Mountain States ACCUTEST LABORATORIES

12/13/11

Technical Report for

KRW Consulting, Inc.

XOM FRU 297-32A

1108-12A

Accutest Job Number: D29943

Sampling Date: 12/02/11

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue Suite 200
Lakewood, CO 80214
cburger@krwconsulting.com; gknell@krwconsulting.com;
dknudson@krwconsulting.com; jhess@krwconsulting.com;
ATTN: Dwayne Knudson

Total number of pages in report: **126**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

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Table of Contents

Accutest Laboratories

Sample Summary

KRW Consulting, Inc.

Job No: D29943

XOM FRU 297-32A
Project No: 1108-12A

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D29943-1	12/02/11	10:40	CH	12/03/11	SO	Sludge	CUTTINGS #2-CONTENTS
D29943-1A	12/02/11	10:40	CH	12/03/11	SO	Sludge	CUTTINGS #2-CONTENTS

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	KRW Consulting, Inc.	**Job No**	D29943
Site:	XOM FRU 297-32A	**Report Dat**	12/13/2011 2:30:21 PM

On 12/03/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 10.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D29943 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO **Batch ID:** V3V866

- All samples were analyzed within the recommended method holding time.
- Sample(s) D29943-1MS, D29943-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO **Batch ID:** M:OP27160

- The data for SW846 8270C BY SIM meets quality control requirements.
- D29943-1: Elevated RL due to dilution required for matrix interference. Analysis performed at Accutest Laboratories, Marlborough, MA.

Volatiles by GC By Method SW846 8015B

Matrix SO **Batch ID:** GGB802

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29946-1MS, D29946-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP4951

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D29946-1MS, D29946-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010B

Matrix	AQ	Batch ID:	MP6407

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29983-1AMS, D29983-1AMSD were used as the QC samples for the metals analysis.

Matrix	SO	Batch ID:	MP6409

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29943-1MSD, D29943-1SDL, D29943-1MS, D29943-1MSD were used as the QC samples for the metals analysis.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of Selenium are outside control limits. Spike recovery indicates possible matrix interference.
- The matrix spike (MS) recovery(s) of Barium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The RPD(s) for the MS and MSD recoveries of Selenium are outside control limits for sample MP6409-S2. High RPD due to possible sample matrix or nonhomogeneity.
- The serial dilution RPD(s) for Cadmium, Silver are outside control limits for sample MP6409-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- D29943-1 for Selenium: Elevated detection limit due to dilution required for possible matrix interference.
- The serial dilution RPD(s) for Nickel, Zinc are outside control limits for sample MP6409-SD1. Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix	SO	Batch ID:	MP6410

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29943-1MS, D29943-1MSD, D29943-1SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Arsenic are outside control limits for sample MP6410-SD1. Serial dilution indicates possible matrix interference.

Metals By Method SW846 7471A

Matrix	SO	Batch ID:	MP6404

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29943-1MS, D29943-1MSD were used as the QC samples for the metals analysis.
- The matrix spike duplicate (MSD) recovery(s) of Mercury are outside control limits. Probable cause due to matrix interference.

Wet Chemistry By Method ASTM D1498-76M

Matrix	SO	Batch ID:	GN12778

- Sample(s) D29943-1DUP were used as the QC samples for the Redox Potential Vs H2 analysis.

Wet Chemistry By Method SM19 2540B M

Matrix	SO	Batch ID:	GN12762

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 3060/7196A M

Matrix	SO	Batch ID:	R11055

- The data for SW846 3060/7196A M meets quality control requirements.
- D29943-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 3060A/7196A

Matrix	SO	Batch ID:	M:GP13883

- The data for SW846 3060A/7196A meets quality control requirements.
- D29943-1 for Chromium, Hexavalent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C

Matrix	SO	Batch ID:	GN12764

- The following sample was run outside of holding time for method SW846 9045C: D29943-1.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix	SO	Batch ID:	MP6407

- D29943-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Accutest Mountain States	**Job No**	D29943
Site:	KRWCCOL: XOM FRU 297-32A	**Report Date**	12/13/2011 3:30:45 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 12/02/2011 and were received at Accutest on 12/03/2011 properly preserved, at 2.7 Deg. C and intact. These Samples received an Accutest job number of D29943. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO **Batch ID:** OP27160

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC6135-1MS, MC6135-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Pyrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Benzo(a)anthracene, Chrysene, Fluoranthene, Pyrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- D29943-1: Elevated RL due to dilution required for matrix interference.
- D29943-1: Confirmation run for internal standard areas.
- OP27160-MSD for Nitrobenzene-d5: Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO **Batch ID:** GP13883

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29653-14DUP, D29653-14MS were used as the QC samples for Chromium, Hexavalent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D29943).

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
Method:	SW846 8260B	**Percent Solids:**	71.1
Project:	XOM FRU 297-32A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V14955.D	1	12/07/11	KV	n/a	n/a	V3V866
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	944	90	40	ug/kg	
108-88-3	Toluene	6430	180	90	ug/kg	
100-41-4	Ethylbenzene	1320	180	45	ug/kg	
1330-20-7	Xylene (total)	5800	360	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	108%		61-130%
460-00-4	4-Bromofluorobenzene	122%		53-131%
17060-07-0	1,2-Dichloroethane-D4	107%		62-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	71.1
Project:	XOM FRU 297-32A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	F53716.D	1	12/08/11	AMA	12/07/11	M:OP27160	M:MSF2585
Run #2 [b]	F53721.D	1	12/08/11	AMA	12/07/11	M:OP27160	M:MSF2585

	Initial Weight	Final Volume
Run #1	20.2 g	5.0 ml
Run #2	20.2 g	5.0 ml

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	35	4.0	ug/kg	
120-12-7	Anthracene	ND	35	5.6	ug/kg	
56-55-3	Benzo(a)anthracene	ND	35	4.3	ug/kg	
50-32-8	Benzo(a)pyrene	20.4	35	5.0	ug/kg	J
205-99-2	Benzo(b)fluoranthene	ND	35	4.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	35	6.7	ug/kg	
218-01-9	Chrysene	ND	35	5.4	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	29.3	35	10	ug/kg	J
206-44-0	Fluoranthene	ND	35	5.5	ug/kg	
86-73-7	Fluorene	296	35	3.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	20.8	35	8.8	ug/kg	J
91-20-3	Naphthalene	1000	35	7.7	ug/kg	
129-00-0	Pyrene	90.4	35	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%	104%	30-130%
321-60-8	2-Fluorobiphenyl	80%	73%	30-130%
1718-51-0	Terphenyl-d14	116%	85%	30-130%

(a) Elevated RL due to dilution required for matrix interference. Analysis performed at Accutest Laboratories, Marlborough, MA.
(b) Confirmation run for internal standard areas. Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
Method:	SW846 8015B	**Percent Solids:**	71.1
Project:	XOM FRU 297-32A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14207.D	1	12/06/11	SK	n/a	n/a	GGB802
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	93.5	18	9.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	91%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: CUTTINGS #2-CONTENTS
Lab Sample ID: D29943-1
Matrix: SO - Sludge
Method: SW846-8015B SW846 3546
Project: XOM FRU 297-32A

Date Sampled: 12/02/11
Date Received: 12/03/11
Percent Solids: 71.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI04797.D	1	12/09/11	TR	12/04/11	OP4951	GFI356
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	450	19	12	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		43-136%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
		Percent Solids:	71.1
Project:	XOM FRU 297-32A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	6.6	0.53	mg/kg	5	12/07/11	12/08/11	GJ	SW846 6020 [3]	SW846 3050B [6]
Barium	6190	13	mg/kg	10	12/07/11	12/08/11	JB	SW846 6010B [2]	SW846 3050B [5]
Cadmium	< 1.3	1.3	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Chromium	12.8	1.3	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Copper	27.5	1.3	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Lead	16.4	6.6	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Mercury	< 0.14	0.14	mg/kg	1	12/06/11	12/07/11	JB	SW846 7471A [1]	SW846 7471A [4]
Nickel	15.1	3.9	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Selenium [a]	< 66	66	mg/kg	10	12/07/11	12/08/11	JB	SW846 6010B [2]	SW846 3050B [5]
Silver	< 3.9	3.9	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]
Zinc	49.9	3.9	mg/kg	1	12/07/11	12/07/11	JB	SW846 6010B [2]	SW846 3050B [5]

(1) Instrument QC Batch: MA2030
(2) Instrument QC Batch: MA2034
(3) Instrument QC Batch: MA2036
(4) Prep QC Batch: MP6404
(5) Prep QC Batch: MP6409
(6) Prep QC Batch: MP6410

(a) Elevated detection limit due to dilution required for possible matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
		Percent Solids:	71.1
Project:	XOM FRU 297-32A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	< 0.56	0.56	mg/kg	1	12/06/11 15:25	AMA	SW846 3060A/7196A
Chromium, Trivalent [b]	12.8	1.9	mg/kg	1	12/07/11 19:23	JB	SW846 3060/7196A M
Redox Potential Vs H2	325		mv	1	12/06/11 12:15	JK	ASTM D1498-76M
Solids, Percent	71.1		%	1	12/05/11	RC	SM19 2540B M
Specific Conductivity	3860	1.0	umhos/cm	1	12/07/11	JD	DEPT.OF AG, BOOK N9
pH	8.69		su	1	12/05/11 12:15	CJ	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1A	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
		Percent Solids:	71.1
Project:	XOM FRU 297-32A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	21.2	2.0	mg/l	1	12/07/11	12/07/11	JB	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	4.68	1.0	mg/l	1	12/07/11	12/07/11	JB	SW846 6010B [1]	EPA 200.7 [2]
Sodium	1170	2.0	mg/l	1	12/07/11	12/07/11	JB	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA2034
(2) Prep QC Batch: MP6407

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CUTTINGS #2-CONTENTS		
Lab Sample ID:	D29943-1A	**Date Sampled:**	12/02/11
Matrix:	SO - Sludge	**Date Received:**	12/03/11
		Percent Solids:	71.1
Project:	XOM FRU 297-32A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	59.9		ratio	1	12/07/11 15:24	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking #
Bottle Order Control # D29943
Accutest Quote #
Accutest Job #

Client / Reporting Information

Company Name: KRW Consulting INC
Street Address: 8000 W 14th Ave, Ste 200
City / State / Zip: Lakewood, Co ~~81650~~ 80214
Project Contact: Duayne Knudson
E-mail:
Phone #: 970-675-4066
Fax #:
Sampler(s) Name(s): C. Hollister
Phone #: 303.239.9011

Project Information

Project Name: XOM-FRU-297-32A
Street:
City:
Project#: 1108-12A
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)
Company Name
Street Address
City / State / Zip
Attention: / PO#

Requested Analysis (see TEST CODE sheet): Table 910

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	Table 910	LAB USE ONLY
	Cuttings #2 - Contents		12/2/11	10:40	CH	SL	5					X					X	01

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ Std. 5 Business Days (By Contract only)
- ☐ 5 Day RUSH
- ☒ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ Commercial "B" +Narrative
- ☐ FULLT1 (Level 3+4)
- ☐ State Forms
- ☐ EDD Format
- ☒ PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Please email results to KRW Piceance Creek XOM Team

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 C. Hollister	Date Time: 12-2-11 15:00	Received By: 1 Rifle Service Center	Relinquished By: 2 C D	Date Time: 12/2	Received By: 2 FedEx
Relinquished by Sampler: 3	Date Time:	Received By: 3 David [illegible] 12/3 9:00	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # FedEx	☑ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ No Ice Cooler Temp. 10.9

4.1
4

D29943: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D29943 **Client:** **Immediate Client Services Action Required:** No

Date / Time Received: 12/3/2011 **No. Coolers:** **Client Service Action Required at Login:** No

Project: **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
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D29943: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V866-MB	3V14953.D	1	12/07/11	KV	n/a	n/a	V3V866

The QC reported here applies to the following samples: **Method:** SW846 8260B

D29943-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	22	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	100	ug/kg	

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	113%	61-130%
460-00-4	4-Bromofluorobenzene	113%	53-131%
17060-07-0	1,2-Dichloroethane-D4	112%	62-130%

Blank Spike Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V866-BS	3V14954.D	1	12/07/11	KV	n/a	n/a	V3V866

The QC reported here applies to the following samples: **Method:** SW846 8260B

D29943-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	50.7	101	70-130
100-41-4	Ethylbenzene	50	49.6	99	70-130
108-88-3	Toluene	50	50.2	100	70-130
1330-20-7	Xylene (total)	150	150	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	111%	61-130%
460-00-4	4-Bromofluorobenzene	120%	53-131%
17060-07-0	1,2-Dichloroethane-D4	109%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29943-1MS	3V14956.D	1	12/07/11	KV	n/a	n/a	V3V866
D29943-1MSD	3V14957.D	1	12/07/11	KV	n/a	n/a	V3V866
D29943-1	3V14955.D	1	12/07/11	KV	n/a	n/a	V3V866

The QC reported here applies to the following samples: **Method:** SW846 8260B

D29943-1

CAS No.	Compound	D29943-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	944		4520	5940	111	5950	111	0	70-134/30
100-41-4	Ethylbenzene	1320		4520	6070	105	6190	108	2	70-137/30
108-88-3	Toluene	6430		4520	11300	108	11600	114	3	70-130/30
1330-20-7	Xylene (total)	5800		13600	20100	106	20300	107	1	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D29943-1	Limits
2037-26-5	Toluene-D8	109%	109%	108%	61-130%
460-00-4	4-Bromofluorobenzene	127%	124%	122%	53-131%
17060-07-0	1,2-Dichloroethane-D4	109%	109%	107%	62-130%

Mountain States ACCUTEST LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3120711.S\
Data File : 3V14955.D
Acq On : 7 Dec 2011 9:18 am
Operator : koroushv
Sample : D29943-1, 50x
Misc : MS3052,V3V866,5.022,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 07 10:52:55 2011
Quant Method : C:\msdchem\1\METHODS\V3AP850TVH850.M
Quant Title : 8260
QLast Update : Sat Nov 26 09:28:41 2011
Response via : Initial Calibration

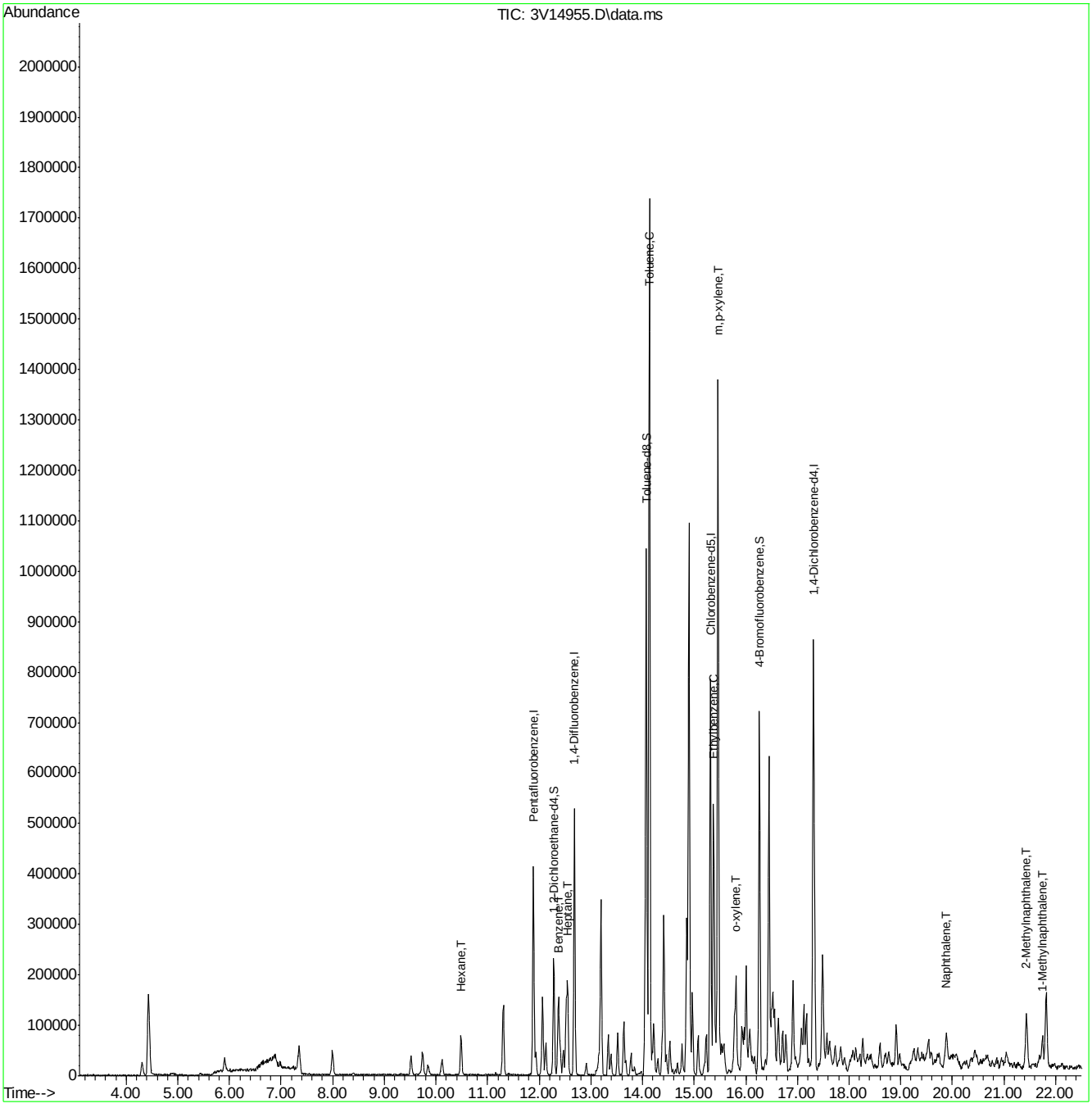
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.886	168	268844	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.678	114	470733	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.316	117	451794	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.312	152	259805	50.00	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	12.277	102	39416	53.59	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 107.18%			
61) Toluene-d8	14.071	98	691835	54.11	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 108.22%			
69) 4-Bromofluorobenzene	16.266	95	256389	61.19	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 122.38%			
Target Compounds						Qvalue
41) Hexane	10.490	57	40830	8.98	ug/l	100
43) Heptane	12.550	43	65359	13.20	ug/l	91
50) Benzene	12.373	78	141748	10.45	ug/l	100
62) Toluene	14.132	92	675579	71.19	ug/l	98
66) Ethylbenzene	15.380	91	253366	14.65	ug/l	100
72) m,p-xylene	15.460	106	433453	57.91	ug/l	99
73) o-xylene	15.813	106	41765	6.25	ug/l	95
91) Naphthalene	19.882	128	75101	5.50	ug/l	100
94) 2-Methylnaphthalene	21.429	142	67419	16.68	ug/l #	96
95) 1-Methylnaphthalene	21.746	142	41066	10.17	ug/l #	92

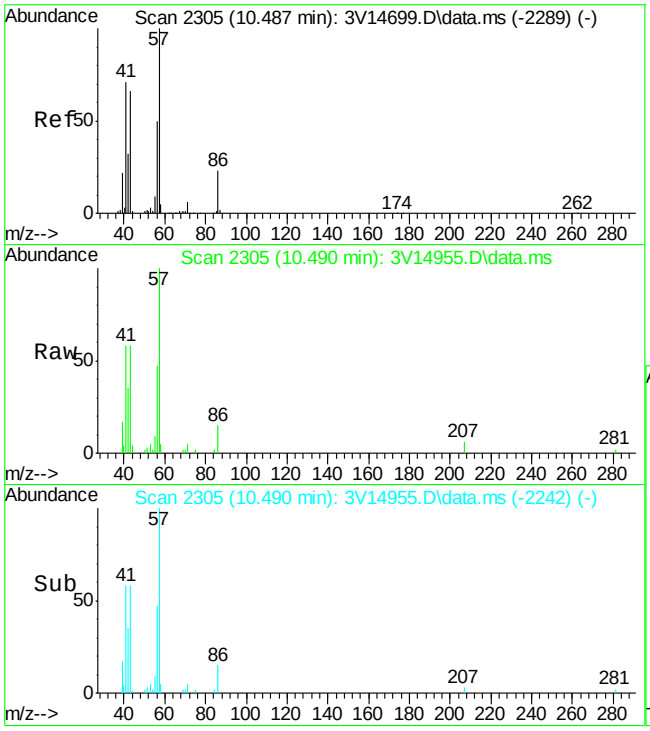
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3120711.S\
Data File : 3V14955.D
Acq On : 7 Dec 2011 9:18 am
Operator : koroushv
Sample : D29943-1, 50x
Misc : MS3052,V3V866,5.022,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

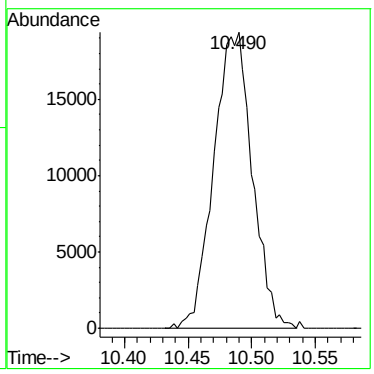
Quant Time: Dec 07 10:52:55 2011
Quant Method : C:\msdchem\1\METHODS\V3AP850TVH850.M
Quant Title : 8260
QLast Update : Sat Nov 26 09:28:41 2011
Response via : Initial Calibration

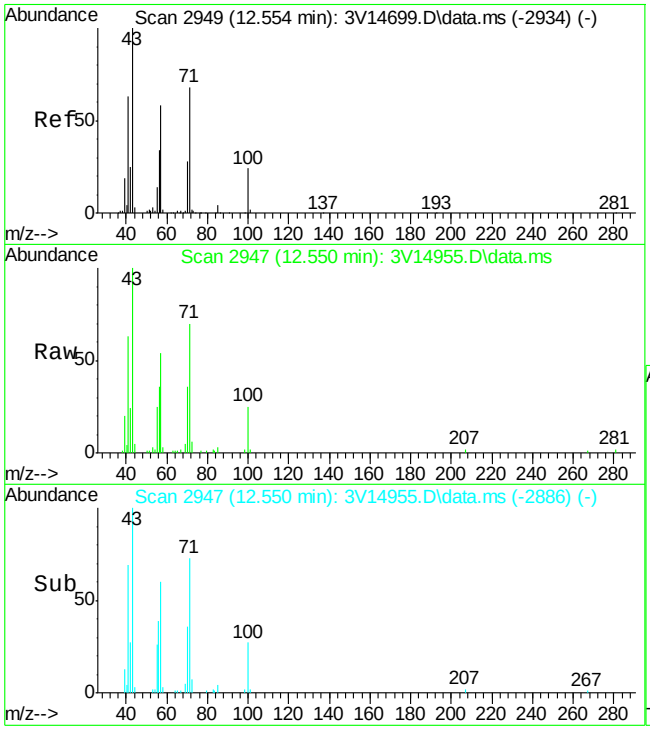




#41
Hexane
Concen: 8.98 ug/l
RT: 10.490 min Scan# 2305
Delta R.T. 0.002 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion: 57 Resp: 40830

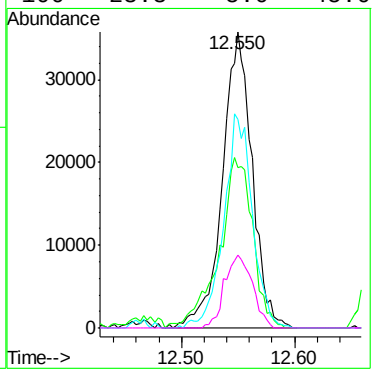


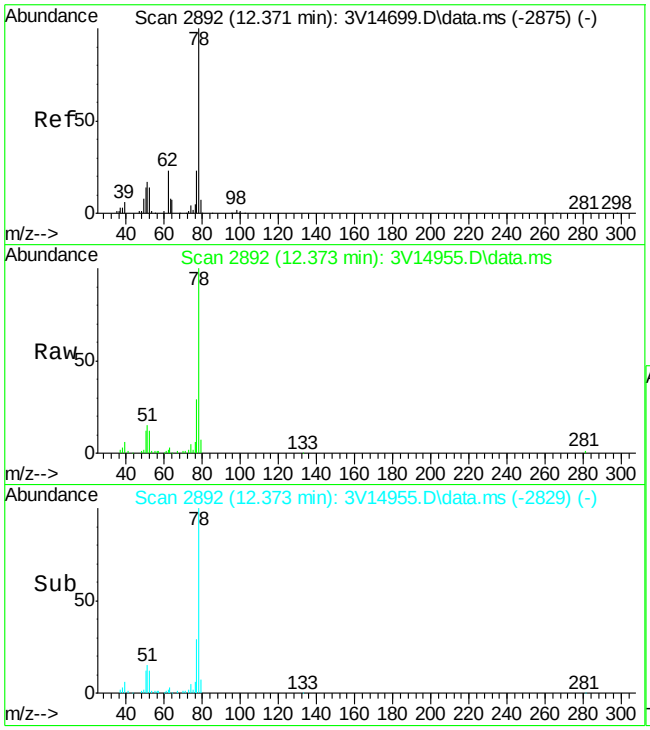


#43
Heptane
Concen: 13.20 ug/l
RT: 12.550 min Scan# 2947
Delta R.T. -0.004 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion: 43 Resp: 65359

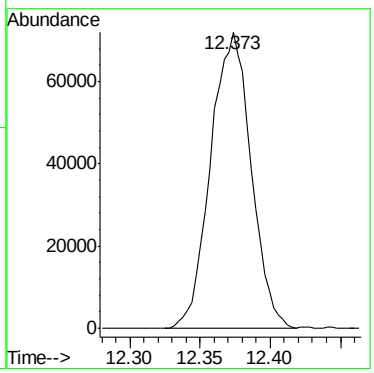
Ion	Ratio	Lower	Upper
43	100		
57	65.1	34.2	74.2
71	69.8	44.5	84.5
100	23.3	5.0	45.0

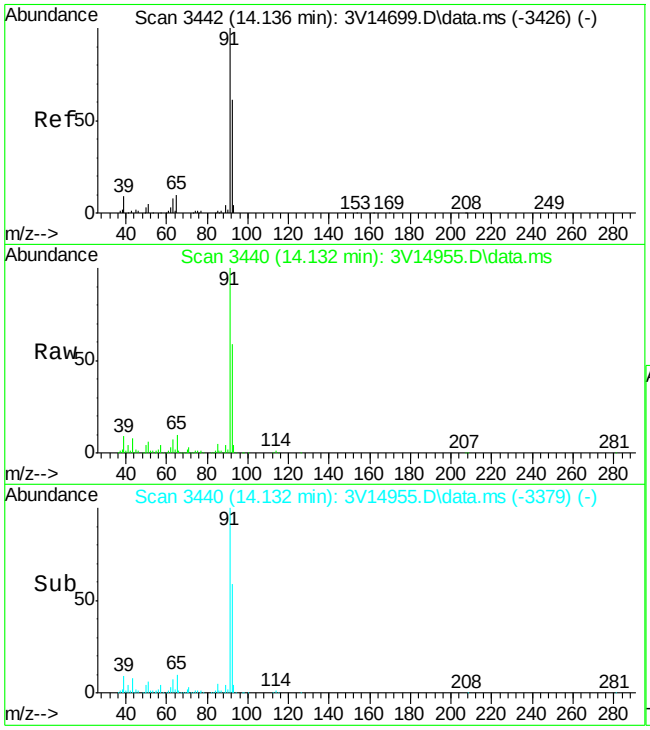




#50
Benzene
Concen: 10.45 ug/l
RT: 12.373 min Scan# 2892
Delta R.T. 0.002 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion: 78 Resp: 141748

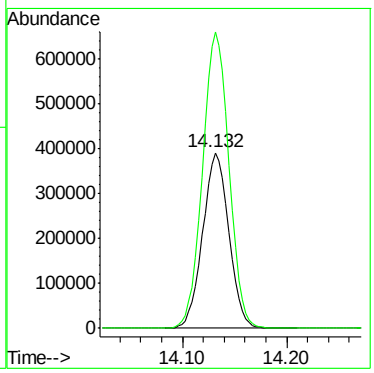


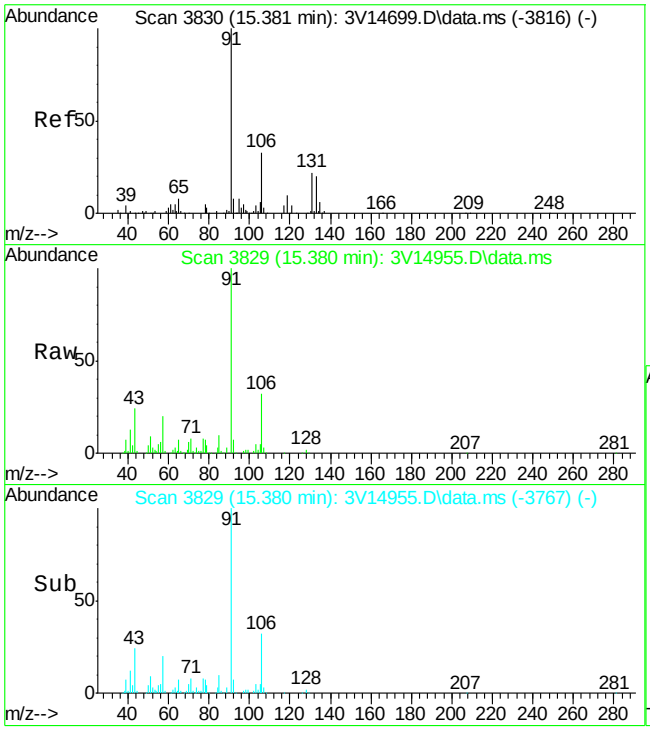


#62
Toluene
Concen: 71.19 ug/l
RT: 14.132 min Scan# 3440
Delta R.T. -0.004 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion: 92 Resp: 675579

Ion	Ratio	Lower	Upper
92	100		
91	170.4	152.7	192.7

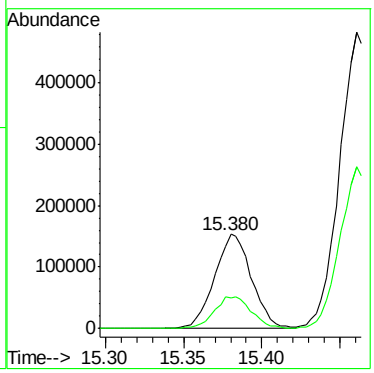


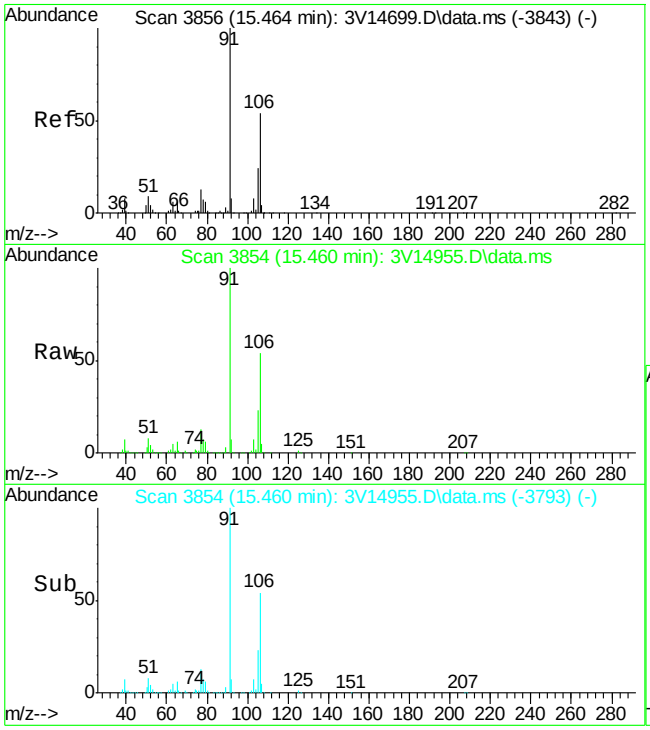


#66
Ethylbenzene
Concen: 14.65 ug/l
RT: 15.380 min Scan# 3829
Delta R.T. 0.000 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion: 91 Resp: 253366

Ion	Ratio	Lower	Upper
91	100		
106	33.7	13.5	53.5

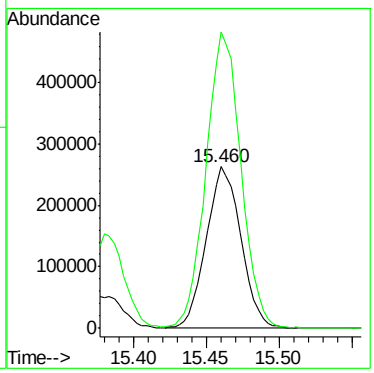


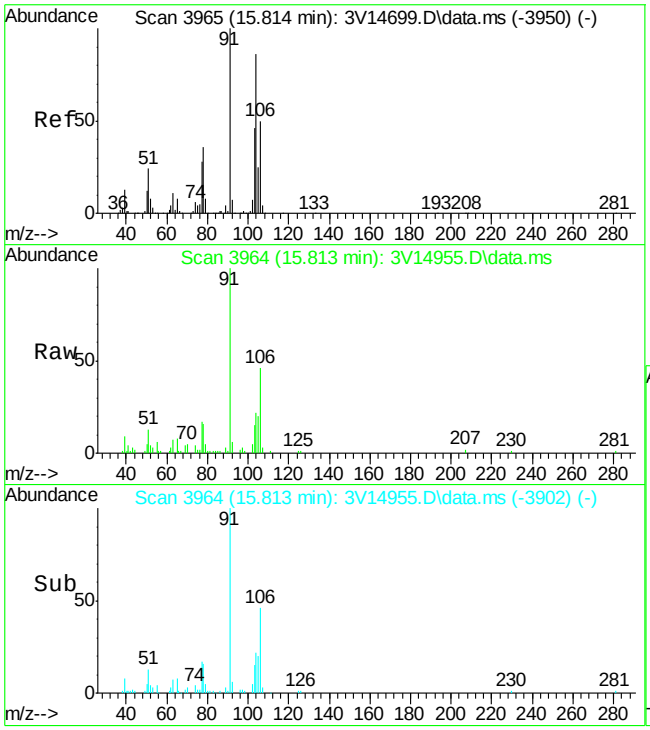


#72
m,p-xylene
Concen: 57.91 ug/l
RT: 15.460 min Scan# 3854
Delta R.T. -0.004 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion:106 Resp: 433453

Ion	Ratio	Lower	Upper
106	100		
91	185.6	164.6	204.6

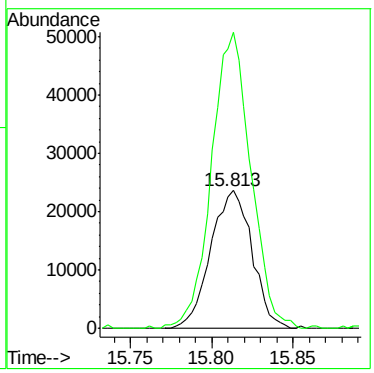


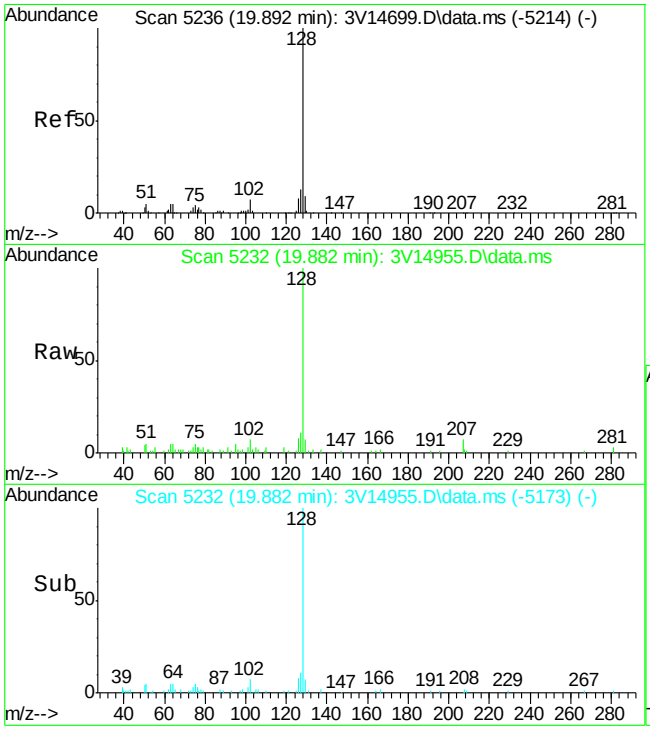


#73
o-xylene
Concen: 6.25 ug/l
RT: 15.813 min Scan# 3964
Delta R.T. 0.000 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion:106 Resp: 41765

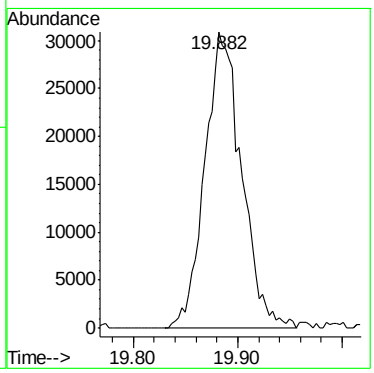
Ion	Ratio	Lower	Upper
106	100		
91	204.4	157.7	236.5

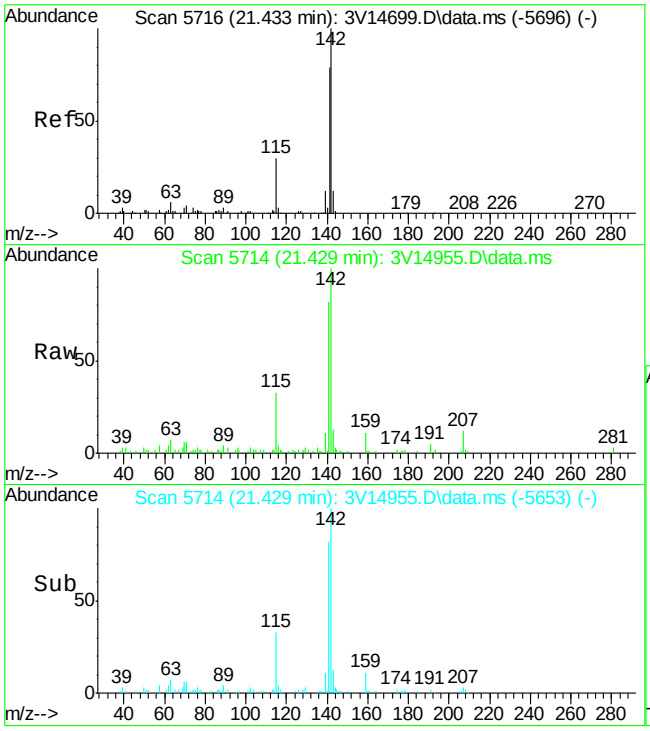




#91
Naphthalene
Concen: 5.50 ug/l
RT: 19.882 min Scan# 5232
Delta R.T. -0.010 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion:128 Resp: 75101

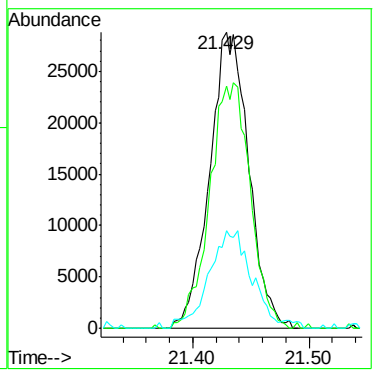


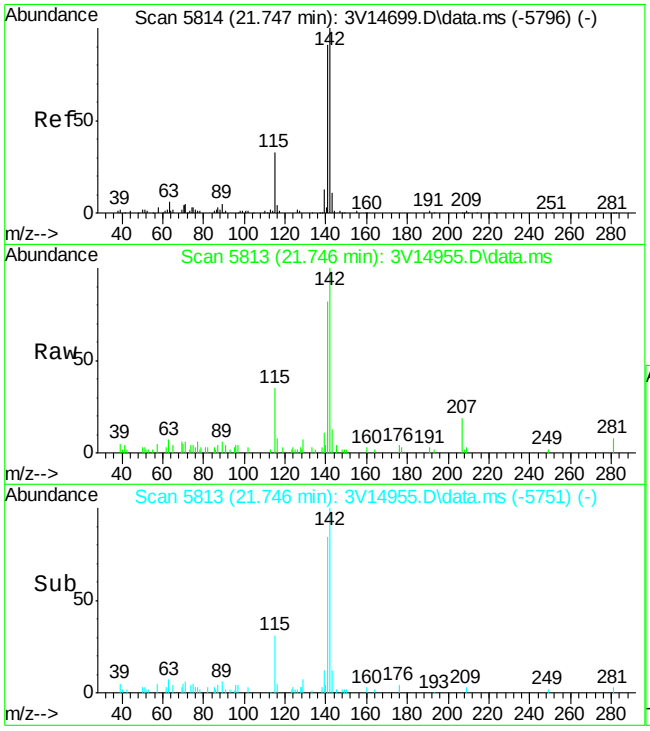


#94
2-Methylnaphthalene
Concen: 16.68 ug/l
RT: 21.429 min Scan# 5714
Delta R.T. -0.003 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion:142 Resp: 67419

Ion	Ratio	Lower	Upper
142	100		
141	85.7	67.4	101.2
115	36.8	24.3	36.5#

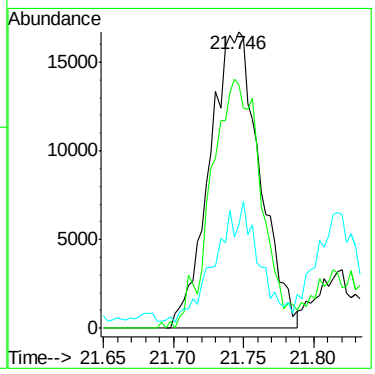




#95
1-Methylnaphthalene
Concen: 10.17 ug/l
RT: 21.746 min Scan# 5813
Delta R.T. -0.001 min
Lab File: 3V14955.D
Acq: 7 Dec 2011 9:18 am

Tgt Ion:142 Resp: 41066

Ion	Ratio	Lower	Upper
142	100		
141	85.1	72.6	109.0
115	39.6	26.2	39.2#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3120711.S\
Data File : 3V14953.D
Acq On : 7 Dec 2011 8:17 am
Operator : koroushv
Sample : MB
Misc : MS3052,V3V866,5.00,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 07 10:51:11 2011
Quant Method : C:\msdchem\1\METHODS\V3AP850TVH850.M
Quant Title : 8260
QLast Update : Sat Nov 26 09:28:41 2011
Response via : Initial Calibration

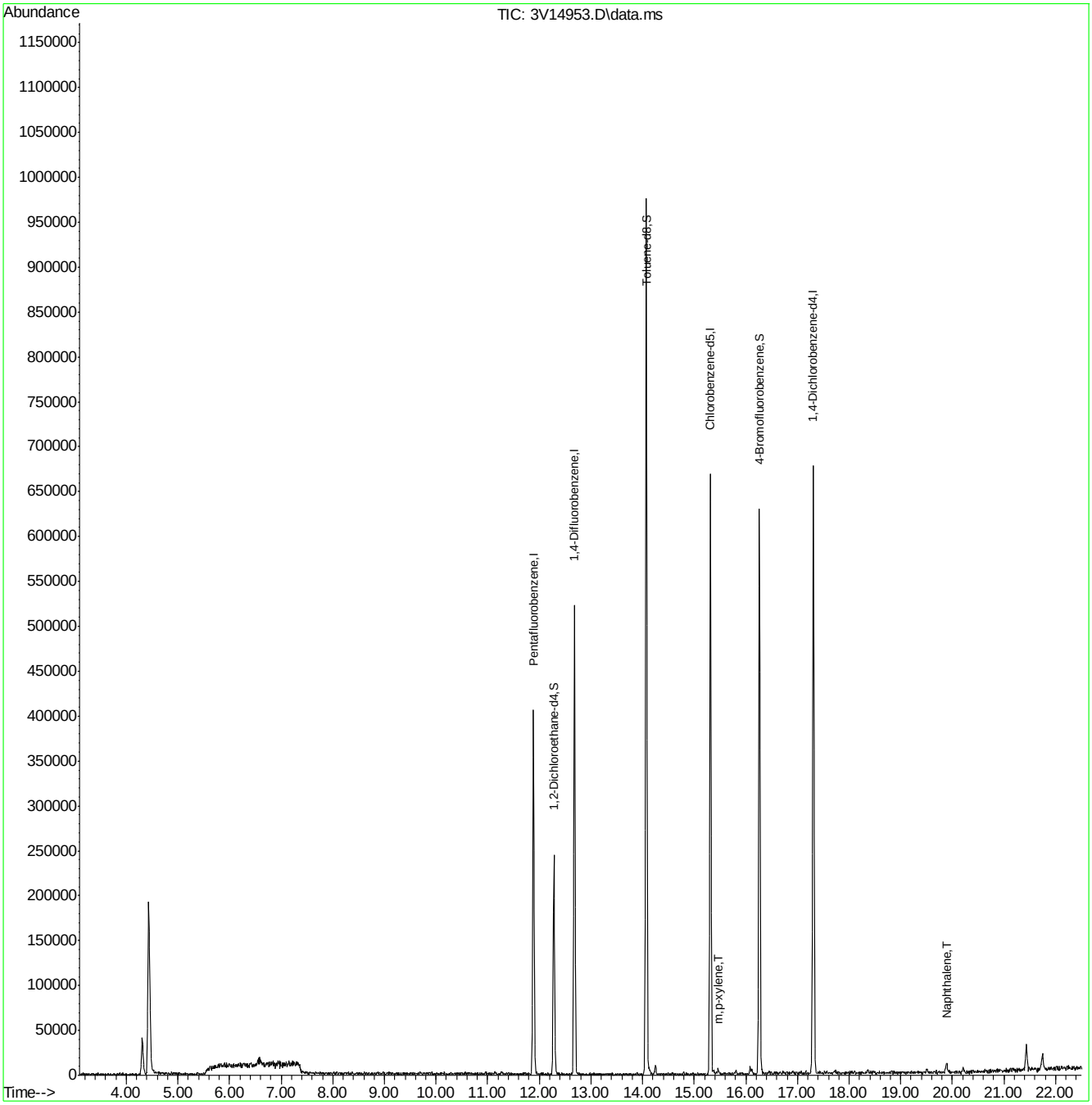
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.886	168	269400	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.682	114	456340	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.313	117	416358	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.309	152	224208	50.00	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	12.281	102	41315	56.05	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 112.10%			
61) Toluene-d8	14.071	98	667219	56.62	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.24%			
69) 4-Bromofluorobenzene	16.263	95	217404	56.30	ug/l	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 112.60%			
Target Compounds						Qvalue
72) m,p-xylene	15.467	106	1919	0.66	ug/l	90
91) Naphthalene	19.889	128	12337	1.05	ug/l	100

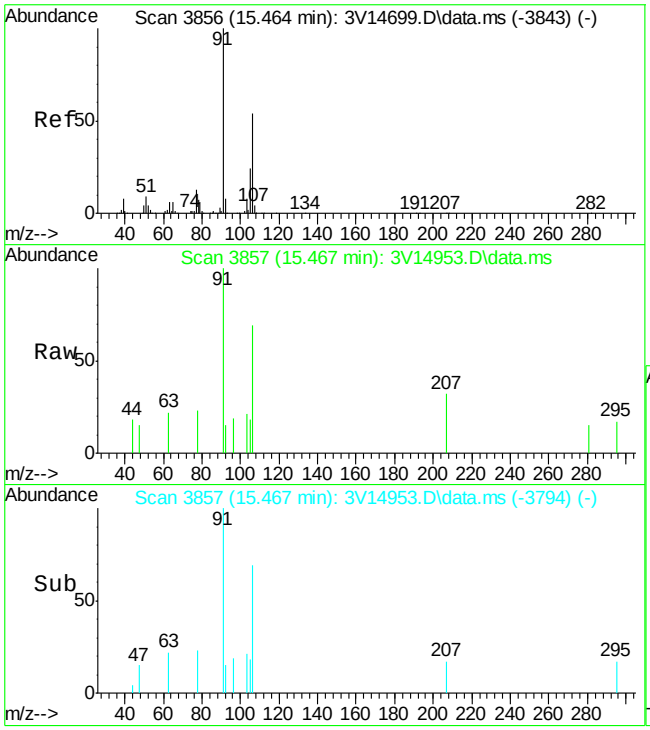
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3120711.S\
Data File : 3V14953.D
Acq On : 7 Dec 2011 8:17 am
Operator : koroushv
Sample : MB
Misc : MS3052,V3V866,5.00,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 07 10:51:11 2011
Quant Method : C:\msdchem\1\METHODS\V3AP850TVH850.M
Quant Title : 8260
QLast Update : Sat Nov 26 09:28:41 2011
Response via : Initial Calibration

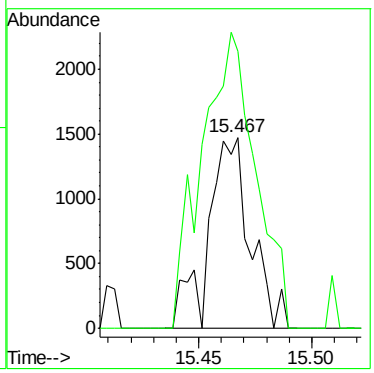


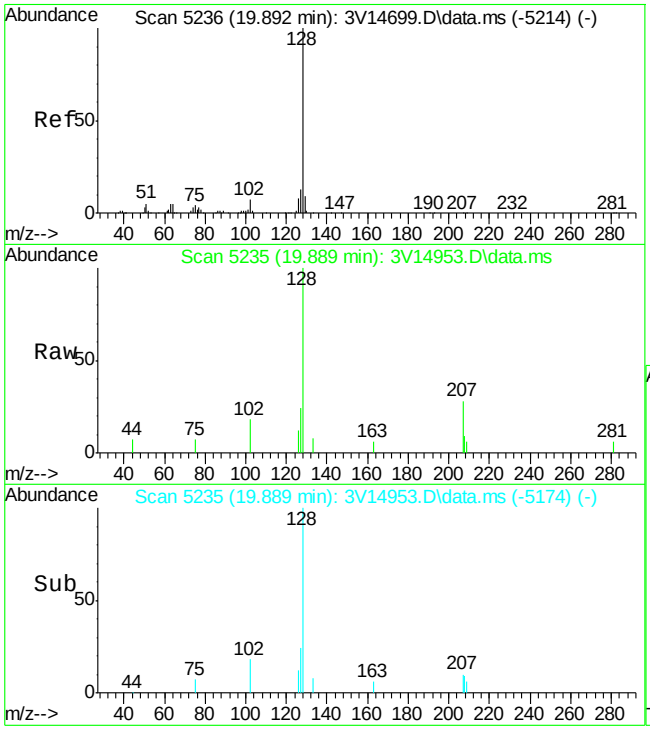


#72
m,p-xylene
Concen: 0.66 ug/l
RT: 15.467 min Scan# 3857
Delta R.T. 0.003 min
Lab File: 3V14953.D
Acq: 7 Dec 2011 8:17 am

Tgt Ion:106 Resp: 1919

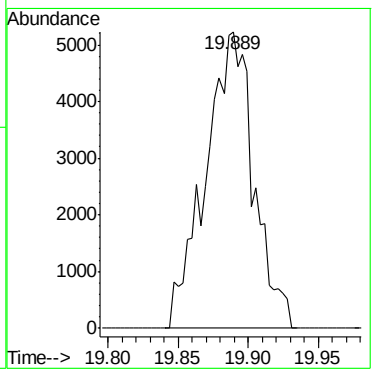
Ion	Ratio	Lower	Upper
106	100		
91	198.6	164.6	204.6





#91
Naphthalene
Concen: 1.05 ug/l
RT: 19.889 min Scan# 5235
Delta R.T. -0.003 min
Lab File: 3V14953.D
Acq: 7 Dec 2011 8:17 am

Tgt Ion:128 Resp: 12337



Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB802-MB	GB14202.D	1	12/06/11	SK	n/a	n/a	GGB802

The QC reported here applies to the following samples: **Method:** SW846 8015B

D29943-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	98%	60-140%

Blank Spike Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB802-BS	GB14203.D	1	12/06/11	SK	n/a	n/a	GGB802

The QC reported here applies to the following samples: **Method:** SW846 8015B

D29943-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	112	102	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	114%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29946-1MS	GB14205.D	1	12/06/11	SK	n/a	n/a	GGB802
D29946-1MSD	GB14206.D	1	12/06/11	SK	n/a	n/a	GGB802
D29946-1	GB14204.D	1	12/06/11	SK	n/a	n/a	GGB802

The QC reported here applies to the following samples: **Method:** SW846 8015B

D29943-1

CAS No.	Compound	D29946-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	12.7	J	291	288	95	292	96	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D29946-1	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	101%	97%	60-140%

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED
(compounds with "m" flag)
Judy Melson
12/07/11 08:41

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\120611\GB14207.D\FID1A.CH Vial: 8
Signal #2 : Y:\1\DATA\120611\GB14207.D\FID2B.CH
Acq On : 6 Dec 2011 1:35 pm Operator: StephK
Sample : D29943-1, 50X Inst : GC/MS Ins
Misc : GC2457,GGB802,5.022,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Dec 06 13:09:07 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Dec 06 12:41:57 2011
Response via : Initial Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.38	2664845	91.090	%	m
10) S	1,2,4-Trichlorobenzene (P)	14.38	27467093	119.505	%	
	Target Compounds					
1) H	TVH-Gasoline	7.32	73675410	1.035	mg/L	
4) T	Methyl-t-butyl-ether	2.24	422457	2.262	ug/L	
5) T	Benzene	4.16	4882043	8.534	ug/L	
6) T	Toluene	7.68	26183002	46.206	ug/L	
7) T	Ethylbenzene	10.30	5321186	10.919	ug/L	
8) T	m,p-Xylene	10.48	23208775	41.260	ug/L	
9) T	o-Xylene	10.99	3236585	6.713	ug/L	
11) T	Naphthalene	14.57	7206983	28.000	ug/L	

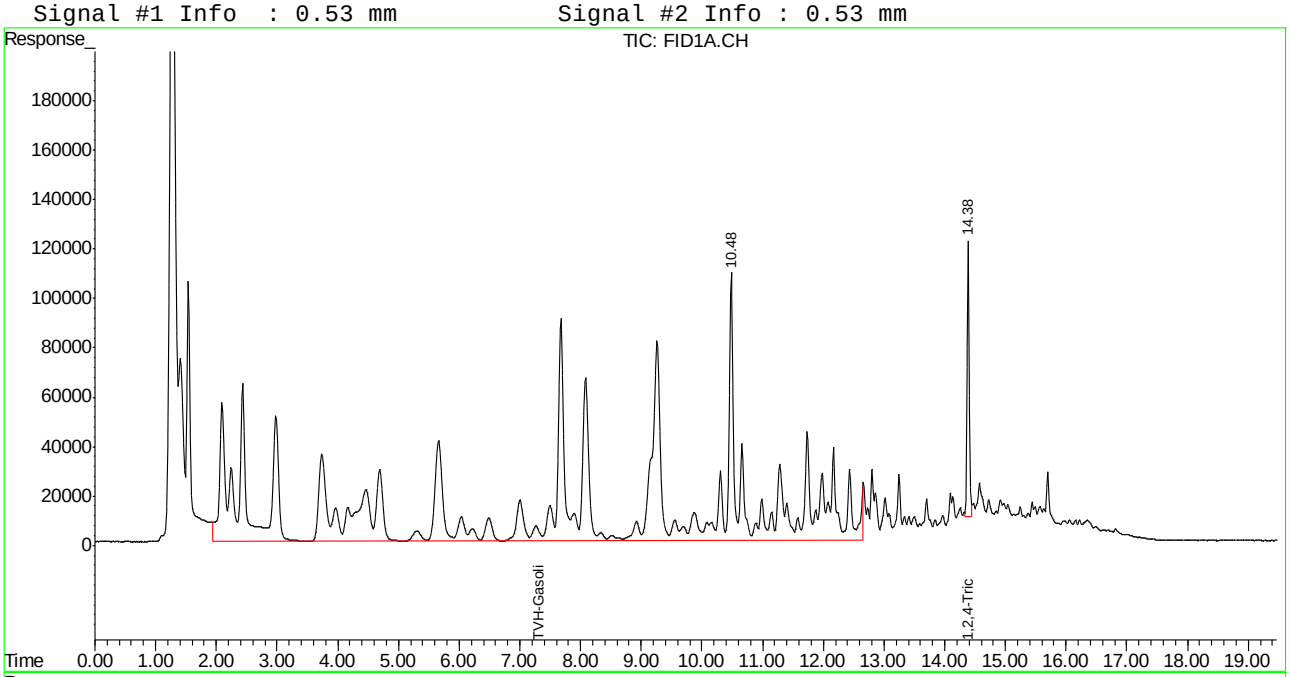
(f)=RT Delta > 1/2 Window (m)=manual int.
GB14207.D TB791GB791SOIL.M Wed Dec 07 08:12:23 2011 GC Page 1

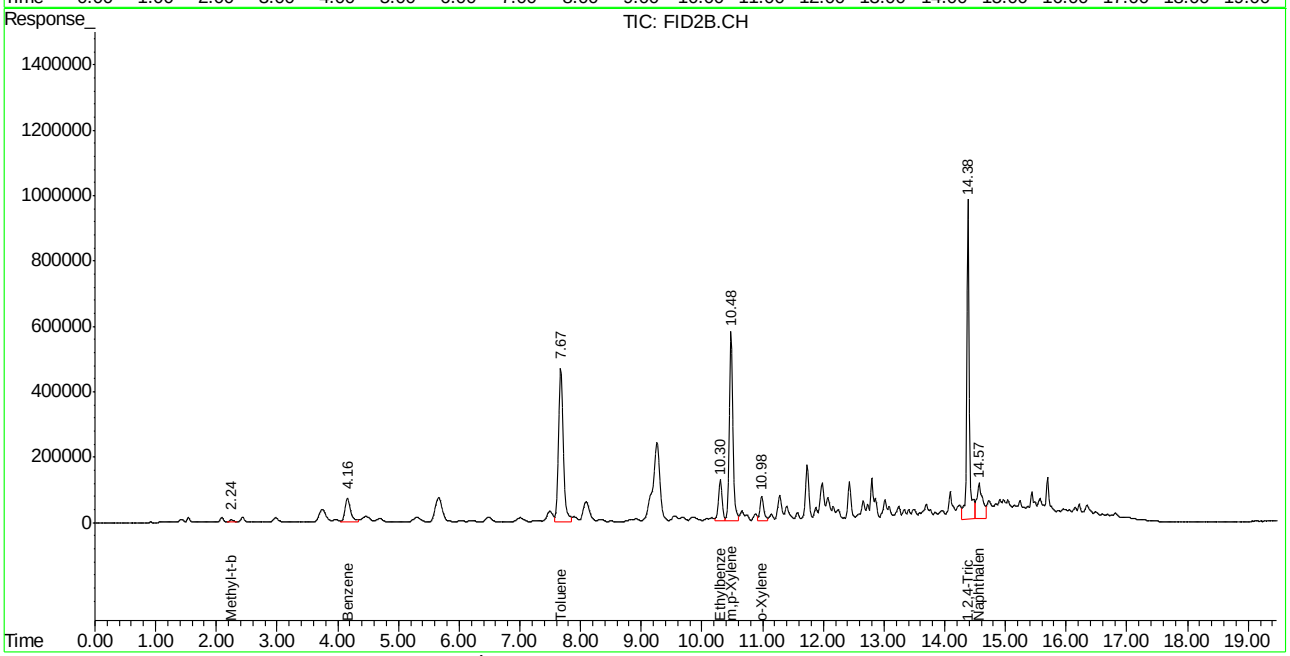
Quantitation Report (QT Reviewed)

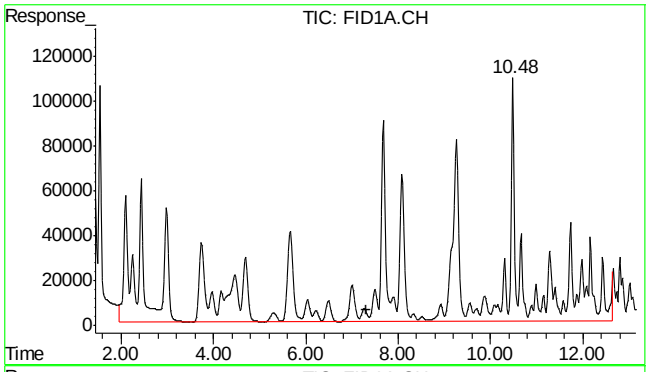
Signal #1 : Y:\1\DATA\120611\GB14207.D\FID1A.CH Vial: 8
Signal #2 : Y:\1\DATA\120611\GB14207.D\FID2B.CH
Acq On : 6 Dec 2011 1:35 pm Operator: StephK
Sample : D29943-1, 50X Inst : GC/MS Ins
Misc : GC2457,GGB802,5.022,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Dec 6 13:08 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Dec 06 12:41:57 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

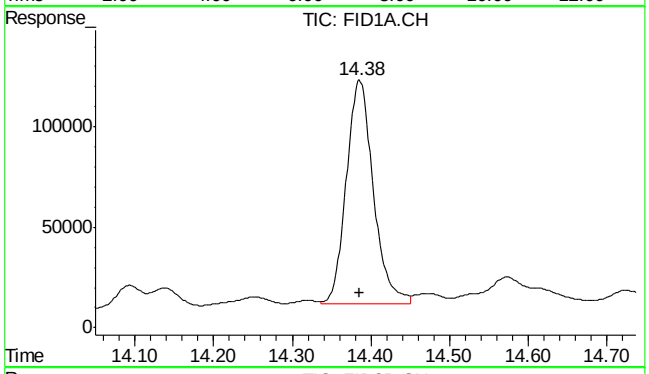






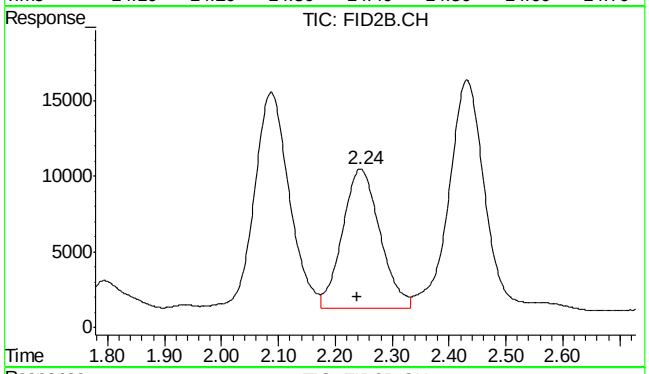
#1 TVH-Gasoline

R.T.: 7.315 min
Delta R.T.: 0.000 min
Response: 73675410
Conc: 1.03 mg/L m



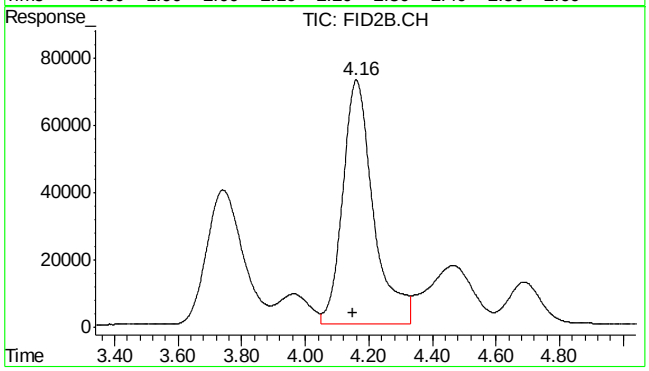
#2 1,2,4-Trichlorobenzene

R.T.: 14.385 min
Delta R.T.: 0.000 min
Response: 2664845
Conc: 91.09 % m



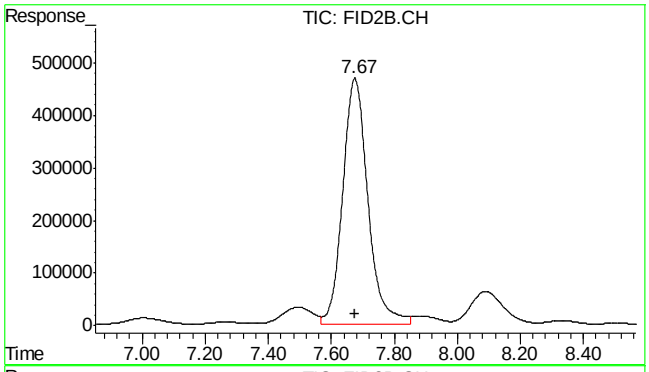
#4 Methyl-t-butyl-ether

R.T.: 2.244 min
Delta R.T.: 0.006 min
Response: 422457
Conc: 2.26 ug/L



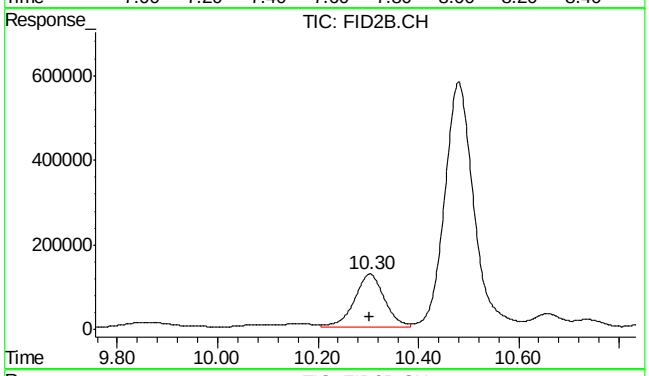
#5 Benzene

R.T.: 4.161 min
Delta R.T.: 0.010 min
Response: 4882043
Conc: 8.53 ug/L



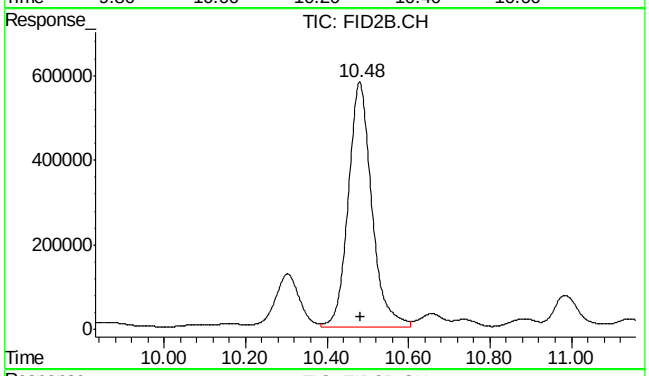
#6 Toluene

R.T.: 7.675 min
Delta R.T.: 0.001 min
Response: 26183002
Conc: 46.21 ug/L



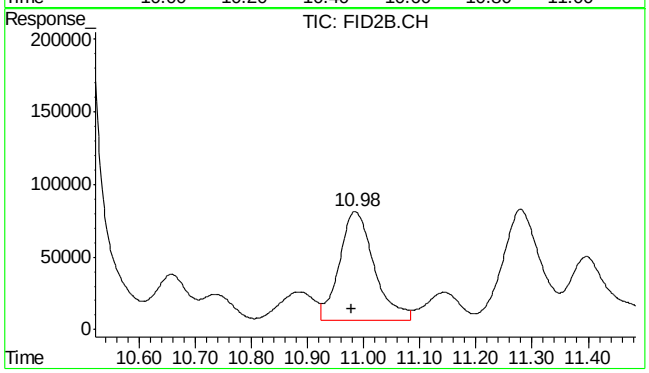
#7 Ethylbenzene

R.T.: 10.304 min
Delta R.T.: 0.000 min
Response: 5321186
Conc: 10.92 ug/L



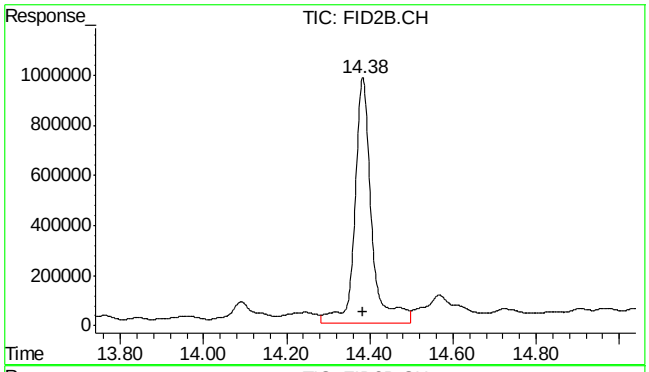
#8 m,p-Xylene

R.T.: 10.481 min
Delta R.T.: -0.003 min
Response: 23208775
Conc: 41.26 ug/L



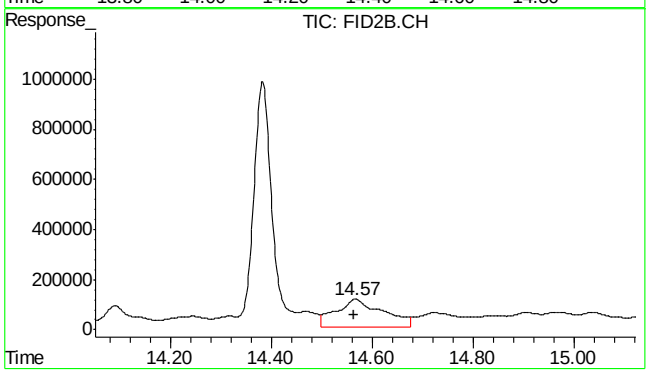
#9 o-Xylene

R.T.: 10.985 min
Delta R.T.: 0.006 min
Response: 3236585
Conc: 6.71 ug/L



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.383 min
Delta R.T.: 0.000 min
Response: 27467093
Conc: 119.51 %



#11 Naphthalene

R.T.: 14.568 min
Delta R.T.: 0.003 min
Response: 7206983
Conc: 28.00 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\120611\GB14202.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\120611\GB14202.D\FID2B.CH
Acq On : 6 Dec 2011 10:36 am Operator: StephK
Sample : MB, S Inst : GC/MS Ins
Misc : GC2457,GGB802,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Dec 06 10:08:02 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Dec 06 09:23:22 2011
Response via : Initial Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
2) S	1,2,4-Trichlorobenzene	14.39	2863626	97.885	%
10) S	1,2,4-Trichlorobenzene (P)	14.39	23656844	102.928	%
	Target Compounds				
1) H	TVH-Gasoline	7.32	6076876	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.68	246430	0.435	ug/L
7) T	Ethylbenzene	10.31	85558	0.176	ug/L
8) T	m,p-Xylene	10.49	382138	0.247	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.57	416143	1.617	ug/L

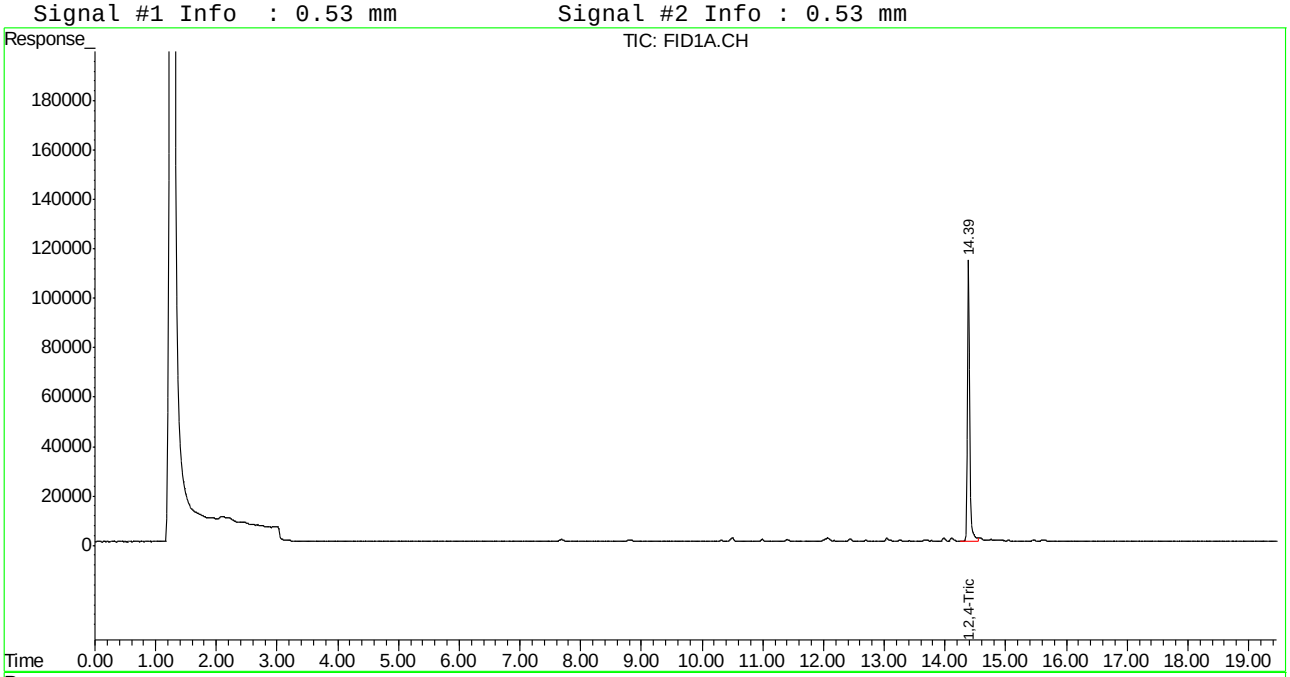
(f)=RT Delta > 1/2 Window (m)=manual int.

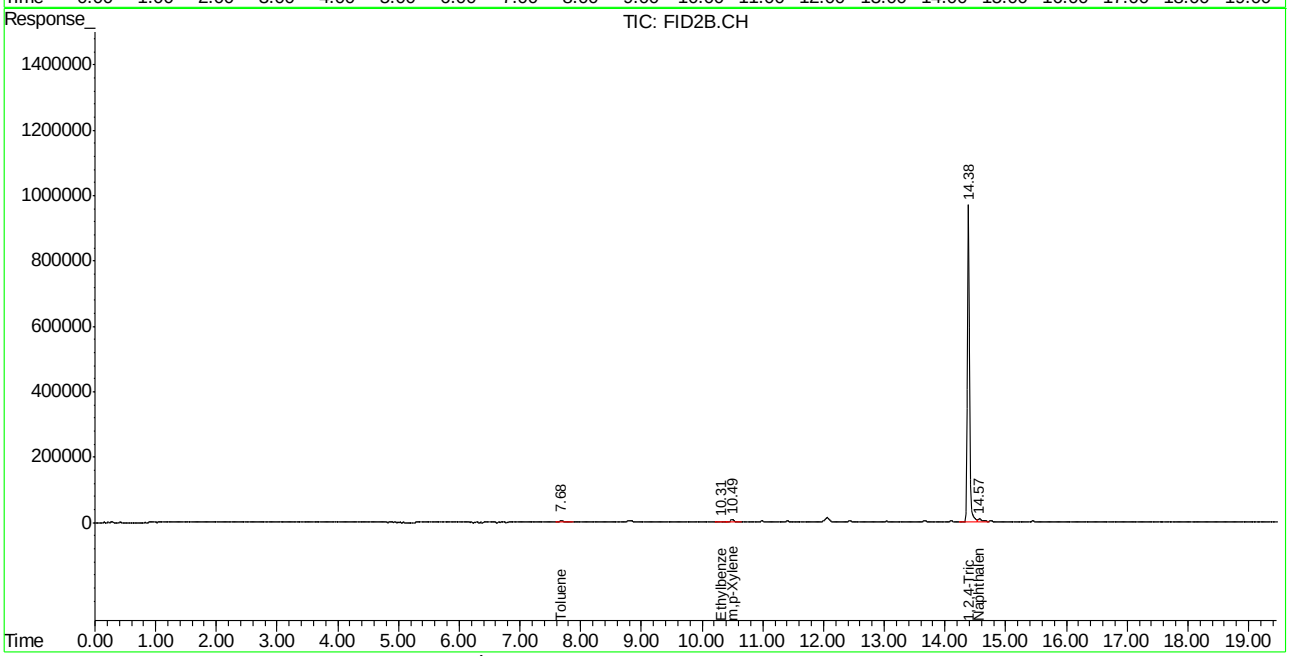
Quantitation Report (QT Reviewed)

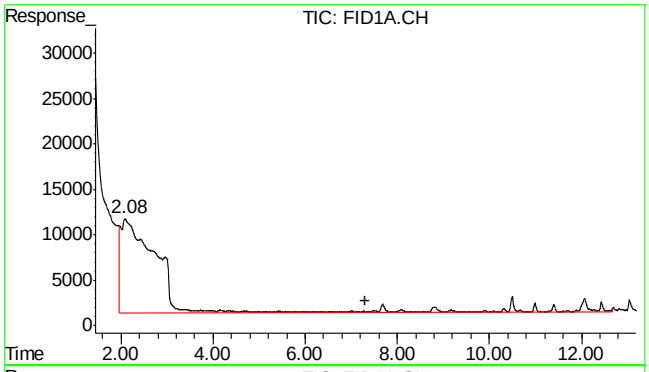
Signal #1 : Y:\1\DATA\120611\GB14202.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\120611\GB14202.D\FID2B.CH
Acq On : 6 Dec 2011 10:36 am Operator: StephK
Sample : MB, S Inst : GC/MS Ins
Misc : GC2457,GGB802,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Dec 6 10:06 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Dec 06 09:23:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

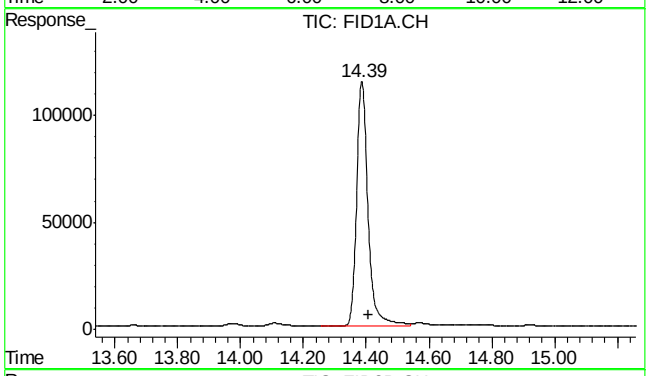






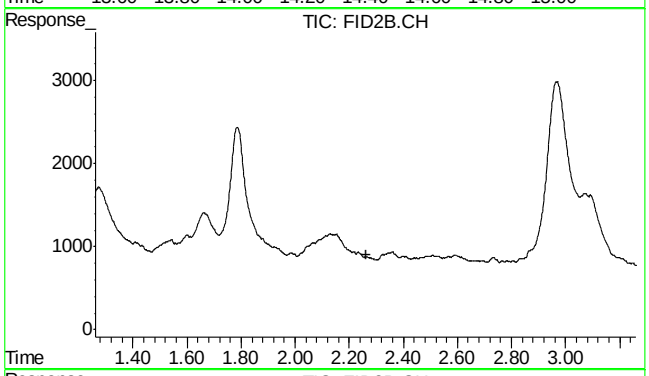
#1 TVH-Gasoline

R.T.: 7.315 min
Delta R.T.: 0.000 min
Response: 6076876
Conc: N.D.



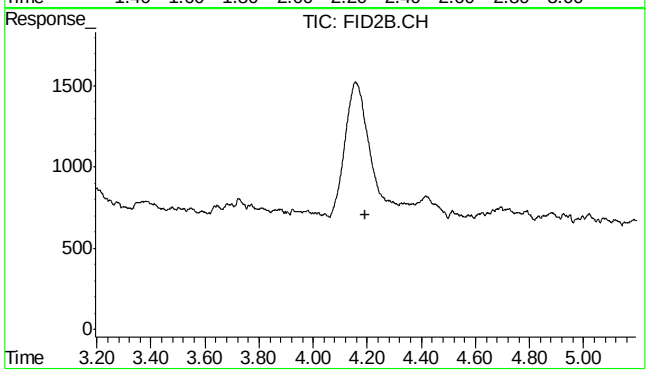
#2 1,2,4-Trichlorobenzene

R.T.: 14.386 min
Delta R.T.: -0.021 min
Response: 2863626
Conc: 97.88 %



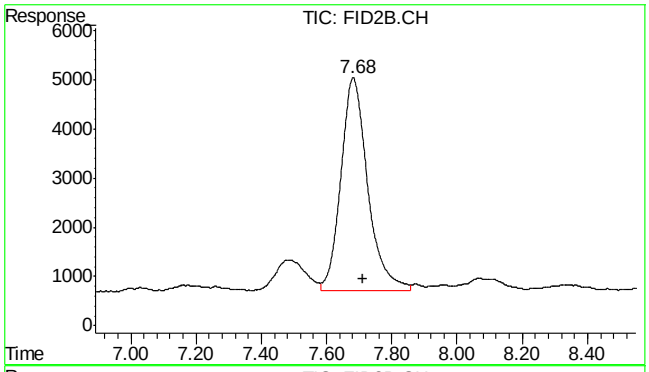
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.261 min
Response: 0
Conc: N.D.



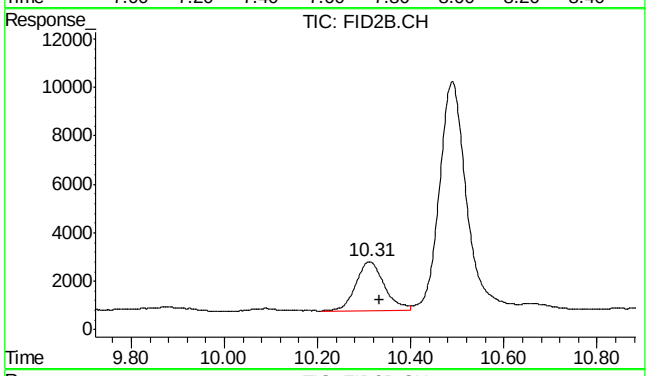
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.194 min
Response: 0
Conc: N.D.



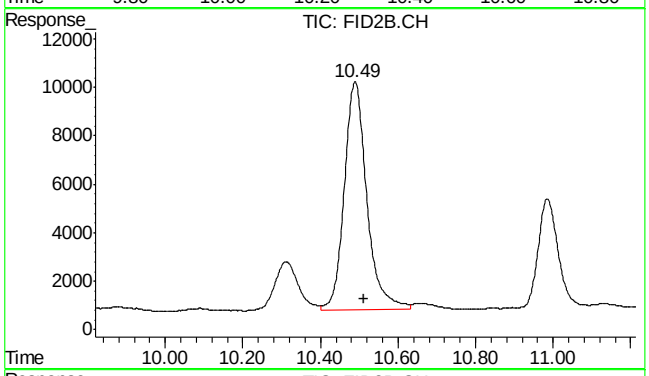
#6 Toluene

R.T.: 7.682 min
Delta R.T.: -0.030 min
Response: 246430
Conc: 0.43 ug/L



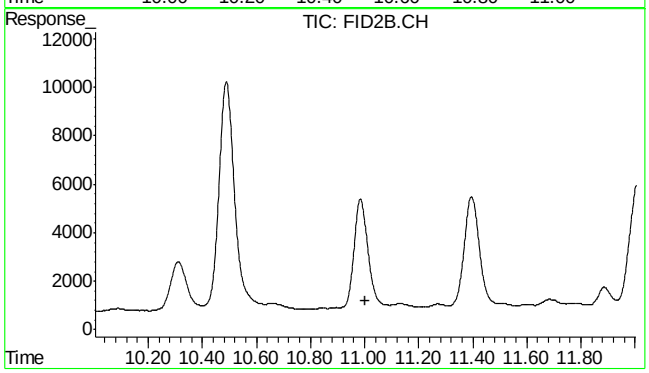
#7 Ethylbenzene

R.T.: 10.311 min
Delta R.T.: -0.021 min
Response: 85558
Conc: 0.18 ug/L



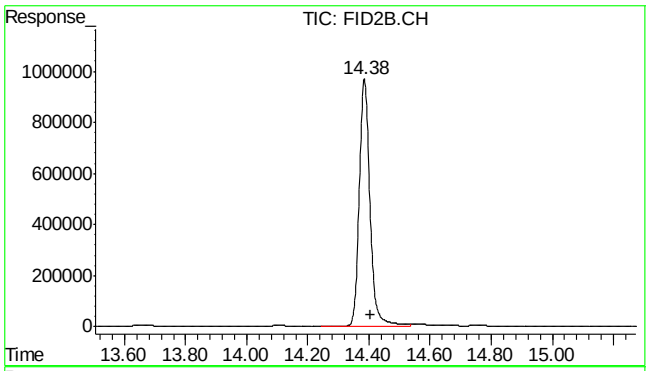
#8 m,p-Xylene

R.T.: 10.489 min
Delta R.T.: -0.022 min
Response: 382138
Conc: 0.25 ug/L



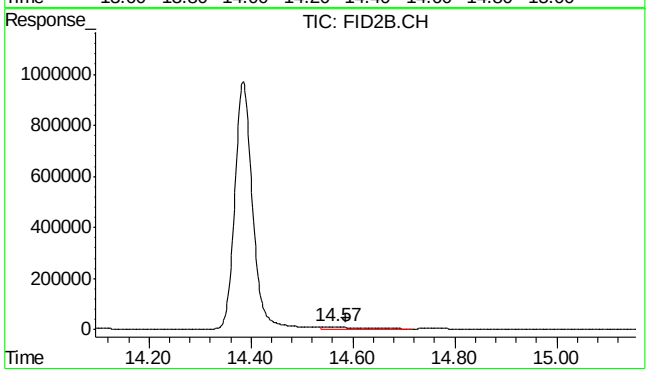
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 11.004 min
Response: 0
Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.385 min
Delta R.T.: -0.020 min
Response: 23656844
Conc: 102.93 %



#11 Naphthalene

R.T.: 14.567 min
Delta R.T.: -0.020 min
Response: 416143
Conc: 1.62 ug/L

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4951-MB	FI04781.D	1	12/09/11	TR	12/04/11	OP4951	GFI356

The QC reported here applies to the following samples: **Method:** SW846-8015B

D29943-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	89%	43-136%

Blank Spike Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4951-BS	FI04782.D	1	12/09/11	TR	12/04/11	OP4951	GFI356

The QC reported here applies to the following samples: **Method:** SW846-8015B

D29943-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	562	84	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	96%	43-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29943
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4951-MS	FI04783.D	1	12/09/11	TR	12/04/11	OP4951	GFI356
OP4951-MSD	FI04784.D	1	12/09/11	TR	12/04/11	OP4951	GFI356
D29946-1	FI04785.D	1	12/09/11	TR	12/04/11	OP4951	GFI356

The QC reported here applies to the following samples: **Method:** SW846-8015B

D29943-1

CAS No.	Compound	D29946-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	483		779	970	63	1070	75	10	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D29946-1	Limits
84-15-1	o-Terphenyl	73%	84%	83%	43-136%

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 12/12/11 08:46

Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI120911\FI04797.D Vial: 17
Acq On : 9 Dec 2011 8:08 pm Operator: TEDR
Sample : D29943-1 Inst : FID6
Misc : OP4951,GFI356,30.18,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 10 12:13:56 2011 Quant Results File: DF-GFI355.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI355.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Fri Dec 09 10:47:08 2011
Response via : Initial Calibration
DataAcq Meth : FR_BASE2.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
1) S	O-Terphenyl	13.94	57059787	743.097	mg/L	m
	Target Compounds					
2) H	TPH-DRO (c10-c28)	12.15	339699122	4833.041	mg/L	

10.1.1
10

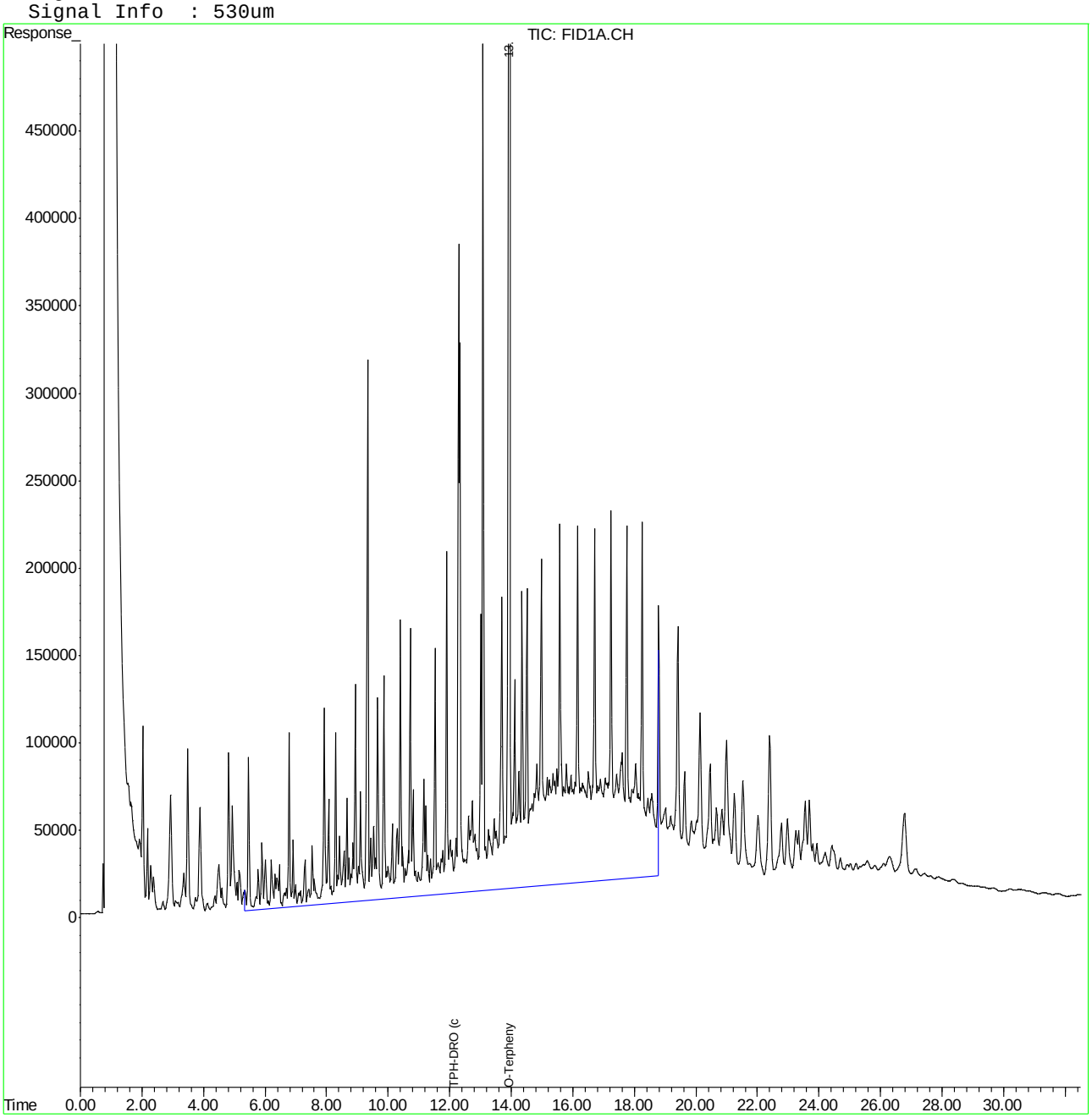
(f)=RT Delta > 1/2 Window (m)=manual int.
FI04797.D DF-GFI355.M Sat Dec 10 15:18:45 2011 TEH Page 1

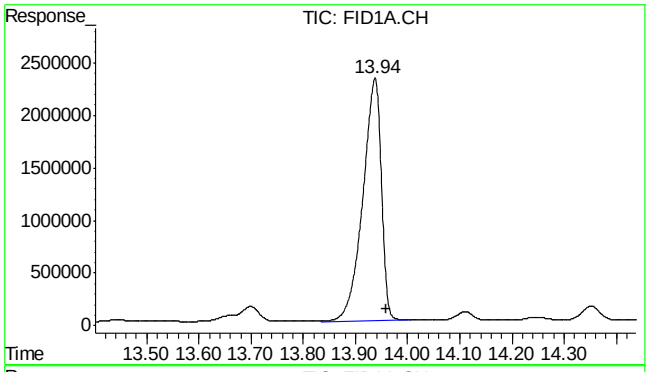
Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI120911\FI04797.D Vial: 17
Acq On : 9 Dec 2011 8:08 pm Operator: TEDR
Sample : D29943-1 Inst : FID6
Misc : OP4951,GFI356,30.18,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 10 12:18 2011 Quant Results File: DF-GFI355.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI355.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Fri Dec 09 10:47:08 2011
Response via : Multiple Level Calibration
DataAcq Meth : FR_BASE2.M

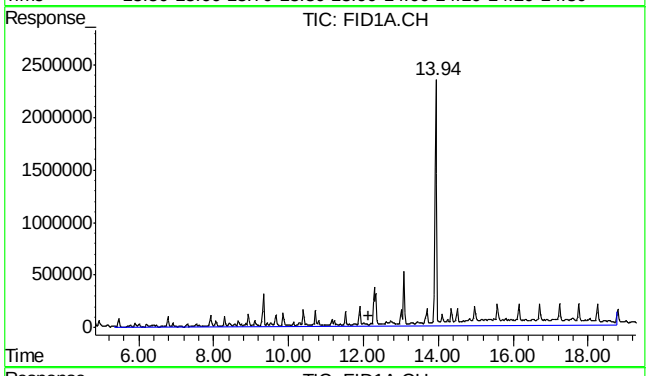
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





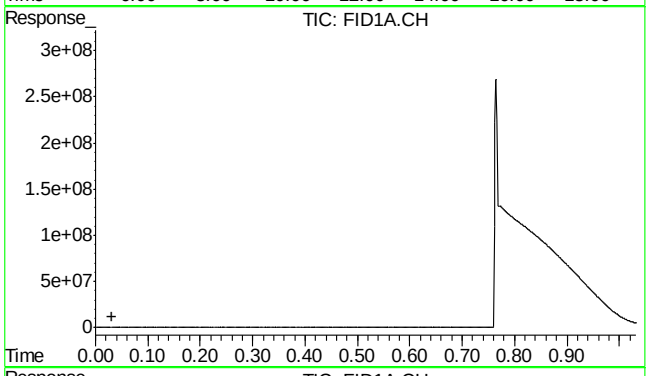
#1 O-Terphenyl

R.T.: 13.937 min
Delta R.T.: -0.023 min
Response: 57059787
Conc: 743.10 mg/L m



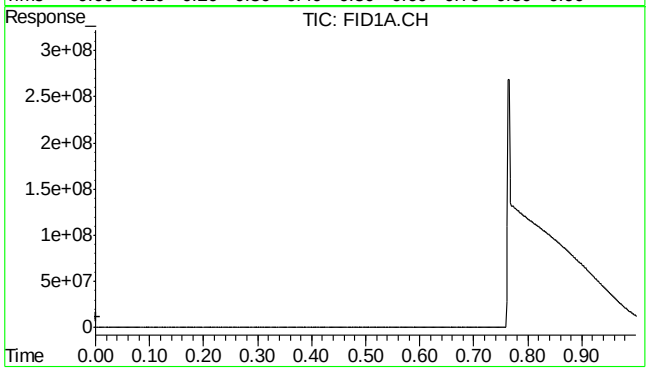
#2 TPH-DRO (c10-c28)

R.T.: 12.145 min
Delta R.T.: 0.000 min
Response: 339699122
Conc: 4833.04 mg/L m



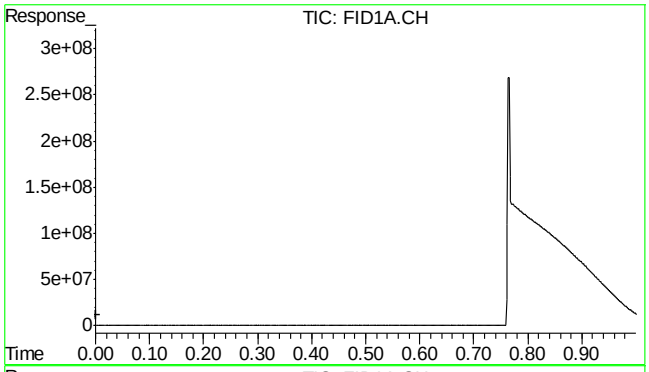
#9 5a-Androstane

R.T.: 0.000 min
Exp R.T. : 0.032 min
Response: 0
Conc: N.D.



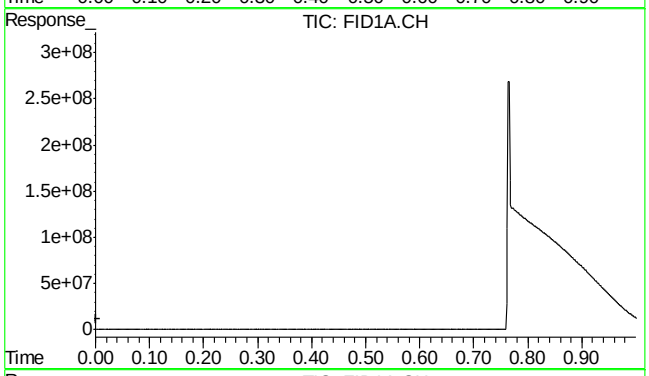
#10 2-Fluorophenol

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



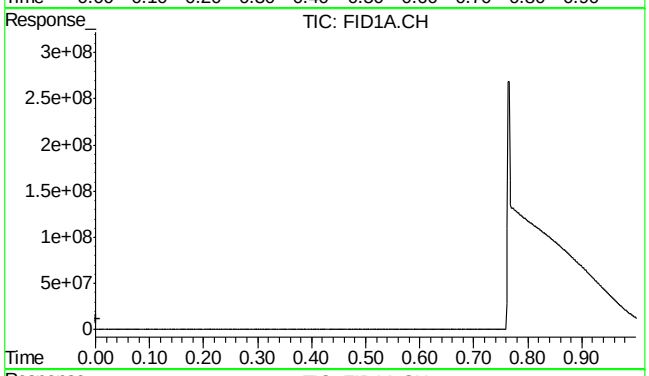
#11 Phenol-d5

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



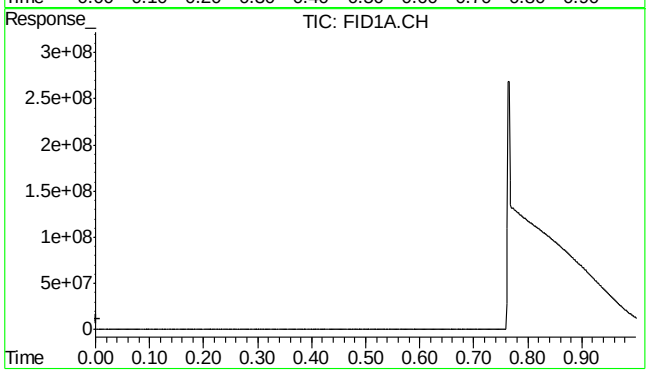
#12 Nitrobenzene-d5

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



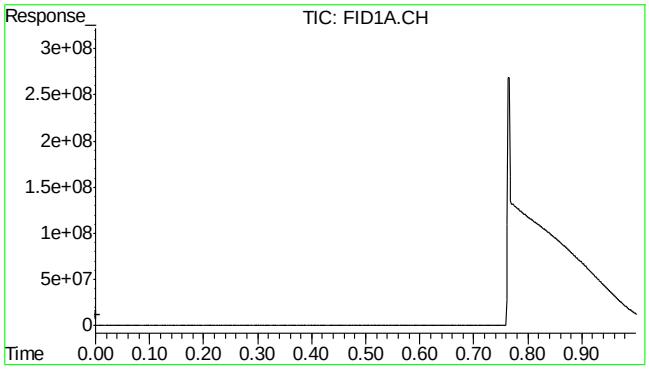
#13 2-Fluorobiphenyl

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



#14 2,4,6-Tribromophenol

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



#15 Terphenyl-d14

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 12/12/11 08:46

Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI120911\FI04781.D Vial: 1
Acq On : 9 Dec 2011 9:32 am Operator: TEDR
Sample : OP4951-MB Inst : FID6
Misc : OP4951,GFI356,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 10 10:30:54 2011 Quant Results File: DF-GFI355.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI355.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Fri Dec 09 10:47:08 2011
Response via : Initial Calibration
DataAcq Meth : FR_BASE2.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	O-Terphenyl	13.94	68109615	887.000 mg/L m
	Target Compounds			
2) H	TPH-DRO (c10-c28)	12.15	1035793	14.737 mg/L

10.2.1 10

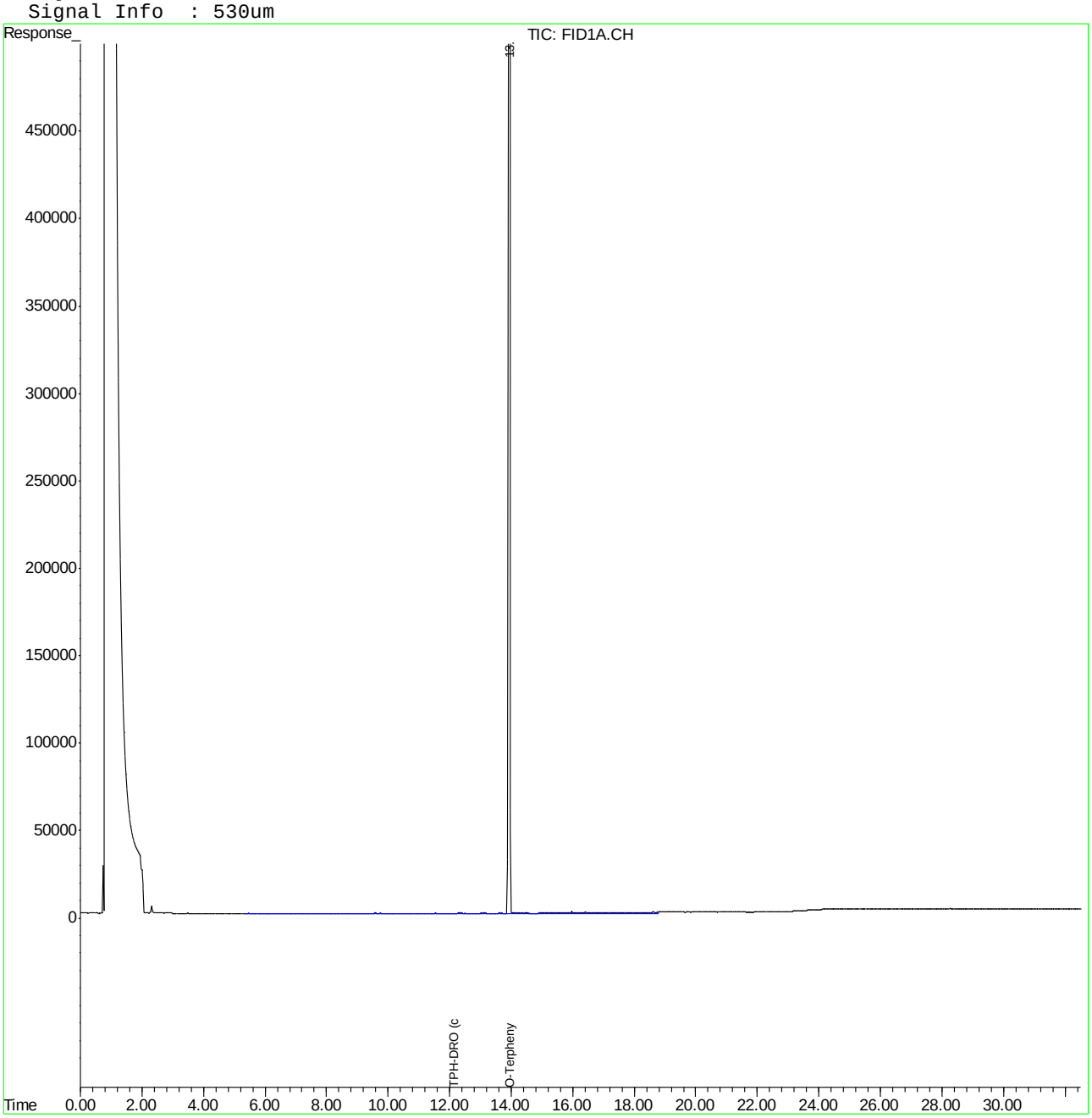
(f)=RT Delta > 1/2 Window (m)=manual int.
FI04781.D DF-GFI355.M Sat Dec 10 15:17:57 2011 TEH Page 1

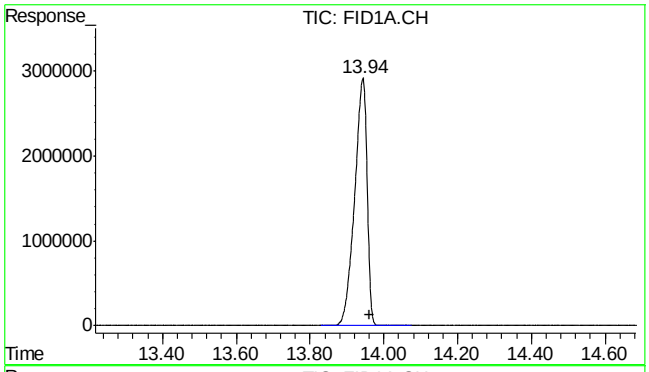
Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI120911\FI04781.D Vial: 1
Acq On : 9 Dec 2011 9:32 am Operator: TEDR
Sample : OP4951-MB Inst : FID6
Misc : OP4951,GFI356,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 10 10:35 2011 Quant Results File: DF-GFI355.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI355.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Fri Dec 09 10:47:08 2011
Response via : Multiple Level Calibration
DataAcq Meth : FR_BASE2.M

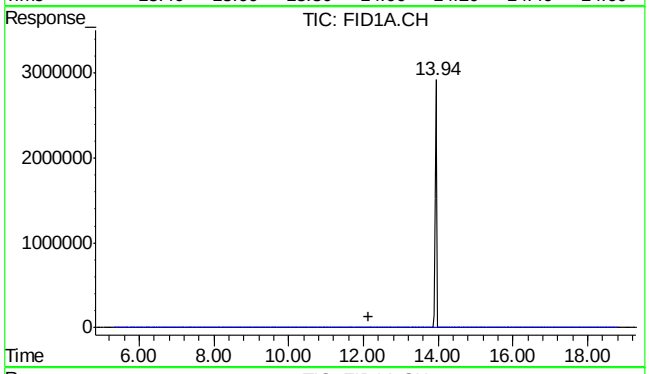
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





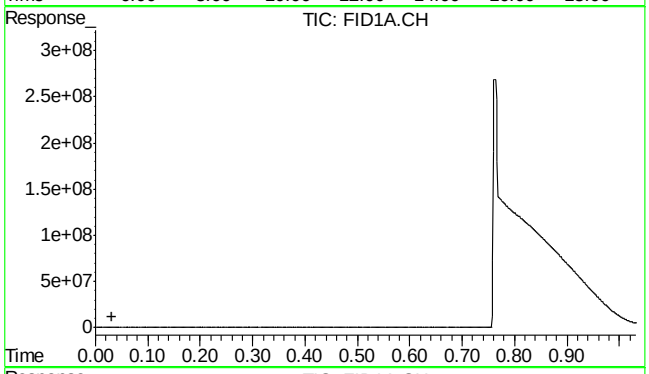
#1 O-Terphenyl

R.T.: 13.943 min
Delta R.T.: -0.017 min
Response: 68109615
Conc: 887.00 mg/L m



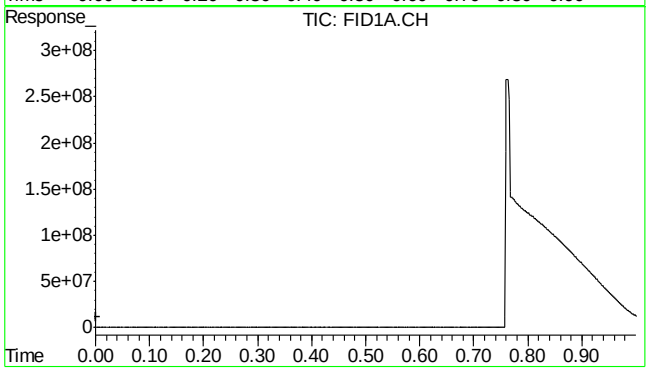
#2 TPH-DRO (c10-c28)

R.T.: 12.145 min
Delta R.T.: 0.000 min
Response: 1035793
Conc: 14.74 mg/L m



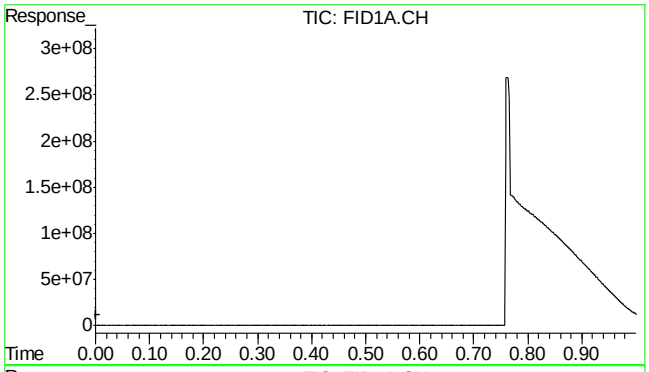
#9 5a-Androstane

R.T.: 0.000 min
Exp R.T. : 0.032 min
Response: 0
Conc: N.D.



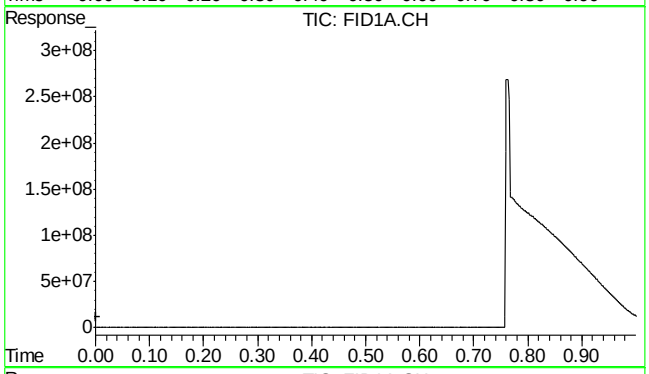
#10 2-Fluorophenol

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



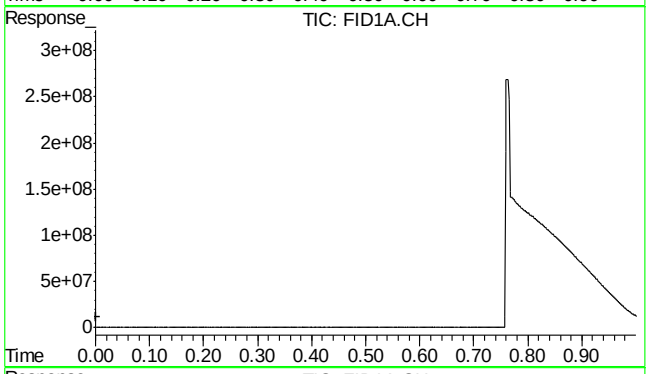
#11 Phenol-d5

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



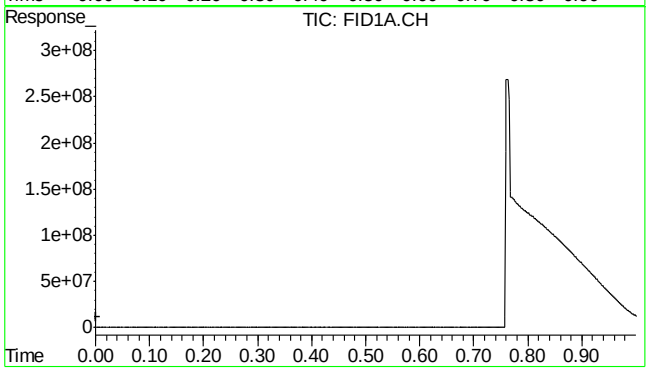
#12 Nitrobenzene-d5

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



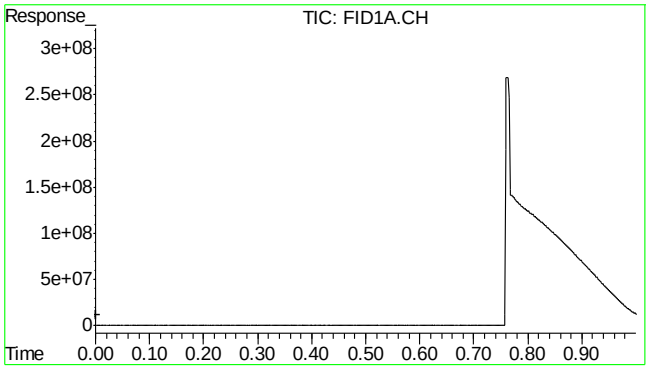
#13 2-Fluorobiphenyl

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



#14 2,4,6-Tribromophenol

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



#15 Terphenyl-d14

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6404 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 12/06/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.0011	.013	-0.00013	<0.10

Associated samples MP6404: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6404
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 12/06/11

Metal	D29943-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.035	0.48	0.521	85.4	85-115

Associated samples MP6404: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6404 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 12/06/11

Metal	D29943-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.035	0.52	0.586	82.8N(a)	8.0	20

Associated samples MP6404: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6404
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 12/06/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.42	0.4	105.0	80-120

Associated samples MP6404: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	-12	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	12.5	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	-88	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP6407: D29943-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/07/11

Metal	D29983-1A Original MS		Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	45200	185000	125000	111.8	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	24500	155000	125000	104.4	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	79200	212000	125000	106.2	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6407: D29943-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/07/11

Metal	D29983-1A Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	45200	186000	125000	112.6	0.5	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	24500	156000	125000	105.2	0.6	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	79200	217000	125000	110.2	2.3	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6407: D29943-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/07/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	138000	125000	110.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	127000	125000	101.6	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	130000	125000	104.0	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6407: D29943-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6407
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 12/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.59	.59		
Antimony	3.0	.31	.31		
Arsenic	2.5	.59	.59		
Barium	1.0	.11	.11	0.020	<1.0
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	-0.010	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.050	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	0.030	<1.0
Iron	7.0	.34	2		
Lead	5.0	.16	.21	-0.010	<5.0
Lithium	0.20	.028	.031		
Magnesium	20	.58	1.4		
Manganese	0.50	.0053	.012		
Molybdenum	1.0	.045	.054		
Nickel	3.0	.043	.099	-0.020	<3.0
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	0.010	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	-0.010	<3.0
Sodium	40	11	11		
Strontium	5.0		.017		
Thallium	1.0	.29	.34		
Tin	5.0	.55	1.3		
Titanium	1.0	.011	.1		
Uranium	5.0	.15	.2		
Vanadium	1.0	.016	.025		
Zinc	3.0	.028	.06	0.12	<3.0

Associated samples MP6409: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 12/07/11

Metal	D29943-1 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	6190	8630	290	841.4(a)	75-125
Beryllium					
Boron					
Cadmium	0.14	64.1	72.5	88.2	75-125
Calcium					
Chromium	12.8	75.4	72.5	86.3	75-125
Cobalt	anr				
Copper	27.5	100	72.5	100.0	75-125
Iron	anr				
Lead	16.4	143	145	87.3	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	15.1	76.5	72.5	84.7	75-125
Phosphorus					
Potassium					
Selenium	0.0	192	145	132.4N(b	75-125
Silicon					
Silver	0.11	27.8	29	95.5	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	49.9	113	72.5	87.0	75-125

Associated samples MP6409: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/11

Metal	D29943-1 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	6190	6220	287	10.5 (a)	14.5	20
Beryllium						
Boron						
Cadmium	0.14	63.4	71.8	88.2	1.1	20
Calcium						
Chromium	12.8	73.4	71.8	84.4	2.7	20
Cobalt	anr					
Copper	27.5	98.8	71.8	99.4	1.2	20
Iron	anr					
Lead	16.4	141	144	86.8	1.4	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	15.1	90.2	71.8	104.7	16.4	20
Phosphorus						
Potassium						
Selenium	0.0	195	144	135.9N(b	35.6 (c)	20
Silicon						
Silver	0.11	27.4	28.7	95.1	1.4	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	49.9	108	71.8	81.0	4.5	20

Associated samples MP6409: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.
(c) High RPD due to possible sample matrix or nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 12/07/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	209	200	104.5	80-120
Beryllium				
Boron				
Cadmium	46.7	50	93.4	80-120
Calcium				
Chromium	48.1	50	96.2	80-120
Cobalt	anr			
Copper	50.1	50	100.2	80-120
Iron	anr			
Lead	94.9	100	94.9	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	46.1	50	92.2	80-120
Phosphorus				
Potassium				
Selenium	96.4	100	96.4	80-120
Silicon				
Silver	20.0	20	100.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	46.8	50	93.6	80-120

Associated samples MP6409: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 12/07/11

Metal	D29943-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	42700	50700	7.7	0-10
Beryllium				
Boron				
Cadmium	1.10	0.00	100.0(a)	0-10
Calcium				
Chromium	97.6	107	9.1	0-10
Cobalt	anr			
Copper	209	211	0.6	0-10
Iron	anr			
Lead	125	125	0.1	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	115	132	14.3*(b)	0-10
Phosphorus				
Potassium				
Selenium	19.7	0.00		0-10
Silicon				
Silver	0.800	3.00	275.0(a)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	380	467	22.9*(b)	0-10

Associated samples MP6409: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6409
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6410
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 12/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	-0.027	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP6410: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6410
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 12/07/11

Metal	D29943-1 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	6.6	153	145	101.0	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6410: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6410 Methods: SW846 6020
Matrix Type: SOLID Units: mg/kg

Prep Date: 12/07/11

Metal	D29943-1 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	6.6	159	144	106.2	3.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6410: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6410
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 12/07/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	102	100	102.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6410: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

QC Batch ID: MP6410
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 12/07/11

Metal	D29943-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	49.9	57.5	15.2*(a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6410: D29943-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP6067/GN12787			umhos/cm	10008	10800	107.9	90-110%
pH	GN12764			su	8.00	8.00	100.0	99.3-100.7%

Associated Samples:
Batch GN12764: D29943-1
Batch GP6067: D29943-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29943
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-32A

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Redox Potential Vs H2	GN12778	D29943-1	mv	325	335	3.0	0-20%

Associated Samples:
Batch GN12778: D29943-1
(*) Outside of QC limits

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D29943
Accutest Quote #:	0
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information			Analytical Information					
Name: Accutest Mountain States (AMS)			Name: Accutest - New England								
Address: 4036 Youngfield St.			Address: 495 Technology Center West, BLDG C								
City: Wheat Ridge,	State: CO	Zip: 80033	City: Marlborough	State: MA	Zip: 01752						
Send Report to: Tiffany Pham			Contact: Sample Management								
Any questions contact: Shea Greiner											
Phone/Fax #: (303) 425-6021; (303)425-6854			Phone: (508) 481-6200								

	Collection					Preservation								
Field ID / Point of Collection	Date	Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	XCRA	B8270SIMPAH910L			Comments
D29943 -1	12/2/11	12:40 PM		Soil	1						X	X			

Turnaround Information

[X] 1 - 2 Business Day Rush — Approved By:
[ ] Other _____ (Days)

RUSH!

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[ ] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

10A

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date & Time:	Received By:	Date & Time:
1	10A	12/5/11	FedEx	
2	FedEx	12/6/11 10:00		
3				

For Subcontract Laboratory Use Only

Seal #: Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 2.7 On Ice [X]

13.1
13

D29943: Chain of Custody
Page 1 of 2
Accutest Labs of New England, Inc.

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D29943 **Client:** AMS **Immediate Client Services Action Required:** No

Date / Time Received: 12/6/2011 **Delivery Method:** **Client Service Action Required at Login:** No

Project: **No. Coolers:** 1 **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

D29943: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D29943
Account: ALMS Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP27160-MB	F53711.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D29943-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	0.58	ug/kg	
120-12-7	Anthracene	ND	5.0	0.81	ug/kg	
56-55-3	Benzo(a)anthracene	ND	5.0	0.62	ug/kg	
50-32-8	Benzo(a)pyrene	ND	5.0	0.72	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	5.0	0.61	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	5.0	0.95	ug/kg	
218-01-9	Chrysene	ND	5.0	0.77	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.4	ug/kg	
206-44-0	Fluoranthene	ND	5.0	0.79	ug/kg	
86-73-7	Fluorene	ND	5.0	0.44	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.3	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.1	ug/kg	
129-00-0	Pyrene	ND	5.0	1.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	102%	30-130%
321-60-8	2-Fluorobiphenyl	87%	30-130%
1718-51-0	Terphenyl-d14	107%	30-130%

Blank Spike Summary

Job Number: D29943
Account: ALMS Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP27160-BS	F53712.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D29943-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	2490	2050	82	40-140
120-12-7	Anthracene	2490	1800	72	40-140
56-55-3	Benzo(a)anthracene	2490	2450	98	40-140
50-32-8	Benzo(a)pyrene	2490	1870	75	40-140
205-99-2	Benzo(b)fluoranthene	2490	1820	73	40-140
207-08-9	Benzo(k)fluoranthene	2490	2030	82	40-140
218-01-9	Chrysene	2490	2380	96	40-140
53-70-3	Dibenzo(a,h)anthracene	2490	2870	115	40-140
206-44-0	Fluoranthene	2490	2120	85	40-140
86-73-7	Fluorene	2490	2370	95	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	2490	2860	115	40-140
91-20-3	Naphthalene	2490	1800	72	40-140
129-00-0	Pyrene	2490	2320	93	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	100%	30-130%
321-60-8	2-Fluorobiphenyl	85%	30-130%
1718-51-0	Terphenyl-d14	98%	30-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29943
Account: ALMS Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP27160-MS	F53713.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585
OP27160-MSD	F53714.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585
MC6135-1	F53715.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585
MC6135-1 [a]	F53720.D	1	12/08/11	PR	12/07/11	OP27160	MSF2585

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D29943-1

CAS No.	Compound	MC6135-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	123		2380	2190	87	2730	108	22	40-140/30
120-12-7	Anthracene	246		2380	2210	82	2610	98	17	40-140/30
56-55-3	Benzo(a)anthracene	773		2380	3520	115	4310	147* [b]	20	40-140/30
50-32-8	Benzo(a)pyrene	545		2380	2590	86	3290	114	24	40-140/30
205-99-2	Benzo(b)fluoranthene	522		2380	2620	88	3510	124	29	40-140/30
207-08-9	Benzo(k)fluoranthene	551		2380	2810	95	3530	123	23	40-140/30
218-01-9	Chrysene	724		2380	3410	113	4150	142* [b]	20	40-140/30
53-70-3	Dibenzo(a,h)anthracene	104		2380	2220	89	2500	99	12	40-140/30
206-44-0	Fluoranthene	1580		2380	4430	120	4980	141* [b]	12	40-140/30
86-73-7	Fluorene	279		2380	2930	111	3490	133	17	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	294		2380	2430	90	2750	102	12	40-140/30
91-20-3	Naphthalene	843		2380	2550	72	3230	99	24	40-140/30
129-00-0	Pyrene	928		2380	4550	152* [b]	4870	163* [b]	7	40-140/30

CAS No.	Surrogate Recoveries	MS	MSD	MC6135-1	MC6135-1	Limits
4165-60-0	Nitrobenzene-d5	112%	248%* [c]	143%* [c]	163%* [c]	30-130%
321-60-8	2-Fluorobiphenyl	94%	119%	119%	125%	30-130%
1718-51-0	Terphenyl-d14	115%	97%	108%	96%	30-130%

(a) Confirmation run for internal standard areas.
(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Mountain States ACCUTEST LABORATORIES

GC/MS Semi-volatiles

Raw Data

(Accutest Labs of New England, Inc.)

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau 12/13/11 11:54

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\F53716.D Vial: 9
Acq On : 8 Dec 2011 3:08 pm Operator: PaulR
Sample : d29943-1 Inst : GC/MS Ins
Misc : op27160,msf2585,20.22,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:29 2011 Quant Results File: F113011.RES

Quant Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration
DataAcq Meth : FSIMABN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.37	152	47634	4.00	ppb	-0.07
5) Naphthalene-d8	6.64	136	131965	4.00	ppb	-0.08
9) Acenaphthene-d10	9.07	164	84783	4.00	ppb	-0.13
17) Phenanthrene-d10	11.55	188	182511	4.00	ppb	-0.16
25) Chrysene-d12	16.50	240	173791	4.00	ppb	-0.16
30) Perylene-d12	19.03	264	313832	4.00	ppb	-0.17
System Monitoring Compounds						
2) 2-Fluorophenol	4.35	112	17052	12.29	ppb	0.03
Spiked Amount 100.000	Range 10 - 110		Recovery = 12.29%			
4) Phenol-d5	5.16	99	20400m	11.17	ppb	0.03
Spiked Amount 100.000	Range 10 - 110		Recovery = 11.17%			
6) Nitrobenzene-d5	5.94	82	11593	9.13	ppb	-0.06
Spiked Amount 50.000	Range 30 - 119		Recovery = 18.26%#			
11) 2-Fluorobiphenyl	8.04	172	24429	8.02	ppb	-0.11
Spiked Amount 50.000	Range 40 - 110		Recovery = 16.04%#			
18) 2,4,6-Tribromophenol	10.40	330	3917	6.38	ppb	-0.11
Spiked Amount 100.000	Range 10 - 157		Recovery = 6.38%#			
27) Terphenyl-d14	14.55	244	32646	11.57	ppb	-0.16
Spiked Amount 50.000	Range 30 - 124		Recovery = 23.14%#			
Target Compounds						Qvalue
7) Naphthalene	6.66	128	9643	2.88	ppb	97
8) 2-Methylnaphthalene	7.51	142	13004	6.54	ppb	93
15) Dibenzofuran	9.38	168	1426	0.40	ppb	71
16) Fluorene	9.92	166	2153	0.85	ppb	87
21) Phenanthrene	11.59	178	6627	1.33	ppb	96
23) Carbazole	12.04	167	797	0.18	ppb	56
26) Pyrene	14.19	202	1092	0.26	ppb	80
33) Benzo[a]pyrene	18.91	252	490	0.06	ppb	79
34) Indeno[1,2,3-cd]pyrene	20.60	276	2744	0.06	ppb	85
35) Dibenz[a,h]anthracene	20.63	278	815	0.08	ppb	92
36) Benzo[g,h,i]perylene	20.98	276	5785	0.15	ppb	49

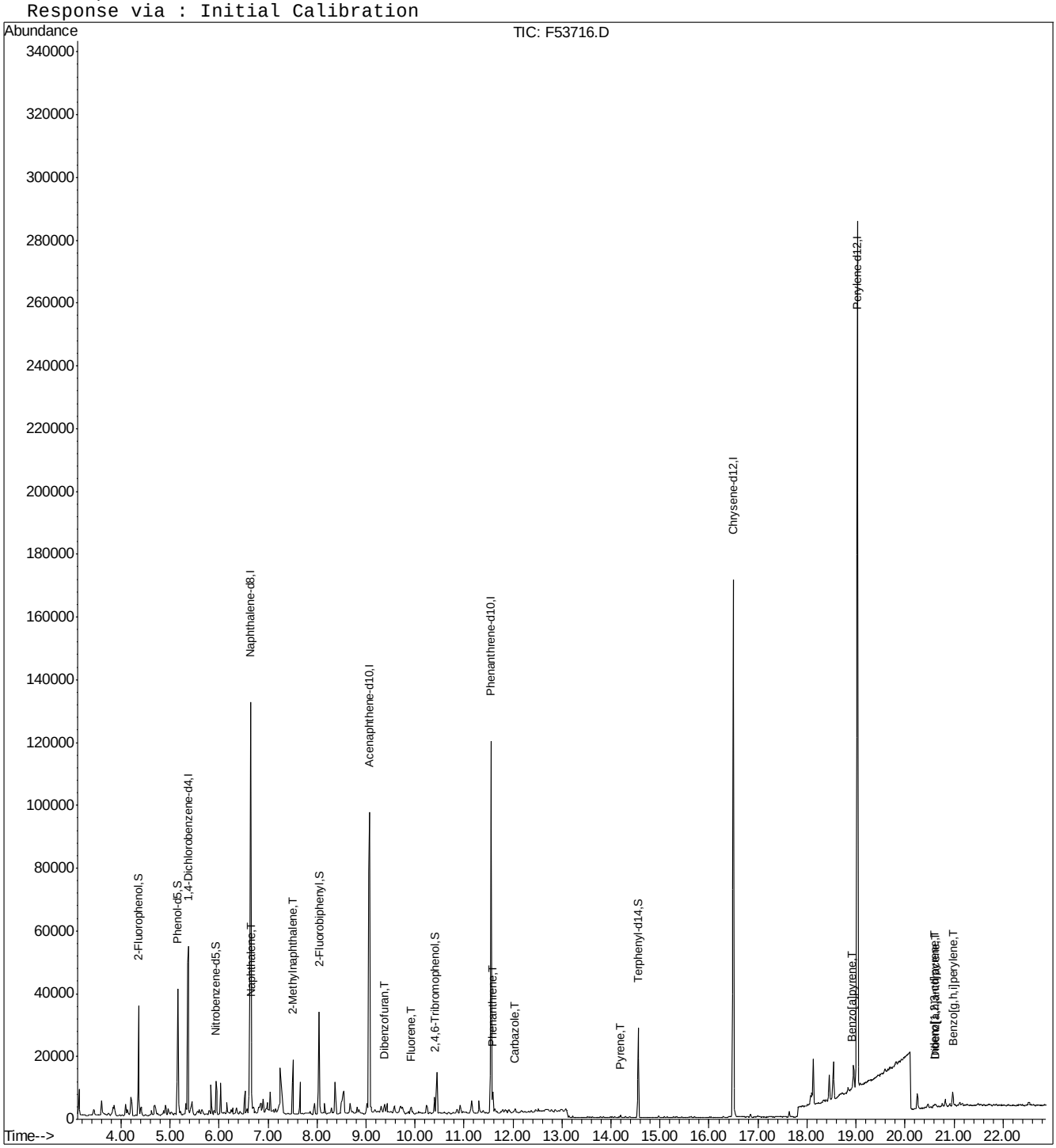
(#) = qualifier out of range (m) = manual integration
F53716.D F113011.M Fri Dec 09 14:30:28 2011 LPT1 Page 1

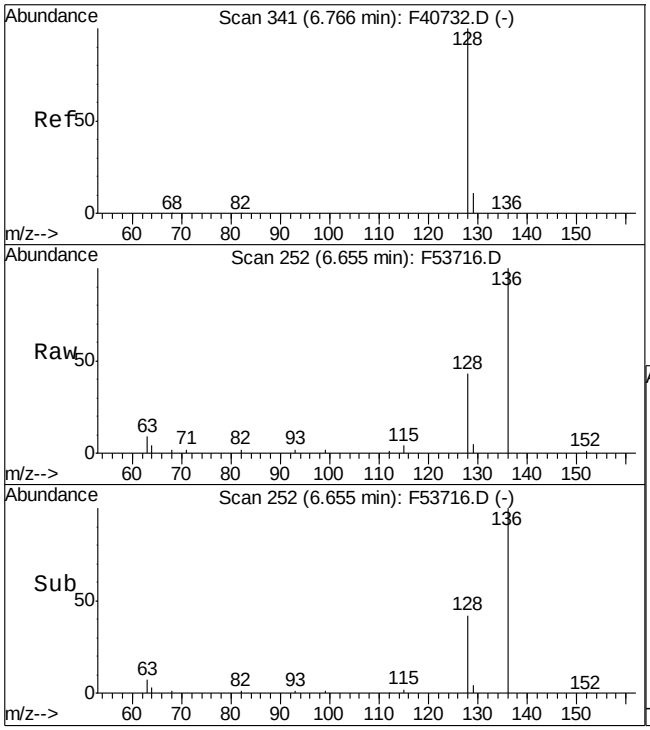
15.1.1
15

Quantitation Report

Data File : C:\HPCHEM\1\DATA\F53716.D Vial: 9
Acq On : 8 Dec 2011 3:08 pm Operator: PaulR
Sample : d29943-1 Inst : GC/MS Ins
Misc : op27160,msf2585,20.22,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:29 2011 Quant Results File: F113011.RES

Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration

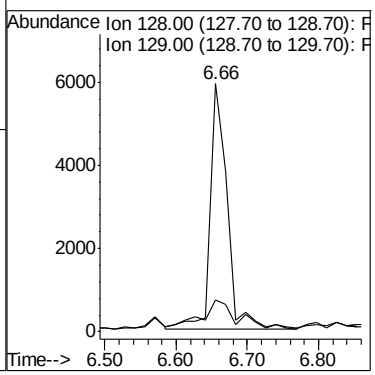


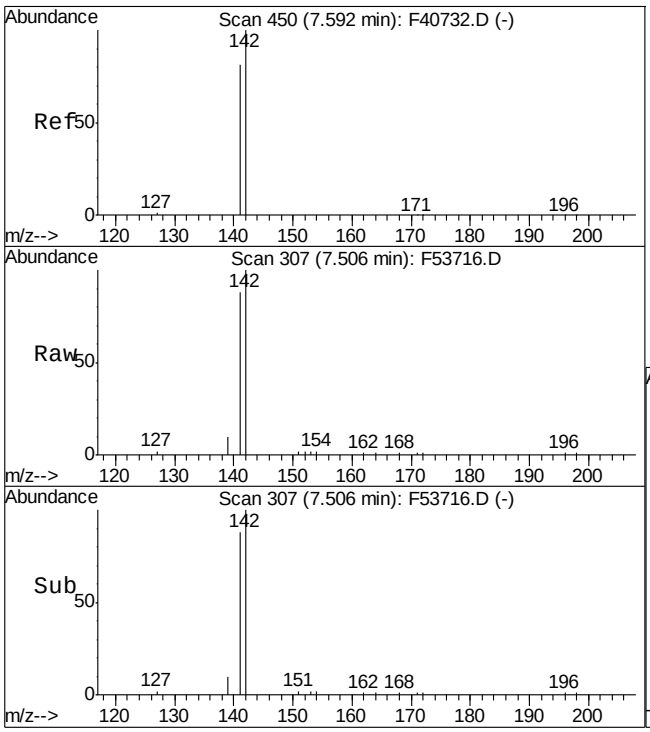


#7
Naphthalene
Concen: 2.88 ppb
RT: 6.66 min Scan# 252
Delta R.T. -0.10 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:128 Resp: 9643

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	40.4

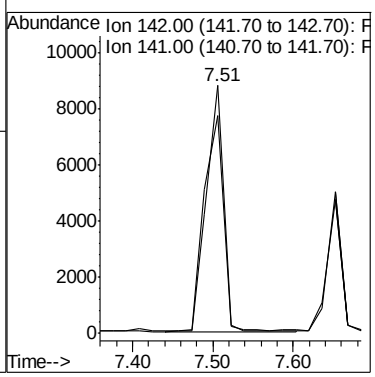


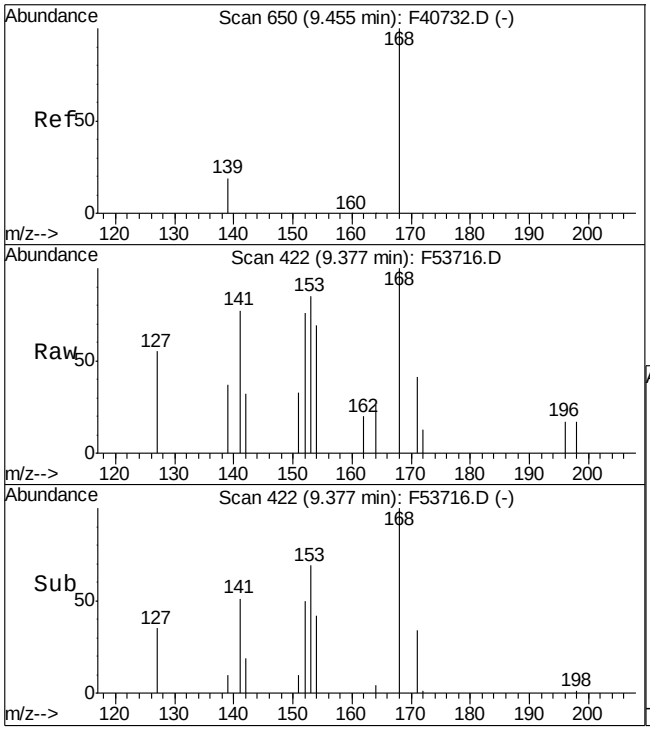


#8
2-Methylnaphthalene
Concen: 6.54 ppb
RT: 7.51 min Scan# 307
Delta R.T. -0.11 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:142 Resp: 13004

Ion	Ratio	Lower	Upper
142	100		
141	87.3	64.2	124.2

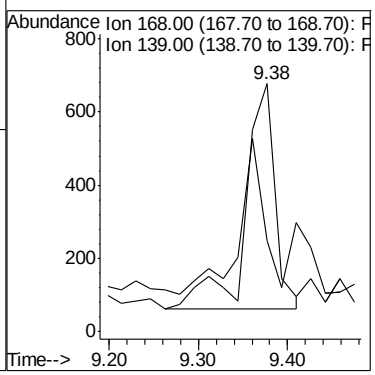


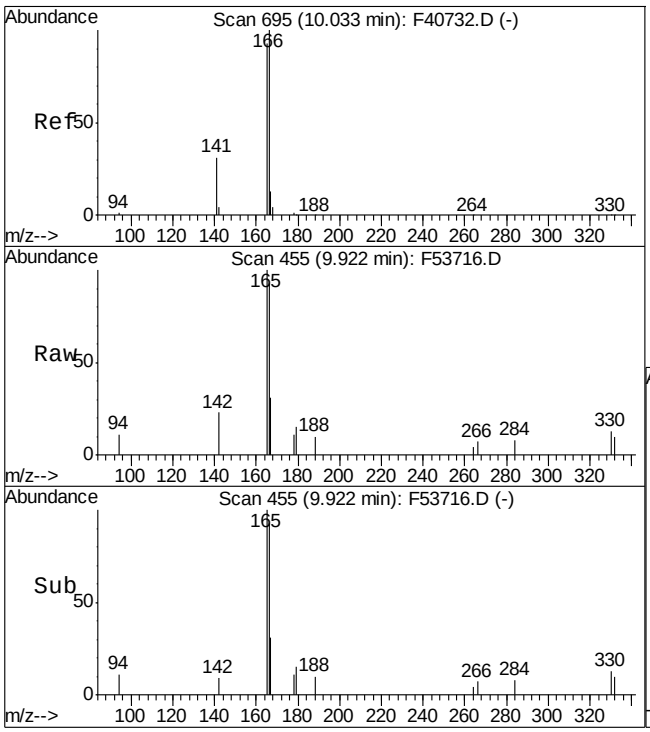


#15
Dibenzofuran
Concen: 0.40 ppb
RT: 9.38 min Scan# 422
Delta R.T. -0.13 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:168 Resp: 1426

Ion	Ratio	Lower	Upper
168	100		
139	21.6	9.5	69.5

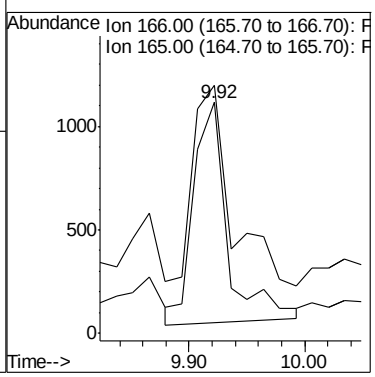


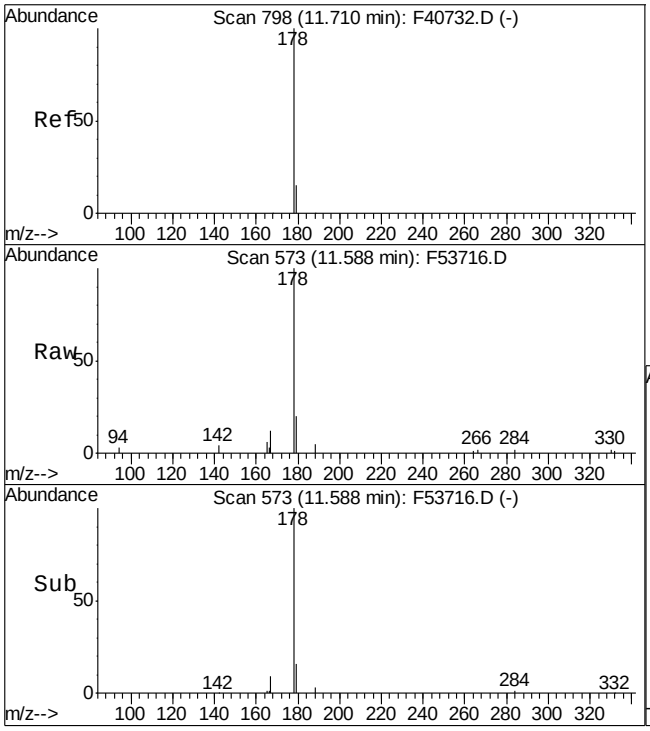


#16
Fluorene
Concen: 0.85 ppb
RT: 9.92 min Scan# 455
Delta R.T. -0.14 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:166 Resp: 2153

Ion	Ratio	Lower	Upper
166	100		
165	97.6	55.4	115.4

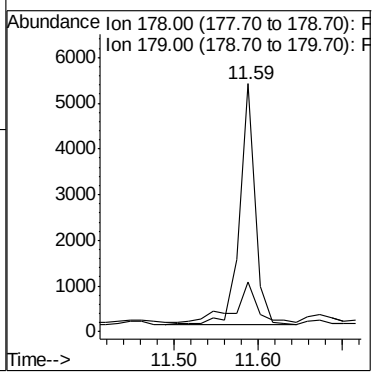


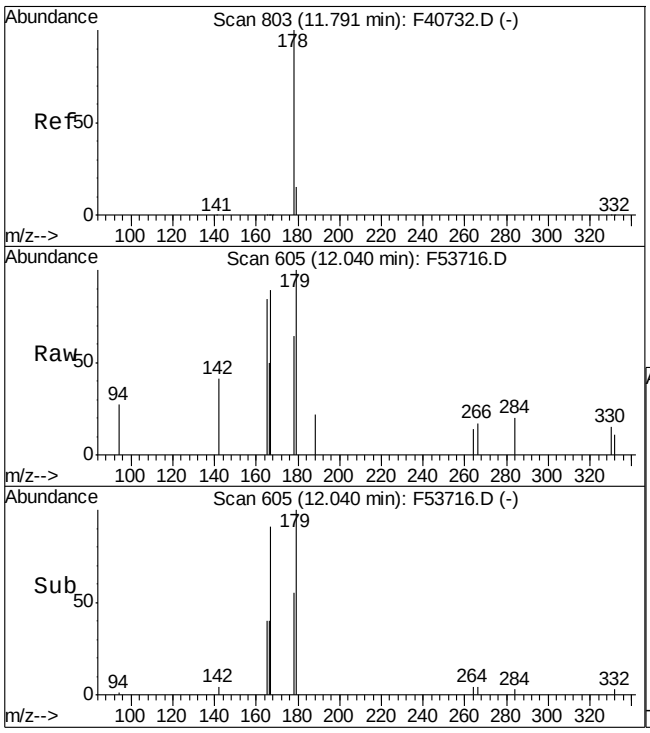


#21
Phenanthrene
Concen: 1.33 ppb
RT: 11.59 min Scan# 573
Delta R.T. -0.14 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:178 Resp: 6627

Ion	Ratio	Lower	Upper
178	100		
179	16.7	0.0	45.1

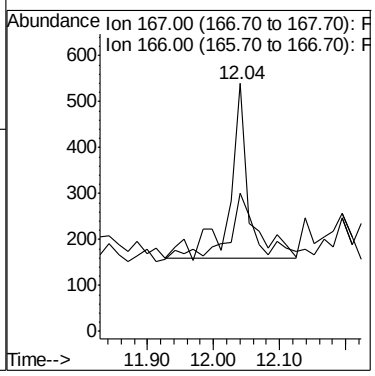


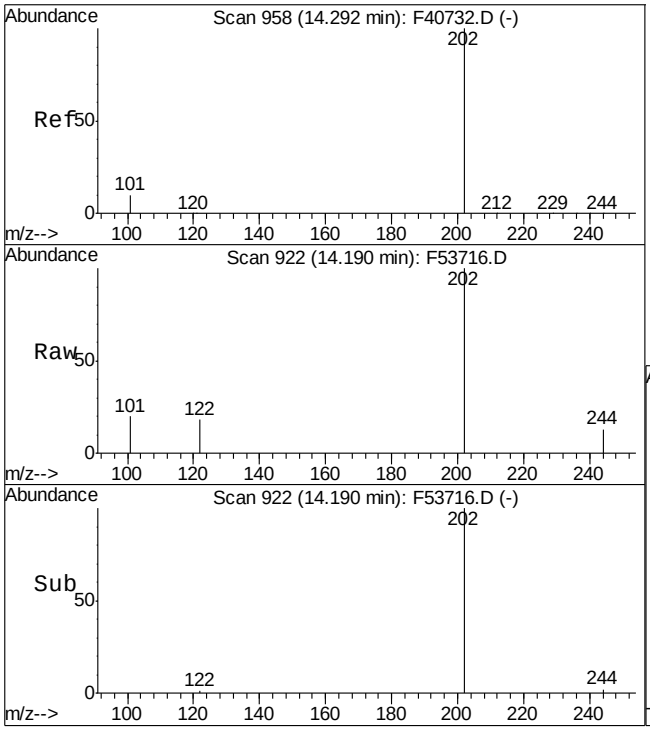


#23
Carbazole
Concen: 0.18 ppb
RT: 12.04 min Scan# 605
Delta R.T. -0.10 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:167 Resp: 797

Ion	Ratio	Lower	Upper
167	100		
166	38.5	0.0	48.8

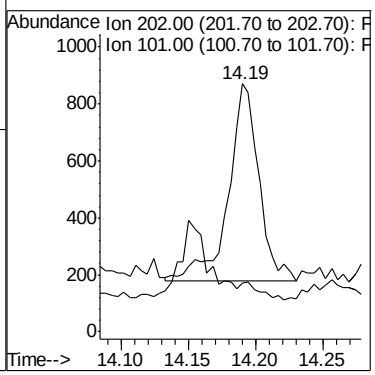


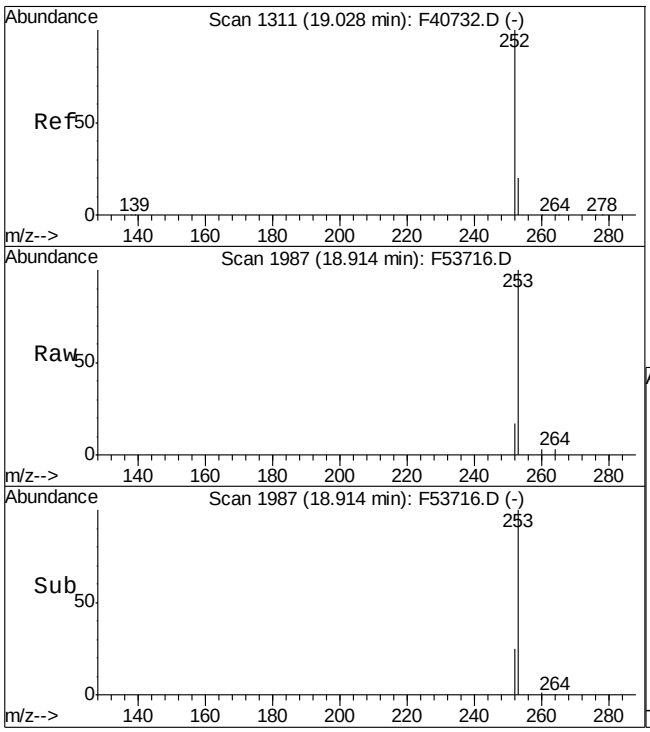


#26
Pyrene
Concen: 0.26 ppb
RT: 14.19 min Scan# 922
Delta R.T. -0.16 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:202 Resp: 1092

Ion	Ratio	Lower	Upper
202	100		
101	7.8	0.0	46.2

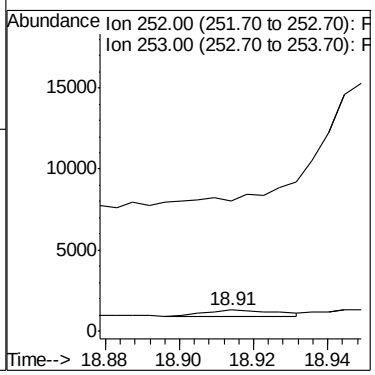


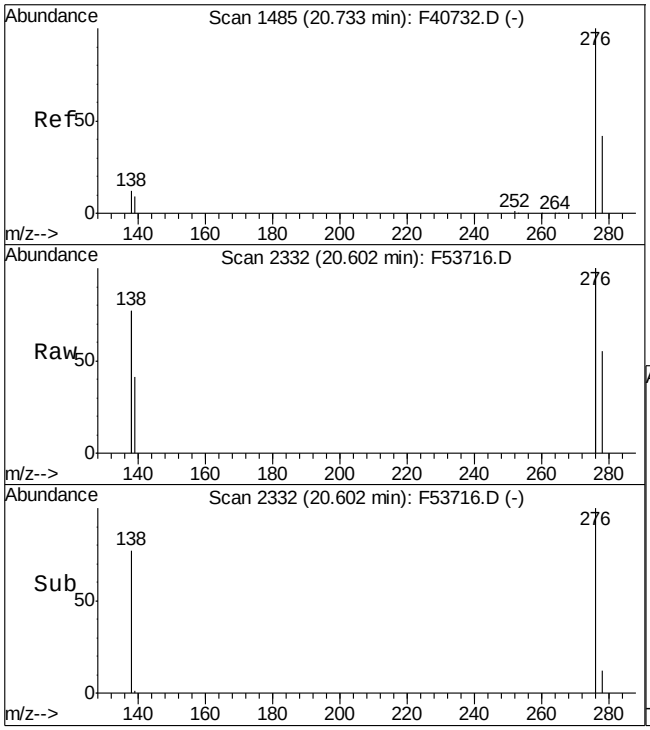


#33
Benzo[a]pyrene
Concen: 0.06 ppb
RT: 18.91 min Scan# 1987
Delta R.T. -0.18 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:252 Resp: 490

Ion	Ratio	Lower	Upper
252	100		
253	11.9	0.0	51.7

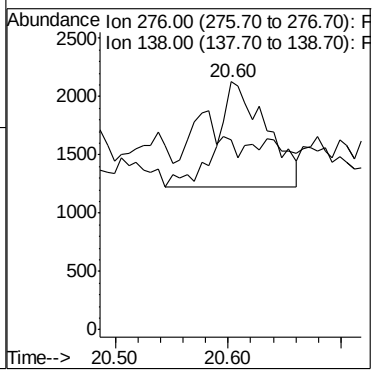


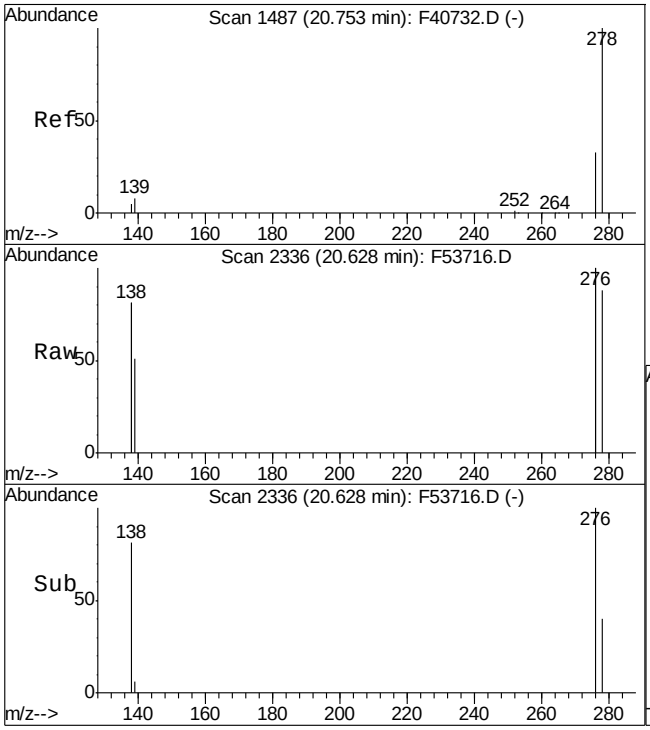


#34
Indeno[1,2,3-cd]pyrene
Concen: 0.06 ppb
RT: 20.60 min Scan# 2332
Delta R.T. -0.19 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:276 Resp: 2744

Ion	Ratio	Lower	Upper
276	100		
138	12.7	0.0	49.3

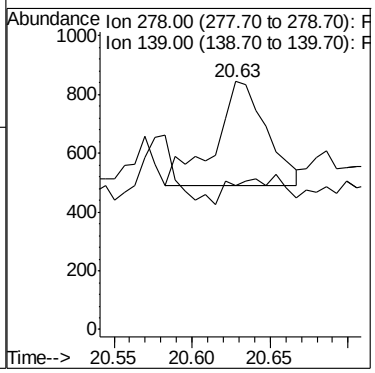


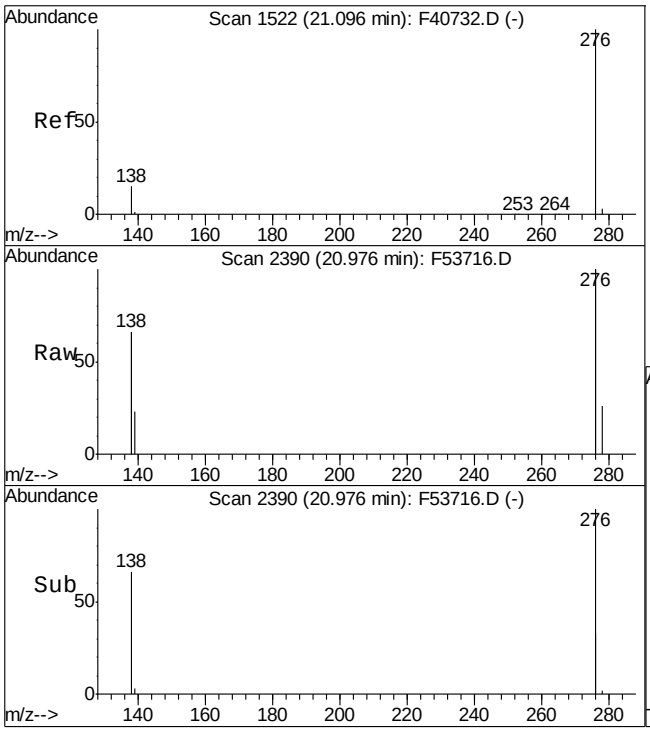


#35
Dibenz[a,h]anthracene
Concen: 0.08 ppb
RT: 20.63 min Scan# 2336
Delta R.T. -0.19 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:278 Resp: 815

Ion	Ratio	Lower	Upper
278	100		
139	11.5	0.0	44.8

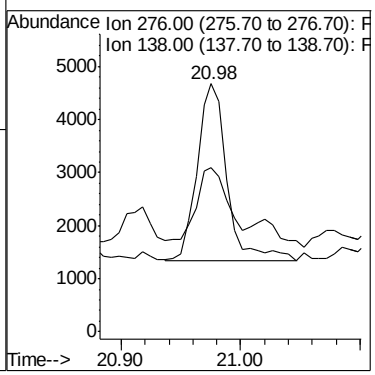




#36
Benzo[g,h,i]perylene
Concen: 0.15 ppb
RT: 20.98 min Scan# 2390
Delta R.T. -0.20 min
Lab File: F53716.D
Acq: 8 Dec 2011 3:08 pm

Tgt Ion:276 Resp: 5785

Ion	Ratio	Lower	Upper
276	100		
138	41.3	0.0	48.4



Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau 12/13/11 11:54

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\F53721.D Vial: 9
Acq On : 8 Dec 2011 5:49 pm Operator: PaulR
Sample : d29943-1CFI Inst : GC/MS Ins
Misc : op27160,msf2585,20.22,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:41 2011 Quant Results File: F113011.RES

Quant Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration
DataAcq Meth : FSIMABN

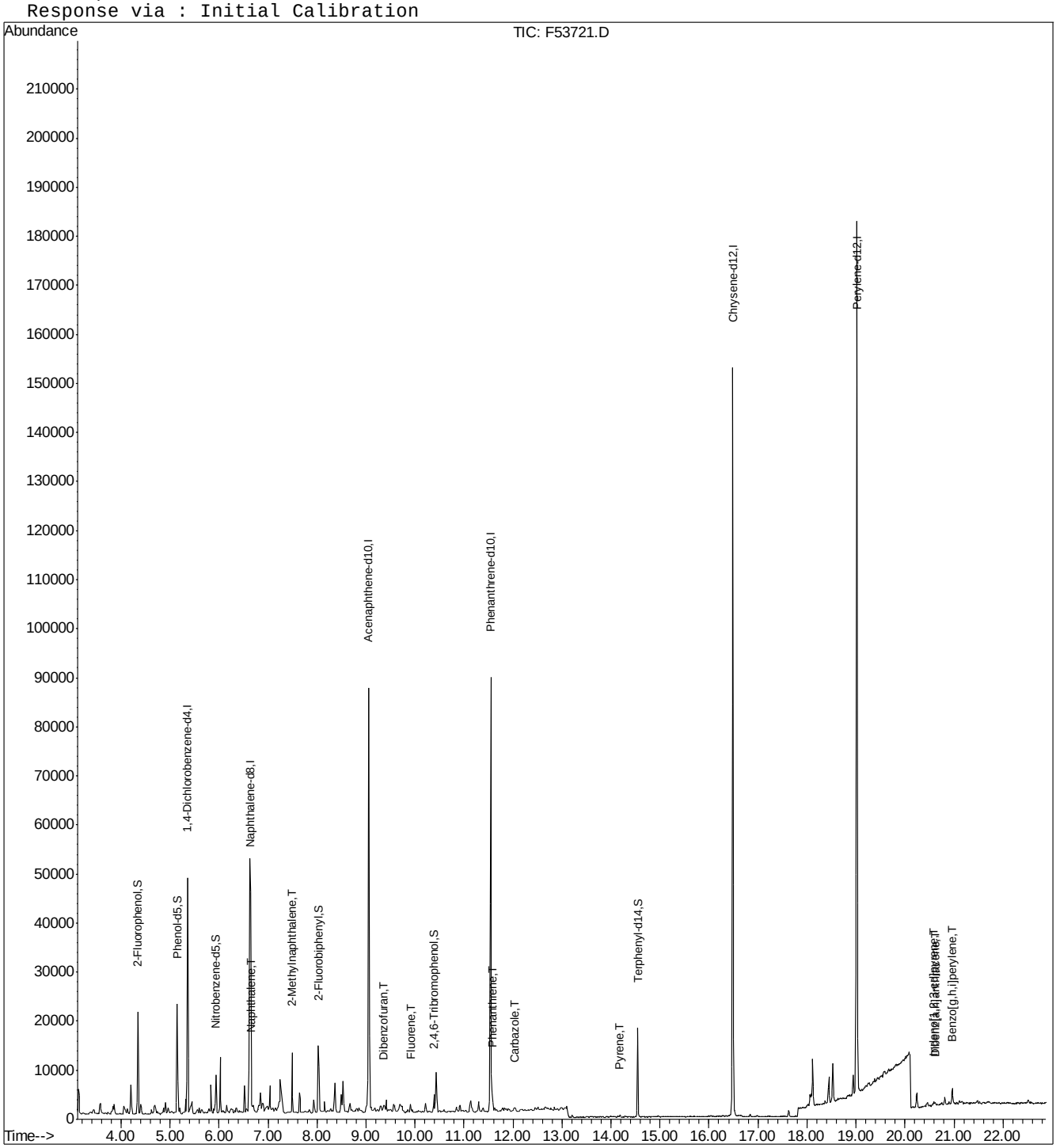
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.36	152	26490	4.00	ppb	-0.08
5) Naphthalene-d8	6.64	136	68419	4.00	ppb	-0.08
9) Acenaphthene-d10	9.05	164	50816	4.00	ppb	-0.15
17) Phenanthrene-d10	11.55	188	115297	4.00	ppb	-0.15
25) Chrysene-d12	16.49	240	156684	4.00	ppb	-0.18
30) Perylene-d12	19.02	264	190588	4.00	ppb	-0.18
System Monitoring Compounds						
2) 2-Fluorophenol	4.34	112	9322m	12.08	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 12.08%			
4) Phenol-d5	5.15	99	10676m	10.52	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 10.52%			
6) Nitrobenzene-d5	5.94	82	6830	10.37	ppb	-0.06
Spiked Amount 50.000	Range 30 - 119		Recovery = 20.74%#			
11) 2-Fluorobiphenyl	8.03	172	13283	7.28	ppb	-0.13
Spiked Amount 50.000	Range 40 - 110		Recovery = 14.56%#			
18) 2,4,6-Tribromophenol	10.39	330	2166	5.58	ppb	-0.13
Spiked Amount 100.000	Range 10 - 157		Recovery = 5.58%#			
27) Terphenyl-d14	14.54	244	21582	8.48	ppb	-0.17
Spiked Amount 50.000	Range 30 - 124		Recovery = 16.96%#			
Target Compounds						Qvalue
7) Naphthalene	6.66	128	5194	2.99	ppb	96
8) 2-Methylnaphthalene	7.49	142	7434	7.22	ppb	82
15) Dibenzofuran	9.36	168	838	0.39	ppb	90
16) Fluorene	9.91	166	1194	0.79	ppb	74
21) Phenanthrene	11.57	178	4244	1.35	ppb	98
23) Carbazole	12.03	167	437	0.15	ppb	64
26) Pyrene	14.18	202	639	0.17	ppb	72
34) Indeno[1,2,3-cd]pyrene	20.59	276	2255	0.08	ppb	98
35) Dibenz[a,h]anthracene	20.62	278	455	0.08	ppb	64
36) Benzo[g,h,i]perylene	20.96	276	3948	0.17	ppb	88

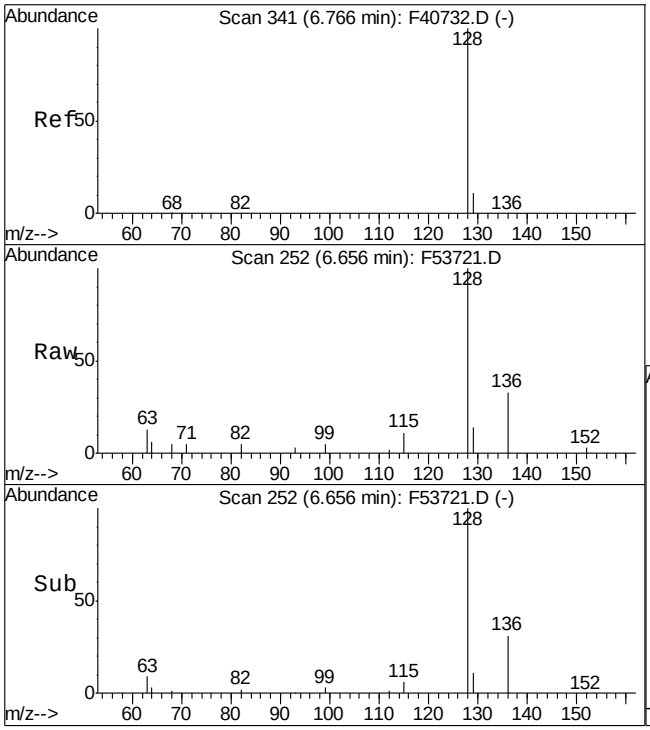
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\F53721.D Vial: 9
Acq On : 8 Dec 2011 5:49 pm Operator: PaulR
Sample : d29943-1CFI Inst : GC/MS Ins
Misc : op27160,msf2585,20.22,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:41 2011 Quant Results File: F113011.RES

Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration

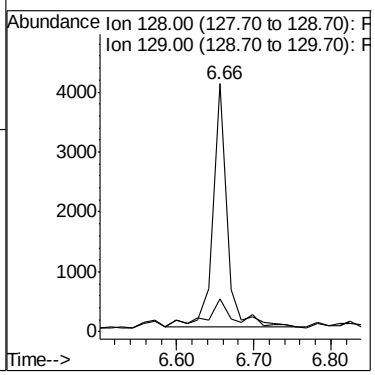


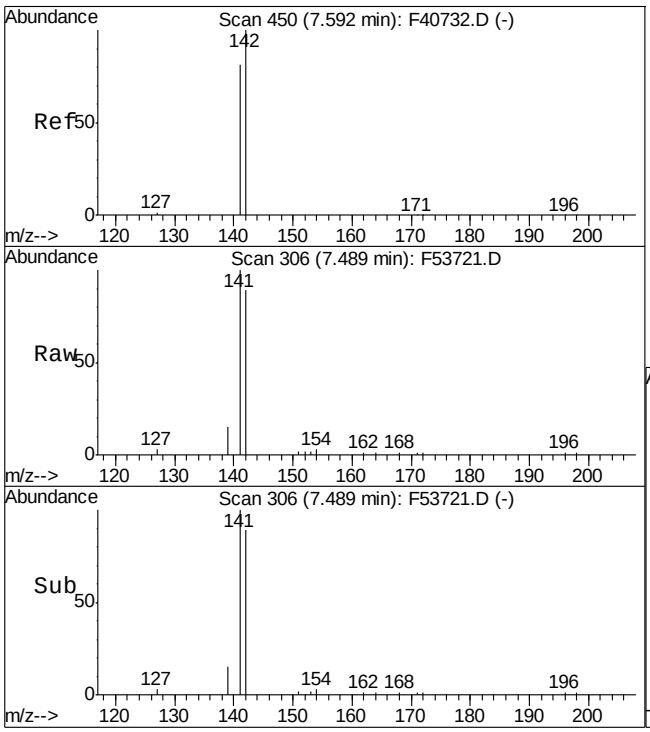


#7
Naphthalene
Concen: 2.99 ppb
RT: 6.66 min Scan# 252
Delta R.T. -0.10 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:128 Resp: 5194

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	40.4

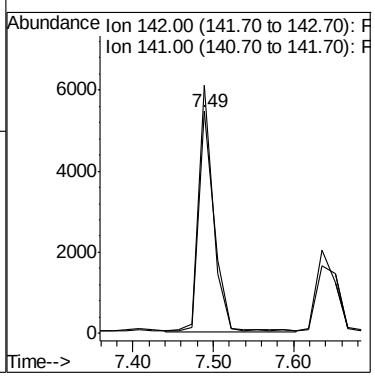


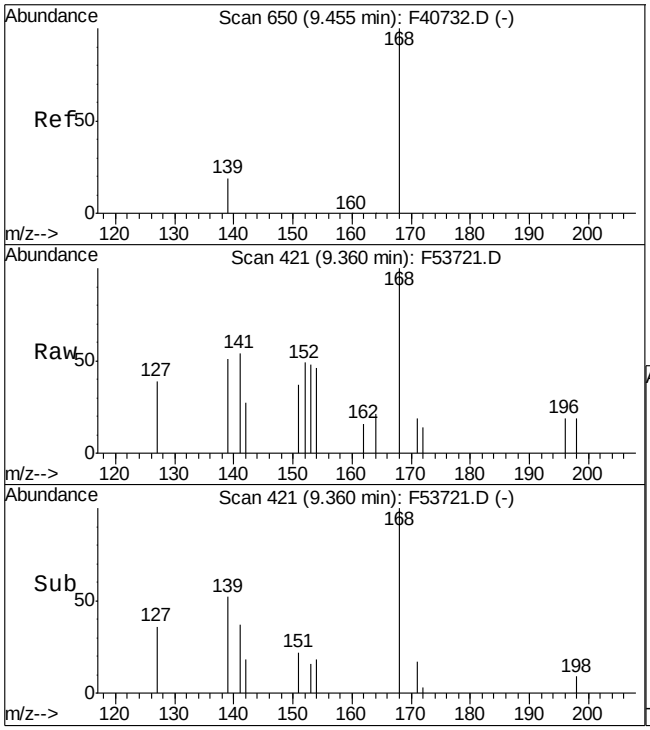


#8
2-Methylnaphthalene
Concen: 7.22 ppb
RT: 7.49 min Scan# 306
Delta R.T. -0.13 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:142 Resp: 7434

Ion	Ratio	Lower	Upper
142	100		
141	111.6	64.2	124.2





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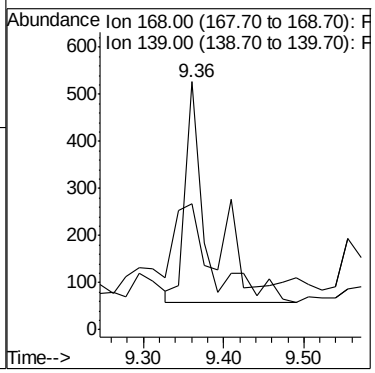
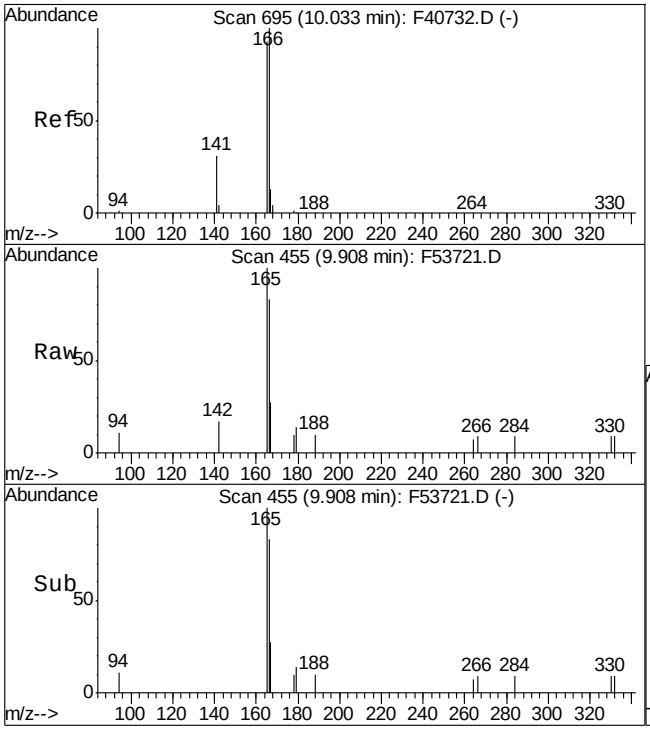
Dibenzofuran
Concen: 0.39 ppb
RT: 9.36 min Scan# 421
Delta R.T. -0.15 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:168 Resp: 838

Ion	Ratio	Lower	Upper
168	100		
139	33.6	9.5	69.5

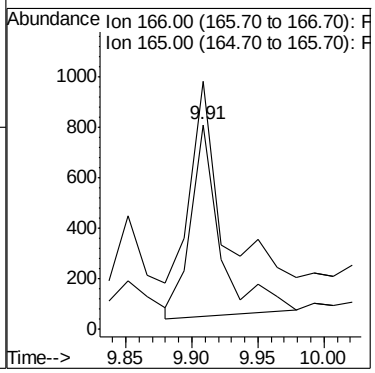


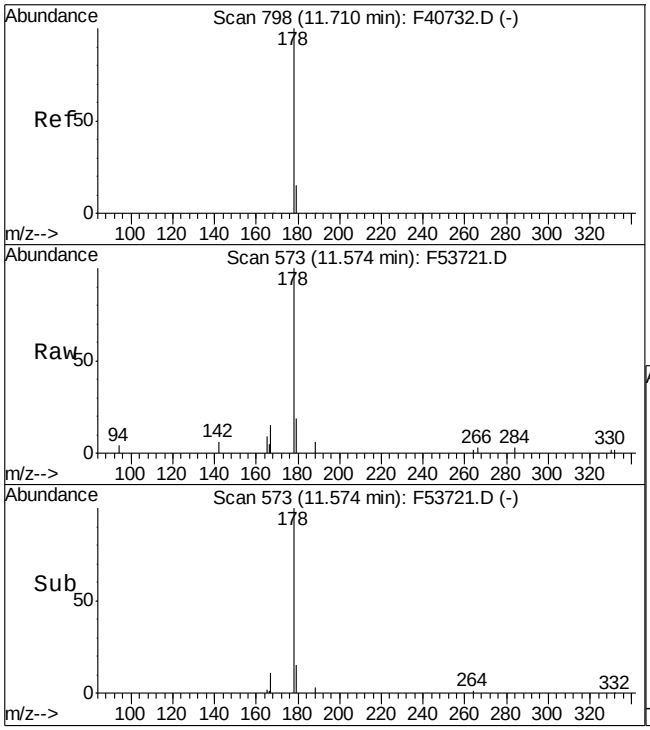


#16
Fluorene
Concen: 0.79 ppb
RT: 9.91 min Scan# 455
Delta R.T. -0.15 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:166 Resp: 1194

Ion	Ratio	Lower	Upper
166	100		
165	109.0	55.4	115.4

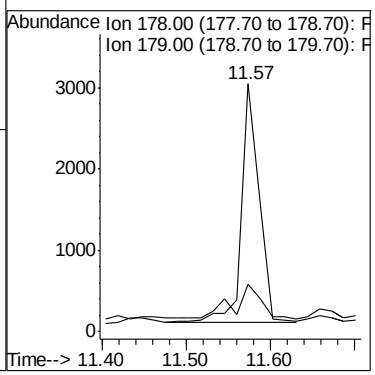


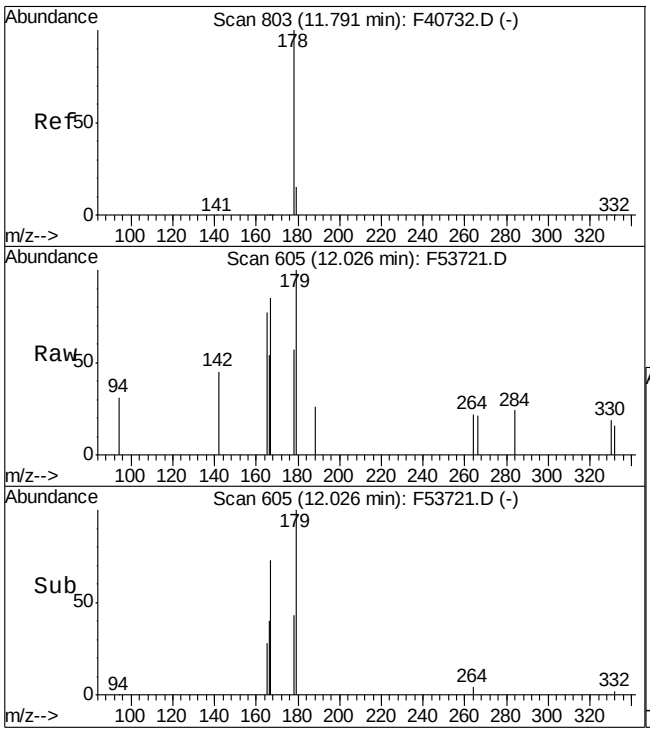


#21
Phenanthrene
Concen: 1.35 ppb
RT: 11.57 min Scan# 573
Delta R.T. -0.15 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:178 Resp: 4244

Ion	Ratio	Lower	Upper
178	100		
179	14.3	0.0	45.1

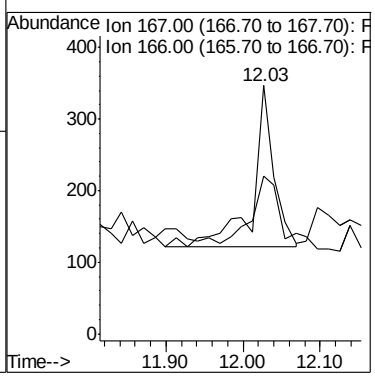


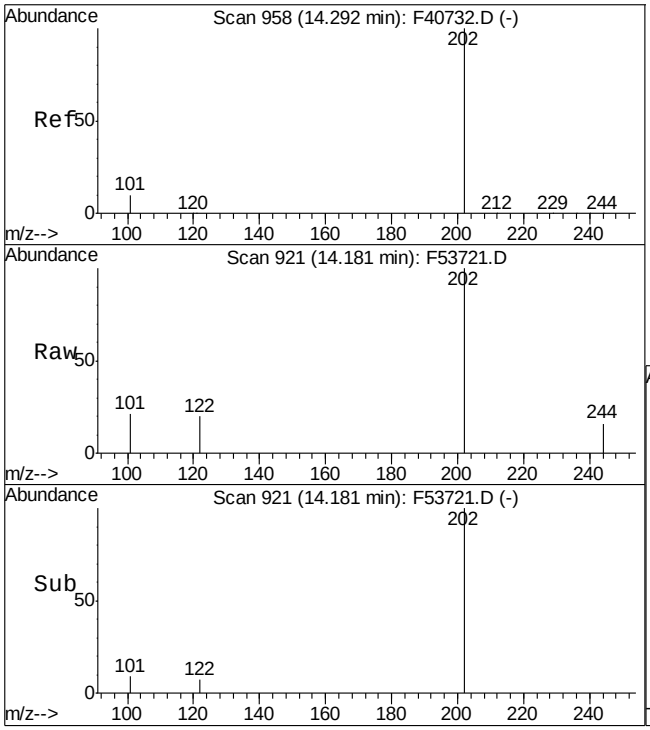


#23
Carbazole
Concen: 0.15 ppb
RT: 12.03 min Scan# 605
Delta R.T. -0.11 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:167 Resp: 437

Ion	Ratio	Lower	Upper
167	100		
166	35.1	0.0	48.8

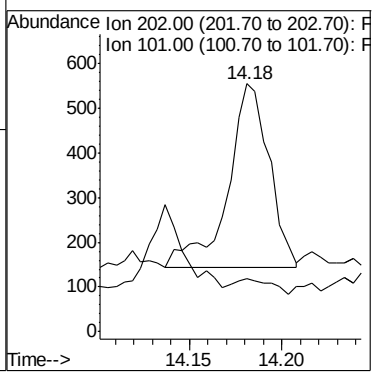


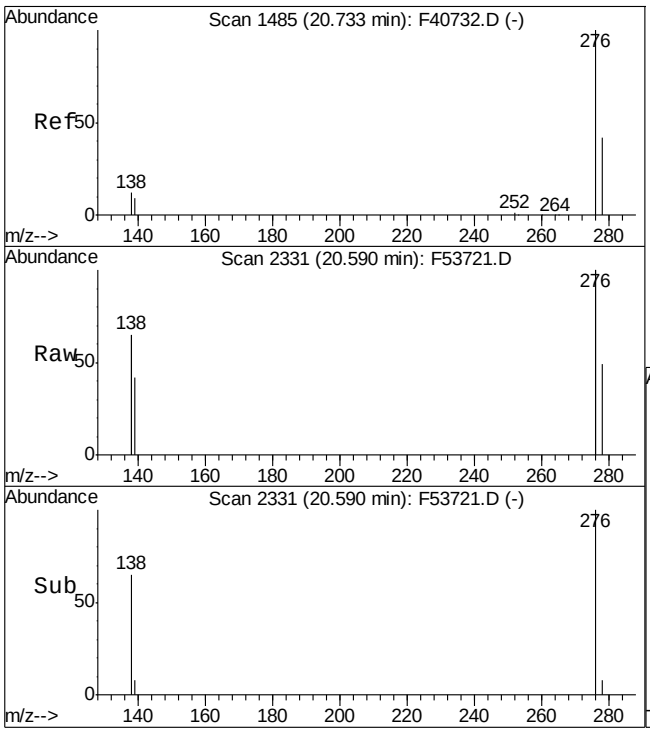


#26
Pyrene
Concen: 0.17 ppb
RT: 14.18 min Scan# 921
Delta R.T. -0.17 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:202 Resp: 639

Ion	Ratio	Lower	Upper
202	100		
101	4.1	0.0	46.2

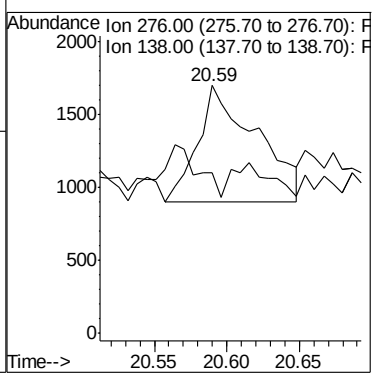


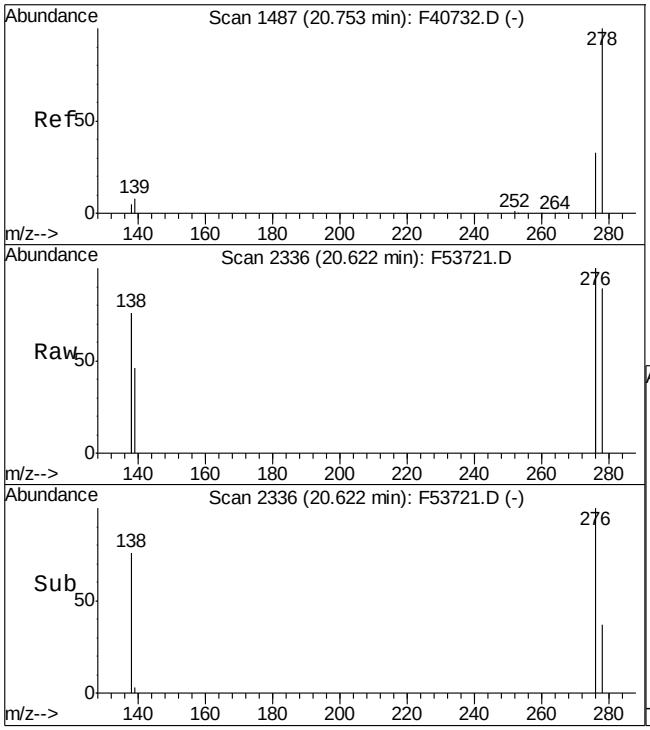


#34
Indeno[1,2,3-cd]pyrene
Concen: 0.08 ppb
RT: 20.59 min Scan# 2331
Delta R.T. -0.20 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:276 Resp: 2255

Ion	Ratio	Lower	Upper
276	100		
138	20.4	0.0	49.3

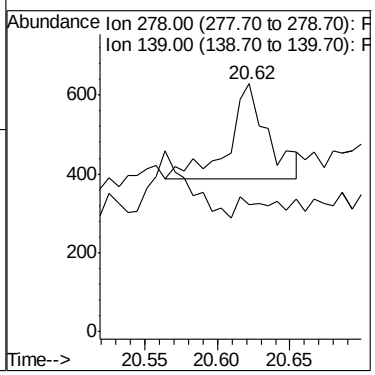


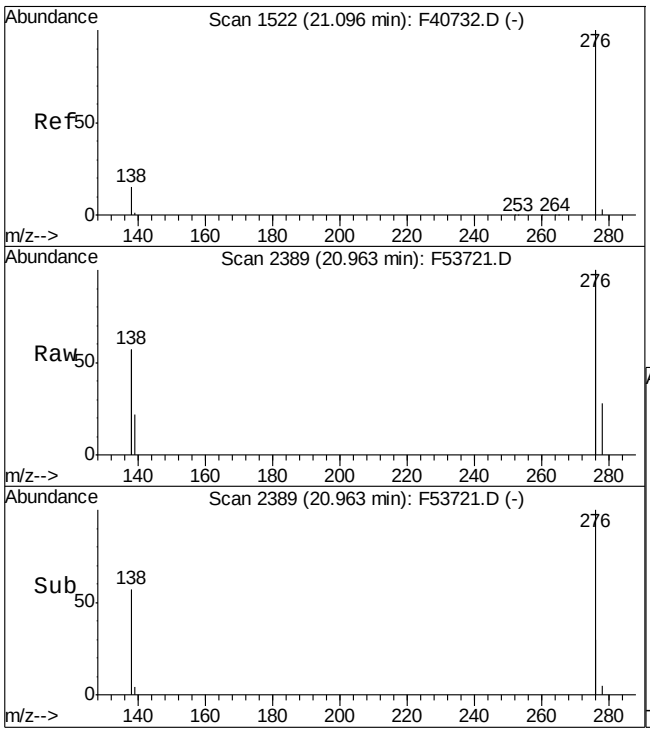


#35
Dibenz[a,h]anthracene
Concen: 0.08 ppb
RT: 20.62 min Scan# 2336
Delta R.T. -0.20 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:278 Resp: 455

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	44.8

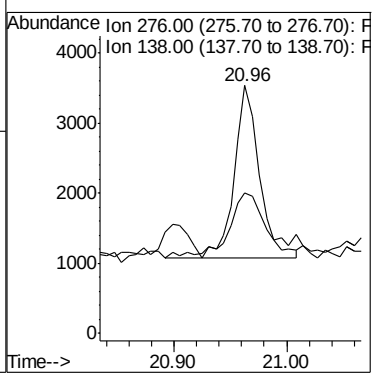




#36
Benzo[g,h,i]perylene
Concen: 0.17 ppb
RT: 20.96 min Scan# 2389
Delta R.T. -0.21 min
Lab File: F53721.D
Acq: 8 Dec 2011 5:49 pm

Tgt Ion:276 Resp: 3948

Ion	Ratio	Lower	Upper
276	100		
138	23.8	0.0	48.4



Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau 12/13/11 11:52

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\F53711.D Vial: 4
Acq On : 8 Dec 2011 12:36 pm Operator: PaulR
Sample : op27160-mb Inst : GC/MS Ins
Misc : op27160,msf2585,20.12,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:22 2011 Quant Results File: F113011.RES

Quant Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration
DataAcq Meth : FSIMABN

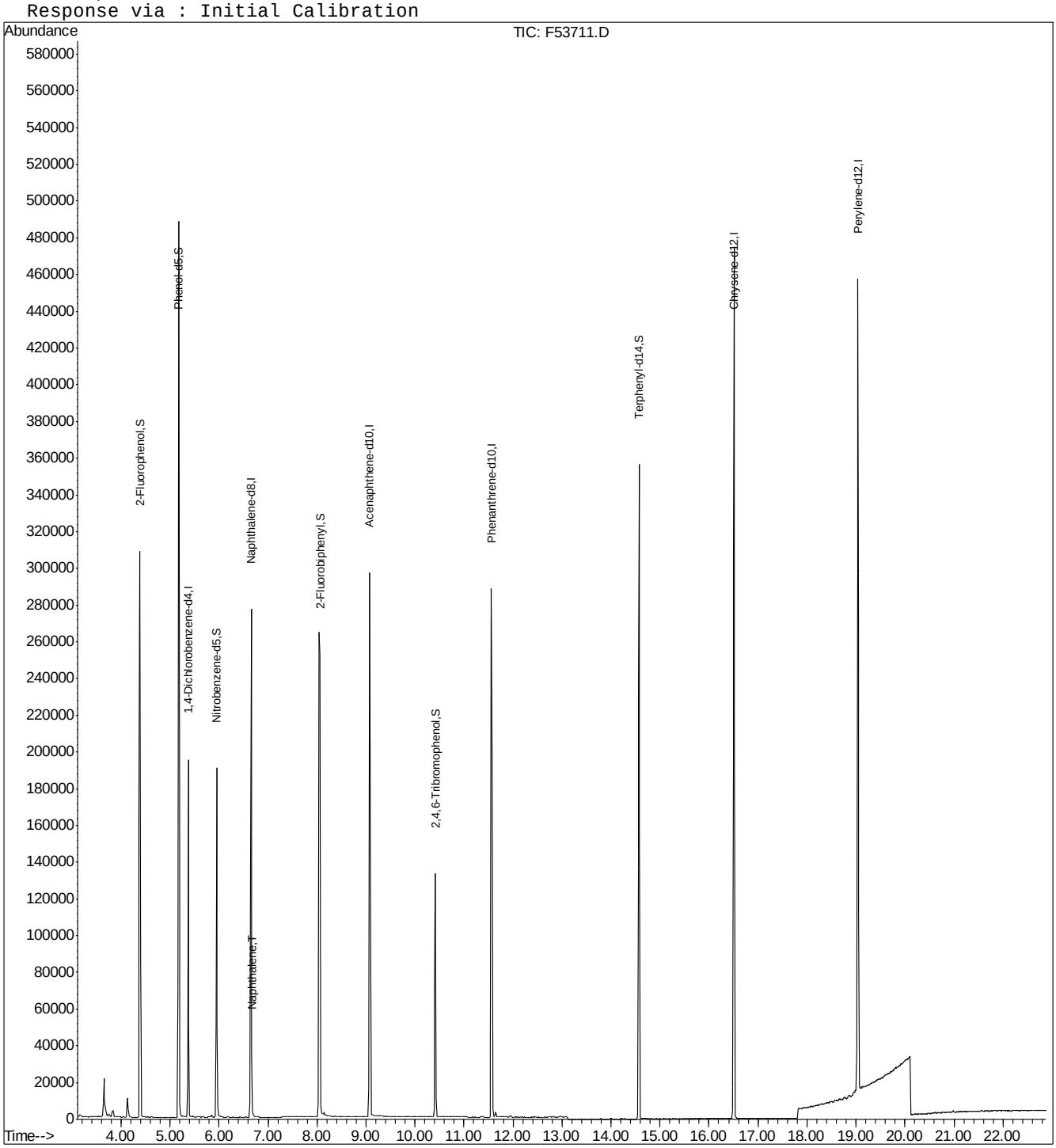
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.37	152	127402m	4.00	ppb	-0.07
5) Naphthalene-d8	6.66	136	357744	4.00	ppb	-0.07
9) Acenaphthene-d10	9.07	164	211873	4.00	ppb	-0.13
17) Phenanthrene-d10	11.56	188	421611	4.00	ppb	-0.14
25) Chrysene-d12	16.51	240	478344	4.00	ppb	-0.15
30) Perylene-d12	19.04	264	482866	4.00	ppb	-0.16
System Monitoring Compounds						
2) 2-Fluorophenol	4.38	112	198565	53.49	ppb	0.06
Spiked Amount 100.000	Range 10 - 110		Recovery = 53.49%			
4) Phenol-d5	5.17	99	334756m	68.56	ppb	0.04
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.56%			
6) Nitrobenzene-d5	5.95	82	176047	51.13	ppb	-0.04
Spiked Amount 50.000	Range 30 - 119		Recovery = 102.26%			
11) 2-Fluorobiphenyl	8.06	172	332465	43.67	ppb	-0.10
Spiked Amount 50.000	Range 40 - 110		Recovery = 87.34%			
18) 2,4,6-Tribromophenol	10.41	330	82749	58.34	ppb	-0.10
Spiked Amount 100.000	Range 10 - 157		Recovery = 58.34%			
27) Terphenyl-d14	14.57	244	414383	53.35	ppb	-0.14
Spiked Amount 50.000	Range 30 - 124		Recovery = 106.70%			
Target Compounds						Qvalue
7) Naphthalene	6.67	128	448	0.05	ppb	83

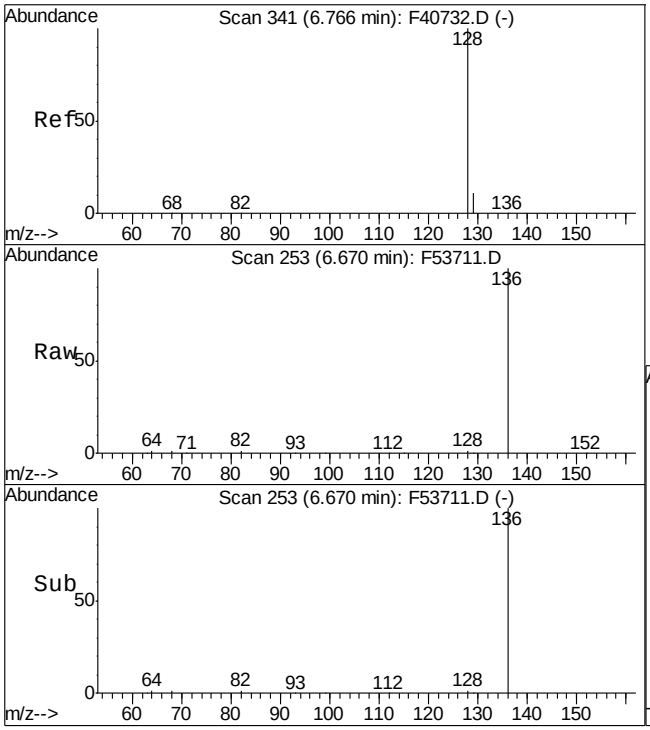
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\F53711.D Vial: 4
Acq On : 8 Dec 2011 12:36 pm Operator: PaulR
Sample : op27160-mb Inst : GC/MS Ins
Misc : op27160,msf2585,20.12,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 9 14:22 2011 Quant Results File: F113011.RES

Method : C:\HPCHEM\1\METHODS\F113011.M (RTE Integrator)
Title : SW-846 SIM Method 8270
Last Update : Thu Dec 01 08:18:38 2011
Response via : Initial Calibration

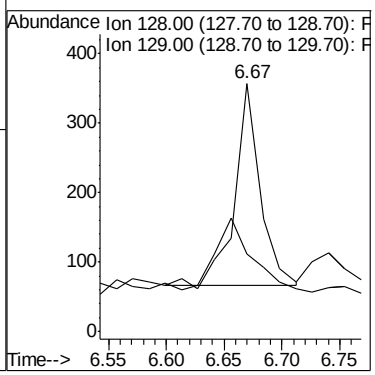




#7
Naphthalene
Concen: 0.05 ppb
RT: 6.67 min Scan# 253
Delta R.T. -0.08 min
Lab File: F53711.D
Acq: 8 Dec 2011 12:36 pm

Tgt Ion:128 Resp: 448

Ion	Ratio	Lower	Upper
128	100		
129	16.8	0.0	40.4



Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29943
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP13883/GN37110	0.40	0.0	mg/kg	40	39.5	98.8	80-120%
Chromium, Hexavalent	GP13883/GN37110			mg/kg	1230	1450	117.9	80-120%

Associated Samples:
Batch GP13883: D29943-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29943
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP13883/GN37110	D29653-14	mg/kg	0.22	0.20	9.5	0-20%

Associated Samples:
Batch GP13883: D29943-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29943
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-32A

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP13883/GN37110	D29653-14	mg/kg	0.22	41.6	43.8	104.7	75-125%
Chromium, Hexavalent	GP13883/GN37110	D29653-14	mg/kg	0.22	1050	1240	118.0	75-125%

Associated Samples:
Batch GP13883: D29943-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits