzenes (Total)	120	120	100	80-120

SECOND-SOURCE CALIBRATION VERIFICATION

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.

Client: CH2M HILL - VA

Laboratory ID: 5B12049-SCV1

Sequence: 5B12049

SDG: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Standard ID: 5010204

Calibration: 5B12010

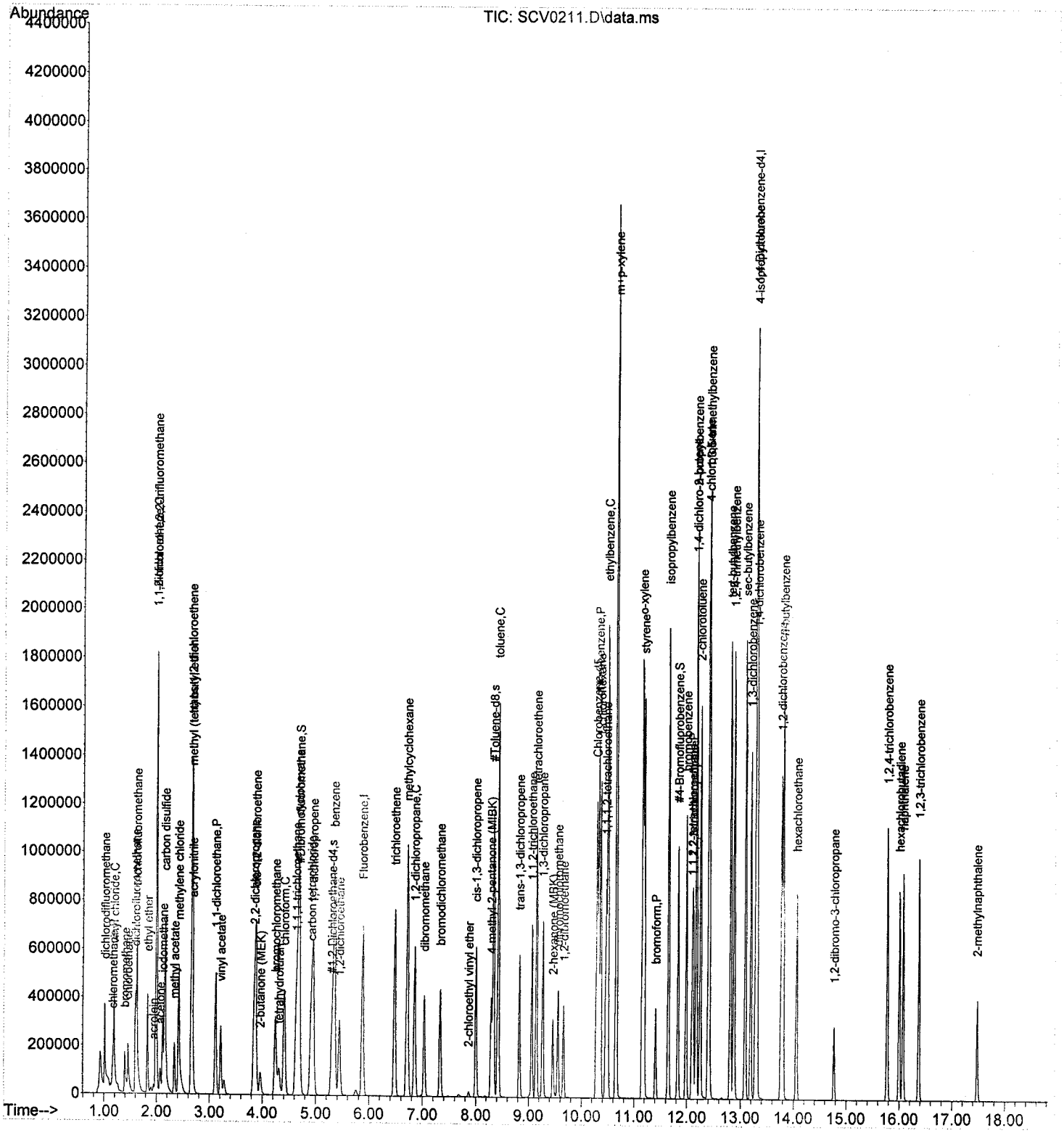
Analyte	Expected (ug/L)	Found (ug/L)	% Rec.	QC Limit
Dibromofluoromethane	40.0	40.1	100	80-120
1,2-Dichloroethane-d4	40.0	39.4	99	80-120
Toluene-d8	40.0	40.0	100	80-120
4-Bromofluorobenzene	40.0	40.2	101	80-120

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : SCV0211.D
Acq On : 11 Feb 2015 16:31
Operator : DLV
Sample : SCV1
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 12 08:02:26 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : SCV0211.D
Acq On : 11 Feb 2015 16:31
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Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.879	96	870304	40.00	ug/L		0.00
51) Chlorobenzene-d5	10.286	117	698006	40.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4	13.286	152	362994	40.00	ug/L		0.00
System Monitoring Compounds							
29) #Dibromofluoromethane	4.696	111	225018	40.13	ug/L		0.00
Spiked Amount 40.000			Recovery =	100.33%			
37) #1,2-Dichloroethane-d4	5.299	67	130511	39.44	ug/L		0.00
Spiked Amount 40.000			Recovery =	98.60%			
47) #Toluene-d8	8.335	98	859342	39.98	ug/L		0.00
Spiked Amount 40.000			Recovery =	99.95%			
65) #4-Bromofluorobenzene	11.835	95	359307	40.22	ug/L		0.00
Spiked Amount 40.000			Recovery =	100.55%			
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	289301	41.21	ug/L		99
3) chloromethane	1.172	50	230499	38.72	ug/L		99
4) vinyl chloride	1.190	62	298640	39.40	ug/L		100
5) bromomethane	1.398	94	101505	46.40	ug/L		100
6) chloroethane	1.459	64	130556	38.69	ug/L		100
7) dichlorofluoromethane	1.599	67	439215	39.49	ug/L		100
8) trichlorofluoromethane	1.623	101	383031	39.24	ug/L		100
9) ethyl ether	1.837	74	135846	36.63	ug/L		99
10) acrolein	1.946	56	21418	32.63	ug/L	#	98
11) 1,1,2-trichloro-1,2,2-...	1.995	101	313983	37.78	ug/L		99
12) 1,1-dichloroethene	1.995	96	277408	40.64	ug/L		100
13) acetone	2.074	43	110041	41.92	ug/L		100
14) iodomethane	2.117	142	423248	41.64	ug/L		100
15) carbon disulfide	2.160	76	888490	45.83	ug/L		100
16) methyl acetate	2.337	43	235759	43.52	ug/L		100
17) methylene chloride	2.416	49	362800	40.86	ug/L		99
18) acrylonitrile	2.684	53	120014	37.24	ug/L		100
19) trans-1,2-dichloroethene	2.660	96	296678	41.70	ug/L		100
20) methyl (tert) butyl ether	2.672	73	716317	39.59	ug/L		100
21) 1,1-dichloroethane	3.117	63	515176	41.45	ug/L		99
22) vinyl acetate	3.214	43	431218	38.81	ug/L		99
23) 2,2-dichloropropane	3.848	77	306614	45.27	ug/L		99
24) cis-1,2-dichloroethene	3.879	96	318197	40.56	ug/L		99
25) 2-butanone (MEK)	3.964	43	150203	43.17	ug/L		99
26) bromochloromethane	4.245	49	226036	39.66	ug/L		100
27) tetrahydrofuran	4.312	71	35052	39.59	ug/L		99
28) chloroform	4.409	83	489520	39.51	ug/L		100
30) 1,1,1-trichloroethane	4.635	97	402877	42.08	ug/L		99
31) cyclohexane	4.678	56	562438	40.57	ug/L		100
32) carbon tetrachloride	4.915	117	350377	42.08	ug/L		100
33) 1,1-dichloropropene	4.952	75	422315	42.39	ug/L		100
34) benzene	5.342	78	1190592	39.97	ug/L		99
35) 1,2-dichloroethane	5.440	62	345943	39.88	ug/L		100
36) heptane	5.879	57	28663	No Calib	#		
38) trichloroethene	6.482	130	335147	41.33	ug/L		99
39) methylcyclohexane	6.714	83	556778	40.62	ug/L		100
40) 1,2-dichloropropane	6.854	63	293279	41.70	ug/L		100
41) dibromomethane	7.037	93	172843	40.66	ug/L		99
42) 1,4-dioxane	0.000		0	N.D.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-11-15\
InstName : 328
Data File : SCV0211.D
Acq On : 11 Feb 2015 16:31
Operator : DLV
Sample : SCV1
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 12 08:02:26 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) bromodichloromethane	7.336	83	325232	42.60	ug/L		100
44) 2-chloroethyl vinyl ether	7.866	63	10386	3.79	ug/L		98
45) cis-1,3-dichloropropene	8.000	75	379017	38.73	ug/L		100
46) 4-methyl-2-pentanone (...	8.293	43	302103	44.14	ug/L	#	100
48) toluene	8.427	91	1254314	40.33	ug/L		100
49) trans-1,3-dichloropropene	8.829	75	311180	40.49	ug/L		99
50) 1,1,2-trichloroethane	9.061	83	207090	39.89	ug/L		100
52) tetrachloroethene	9.152	166	357945	40.24	ug/L		100
53) 1,3-dichloropropane	9.268	76	448472	39.10	ug/L		100
54) 2-hexanone (MBK)	9.463	43	220719	45.41	ug/L		99
55) dibromochloromethane	9.561	129	237160	41.91	ug/L		99
56) 1,2-dibromoethane	9.664	109	244894	40.79	ug/L		100
57) chlorobenzene	10.323	112	814802	40.00	ug/L		100
58) 1-chlorohexane	10.359	55	310216	38.90	ug/L		99
59) 1,1,1,2-tetrachloroethane	10.463	131	245486	42.46	ug/L		99
60) ethylbenzene	10.493	91	1427939	40.52	ug/L		100
61) m+p-xylene	10.658	106	1096083	82.16	ug/L		100
62) o-xylene	11.158	106	522069	41.31	ug/L		100
63) styrene	11.195	104	853892	40.82	ug/L		100
64) bromoform	11.414	173	168008	36.08	ug/L		99
67) isopropylbenzene	11.652	105	1336137	40.33	ug/L		100
68) bromobenzene	11.987	77	509231	40.41	ug/L		100
69) 1,1,2,2-tetrachloroethane	12.097	83	323059	39.41	ug/L	#	100
70) 1,2,3-trichloropropane	12.115	110	101519	39.59	ug/L		99
71) 1,4-dichloro-2-butene	12.170	53	82504	40.81	ug/L		98
72) n-propylbenzene	12.176	120	383101	41.96	ug/L		99
73) 2-chlorotoluene	12.249	126	322980	40.87	ug/L		99
74) 1,3,5-trimethylbenzene	12.414	105	1110233	40.95	ug/L		100
75) 4-chlorotoluene	12.402	91	1070500	40.93	ug/L		100
76) tert-butylbenzene	12.810	119	960036	41.59	ug/L		100
77) 1,2,4-trimethylbenzene	12.877	105	1076398	41.73	ug/L		100
78) sec-butylbenzene	13.091	105	1381101	42.07	ug/L		100
79) 1,3-dichlorobenzene	13.194	146	604607	40.36	ug/L		100
80) 4-isopropyltoluene	13.292	119	1156967	41.41	ug/L		100
81) 1,4-dichlorobenzene	13.310	146	600381	39.37	ug/L		100
82) 1,2-dichlorobenzene	13.767	146	559101	40.33	ug/L		100
83) n-butylbenzene	13.804	91	997737	42.26	ug/L		100
84) hexachloroethane	14.060	201	114264	33.17	ug/L		95
85) 1,2-dibromo-3-chloropr...	14.773	157	84360	36.09	ug/L		100
86) 1,2,4-trichlorobenzene	15.773	180	379750	40.71	ug/L		99
87) hexachlorobutadiene	16.005	225	181929	43.10	ug/L		100
88) naphthalene	16.072	128	770477	43.30	ug/L		100
89) 1,2,3-trichlorobenzene	16.376	180	330648	40.10	ug/L		99
90) 2-methylnaphthalene	17.480	142	206952	51.94	ug/L		99

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

CONTINUING CALIBRATION CHECK

USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B20002-CCV1
Lab File ID: CCV0219.D
Injection Date: 02/19/15
Injection Time: 08:39
Calibration Date: 02/11/15 00:00
Calibration: 5B12010
Sequence: 5B20002
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	L	40.0	31.9	0.1346512	9.799077E-02		-20.4	20 *
Acrolein	A	40.0	25.6	3.016561E-02	1.930689E-02		-36.0	20 *
Acrylonitrile	A	40.0	33.9	0.1481183	0.1255357		-15.2	20
Benzene	A	40.0	40.7	1.36917	1.392953		1.7	20
Bromobenzene	A	40.0	42.1	1.388532	1.461591		5.3	20
Bromochloromethane	A	40.0	36.9	0.2619753	0.2418433		-7.7	20
Bromodichloromethane	A	40.0	42.6	0.3508697	0.3732505		6.4	20
Bromoform	L	40.0	36.3	0.2296582	0.2421045	0.1	-9.3	20
Bromomethane	Q	40.0	47.9	0.1318909	0.1199247		19.8	20
n-Butylbenzene	A	40.0	44.2	2.601596	2.875188		10.5	20
sec-Butylbenzene	A	40.0	43.5	3.617489	3.934614		8.8	20
tert-Butylbenzene	A	40.0	43.3	2.543383	2.750428		8.1	20
Carbon Disulfide	A	40.0	40.5	0.8910709	0.9014674		1.2	20
Carbon Tetrachloride	A	40.0	44.4	0.3826848	0.4249553		11.0	20
Chlorobenzene	A	40.0	41.8	1.167243	1.218732	0.3	4.4	20
Chloroethane	A	40.0	36.9	0.1550712	0.1430934		-7.7	20
2-Chloroethyl Vinyl Ether	L	40.0	34.7	0.1787572	0.1772752		-13.3	20
Chloroform	A	40.0	40.8	0.5694141	0.5800625		1.9	20
1-Chlorohexane	A	40.0	39.6	0.4570059	0.4523497		-1.0	20
Chloromethane	L	40.0	34.6	0.2377628	0.2331086	0.1	-13.6	20
2-Chlorotoluene	A	40.0	43.0	0.8707524	0.9353359		7.4	20
4-Chlorotoluene	A	40.0	42.7	2.882371	3.074156		6.7	20
Cyclohexane	A	40.0	40.4	0.6372045	0.6431784		0.9	20
1,2-Dibromo-3-chloropropane	L	40.0	33.7	0.2226538	0.2151631		-15.8	20
Dibromochloromethane	A	40.0	45.6	0.3243117	0.3700531		14.1	20
1,2-Dibromoethane	A	40.0	42.8	0.3440604	0.3685017		7.1	20
Dibromomethane	A	40.0	41.2	0.1953573	0.2011243		3.0	20
trans-1,4-Dichloro-2-butene	A	40.0	41.9	0.2227512	0.2334994		4.8	20
1,2-Dichlorobenzene	A	40.0	42.5	1.527756	1.623995		6.3	20

CONTINUING CALIBRATION CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Lab Sample ID: 5B20002-CCV1
Lab File ID: CCV0219.D
Injection Date: 02/19/15
Injection Time: 08:39
Calibration Date: 02/11/15 00:00
Calibration: 5B12010
Sequence: 5B20002
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,3-Dichlorobenzene	A	40.0	42.6	1.650595	1.75692		6.4	20
1,4-Dichlorobenzene	A	40.0	42.0	1.680231	1.762207		4.9	20
Dichlorodifluoromethane	A	40.0	31.2	0.3226865	0.251734		-22.0	20 *
1,1-Dichloroethane	A	40.0	41.7	0.5712516	0.5950781	0.1	4.2	20
1,2-Dichloroethane	A	40.0	40.2	0.3987155	0.4008448		0.5	20
1,1-Dichloroethene	A	40.0	39.4	0.3136975	0.3093166		-1.4	20
cis-1,2-Dichloroethene	A	40.0	42.0	0.3605539	0.3782767		4.9	20
trans-1,2-Dichloroethene	A	40.0	42.6	0.3269797	0.3479671		6.4	20
1,2-Dichloroethene (Total)	A	80.0	84.5	0.3437668	0.3631219		5.6	20
Dichlorofluoromethane	A	40.0	35.8	0.5111259	0.4577544		-10.4	20
1,2-Dichloropropane	A	40.0	41.0	0.3232098	0.3315403		2.6	20
1,3-Dichloropropane	A	40.0	42.1	0.657329	0.6918453		5.3	20
2,2-Dichloropropane	A	40.0	50.5	0.3113116	0.3927852		26.2	20 *
1,1-Dichloropropene	A	40.0	42.1	0.4578973	0.4819793		5.3	20
cis-1,3-Dichloropropene	L	40.0	40.4	0.3950339	0.4557689		1.1	20
trans-1,3-Dichloropropene	L	40.0	38.8	0.293748	0.3411654		-3.0	20
Ethylbenzene	A	40.0	41.9	2.019599	2.117463		4.8	20
Ethyl Ether	A	40.0	36.6	0.1704718	0.1558275		-8.6	20
Hexachlorobutadiene	A	40.0	42.0	0.4651107	0.4881436		5.0	20
2-Hexanone	A	40.0	35.4	0.2785432	0.2464102		-11.5	20
Iodomethane	A	40.0	31.0	0.4671567	0.3622594		-22.5	20 *
Isopropylbenzene	A	40.0	44.5	3.650613	4.063337		11.3	20
4-Isopropyltoluene	A	40.0	43.2	3.078658	3.325376		8.0	20
Methyl Acetate	A	40.0	39.1	0.2489568	0.2431379		-2.3	20
Methyl tert-Butyl Ether	A	40.0	39.2	0.831573	0.8144436		-2.1	20
Methylcyclohexane	A	40.0	41.2	0.6299644	0.6493859		3.1	20
Methylene Chloride	L	40.0	38.8	0.4770505	0.3963278		-3.0	20
2-Butanone (MEK)	A	40.0	34.7	0.1599321	0.1386426		-13.3	20
4-Methyl-2-pentanone (MIBK)	A	40.0	34.5	0.314538	0.2711291		-13.8	20

CONTINUING CALIBRATION CHECK
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
Client: CH2M HILL - VA
Lab Sample ID: 5B20002-CCV1
Injection Date: 02/19/15
Calibration Date: 02/11/15 00:00
Sequence: 5B20002

SDG: 50085-9
Project: 8012 CTO-WE74 Yorktown Site 34
Lab File ID: CCV0219.D
Injection Time: 08:39
Calibration: 5B12010
Instrument ID: 328

Analyte	Type	CONC. (ug/L)		Response Factor			% Diff. / Drift	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Naphthalene	A	40.0	41.8	1.960986	2.049483		4.5	20
n-Propylbenzene	A	40.0	43.7	1.006037	1.098454		9.2	20
Styrene	A	40.0	42.2	1.198903	1.263222		5.4	20
1,1,1,2-Tetrachloroethane	A	40.0	45.9	0.3313118	0.3799375		14.7	20
1,1,2,2-Tetrachloroethane	A	40.0	41.2	0.9033172	0.9312318	0.3	3.1	20
Tetrachloroethene	A	40.0	43.4	0.5097812	0.5534737		8.6	20
Tetrahydrofuran	A	40.0	37.5	0.0406978	0.0381497		-6.3	20
Toluene	A	40.0	40.7	1.429348	1.453882		1.7	20
1,2,3-Trichlorobenzene	A	40.0	40.7	0.9086608	0.924752		1.8	20
1,2,4-Trichlorobenzene	A	40.0	42.2	1.02779	1.084608		5.5	20
1,1,1-Trichloroethane	A	40.0	44.1	0.4400399	0.48504		10.2	20
1,1,2-Trichloroethane	A	40.0	40.1	0.2385882	0.2393108		0.3	20
Trichloroethene	A	40.0	41.1	0.3726584	0.3827485		2.7	20
Trichlorofluoromethane	A	40.0	38.2	0.4486763	0.4287919		-4.4	20
1,2,3-Trichloropropane	A	40.0	41.2	0.2825812	0.2909442		3.0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	40.0	39.2	0.3819638	0.3745094		-2.0	20
1,2,4-Trimethylbenzene	A	40.0	44.1	2.84223	3.133725		10.3	20
1,3,5-Trimethylbenzene	A	40.0	43.6	2.987333	3.256825		9.0	20
Vinyl Acetate	A	40.0	46.5	0.5106643	0.5936502		16.3	20
Vinyl Chloride	A	40.0	33.8	0.3483402	0.2939429		-15.6	20
Xylene, Meta + Para	A	80.0	83.7	0.7644733	0.8001385		4.7	20
Xylene, Ortho	A	40.0	41.8	0.7242134	0.7562183		4.4	20
Xylene (Total)	A	120	126	0.7510534	0.7854984		4.6	20
Dichlorobenzenes (Total)	A	120	127	1.619527	1.714374		5.9	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

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : CCV0219.D
Acq On : 19 Feb 2015 8:39
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 19 09:05:16 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 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	111	-0.01
2		dichlorodifluoromethane	0.323	0.252	22.0	90	0.00
3	P	chloromethane	0.238	0.233	2.1	107	0.01
4	C	vinyl chloride	0.348	0.294	15.5	100	0.00
5		bromomethane	0.132	0.120	9.1	129	0.00
6		chloroethane	0.155	0.143	7.7	107	0.00
7		dichlorofluoromethane	0.511	0.458	10.4	104	0.00
8		trichlorofluoromethane	0.449	0.429	4.5	112	0.00
9		ethyl ether	0.170	0.156	8.2	106	0.00
10		acrolein	0.030	0.019	36.7#	79	0.00
11		1,1,2-trichloro-1,2,2-trifl	0.382	0.375	1.8	114	0.00
12	C	1,1-dichloroethene	0.314	0.309	1.6	115	0.00
13		acetone	0.135	0.098	27.4#	90	0.00
14		iodomethane	0.467	0.362	22.5	84	-0.01
15		carbon disulfide	0.891	0.901	-1.1	107	0.00
16		methyl acetate	0.249	0.243	2.4	104	-0.01
17		methylene chloride	0.477	0.396	17.0	108	0.00
18		acrylonitrile	0.148	0.126	14.9	95	0.00
19		trans-1,2-dichloroethene	0.327	0.348	-6.4	120	0.00
20		methyl (tert) butyl ether	0.832	0.814	2.2	109	-0.01
21	P	1,1-dichloroethane	0.571	0.595	-4.2	117	-0.01
22		vinyl acetate	0.511	0.594	-16.2	124	-0.01
23		2,2-dichloropropane	0.311	0.393	-26.4#	137	-0.02
24		cis-1,2-dichloroethene	0.361	0.378	-4.7	118	-0.01
25		2-butanone (MEK)	0.160	0.139	13.1	93	-0.02
26		bromochloromethane	0.262	0.242	7.6	104	-0.01
27		tetrahydrofuran	0.041	0.038	7.3	99	-0.01
28	C	chloroform	0.569	0.580	-1.9	117	-0.02
29	S	#Dibromofluoromethane	0.258	0.266	-3.1	114	-0.02
30		1,1,1-trichloroethane	0.440	0.485	-10.2	121	-0.02
31		cyclohexane	0.637	0.643	-0.9	112	-0.02
32		carbon tetrachloride	0.383	0.425	-11.0	120	-0.02
33		1,1-dichloropropene	0.458	0.482	-5.2	118	-0.02
34		benzene	1.369	1.393	-1.8	116	-0.02
35		1,2-dichloroethane	0.399	0.401	-0.5	114	-0.01
36		heptane	0.000	0.000	0.0	0#	-0.01
37	s	#1,2-Dichloroethane-d4	0.152	0.152	0.0	111	-0.01
38		trichloroethene	0.373	0.383	-2.7	115	-0.01
39		methylcyclohexane	0.630	0.649	-3.0	115	-0.02
40	C	1,2-dichloropropane	0.323	0.332	-2.8	114	-0.01
41		dibromomethane	0.195	0.201	-3.1	115	-0.01
42		1,4-dioxane	0.000	0.000	0.0	0#	-7.34#
43		bromodichloromethane	0.351	0.373	-6.3	114	-0.01
44		2-chloroethyl vinyl ether	0.179	0.177	1.1	96	-0.01
45		cis-1,3-dichloropropene	0.395	0.456	-15.4	116	-0.02
46		4-methyl-2-pentanone (MIBK)	0.315	0.271	14.0	89	-0.01
47	s	#Toluene-d8	0.988	0.980	0.8	110	-0.01
48	C	toluene	1.429	1.454	-1.7	115	-0.01
49		trans-1,3-dichloropropene	0.294	0.341	-16.0	115	-0.01
50		1,1,2-trichloroethane	0.239	0.239	0.0	112	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : CCV0219.D
Acq On : 19 Feb 2015 8:39
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 19 09:05:16 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 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)
51		Chlorobenzene-d5	1.000	1.000	0.0	105	-0.01
52		tetrachloroethene	0.510	0.553	-8.4	117	-0.01
53		1,3-dichloropropane	0.657	0.692	-5.3	111	-0.01
54		2-hexanone (MBK)	0.279	0.246	11.8	84	-0.01
55		dibromochloromethane	0.324	0.370	-14.2	111	-0.01
56		1,2-dibromoethane	0.344	0.369	-7.3	110	-0.01
57	P	chlorobenzene	1.167	1.219	-4.5	112	-0.01
58		1-chlorohexane	0.457	0.452	1.1	106	-0.01
59		1,1,1,2-tetrachloroethane	0.331	0.380	-14.8	114	-0.01
60	C	ethylbenzene	2.020	2.117	-4.8	111	-0.01
61		m+p-xylene	0.764	0.800	-4.7	109	-0.01
62		o-xylene	0.724	0.756	-4.4	109	-0.01
63		styrene	1.199	1.263	-5.3	108	-0.01
64	P	bromoform	0.230	0.242	-5.2	101	-0.01
65	S	#4-Bromofluorobenzene	0.512	0.481	6.1	98	-0.01
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	97	-0.01
67		isopropylbenzene	3.651	4.063	-11.3	109	-0.01
68		bromobenzene	1.389	1.462	-5.3	105	-0.01
69	P	1,1,2,2-tetrachloroethane	0.903	0.931	-3.1	104	-0.01
70		1,2,3-trichloropropane	0.283	0.291	-2.8	103	-0.01
71		1,4-dichloro-2-butene	0.223	0.233	-4.5	98	0.00
72		n-propylbenzene	1.006	1.098	-9.1	107	0.00
73		2-chlorotoluene	0.871	0.935	-7.3	107	-0.01
74		1,3,5-trimethylbenzene	2.987	3.257	-9.0	107	-0.01
75		4-chlorotoluene	2.882	3.074	-6.7	105	-0.01
76		tert-butylbenzene	2.543	2.750	-8.1	106	-0.01
77		1,2,4-trimethylbenzene	2.842	3.134	-10.3	108	0.00
78		sec-butylbenzene	3.617	3.935	-8.8	107	-0.01
79		1,3-dichlorobenzene	1.651	1.757	-6.4	107	-0.01
80		4-isopropyltoluene	3.079	3.325	-8.0	107	-0.01
81		1,4-dichlorobenzene	1.680	1.762	-4.9	106	-0.01
82		1,2-dichlorobenzene	1.528	1.624	-6.3	106	0.00
83		n-butylbenzene	2.602	2.875	-10.5	108	-0.01
84		hexachloroethane	0.315	0.307	2.5	86	-0.01
85		1,2-dibromo-3-chloropropane	0.223	0.215	3.6	88	0.00
86		1,2,4-trichlorobenzene	1.028	1.085	-5.5	103	-0.01
87		hexachlorobutadiene	0.465	0.488	-4.9	104	-0.01
88		naphthalene	1.961	2.049	-4.5	99	0.00
89		1,2,3-trichlorobenzene	0.909	0.925	-1.8	101	-0.01
90		2-methylnaphthalene	0.439	0.423	3.6	87	-0.01

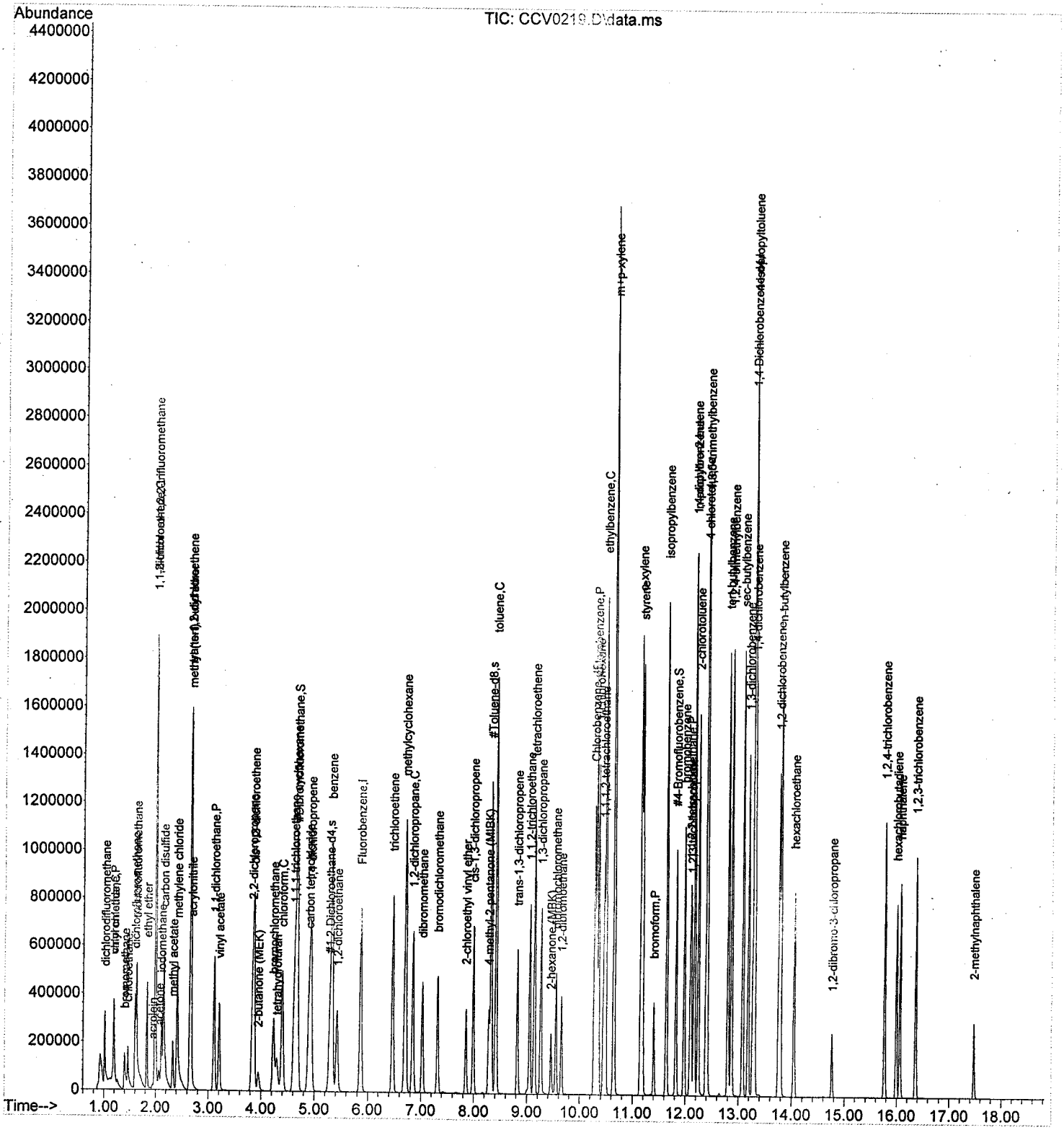
(#) = Out of Range SPCC's out = 0 CCC's out = 0

00121

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : CCV0219.D
Acq On : 19 Feb 2015 8:39
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 19 09:05:16 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : CCV0219.D
Acq On : 19 Feb 2015 8:39
Operator : DLV
Sample : CCV
Misc :
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Quant Time: Feb 19 09:05:16 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.866	96	952406	40.00	ug/L		-0.01
51) Chlorobenzene-d5	10.274	117	714865	40.00	ug/L		-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	348926	40.00	ug/L		-0.01
System Monitoring Compounds							
29) #Dibromofluoromethane	4.677	111	253349	41.29	ug/L		-0.02
Spiked Amount 40.000			Recovery = 103.22%				
37) #1,2-Dichloroethane-d4	5.287	67	144784	39.98	ug/L		-0.01
Spiked Amount 40.000			Recovery = 99.95%				
47) #Toluene-d8	8.323	98	933029	39.67	ug/L		-0.01
Spiked Amount 40.000			Recovery = 99.17%				
65) #4-Bromofluorobenzene	11.822	95	343566	37.55	ug/L		-0.01
Spiked Amount 40.000			Recovery = 93.88%				
Target Compounds							Qvalue
2) dichlorodifluoromethane	1.014	85	239753	31.20	ug/L		99
3) chloromethane	1.190	50	222014	34.56	ug/L		98
4) vinyl chloride	1.190	62	279953	33.75	ug/L		99
5) bromomethane	1.398	94	114217	47.93	ug/L		99
6) chloroethane	1.459	64	136283	36.91	ug/L		98
7) dichlorofluoromethane	1.593	67	435968	35.82	ug/L		100
8) trichlorofluoromethane	1.623	101	408384	38.23	ug/L		100
9) ethyl ether	1.830	74	148411	36.56	ug/L		96
10) acrolein	1.940	56	18388	25.60	ug/L	#	99
11) 1,1,2-trichloro-1,2,2-...	1.989	101	356685	39.22	ug/L		99
12) 1,1-dichloroethene	1.989	96	294595	39.44	ug/L		99
13) acetone	2.068	43	93327	31.86	ug/L		99
14) iodomethane	2.111	142	345018	31.02	ug/L		98
15) carbon disulfide	2.154	76	858563	40.47	ug/L		100
16) methyl acetate	2.330	43	231566	39.07	ug/L		98
17) methylene chloride	2.410	49	377465	38.79	ug/L		97
18) acrylonitrile	2.678	53	119561	33.90	ug/L		99
19) trans-1,2-dichloroethene	2.653	96	331406	42.57	ug/L		98
20) methyl (tert) butyl ether	2.660	73	775681	39.18	ug/L		99
21) 1,1-dichloroethane	3.111	63	566756	41.67	ug/L		100
22) vinyl acetate	3.202	43	565396	46.50	ug/L		98
23) 2,2-dichloropropane	3.836	77	374091	50.47	ug/L		99
24) cis-1,2-dichloroethene	3.867	96	360273	41.97	ug/L		99
25) 2-butanone (MEK)	3.946	43	132044	34.68	ug/L		98
26) bromochloromethane	4.232	49	230333	36.93	ug/L		94
27) tetrahydrofuran	4.299	71	36334	37.50	ug/L		97
28) chloroform	4.397	83	552455	40.75	ug/L		100
30) 1,1,1-trichloroethane	4.623	97	461955	44.09	ug/L		99
31) cyclohexane	4.659	56	612567	40.38	ug/L		98
32) carbon tetrachloride	4.897	117	404730	44.42	ug/L		100
33) 1,1-dichloropropene	4.933	75	459040	42.10	ug/L		100
34) benzene	5.324	78	1326657	40.69	ug/L		98
35) 1,2-dichloroethane	5.427	62	381767	40.21	ug/L		99
36) heptane	5.866	57	30410	No Calib			
38) trichloroethene	6.470	130	364532	41.08	ug/L		99
39) methylcyclohexane	6.701	83	618479	41.23	ug/L		98
40) 1,2-dichloropropane	6.842	63	315761	41.03	ug/L		100
41) dibromomethane	7.025	93	191552	41.18	ug/L		99
42) 1,4-dioxane	0.000		0	N.D.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : CCV0219.D
Acq On : 19 Feb 2015 8:39
Operator : DLV
Sample : CCV
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 19 09:05:16 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.323	83	355486	42.55 ug/L	100
44) 2-chloroethyl vinyl ether	7.854	63	168838	34.67 ug/L	99
45) cis-1,3-dichloropropene	7.988	75	434077	40.44 ug/L	98
46) 4-methyl-2-pentanone (...	8.280	43	258225	34.48 ug/L #	98
48) toluene	8.414	91	1384686	40.69 ug/L	100
49) trans-1,3-dichloropropene	8.817	75	324928	38.78 ug/L	98
50) 1,1,2-trichloroethane	9.055	83	227921	40.12 ug/L	99
52) tetrachloroethene	9.140	166	395659	43.43 ug/L	100
53) 1,3-dichloropropane	9.262	76	494576	42.10 ug/L	100
54) 2-hexanone (MBK)	9.451	43	176150	35.39 ug/L	98
55) dibromochloromethane	9.548	129	264538	45.64 ug/L	99
56) 1,2-dibromoethane	9.652	109	263429	42.84 ug/L	100
57) chlorobenzene	10.310	112	871229	41.76 ug/L	99
58) 1-chlorohexane	10.353	55	323369	39.59 ug/L	98
59) 1,1,1,2-tetrachloroethane	10.451	131	271604	45.87 ug/L	100
60) ethylbenzene	10.487	91	1513700	41.94 ug/L	99
61) m+p-xylene	10.646	106	1143982	83.73 ug/L	100
62) o-xylene	11.152	106	540594	41.77 ug/L	99
63) styrene	11.182	104	903033	42.15 ug/L	99
64) bromoform	11.402	173	173072	36.27 ug/L	99
67) isopropylbenzene	11.639	105	1417804	44.52 ug/L	100
68) bromobenzene	11.975	77	509987	42.10 ug/L	97
69) 1,1,2,2-tetrachloroethane	12.091	83	324931	41.24 ug/L #	100
70) 1,2,3-trichloropropane	12.109	110	101518	41.18 ug/L	99
71) 1,4-dichloro-2-butene	12.164	53	81474	41.93 ug/L	97
72) n-propylbenzene	12.170	120	383279	43.67 ug/L	99
73) 2-chlorotoluene	12.243	126	326363	42.97 ug/L	98
74) 1,3,5-trimethylbenzene	12.408	105	1136391	43.61 ug/L	100
75) 4-chlorotoluene	12.389	91	1072653	42.66 ug/L	99
76) tert-butylbenzene	12.804	119	959696	43.26 ug/L	99
77) 1,2,4-trimethylbenzene	12.871	105	1093438	44.10 ug/L	99
78) sec-butylbenzene	13.078	105	1372889	43.51 ug/L	100
79) 1,3-dichlorobenzene	13.182	146	613035	42.58 ug/L	100
80) 4-isopropyltoluene	13.279	119	1160310	43.21 ug/L	100
81) 1,4-dichlorobenzene	13.304	146	614880	41.95 ug/L	100
82) 1,2-dichlorobenzene	13.761	146	566654	42.52 ug/L	100
83) n-butylbenzene	13.791	91	1003228	44.21 ug/L	100
84) hexachloroethane	14.048	201	107040	32.45 ug/L	90
85) 1,2-dibromo-3-chloropr...	14.767	157	75076	33.68 ug/L	98
86) 1,2,4-trichlorobenzene	15.767	180	378448	42.21 ug/L	100
87) hexachlorobutadiene	15.992	225	170326	41.98 ug/L	99
88) naphthalene	16.065	128	715118	41.81 ug/L	99
89) 1,2,3-trichlorobenzene	16.364	180	322670	40.71 ug/L	99
90) 2-methylnaphthalene	17.474	142	147548	38.52 ug/L	99

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

TRIMATRIX
LABORATORIES

SECTION - C

RAW QUALITY CONTROL DATA

USEPA-8260B

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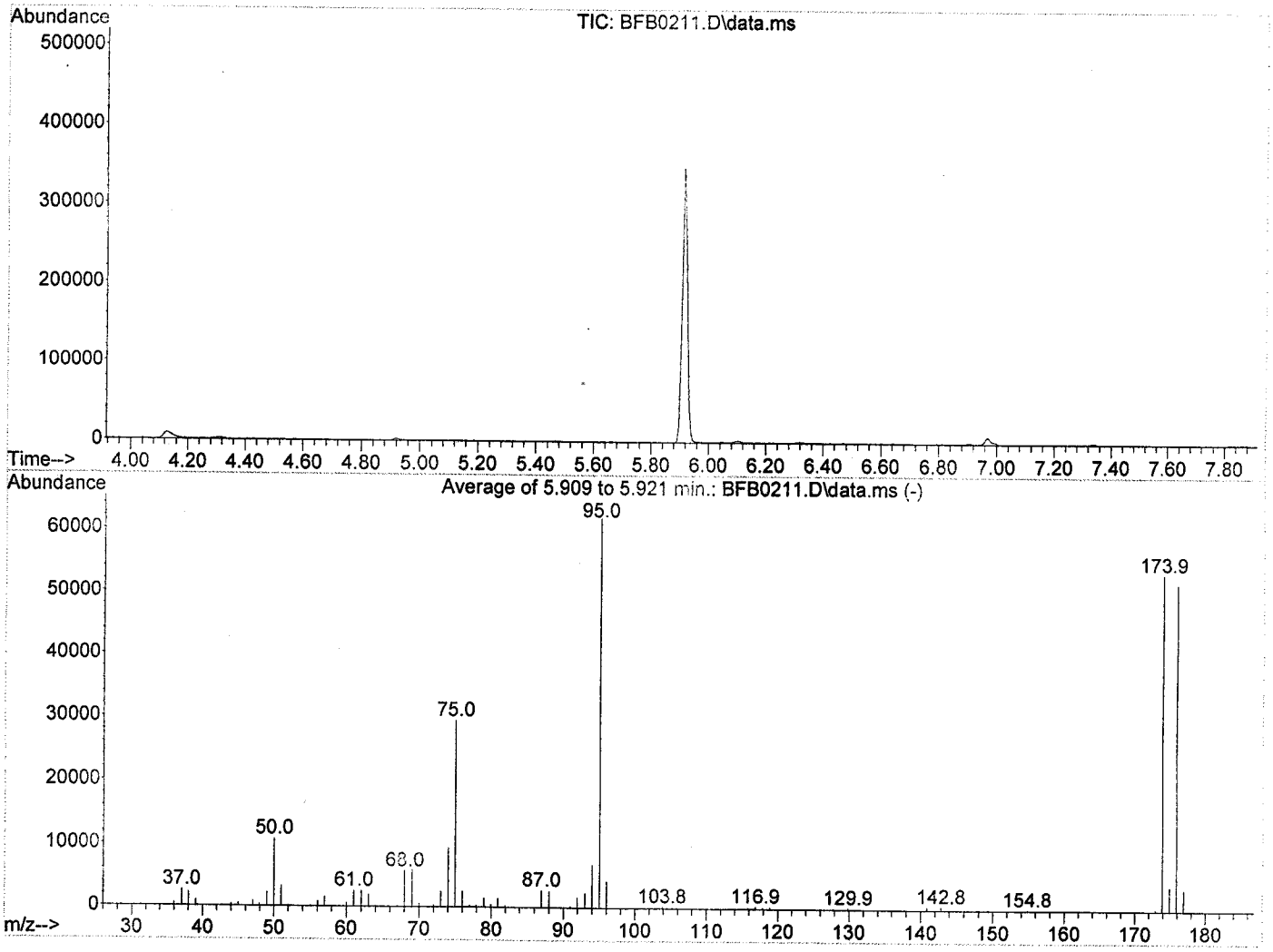
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ Phone: 616.975.4500 ♦ Fax: 616.942.7463 ♦ www.trimatrixlabs.com

Data Path : C:\msdchem\1\DATA\02-11-15\
Data File : BFB0211.D
Acq On : 11 Feb 2015 9:01
Operator : DLV
Sample : BFB
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\8260-WN41.M
Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
Last Update : Mon Feb 09 08:52:08 2015



AutoFind: Scans 873, 874, 875; Background Corrected with Scan 867

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	10738	PASS
75	95	30	60	47.6	29416	PASS
95	95	100	100	100.0	61829	PASS
96	95	5	9	7.0	4317	PASS
173	174	0.00	2	0.5	280	PASS
174	95	50	100	86.3	53347	PASS
175	174	5	9	7.2	3823	PASS
176	174	95	101	97.2	51829	PASS
177	176	5	9	6.6	3441	PASS

Average of 5.909 to 5.921 min.: BFB0211.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	470	52.00	128	69.00	5945	79.95	402
37.05	2565	55.00	107	70.00	509	80.90	1416
38.00	2192	56.05	774	71.95	282	81.95	278
39.00	923	57.00	1487	73.00	2480	86.95	2736
44.00	315	60.00	527	74.00	9448	88.00	2568
45.00	460	61.00	2539	75.00	29416	90.95	183
47.05	867	62.00	2551	76.00	2528	91.95	1631
47.95	308	63.00	1915	76.90	117	93.00	2353
49.00	2193	63.95	123	77.05	254	94.00	6815
50.00	10738	67.00	62	77.95	266	95.00	61829
51.00	3246	68.00	5747	78.95	1399	96.00	4317

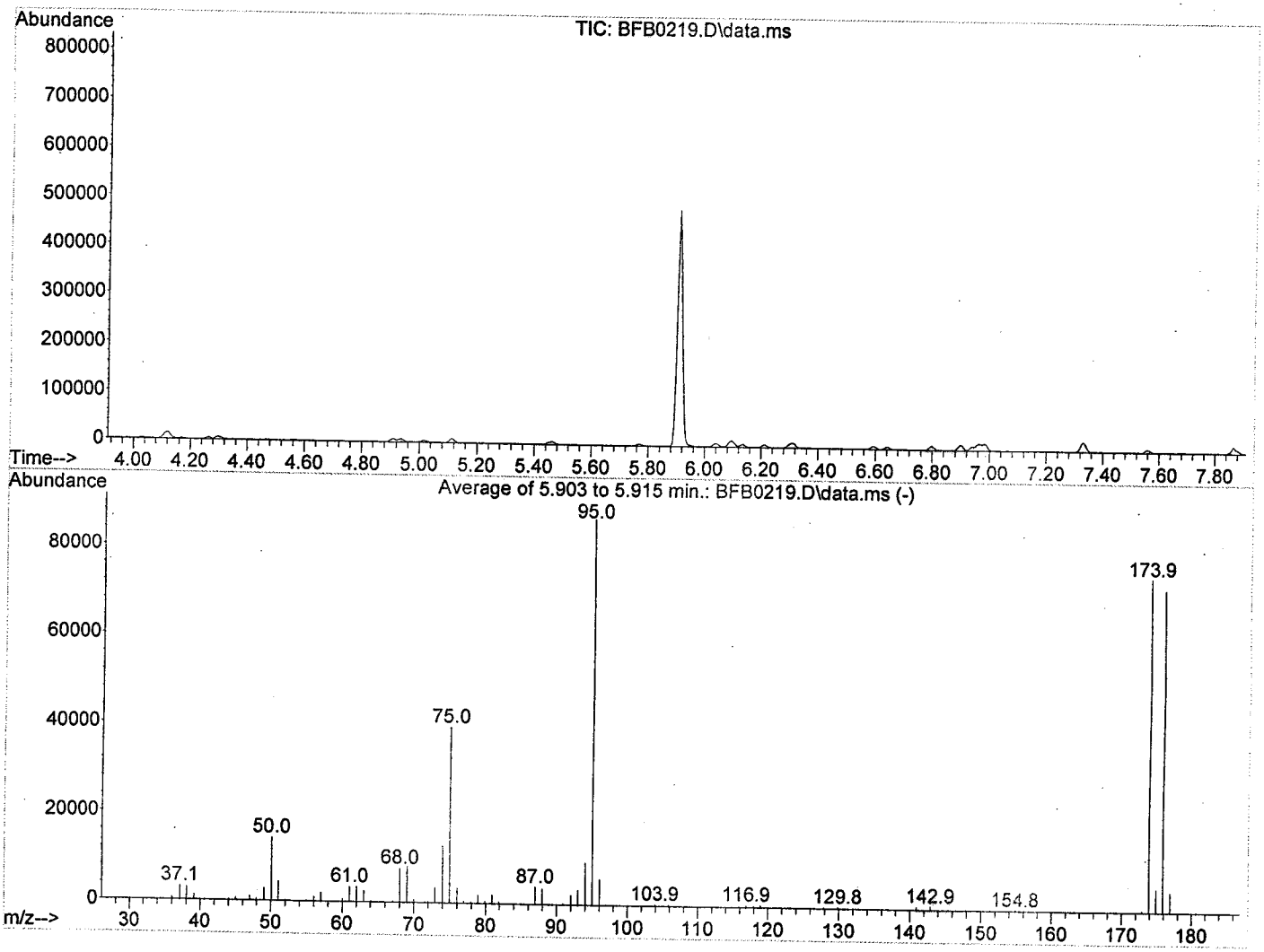
Average of 5.909 to 5.921 min.: BFB0211.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.85	264	154.85	104				
105.85	255	172.90	280				
115.85	208	173.90	53347				
116.90	362	174.90	3823				
117.90	196	175.90	51829				
118.90	280	176.90	3441				
127.80	149						
129.90	225						
140.85	498						
142.85	537						
147.90	66						

Data Path : C:\msdchem\1\DATA\02-19-15\
Data File : BFB0219.D
Acq On : 19 Feb 2015 8:11
Operator : DLV
Sample : BFB
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\8260-WN42.M
Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
Last Update : Thu Feb 12 08:00:43 2015



AutoFind: Scans 872, 873, 874; Background Corrected with Scan 866

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	14218	PASS
75	95	30	60	45.6	39595	PASS
95	95	100	100	100.0	86829	PASS
96	95	5	9	6.8	5865	PASS
173	174	0.00	2	0.5	395	PASS
174	95	50	100	86.1	74717	PASS
175	174	5	9	6.9	5174	PASS
176	174	95	101	96.7	72251	PASS
177	176	5	9	6.2	4493	PASS

LCW 2-20-15

Average of 5.903 to 5.915 min.: BFB0219.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	596	51.00	4389	68.00	7702	79.90	536
37.10	3186	52.00	182	69.00	8074	80.90	1988
38.05	2924	55.00	126	70.00	689	81.90	378
39.10	1166	56.00	974	71.95	360	86.95	3923
40.00	52	57.00	1978	73.00	3344	87.95	3537
44.00	251	60.00	604	74.00	12761	90.90	252
45.00	623	61.00	3423	75.00	39595	92.00	2186
47.00	1084	62.00	3432	76.00	3363	93.00	3357
48.00	434	63.05	2487	76.95	470	94.00	9536
49.05	2880	64.05	215	77.95	335	95.00	86829
50.05	14218	67.05	187	78.90	1866	96.00	5865

Average of 5.903 to 5.915 min.: BFB0219.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	117	135.00	58	176.90	4493		
103.90	344	136.90	60				
105.85	281	140.90	687				
115.85	238	142.90	767				
116.90	470	147.85	189				
117.90	272	154.85	199				
118.95	452	156.80	52				
127.85	287	172.90	395				
128.90	65	173.90	74717				
129.85	306	174.90	5174				
130.80	52	175.90	72251				

METHOD BLANK DATA SHEET
USEPA-8260B

Laboratory: TriMatrix Laboratories, Inc.
SDG: 50085-9
Client: CH2M HILL - VA
Project: 8012 CTO-WE74 Yorktown Site 34
Matrix: Water
Laboratory ID: 1501603-BLK1
File ID: BLK0219.D
Prepared: 02/19/15 08:00
Analyzed: 02/19/15 10:05
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1501603
Sequence: 5B20002
Calibration: 5B12010
Instrument: 328

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

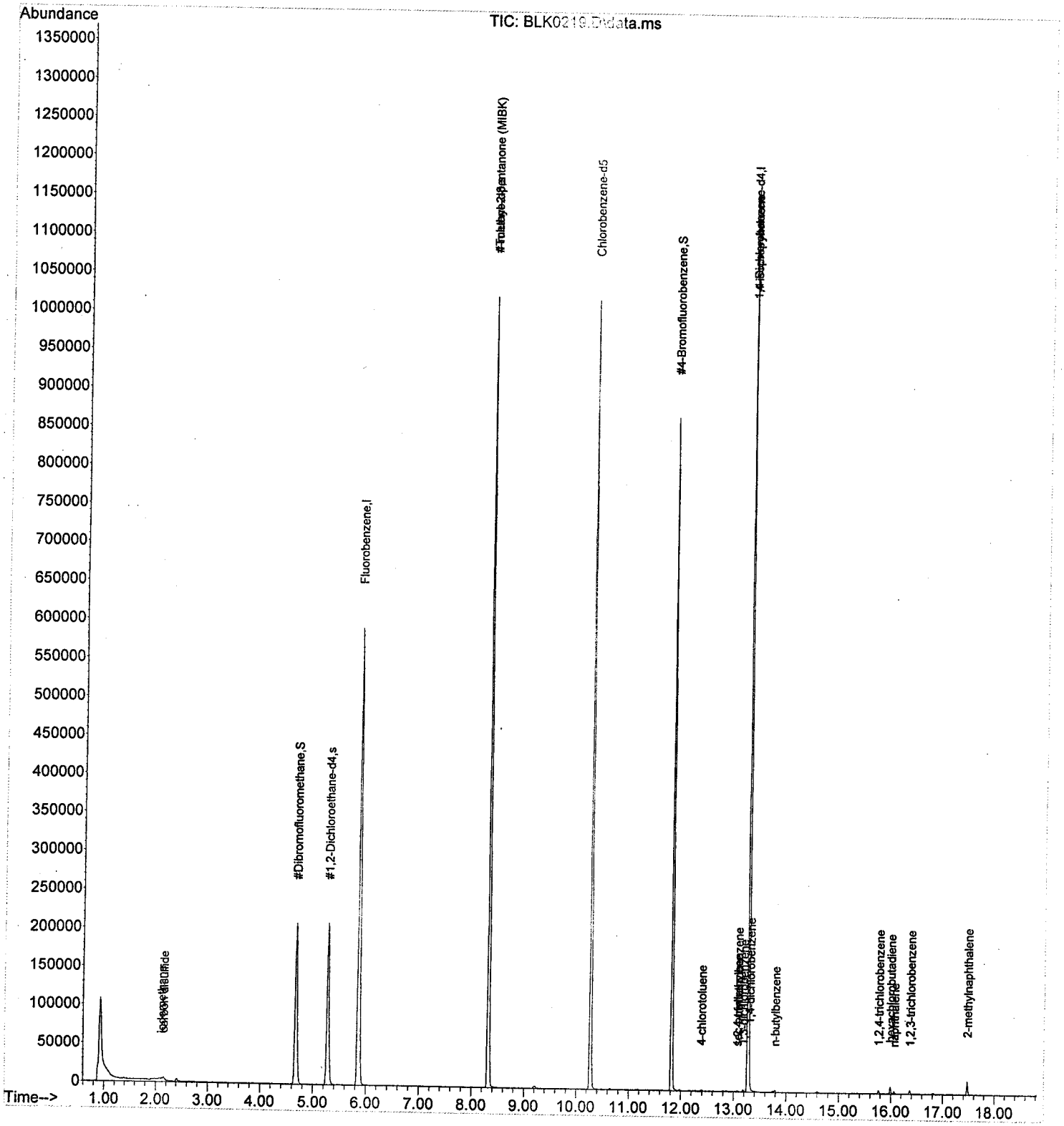
System Monitoring Compound	Added (ug/L)	Conc. (ug/L)	% REC	QC Limits	Q
Dibromofluoromethane	40.0	39.0	97	85 - 115	
1,2-Dichloroethane-d4	40.0	39.9	100	70 - 120	
Toluene-d8	40.0	39.9	100	85 - 120	
4-Bromofluorobenzene	40.0	38.9	97	75 - 120	

Internal Standard	Area	RT	Ref. Area	Ref. RT	Q
Fluorobenzene	737711	5.86	854305	5.879	
Chlorobenzene-d5	584325	10.274	677916	10.286	
1,4-Dichlorobenzene-d4	307706	13.273	359463	13.286	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BLK0219.D
Acq On : 19 Feb 2015 10:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 19 10:33:01 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BLK0219.D
Acq On : 19 Feb 2015 10:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 19 10:33:01 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	5.860	96	737711	40.00 ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	584325	40.00 ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	307706	40.00 ug/L	#-0.01
System Monitoring Compounds					
29) #Dibromofluoromethane	4.677	111	185166	38.96 ug/L	-0.02
Spiked Amount 40.000			Recovery =	97.40%	
37) #1,2-Dichloroethane-d4	5.281	67	111922	39.90 ug/L	-0.02
Spiked Amount 40.000			Recovery =	99.75%	
47) #Toluene-d8	8.323	98	727515	39.93 ug/L	-0.01
Spiked Amount 40.000			Recovery =	99.83%	
65) #4-Bromofluorobenzene	11.822	95	290998	38.91 ug/L	-0.01
Spiked Amount 40.000			Recovery =	97.27%	
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.000		0	N.D.	
3) chloromethane	0.000		0	N.D.	
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	0.000		0	N.D.	
13) acetone	2.068	43	1716	Below Cal #	43
14) iodomethane	2.111	142	2022	0.23 ug/L #	41
15) carbon disulfide	2.154	76	2243	0.14 ug/L #	75
16) methyl acetate	0.000		0	N.D.	
17) methylene chloride	2.410	49	2568	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	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	5.866	57	23495	No Calib #	
38) trichloroethene	0.000		0	N.D.	
39) methylcyclohexane	0.000		0	N.D.	
40) 1,2-dichloropropane	0.000		0	N.D.	
41) dibromomethane	0.000		0	N.D.	
42) 1,4-dioxane	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BLK0219.D
Acq On : 19 Feb 2015 10:05
Operator : DLV
Sample : BLK
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 19 10:33:01 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	0.000		0	N.D.	
44) 2-chloroethyl vinyl ether	0.000		0	N.D.	
45) cis-1,3-dichloropropene	0.000		0	N.D.	
46) 4-methyl-2-pentanone (...	8.323	43	2666	0.46 ug/L #	1
48) toluene	0.000		0	N.D.	
49) trans-1,3-dichloropropene	0.000		0	N.D.	
50) 1,1,2-trichloroethane	0.000		0	N.D.	
52) tetrachloroethene	0.000		0	N.D.	
53) 1,3-dichloropropane	0.000		0	N.D.	
54) 2-hexanone (MBK)	0.000		0	N.D.	
55) dibromochloromethane	0.000		0	N.D.	
56) 1,2-dibromoethane	0.000		0	N.D.	
57) chlorobenzene	0.000		0	N.D.	
58) 1-chlorohexane	0.000		0	N.D.	
59) 1,1,1,2-tetrachloroethane	0.000		0	N.D.	
60) ethylbenzene	0.000		0	N.D.	
61) m+p-xylene	0.000		0	N.D.	
62) o-xylene	0.000		0	N.D.	
63) styrene	0.000		0	N.D.	
64) bromoform	0.000		0	N.D.	
67) isopropylbenzene	0.000		0	N.D.	
68) bromobenzene	0.000		0	N.D.	
69) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	
70) 1,2,3-trichloropropane	0.000		0	N.D.	
71) 1,4-dichloro-2-butene	0.000		0	N.D.	
72) n-propylbenzene	0.000		0	N.D.	
73) 2-chlorotoluene	0.000		0	N.D.	
74) 1,3,5-trimethylbenzene	0.000		0	N.D.	
75) 4-chlorotoluene	12.389	91	1399	0.06 ug/L #	44
76) tert-butylbenzene	0.000		0	N.D.	
77) 1,2,4-trimethylbenzene	13.078	105	1367	0.06 ug/L #	30
78) sec-butylbenzene	13.078	105	1367	0.05 ug/L #	55
79) 1,3-dichlorobenzene	13.182	146	1444	0.11 ug/L #	25
80) 4-isopropyltoluene	13.279	119	1573	0.07 ug/L #	50
81) 1,4-dichlorobenzene	13.304	146	2048	0.16 ug/L #	24
82) 1,2-dichlorobenzene	0.000		0	N.D.	
83) n-butylbenzene	13.792	91	1881	0.09 ug/L #	32
84) hexachloroethane	0.000		0	N.D.	
85) 1,2-dibromo-3-chloropr...	0.000		0	N.D.	
86) 1,2,4-trichlorobenzene	15.767	180	1800	0.23 ug/L #	86
87) hexachlorobutadiene	15.992	225	2049	0.57 ug/L #	56
88) naphthalene	16.065	128	3356	0.22 ug/L #	78
89) 1,2,3-trichlorobenzene	16.370	180	2007	0.29 ug/L #	83
90) 2-methylnaphthalene	17.474	142	9633	2.85 ug/L	97

(#) = 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: 50085-9

Project: 8012 CTO-WE74 Yorktown Site 34

Laboratory ID: 1501603-BS1

Preparation: 5030B Aqueous Purge & Trap

Initial/Final: 5 mL / 5 mL

QC Batch: 1501603

Sequence: 5B20002

Analyte	Spike Added	LCS Conc.	LCS % Rec. #	QC Limits Rec.	Units
1,1-Dichloroethane	40.0	42.2	106	70 - 135	ug/L
1,1-Dichloroethene	40.0	40.3	101	70 - 130	ug/L
cis-1,2-Dichloroethene	40.0	42.5	106	70 - 125	ug/L
Trichloroethene	40.0	42.9	107	70 - 125	ug/L

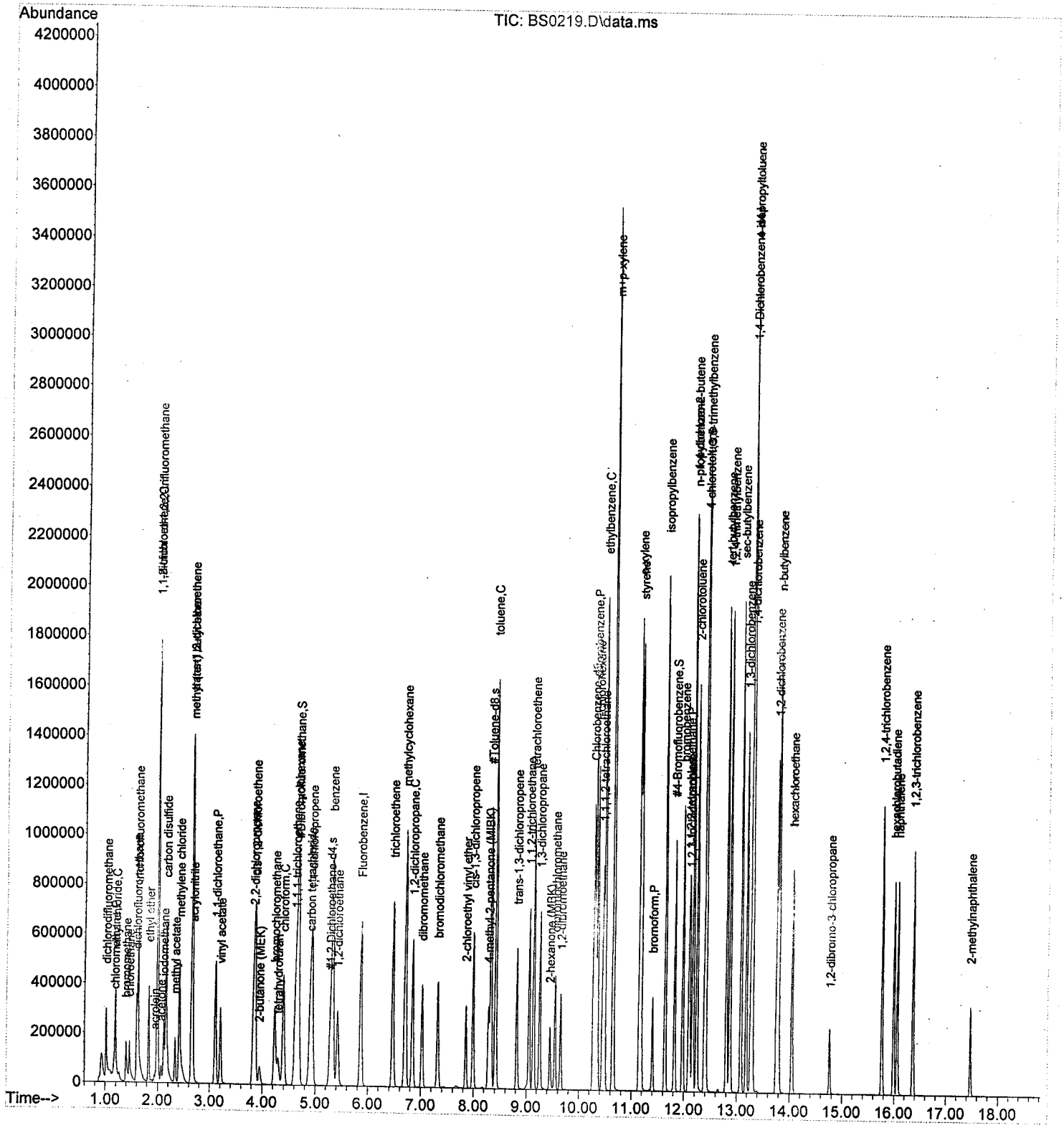
Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BS0219.D
Acq On : 19 Feb 2015 9:08
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 19 09:27:31 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BS0219.D
Acq On : 19 Feb 2015 9:08
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 19 09:27:31 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.860	96	831506	40.00	ug/L	-0.02
51) Chlorobenzene-d5	10.274	117	665342	40.00	ug/L	-0.01
66) 1,4-Dichlorobenzene-d4	13.273	152	349312	40.00	ug/L	-0.01
System Monitoring Compounds						
29) #Dibromofluoromethane	4.678	111	219268	40.93	ug/L	-0.02
Spiked Amount 40.000			Recovery = 102.33%			
37) #1,2-Dichloroethane-d4	5.281	67	125303	39.63	ug/L	-0.02
Spiked Amount 40.000			Recovery = 99.08%			
47) #Toluene-d8	8.323	98	834127	40.62	ug/L	-0.01
Spiked Amount 40.000			Recovery = 101.55%			
65) #4-Bromofluorobenzene	11.823	95	339336	39.85	ug/L	-0.01
Spiked Amount 40.000			Recovery = 99.63%			
Target Compounds						Qvalue
2) dichlorodifluoromethane	1.014	85	281117	41.91	ug/L	100
3) chloromethane	1.178	50	218048	38.38	ug/L	100
4) vinyl chloride	1.190	62	270841	37.40	ug/L	100
5) bromomethane	1.392	94	109908	53.76	ug/L	99
6) chloroethane	1.459	64	131092	40.67	ug/L	100
7) dichlorofluoromethane	1.593	67	416382	39.19	ug/L	100
8) trichlorofluoromethane	1.617	101	386185	41.41	ug/L	99
9) ethyl ether	1.831	74	129052	36.42	ug/L	97
10) acrolein	1.940	56	24613	39.25	ug/L #	95
11) 1,1,2-trichloro-1,2,2-...	1.989	101	313529	39.49	ug/L	100
12) 1,1-dichloroethene	1.989	96	262779	40.30	ug/L	99
13) acetone	2.062	43	84700	33.23	ug/L	97
14) iodomethane	2.111	142	325929	33.56	ug/L	99
15) carbon disulfide	2.154	76	877658	47.38	ug/L	100
16) methyl acetate	2.330	43	200020	38.65	ug/L	98
17) methylene chloride	2.410	49	353768	41.72	ug/L	97
18) acrylonitrile	2.678	53	106894	34.72	ug/L	99
19) trans-1,2-dichloroethene	2.654	96	292469	43.03	ug/L	99
20) methyl (tert) butyl ether	2.660	73	681372	39.42	ug/L	99
21) 1,1-dichloroethane	3.111	63	501489	42.23	ug/L	99
22) vinyl acetate	3.202	43	473244	44.58	ug/L	99
23) 2,2-dichloropropane	3.836	77	331752	51.26	ug/L	99
24) cis-1,2-dichloroethene	3.867	96	318347	42.47	ug/L	100
25) 2-butanone (MEK)	3.946	43	117416	35.32	ug/L	98
26) bromochloromethane	4.233	49	217423	39.92	ug/L	95
27) tetrahydrofuran	4.294	71	32281	38.16	ug/L	95
28) chloroform	4.397	83	493054	41.65	ug/L	99
30) 1,1,1-trichloroethane	4.623	97	412912	45.14	ug/L	99
31) cyclohexane	4.659	56	548063	41.38	ug/L	98
32) carbon tetrachloride	4.897	117	359718	45.22	ug/L	100
33) 1,1-dichloropropene	4.934	75	410843	43.16	ug/L	99
34) benzene	5.324	78	1186659	41.69	ug/L	98
35) 1,2-dichloroethane	5.421	62	336667	40.62	ug/L	99
36) heptane	5.860	57	27011	No Calib	#	
38) trichloroethene	6.470	130	332596	42.93	ug/L	99
39) methylcyclohexane	6.702	83	559357	42.71	ug/L	98
40) 1,2-dichloropropane	6.842	63	285009	42.42	ug/L	100
41) dibromomethane	7.025	93	169418	41.72	ug/L	99
42) 1,4-dioxane	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\02-19-15\
InstName : 328
Data File : BS0219.D
Acq On : 19 Feb 2015 9:08
Operator : DLV
Sample : BS
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 19 09:27:31 2015
Quant Method : C:\msdchem\1\METHODS\8260-WN42.M
Quant Title : 8260B/624/524.2 : 5030 wtr : 5035a soil
QLast Update : Thu Feb 12 08:00:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) bromodichloromethane	7.323	83	317421	43.52 ug/L	100
44) 2-chloroethyl vinyl ether	7.854	63	158494	37.16 ug/L	99
45) cis-1,3-dichloropropene	7.988	75	392795	41.84 ug/L	98
46) 4-methyl-2-pentanone (...	8.281	43	243170	37.19 ug/L #	98
48) toluene	8.415	91	1274009	42.88 ug/L	100
49) trans-1,3-dichloropropene	8.817	75	302613	41.16 ug/L	98
50) 1,1,2-trichloroethane	9.055	83	210138	42.37 ug/L	99
52) tetrachloroethene	9.140	166	363735	42.90 ug/L	100
53) 1,3-dichloropropane	9.256	76	456017	41.71 ug/L	100
54) 2-hexanone (MBK)	9.451	43	170879	36.88 ug/L	98
55) dibromochloromethane	9.549	129	242465	44.95 ug/L	100
56) 1,2-dibromoethane	9.652	109	247359	43.22 ug/L	100
57) chlorobenzene	10.311	112	832774	42.89 ug/L	99
58) 1-chlorohexane	10.353	55	309752	40.75 ug/L	98
59) 1,1,1,2-tetrachloroethane	10.451	131	254269	46.14 ug/L	100
60) ethylbenzene	10.487	91	1452396	43.23 ug/L	99
61) m+p-xylene	10.646	106	1117081	87.85 ug/L	100
62) o-xylene	11.152	106	535455	44.45 ug/L	99
63) styrene	11.182	104	895072	44.88 ug/L	99
64) bromoform	11.402	173	170820	38.28 ug/L	99
67) isopropylbenzene	11.640	105	1426085	44.73 ug/L	100
68) bromobenzene	11.975	77	519087	42.81 ug/L	98
69) 1,1,2,2-tetrachloroethane	12.091	83	322640	40.90 ug/L #	100
70) 1,2,3-trichloropropane	12.109	110	101168	41.00 ug/L	99
71) 1,4-dichloro-2-butene	12.164	53	82799	42.56 ug/L	96
72) n-propylbenzene	12.170	120	394704	44.93 ug/L	99
73) 2-chlorotoluene	12.243	126	334547	44.00 ug/L	98
74) 1,3,5-trimethylbenzene	12.408	105	1167464	44.75 ug/L	100
75) 4-chlorotoluene	12.390	91	1103817	43.85 ug/L	100
76) tert-butylbenzene	12.804	119	994423	44.77 ug/L	99
77) 1,2,4-trimethylbenzene	12.871	105	1125506	45.35 ug/L	100
78) sec-butylbenzene	13.078	105	1431008	45.30 ug/L	100
79) 1,3-dichlorobenzene	13.182	146	632967	43.91 ug/L	100
80) 4-isopropyltoluene	13.280	119	1205451	44.84 ug/L	100
81) 1,4-dichlorobenzene	13.304	146	629108	42.87 ug/L	100
82) 1,2-dichlorobenzene	13.761	146	582164	43.64 ug/L	100
83) n-butylbenzene	13.792	91	1043379	45.92 ug/L	100
84) hexachloroethane	14.048	201	114286	34.29 ug/L	92
85) 1,2-dibromo-3-chloropr...	14.767	157	75093	33.65 ug/L	98
86) 1,2,4-trichlorobenzene	15.767	180	382031	42.56 ug/L	100
87) hexachlorobutadiene	15.992	225	181526	44.69 ug/L	99
88) naphthalene	16.066	128	689887	40.29 ug/L	100
89) 1,2,3-trichlorobenzene	16.364	180	322809	40.68 ug/L	99
90) 2-methylnaphthalene	17.474	142	170827	44.55 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 1501603

Printed: 2/20/2015 9:30:59AM

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
5020807	8260B Working Std A 02-17-15	Solvent Lot #82355	N/A

Work Order	Analysis	Work Order	Analysis	Work Order	Analysis
1502248	8260B MDEQ+ VOAs	1502248	8260B DoD VOAs plus custom	1502266	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
1501603-BLK1		Feb-19-15 08:00	DLV	5	5	1				BLANK	
1501603-BS1		Feb-19-15 08:00	DLV	5	5	1		5020807	2	LCS	
1501603-MS1		Feb-19-15 08:00	DLV	5	5	1	1502248-04	5020807	2	MATRIX SPIKE	
1501603-MSD1		Feb-19-15 08:00	DLV	5	5	1	1502248-04	5020807	2	MATRIX SPIKE DUP	
1502248-01	A	Feb-19-15 08:00	DLV	5	5	1				[redacted]	
1502248-02	A	Feb-19-15 08:00	DLV	5	5	1				[redacted]	
1502248-03	A	Feb-19-15 08:00	DLV	5	5	1				[redacted]	
1502248-04	A	Feb-19-15 08:00	DLV	5	5	1				[redacted]	
1502266-01	A	Feb-19-15 08:00	DLV	5	5	1				CH2M HILL - VA	
1502266-01RE1	A	Feb-19-15 08:00	DLV	5	5	1				CH2M HILL - VA	Added 2/20/2015 by DLV
1502266-02	A	Feb-19-15 08:00	DLV	5	5	1				CH2M HILL - VA	
1502266-03	A	Feb-19-15 08:00	DLV	5	5	1				CH2M HILL - VA	
1502266-04	A	Feb-19-15 08:00	DLV	5	5	1				CH2M HILL - VA	
1502248-04	A	Feb-20-15 07:38	DLV	5	5	1				[redacted]	Added for BatchQC in: 1501603

Comments:

Analyst Initials:

Volatiles MS, Water, Feb-19-15

Instrument = 328, Calibration = 5B12010

Sequence Analyses:
8260B DoD VOAs plus custom
8260B MDEQ+ VOAs

Lab Number	*Analysis*	*Contain*	*STD ID*	*ISTD ID*	*Client / QC Type*	*Extraction Comments*
5B20002-TUN1	QC		5020346	5020055	MS TUNE	
5B20002-CCV1	QC		5020577	5020055	CALIBRATION CHECK	
1501603-BS1	QC			5020055	LCS	
1501603-BLK1	QC			5020055	BLANK	
1502248-01	8260B MDEQ+ VOAs	A		5020055	[redacted]	
1502248-02	8260B MDEQ+ VOAs	A		5020055	[redacted]	
1502266-04	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502266-01	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502266-01RE1	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	Added 2/20/2015 by DLV
1502266-02	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502266-03	8260B DoD VOAs plus custom	A		5020055	CH2M HILL - VA	
1502248-03	8260B MDEQ+ VOAs	A		5020055	[redacted]	
1502248-04	8260B MDEQ+ VOAs	A		5020055	[redacted]	
1501603-MS1	QC			5020055	MATRIX SPIKE	
1501603-MSD1	QC			5020055	MATRIX SPIKE DUP	

Comments:

Analyst Initials:

TRIMATRIX LABORATORIES

Instrument Number:	328	Acquisition Information		Temperature Program		Standard Information	
Column Type:	DB-624	Multiplier Voltage:		Step #1	45° C for 3 minutes	Curve Date:	2-11-15
Column Installation Date:	12/23/2009	Scan Range:	35-300	Step #2	15° C/minute to 200° C, hold for 1.00 minute	IS/SS Std.:	5020455
Injector Temperature:	200° C	Scan Rate:		Step #3		Working Std:	5020555
Detector Temperature:	230° C	Filament Delay:		Step #4		App. IX Std:	5020520 / 5016761
Purge Flow (mL/min):		Quantitation Method:		Step #5		LCS Std:	5020516 / 4111697

Date	Analyst	Method	Standard Prep		Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
			uL Used	Final Vol. (mL)							
2-11-15	DLJ	8260	25	50			9:01		BFB0211		
							9:29		R1		
			1	200			9:58		R2		
			1	100			10:48		0.5P0211		
			5	100			11:16		1P0211		
			5	50			11:45		5P0211		
			10				12:13		10P0211		
			20				12:42		20P0211		
			50				13:11		40P0211		
							13:39		100P0211		
			100	50			14:08		R3		
			50	50			14:37		200P0211		
							15:06		MX0211		
							15:34		R4		
			20	50			16:03		R5		
							16:31		SOV0211		
							17:00		R6		
			1	100			17:28		524SOV		
			5	100			17:57		IX0211		
							18:26		5X0211		

TRIMATRIX LABORATORIES

Date	Analyst	Method	Standard Prep		Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
			uL Used	Final Vol. (mL)							
2-11-15	DLW	8260	5	50			18:54		10X0211		
			10				19:23		20X0211		
			20				19:52		40X0211		
			50				20:21		100X0211		
			20				20:49		SCVX0211		

DLW 2-12-15

TRIMATRIX LABORATORIES

Instrument Number:	328	Acquisition Information		Temperature Program		Standard Information	
Column Type:	DB-624	Multiplier Voltage:		Step #1	45° C for 3 minutes	Curve Date:	2-11-15
Column Installation Date:	12/23/2009	Scan Range:	35-300	Step #2	15° C/minute to 200° C, hold for 1.00 minute	IS/SS Std.:	5020055
Injector Temperature:	200° C	Scan Rate:		Step #3		Working Std:	5020807
Detector Temperature:	230° C	Filament Delay:		Step #4		App. IX Std:	
Purge Flow (mL/min):		Quantitation Method:		Step #5		LCS Std:	

Date	Analyst	Method	Standard Prep		Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
			uL Used	Final Vol. (mL)							
2-19-15	DLV	8260B	25	50			8:11	QC	OFB0219		
			20	1			8:39		CCV0219		
			20	1			9:08		BS0219		
							9:36		B		
							10:05		BLK0219		
						✓	10:33	[redacted]	1502248-01		
							11:02		02		
						✓	11:30	CH2M Hill	1502266-04		
					N 25x	No	11:59		01		
					N SIV	✓	12:28		03	25x	
					N SIV	✓	12:57		02	25x	
							13:25		R1		
						No	13:54	CH2M Hill	1502266-01A	50x	
						✓	14:22		02A		
						✓	14:51		03A		
						✓	15:20	[redacted]	1502266-01		
						✓	15:48		02		
						✓	16:17	[redacted]	1502248-03		
						✓	16:46		04		
						✓	17:14	[redacted]	1502239-01		

TRIMATRIX LABORATORIES

Date	Analyst	Method	Standard Prep		Comments	pH <2	Acquisition Time	Client	Sample ID	Dilution	Matrix
			uL Used	Final Vol. (mL)							
2-19-15	DW	8260B				✓	17:43	[redacted]	1502231-01		
						✓	18:11	[redacted]	1502261-02		
					NSHV		18:40	[redacted]	1502292-02	10x	
							19:06	[redacted]	24804MS		
							19:37	[redacted]	24804MSD		
							20:06		BLK021715		
							20:34	[redacted]	1502088-01		
							21:03		R2		
							21:32		R3		
							22:01		R4		
							22:29		1707		
							22:58		2507		
							23:26		4507		
							23:55		6507		
							00:23		9107		
							00:52		5207		

DW 2-20-15

CH2M HILL - VA
8012 CTO-WE74 Yorktown Site 34

END OF REPORT

SDG: 50085-9

February 27, 2015

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Individual sample results relate only to the sample tested.

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