



06/18/12

Technical Report for

XTO Energy

FRU 297-17A

118-13A

Accutest Job Number: D35288

Sampling Date: 06/07/12

Report to:

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

Total number of pages in report: 36



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: Renea Jackson 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	5
3.1: D35288-1: RP SUBLINER EXCAVATED MATERIAL	6
Section 4: Misc. Forms	8
4.1: Chain of Custody	9
Section 5: GC Volatiles - QC Data Summaries	11
5.1: Method Blank Summary	12
5.2: Blank Spike Summary	13
5.3: Matrix Spike/Matrix Spike Duplicate Summary	14
Section 6: GC Volatiles - Raw Data	15
6.1: Samples	16
6.2: Method Blanks	21
Section 7: GC Semi-volatiles - QC Data Summaries	26
7.1: Method Blank Summary	27
7.2: Blank Spike Summary	28
7.3: Matrix Spike/Matrix Spike Duplicate Summary	29
Section 8: GC Semi-volatiles - Raw Data	30
8.1: Samples	31
8.2: Method Blanks	34



Sample Summary

XTO Energy

Job No: D35288

FRU 297-17A
Project No: 118-13A

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
D35288-1	06/07/12	12:45	CB	06/09/12	SO	Soil	RP SUBLINER EXCAVATED MATERIAL

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D35288

Site: FRU 297-17A

Report Date 6/15/2012 4:09:03 PM

On 06/09/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.0 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D35288 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 GC By Method SW846 8015B

Matrix SO

Batch ID: GGB906

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35276-12MS, D35276-12MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP6047

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35286-2MS, D35286-2MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15369

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

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 Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER EXCAVATED MATERIAL					Date Sampled:	06/07/12
Lab Sample ID:	D35288-1					Date Received:	06/09/12
Matrix:	SO - Soil					Percent Solids:	89.1
Method:	SW846 8015B						
Project:	FRU 297-17A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16309.D	1	06/11/12	SK	n/a	n/a	GGB906
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)	ND	12	6.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	95%		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

Page 1 of 1

Client Sample ID:	RP SUBLINER EXCAVATED MATERIAL					Date Sampled:	06/07/12
Lab Sample ID:	D35288-1					Date Received:	06/09/12
Matrix:	SO - Soil					Percent Solids:	89.1
Method:	SW846-8015B SW846 3546						
Project:	FRU 297-17A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD14255.D	1	06/14/12	AV	06/13/12	OP6047	GFD750
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1050	7.5	4.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	64%		43-136%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

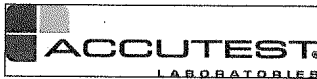
J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

PAGE 1 OF 1

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D35288
Requested Analysis (see TEST CODE sheet)	
Matrix Codes	
DW - Drinking Water GW - Ground Water WW - Wastewater 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	
LAB USE ONLY	

TPH (0.00/6.00)

Client / Reporting Information		Project Information	
Company Name KRW Consulting	Project Name XTO FRU 297-17A	Billing Information (if different from Report to)	
Street Address 8000 West 14th Street, Suite 200	Street	Company Name XTO Energy	
City Lakewood, CO 80214	City	Street Address 21459 CR 5	
Project Contact Dwayne Knudson	Project # 1108-13A	City Rifle, CO 81650	
Phone # 970-488-1098	Client Purchase Order #	Attention: Jessica Dooling	
Sampler(s) Name(s) Craig Burger	Project Manager Joe Hess	Collection	
Field ID / Point of Collection RP Subliner Excavated Material	MED/HD/Vial #	Date 6/7/12	Time 12:45
		Sampled by CPB	Matrix SO
		# of bottles 2	
		Number of preserved bottles	
		HC1	HC2
		HC3	HC4
		HC5	HC6
		HC7	HC8
		HC9	HC10
		HC11	HC12
		HC13	HC14
		HC15	HC16
		HC17	HC18
		HC19	HC20
		HC21	HC22
		HC23	HC24
		HC25	HC26
		HC27	HC28
		HC29	HC30
		HC31	HC32
		HC33	HC34
		HC35	HC36
		HC37	HC38
		HC39	HC40
		HC41	HC42
		HC43	HC44
		HC45	HC46
		HC47	HC48
		HC49	HC50
		HC51	HC52
		HC53	HC54
		HC55	HC56
		HC57	HC58
		HC59	HC60
		HC61	HC62
		HC63	HC64
		HC65	HC66
		HC67	HC68
		HC69	HC70
		HC71	HC72
		HC73	HC74
		HC75	HC76
		HC77	HC78
		HC79	HC80
		HC81	HC82
		HC83	HC84
		HC85	HC86
		HC87	HC88
		HC89	HC90
		HC91	HC92
		HC93	HC94
		HC95	HC96
		HC97	HC98
		HC99	HC100
		HC101	HC102
		HC103	HC104
		HC105	HC106
		HC107	HC108
		HC109	HC110
		HC111	HC112
		HC113	HC114
		HC115	HC116
		HC117	HC118
		HC119	HC120
		HC121	HC122
		HC123	HC124
		HC125	HC126
		HC127	HC128
		HC129	HC130
		HC131	HC132
		HC133	HC134
		HC135	HC136
		HC137	HC138
		HC139	HC140
		HC141	HC142
		HC143	HC144
		HC145	HC146
		HC147	HC148
		HC149	HC150
		HC151	HC152
		HC153	HC154
		HC155	HC156
		HC157	HC158
		HC159	HC160
		HC161	HC162
		HC163	HC164
		HC165	HC166
		HC167	HC168
		HC169	HC170
		HC171	HC172
		HC173	HC174
		HC175	HC176
		HC177	HC178
		HC179	HC180
		HC181	HC182
		HC183	HC184
		HC185	HC186
		HC187	HC188
		HC189	HC190
		HC191	HC192
		HC193	HC194
		HC195	HC196
		HC197	HC198
		HC199	HC200
		HC201	HC202
		HC203	HC204
		HC205	HC206
		HC207	HC208
		HC209	HC210
		HC211	HC212
		HC213	HC214
		HC215	HC216
		HC217	HC218
		HC219	HC220
		HC221	HC222
		HC223	HC224
		HC225	HC226
		HC227	HC228
		HC229	HC230
		HC231	HC232
		HC233	HC234
		HC235	HC236
		HC237	HC238
		HC239	HC240
		HC241	HC242
		HC243	HC244
		HC245	HC246
		HC247	HC248
		HC249	HC250
		HC251	HC252
		HC253	HC254
		HC255	HC256
		HC257	HC258
		HC259	HC260
		HC261	HC262
		HC263	HC264
		HC265	HC266
		HC267	HC268
		HC269	HC270
		HC271	HC272
		HC273	HC274
		HC275	HC276
		HC277	HC278
		HC279	HC280
		HC281	HC282
		HC283	HC284
		HC285	HC286
		HC287	HC288
		HC289	HC290
		HC291	HC292
		HC293	HC294
		HC295	HC296
		HC297	HC298
		HC299	HC300
		HC301	HC302
		HC303	HC304
		HC305	HC306
		HC307	HC308
		HC309	HC310
		HC311	HC312
		HC313	HC314
		HC315	HC316
		HC317	HC318
		HC319	HC320
		HC321	HC322
		HC323	HC324
		HC325	HC326
		HC327	HC328
		HC329	HC330
		HC331	HC332
		HC333	HC334
		HC335	HC336
		HC337	HC338
		HC339	HC340
		HC341	HC342
		HC343	HC344
		HC345	HC346
		HC347	HC348
		HC349	HC350
		HC351	HC352
		HC353	HC354
		HC355	HC356
		HC357	HC358
		HC359	HC360
		HC361	HC362
		HC363	HC364
		HC365	HC366
		HC367	HC368
		HC369	HC370
		HC371	HC372
		HC373	HC374
		HC375	HC376
		HC377	HC378
		HC379	HC380
		HC381	HC382
		HC383	HC384
		HC385	HC386
		HC387	HC388
		HC389	HC390
		HC391	HC392
		HC393	HC394
		HC395	HC396
		HC397	HC398
		HC399	HC400
		HC401	HC402
		HC403	HC404
		HC405	HC406
		HC407	HC408
		HC409	HC410
		HC411	HC412
		HC413	HC414
		HC415	HC416
		HC417	HC418
		HC419	HC420
		HC421	HC422
		HC423	HC424
		HC425	HC426
		HC427	HC428
		HC429	HC430
		HC431	HC432
		HC433	HC434
		HC435	HC436
		HC437	HC438
		HC439	HC440
		HC441	HC442
		HC443	HC444
		HC445	HC446
		HC447	HC448
		HC449	HC450
		HC451	HC452
		HC453	HC454
		HC455	HC456
		HC457	HC458
		HC459	HC460
		HC461	HC462
		HC463	HC464
		HC465	HC466
		HC467	HC468
		HC469	HC470
		HC471	HC472
		HC473	HC474
		HC475	HC476
		HC477	HC478
		HC479	HC480
		HC481	HC482
		HC483	HC484
		HC485	HC486
		HC487	HC488
		HC489	HC490
		HC491	HC492
		HC493	HC494
		HC495	HC496
		HC497	HC498
		HC499	HC500
		HC501	HC502
		HC503	HC504
		HC505	HC506
		HC507	HC508
		HC509	HC510
		HC511	HC512
		HC513	HC514
		HC515	HC516
		HC517	HC518
		HC519	HC520
		HC521	HC522
		HC523	HC524
		HC525	HC526
		HC527	HC528
		HC529	HC530
		HC531	HC532
		HC533	HC534
		HC535	HC536
		HC537	HC538
		HC539	HC540
		HC541	HC542
		HC543	HC544
		HC545	HC546
		HC547	HC548
		HC549	HC550
		HC551	HC552
		HC553	HC554
		HC555	HC556
		HC557	HC558
		HC559	HC560
		HC561	HC562
		HC563	HC564
		HC565	HC566
		HC567	HC568
		HC569	HC570
		HC571	HC572
		HC573	HC574
		HC575	HC576
		HC577	HC578
		HC579	HC580
		HC581	HC582
		HC583	HC584
		HC585	HC586
		HC587	HC588
		HC589	HC590
		HC591	HC592
		HC593	HC594
		HC595	HC596
		HC597	HC598
		HC599	HC600
		HC601	HC602
		HC603	HC604
		HC605	HC606
		HC607	HC608
		HC609	HC610
		HC611	HC612
		HC613	HC614
		HC615	HC616
		HC617	HC618
		HC619	HC620
		HC621	HC622
		HC623	HC624
		HC625	HC626
		HC627	HC628
		HC629	HC630
		HC631	HC632
		HC633	HC634
		HC635	HC636
		HC637	HC638
		HC639	HC640
		HC641	HC642
		HC643	HC644
		HC645	HC646
		HC647	HC648
		HC649	HC650
		HC651	HC652
		HC653	HC654
		HC655	HC656
		HC657	HC658
		HC659	HC660
		HC661	HC662
		HC663	HC664
		HC665	HC666
		HC667	HC668
		HC669	HC670
		HC671	HC672
		HC673	HC674
		HC675	HC676
		HC677	HC678
		HC679	HC680
		HC681	HC682
		HC683	HC684
		HC685	HC686
		HC687	HC688
		HC689	HC690
		HC691	HC692
		HC693	HC694
		HC695	HC696
		HC697	HC698
		HC699	HC700
		HC701	HC702
		HC703	HC704
		HC705	HC706
		HC707	HC708
		HC709	HC710
		HC711	HC712
		HC713	HC714
		HC715	HC716
		HC717	HC718
		HC719	HC720
		HC721	HC722
		HC723	HC724
		HC725	HC726
		HC727	HC728
		HC729	HC730
		HC731	HC732
		HC733	HC734
		HC735	HC736
		HC737	HC738
		HC739	HC740
		HC741	HC742
		HC743	HC744
		HC745	HC746
		HC747	HC748
		HC749	HC750
		HC751	HC752
		HC753	HC754
		HC755	HC756
		HC757	HC758
		HC759	HC760
		HC761	HC762
		HC763	HC764

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D35288

Client: KRW CONSULTING

Immediate Client Services Action Required: No

Date / Time Received: 6/9/2012 9:15:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO FRU 297-17A

Airbill #'s: FedEx

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D35288

Account: XTOKRWR XTO Energy

Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB906-MB	GB16294.D	1	06/11/12	SK	n/a	n/a	GGB906

The QC reported here applies to the following samples:

Method: SW846 8015B

D35288-1

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	104% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D35288

Account: XTOKRWR XTO Energy

Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB906-BS	GB16295.D	1	06/11/12	SK	n/a	n/a	GGB906

The QC reported here applies to the following samples:

Method: SW846 8015B

D35288-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	123	112	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	121%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35288

Account: XTOKRWR XTO Energy

Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D35276-12MS	GB16297.D	1	06/11/12	SK	n/a	n/a	GGB906
D35276-12MSD	GB16298.D	1	06/11/12	SK	n/a	n/a	GGB906
D35276-12	GB16296.D	1	06/11/12	SK	n/a	n/a	GGB906

The QC reported here applies to the following samples:

Method: SW846 8015B

D35288-1

CAS No.	Compound	D35276-12 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	170	184	108	194	114	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D35276-12	Limits
120-82-1	1,2,4-Trichlorobenzene	108%	110%	103%	60-140%

GC Volatiles

Raw Data



Judy Melson
06/12/12 09:24

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16309.D\FID1A.CH Vial: 20
 Signal #2 : Y:\1\DATA\061112\GB16309.D\FID2B.CH
 Acq On : 11 Jun 2012 9:40 pm Operator: StephK
 Sample : D35288-1, 50X Inst : GC/MS Ins
 Misc : GC2904,GGB906,5.022,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Jun 12 08:46:16 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Jun 12 08:45:42 2012
 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	14.34	2967415	94.703 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.34	18011758	110.823 %	
Target Compounds				
1) H TVH-Gasoline	7.23	5189266	<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	7.63	173136	0.437	ug/L
7) T Ethylbenzene	0.00	0	N.D.	ug/L d
8) T m,p-Xylene	0.00	0	N.D.	ug/L d
9) T o-Xylene	0.00	0	N.D.	ug/L d
11) T Naphthalene	14.54	5184250	26.275	ug/L

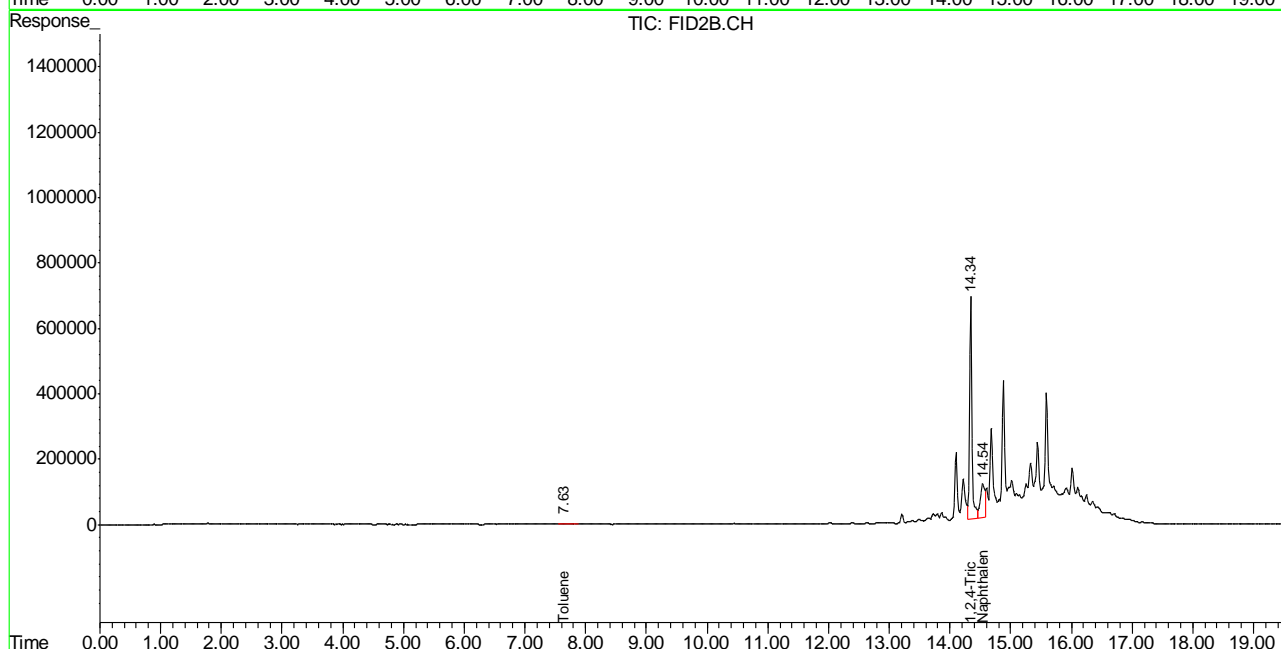
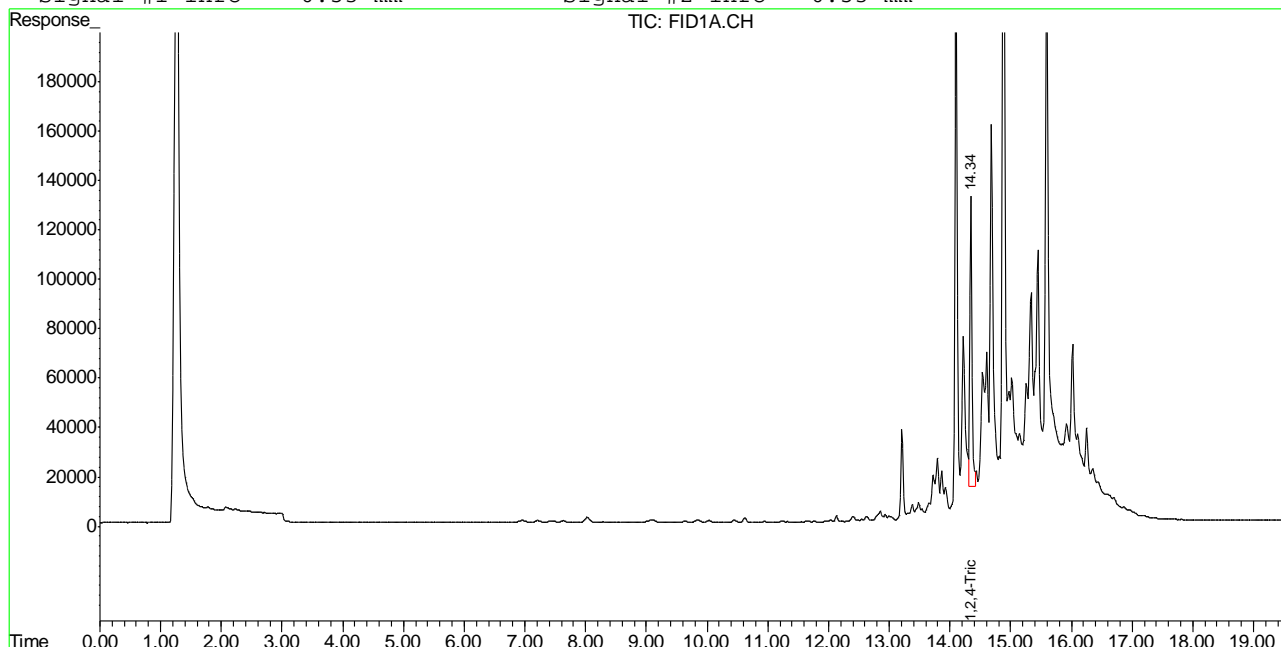
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB16309.D TB868GB868SOIL.M Tue Jun 12 08:50:44 2012 GC

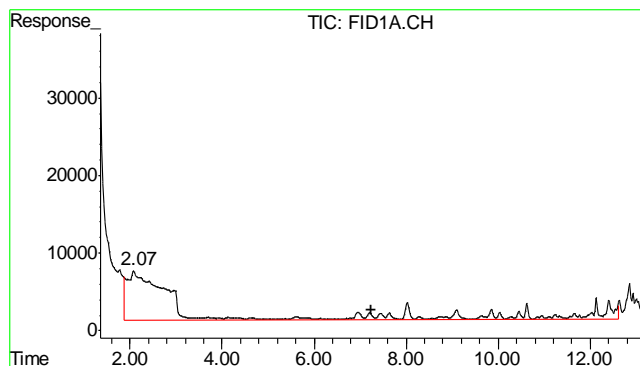
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16309.D\FID1A.CH Vial: 20
 Signal #2 : Y:\1\DATA\061112\GB16309.D\FID2B.CH
 Acq On : 11 Jun 2012 9:40 pm Operator: StephK
 Sample : D35288-1, 50X Inst : GC/MS Ins
 Misc : GC2904,GGB906,5.022,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Jun 12 7:51 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Jun 12 08:45:42 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

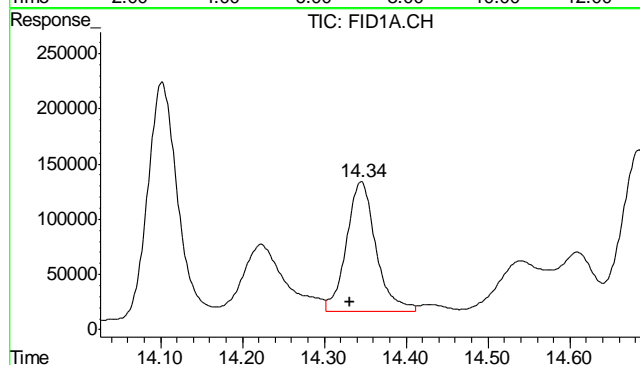
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





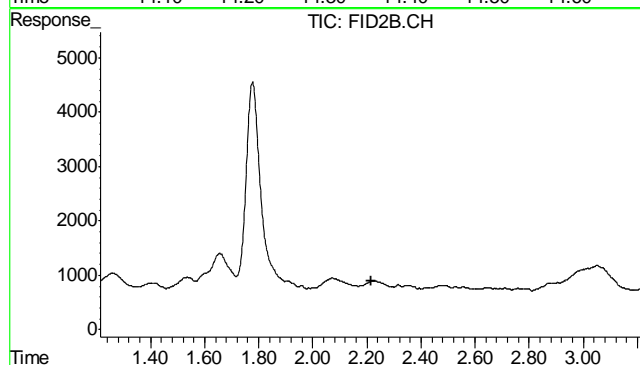
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 5189266
Conc: N.D.



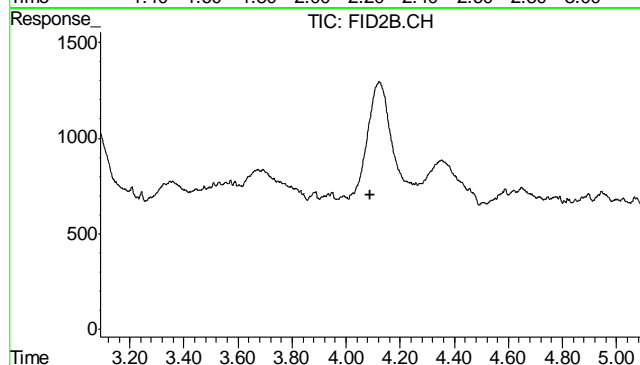
#2 1,2,4-Trichlorobenzene

R.T.: 14.344 min
Delta R.T.: 0.013 min
Response: 2967415
Conc: 94.70 % m



#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.215 min
Response: 0
Conc: N.D.

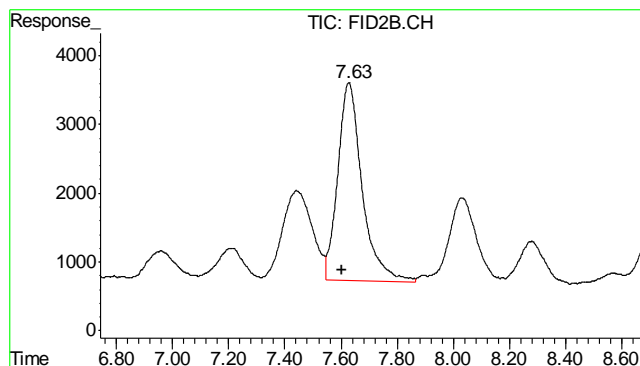


#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.090 min
Response: 0
Conc: N.D.

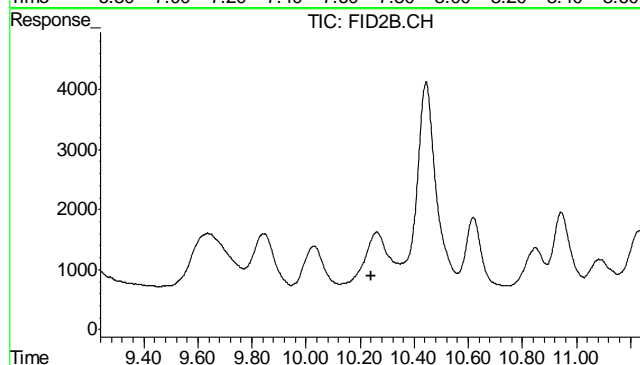
6.1.1

6



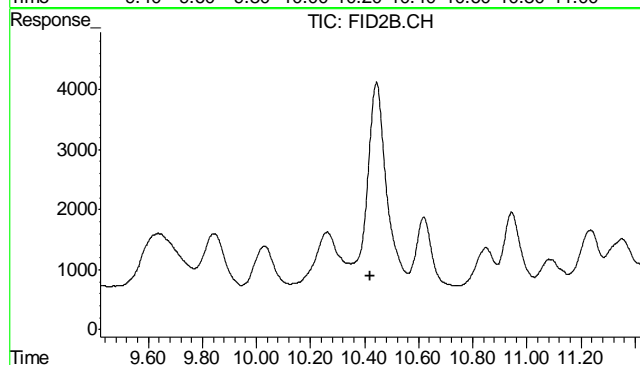
#6 Toluene

R.T.: 7.628 min
Delta R.T.: 0.026 min
Response: 173136
Conc: 0.44 ug/L



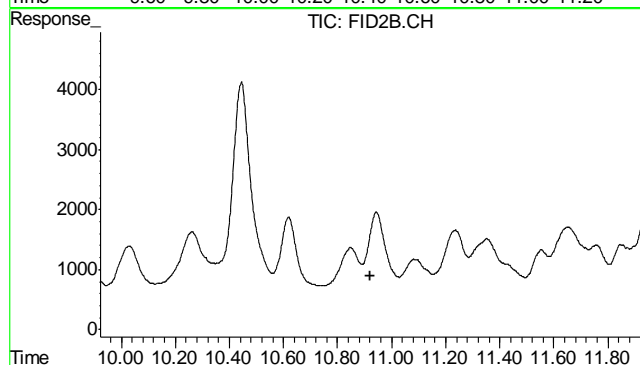
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.240 min
Response: 0
Conc: N.D.



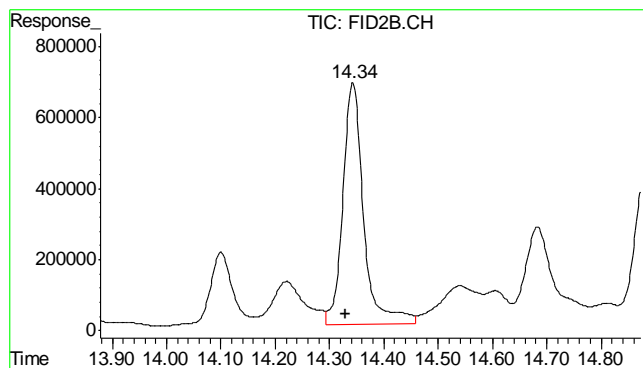
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T.: 10.422 min
Response: 0
Conc: N.D.



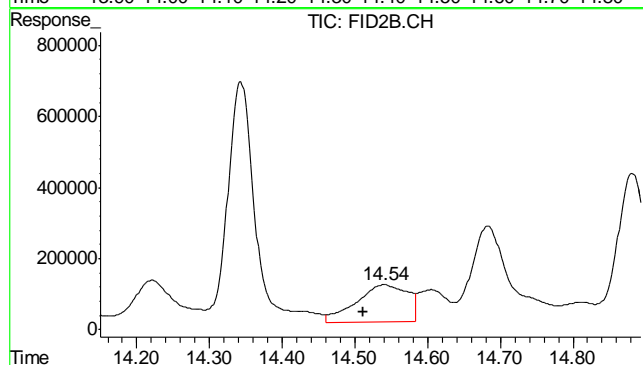
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.922 min
Response: 0
Conc: N.D.



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

R.T.: 14.343 min
Delta R.T.: 0.013 min
Response: 18011758
Conc: 110.82 %



#11 Naphthalene

R.T.: 14.540 min
Delta R.T.: 0.029 min
Response: 5184250
Conc: 26.27 ug/L

6.1.1

6

Judy Melson
06/12/12 09:24

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16294.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061112\GB16294.D\FID2B.CH
Acq On : 11 Jun 2012 12:51 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2904,GGB906,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 11 13:08:10 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 11 13:03:48 2012
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	14.35	3244057	103.531 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.34	18276099	112.449 %	
Target Compounds				
1) H TVH-Gasoline	7.23	4675842	<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	7.63	181555	0.458	ug/L
7) T Ethylbenzene	0.00	0	N.D.	ug/L d
8) T m,p-Xylene	10.44	181324	0.123	ug/L
9) T o-Xylene	0.00	0	N.D.	ug/L d
11) T Naphthalene	14.52	215354	1.091	ug/L

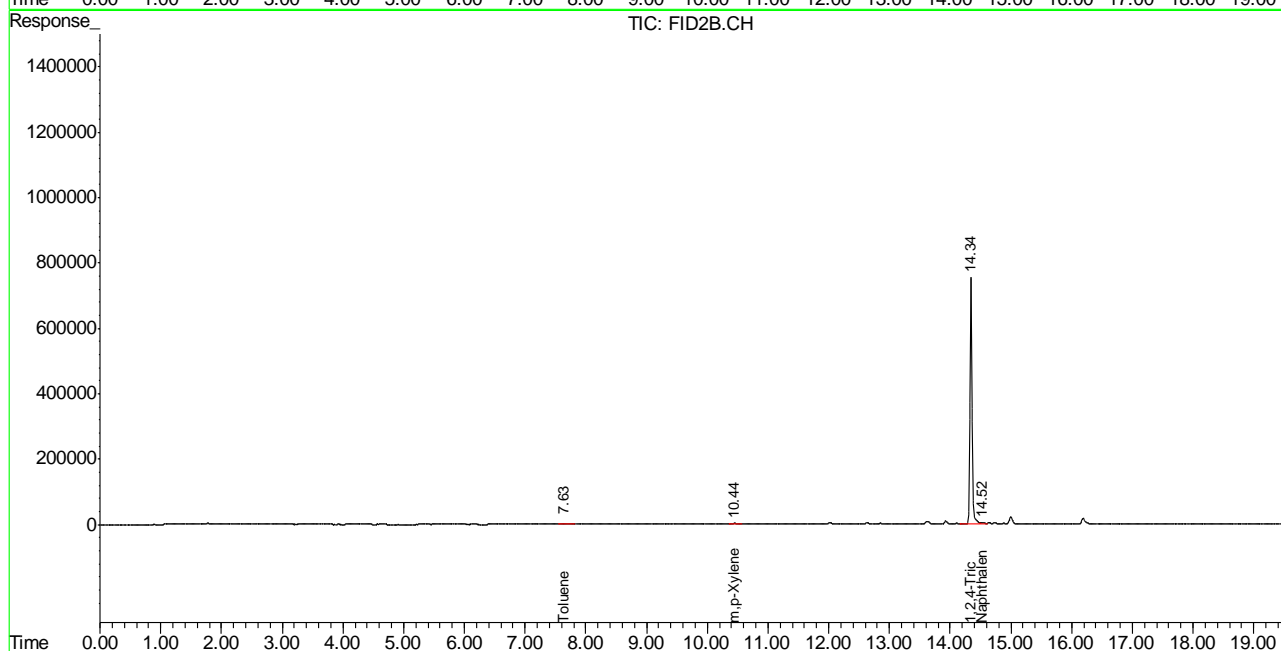
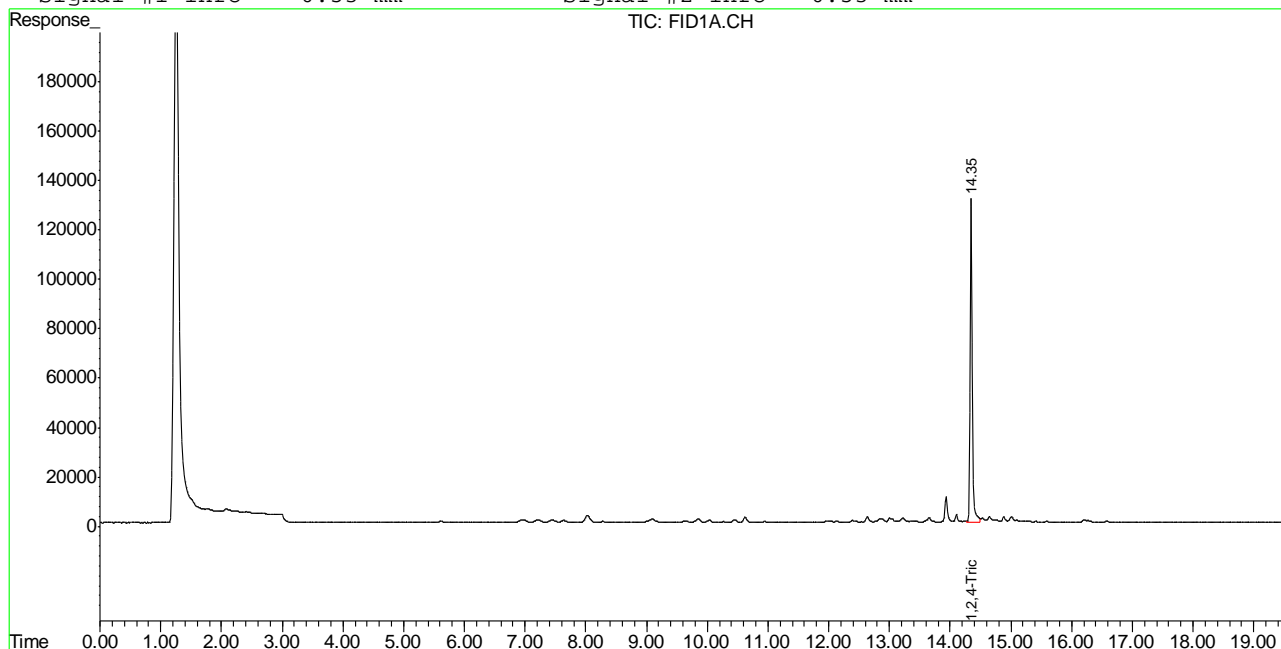
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16294.D TB868GB868SOIL.M Tue Jun 12 08:49:59 2012 GC

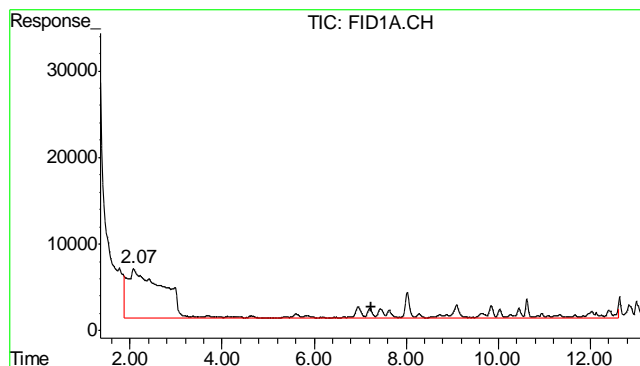
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16294.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061112\GB16294.D\FID2B.CH
Acq On : 11 Jun 2012 12:51 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2904,GGB906,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 11 12:11 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 11 13:03:48 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

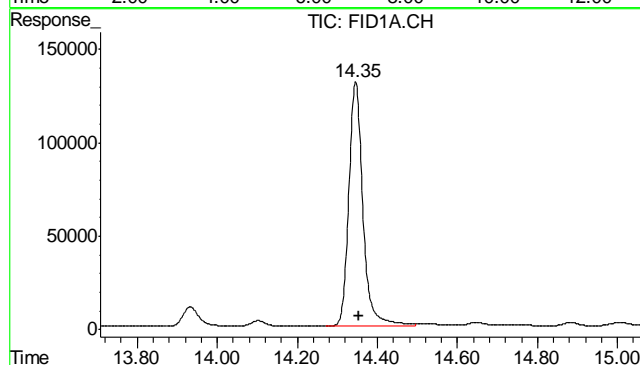
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





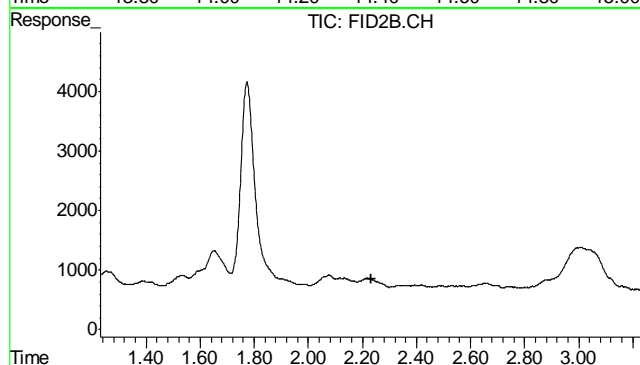
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4675842
Conc: N.D.



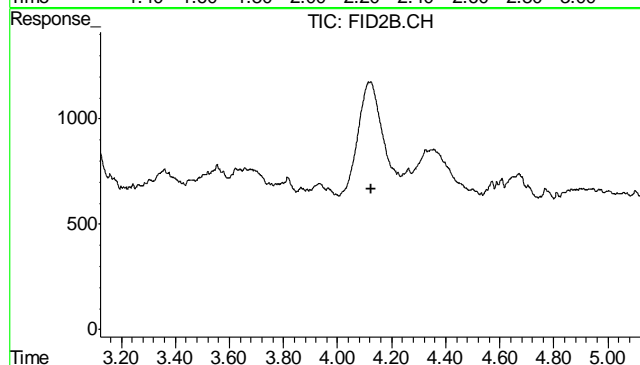
#2 1,2,4-Trichlorobenzene

R.T.: 14.345 min
Delta R.T.: -0.008 min
Response: 3244057
Conc: 103.53 % m



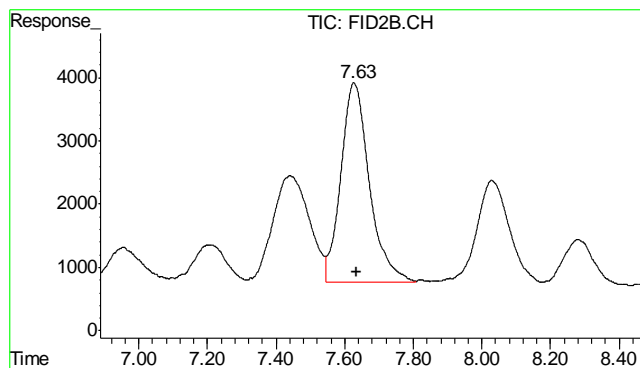
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.231 min
Response: 0
Conc: N.D.



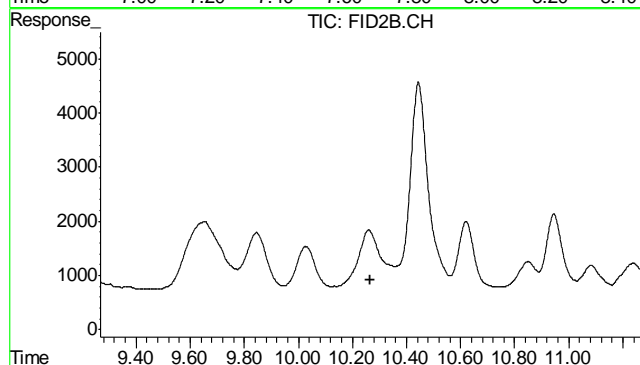
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.123 min
Response: 0
Conc: N.D.



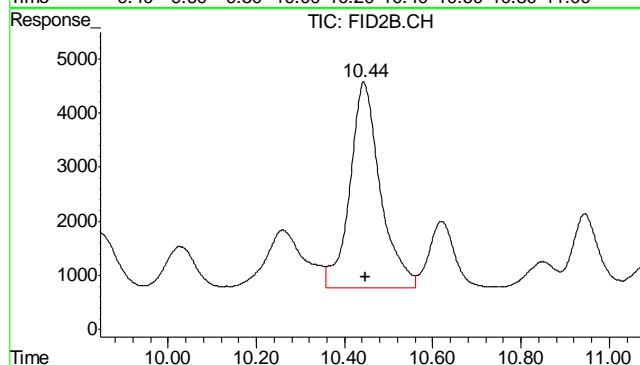
#6 Toluene

R.T.: 7.627 min
Delta R.T.: -0.009 min
Response: 181555
Conc: 0.46 ug/L



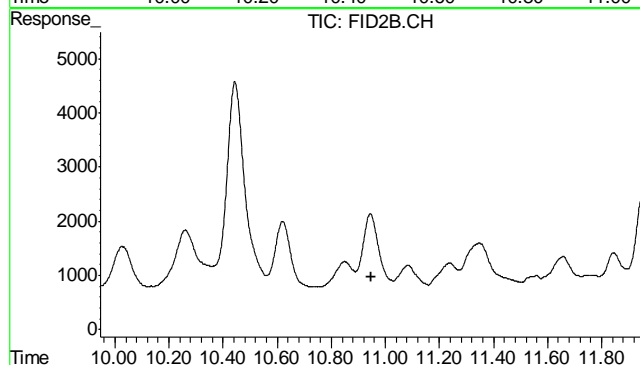
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.267 min
Response: 0
Conc: N.D.



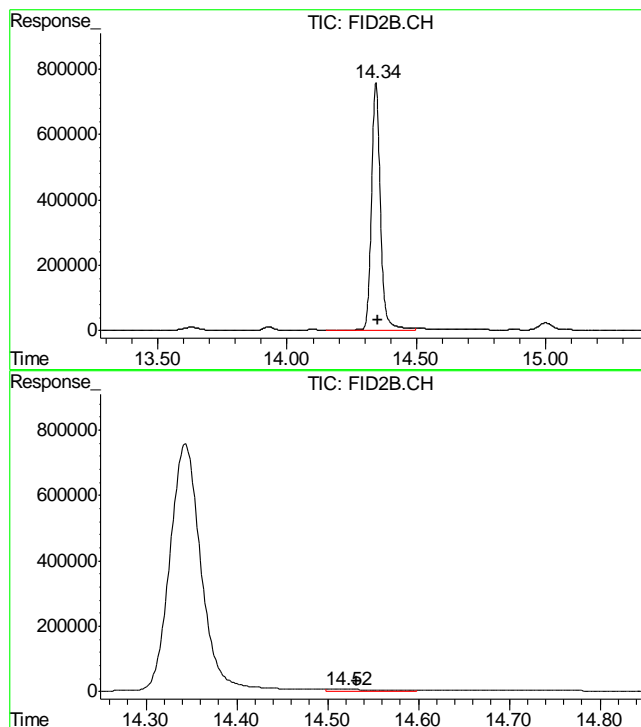
#8 m,p-Xylene

R.T.: 10.444 min
Delta R.T.: -0.004 min
Response: 181324
Conc: 0.12 ug/L



#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.946 min
Response: 0
Conc: N.D.



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

R.T.: 14.344 min
Delta R.T.: -0.007 min
Response: 18276099
Conc: 112.45 %

#11 Naphthalene

R.T.: 14.521 min
Delta R.T.: -0.011 min
Response: 215354
Conc: 1.09 ug/L

6.2.1

6

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

Page 1 of 1

Job Number: D35288
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6047-MB	FD14227.D	1	06/14/12	AV	06/13/12	OP6047	GFD750

The QC reported here applies to the following samples:

Method: SW846-8015B

D35288-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	79% 43-136%

Blank Spike Summary

Page 1 of 1

Job Number: D35288

Account: XTOKRWR XTO Energy

Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6047-BS	FD14229.D	1	06/14/12	AV	06/13/12	OP6047	GFD750

The QC reported here applies to the following samples:

Method: SW846-8015B

D35288-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	417	63	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	70%	43-136%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35288

Account: XTOKRWR XTO Energy

Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6047-MS	FD14231.D	1	06/14/12	AV	06/13/12	OP6047	GFD750
OP6047-MSD	FD14233.D	1	06/14/12	AV	06/13/12	OP6047	GFD750
D35286-2	FD14235.D	1	06/14/12	AV	06/13/12	OP6047	GFD750

The QC reported here applies to the following samples:

Method: SW846-8015B

D35288-1

CAS No.	Compound	D35286-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	7.99		756	450	58	370	48	20	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D35286-2	Limits
84-15-1	o-Terphenyl	65%	59%	70%	43-136%

7.3.1

7

GC Semi-volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061412\FD14255.D Vial: 17
Acq On : 6-14-2012 07:06:38 PM Operator: ashleyv
Sample : D35288-1 Inst : FID5
Misc : OP6047,GFD750,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 15 08:57:10 2012 Quant Results File: DRO-GFD740F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD740F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Jun 11 09:22:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.33	60256064	1280.388 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.19	1202852538	28138.223 mg/L

8.1.1

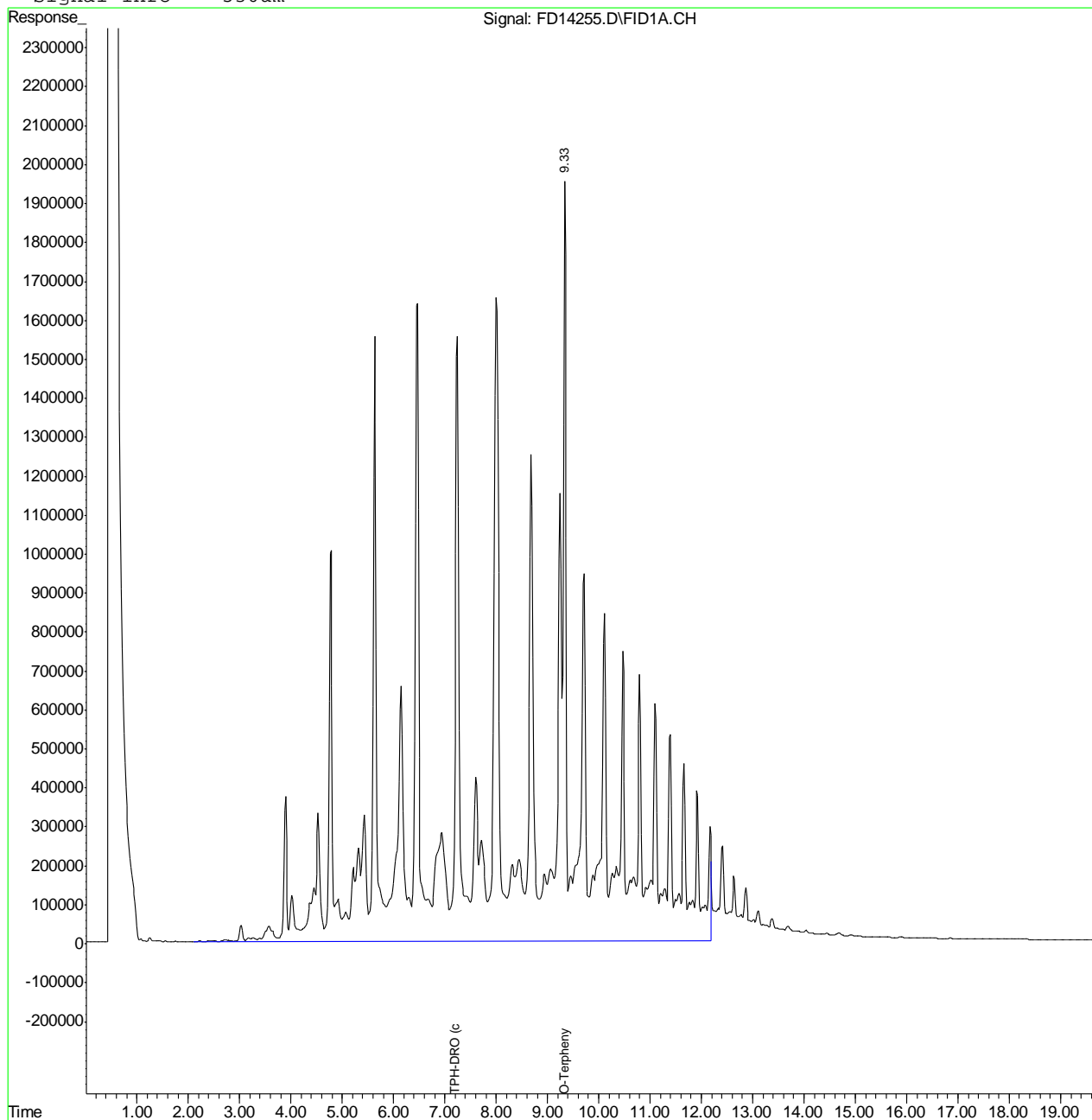
8

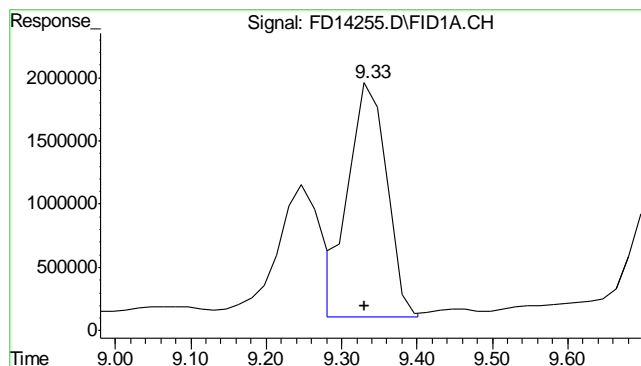
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061412\FD14255.D Vial: 17
Acq On : 6-14-2012 07:06:38 PM Operator: ashleyv
Sample : D35288-1 Inst : FID5
Misc : OP6047,GFD750,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 15 8:58 2012 Quant Results File: DRO-GFD740F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD740F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Jun 11 09:22:41 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

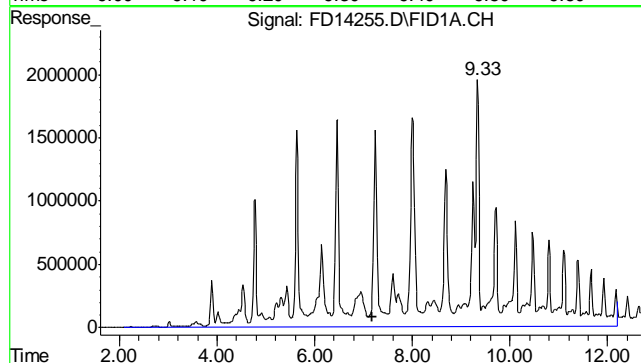
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.335 min
 Delta R.T.: 0.005 min
 Response: 60256064
 Conc: 1280.39 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.190 min
 Delta R.T.: 0.000 min
 Response: 1202852538
 Conc: 28138.22 mg/L m

8.1.1

8

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061412\FD14227.D Vial: 3
Acq On : 14 Jun 2012 12:48 pm Operator: ashleyv
Sample : OP6047-MB Inst : FID5
Misc : OP6047,GFD750,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 14 15:34:59 2012 Quant Results File: DRO-GFD740F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD740F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Jun 11 09:22:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units

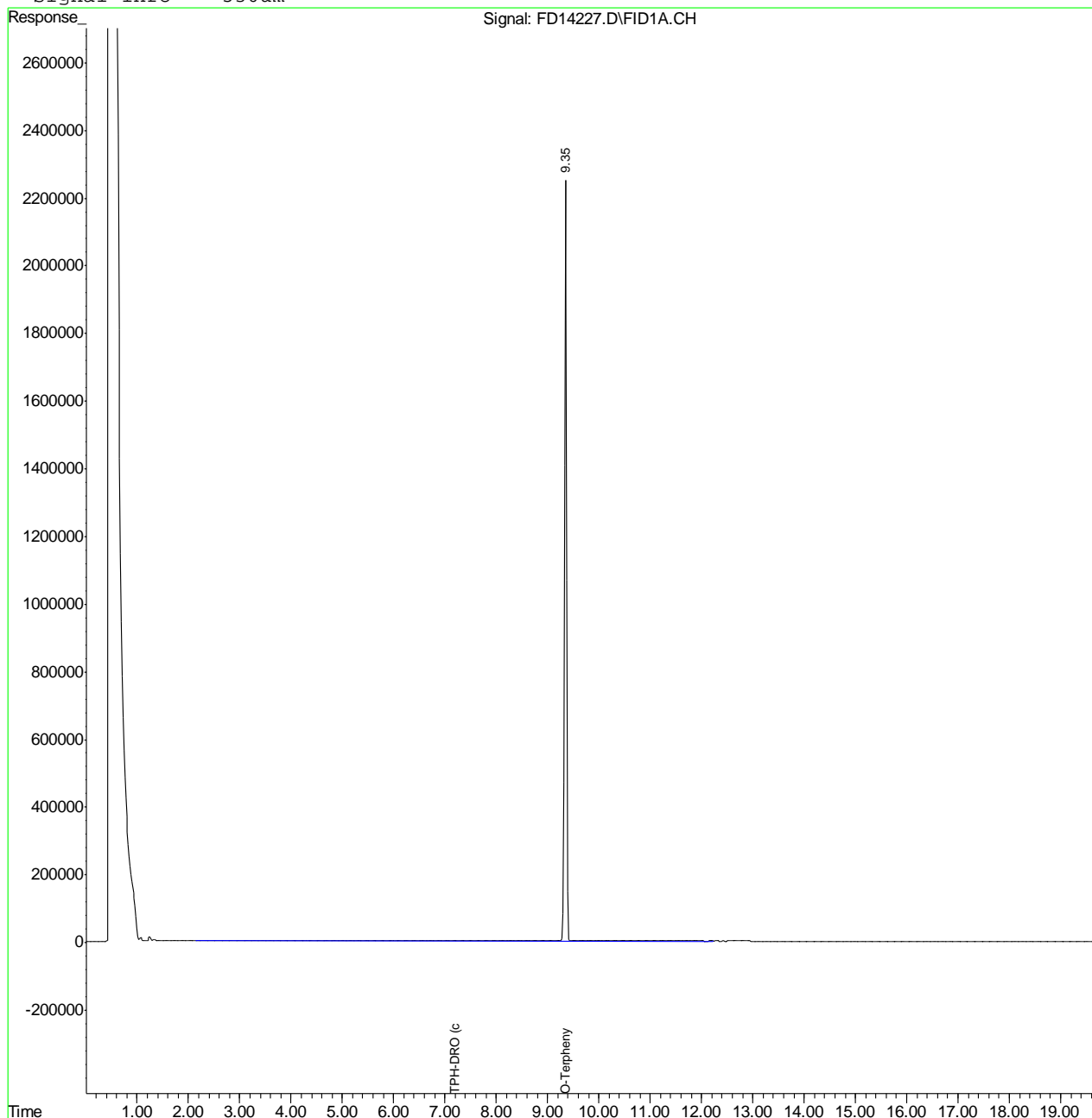
System Monitoring Compounds			
1) S O-Terphenyl	9.35	74347937	1579.827 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.19	2239439	52.387 mg/L

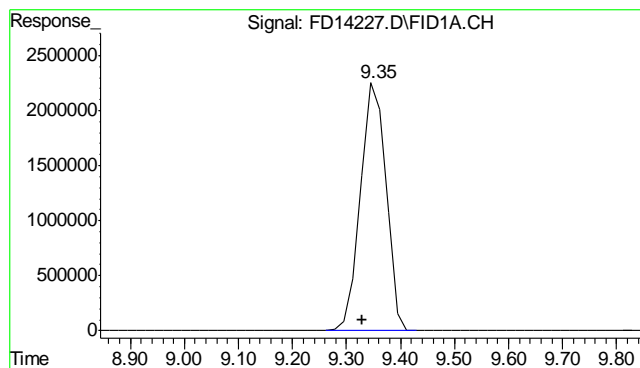
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061412\FD14227.D Vial: 3
Acq On : 14 Jun 2012 12:48 pm Operator: ashleyv
Sample : OP6047-MB Inst : FID5
Misc : OP6047,GFD750,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 14 15:35 2012 Quant Results File: DRO-GFD740F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD740F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Jun 11 09:22:41 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

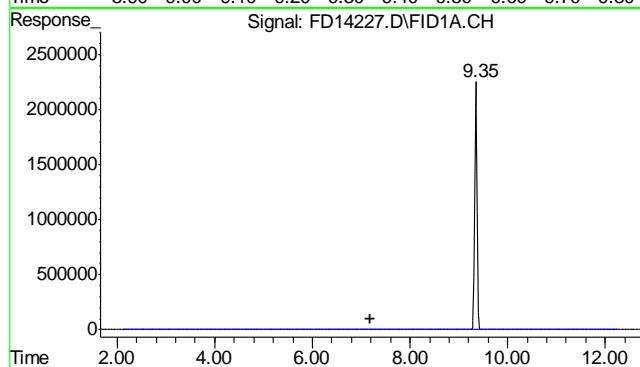
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.349 min
Delta R.T.: 0.019 min
Response: 74347937
Conc: 1579.83 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.190 min
Delta R.T.: 0.000 min
Response: 2239439
Conc: 52.39 mg/L m

8.2.1

8