ALS Environmental

received 12/31/2014
Project 2130

GC/MS Semivolatiles

SIMPAH

Case Narrative

Colorado Oil & Gas Conservation Commission

TBAL

Work Order Number: 1312158

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 12/13/13.

2. The sample was prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, according to SW-846 Method 3520C, utilizing the current revision of SOP 617.

3. The extract was analyzed using GC/MS with a DB-5MS capillary column according to the current revision of SOP 506 based on SW-846 Method 8270D. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.

4. All initial calibration criteria were met. If average response factors were used in the initial calibration, %RSD was ≤20%. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥0.99.

5. All initial calibration standards are verified by comparing a second source standard initial calibration verification (ICV) against the calibration curve. All target compounds in the second source verification had a %D ≤30%.

6. All method blank criteria were met.

7. A laboratory control spike and laboratory control spike duplicate were not reported with this data package. See SW8270 report for LCS/LCSD results.

9. A matrix spike and matrix spike duplicate were not performed due to insufficient sample. A laboratory control sample and laboratory control sample duplicate were performed instead.

10. The sample was extracted and analyzed within the established holding time.

11. Surrogate recoveries were not calculated for the sample in this data package. See SW8270 report for surrogate recoveries.

12. All internal standard recoveries were within acceptance criteria.

13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939. Whenever manual integrations are performed, before and after chromatograms of the peak that was manually integrated are included in the report along with the reason why the re-integration was necessary.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Lyons — 12/30/13
Organics Primary Data Reviewer — Date

Organics Final Data Reviewer — 12/30/13
Date

ALS
Data Qualifier Flags
Chromatography and Mass Spectrometry

U or ND:	**This flag indicates that the compound was analyzed for but not detected.**
J:	**This flag indicates an estimated value. This flag is used as follows: (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.**
B:	**This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.**
E:	**This flag identifies compounds whose concentration exceeds the upper level of the calibration range.**
A:	**This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.**
X:	**This flag indicates that the analyte was diluted below an accurate quantitation level.**
***:**	**This flag indicates that a spike recovery is equal to or outside the control criteria used.**
+:	**This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.**

Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: TBAL
Client Project Number:
Client PO Number: PHA 14-22

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
285485 Molokai 13-36	1312158-1		WATER	12-Dec-13	10:03

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER # 1312158

PAGE 1 of 1

DISPOSAL: By Lab or Return to Client

PROJECT NAME	Project TBAL	SAMPLER	Gintautas
PROJECT No.	2130	SITE ID	
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	Cyclone Oil Haz, Gas Com	BILL TO COMPANY	
SEND REPORT TO	Peter Gintautas	INVOICE ATTN TO	
ADDRESS	PO Box 106	ADDRESS	
CITY / STATE / ZIP	Trinidad CO 81082	CITY / STATE / ZIP	
PHONE	719-846-3091	PHONE	
FAX		FAX	
E-MAIL	peter.gintautas@state.co.us	E-MAIL	

DATE: 12-Dec-13

TURNAROUND: 14

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	8260 + TICs	8270 + 1,4-Dioxane + TICs	Alcohols Methods	SAR Calc	Cation Anion Balance	Anions	Metals	Hardness	TDS	Alkalinity (Tot, HCO3, CO3)
(1)	285465 Molokai 12-36	W	12-Dec-13	10:03	3	1		X									
	11 1C	W	12-Dec-13	10:03	3	8			X	X	X	X	X	X	X	X	X
	200.7_COCC-11, Be_200.7_COCC																
	200.8_COCC-16, Na_200.8, Th_200.8																

*Time Zone (Circle): EST CST (MST) PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: Anions = Br, Cl, F, NO2, NO3, SO4
Filter + preserve metals upon receipt

QC PACKAGE (check below)

	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
X	LEVEL IV (Std QC + forms + raw data) CO

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Peter Gintautas	12-Dec-13	14:50
RECEIVED BY		Jacob Roddy	12/13/13	1010
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1312158

Project Manager: ARW Initials: JLR Date: 12/13/13

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	(N/A)	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	(YES)	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	(NO)
16. Were the samples shipped on ice?		(YES)	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 (#4)	RAD ONLY	(YES)	NO

Cooler #:	1							
Temperature (°C):	5°							
No. of custody seals on cooler:	1							
DOT Survey/ Acceptance Information: External µR/hr reading:	10							
Background µR/hr reading:	10							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

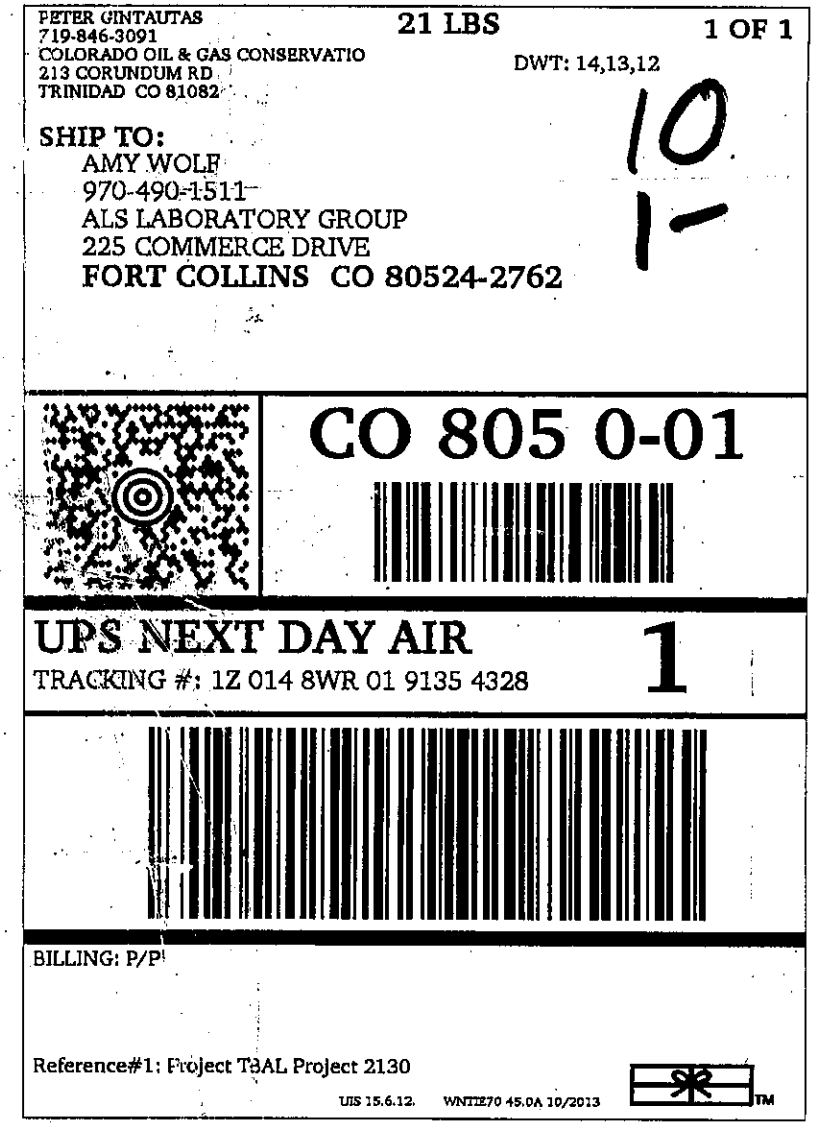
If applicable, was the client contacted? YES / NO / (NA) Contact: _____ Date/Time: _____

Project Manager Signature / Date: [signature] 12-13-0

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Form 201r24.xls (06/04/2012)

1312158



PETER GINTAUTAS
719-846-3091
COLORADO OIL & GAS CONSERVATIO
213 CORUNDUM RD
TRINIDAD CO 81082

21 LBS

1 OF 1

DWT: 14,13,12

10
1-

SHIP TO:
AMY WOLF
970-490-1511
ALS LABORATORY GROUP
225 COMMERCE DRIVE
FORT COLLINS CO 80524-2762

CO 805 0-01

UPS NEXT DAY AIR

1

TRACKING #: 1Z 014 8WR 01 9135 4328

BILLING: P/P

Reference#1: Project TBAL Project 2130

UIS 15.6.12. WNTE70 45.0A 10/2013

TM

Temp = 5°C

Analytical Results

GC/MS Semi-volatiles

Method SW8270SIMPAHD

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: EX131216-8MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 16-Dec-13
Date Analyzed: 26-Dec-13

Prep Batch: EX131216-8
QCBatchID: EX131216-8-2
Run ID: SV131226-4
Cleanup: NONE
Basis: N/A
File Name: S01436

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ	MDL	Result Qualifier	EPA Qualifier
91-20-3	NAPHTHALENE	1	0.1	0.1	0.1	U	
91-57-6	2-METHYLNAPHTHALENE	1	0.1	0.1	0.1	U	
90-12-0	1-METHYLNAPHTHALENE	1	0.1	0.1	0.1	U	
208-96-8	ACENAPHTHYLENE	1	0.1	0.1	0.1	U	
83-32-9	ACENAPHTHENE	1	0.1	0.1	0.1	U	
86-73-7	FLUORENE	1	0.1	0.1	0.1	U	
85-01-8	PHENANTHRENE	1	0.1	0.1	0.1	U	
120-12-7	ANTHRACENE	1	0.1	0.1	0.1	U	
206-44-0	FLUORANTHENE	1	0.1	0.1	0.1	U	
129-00-0	PYRENE	1	0.1	0.1	0.1	U	
56-55-3	BENZO(A)ANTHRACENE	1	0.1	0.1	0.1	U	
218-01-9	CHRYSENE	1	0.1	0.1	0.1	U	
205-99-2	BENZO(B)FLUORANTHENE	1	0.1	0.1	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	1	0.1	0.1	0.1	U	
50-32-8	BENZO(A)PYRENE	1	0.1	0.1	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	0.1	0.1	0.1	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	0.1	0.1	0.1	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.1	0.1	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL		X	50		21 - 106
4165-60-0	NITROBENZENE-D5		X	50		34 - 111
1718-51-0	TERPHENYL-D14		X	50		33 - 111

Data Package ID: *SV1312158-2*

GC/MS Semi-volatiles

Method SW8270SIMPAHD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36
Lab ID: 1312158-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Dec-13
Date Extracted: 16-Dec-13
Date Analyzed: 26-Dec-13
Prep Method: SW3520 Rev C

Prep Batch: EX131216-8
QCBatchID: EX131216-8-2
Run ID: SV131226-4
Cleanup: NONE
Basis: As Received
File Name: S01437

Analyst: Joe Kostelnik
Sample Aliquot: 1060 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	MDL/ LOD/DL	Result Qualifier	EPA Qualifier
91-20-3	NAPHTHALENE	1	0.094	0.094	0.094	U	
91-57-6	2-METHYLNAPHTHALENE	1	0.094	0.094	0.094	U	
90-12-0	1-METHYLNAPHTHALENE	1	0.094	0.094	0.094	U	
208-96-8	ACENAPHTHYLENE	1	0.094	0.094	0.094	U	
83-32-9	ACENAPHTHENE	1	0.094	0.094	0.094	U	
86-73-7	FLUORENE	1	0.094	0.094	0.094	U	
85-01-8	PHENANTHRENE	1	0.094	0.094	0.094	U	
120-12-7	ANTHRACENE	1	0.094	0.094	0.094	U	
206-44-0	FLUORANTHENE	1	0.094	0.094	0.094	U	
129-00-0	PYRENE	1	0.094	0.094	0.094	U	
56-55-3	BENZO(A)ANTHRACENE	1	0.094	0.094	0.094	U	
218-01-9	CHRYSENE	1	0.094	0.094	0.094	U	
205-99-2	BENZO(B)FLUORANTHENE	1	0.094	0.094	0.094	U	
207-08-9	BENZO(K)FLUORANTHENE	1	0.094	0.094	0.094	U	
50-32-8	BENZO(A)PYRENE	1	0.094	0.094	0.094	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	0.094	0.094	0.094	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	0.094	0.094	0.094	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.094	0.094	0.094	U	

Data Package ID: *SV1312158-2*

GC/MS Semi-volatiles

Method SW8270SIMPAHD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36
Lab ID: 1312158-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Dec-13
Date Extracted: 16-Dec-13
Date Analyzed: 26-Dec-13
Prep Method: SW3520 Rev C

Prep Batch: EX131216-8
QCBatchID: EX131216-8-2
Run ID: SV131226-4
Cleanup: NONE
Basis: As Received
File Name: S01437

Analyst: Joe Kostelnik
Sample Aliquot: 1060 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	MDL/ LOD/DL	Result Qualifier	EPA Qualifier

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL		X	47.2		21 - 106
4165-60-0	NITROBENZENE-D5		X	47.2		34 - 111
1718-51-0	TERPHENYL-D14		X	47.2		33 - 111

Data Package ID: *SV1312158-2*

Supporting QA/QC Data

Prep Batch ID: EX131216-8

Start Date: 12/16/13
Start Time: 15:37
Prep Analyst: James A. Ceimet

End Date: 12/17/13
End Time: 8:15

Concentration Method: CKIS
Extract Method: SW3520C
Initial Volume Units: ml
Final Volume Units: ml

Batch Created By: jac
Date Created: 12/16/13
Time Created: 16:26
Validated By: bch
Date Validated: 12/18/13
Time Validated: 12:37

Comments:

QC Batch ID: EX131216-8-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
EX131216-8	MB	XXXXXX	WATER	XXXXXX	1000	1	NONE	1	1312158
EX131216-8	LCS	XXXXXX	WATER	XXXXXX	1000	1	NONE	1	1312158
EX131216-8	LCSD	XXXXXX	WATER	XXXXXX	1000	1	NONE	1	1312158
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	1060	1	NONE	1	1312158

In generating this benchsheet, prep analyst states that all aspects of sample preparation as set forth in the appropriate SOP's (including Kuderna-Danish temperatures, proper flow settings on the N-evap, and final volumes) were properly adhered to (unless otherwise noted herein).

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicat
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standar		SMP	Field Sample
SYS	Sample Yield Spike			

5B

Semi-Volatile Organic GC/MS Tuning And Mass Calibration--Decafluorotriphenylphosphine (DFTPP)

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

DFTPP Injection Date: 12/20/2013
DFTPP Injection Time: 11:15
Instrument ID: HPSV4

Reported on: Monday, December 30, 2013

FileID: S01404

m/e	Ion Abundance Criteria SW8270SIMPAHD	% Relative Abundance
51	30.0 - 60.0 percent of mass 198	41.7
68	Less than 2.0 percent of mass 69	0
69	Mass 69 relative abundance of mass 198	48.5
70	Less than 2.0 percent of mass 69	0.5
127	40.0 - 60.0 percent of mass 198	48.3
197	Less than 1.0 percent of mass 198	0
198	Base peak, 100 percent of relative abundance	100
199	5.0 - 9.0 percent of mass 198	6.7
275	10.0 - 30.0 percent of mass 198	24.4
365	Greater than 1.00 percent of mass 198	2.7
441	Present, but less than mass 443 (percent of 443)	77.2
442	Greater than 40.0 percent of mass 198	72.7
443	17.0 - 23.0 percent of mass 442	20.2

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

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	QC BatchID
XXXXXXX	ICALSVSTD0500CSTD	S01405	12/20/2013	11:26	SV131220-4
XXXXXXX	ICALSVSTD0050CSTD	S01406	12/20/2013	11:44	SV131220-4
XXXXXXX	ICALSVSTD0100CSTD	S01407	12/20/2013	12:02	SV131220-4
XXXXXXX	ICALSVSTD0200CSTD	S01408	12/20/2013	12:20	SV131220-4
XXXXXXX	ICALSVSTD1000CSTD	S01409	12/20/2013	12:38	SV131220-4
XXXXXXX	ICALSVSTD2000CSTD	S01410	12/20/2013	12:56	SV131220-4
XXXXXXX	ICALSVSTD5000CSTD	S01411	12/20/2013	13:13	SV131220-4
XXXXXXX	ICVSVSTD20000ICV	S01412	12/20/2013	13:31	SV131220-4
XXXXXXX	EX131210-1MB	S01414	12/20/2013	14:07	EX131210-1-1
XXXXXXX	EX131210-1LCS	S01415	12/20/2013	14:25	EX131210-1-1
XXXXXXX	EX131210-1LCSD	S01416	12/20/2013	14:43	EX131210-1-1
XXXXXXX	1312088-3	S01417	12/20/2013	15:01	EX131210-1-1
XXXXXXX	1312088-6	S01418	12/20/2013	15:19	EX131210-1-1

Data Package ID: *SV1312158-2*

5B

Semi-Volatile Organic GC/MS Tuning And Mass Calibration--Decafluorotriphenylphosphine (DFTPP)

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

DFTPP Injection Date: 12/26/2013
DFTPP Injection Time: 16:39
Instrument ID: HPSV4

Reported on: Monday, December 30, 2013

FileID: S01433

m/e	Ion Abundance Criteria SW8270SIMPAHD	% Relative Abundance
51	30.0 - 60.0 percent of mass 198	55.4
68	Less than 2.0 percent of mass 69	0.2
69	Mass 69 relative abundance of mass 198	62.3
70	Less than 2.0 percent of mass 69	0.6
127	40.0 - 60.0 percent of mass 198	54.2
197	Less than 1.0 percent of mass 198	0
198	Base peak, 100 percent of relative abundance	100
199	5.0 - 9.0 percent of mass 198	6.9
275	10.0 - 30.0 percent of mass 198	23
365	Greater than 1.00 percent of mass 198	2.4
441	Present, but less than mass 443 (percent of 443)	82.3
442	Greater than 40.0 percent of mass 198	58.6
443	17.0 - 23.0 percent of mass 442	19.7

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

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	QC BatchID
XXXXXXX	CCV1CCV	S01434	12/26/2013	16:50	SV131226-4
XXXXXXX	EX131216-8MB	S01436	12/26/2013	17:29	EX131216-8-2
285485 Molokai 13-36	1312158-1	S01437	12/26/2013	17:46	EX131216-8-2

Data Package ID: *SV1312158-2*

FORM 6

HPSV4

122013SIM4.M

	S01411.D 5000	S01410.D 2000	S01409.D 1000	S01405.D 500	S01408.D 200	S01407.D 100	S01406.D 50	Average	%RSD	Curve type	Corr (r2)	quad term	linear term	const term
Naphthalene-d8														
Nitrobenzene-d5	0.363	0.355	0.360	0.359	0.342	0.346	0.358	0.355	2.154	Avg RF	na			
Naphthalene	0.920	0.905	0.921	0.925	1.026	0.959	0.977	0.948	4.515	Avg RF	na			
2-Methylnaphthalene	0.623	0.602	0.592	0.566	0.596	0.532	0.534	0.578	6.039	Avg RF	na			
1-Methylnaphthalene	0.571	0.558	0.556	0.540	0.576	0.529	0.514	0.549	4.136	Avg RF	na			
Acenaphthene-d10														
2-Fluorobiphenyl	1.241	1.188	1.166	1.149	1.034	1.060	1.040	1.125	7.209	Avg RF	na			
Acenaphthylene	1.640	1.598	1.619	1.652	1.765	1.677	1.724	1.671	3.673	Avg RF	na			
Acenaphthene	0.934	0.912	0.934	0.961	1.046	0.994	1.037	0.974	5.406	Avg RF	na			
Fluorene	1.066	1.049	1.053	1.071	1.127	1.063	1.108	1.077	2.732	Avg RF	na			
Phenanthrene-d10														
Hexachlorobenzene	0.170	0.162	0.163	0.173	0.186	0.189	0.185	0.175	6.353	Avg RF	na			
Phenanthrene	0.960	0.927	0.958	0.977	1.087	1.041	1.149	1.014	7.998	Avg RF	na			
Anthracene	0.920	0.900	0.917	0.934	1.024	0.952	1.010	0.951	5.032	Avg RF	na			
Fluoranthene	1.021	0.990	1.020	1.068	1.129	1.126	1.195	1.079	6.867	Avg RF	na			
Chrysene-d12														
Pyrene	1.042	0.997	1.006	1.054	1.223	1.140	1.272	1.105	9.834	Avg RF	na			
p-Terphenyl-d14	0.731	0.699	0.712	0.743	0.732	0.756	0.782	0.736	3.736	Avg RF	na			
Benzo[a]anthracene	0.906	0.887	0.909	0.944	1.055	1.064	1.188	0.993	11.273	Avg RF	na			
Chrysene	0.837	0.819	0.832	0.858	0.947	0.913	0.996	0.886	7.602	Avg RF	na			
Perylene-d12														
Benzo[b]fluoranthene	1.092	1.028	1.049	1.112	1.197	1.149	1.194	1.117	5.959	Avg RF	na			
Benzo[k]fluoranthene	1.027	1.046	1.059	1.114	1.185	1.135	1.214	1.111	6.435	Avg RF	na			
Benzo[a]pyrene	0.954	0.938	0.949	1.000	1.055	1.019	1.073	0.998	5.371	Avg RF	na			
Indeno(1,2,3-c,d)pyrene	0.932	0.952	0.944	1.060	1.018	1.045	1.050	1.000	5.546	Avg RF	na			
Dibenzo[a,h]anthracene	0.758	0.774	0.762	0.877	0.810	0.855	0.857	0.813	6.107	Avg RF	na			
Benzo[g,h,i]perylene	0.810	0.828	0.819	0.905	0.895	0.897	0.917	0.867	5.312	Avg RF	na			
								AVERAGE=	**5.886**					

FORM 7
Continuing Calibration Verification Report

HPSV4 FORM7 ICV

METHOD: 122013SIM4.M

RUN DATE: 12/20/2013 13:31

		Compound	AvgRF	CCRF	Expt Conc	Found Conc	% Dev or % Drift	Area % Difference	R.T. Dev (min)	Curve Fit Type
1)	ISTD	Naphthalene-d8	1.000	1.000					0.00	Ave RF
3)		Naphthalene	0.948	0.927			-2.1	387	0.00	Ave RF
4)		2-Methylnaphthalene	0.578	0.580			0.4	375	0.01	Ave RF
5)		1-Methylnaphthalene	0.549	0.585			6.6	397	0.01	Ave RF
6)	ISTD	Acenaphthene-d10		1.000					0.01	Ave RF
8)		Acenaphthylene	1.671	1.516			-9.2	360	0.01	Ave RF
9)		Acenaphthene	0.974	0.912			-6.3	372	0.01	Ave RF
10)		Fluorene	1.077	1.031			-4.3	377	0.01	Ave RF
11)	ISTD	Phenanthrene-d10		1.000					0.01	Ave RF
12)		Hexachlorobenzene	0.175	0.166			-5.7	350	0.01	Ave RF
13)		Phenanthrene	1.014	0.928			-8.5	347	0.01	Ave RF
14)		Anthracene	0.951	0.928			-2.4	363	0.01	Ave RF
15)		Fluoranthene	1.079	0.979			-9.2	335	0.00	Ave RF
16)	ISTD	Chrysene-d12		1.000					0.01	Ave RF
17)		Pyrene	1.105	0.982			-11.1	324	0.01	Ave RF
19)		Benzo[a]anthracene	0.993	0.886			-10.8	326	0.01	Ave RF
20)		Chrysene	0.886	0.810			-8.6	329	0.01	Ave RF
21)	ISTD	Perylene-d12		1.000					0.01	Ave RF
22)		Benzo[b]fluoranthene	1.117	1.084			-3.0	344	0.01	Ave RF
23)		Benzo[k]fluoranthene	1.111	0.951			-14.5	301	0.01	Ave RF
24)		Benzo[a]pyrene	0.998	0.929			-7.0	327	0.01	Ave RF
25)		Indeno(1,2,3-c,d)pyrene	1.000	0.946			-5.5	314	0.02	Ave RF
26)		Dibenzo[a,h]anthracene	0.813	0.772			-5.1	310	0.02	Ave RF
27)		Benzo[g,h,i]perylene	0.867	0.816			-5.9	317	0.02	Ave RF

Average of absolute value = 6.6

12-23-13

FORM 7
Continuing Calibration Verification Report

HPSV4 FORM7 CCV

METHOD: 122013SIM4.M

RUN DATE: 12/26/2013 16:50

		Compound	AvgRF	CCRF	Expt Conc	Found Conc	% Dev or % Drift	Area % Difference	R.T. Dev (min)	Curve Fit Type
1)	ISTD	**Naphthalene-d8**	1.000	1.000				76	0.00	Ave RF
2)		Nitrobenzene-d5	0.355	0.390			9.8	82	0.00	Ave RF
3)		Naphthalene	0.948	0.948			0.0	78	0.00	Ave RF
4)		2-Methylnaphthalene	0.578	0.586			1.4	78	0.00	Ave RF
5)		1-Methylnaphthalene	0.549	0.577			5.1	81	0.00	Ave RF
6)	ISTD	**Acenaphthene-d10**	1.000	1.000					0.00	Ave RF
7)		2-Fluorobiphenyl	1.125	1.237			10.0	84	0.00	Ave RF
8)		Acenaphthylene	1.671	1.604			-4.0	75	0.00	Ave RF
9)		Acenaphthene	0.974	0.975			0.1	79	0.00	Ave RF
10)		Fluorene	1.077	1.009			-6.2	73	0.00	Ave RF
11)	ISTD	**Phenanthrene-d10**	1.000	1.000					0.00	Ave RF
12)		Hexachlorobenzene	0.175	0.175			-0.1	70	0.00	Ave RF
13)		Phenanthrene	1.014	0.969			-4.4	68	0.00	Ave RF
14)		Anthracene	0.951	0.915			-3.7	67	0.00	Ave RF
15)		Fluoranthene	1.079	0.957			-11.3	62	0.00	Ave RF
16)	ISTD	**Chrysene-d12**	1.000	1.000					0.00	Ave RF
17)		Pyrene	1.105	1.214			9.8	61	0.00	Ave RF
18)		p-Terphenyl-d14	0.736	0.818			11.2	58	0.00	Ave RF
19)		Benzo[a]anthracene	0.993	0.904			-9.0	51	0.00	Ave RF
20)		Chrysene	0.886	0.889			0.4	55	0.00	Ave RF
21)	ISTD	**Perylene-d12**	1.000	1.000					0.00	Ave RF
22)		Benzo[b]fluoranthene	1.117	1.118			0.0	49	0.00	Ave RF
23)		Benzo[k]fluoranthene	1.111	1.017			-8.5	45	0.00	Ave RF
24)		Benzo[a]pyrene	0.998	0.899			-9.9	44	0.00	Ave RF
25)		Indeno(1,2,3-c,d)pyrene	1.000	0.871			-12.9	40	0.00	Ave RF
26)		Dibenzo[a,h]anthracene	0.813	0.663			-18.5	37	0.00	Ave RF
27)		Benzo[g,h,i]perylene	0.867	0.774			-10.8	42	0.00	Ave RF

Average of absolute value = 6.7

JH
12-30-13

8B

Semi-Volatile Internal Standard Area Summary

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Date Analyzed: 12/26/2013
Time Analyzed: 16:50
Reported on: Monday, December 30, 2013

Instrument ID: HPSV4
Lab File ID: S01434

	IS1		IS2		IS3		IS4		IS5		IS6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
12 Hour STD			720091	4.85	381756	6.36	498829	7.64	406015	9.93	300749	11.46
Upper Limit			1440182	5.35	763512	6.86	997658	8.14	812030	10.4	601498	12
Lower Limit			360046	4.35	190878	5.86	249415	7.14	203008	9.43	150375	11
Lab Sample ID												
EX131216-8MB			719993	4.85	389932	6.36	501347	7.64	424762	9.92	310434	11.45
1312158-1			730673	4.84	396465	6.36	527691	7.64	461656	9.92	334795	11.45

Shaded values exceed established area count limits.

LIMS Version: 6.682

Upper Limit = + 100 percent of internal standard area.

Lower Limit = - 50 percent of internal standard area.

Supporting Raw Data

GCMS Semivolatile Instrument Run Log
ALS Laboratory Group

Sequence Name: C:\msdchem\1\sequence\122013.S
Comment: GC/MS Semivolatiles SOP no. 506 rev:16
Data Path: C:\MSDCHEM\1\DATA\122013\
Operator:JK HPSV4 sn #: CV11451177 Analysis Date: December 20, 2013 JK
IS Amount and ID 40 pl/ml ST130502-1
Logbook Number: 4177

Line	Type	Vial	DataFile	Method	Sample Name	Dil.	RA?	Comment
1	DFTPP	1	S01404	DFTPP	DFTPP	1	NO	ST131007-1 11:15
2	Sample	2	S01405	122013SIM4	ICALSVSTD0500			ST131216-2
3	Sample	3	S01406	122013SIM4	ICALSVSTD0050			ST13 1205-8
4	Sample	4	S01407	122013SIM4	ICALSVSTD0100			ST13 1205-9
5	Sample	5	S01408	122013SIM4	ICALSVSTD0200			ST131205-10
6	Sample	6	S01409	122013SIM4	ICALSVSTD1000			ST13 1205-11
7	Sample	7	S01410	122013SIM4	ICALSVSTD2000			ST 131205-12
8	Sample	8	S01411	122013SIM4	ICALSVSTD5000			ST 131205-13
9	Sample	9	S01412	122013SIM4	ICVSVSTD2000			ST 131205-14
10	Sample	10	S01413	122013SIM4	INSTRUMENT BLANK			OK
11	Sample	11	S01414	122013SIM4	EX131210-1MB			
12	Sample	12	S01415	122013SIM4	EX131210-1LCS			
13	Sample	13	S01416	122013SIM4	EX131210-1LCSD			
14	Sample	14	S01417	122013SIM4	1312088-3			
15	Sample	15	S01418	122013SIM4	1312088-6			S01423
16	Sample	16	S01419	122013SIM4	1312088-9			S01424
17	Sample	17	S01420	122013SIM4	1312088-12			S01425
18	Sample	18	S01421	122013SIM4	1312089-3			
19	Sample	19	S01422	122013SIM4	1312089-13			
20	Sample	20	S01423	122013SIM4	1312088-3 5X	5X		
21	Sample	21	S01424	122013SIM4	1312088-6 5X	5X		Surr ↑ S01417
22	Sample	22	S01425	122013SIM4	1312089-3 5X	5X		Surr ↑ S01418
23	Sample	23	S01426	122013SIM4	INSTRUMENT BLANK	1		Surr ↑ S01419
24	Sample	24	S01427	122013SIM4	EX131212-8MB			OK
25	Sample	25	S01428	122013SIM4	1312134-1 50X	50X		3520 EXTRACT Run for SIM also
26	Sample	26	S01429	122013SIM4	1312134-1 10X	10X		
27	Sample	27	S01430	122013SIM4	1312134-1 3X	3X		
28	Sample	28	S01431	122013SIM4	1312134-1	1		19:11
29	Sample	23	S01432	122013SIM4	INSTRUMENT BLANK			OK

GCMS Semivolatile Instrument Run Log
ALS Laboratory Group

Sequence Name: C:\msdchem\1\sequence\122613.S
Comment: GC/MS Semivolatiles SOP no. 506 rev:16
Data Path: C:\MSDCHEM\1\DATA\122613\
Operator:JK HPSV4 sn #: CV11451177 Analysis Date: December 26, 2013 JK
IS Amount and ID 40 ng/mL ST130502-1
Logbook Number: 4177

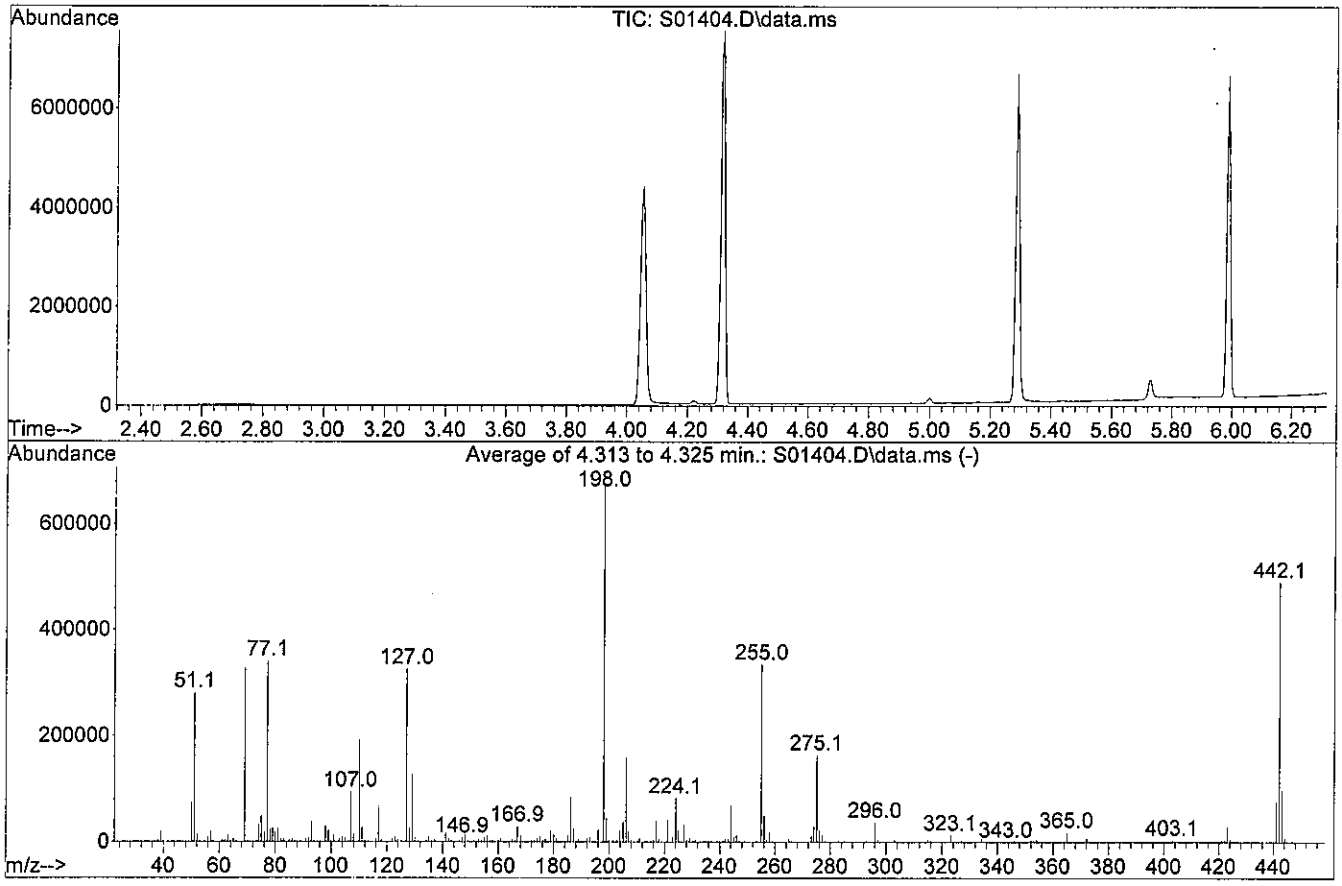
Line	Type	Vial	DataFile	Method	Sample Name	Dil.	RA?	Comment
1	DFTPP	1	S01433	DFTPP	DFTPP	1	NO	ST131007-1 16:35
2	Sample	2	S01434	122013SIM4	CCV			ST131226-10
3	Sample	3	S01435	122013SIM4	INSTRUMENT BLANK			
4	Sample	4	S01436	122013SIM4	EX131216-8MB			
5	Sample	5	S01437	122013SIM4	1312158-1			17:46

Calibration Raw Data

Data Path : C:\MSDCHEM\1\DATA\122013\
Data File : S01404.D
Acq On : 20 Dec 2013 11:15 am
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Integration File: events.e

Method : C:\MSDCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Tue Dec 17 16:48:39 2013



AutoFind: Scans 302, 303, 304; Background Corrected with Scan 296

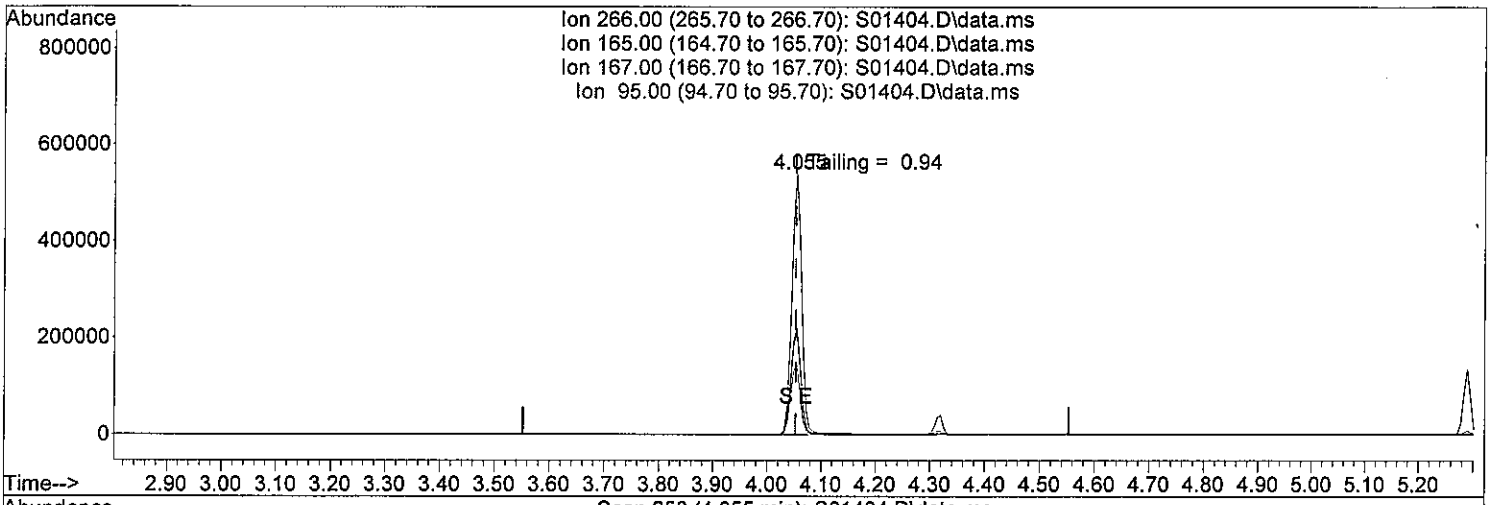
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.7	280780	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	48.5	326814	PASS
70	69	0.00	2	0.5	1587	PASS
127	198	30	60	48.3	325589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	673792	PASS
199	198	5	9	6.7	45041	PASS
275	198	10	30	24.4	164168	PASS
365	198	1	100	2.7	18178	PASS
441	443	0.01	100	77.2	76371	PASS
442	198	39	100	72.7	490112	PASS
443	442	17	23	20.2	98915	PASS

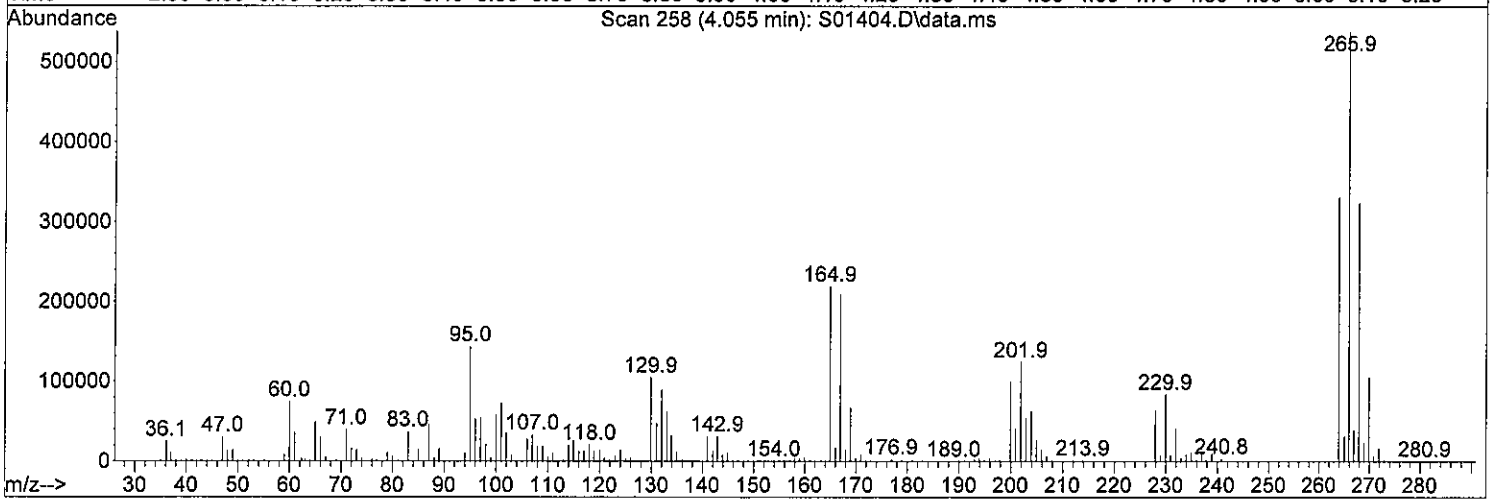
JK 12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01404.D
Acq On : 20 Dec 2013 11:15 am
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 20 11:27:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Tue Dec 17 16:48:39 2013
Response via : Continuing Cal File: C:\msdchem\1\data\121713B\S01370.D





TIC: S01404.D\data.ms

(1) Pentachlorophenol (t)

4.056min (+ 0.003) 28.91 ng/ul

response 6731110

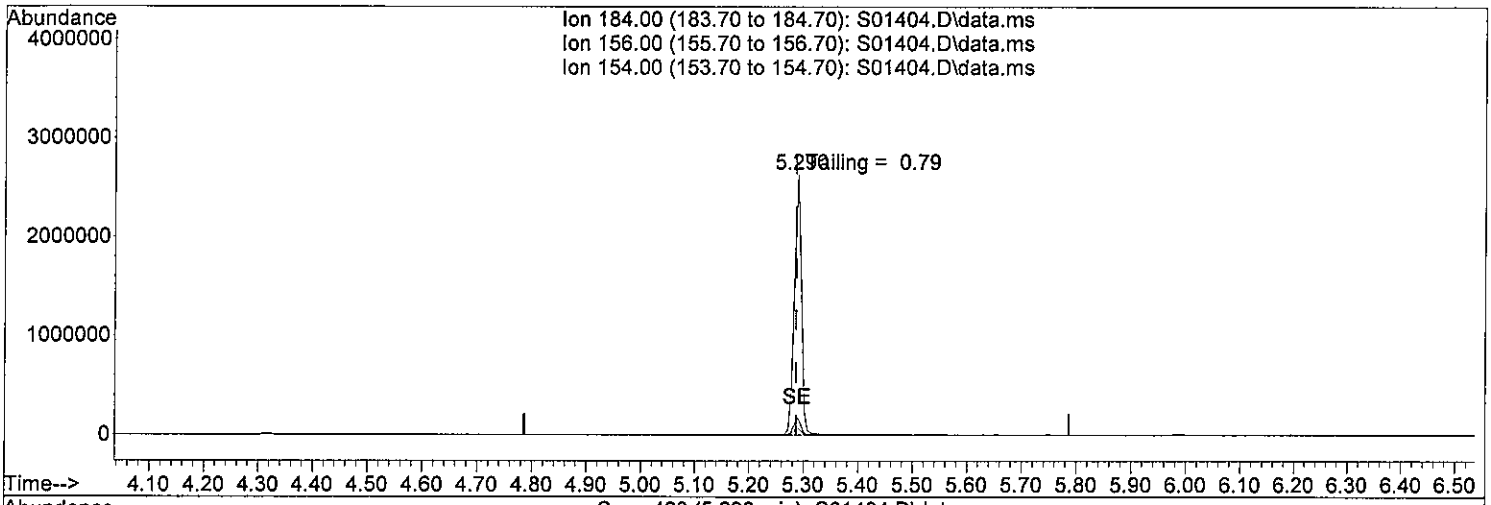
Ion	Exp%	Act%
266.00	100.00	100.00
165.00	0.00	41.66#
167.00	0.00	39.48#
95.00	0.00	26.90#

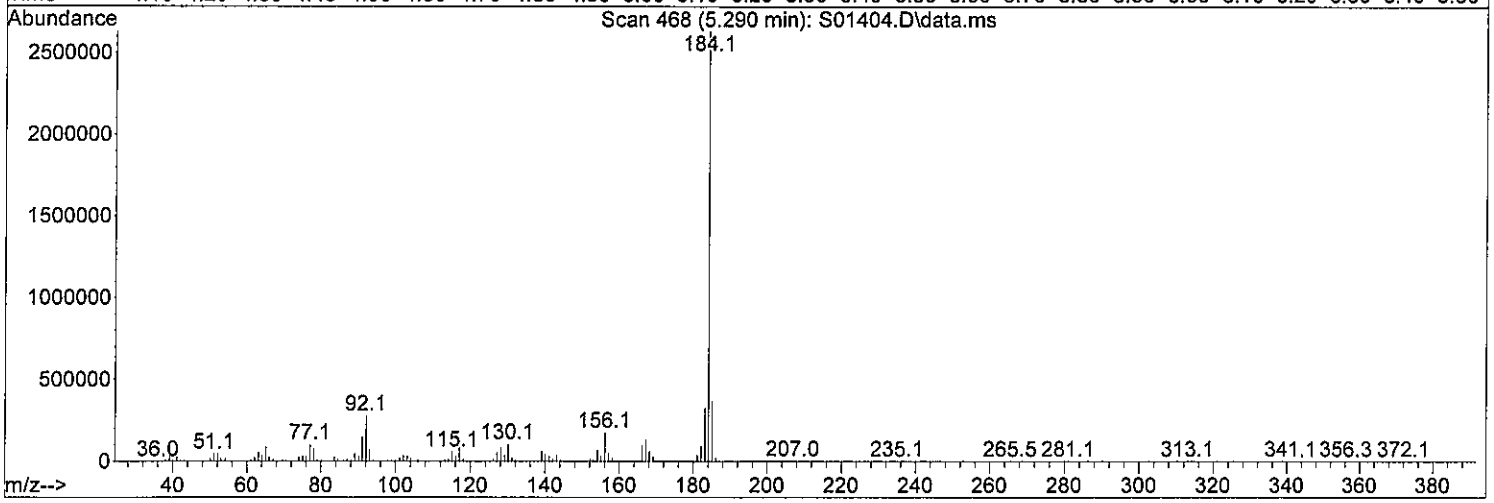
SH
12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01404.D
Acq On : 20 Dec 2013 11:15 am
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 20 11:27:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Tue Dec 17 16:48:39 2013
Response via : Continuing Cal File: C:\msdchem\1\data\121713B\S01370.D





TIC: S01404.D\data.ms

(3) Benzidine (t)

5.292min (+ 0.005) 52.43 ng/ul

response 23517033

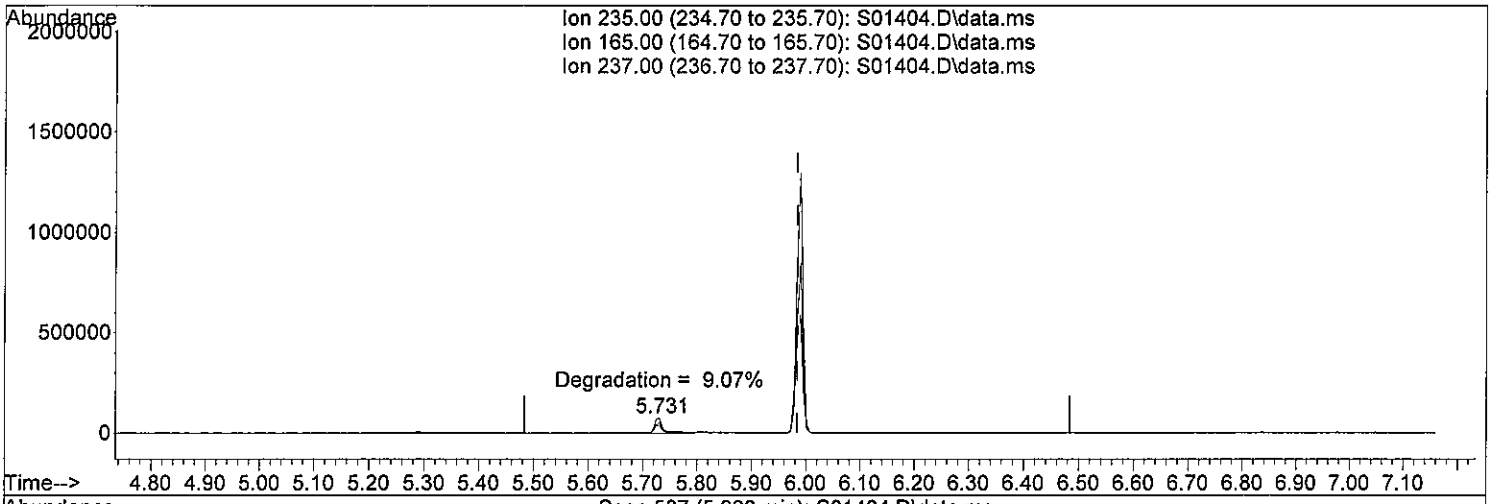
Ion	Exp%	Act%
184.00	100.00	100.00
156.00	0.00	6.62#
154.00	0.00	2.58#
0.00	0.00	0.00

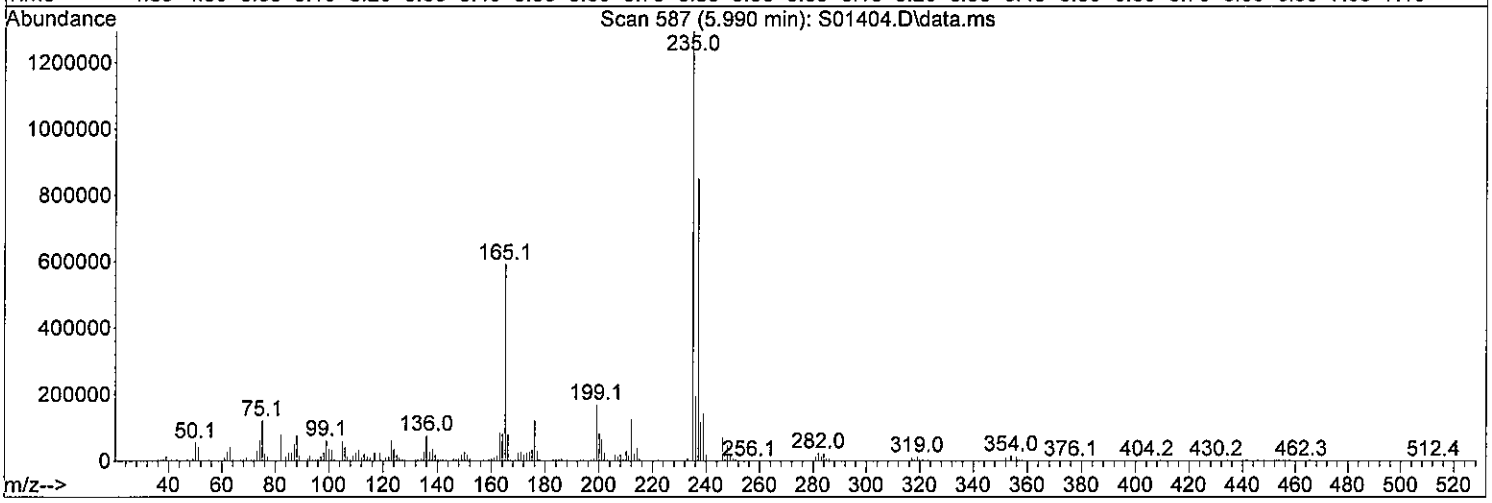
JK 12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01404.D
Acq On : 20 Dec 2013 11:15 am
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 20 11:27:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Tue Dec 17 16:48:39 2013
Response via : Continuing Cal File: C:\msdchem\1\data\121713B\S01370.D





TIC: S01404.D\data.ms

(4) DDT (t)

5.991min (+ 0.006) 39.24 ng/ul

response 10166028

Ion	Exp%	Act%
235.00	100.00	100.00
165.00	0.00	48.50#
237.00	0.00	64.79#
0.00	0.00	0.00

JK 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01405.D
Acq On : 20 Dec 2013 11:26 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0500
Misc : ST131216-2 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 20 11:54:42 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:54:04 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.847	136	950663	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	492175	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	725751	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.933	240	765506	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.472	264	614056	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.206	82	42619	500.00	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	25.00%#		
7) 2-Fluorobiphenyl	5.754	172	70704	500.00	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	25.00%		
18) p-Terphenyl-d14	8.968	244	71114	500.00	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	25.00%#		
Target Compounds						Qvalue
3) Naphthalene	4.864	128	109925	500.00	ng/ml	100
4) 2-Methylnaphthalene	5.459	142	67306	500.00	ng/ml	100
5) 1-Methylnaphthalene	5.547	142	64157	500.00	ng/ml	100
8) Acenaphthylene	6.247	152	101625	500.00	ng/ml#	100
9) Acenaphthene	6.392	154	59130m	491.21	ng/ml	
10) Fluorene	6.838	166	65890	500.00	ng/ml	100
12) Hexachlorobenzene	7.319	284	15680	500.00	ng/ml	100
13) Phenanthrene	7.662	178	88606	500.00	ng/ml	100
14) Anthracene	7.708	178	84727	500.00	ng/ml	100
15) Fluoranthene	8.691	202	96931	500.00	ng/ml#	100
17) Pyrene	8.902	202	100897	500.00	ng/ml#	100
19) Benzo[a]anthracene	9.921	228	90326	500.00	ng/ml	100
20) Chrysene	9.955	228	82054	500.00	ng/ml	100
22) Benzo[b]fluoranthene	11.007	252	85345	500.00	ng/ml	100
23) Benzo[k]fluoranthene	11.034	252	85469	500.00	ng/ml	100
24) Benzo[a]pyrene	11.407	252	76778	500.00	ng/ml	100
25) Indeno(1,2,3-c,d)pyrene	13.020	276	81371	500.00	ng/ml	100
26) Dibenzo[a,h]anthracene	13.005	278	67289	500.00	ng/ml	100
27) Benzo[g,h,i]perylene	13.502	276	69486	500.00	ng/ml	100

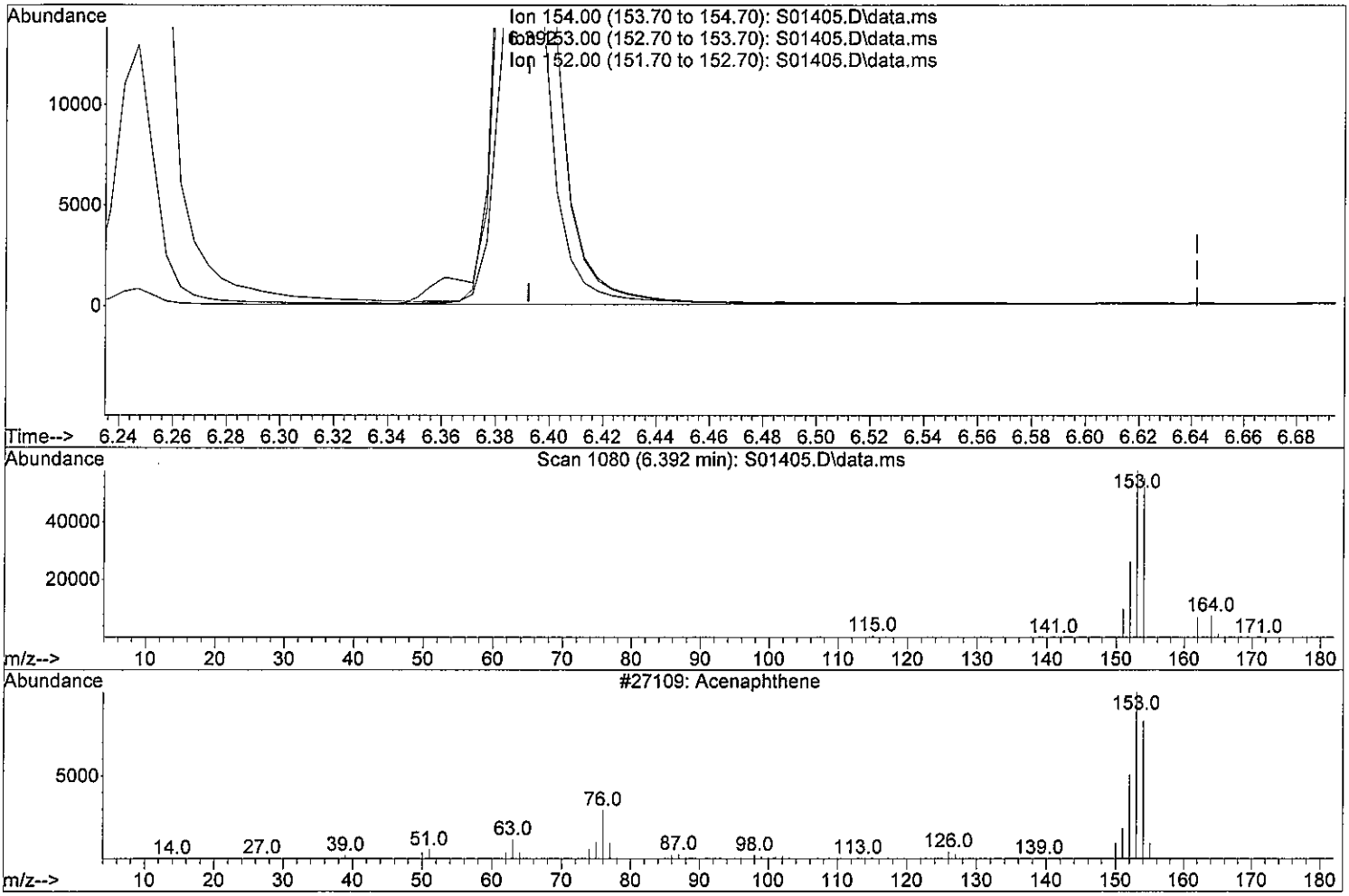
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JK 12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01405.D
Acq On : 20 Dec 2013 11:26 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0500
Misc : ST131216-2 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 20 11:54:09 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:54:04 2013
Response via : Initial Calibration



TIC: S01405.D\data.ms

(9) Acenaphthene (tm)

6.392min (0.000) 500.00 ng/ml

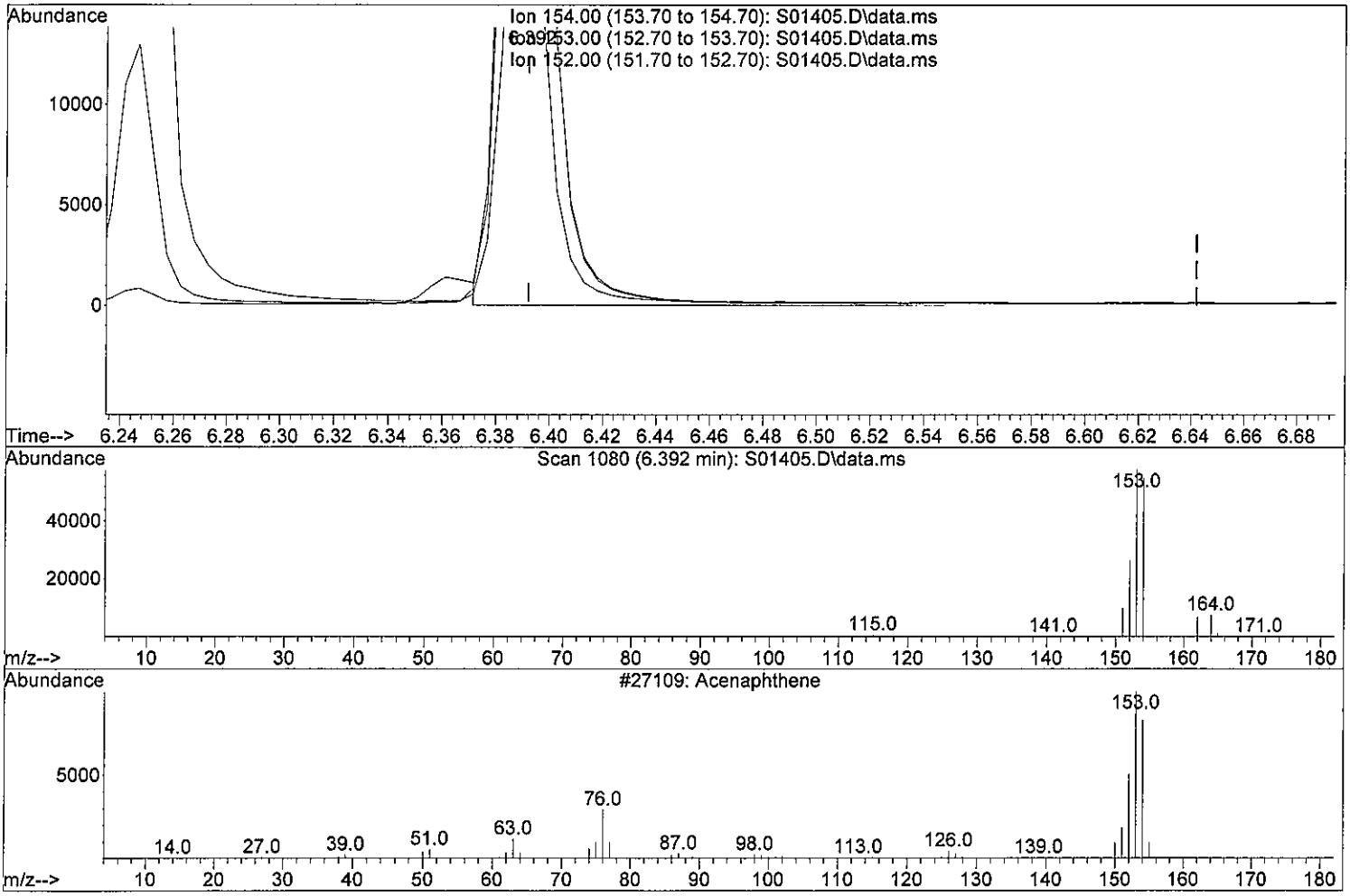
response 60188

Ion	Exp%	Act%
154.00	100.00	100.00
153.00	104.20	104.22
152.00	48.50	48.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01405.D
Acq On : 20 Dec 2013 11:26 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0500
Misc : ST131216-2 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 20 11:54:09 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:54:04 2013
Response via : Initial Calibration



TIC: S01405.D\data.ms

(9) Acenaphthene (tm)

6.392min (0.000) 491.21 ng/ml m

response 59130

Ion	Exp%	Act%
154.00	100.00	100.00
153.00	104.20	106.08
152.00	48.50	49.37
0.00	0.00	0.00

MANUAL RE-INTEGRATION

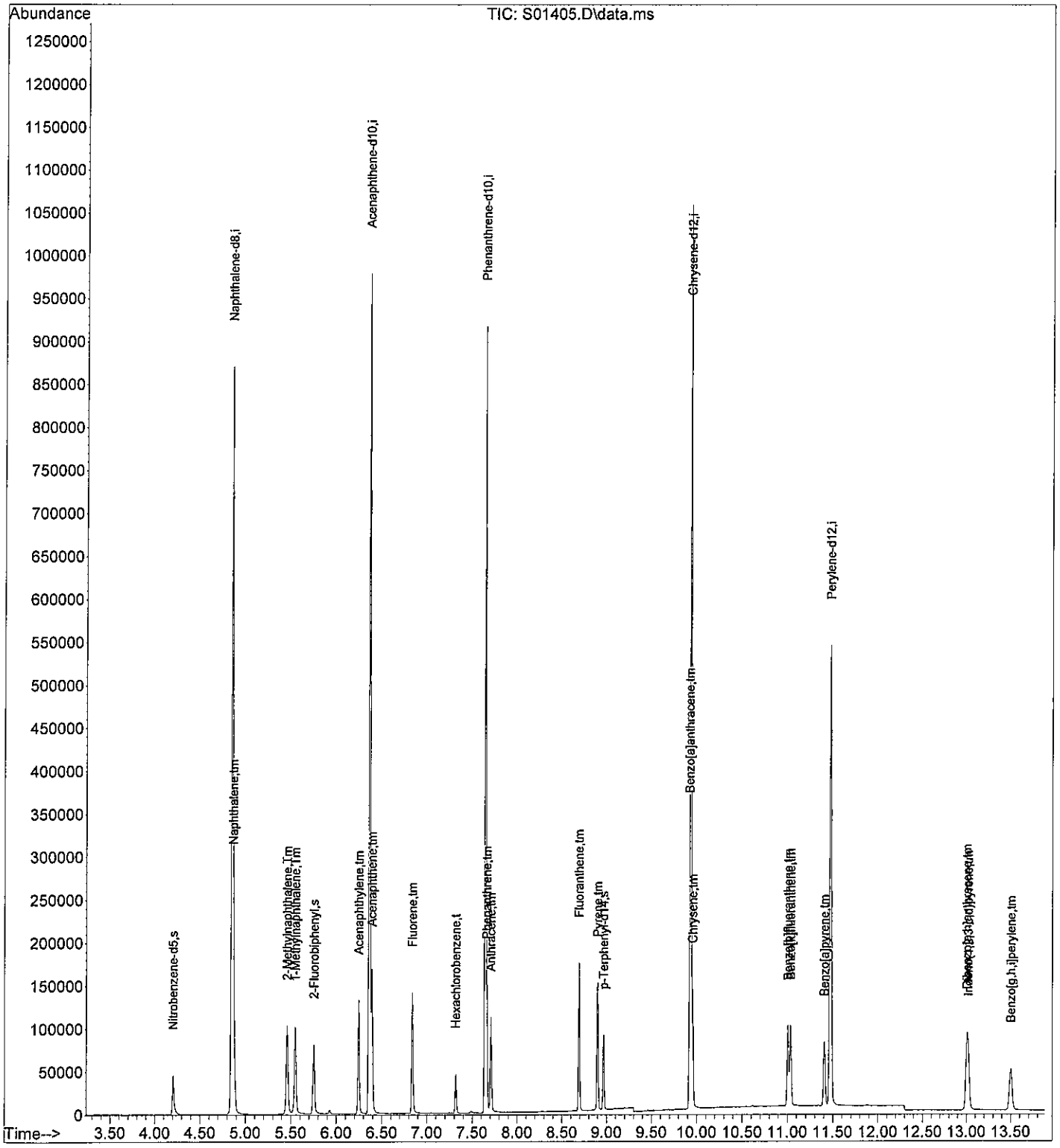
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JL *date* 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01405.D
Acq On : 20 Dec 2013 11:26 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0500
Misc : ST131216-2 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 20 11:54:42 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:54:04 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 12:00:51 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration

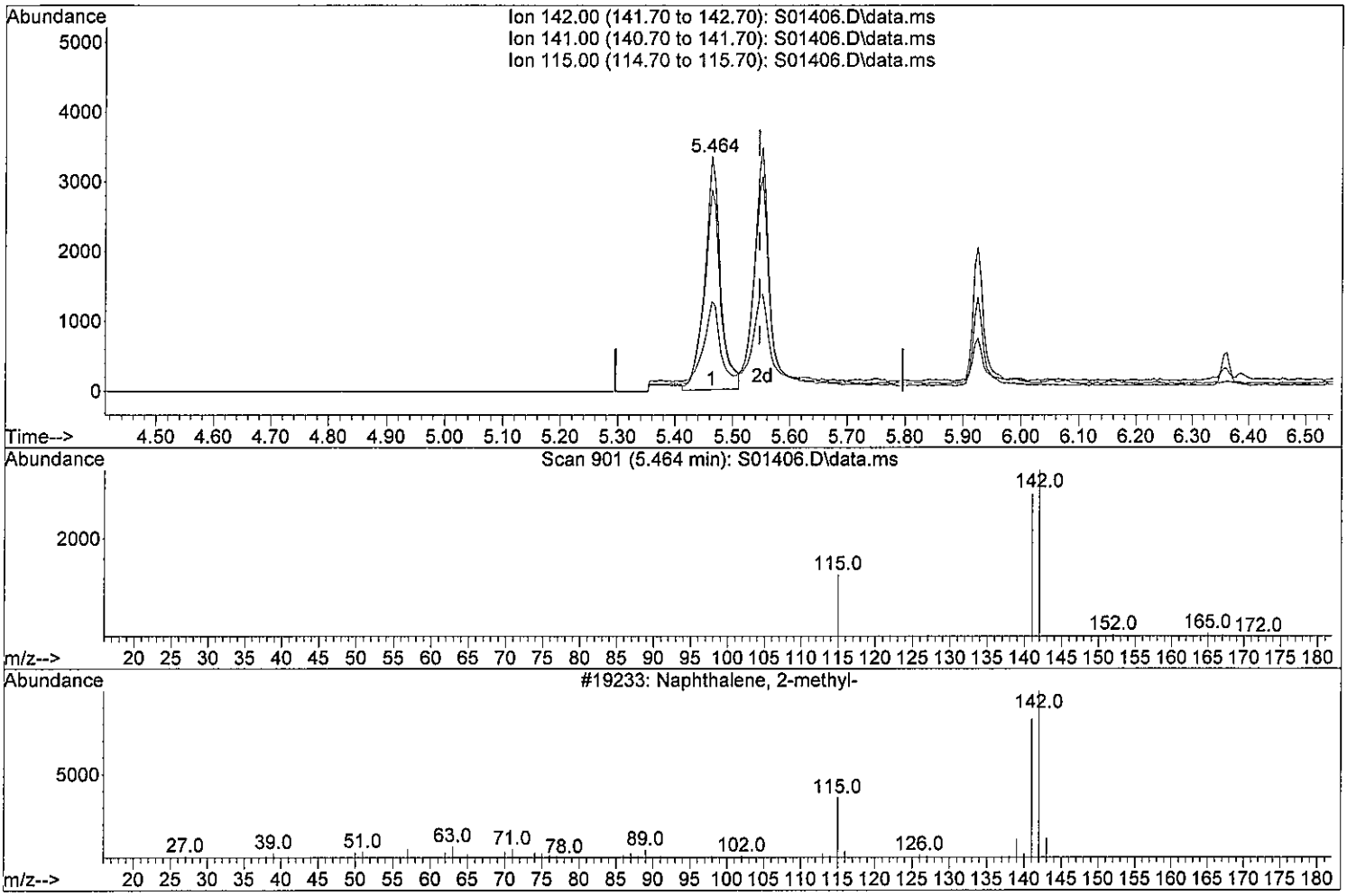
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	948050	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	509544	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	729782	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.929	240	758910	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	610256	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.205	82	4242	49.95	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	2.50%#		
7) 2-Fluorobiphenyl	5.754	172	6624	47.50	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	2.38%#		
18) p-Terphenyl-d14	8.967	244	7414	51.26	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	2.56%#		
Target Compounds						Qvalue
3) Naphthalene	4.863	128	11583	51.38	ng/ml	96
4) 2-Methylnaphthalene	5.464	142	6331	48.54	ng/ml#	95
5) 1-Methylnaphthalene	5.552	142	6088m	47.61	ng/ml	
8) Acenaphthylene	6.242	152	10979	51.06	ng/ml#	99
9) Acenaphthene	6.387	154	6602	51.44	ng/ml	97
10) Fluorene	6.838	166	7058	50.85	ng/ml	97
12) Hexachlorobenzene	7.319	284	1692m	47.61	ng/ml	
13) Phenanthrene	7.662	178	10483m	57.85	ng/ml	
14) Anthracene	7.708	178	9211	51.95	ng/ml	97
15) Fluoranthene	8.690	202	10900m	51.79	ng/ml	
17) Pyrene	8.895	202	12065	54.67	ng/ml#	94
19) Benzo[a]anthracene	9.917	228	11270	55.72	ng/ml	97
20) Chrysene	9.951	228	9450	53.74	ng/ml	98
22) Benzo[b]fluoranthene	10.999	252	9111	51.79	ng/ml	95
23) Benzo[k]fluoranthene	11.026	252	9260	52.16	ng/ml#	97
24) Benzo[a]pyrene	11.399	252	8183	51.75	ng/ml#	95
25) Indeno(1,2,3-c,d)pyrene	13.009	276	8012	49.77	ng/ml	100
26) Dibenzo[a,h]anthracene	12.997	278	6535	49.42	ng/ml	97
27) Benzo[g,h,i]perylene	13.493	276	6996	50.33	ng/ml	94

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(5) 1-Methylnaphthalene (Tm)

5.464min (-0.083) 49.97 ng/ml

response 6390

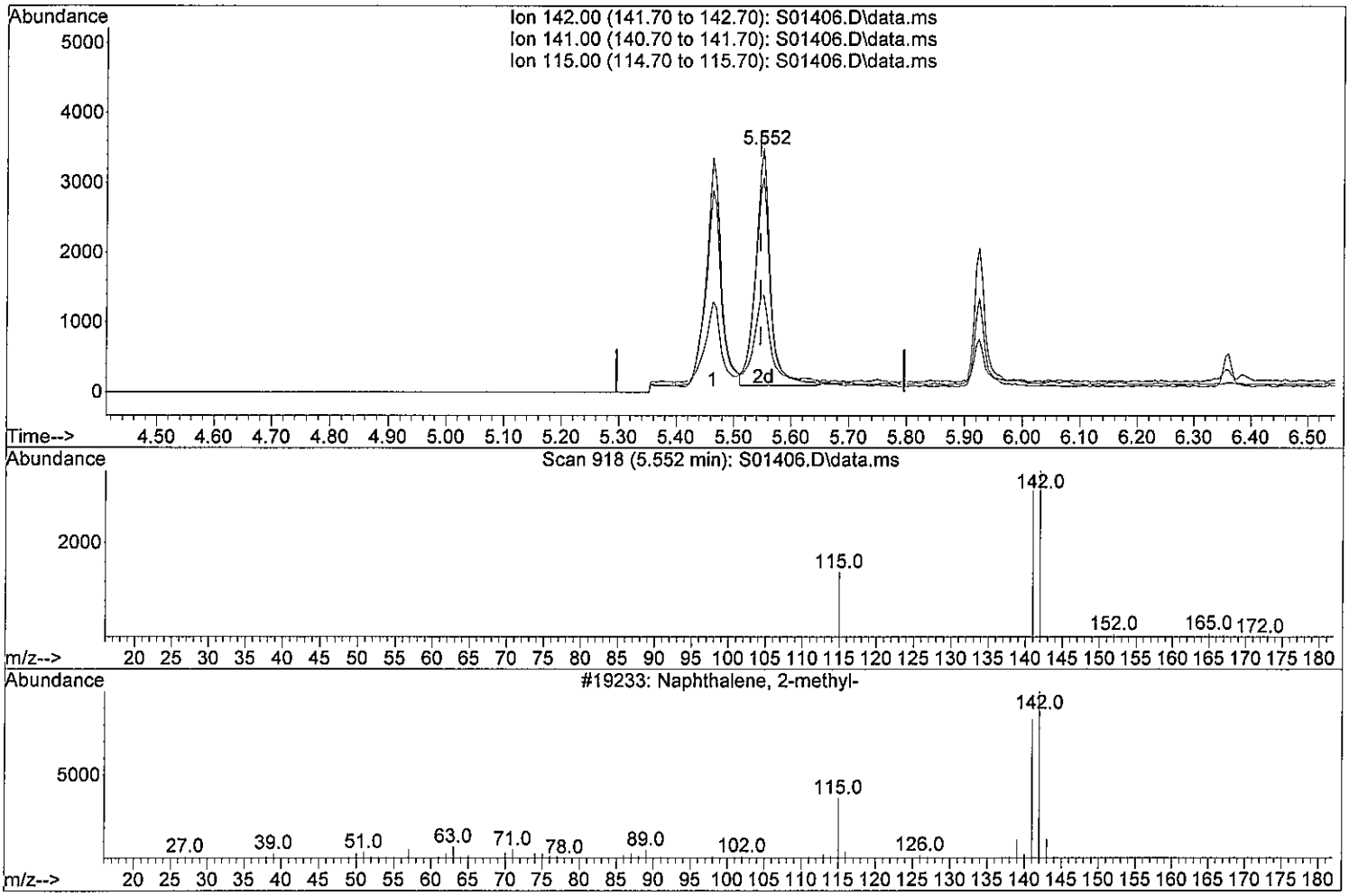
Ion	Exp%	Act%
142.00	100.00	100.00
141.00	88.50	87.95
115.00	36.70	42.21
0.00	0.00	0.00

Before

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(5) 1-Methylnaphthalene (Tm)

5.552min (+ 0.005) 47.61 ng/ml m

response 6088

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	88.50	92.31
115.00	36.70	44.30#
0.00	0.00	0.00

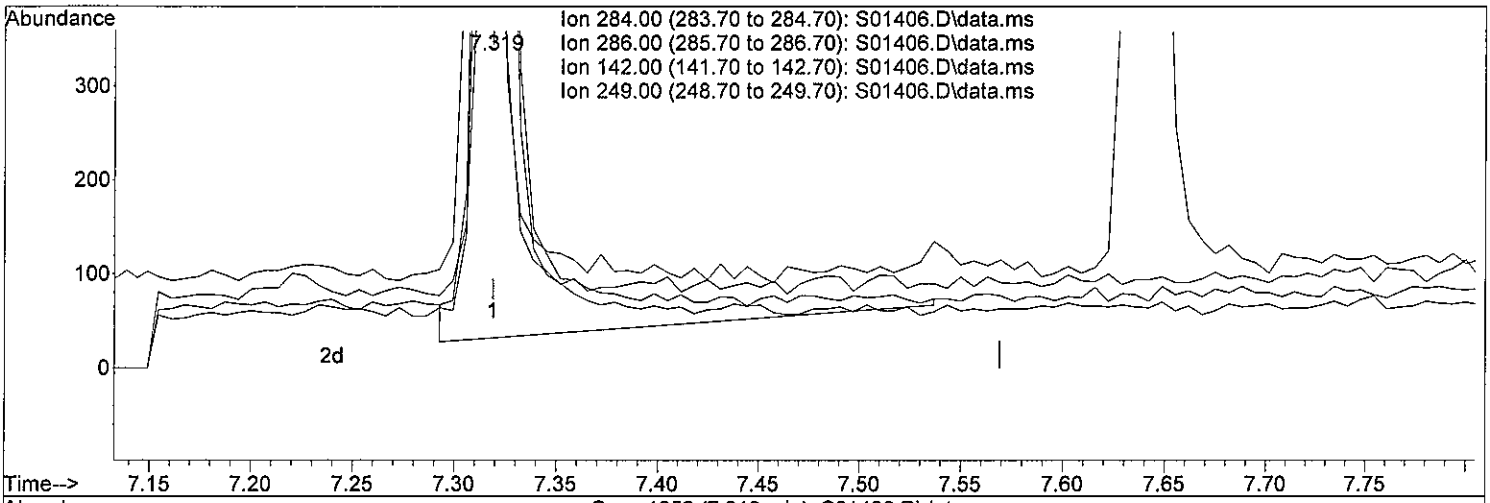
MANUAL RE-INTEGRATION

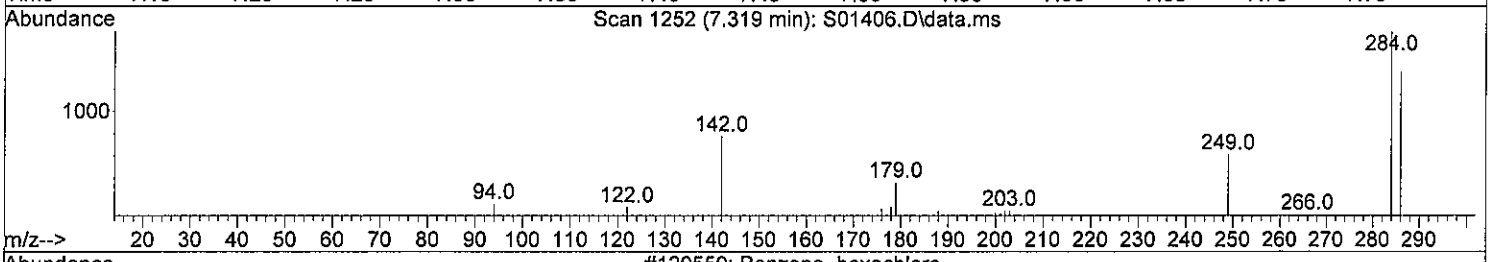
- ☑ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

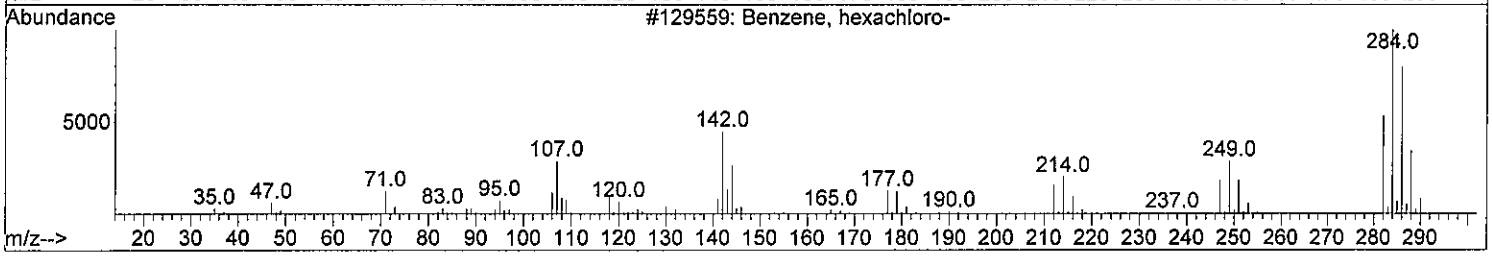
initials JK *date* 12-23-13

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration







TIC: S01406.D\data.ms

(12) Hexachlorobenzene (t)

7.319min (-0.000) 55.63 ng/ml

response 1977

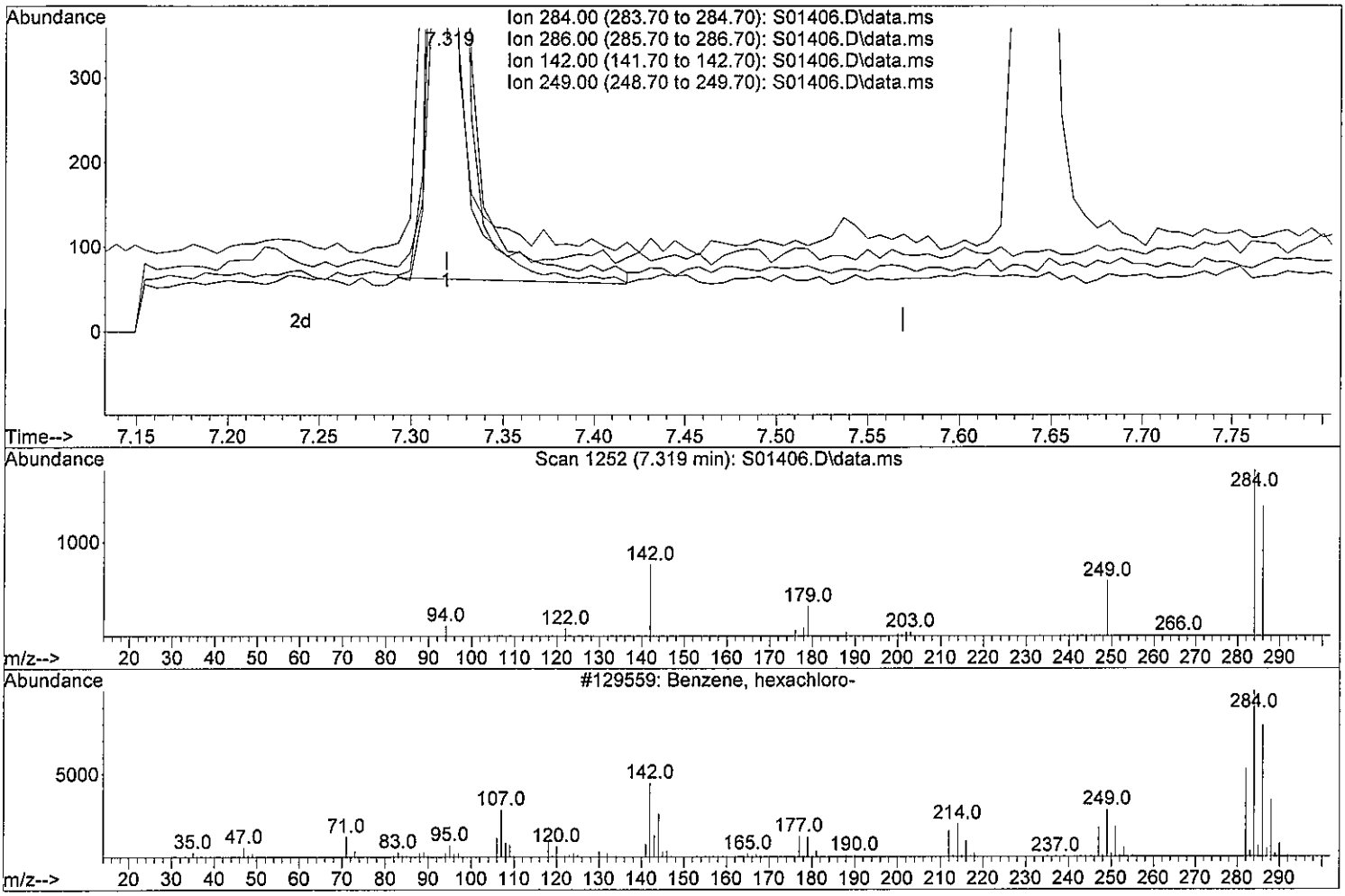
Ion	Exp%	Act%
284.00	100.00	100.00
286.00	77.00	81.28
142.00	58.50	51.69
249.00	36.60	52.71#

3 for

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(12) Hexachlorobenzene (t)

7.319min (-0.000) 47.61 ng/ml m

response 1692

Ion	Exp%	Act%
284.00	100.00	100.00
286.00	77.00	94.98#
142.00	58.50	60.40
249.00	36.60	61.58#

MANUAL RE-INTEGRATION

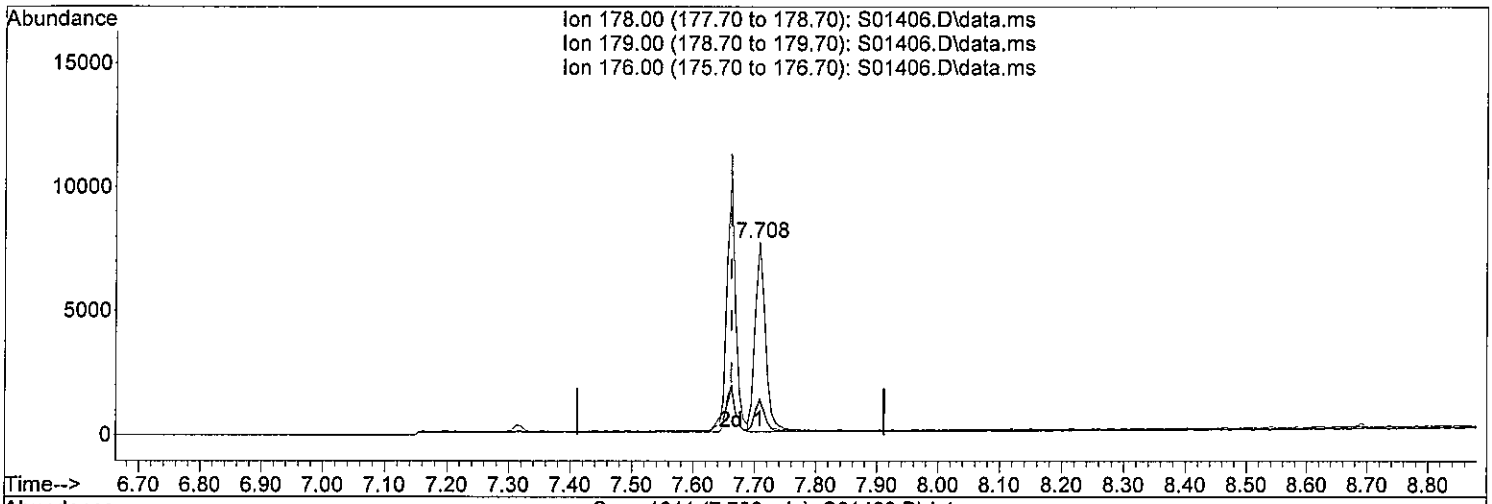
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

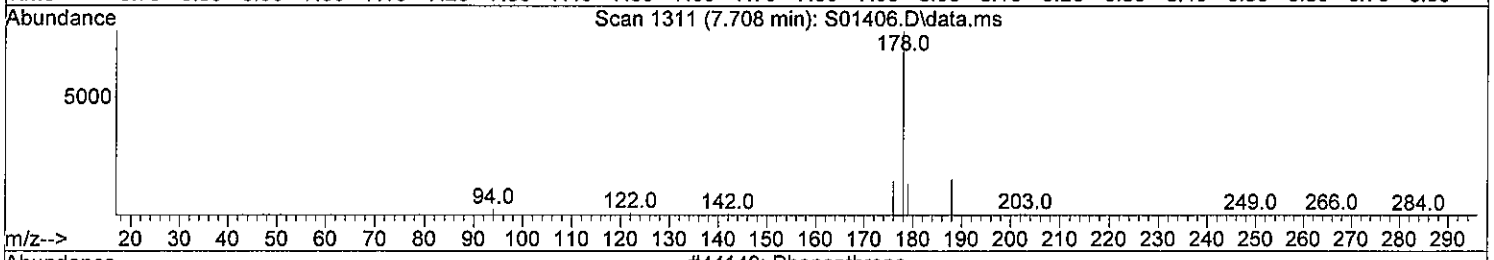
initials JH *date* 1-23-14

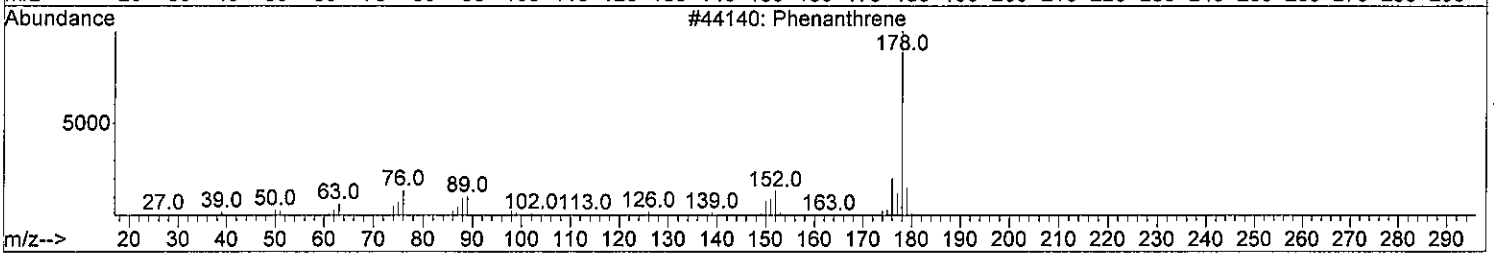
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration







TIC: S01406.D\data.ms

(13) Phenanthrene (tm)

7.708min (+ 0.046) 50.83 ng/ml

response 9211

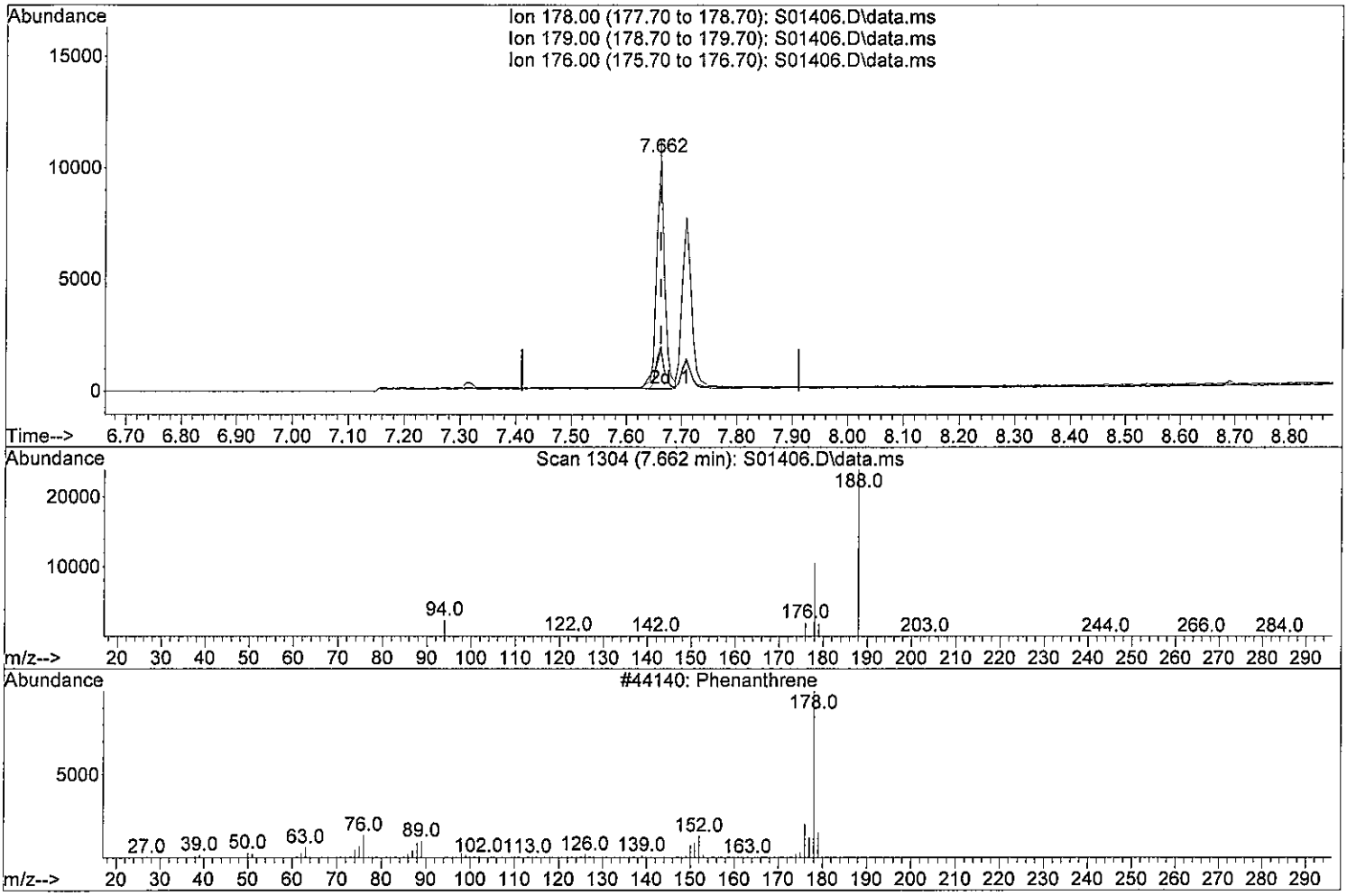
Ion	Exp%	Act%
178.00	100.00	100.00
179.00	15.80	17.36
176.00	18.20	17.60
0.00	0.00	0.00

Before

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(13) Phenanthrene (tm)

7.662min (-0.000) 57.85 ng/ml m

response 10483

Ion	Exp%	Act%
178.00	100.00	100.00
179.00	15.80	15.25
176.00	18.20	15.46
0.00	0.00	0.00

MANUAL RE-INTEGRATION

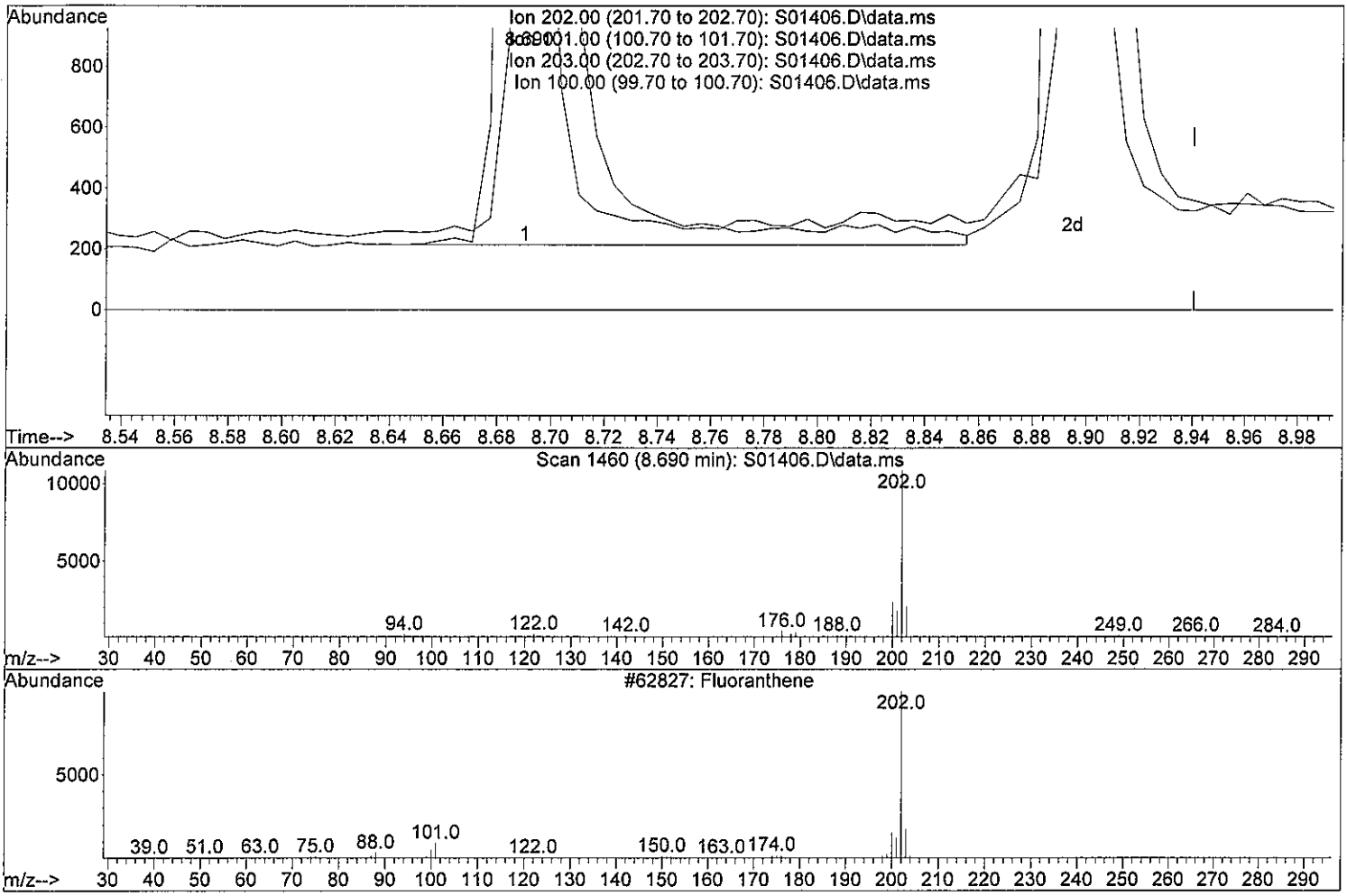
- ☑ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JH *date* 12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(15) Fluoranthene (tm)

8.690min (-0.000) 53.69 ng/ml

response 11298

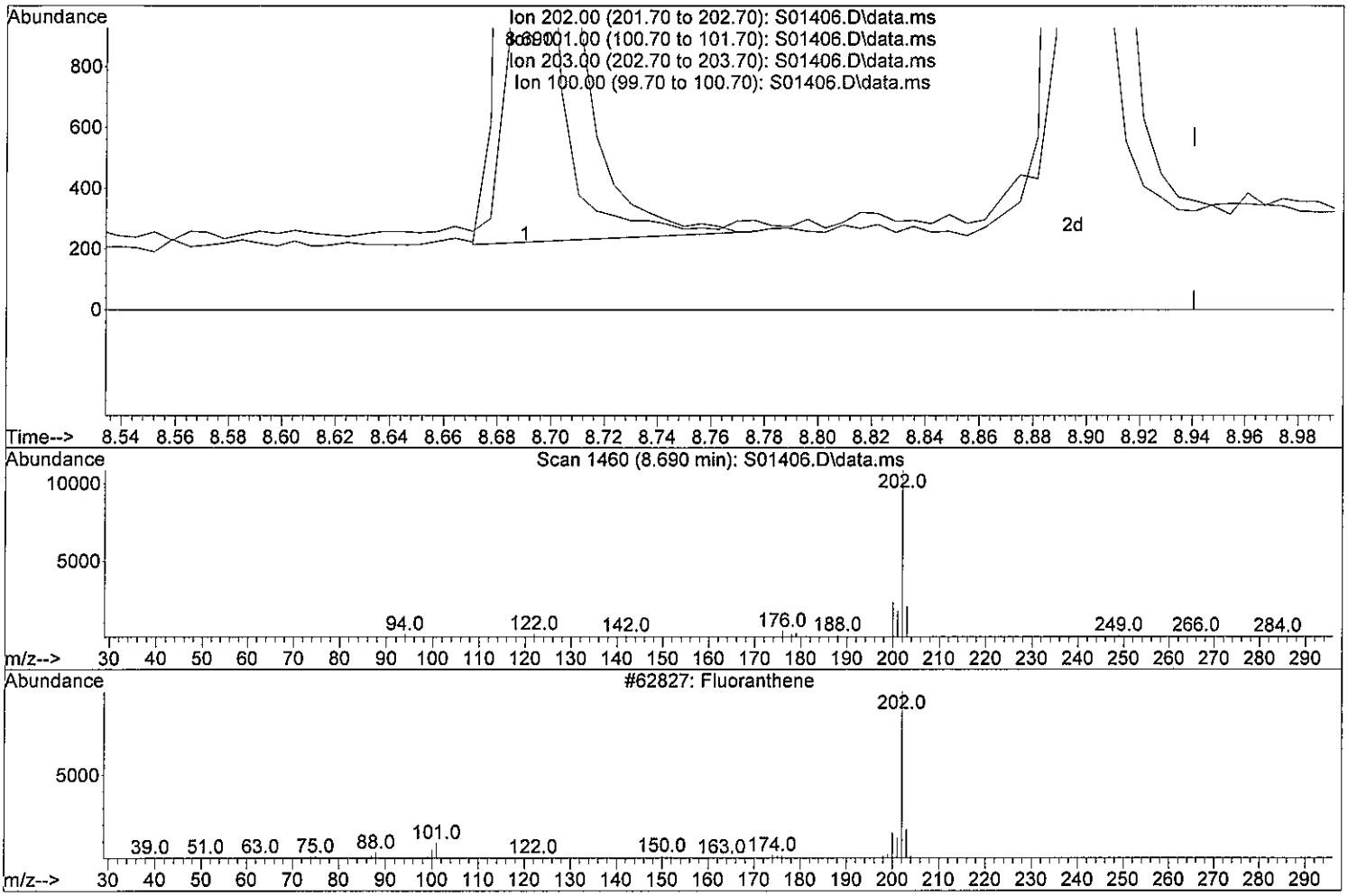
Ion	Exp%	Act%
202.00	100.00	100.00
101.00	0.00	0.00
203.00	17.40	18.25
100.00	0.00	0.00

3 of 5

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 11:59:11 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



TIC: S01406.D\data.ms

(15) Fluoranthene (tm)

8.690min (-0.000) 51.79 ng/ml m

response 10900

Ion	Exp%	Act%
202.00	100.00	100.00
101.00	0.00	0.00
203.00	17.40	18.92
100.00	0.00	0.00

MANUAL RE-INTEGRATION

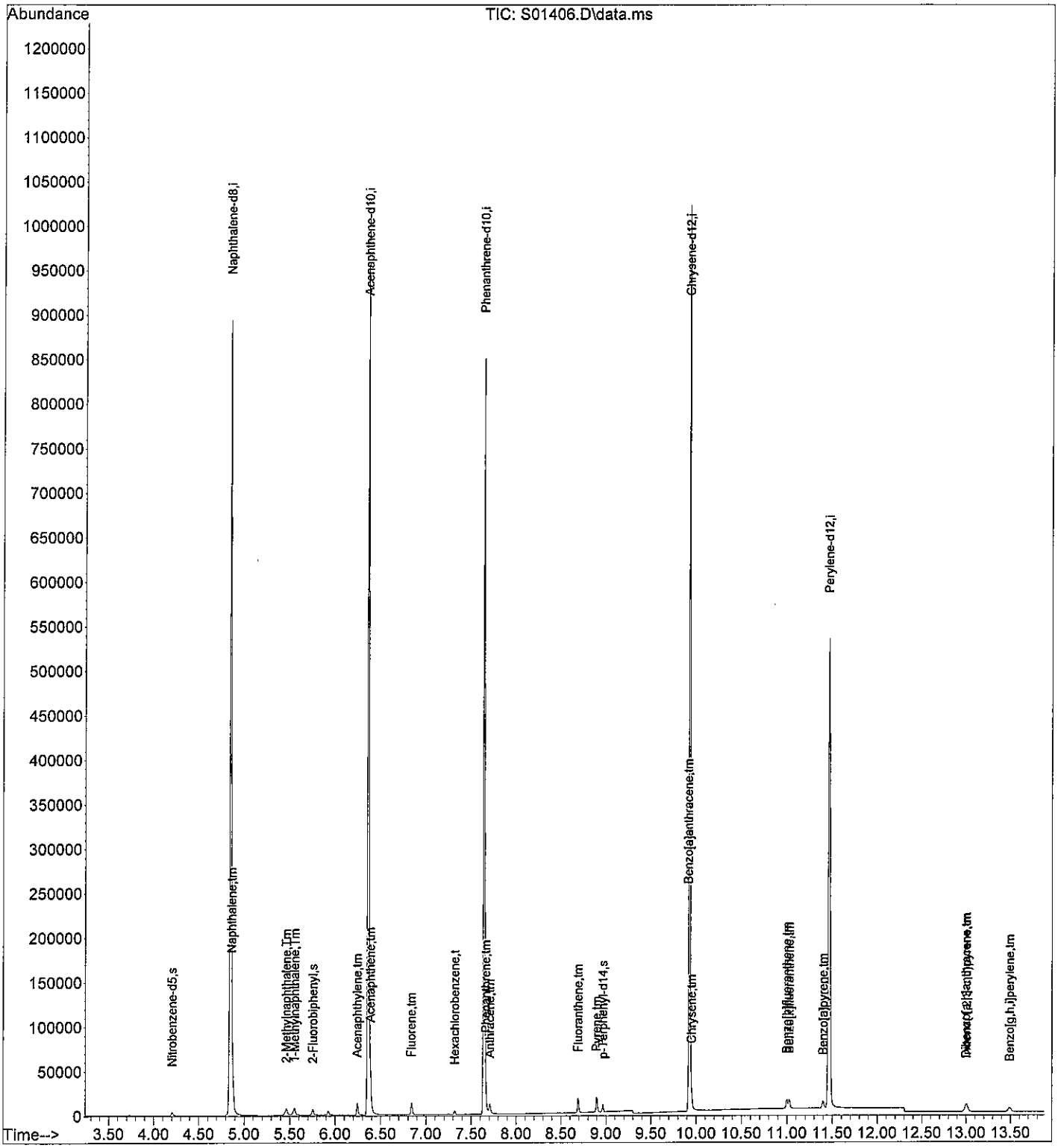
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JH *date* 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01406.D
Acq On : 20 Dec 2013 11:44 am
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0050
Misc : ST131205-8
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 20 12:00:51 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 11:59:02 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01407.D
Acq On : 20 Dec 2013 12:02 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0100
Misc : ST131205-9
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 20 12:37:39 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:37:31 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.846	136	951170	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	509508	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	746206	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.929	240	790688	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	652272	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.205	82	8234	97.74	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	4.89%#		
7) 2-Fluorobiphenyl	5.754	172	13502	97.87	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	4.89%#		
18) p-Terphenyl-d14	8.967	244	14945	99.45	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	4.97%#		
Target Compounds						Qvalue
3) Naphthalene	4.863	128	22801	100.53	ng/ml	99
4) 2-Methylnaphthalene	5.464	142	12646	97.73	ng/ml	98
5) 1-Methylnaphthalene	5.552	142	12585	100.31	ng/ml	95
8) Acenaphthylene	6.247	152	21367	99.59	ng/ml#	100
9) Acenaphthene	6.387	154	12666	99.13	ng/ml	98
10) Fluorene	6.838	166	13537	98.35	ng/ml	99
12) Hexachlorobenzene	7.319	284	3526	103.60	ng/ml#	93
13) Phenanthrene	7.662	178	19427	98.64	ng/ml	98
14) Anthracene	7.708	178	17752	98.60	ng/ml	99
15) Fluoranthene	8.690	202	21006	99.67	ng/ml#	98
17) Pyrene	8.895	202	22527	98.64	ng/ml#	99
19) Benzo[a]anthracene	9.917	228	21028	99.86	ng/ml	99
20) Chrysene	9.951	228	18038	98.96	ng/ml	99
22) Benzo[b]fluoranthene	10.995	252	18734	99.75	ng/ml	99
23) Benzo[k]fluoranthene	11.026	252	18515	98.37	ng/ml	100
24) Benzo[a]pyrene	11.399	252	16612	98.85	ng/ml	98
25) Indeno(1,2,3-c,d)pyrene	13.004	276	17046	99.37	ng/ml	98
26) Dibenzo[a,h]anthracene	12.992	278	13938	99.08	ng/ml	100
27) Benzo[g,h,i]perylene	13.488	276	14625	98.95	ng/ml	98

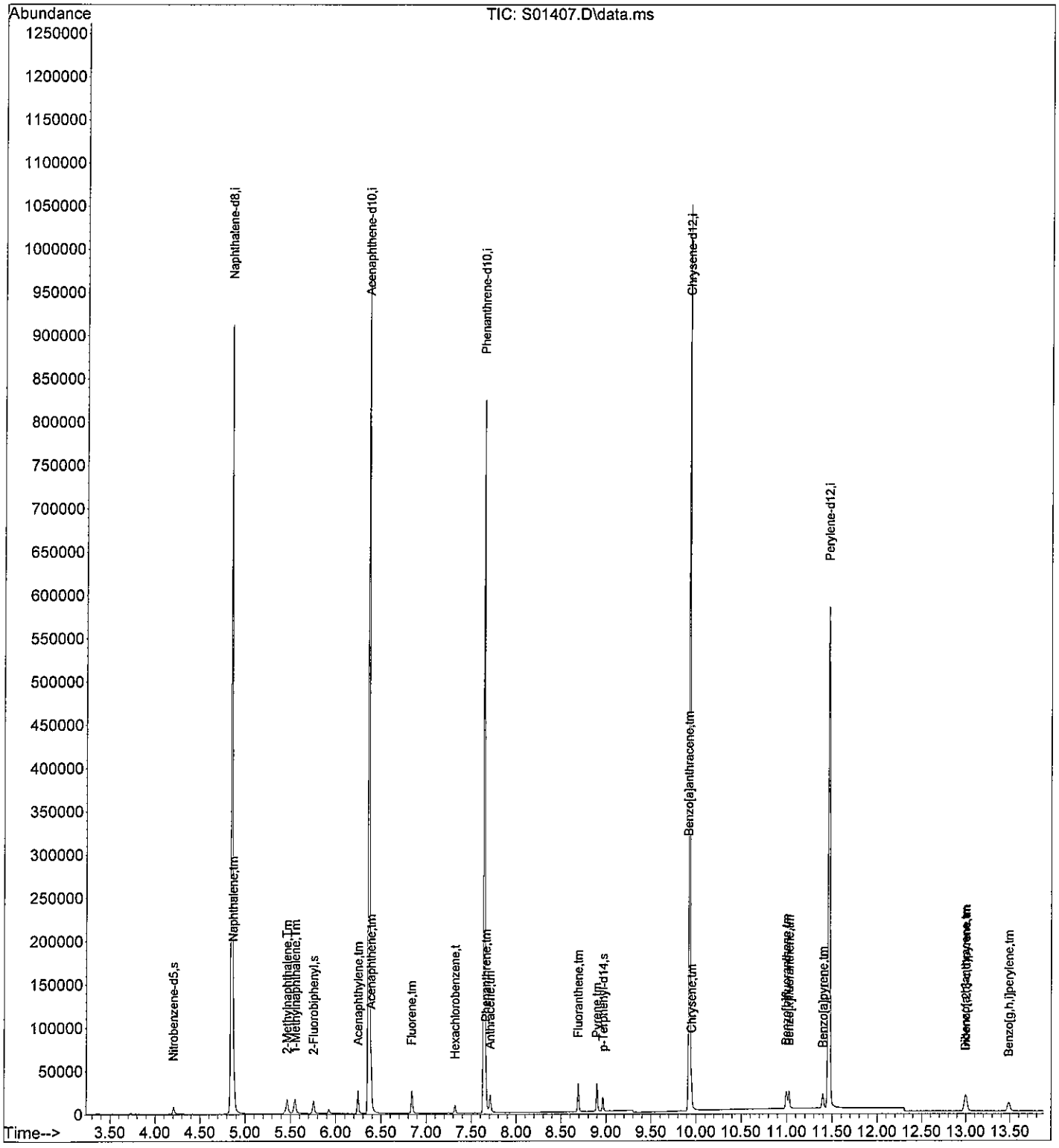
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JK 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01407.D
Acq On : 20 Dec 2013 12:02 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0100
Misc : ST131205-9
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 20 12:37:39 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:37:31 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:40 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration

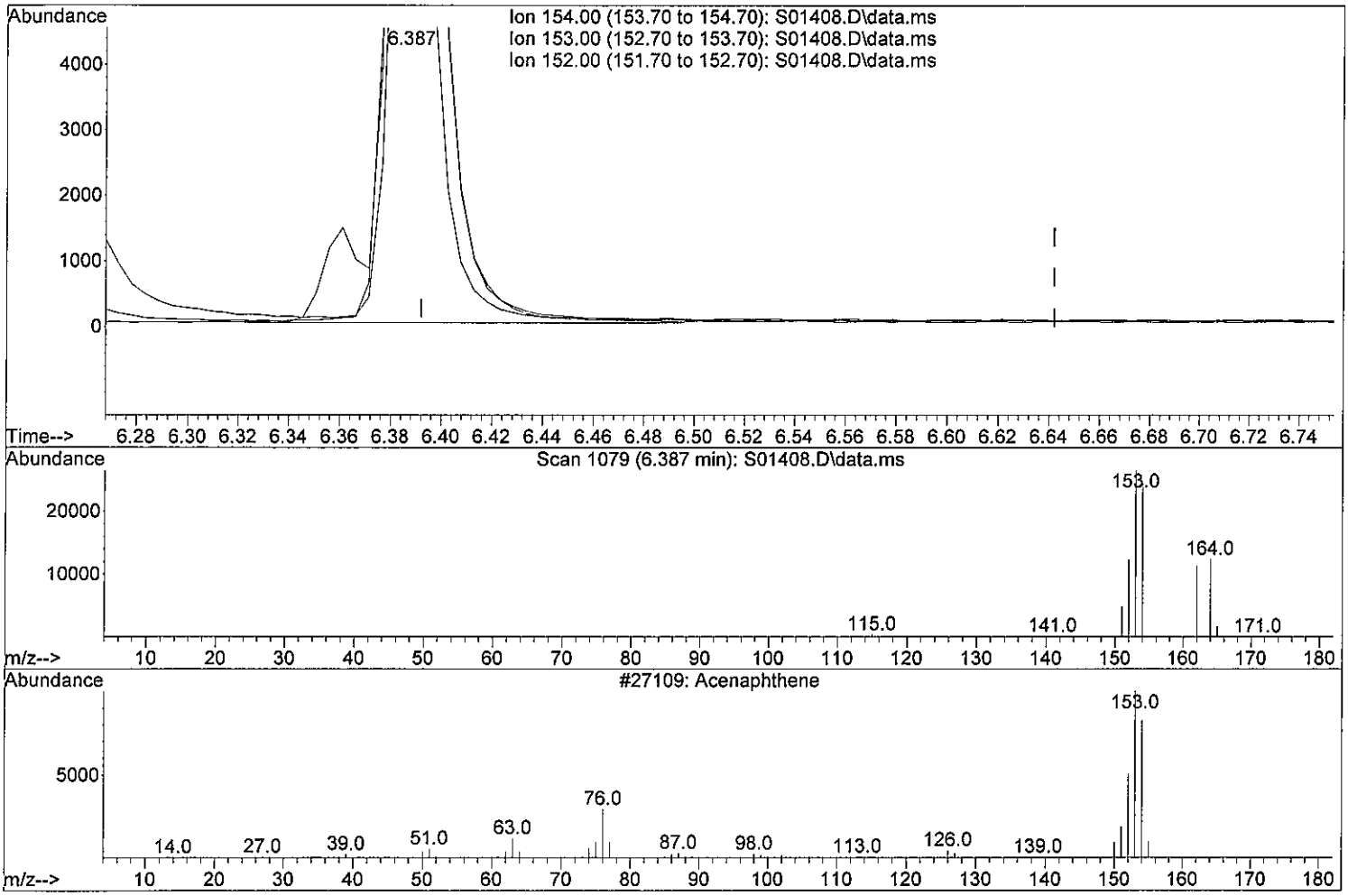
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.847	136	917824	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	493658	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	710010	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.929	240	687044	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	546344	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.206	82	15708	194.88	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	9.74%#		
7) 2-Fluorobiphenyl	5.754	172	25514	193.08	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	9.65%#		
18) p-Terphenyl-d14	8.968	244	25157	194.44	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	9.72%#		
Target Compounds						Qvalue
3) Naphthalene	4.863	128	47082	211.14	ng/ml#	92
4) 2-Methylnaphthalene	5.464	142	27329	213.83	ng/ml	98
5) 1-Methylnaphthalene	5.547	142	26454	213.57	ng/ml	99
8) Acenaphthylene	6.242	152	44053	208.81	ng/ml#	100
9) Acenaphthene	6.387	154	25807m	203.33	ng/ml	
10) Fluorene	6.838	166	27822	206.39	ng/ml	98
12) Hexachlorobenzene	7.319	284	6589m	200.33	ng/ml	
13) Phenanthrene	7.662	178	38594	204.43	ng/ml	99
14) Anthracene	7.708	178	36347	209.00	ng/ml	100
15) Fluoranthene	8.691	202	40077	199.88	ng/ml#	99
17) Pyrene	8.902	202	42006	208.64	ng/ml#	100
19) Benzo[a]anthracene	9.917	228	36248	198.58	ng/ml	100
20) Chrysene	9.952	228	32546	204.10	ng/ml	98
22) Benzo[b]fluoranthene	10.996	252	32710	205.89	ng/ml	100
23) Benzo[k]fluoranthene	11.026	252	32378	204.00	ng/ml	99
24) Benzo[a]pyrene	11.399	252	28818	203.53	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	13.005	276	27798	195.07	ng/ml	99
26) Dibenzo[a,h]anthracene	12.993	278	22131	190.72	ng/ml	100
27) Benzo[g,h,i]perylene	13.490	276	24453	198.13	ng/ml	99

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

JK 12-23-13

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:08 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration



TIC: S01408.D\data.ms

(9) Acenaphthene (tm)

6.387min (-0.005) 214.78 ng/ml

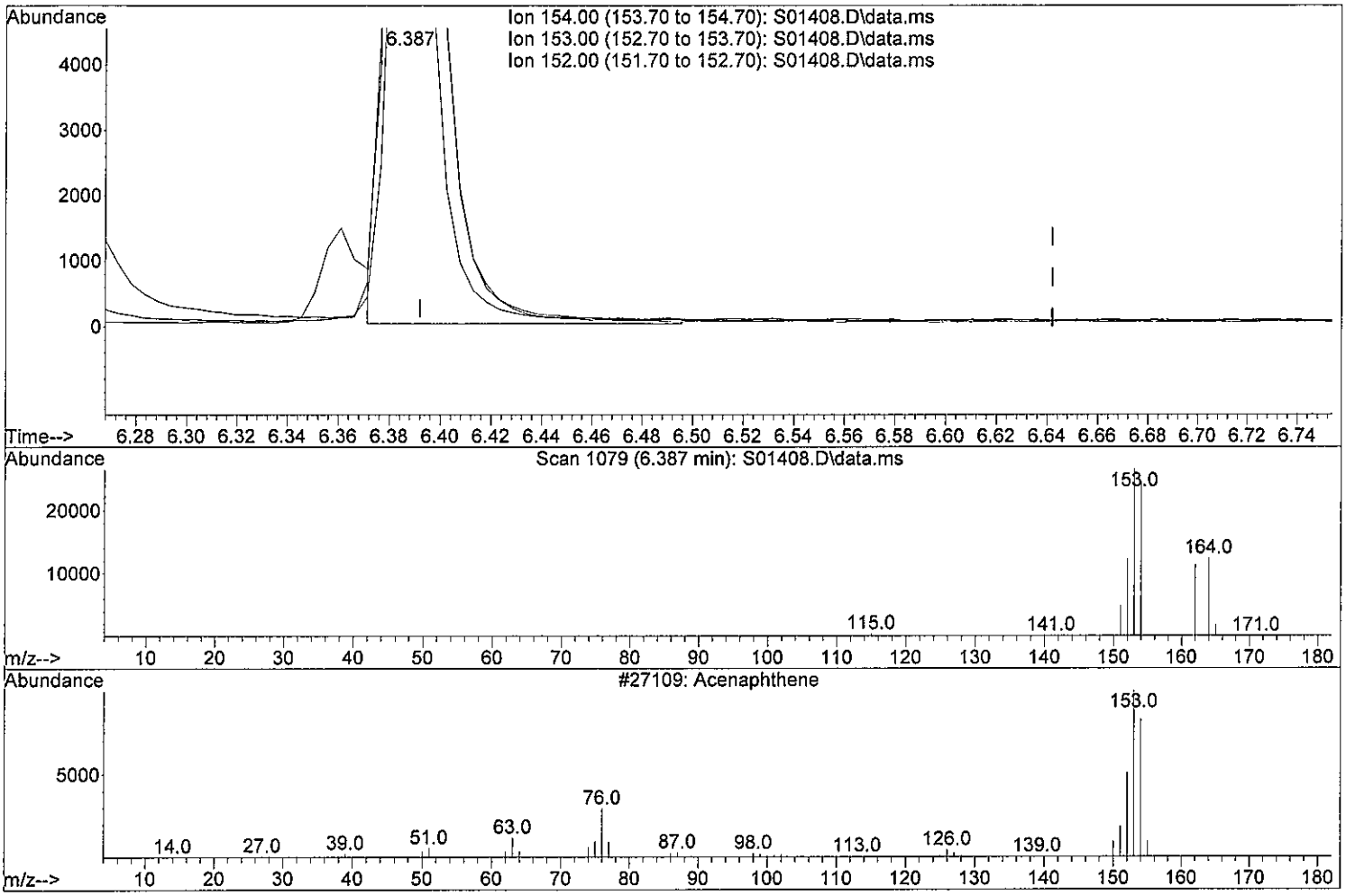
response 27260

Ion	Exp%	Act%
154.00	100.00	100.00
153.00	104.20	101.87
152.00	48.50	47.64
0.00	0.00	0.00

Before

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:08 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration



TIC: S01408.D\data.ms

(9) Acenaphthene (tm)

6.387min (-0.005) 203.33 ng/ml m

response 25807

Ion	Exp%	Act%
154.00	100.00	100.00
153.00	104.20	107.61
152.00	48.50	50.32
0.00	0.00	0.00

MANUAL RE-INTEGRATION

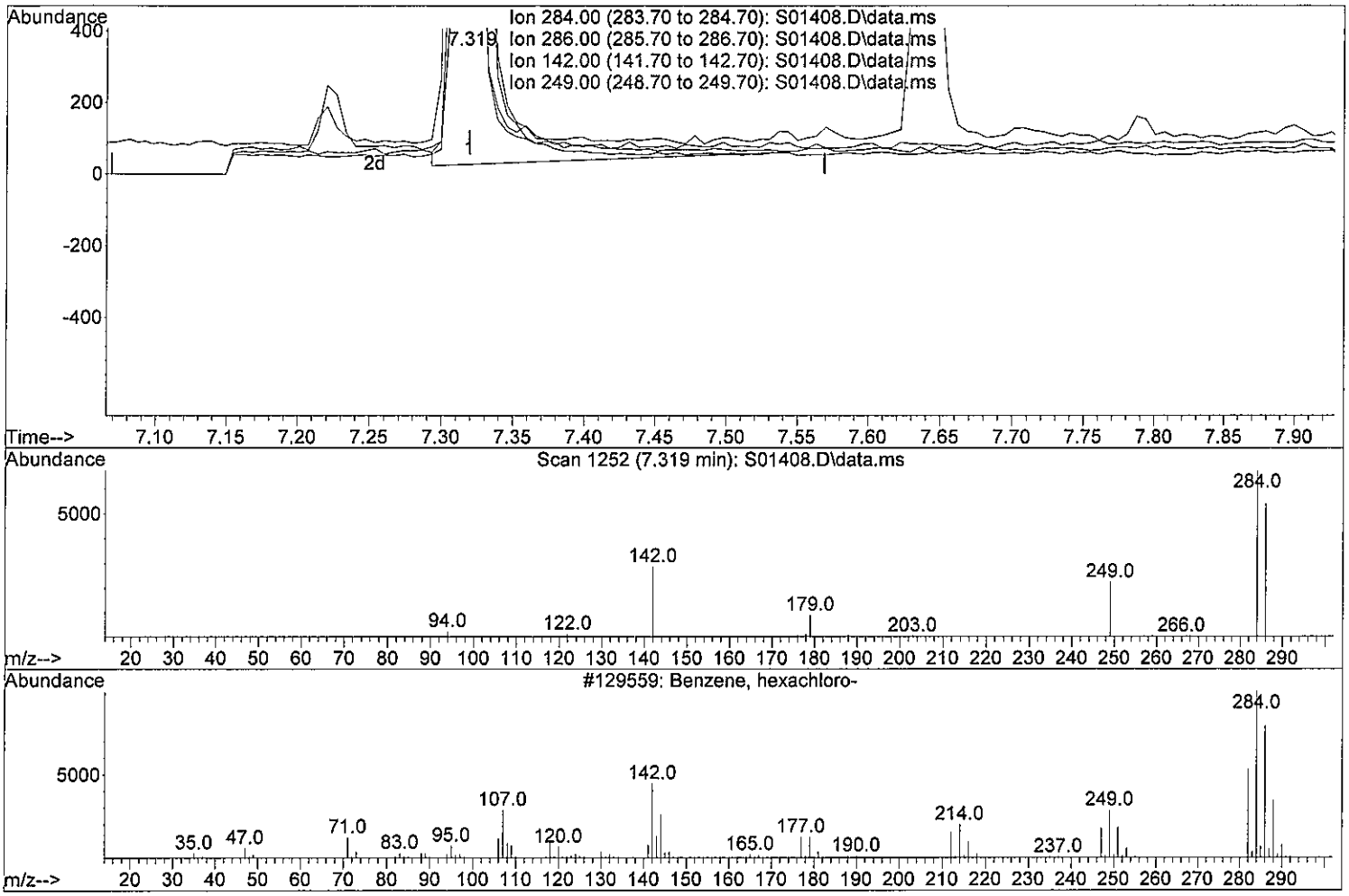
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JA *date* 12-23-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:08 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration



TIC: S01408.D\data.ms

(12) Hexachlorobenzene (t)

7.319min (-0.000) 209.24 ng/ml

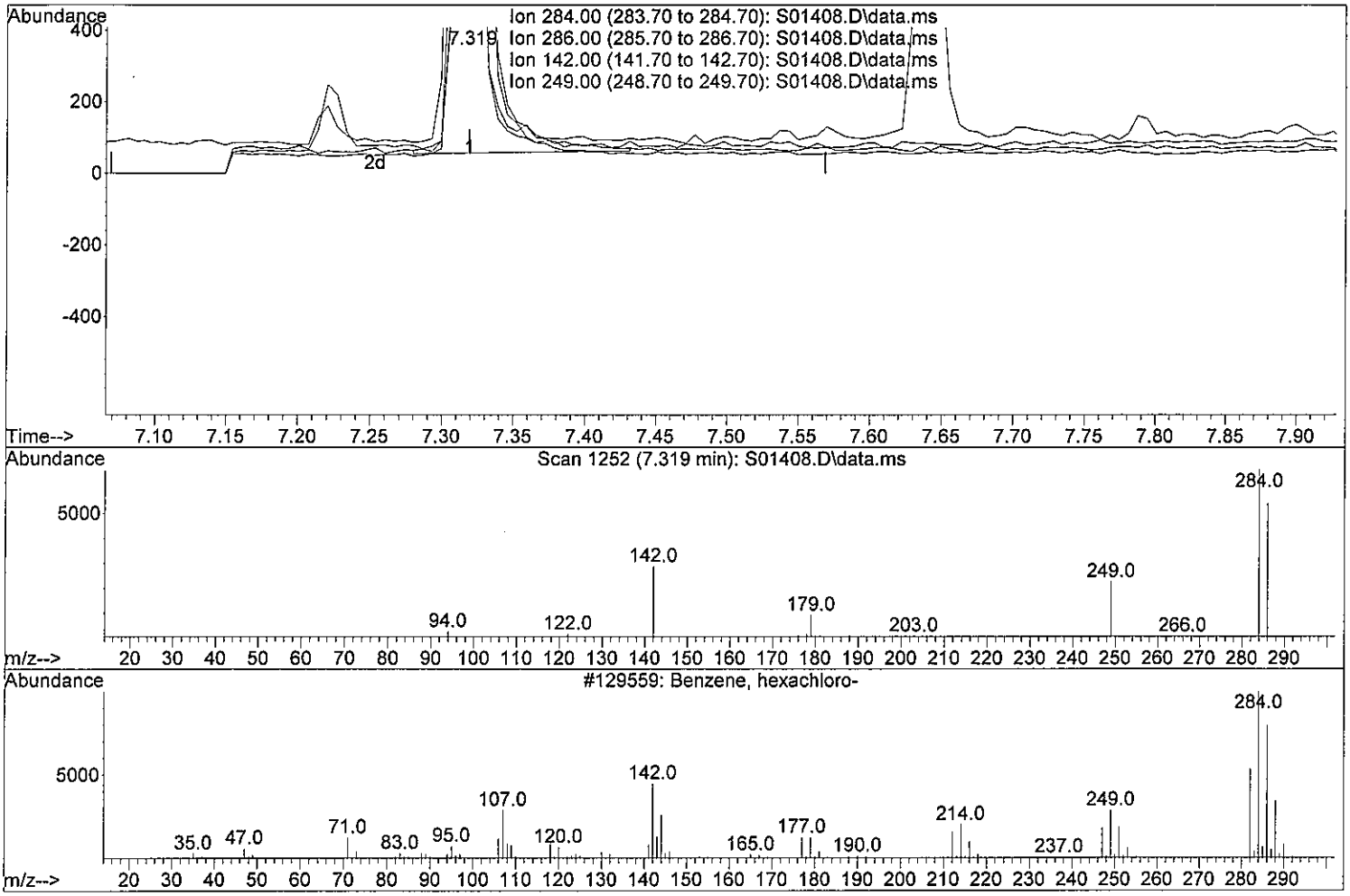
response 6882

Ion	Exp%	Act%
284.00	100.00	100.00
286.00	77.00	78.65
142.00	58.50	57.57
249.00	36.60	38.07

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:08 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration



TIC: S01408.D\data.ms

(12) Hexachlorobenzene (t)

7.319min (-0.000) 200.33 ng/ml m

response 6589

Ion	Exp%	Act%
284.00	100.00	100.00
286.00	77.00	82.15
142.00	58.50	60.13
249.00	36.60	39.76

MANUAL RE-INTEGRATION

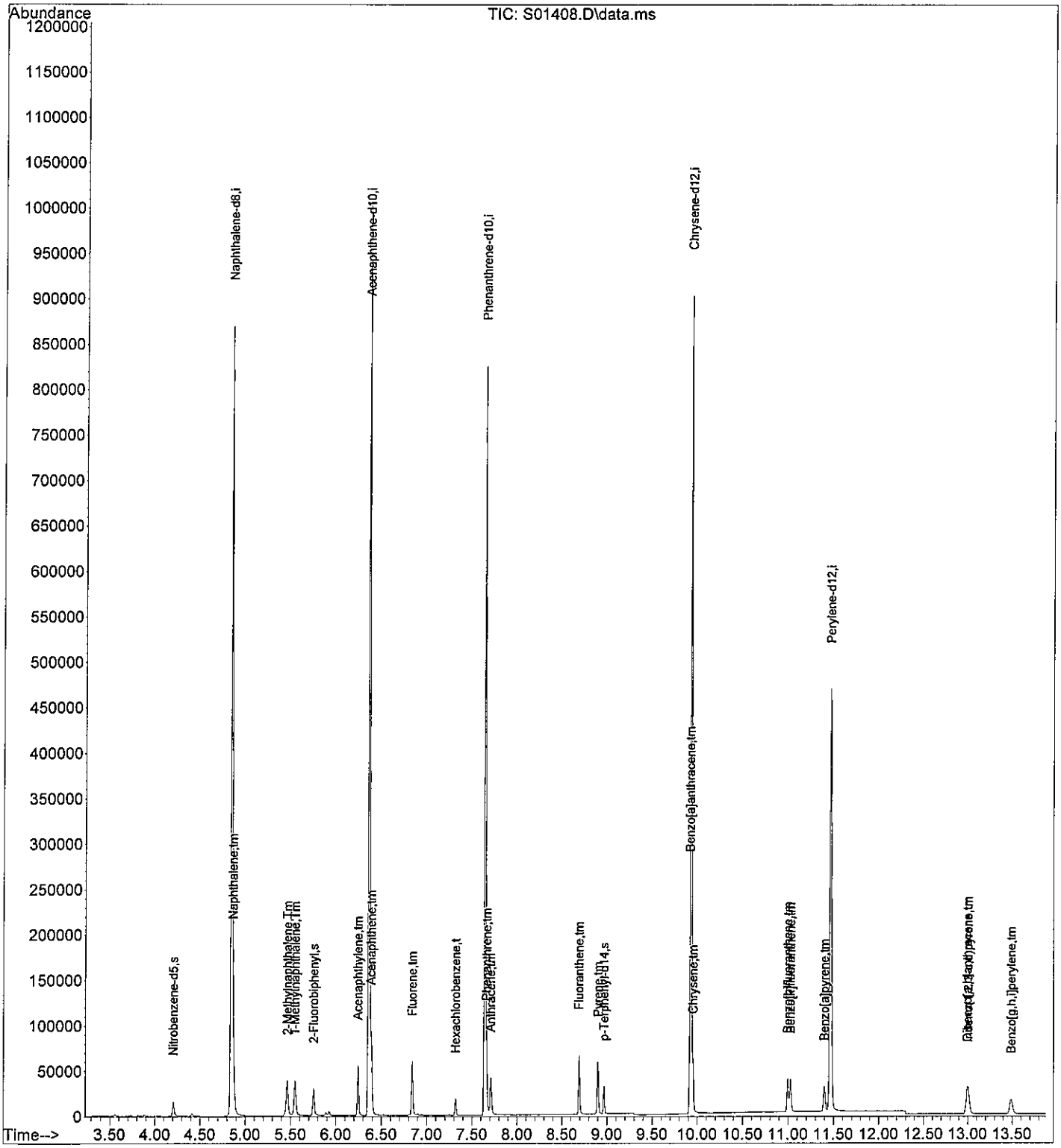
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JH *date* 11-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01408.D
Acq On : 20 Dec 2013 12:20 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD0200
Misc : ST131205-10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 20 12:39:40 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:39:03 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01409.D
Acq On : 20 Dec 2013 12:38 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD1000
Misc : ST131205-11
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 20 12:52:34 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:52:28 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	911150	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	498032	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	720869	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.928	240	740991	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	606365	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.203	82	82095	1020.64	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery = 51.03%			
7) 2-Fluorobiphenyl	5.754	172	145155	1069.81	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 53.49%			
18) p-Terphenyl-d14	8.961	244	131820	955.23	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 47.76%			
Target Compounds						Qvalue
3) Naphthalene	4.863	128	209719	957.46	ng/ml	100
4) 2-Methylnaphthalene	5.453	142	134780	1049.23	ng/ml	99
5) 1-Methylnaphthalene	5.542	142	126611	1023.57	ng/ml	99
8) Acenaphthylene	6.242	152	201537	957.06	ng/ml#	100
9) Acenaphthene	6.387	154	116309	936.22	ng/ml	98
10) Fluorene	6.833	166	131131	971.18	ng/ml	99
12) Hexachlorobenzene	7.319	284	29393	910.11	ng/ml	98
13) Phenanthrene	7.662	178	172650	918.97	ng/ml	100
14) Anthracene	7.708	178	165248	948.02	ng/ml	99
15) Fluoranthene	8.690	202	183841	920.94	ng/ml#	100
17) Pyrene	8.895	202	186423	883.53	ng/ml#	100
19) Benzo[a]anthracene	9.917	228	168323	880.53	ng/ml	100
20) Chrysene	9.951	228	154157	915.32	ng/ml	99
22) Benzo[b]fluoranthene	10.999	252	159028	919.97	ng/ml	100
23) Benzo[k]fluoranthene	11.026	252	160466	927.47	ng/ml	99
24) Benzo[a]pyrene	11.399	252	143884	931.31	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	13.004	276	143137	922.53	ng/ml	99
26) Dibenzo[a,h]anthracene	12.989	278	115568	916.18	ng/ml	100
27) Benzo[g,h,i]perylene	13.486	276	124152	923.66	ng/ml	100

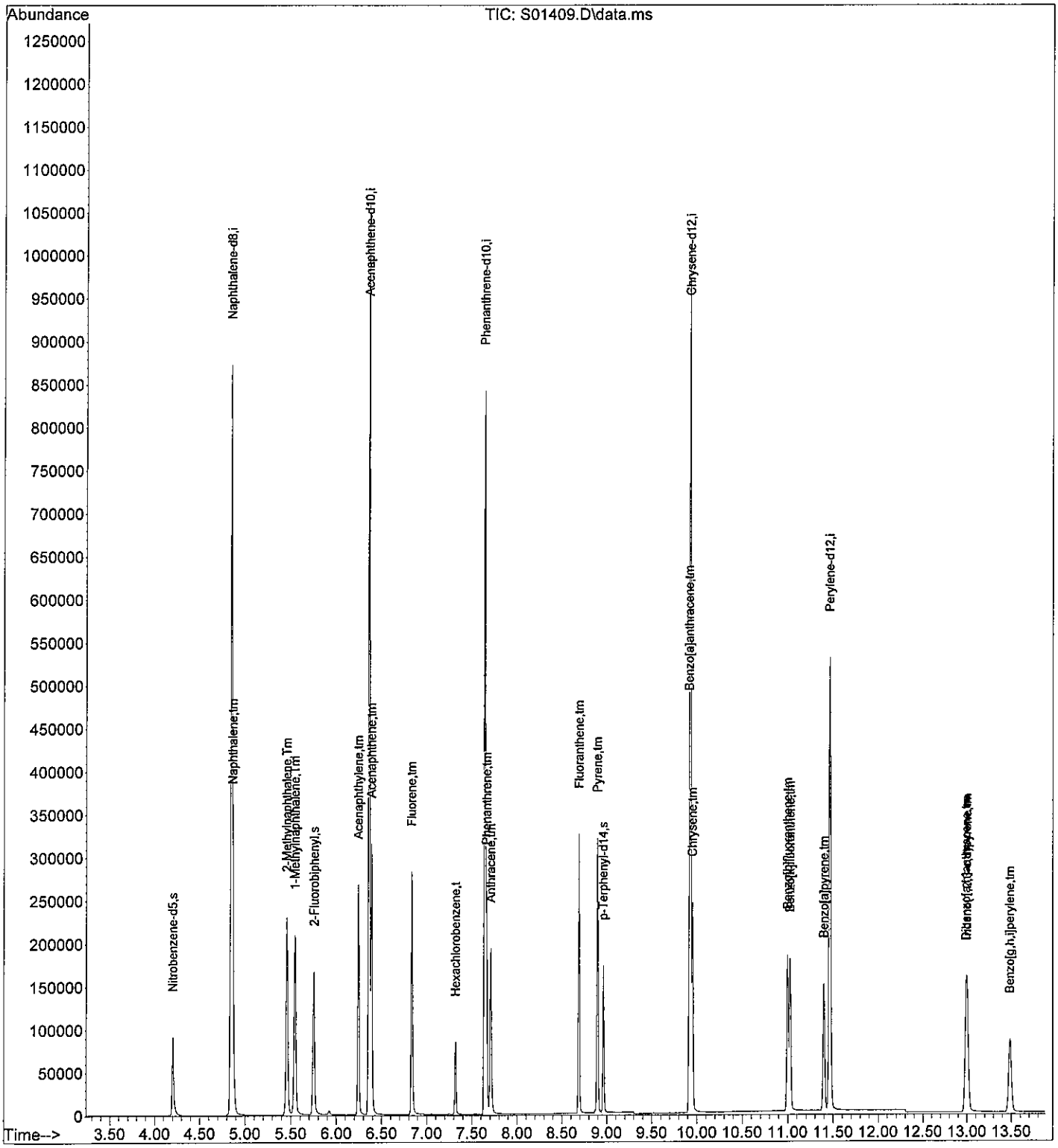
(#) = qualifier out of range (m) = manual integration (+) = signals summed

DL 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01409.D
Acq On : 20 Dec 2013 12:38 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD1000
Misc : ST131205-11
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 20 12:52:34 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 12:52:28 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01410.D
Acq On : 20 Dec 2013 12:56 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD2000
Misc : ST131205-12
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 20 13:11:45 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:11:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	887542	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	481104	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.642	188	690913	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.925	240	700583	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	575507	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.203	82	157694	2010.55	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery = 100.53%			
7) 2-Fluorobiphenyl	5.749	172	285660	2147.33	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 107.37%#			
18) p-Terphenyl-d14	8.961	244	244792	1895.75	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 94.79%			
Target Compounds						Qvalue
3) Naphthalene	4.863	128	401433	1900.23	ng/ml	100
4) 2-Methylnaphthalene	5.453	142	267233	2111.81	ng/ml	99
5) 1-Methylnaphthalene	5.542	142	247561	2045.31	ng/ml	99
8) Acenaphthylene	6.242	152	384447	1907.40	ng/ml#	100
9) Acenaphthene	6.387	154	219378	1854.59	ng/ml	98
10) Fluorene	6.833	166	252384	1945.51	ng/ml	100
12) Hexachlorobenzene	7.319	284	56119	1841.68	ng/ml	97
13) Phenanthrene	7.662	178	320154	1811.50	ng/ml	99
14) Anthracene	7.701	178	310976	1883.16	ng/ml	99
15) Fluoranthene	8.691	202	342151	1820.42	ng/ml#	100
17) Pyrene	8.895	202	349268	1787.92	ng/ml#	100
19) Benzo[a]anthracene	9.913	228	310827	1760.90	ng/ml	100
20) Chrysene	9.948	228	286882	1831.91	ng/ml	99
22) Benzo[b]fluoranthene	10.995	252	295876	1833.44	ng/ml	98
23) Benzo[k]fluoranthene	11.022	252	301031	1859.04	ng/ml	97
24) Benzo[a]pyrene	11.396	252	269856	1865.15	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	12.997	276	274050	1882.80	ng/ml	100
26) Dibenzo[a,h]anthracene	12.982	278	222798	1882.77	ng/ml	99
27) Benzo[g,h,i]perylene	13.476	276	238227	1888.25	ng/ml	100

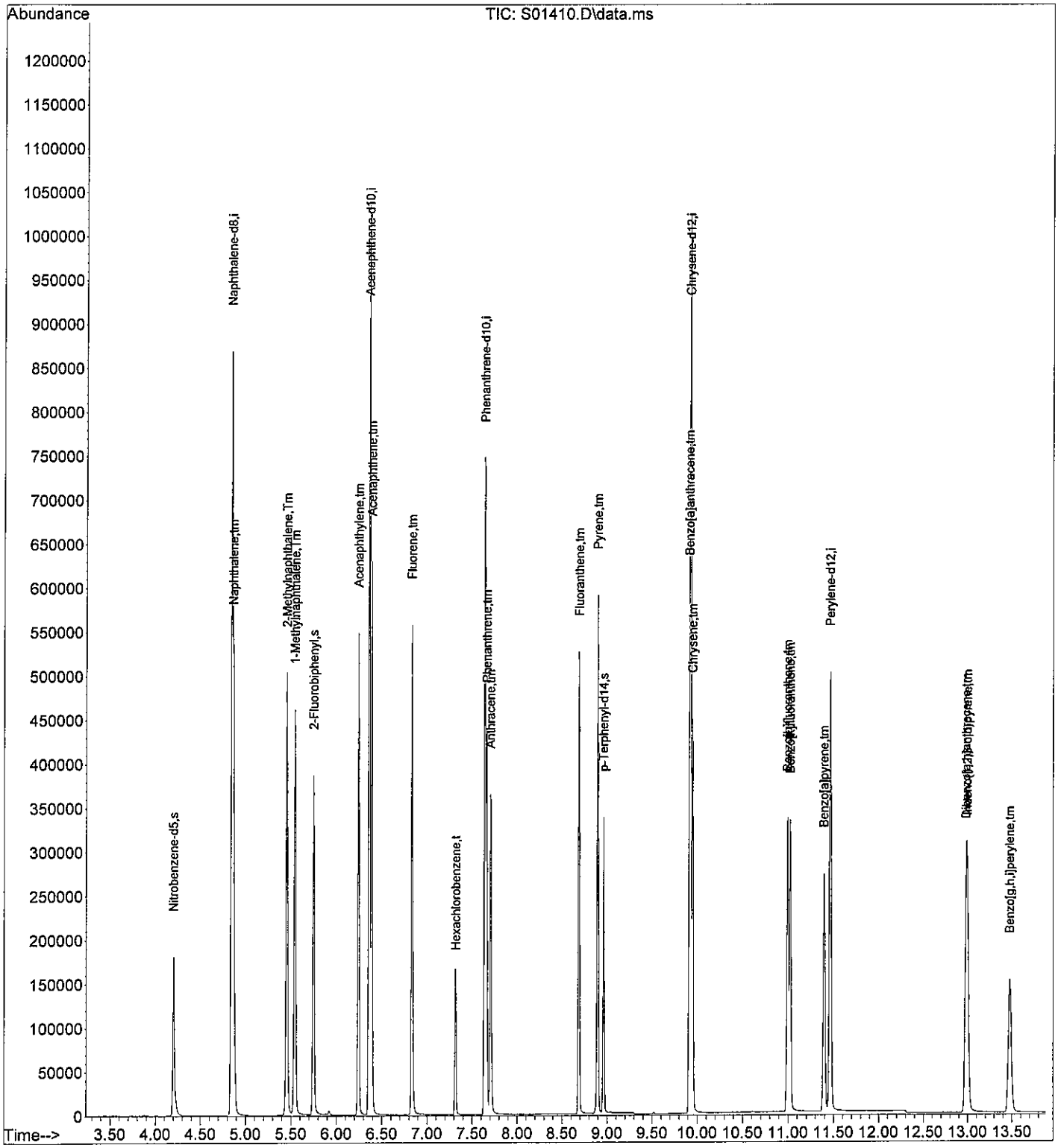
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JH 12/20

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01410.D
Acq On : 20 Dec 2013 12:56 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD2000
Misc : ST131205-12
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 20 13:11:45 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:11:39 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01411.D
Acq On : 20 Dec 2013 1:13 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD5000
Misc : ST131205-13
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 20 13:50:58 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:50:28 2013
Response via : Initial Calibration

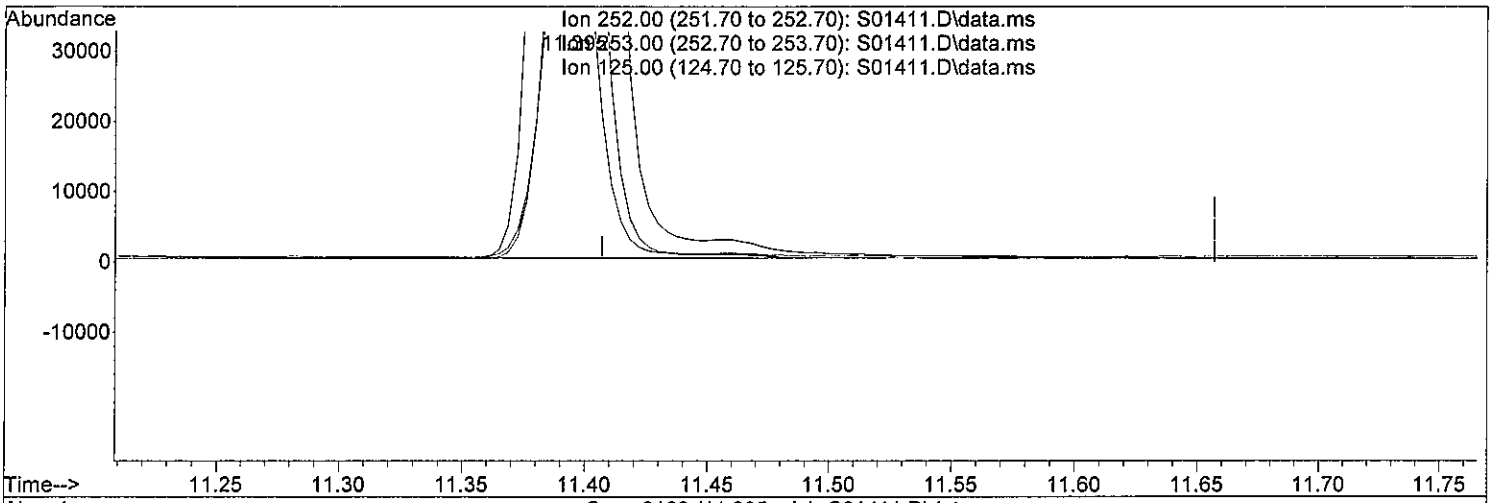
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	868829	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	466053	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.635	188	638132	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.928	240	635983	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.460	264	506985	4000.00	ng/ml	#-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	4.203	82	394056	5112.98	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery = 255.65%#			
7) 2-Fluorobiphenyl	5.749	172	723164	5515.25	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 275.76%#			
18) p-Terphenyl-d14	8.961	244	581248	4964.48	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 248.22%#			
Target Compounds						Qvalue
3) Naphthalene	4.863	128	999533	4856.44	ng/ml	100
4) 2-Methylnaphthalene	5.453	142	676835	5392.41	ng/ml	100
5) 1-Methylnaphthalene	5.542	142	620522	5201.83	ng/ml	100
8) Acenaphthylene	6.242	152	955489	4908.58	ng/ml#	100
9) Acenaphthene	6.387	154	544190	4783.37	ng/ml	98
10) Fluorene	6.827	166	620867	4948.94	ng/ml	100
12) Hexachlorobenzene	7.312	284	135583	4842.76	ng/ml	97
13) Phenanthrene	7.655	178	765370	4730.88	ng/ml	99
14) Anthracene	7.701	178	733982	4838.31	ng/ml	99
15) Fluoranthene	8.690	202	814438	4733.33	ng/ml#	100
17) Pyrene	8.895	202	828279	4715.04	ng/ml#	99
19) Benzo[a]anthracene	9.913	228	720017	4559.38	ng/ml	100
20) Chrysene	9.951	228	665364	4723.45	ng/ml	99
22) Benzo[b]fluoranthene	10.995	252	692149	4887.03	ng/ml	100
23) Benzo[k]fluoranthene	11.026	252	650966	4621.07	ng/ml	99
24) Benzo[a]pyrene	11.395	252	604312m	4769.17	ng/ml	
25) Indeno(1,2,3-c,d)pyrene	13.001	276	590840	4660.08	ng/ml	100
26) Dibenzo[a,h]anthracene	12.987	278	480352	4660.09	ng/ml	99
27) Benzo[g,h,i]perylene	13.484	276	513359	4669.81	ng/ml	100

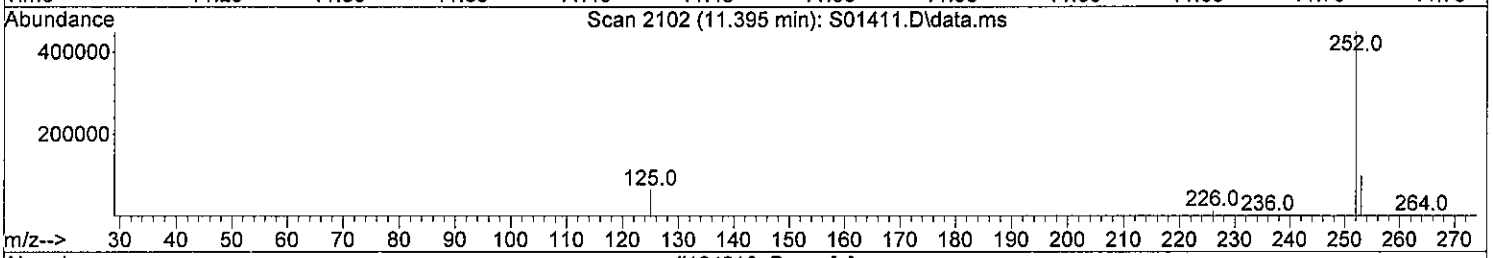
(#) = qualifier out of range (m) = manual integration (+) = signals summed

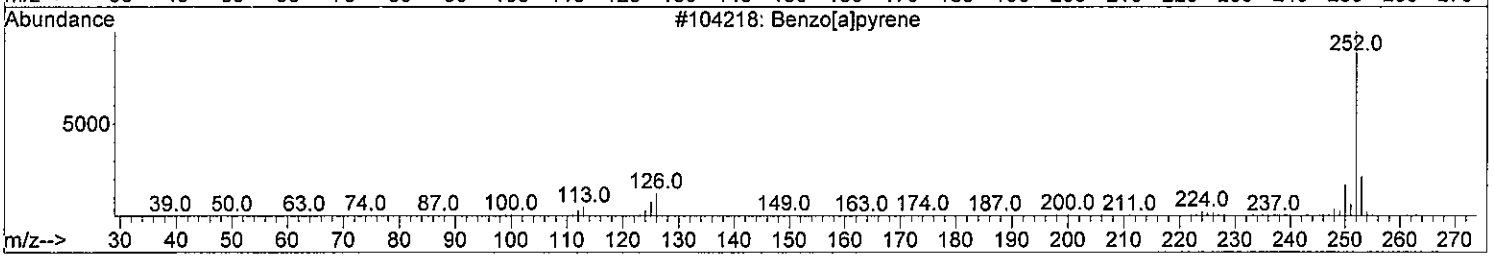
JH 12-23-13

Data Path : C:\msdchem\1\data\122013\
Data File : S01411.D
Acq On : 20 Dec 2013 1:13 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD5000
Misc : ST131205-13
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 20 13:50:34 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:50:28 2013
Response via : Initial Calibration







TIC: S01411.D\data.ms

(24) Benzo[a]pyrene (tm)

11.395min (-0.012) 4823.78 ng/ml

response 611232

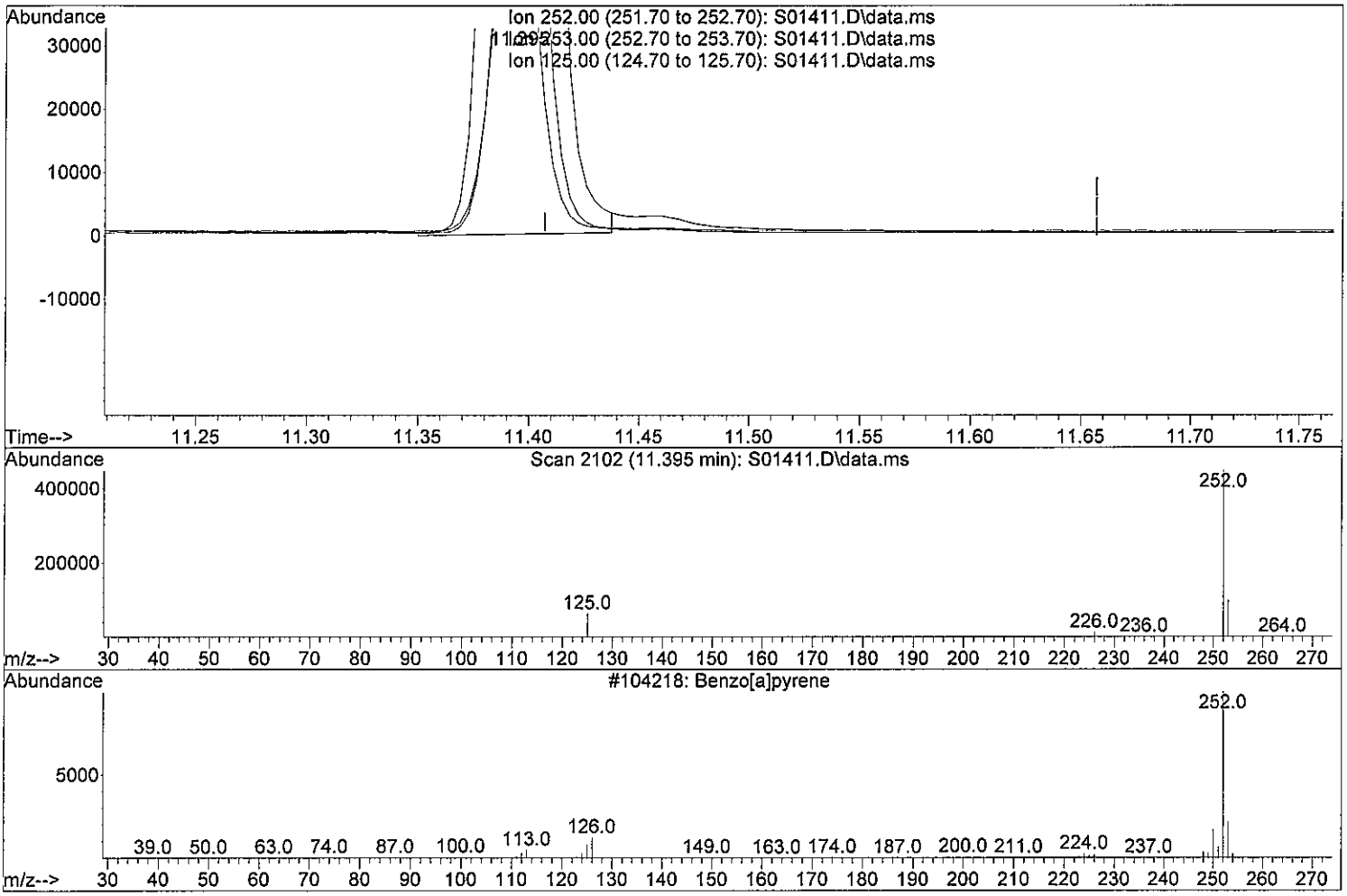
Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.90	21.78
125.00	14.50	14.15
0.00	0.00	0.00

3 for

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01411.D
Acq On : 20 Dec 2013 1:13 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD5000
Misc : ST131205-13
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 20 13:50:34 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:50:28 2013
Response via : Initial Calibration



TIC: S01411.D\data.ms

(24) Benzo[a]pyrene (tm)

11.395min (-0.012) 4769.17 ng/ml m

response 604312

Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.90	22.03
125.00	14.50	14.31
0.00	0.00	0.00

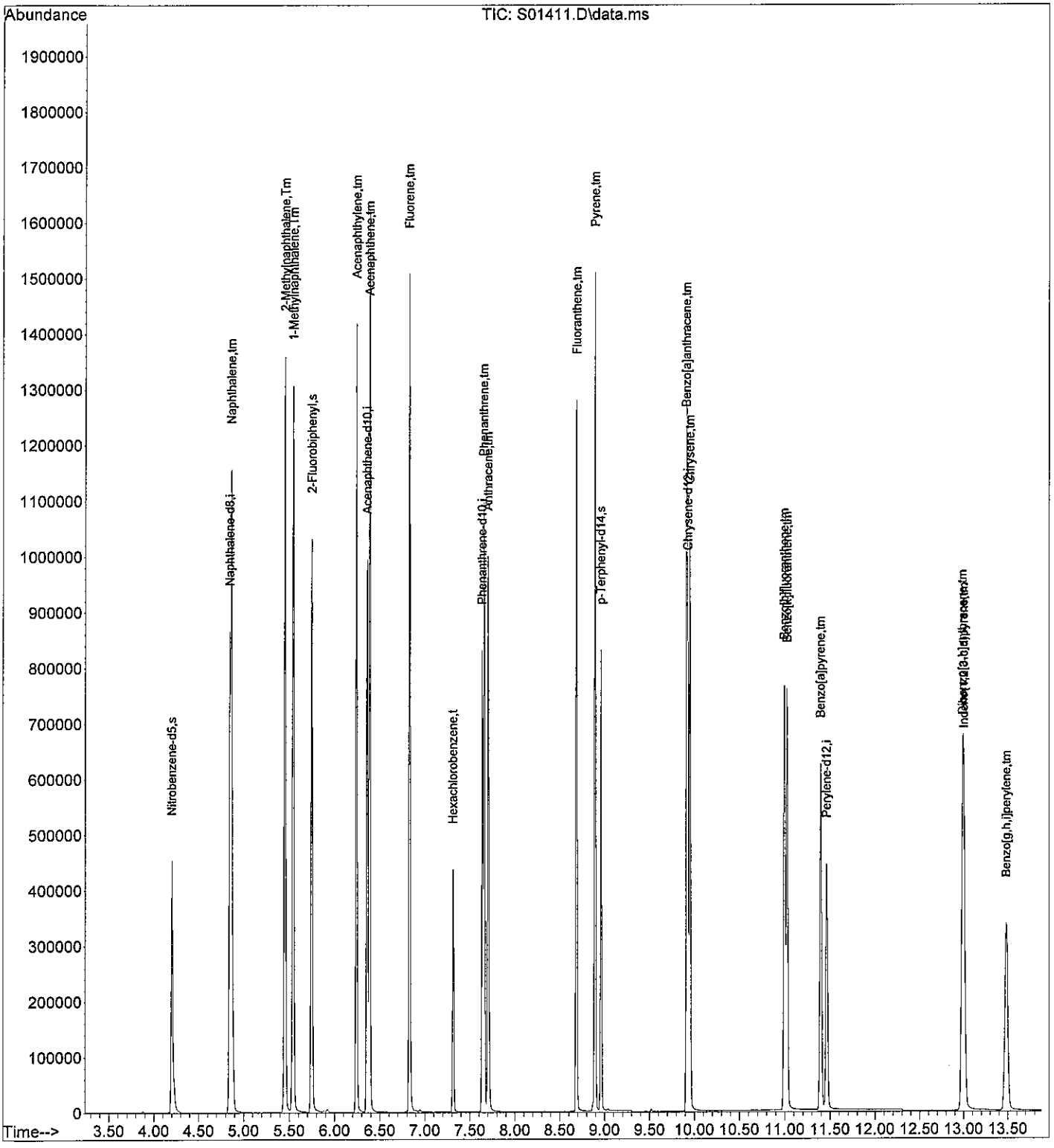
MANUAL RE-INTEGRATION

- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JeL *date* 12-23-13

Data Path : C:\msdchem\1\data\122013\
Data File : S01411.D
Acq On : 20 Dec 2013 1:13 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICALSVSTD5000
Misc : ST131205-13
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 20 13:50:58 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Fri Dec 20 13:50:28 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01412.D
Acq On : 20 Dec 2013 1:31 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICVSVSTD2000
Misc : ST131205-14
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 23 11:04:29 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 23 11:02:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	870839	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.356	164	482338	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.636	188	662909	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.925	240	665903	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.464	264	540701	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.186	82	17500	226.54	ng/ml	-0.02
Spiked Amount 2000.000	Range 34 - 111		Recovery = 11.33%#			
7) 2-Fluorobiphenyl	5.749	172	815	6.01	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 0.30%#			
18) p-Terphenyl-d14	8.968	244	802	6.54	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 0.33%#			
Target Compounds						Qvalue
3) Naphthalene	4.864	128	403763	1957.24	ng/ml#	30
4) 2-Methylnaphthalene	5.454	142	252652	2008.26	ng/ml	99
5) 1-Methylnaphthalene	5.542	142	254868	2131.63	ng/ml	98
8) Acenaphthylene	6.242	152	365691	1815.21	ng/ml#	100
9) Acenaphthene	6.387	154	220000	1873.20	ng/ml	99
10) Fluorene	6.828	166	248638	1914.98	ng/ml	99
12) Hexachlorobenzene	7.313	284	54857	1886.15	ng/ml	97
13) Phenanthrene	7.656	178	307673	1830.70	ng/ml	99
14) Anthracene	7.702	178	307647	1952.17	ng/ml	99
15) Fluoranthene	8.691	202	324619	1816.10	ng/ml#	100
17) Pyrene	8.895	202	326872	1777.14	ng/ml#	99
19) Benzo[a]anthracene	9.914	228	294838	1783.12	ng/ml	100
20) Chrysene	9.948	228	269731	1828.80	ng/ml	99
22) Benzo[b]fluoranthene	10.996	252	293176	1940.94	ng/ml	99
23) Benzo[k]fluoranthene	11.022	252	257054	1710.99	ng/ml	100
24) Benzo[a]pyrene	11.396	252	251077m	1860.82	ng/ml	
25) Indeno(1,2,3-c,d)pyrene	13.003	276	255699	1890.99	ng/ml	100
26) Dibenzo[a,h]anthracene	12.988	278	208716	1898.58	ng/ml	99
27) Benzo[g,h,i]perylene	13.482	276	220608	1881.64	ng/ml	100

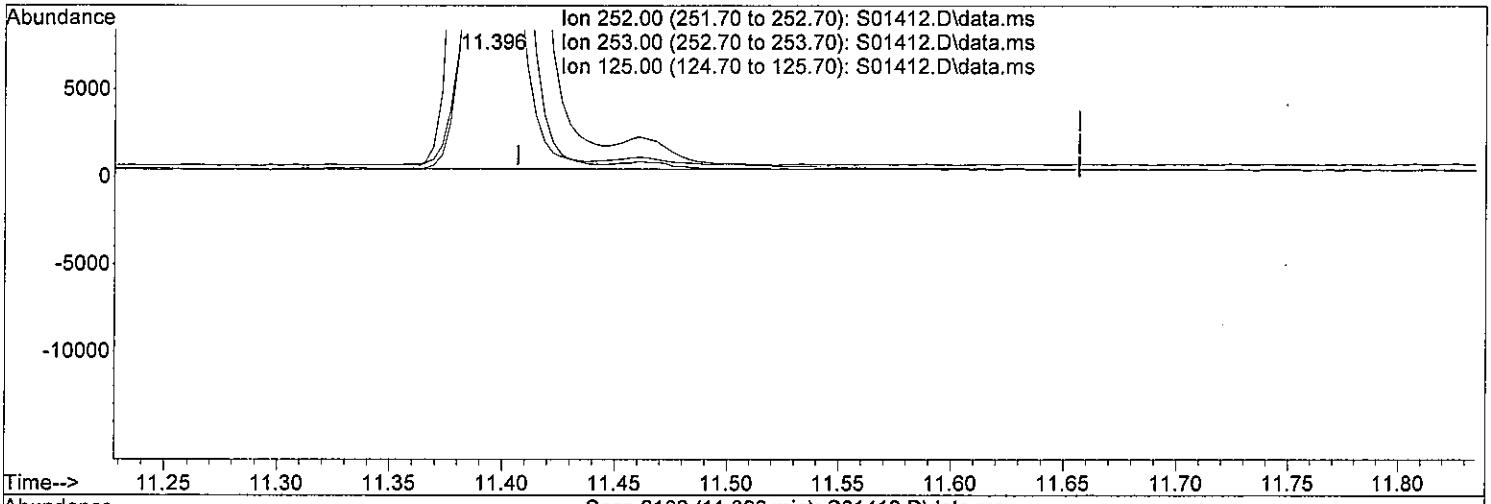
(#) = qualifier out of range (m) = manual integration (+) = signals summed

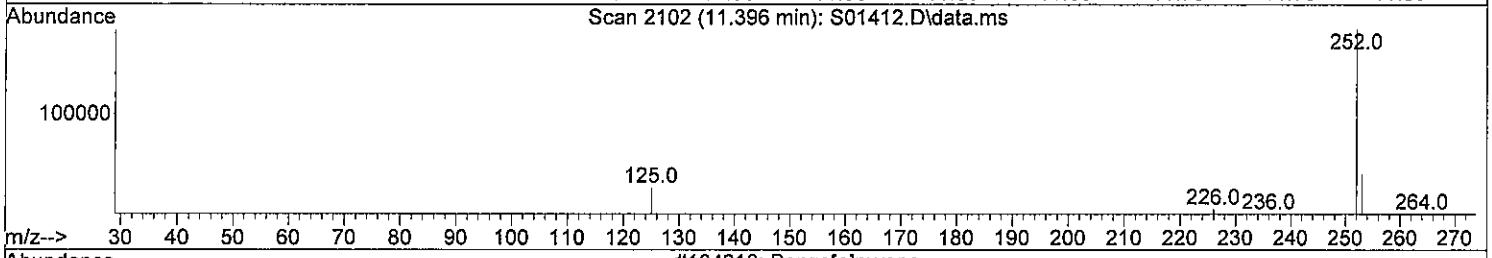
JH
12-23-13

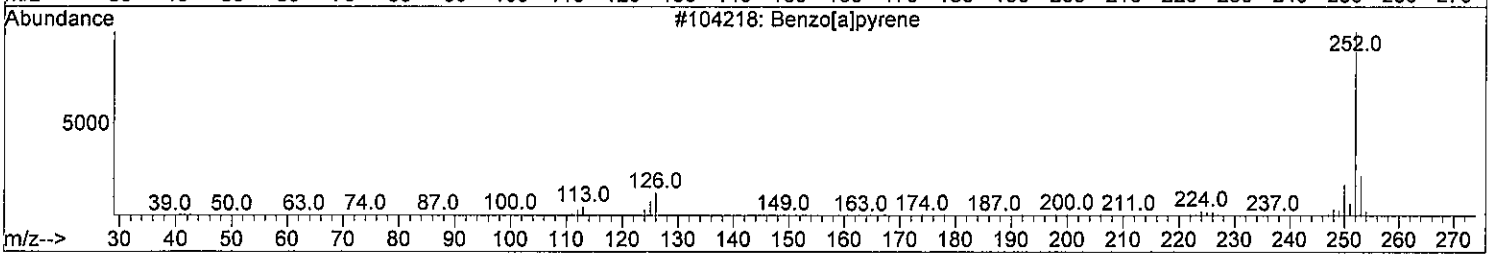
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01412.D
Acq On : 20 Dec 2013 1:31 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICVSVSTD2000
Misc : ST131205-14
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 23 11:04:14 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 23 11:02:36 2013
Response via : Initial Calibration







TIC: S01412.D\data.ms

(24) Benzo[a]pyrene (tm)

11.396min (-0.011) 1896.61 ng/ml

response 255906

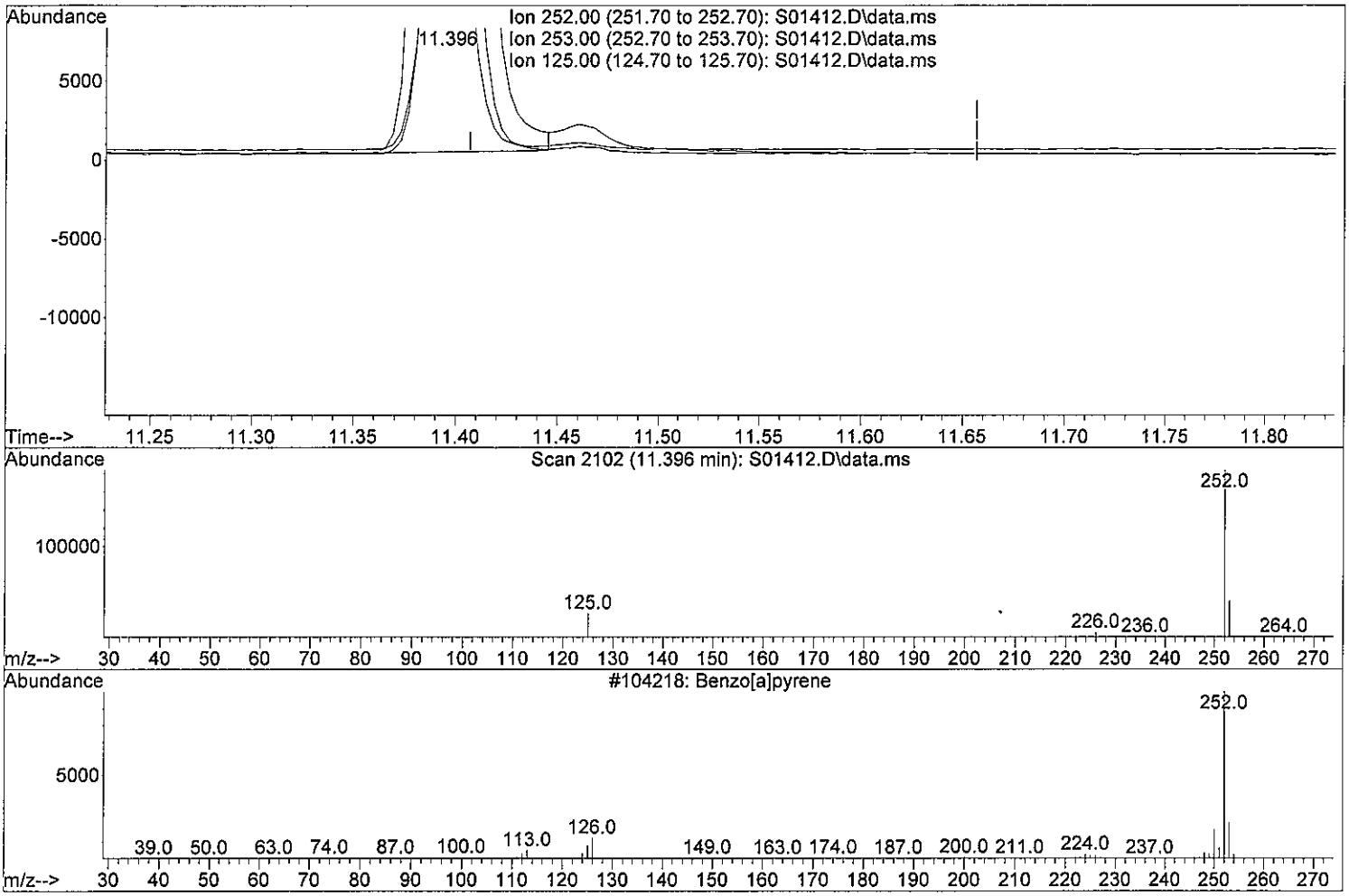
Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.90	21.71
125.00	14.50	13.84
0.00	0.00	0.00

Sefa

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122013\
Data File : S01412.D
Acq On : 20 Dec 2013 1:31 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICVSVSTD2000
Misc : ST131205-14
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 23 11:04:14 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 23 11:02:36 2013
Response via : Initial Calibration



TIC: S01412.D\data.ms

(24) Benzo[a]pyrene (tm)

11.396min (-0.011) 1860.82 ng/ml m

response 251077

Ion	Exp%	Act%
252.00	100.00	100.00
253.00	21.90	22.12
125.00	14.50	14.11
0.00	0.00	0.00

MANUAL RE-INTEGRATION

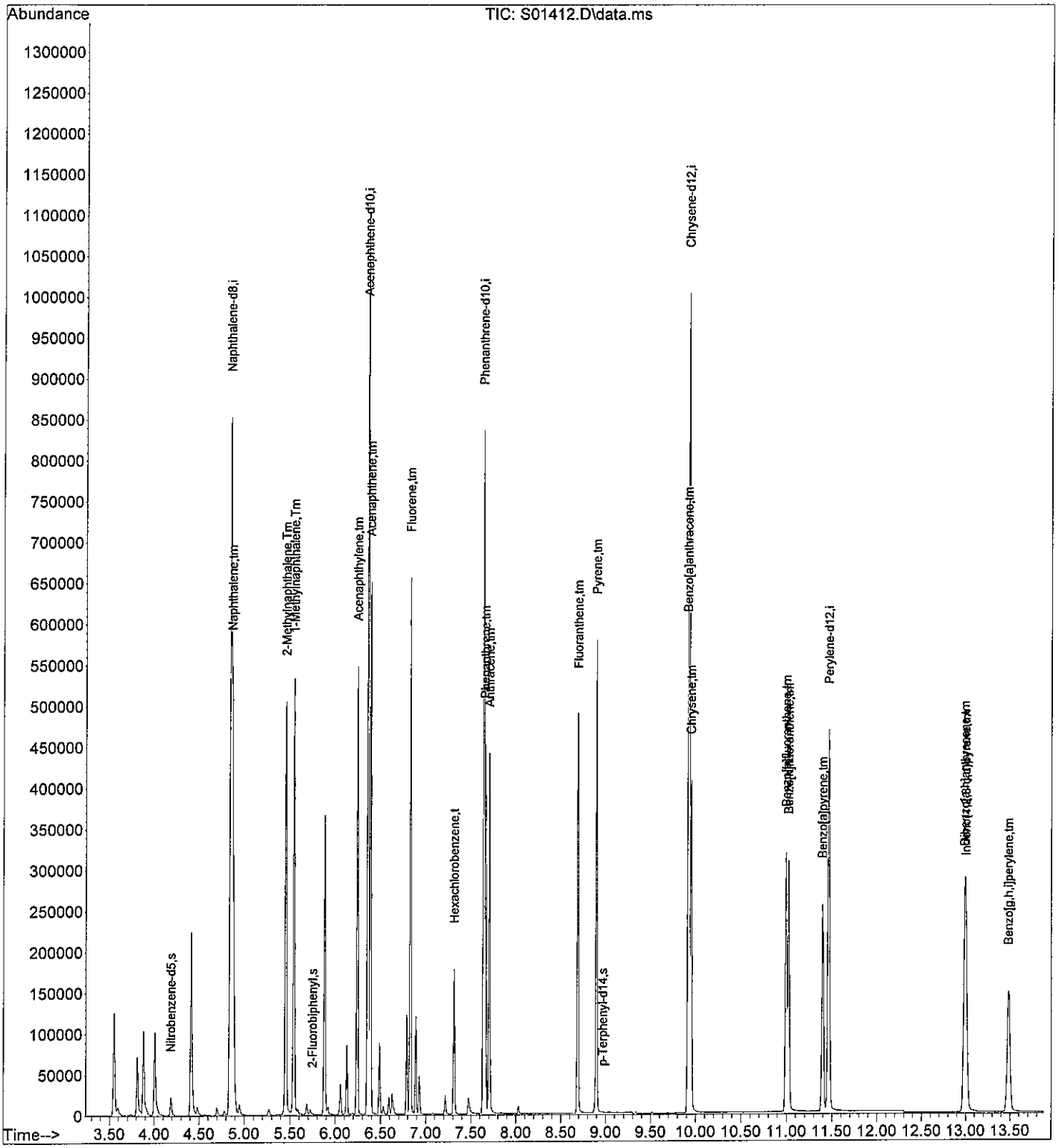
- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JL *date* 12-23-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122013\
Data File : S01412.D
Acq On : 20 Dec 2013 1:31 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : ICVSVSTD2000
Misc : ST131205-14
ALS Vial : 9 Sample Multiplier: 1

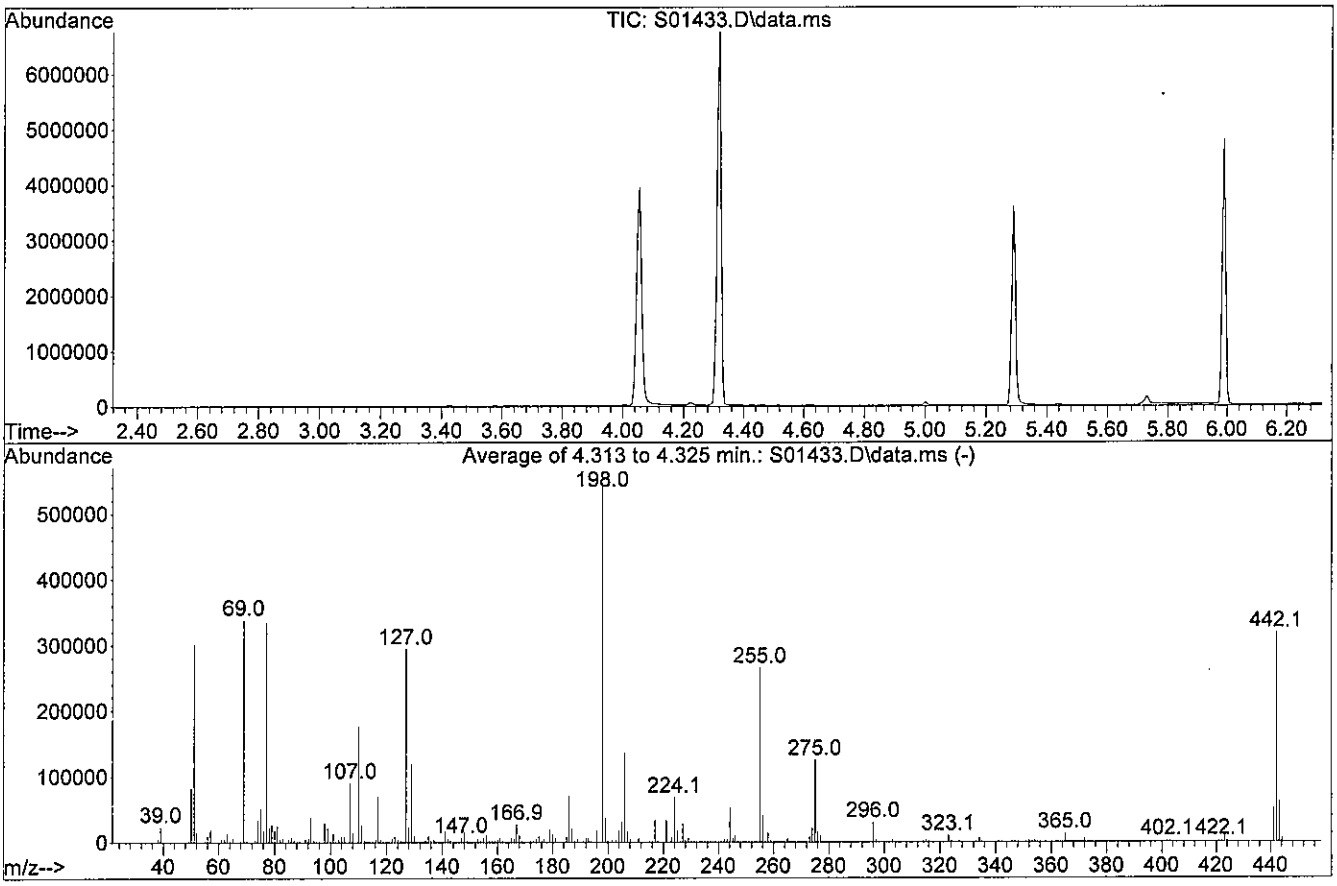
Quant Time: Dec 23 11:04:29 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 23 11:02:36 2013
Response via : Initial Calibration



Data Path : C:\MSDCHEM\1\DATA\122613\
Data File : S01433.D
Acq On : 26 Dec 2013 4:39 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Integration File: events.e

Method : C:\MSDCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Fri Dec 20 11:27:51 2013



AutoFind: Scans 302, 303, 304; Background Corrected with Scan 296

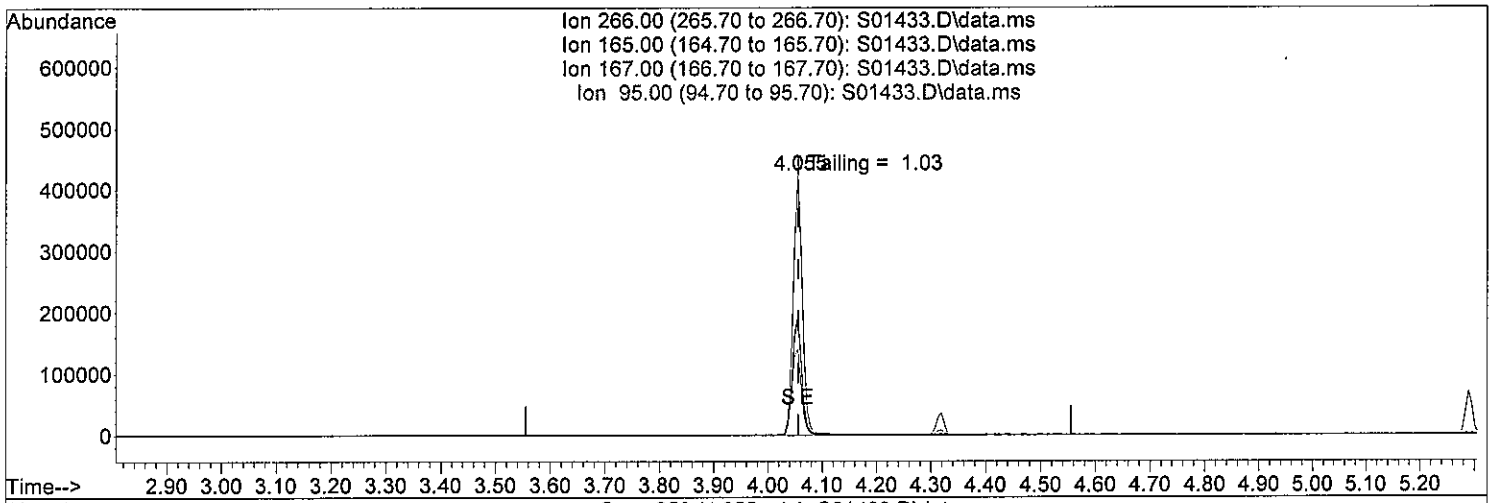
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	55.4	300953	PASS
68	69	0.00	2	0.2	830	PASS
69	198	0.00	100	62.3	338738	PASS
70	69	0.00	2	0.6	1898	PASS
127	198	30	60	54.2	294400	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	543467	PASS
199	198	5	9	6.9	37661	PASS
275	198	10	30	23.0	124757	PASS
365	198	1	100	2.4	13068	PASS
441	443	0.01	100	82.3	51552	PASS
442	198	39	100	58.6	318336	PASS
443	442	17	23	19.7	62616	PASS

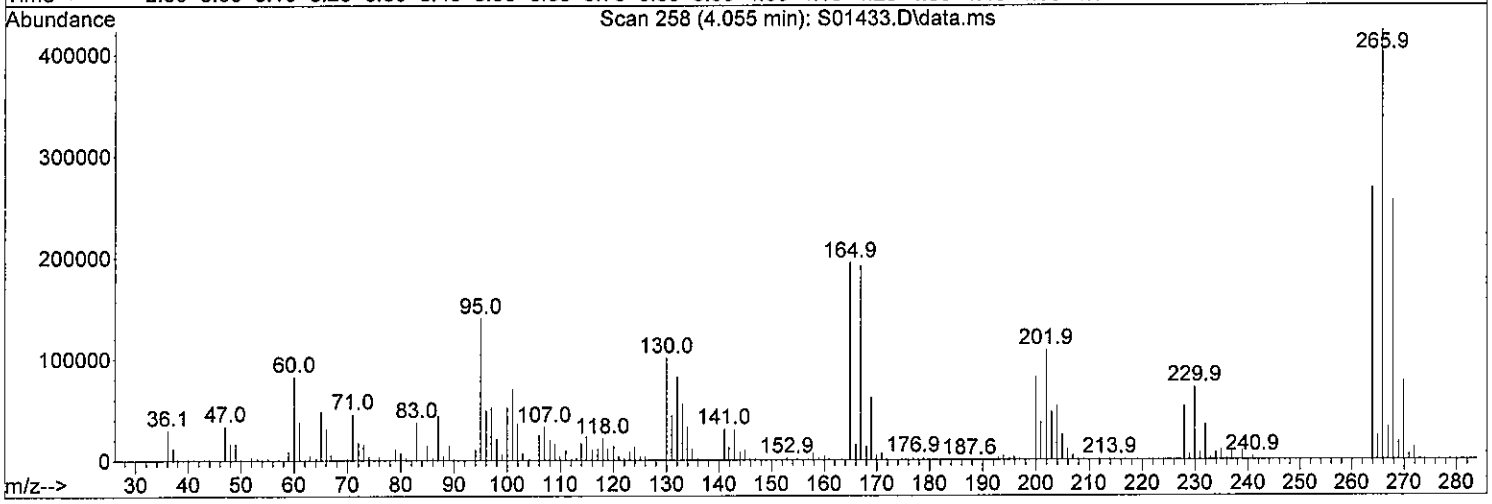
JH
12-20-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122613\
Data File : S01433.D
Acq On : 26 Dec 2013 4:39 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 30 10:19:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Fri Dec 20 11:27:51 2013
Response via : Continuing Cal File: C:\msdchem\1\data\122013\S01404.D





TIC: S01433.D\data.ms

(1) Pentachlorophenol (t)

4.057min (+ 0.000) 36.85 ng/ul

response 4961187

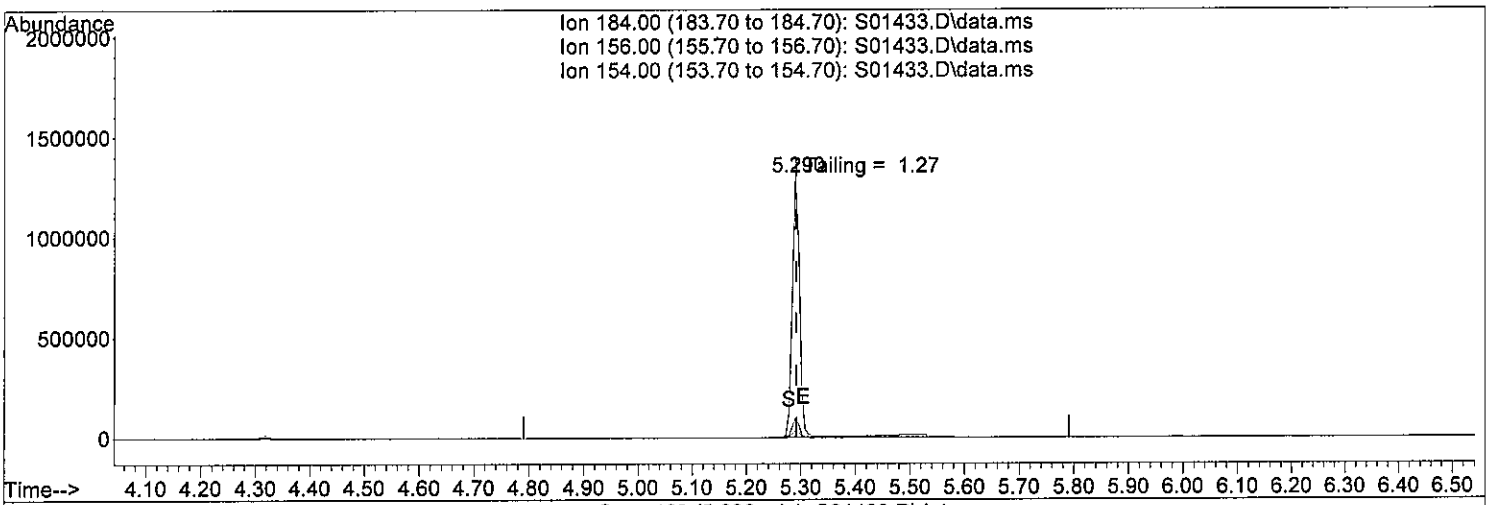
Ion	Exp%	Act%
266.00	100.00	100.00
165.00	0.00	47.33#
167.00	0.00	45.21#
95.00	0.00	34.84#

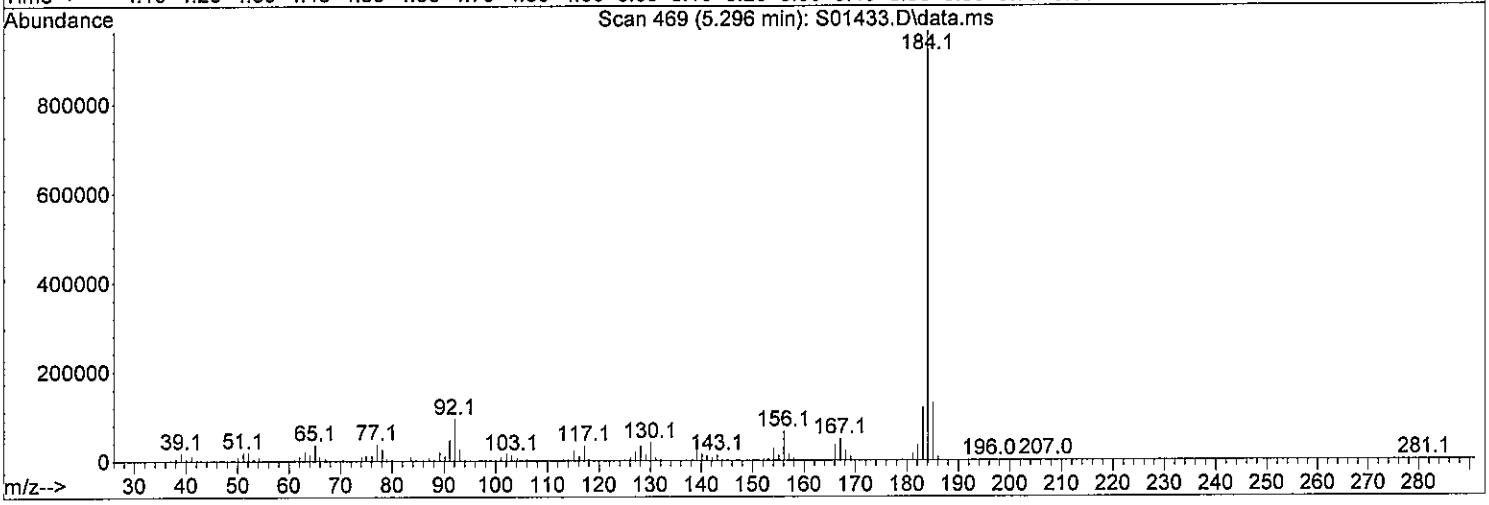
94
12-30-0

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122613\
Data File : S01433.D
Acq On : 26 Dec 2013 4:39 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 30 10:19:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Fri Dec 20 11:27:51 2013
Response via : Continuing Cal File: C:\msdchem\1\data\122013\S01404.D





TIC: S01433.D\data.ms

(3) Benzidine (t)

5.293min (+ 0.001) 25.38 ng/ul

response 11937122

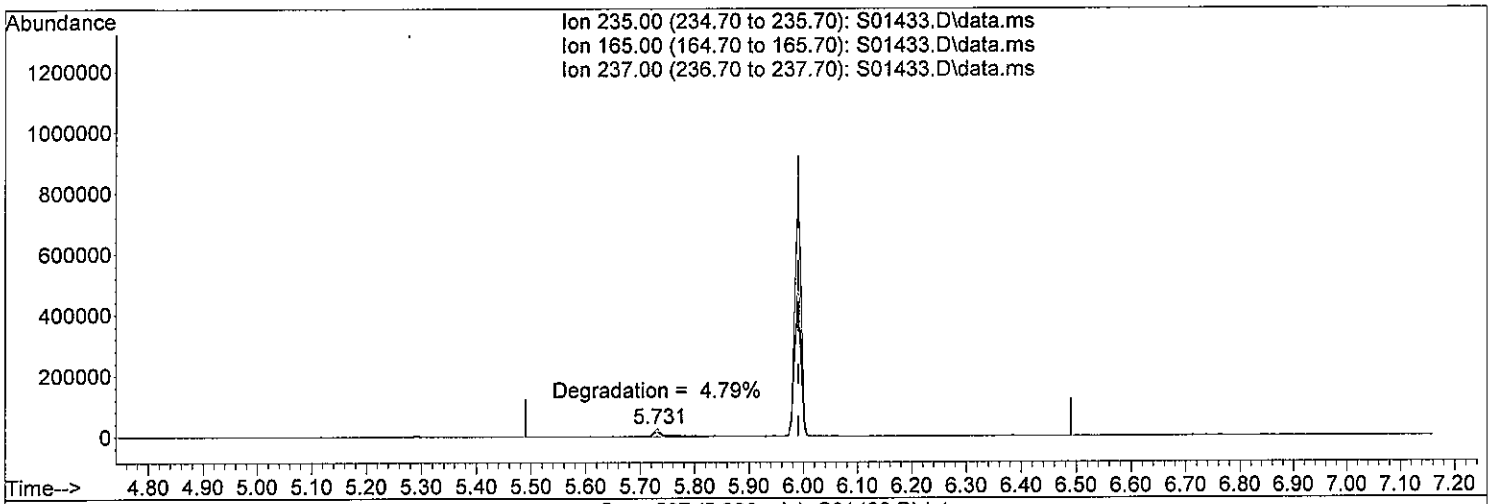
Ion	Exp%	Act%
184.00	100.00	100.00
156.00	0.00	7.32#
154.00	0.00	2.90#
0.00	0.00	0.00

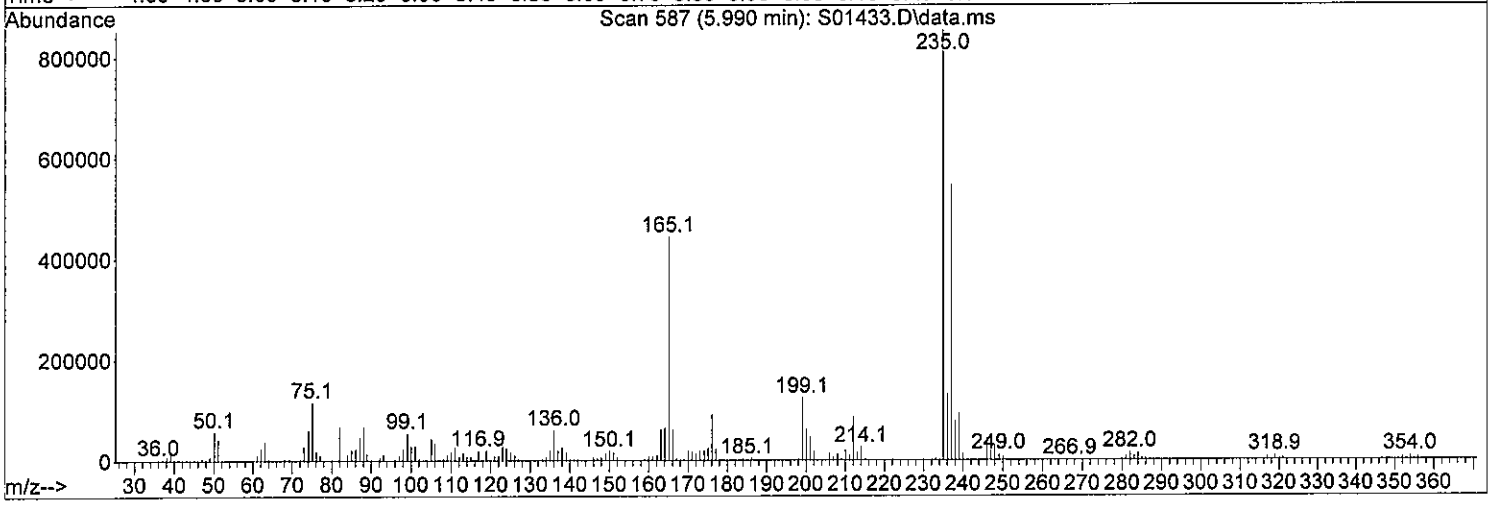
JK 12-30-13

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122613\
Data File : S01433.D
Acq On : 26 Dec 2013 4:39 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : DFTPP
Misc : ST130605-1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 30 10:19:16 2013
Quant Method : C:\msdchem\1\methods\DFTPP.M
Quant Title :
QLast Update : Fri Dec 20 11:27:51 2013
Response via : Continuing Cal File: C:\msdchem\1\data\122013\S01404.D





TIC: S01433.D\data.ms

(4) DDT (t)

5.992min (+ 0.001) 32.76 ng/ul

response 6661759

Ion	Exp%	Act%
235.00	100.00	100.00
165.00	0.00	53.03#
237.00	0.00	63.80#
0.00	0.00	0.00

XI 12-20-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01434.D
Acq On : 26 Dec 2013 4:50 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : CCV
Misc : ST131226-10 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 30 10:23:26 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.846	136	720091	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.361	164	381756	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.635	188	498829	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.928	240	406015	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.460	264	300749	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.205	82	35063	548.92	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery = 27.45%#			
7) 2-Fluorobiphenyl	5.749	172	59051	549.80	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 27.49%			
18) p-Terphenyl-d14	8.967	244	41540	555.75	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 27.79%#			
Target Compounds						Qvalue
3) Naphthalene	4.863	128	85293	500.01	ng/ml	100
4) 2-Methylnaphthalene	5.459	142	52761	507.18	ng/ml	98
5) 1-Methylnaphthalene	5.542	142	51950	525.45	ng/ml	98
8) Acenaphthylene	6.242	152	76520	479.90	ng/ml#	100
9) Acenaphthene	6.387	154	46513	500.38	ng/ml	99
10) Fluorene	6.833	166	48171	468.76	ng/ml	99
12) Hexachlorobenzene	7.319	284	10937	499.74	ng/ml	95
13) Phenanthrene	7.655	178	60432	477.86	ng/ml	100
14) Anthracene	7.708	178	57074	481.29	ng/ml	99
15) Fluoranthene	8.690	202	59675	443.67	ng/ml#	100
17) Pyrene	8.895	202	61594	549.23	ng/ml#	99
19) Benzo[a]anthracene	9.917	228	45877	455.05	ng/ml	99
20) Chrysene	9.951	228	45139	501.94	ng/ml	99
22) Benzo[b]fluoranthene	10.995	252	42011	500.03	ng/ml	99
23) Benzo[k]fluoranthene	11.022	252	38251	457.74	ng/ml	99
24) Benzo[a]pyrene	11.395	252	33793	450.27	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	12.999	276	32740	435.30	ng/ml	98
26) Dibenzo[a,h]anthracene	12.987	278	24919	407.53	ng/ml	98
27) Benzo[g,h,i]perylene	13.481	276	29079	445.91	ng/ml	98

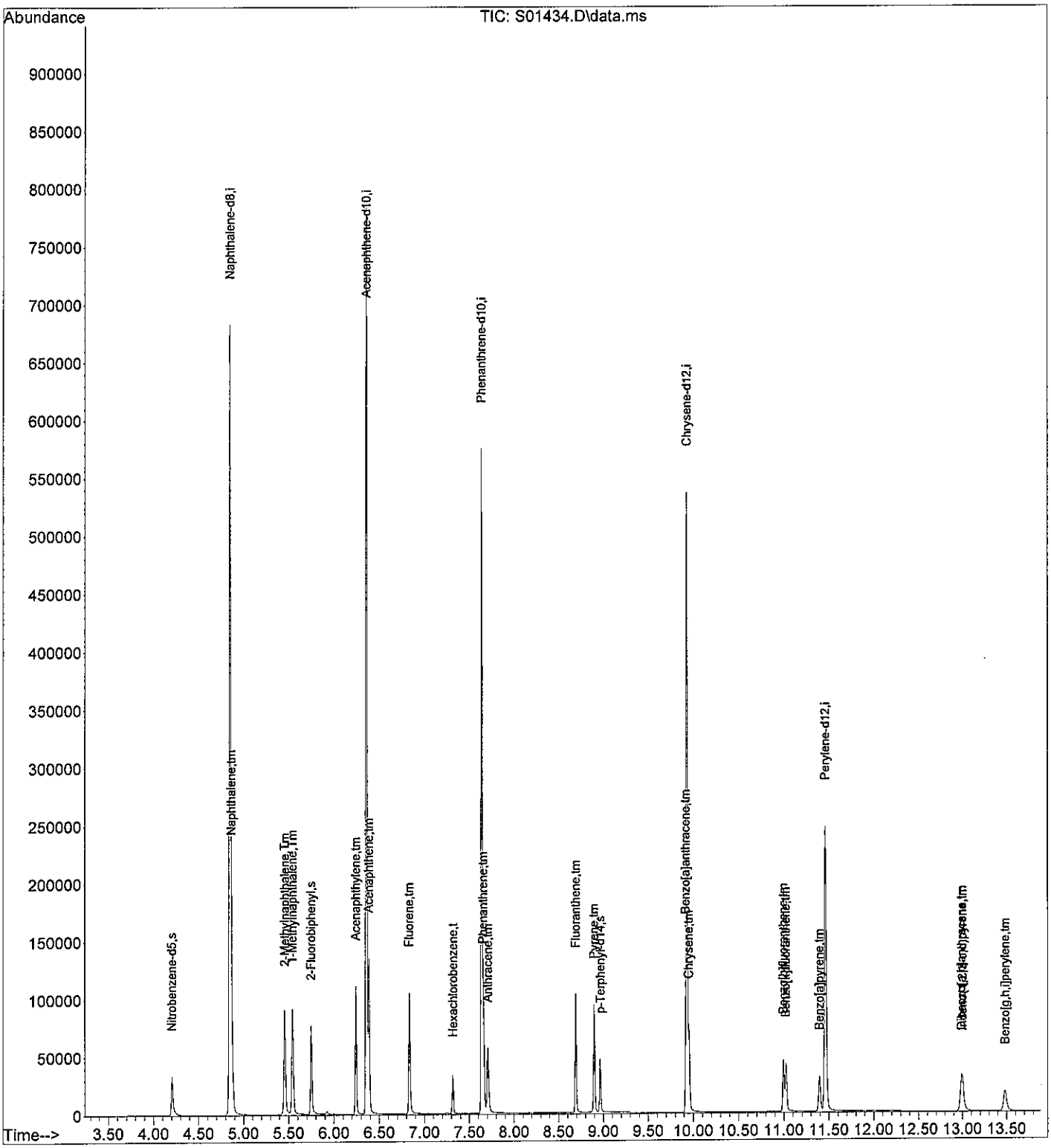
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JK 12-30-17

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01434.D
Acq On : 26 Dec 2013 4:50 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : CCV
Misc : ST131226-10 500 PPB
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 30 10:23:26 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration



Sample Raw Data

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01436.D
Acq On : 26 Dec 2013 5:29 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : EX131216-8MB
Misc : WATER EX131216-8
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 10:33:10 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.846	136	719993	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.356	164	389932	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.635	188	501347	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.925	240	424762	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.453	264	310434	4000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.205	82	2848507	44600.46	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery	= 2230.02%#		
7) 2-Fluorobiphenyl	5.744	172	4803729	43787.85	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery	= 2189.39%#		
18) p-Terphenyl-d14	8.961	244	4000650	51161.43	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery	= 2558.07%#		
Target Compounds						Qvalue

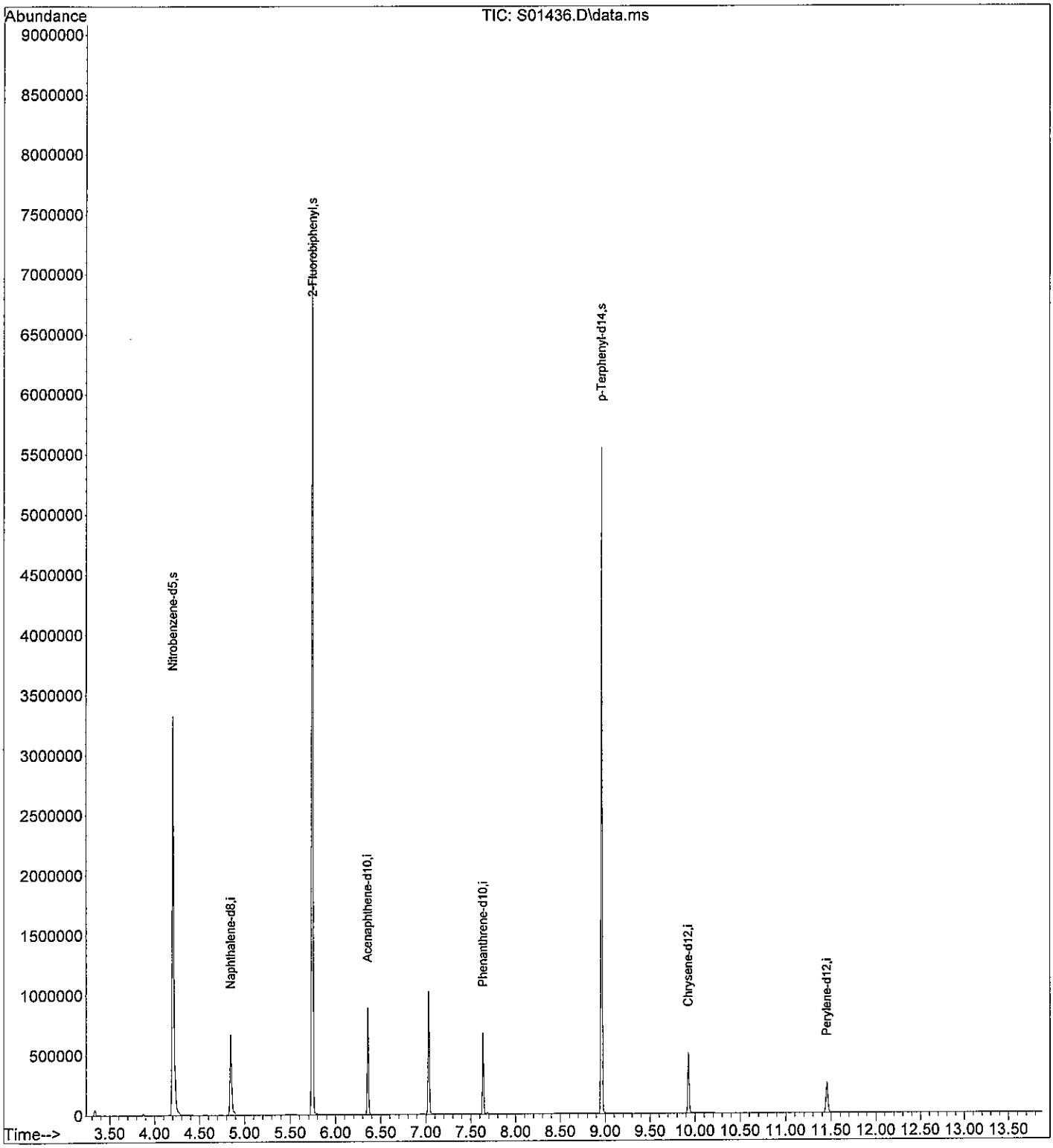
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JK 12-30-13

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01436.D
Acq On : 26 Dec 2013 5:29 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : EX131216-8MB
Misc : WATER EX131216-8
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 10:33:10 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01437.D
Acq On : 26 Dec 2013 5:46 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : 1312158-1
Misc : WATER EX131216-8
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 30 10:34:49 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.844	136	730673	4000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.356	164	396465	4000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.636	188	527691	4000.00	ng/ml	# 0.00
16) Chrysene-d12	9.925	240	461656	4000.00	ng/ml	# 0.00
21) Perylene-d12	11.449	264	334795	4000.00	ng/ml	#-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	4.206	82	2904784	44816.83	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery = 2240.84%#			
7) 2-Fluorobiphenyl	5.744	172	4729934	42404.72	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery = 2120.24%#			
18) p-Terphenyl-d14	8.961	244	3989880	46946.06	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery = 2347.30%#			
Target Compounds						Qvalue
3) Naphthalene	4.866	128	8079	46.68	ng/ml#	1

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

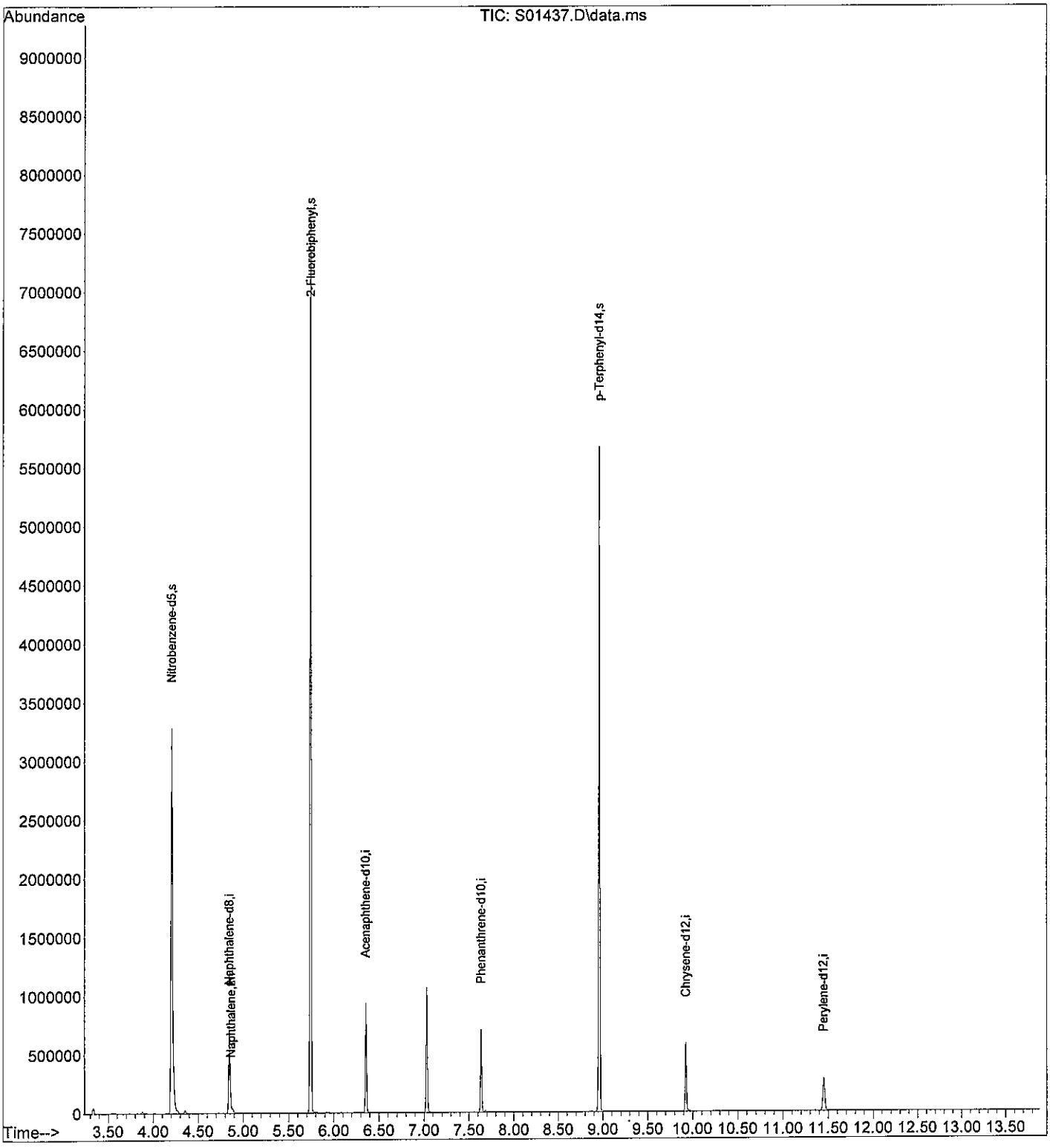
MDL for 2 day Extraction
IS RL = 100 ng/ml

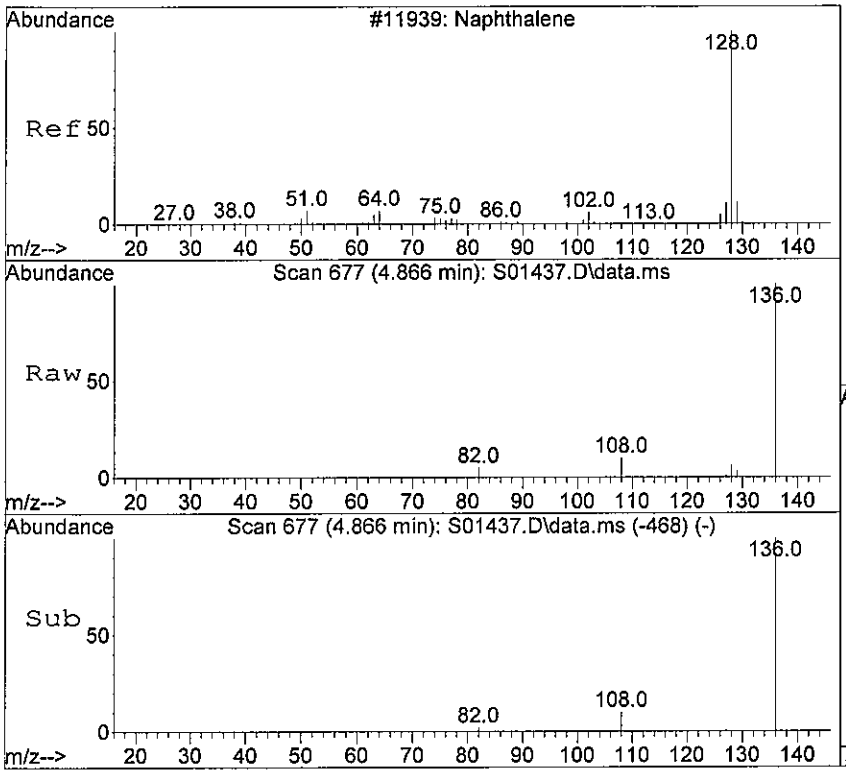
DH 12-30-13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122613\
Data File : S01437.D
Acq On : 26 Dec 2013 5:46 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : 1312158-1
Misc : WATER EX131216-8
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 30 10:34:49 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration

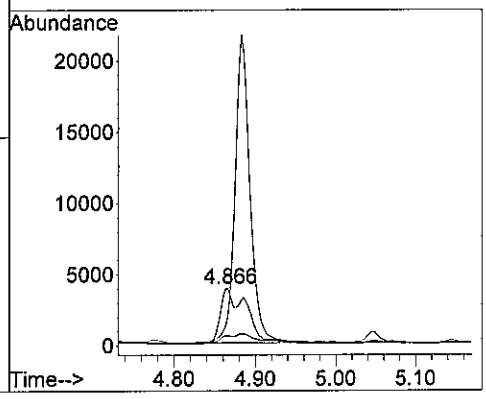


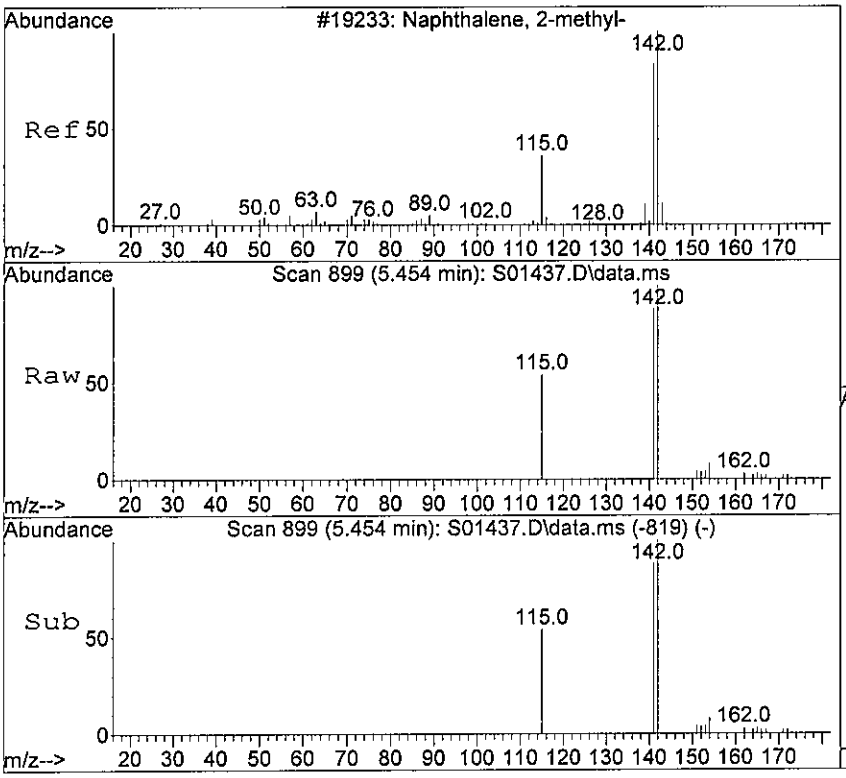


#3
Naphthalene
Concen: 46.68 ng/ml
RT: 4.866 min Scan# 677
Delta R.T. 0.003 min
Lab File: S01437.D
Acq: 26 Dec 2013 5:46 pm

Tgt Ion:128 Resp: 8079

Ion	Ratio	Lower	Upper
128	100		
129	361.0	8.8	13.2#
127	24.9	10.9	16.3#

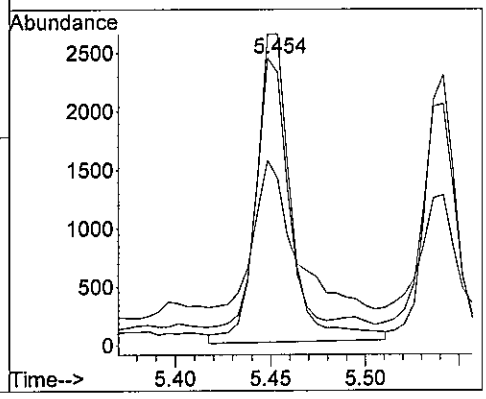




#4
2-Methylnaphthalene
Concen: ~~31.87~~ ng/ml
RT: 5.454 min Scan# 899
Delta R.T. -0.005 min
Lab File: S01437.D
Acq: 26 Dec 2013 5:46 pm

Tgt Ion:142 Resp: 3364

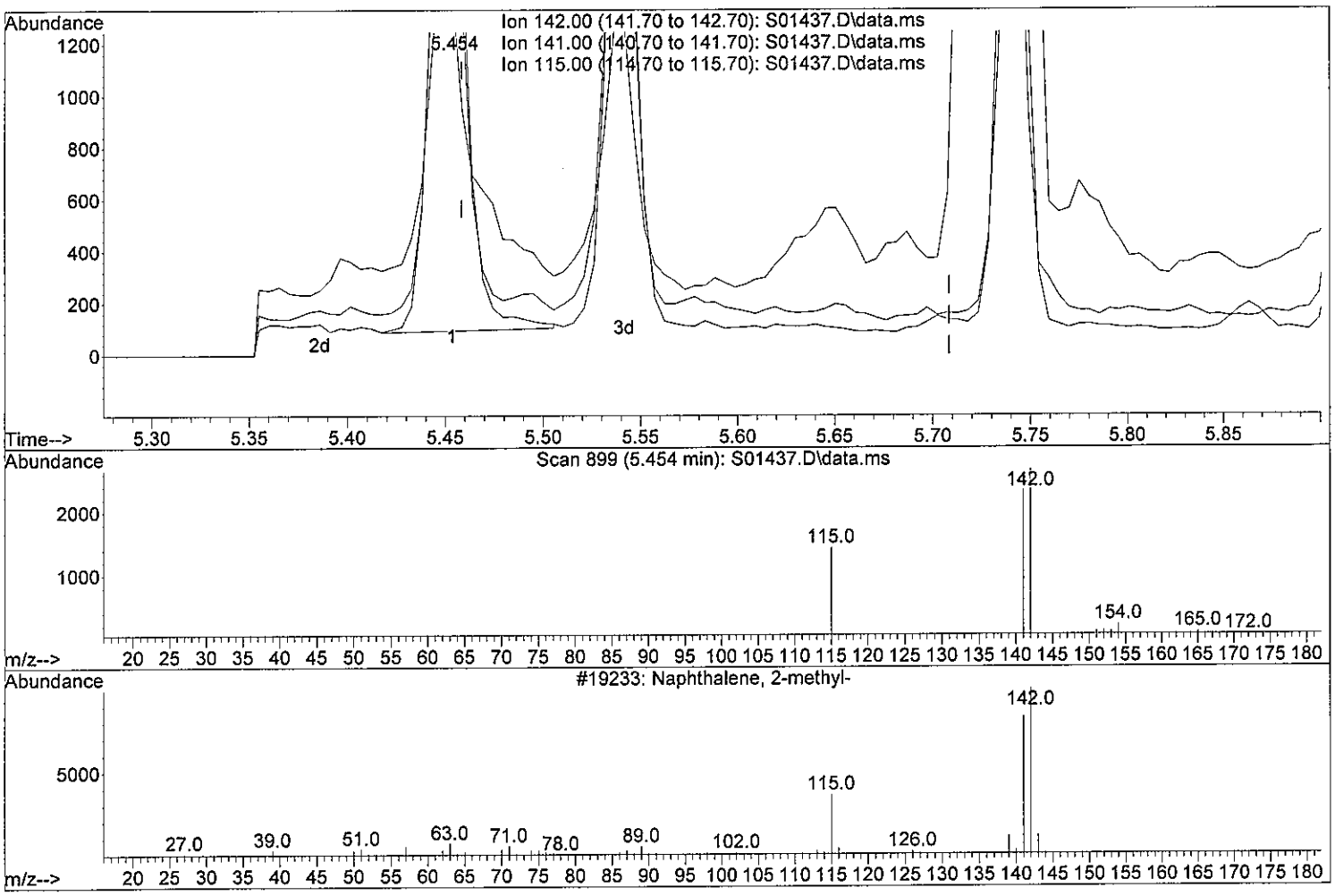
Ion	Ratio	Lower	Upper
142	100		
141	94.5	68.6	102.8
115	78.7	27.3	40.9#



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122613\
Data File : S01437.D
Acq On : 26 Dec 2013 5:46 pm
Operator : JK HPSV4 sn #: CV11451177
Sample : 1312158-1
Misc : WATER EX131216-8
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 30 10:33:32 2013
Quant Method : C:\msdchem\1\methods\122013SIM4.M
Quant Title :
QLast Update : Mon Dec 30 10:23:23 2013
Response via : Initial Calibration



TIC: S01437.D\data.ms

(4) 2-Methylnaphthalene (Tm)

5.454min (-0.005) 28.34 ng/ml m

response 2992

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	85.70	106.22#
115.00	34.10	88.47#
0.00	0.00	0.00

MANUAL RE-INTEGRATION

- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☑ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials JK *date* 12-30-13

Miscellaneous

442101

ALS Laboratory Group

SEMIVOLATILES EXTRACTION / CLEANUP WORKSHEET

Full + 1sp

WO #s 1312158 Matrix AQ Batch ID EX131216-8 Sur Code ST131201-1 MSpike Code ST130530-4 Balance ID N/A Extr SOP/Rev 6/11 Extr Code: 8270D

EXTRACTION METHOD	Steam Bath: ~60°C Proper N-Evap Station flow settings used? (Y)		CLEANUP CODE:	
(3520C) CLE (3510)SEP (3550_)SONC (3540)SOX (3580A) Waste Dilution (3546(Microwave.extraction (form 609r16.doc)	Extraction Start: Date/Time: 12/16/13 1537 Extraction Stop: Date/Time: 12/18/13 0815 Initials JC	LOTS: $MeCL_2$ 135527 H_2SO_4 521129 Hexane: N/A NaOH 31770 Acetone: ↓ Na_2SO_4 N/A Florisil ↓ Silica Gel N/A	(3650B)Florisil Silica Gel (3640A)GPC (see other forms) Cleanup SOP/Rev N/A Date/Time ↓ Initials ↓	Reviewed By JC Date: 12/18/13 Each page is copied as completed and included with the workorder/run documentation; reviewed subsequently

SAMPLE								EXTRACT / CLEANUP					
Sample No.	Amount (g/mL)	Initial pH	pH (≤2)	pH (11-13)	Surrogate (mL)	Matrix Spike (mL)	Sur / Matrix Spike Witnessed	Date KD (Initial)	Cleanup Date	Date KD (Final)	Final Volume (mL)	Date Vialed	Comments
WMB	1000	5	1.3	12.8	1.0ml	N/A	X / JC	12/18/13	N/A	N/A	1.0mL	12/18/13	X ST130530-4 (full) 0.2ml
1312158-1	1060	6	1.3	12.8	↓	↓	↓	↓	↓	↓	↓	↓	X ST131202-1 (1:10) 0.1ml
WLS	1000	5	1.3	12.8		1.0ml							
WLSD	1000	5	1.3	12.8	↓	↓							Not enough sample was provided to perform MS/MSD
WBLS	1000	5	1.3	12.8	N/A	X	↓ ↓	↓	↓	↓	↓	↓	

N/A 12/18/13