received 08/31/2015
Spill/release 442969
Document 2315432

GC/MS Semivolatiles

SIMPAH

Case Narrative

Colorado Oil & Gas Conservation Commission

Box Elder Creek

Work Order Number: 1508348

1. This report consists of 2 water samples. The samples were received cool and intact by ALS on 08/21/15.

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

3. The extracts were analyzed using GC/MS with a DB-5MS capillary column according to the current revision of SOP 506 based on SW-846 Method 8270D. The samples were analyzed using selective ion monitoring (SIM), in order to achieve lower reporting limits. 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 a limited number of major ions from the 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 compounds in the daily (continuing) calibration verifications were within 20%D.

7. All method blank criteria were met.

8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria with the following exception:

Spiked Compound	QC Sample	Direction
Anthracene	LCS & LCSD	Low

Because of the large number of target analytes reported by this method, the lab allows for sporadic marginal exceedances.

Further investigation of the analytical standard lot number used for laboratory control samples revealed a pattern of low anthracene results. All second-source initial calibration verification (ICV) and continuing calibration verification (CCV) results were met. The low anthracene results are limited to the laboratory control samples and the recoveries of anthracene in the client samples are not affected.

9. A matrix spike and matrix spike duplicate were not performed because of insufficient sample. A laboratory control sample and laboratory control sample duplicate were performed instead.

10. The samples were extracted and analyzed within the established holding times.

11. All surrogate recoveries were within acceptance criteria.

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.

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 — 8/31/15
Emily Lyons — Date
Organics Primary Data Reviewer

8/31/15
Organics Final Data Reviewer — Date

ALS
Data Qualifier Flags
Organics

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.**

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1508348
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Box Elder Creek
Client Project Number:
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Box Elder Down	1508348-1		WATER	20-Aug-15	11:48
Box Elder Up	1508348-2		WATER	20-Aug-15	14:05
Trip Blank	1508348-3		WATER	20-Aug-15	7:00

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 # 1508348

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DISPOSAL By Lab or Return to Client

PROJECT NAME	Box Elder Creek	SAMPLER	Contantas
PROJECT No.		SITE ID	
		EDD FORMAT	CCCC
COMPANY NAME	Colorado Oil & Gas Cons. Com	PURCHASE ORDER	
SEND REPORT TO	Peter Contantas	BILL TO COMPANY	
ADDRESS		INVOICE ATTN TO	
CITY / STATE / ZIP		ADDRESS	
PHONE		CITY / STATE / ZIP	
FAX		PHONE	
E-MAIL	peter.contantas@state.co.us	FAX	
		E-MAIL	

DATE 7 Aug 2015

TURNAROUND

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	EDB / GRO	TCC	8270 SIM PAH	DRO	Metals - Dissolved	BTEX / TPH / HEM / SGT	PAH	PDS	Anions	Specific Conductance	Total Alkalinity	GRO Calc
(1)	Box Elder Down	W	7 Aug 15	11:45	6	HCl	X	X											
↓	Box Elder Down	W	7 Aug 15	11:45	5	E				X	X	X	X	X	X	X	X	X	
↓	Box Elder Down	W	7 Aug 15	11:45	1	3			X										
(2)	Box Elder up	W	7 Aug 15	14:05	3	HCl		X											
↓	Box Elder up	W	7 Aug 15	14:05	5	E				X	X	X	X	X	X	X	X	X	
↓	Box Elder up	W	7 Aug 15	14:05	1	3			X										
(3)	Trip Blank	W	7 Aug 15	07:00	3	1		X											
	NCAst GRO 3 day if possible																		
	rest 14 days																		

*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:	QC PACKAGE (check below)	
Filter & preserve metals on receipt = dissolved 200.7_CCCC-11, Be_200.7_CCCC 200.8_CCCC-16, Ni_200.8, Th_200.8 Anions = Br, Cl, F, NO2, NO3, SO4	X	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

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 Contantas	7 Aug 15	08:05
RECEIVED BY		Zach D. Gallunais	8/7/15	8:05
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

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ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1508348

Project Manager: AW Initials: CDT Date: 8-21-15

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):	1.6							
No. of custody seals on cooler:	1							
DOT Survey/ Acceptance Information — External µR/hr reading:	NA							
Background µR/hr reading:	NA							

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: 8/21/15

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

GC/MS Semi-volatiles

Method SW8270SIMD

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: EX150826-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: N/A
File Name: S03199

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

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
91-20-3	NAPHTHALENE	1	0.1	0.1	0.03	U	
91-57-6	2-METHYLNAPHTHALENE	1	0.1	0.1	0.03	U	
90-12-0	1-METHYLNAPHTHALENE	1	0.1	0.1	0.03	U	
208-96-8	ACENAPHTHYLENE	1	0.1	0.1	0.03	U	
83-32-9	ACENAPHTHENE	1	0.1	0.1	0.03	U	
86-73-7	FLUORENE	1	0.1	0.1	0.03	U	
85-01-8	PHENANTHRENE	1	0.1	0.1	0.03	U	
120-12-7	ANTHRACENE	1	0.1	0.1	0.033	U	
206-44-0	FLUORANTHENE	1	0.1	0.1	0.03	U	
129-00-0	PYRENE	1	0.1	0.1	0.033	U	
56-55-3	BENZO(A)ANTHRACENE	1	0.1	0.1	0.03	U	
218-01-9	CHRYSENE	1	0.1	0.1	0.03	U	
205-99-2	BENZO(B)FLUORANTHENE	1	0.1	0.1	0.033	U	
207-08-9	BENZO(K)FLUORANTHENE	1	0.1	0.1	0.03	U	
50-32-8	BENZO(A)PYRENE	1	0.1	0.1	0.035	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	0.1	0.1	0.034	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	0.1	0.1	0.03	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.1	0.1	0.042	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	1.61		2	81	21 - 106
4165-60-0	NITROBENZENE-D5	1.45		2	72	34 - 111
1718-51-0	TERPHENYL-D14	1.52		2	76	33 - 111

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIM

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:

Lab ID: EX150826-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Clean DF: 1
File Name: S03199

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down
Lab ID: 1508348-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15
Prep Method: SW3520BN Rev C

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received
File Name: S03203

Analyst: Tyler Knaebel
Sample Aliquot: 1005 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
91-20-3	NAPHTHALENE	1	0.045	0.1	0.03	J	
91-57-6	2-METHYLNAPHTHALENE	1	0.1	0.1	0.03	U	
90-12-0	1-METHYLNAPHTHALENE	1	0.1	0.1	0.03	U	
208-96-8	ACENAPHTHYLENE	1	0.1	0.1	0.03	U	
83-32-9	ACENAPHTHENE	1	0.1	0.1	0.03	U	
86-73-7	FLUORENE	1	0.1	0.1	0.03	U	
85-01-8	PHENANTHRENE	1	0.1	0.1	0.03	U	
120-12-7	ANTHRACENE	1	0.1	0.1	0.033	U	
206-44-0	FLUORANTHENE	1	0.1	0.1	0.03	U	
129-00-0	PYRENE	1	0.1	0.1	0.033	U	
56-55-3	BENZO(A)ANTHRACENE	1	0.1	0.1	0.03	U	
218-01-9	CHRYSENE	1	0.1	0.1	0.03	U	
205-99-2	BENZO(B)FLUORANTHENE	1	0.1	0.1	0.033	U	
207-08-9	BENZO(K)FLUORANTHENE	1	0.1	0.1	0.03	U	
50-32-8	BENZO(A)PYRENE	1	0.1	0.1	0.035	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	0.1	0.1	0.034	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	0.1	0.1	0.03	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.1	0.1	0.042	U	

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down
Lab ID: 1508348-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15
Prep Method: SW3520BN Rev C

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received
File Name: S03203

Analyst: Tyler Knaebel
Sample Aliquot: 1005 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

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

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	1.52		1.99	76	21 - 106
4165-60-0	NITROBENZENE-D5	1.49		1.99	75	34 - 111
1718-51-0	TERPHENYL-D14	1.2		1.99	60	33 - 111

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIM

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down
Lab ID: 1508348-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 1005 ml
Final Volume: 1 ml
Clean DF: 1
File Name: S03202

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up
Lab ID: 1508348-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15
Prep Method: SW3520BN Rev C

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received
File Name: S03204

Analyst: Tyler Knaebel
Sample Aliquot: 1045 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
91-20-3	NAPHTHALENE	1	0.096	0.096	0.029	U	
91-57-6	2-METHYLNAPHTHALENE	1	0.096	0.096	0.029	U	
90-12-0	1-METHYLNAPHTHALENE	1	0.096	0.096	0.029	U	
208-96-8	ACENAPHTHYLENE	1	0.096	0.096	0.029	U	
83-32-9	ACENAPHTHENE	1	0.096	0.096	0.029	U	
86-73-7	FLUORENE	1	0.096	0.096	0.029	U	
85-01-8	PHENANTHRENE	1	0.096	0.096	0.029	U	
120-12-7	ANTHRACENE	1	0.096	0.096	0.032	U	
206-44-0	FLUORANTHENE	1	0.096	0.096	0.029	U	
129-00-0	PYRENE	1	0.096	0.096	0.032	U	
56-55-3	BENZO(A)ANTHRACENE	1	0.096	0.096	0.029	U	
218-01-9	CHRYSENE	1	0.096	0.096	0.029	U	
205-99-2	BENZO(B)FLUORANTHENE	1	0.096	0.096	0.032	U	
207-08-9	BENZO(K)FLUORANTHENE	1	0.096	0.096	0.029	U	
50-32-8	BENZO(A)PYRENE	1	0.096	0.096	0.033	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	0.096	0.096	0.033	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	0.096	0.096	0.029	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	0.096	0.096	0.04	U	

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up
Lab ID: 1508348-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15
Prep Method: SW3520BN Rev C

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received
File Name: S03204

Analyst: Tyler Knaebel
Sample Aliquot: 1045 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

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

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
321-60-8	2-FLUOROBIPHENYL	1.43		1.91	75	21 - 106
4165-60-0	NITROBENZENE-D5	1.34		1.91	70	34 - 111
1718-51-0	TERPHENYL-D14	1.07		1.91	56	33 - 111

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIM

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up
Lab ID: 1508348-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Aug-15
Date Extracted: 26-Aug-15
Date Analyzed: 29-Aug-15

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 1045 ml
Final Volume: 1 ml
Clean DF: 1
File Name: S03204

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: EX150826-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/26/2015
Date Analyzed: 08/29/2015
Prep Method: SW3520BNC

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: N/A
File Name: S03200

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

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
91-20-3	NAPHTHALENE	2	1.45	0.1		73	39 - 102%
91-57-6	2-METHYLNAPHTHALENE	2	1.34	0.1		67	46 - 104%
90-12-0	1-METHYLNAPHTHALENE	2	1.41	0.1		71	60 - 100%
208-96-8	ACENAPHTHYLENE	2	1.28	0.1		64	50 - 107%
83-32-9	ACENAPHTHENE	2	1.39	0.1		70	47 - 108%
86-73-7	FLUORENE	2	1.37	0.1		69	50 - 112%
85-01-8	PHENANTHRENE	2	1.4	0.1		70	51 - 117%
120-12-7	ANTHRACENE	2	0.908	0.1	*	45	54 - 112%
206-44-0	FLUORANTHENE	2	1.47	0.1		73	54 - 116%
129-00-0	PYRENE	2	1.56	0.1		78	49 - 128%
56-55-3	BENZO(A)ANTHRACENE	2	1.35	0.1		68	56 - 109%
218-01-9	CHRYSENE	2	1.57	0.1		78	55 - 109%
205-99-2	BENZO(B)FLUORANTHENE	2	1.75	0.1		88	46 - 118%
207-08-9	BENZO(K)FLUORANTHENE	2	1.63	0.1		82	45 - 124%
50-32-8	BENZO(A)PYRENE	2	1.48	0.1		74	53 - 110%
193-39-5	INDENO(1,2,3-CD)PYRENE	2	1.64	0.1		82	63 - 121%
53-70-3	DIBENZO(A,H)ANTHRACENE	2	1.59	0.1		80	62 - 124%
191-24-2	BENZO(G,H,I)PERYLENE	2	1.63	0.1		81	38 - 123%

Data Package ID: *SV1508348-2*

GC/MS Semi-volatiles

Method SW8270SIMD

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1508348
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Box Elder Creek

Lab ID: EX150826-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/26/2015
Date Analyzed: 08/29/2015
Prep Method: SW3520BNC

Prep Batch: EX150826-2
QCBatchID: EX150826-2-1
Run ID: SV150829-4
Cleanup: NONE
Basis: N/A
File Name: S03201

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

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
91-20-3	NAPHTHALENE	2	1.44	0.1		72	20	1
91-57-6	2-METHYLNAPHTHALENE	2	1.35	0.1		67	20	0
90-12-0	1-METHYLNAPHTHALENE	2	1.43	0.1		71	20	1
208-96-8	ACENAPHTHYLENE	2	1.32	0.1		66	20	3
83-32-9	ACENAPHTHENE	2	1.45	0.1		73	20	4
86-73-7	FLUORENE	2	1.46	0.1		73	20	6
85-01-8	PHENANTHRENE	2	1.49	0.1		74	20	6
120-12-7	ANTHRACENE	2	0.945	0.1	*	47	20	4
206-44-0	FLUORANTHENE	2	1.51	0.1		76	20	3
129-00-0	PYRENE	2	1.59	0.1		80	20	2
56-55-3	BENZO(A)ANTHRACENE	2	1.36	0.1		68	20	0
218-01-9	CHRYSENE	2	1.62	0.1		81	20	3
205-99-2	BENZO(B)FLUORANTHENE	2	1.69	0.1		85	20	3
207-08-9	BENZO(K)FLUORANTHENE	2	1.77	0.1		89	20	8
50-32-8	BENZO(A)PYRENE	2	1.52	0.1		76	20	3
193-39-5	INDENO(1,2,3-CD)PYRENE	2	1.67	0.1		84	20	2
53-70-3	DIBENZO(A,H)ANTHRACENE	2	1.61	0.1		80	20	1
191-24-2	BENZO(G,H,I)PERYLENE	2	1.66	0.1		83	20	2

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
321-60-8	2-FLUOROBIPHENYL	2	74		76		21 - 106
4165-60-0	NITROBENZENE-D5	2	72		70		34 - 111
1718-51-0	TERPHENYL-D14	2	72		74		33 - 111

Data Package ID: *SV1508348-2*

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03198.D
Acq On : 29 Aug 2015 8:49 am
Operator : TK HPSV4 sn #: CV11451177
Sample : SIM PAH CCV 500
Misc : ST150630-4
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 09:40:38 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.826	136	271284	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.359	164	142252	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.646	188	290331	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.943	240	259094	2000.00	ng/ml	# 0.00
21) Perylene-d12	11.479	264	186719	2000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.176	82	21067	464.79	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	23.24%#		
7) 2-Fluorobiphenyl	5.742	172	62712	523.88	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	26.19%		
18) p-Terphenyl-d14	8.977	244	50023	429.86	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	21.49%#		
Target Compounds						Qvalue
3) Naphthalene	4.845	128	76689	512.98	ng/ml	99
4) 2-Methylnaphthalene	5.441	142	44876	464.52	ng/ml	96
5) 1-Methylnaphthalene	5.529	142	45924	503.21	ng/ml	97
8) Acenaphthylene	6.239	152	64589	450.10	ng/ml#	99
9) Acenaphthene	6.385	154	49454	528.67	ng/ml	98
10) Fluorene	6.830	166	54327	496.67	ng/ml	99
12) Hexachlorobenzene	7.316	284	14957	486.44	ng/ml	96
13) Phenanthrene	7.665	178	85629	504.49	ng/ml	100
14) Anthracene	7.711	178	71715	456.09	ng/ml	99
15) Fluoranthene	8.700	202	86665	455.95	ng/ml#	99
17) Pyrene	8.905	202	91811	507.07	ng/ml#	99
19) Benzo[a]anthracene	9.928	228	57616	437.63	ng/ml	100
20) Chrysene	9.966	228	93143	528.42	ng/ml	99
22) Benzo[b]fluoranthene	11.010	252	60218	496.55	ng/ml	99
23) Benzo[k]fluoranthene	11.040	252	75566	514.21	ng/ml#	98
24) Benzo[a]pyrene	11.410	252	57756	498.66	ng/ml	98
25) Indeno(1,2,3-c,d)pyrene	13.015	276	63359	503.97	ng/ml	98
26) Dibenzo[a,h]anthracene	13.008	278	49674	492.85	ng/ml	95
27) Benzo[g,h,i]perylene	13.495	276	57363	509.09	ng/ml	98

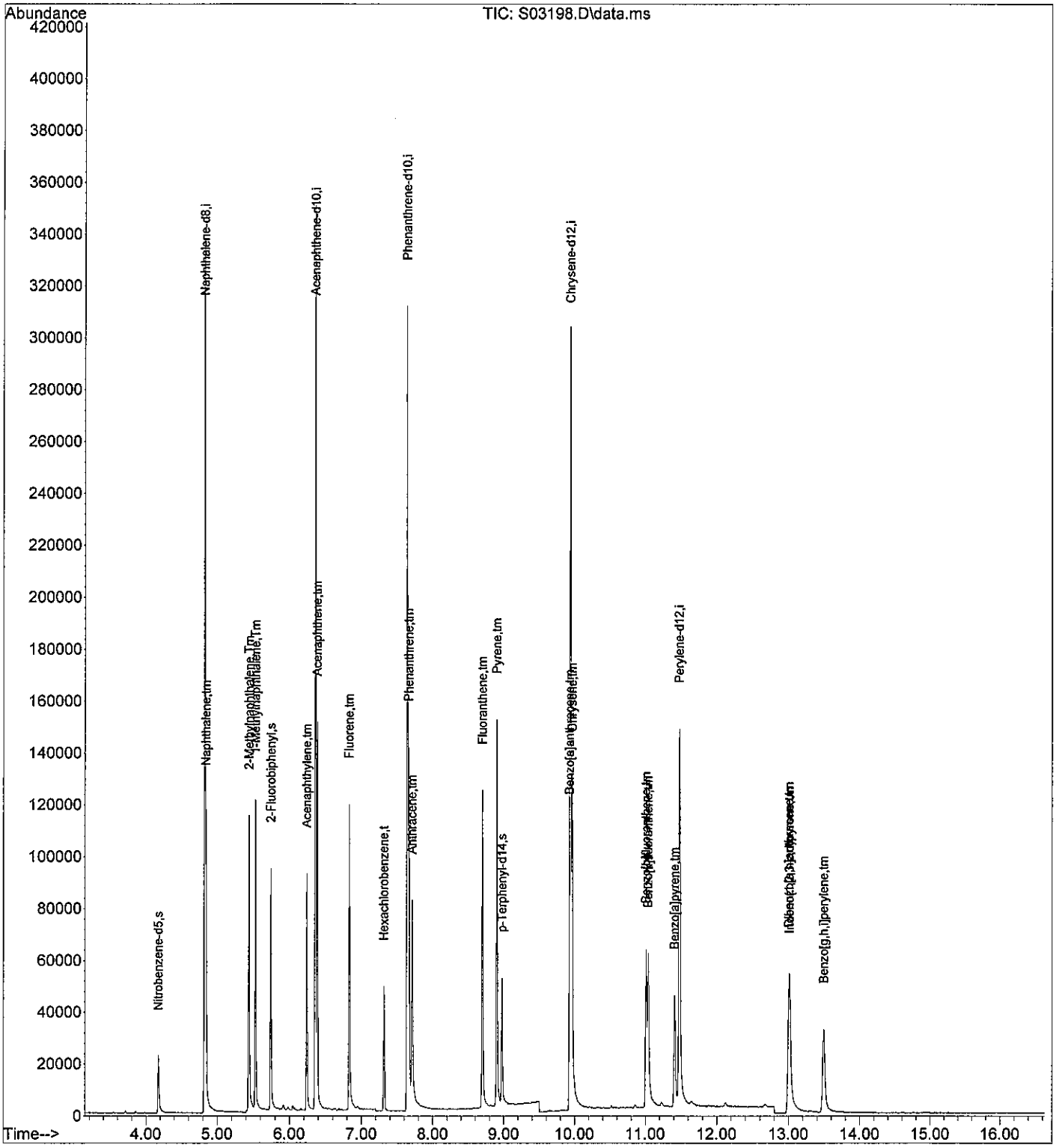
(#) = qualifier out of range (m) = manual integration (+) = signals summed

TM 8/31/15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03198.D
Acq On : 29 Aug 2015 8:49 am
Operator : TK HPSV4 sn #: CV11451177
Sample : SIM PAH CCV 500
Misc : ST150630-4
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 09:40:38 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03199.D
Acq On : 29 Aug 2015 9:14 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2MB
Misc : ST150630-4
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 09:41:19 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.826	136	196790	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.364	164	101478	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.652	188	204140	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.951	240	180027	2000.00	ng/ml	# 0.00
21) Perylene-d12	11.490	264	125064	2000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.175	82	47532	1445.64	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	72.28%		
7) 2-Fluorobiphenyl	5.741	172	137823	1613.95	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	80.70%		
18) p-Terphenyl-d14	8.984	244	123008	1521.29	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	76.06%		
Target Compounds						Qvalue

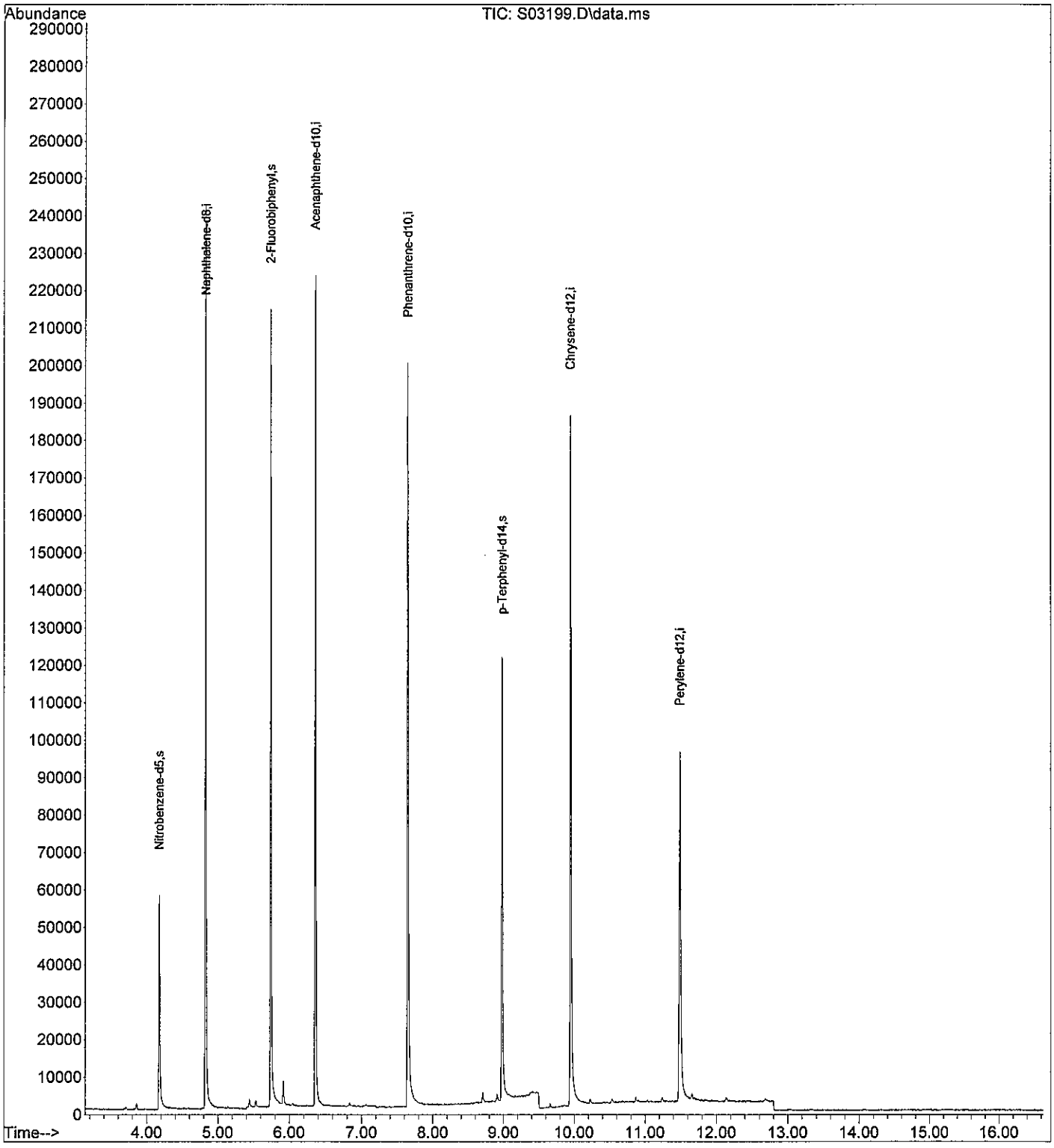
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9/1/15

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03199.D
Acq On : 29 Aug 2015 9:14 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2MB
Misc : ST150630-4
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 09:41:19 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03200.D
Acq On : 29 Aug 2015 9:35 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2LCS
Misc : ST150630-4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 09:54:03 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

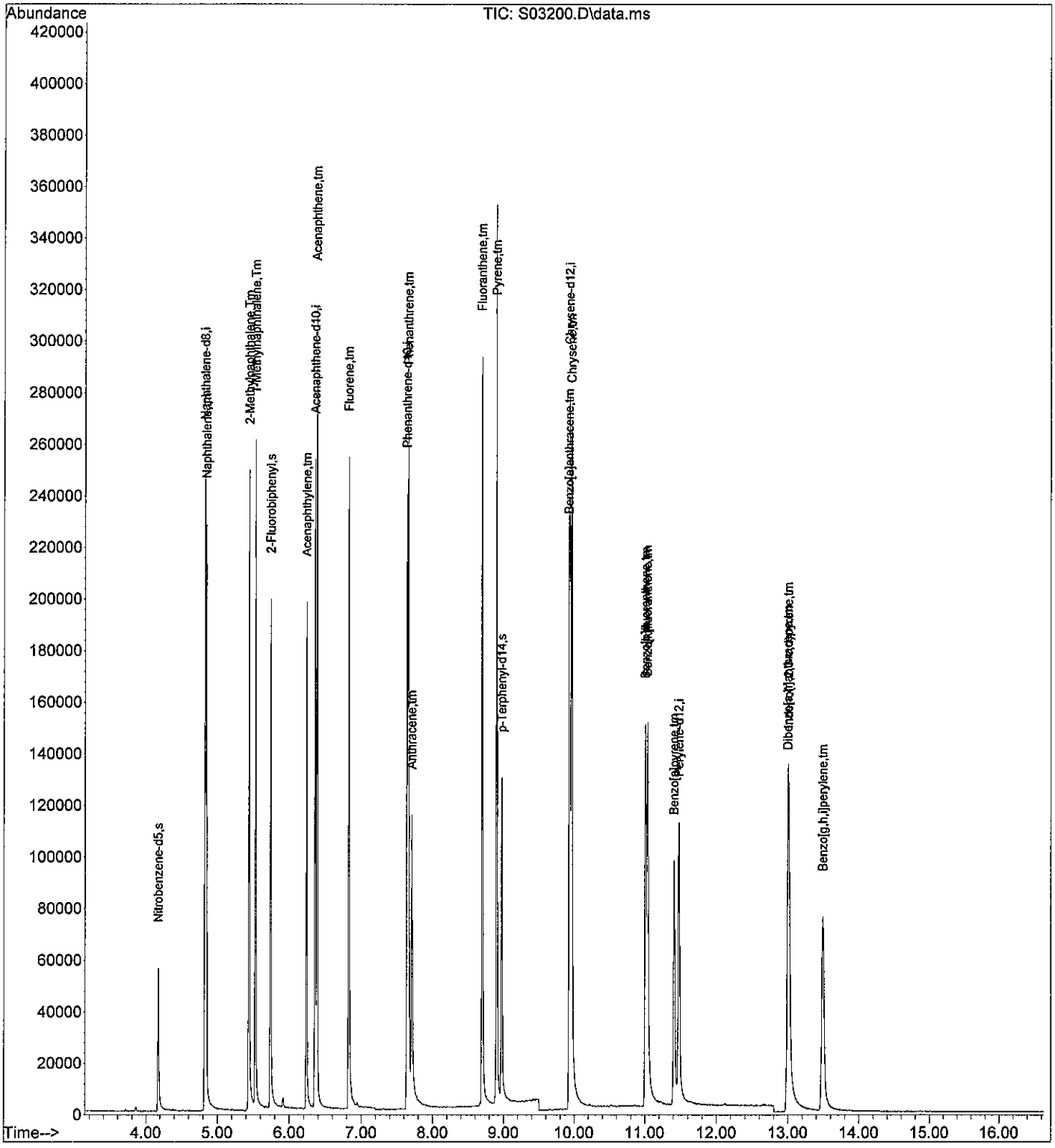
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.826	136	200572	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.358	164	106356	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.645	188	215806	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.939	240	199857	2000.00	ng/ml	#-0.01
21) Perylene-d12	11.478	264	137583	2000.00	ng/ml	# 0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	4.175	82	48558	1449.00	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	72.45%		
7) 2-Fluorobiphenyl	5.741	172	132572	1481.26	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	74.06%		
18) p-Terphenyl-d14	8.977	244	129366	1441.18	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	72.06%		
Target Compounds						Qvalue
3) Naphthalene	4.845	128	160545	1452.51	ng/ml	99
4) 2-Methylnaphthalene	5.440	142	95936	1343.17	ng/ml	99
5) 1-Methylnaphthalene	5.529	142	95348	1413.11	ng/ml	97
8) Acenaphthylene	6.239	152	137668	1283.17	ng/ml#	99
9) Acenaphthene	6.384	154	97215	1390.01	ng/ml	100
10) Fluorene	6.830	166	112432	1374.81	ng/ml	99
13) Phenanthrene	7.665	178	176754	1400.98	ng/ml	99
14) Anthracene	7.711	178	106090	907.71	ng/ml	100 low
15) Fluoranthene	8.700	202	207124	1465.99	ng/ml#	100
17) Pyrene	8.904	202	217280	1555.71	ng/ml#	100
19) Benzo[a]anthracene	9.927	228	137573	1354.66	ng/ml	99
20) Chrysene	9.966	228	213135	1567.54	ng/ml	99
22) Benzo[b]fluoranthene	11.010	252	156758	1754.23	ng/ml	99
23) Benzo[k]fluoranthene	11.036	252	177036	1634.94	ng/ml	99
24) Benzo[a]pyrene	11.410	252	126407	1481.17	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	13.010	276	151523	1635.68	ng/ml	97
26) Dibenzo[a,h]anthracene	13.000	278	118211	1591.72	ng/ml	98
27) Benzo[g,h,i]perylene	13.492	276	134925	1625.10	ng/ml	99

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

Tm 9/21/15

Data Path : C:\msdchem\1\data\082915\
Data File : S03200.D
Acq On : 29 Aug 2015 9:35 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2LCS
Misc : ST150630-4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 09:54:03 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03201.D
Acq On : 29 Aug 2015 9:55 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2LCSD
Misc : ST150630-4
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 11:31:12 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.824	136	202236	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.359	164	106857	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.646	188	216327	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.939	240	201862	2000.00	ng/ml	#-0.01
21) Perylene-d12	11.475	264	138457	2000.00	ng/ml	#-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	4.176	82	46974	1390.19	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	69.51%		
7) 2-Fluorobiphenyl	5.742	172	136832	1521.69	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	76.08%		
18) p-Terphenyl-d14	8.971	244	134660	1485.26	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	74.26%		
Target Compounds						Qvalue
3) Naphthalene	4.843	128	159941	1435.14	ng/ml	99
4) 2-Methylnaphthalene	5.441	142	96875	1345.15	ng/ml	99
5) 1-Methylnaphthalene	5.529	142	97186	1428.50	ng/ml	97
8) Acenaphthylene	6.239	152	142260	1319.76	ng/ml#	99
9) Acenaphthene	6.385	154	101930	1450.59	ng/ml	99
10) Fluorene	6.830	166	120350	1464.73	ng/ml	100
13) Phenanthrene	7.665	178	187841	1485.27	ng/ml	100
14) Anthracene	7.711	178	110745	945.25	ng/ml	99 low
15) Fluoranthene	8.694	202	214031	1511.23	ng/ml#	100
17) Pyrene	8.905	202	224603	1592.17	ng/ml#	100
19) Benzo[a]anthracene	9.928	228	139554	1360.52	ng/ml	100
20) Chrysene	9.962	228	222506	1620.21	ng/ml	99
22) Benzo[b]fluoranthene	11.006	252	152380	1694.47	ng/ml	99
23) Benzo[k]fluoranthene	11.037	252	193142	1772.42	ng/ml	99
24) Benzo[a]pyrene	11.410	252	130862	1523.69	ng/ml	99
25) Indeno(1,2,3-c,d)pyrene	13.011	276	155914	1672.45	ng/ml	97
26) Dibenzo[a,h]anthracene	13.001	278	120250	1608.96	ng/ml	98
27) Benzo[g,h,i]perylene	13.490	276	139112	1664.95	ng/ml	99

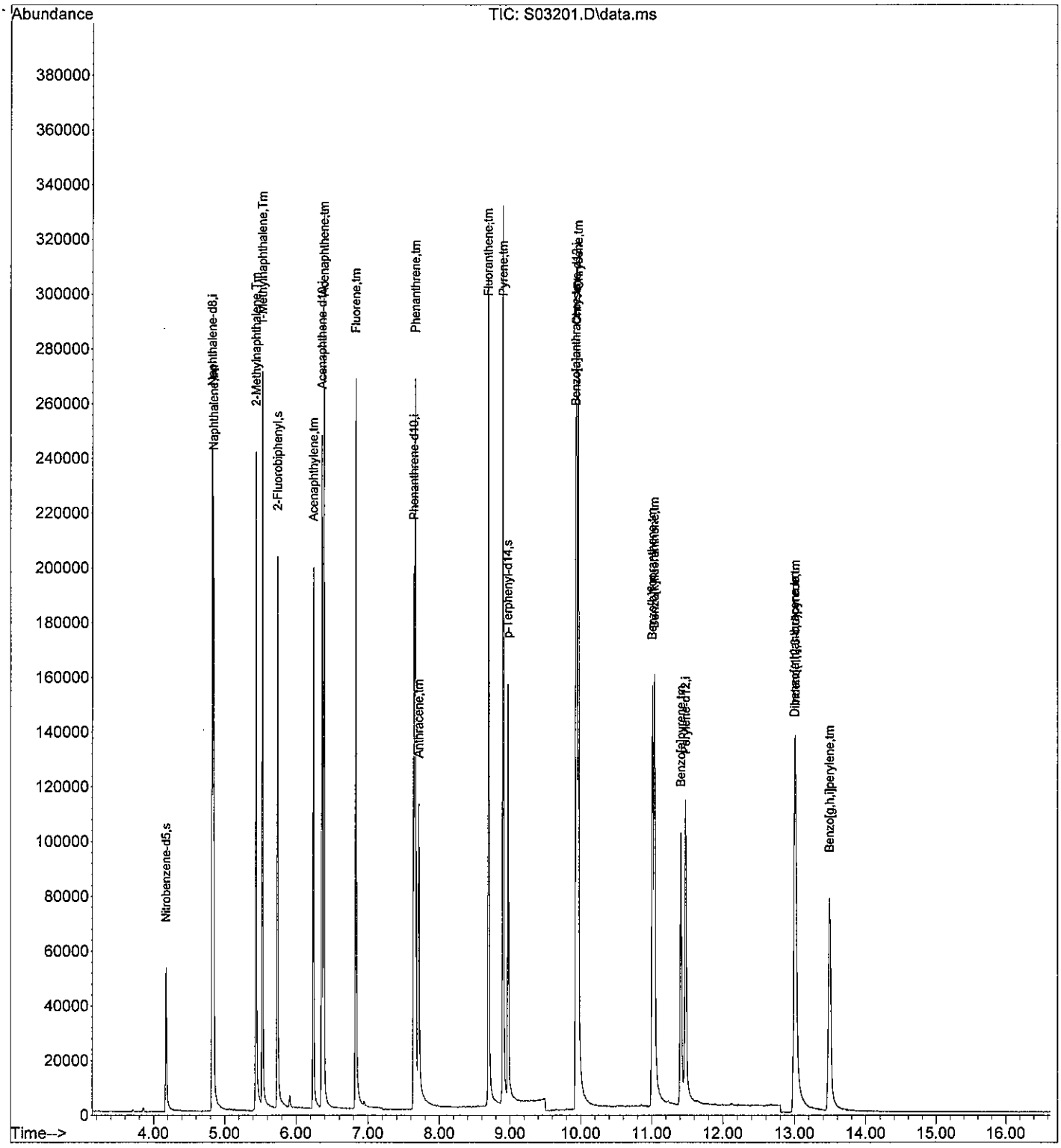
(#) = qualifier out of range (m) = manual integration (+) = signals summed

TW 8/31/15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03201.D
Acq On : 29 Aug 2015 9:55 am
Operator : TK HPSV4 sn #: CV11451177
Sample : EX150826-2LCSD
Misc : ST150630-4
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 11:31:12 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03202.D
Acq On : 29 Aug 2015 10:16 am
Operator : TK HPSV4 sn #: CV11451177
Sample : 1508348-1
Misc : ST150630-4
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 11:31:45 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.826	136	194864	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.358	164	103266	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.645	188	210726	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.939	240	186542	2000.00	ng/ml	#-0.01
21) Perylene-d12	11.474	264	128699	2000.00	ng/ml	#-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	4.175	82	47806	1468.34	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	73.42%		
7) 2-Fluorobiphenyl	5.741	172	135322	1557.23	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	77.86%		
18) p-Terphenyl-d14	8.971	244	100115	1194.92	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	59.75%		
Target Compounds						Qvalue
3) Naphthalene	4.845	128	4917	45.79	ng/ml	# ✓ 89 J

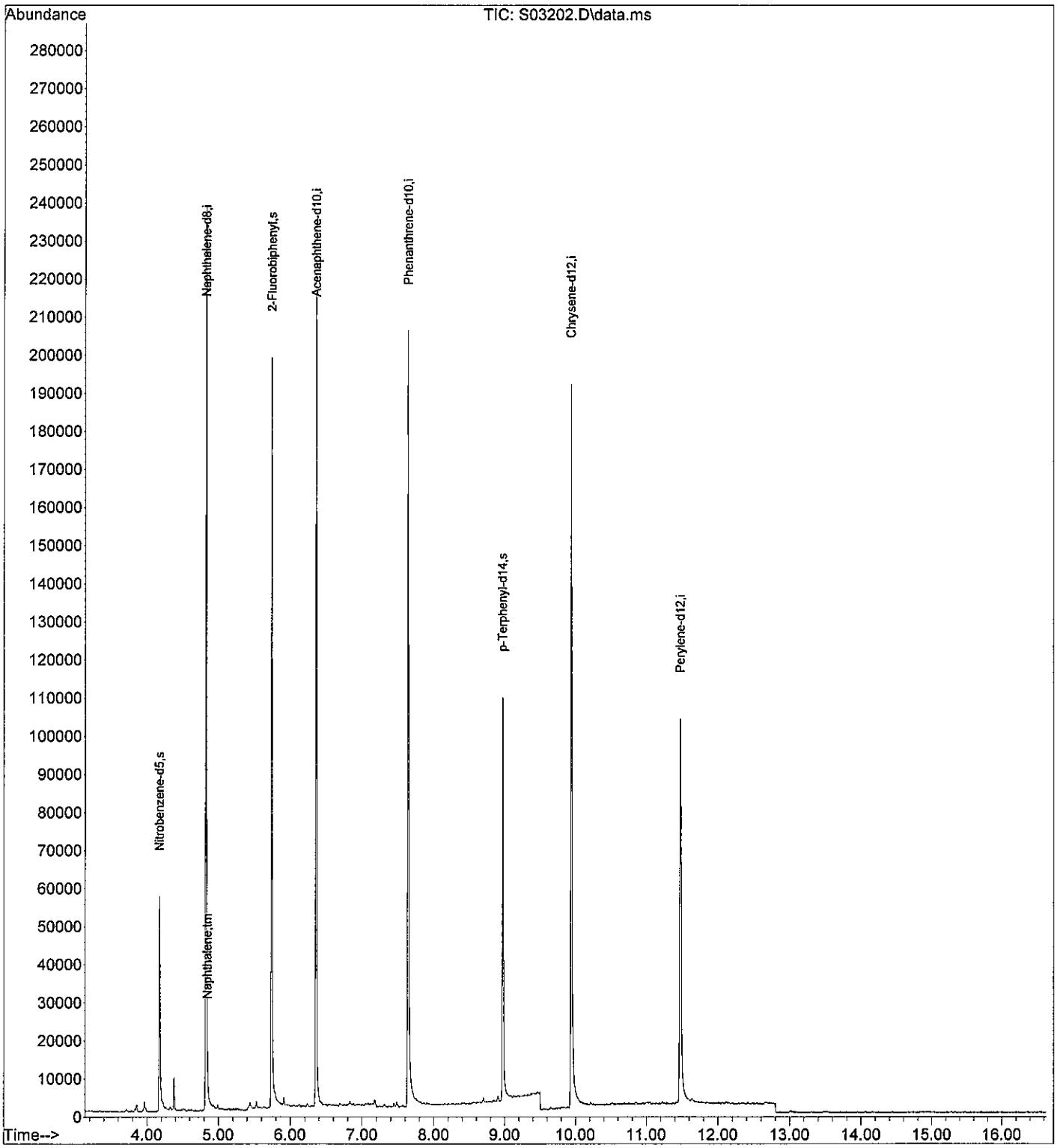
(#) = qualifier out of range (m) = manual integration (+) = signals summed

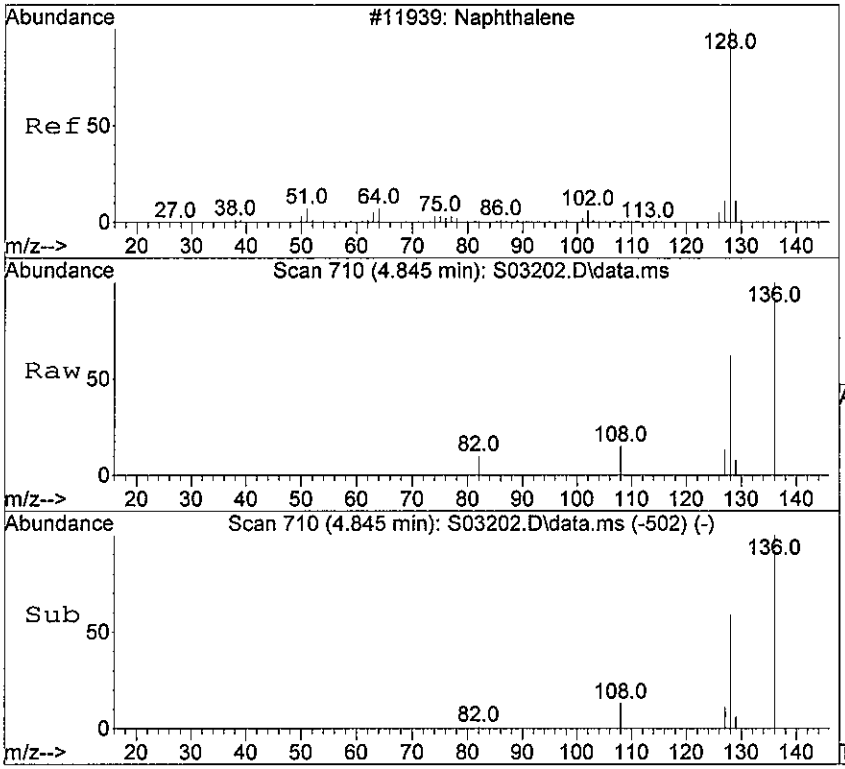
Ta 8/31/15

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03202.D
Acq On : 29 Aug 2015 10:16 am
Operator : TK HPSV4 sn #: CV11451177
Sample : 1508348-1
Misc : ST150630-4
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 11:31:45 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

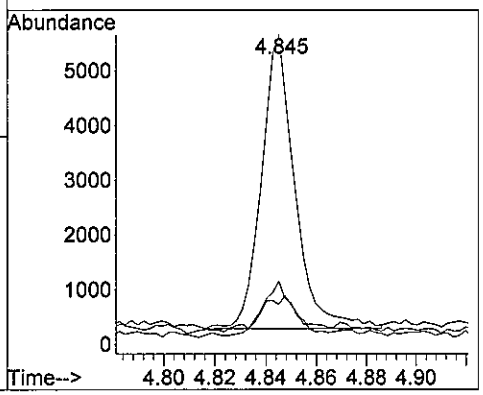




#3
Naphthalene
Concen: 45.79 ng/ml
RT: 4.845 min Scan# 710
Delta R.T. 0.002 min
Lab File: S03202.D
Acq: 29 Aug 2015 10:16 am

Tgt Ion:128 Resp: 4917

Ion	Ratio	Lower	Upper
128	100		
129	14.0	8.6	12.8#
127	19.6	11.6	17.4#



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03204.D
Acq On : 29 Aug 2015 10:57 am
Operator : TK HPSV4 sn #: CV11451177
Sample : 1508348-2
Misc : ST150630-4
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 29 11:31:58 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	4.826	136	196085	2000.00	ng/ml	# 0.00
6) Acenaphthene-d10	6.358	164	103704	2000.00	ng/ml	# 0.00
11) Phenanthrene-d10	7.645	188	209475	2000.00	ng/ml	# 0.00
16) Chrysene-d12	9.939	240	186106	2000.00	ng/ml	#-0.01
21) Perylene-d12	11.474	264	129499	2000.00	ng/ml	#-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	4.175	82	45709	1395.19	ng/ml	0.00
Spiked Amount 2000.000	Range 34 - 111		Recovery =	69.76%		
7) 2-Fluorobiphenyl	5.741	172	130515	1495.57	ng/ml	0.00
Spiked Amount 2000.000	Range 21 - 106		Recovery =	74.78%		
18) p-Terphenyl-d14	8.970	244	93240	1115.47	ng/ml	0.00
Spiked Amount 2000.000	Range 33 - 111		Recovery =	55.77%		
Target Compounds						Qvalue

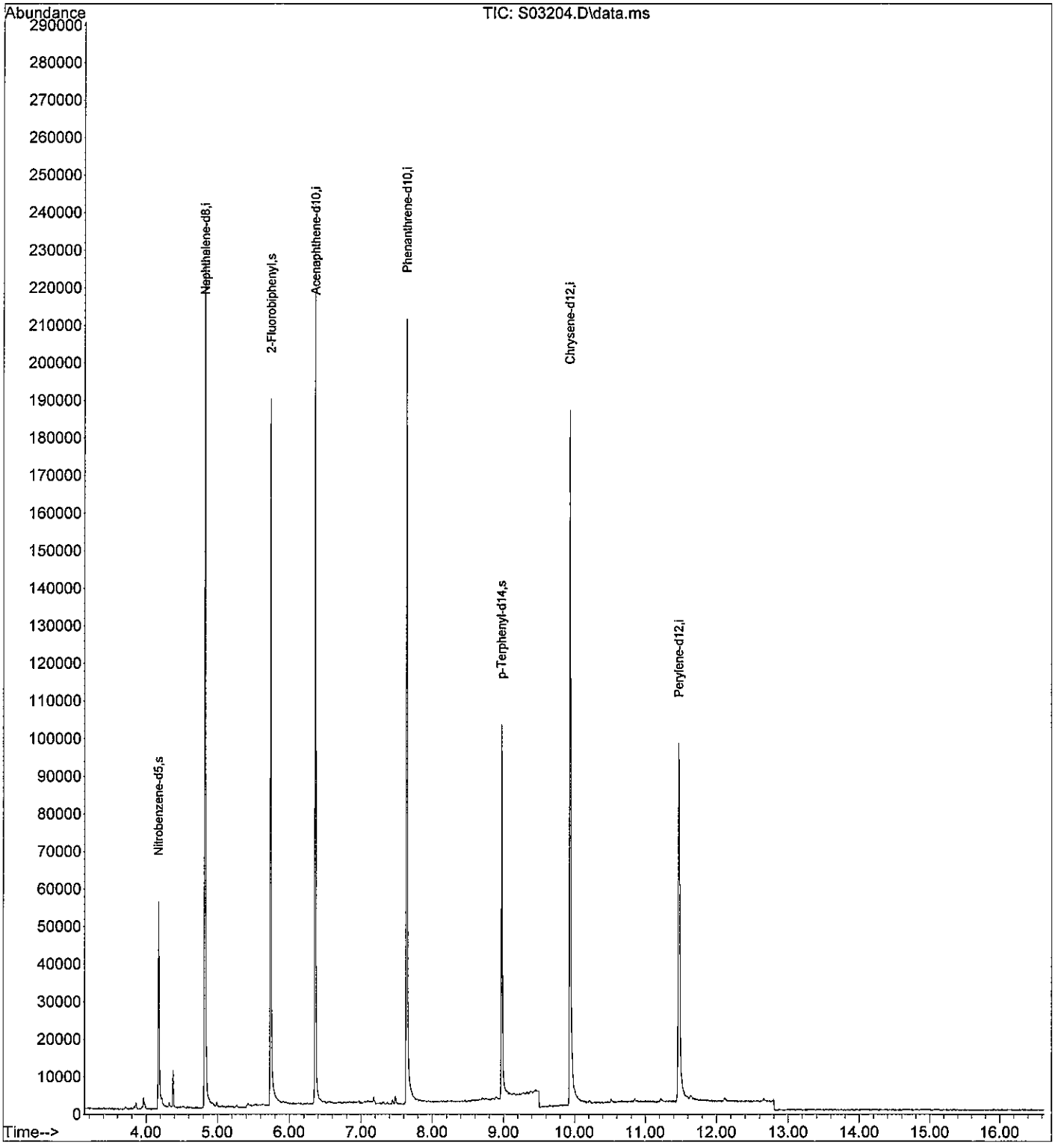
(#) = qualifier out of range (m) = manual integration (+) = signals summed

8/31/15

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\082915\
Data File : S03204.D
Acq On : 29 Aug 2015 10:57 am
Operator : TK HPSV4 sn #: CV11451177
Sample : 1508348-2
Misc : ST150630-4
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 29 11:31:58 2015
Quant Method : C:\msdchem\1\methods\080715SIM.M
Quant Title :
QLast Update : Thu Aug 27 13:27:44 2015
Response via : Initial Calibration



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ALS Laboratory Group

SEMIVOLATILES EXTRACTION / CLEANUP WORKSHEET

SM PrH

WO #s 1508348 Matrix AQ Batch ID EX150826-2 Sur Code ST150702-1 MSpike Code ST150818-5 Balance ID N/A Extr SOP/Rev 07/14 Extr Code: 8270D

EXTRACTION METHOD	Steam Bath: 62 °C Proper N-Evap Station flow settings used? (Y)		CLEANUP CODE:	
(3520C) CLE (3510)SEP	Extraction Start:	LOTS:	(3650B)Florisil Silica Gel	Reviewed By QLO
(3550_)SONC (3540)SOX	Date/Time: 8/26/15 15:15	$MeCl_2$ DM936 H_2SO_4 N/A	(3640A)GPC (see other forms)	Date: 8-27-15
(3580A) Waste Dilution	Extraction Stop:	Hexane: N/A NaOH 76480	Cleanup SOP/Rev N/A	Each page is copied as completed and included with the workorder/run documentation; reviewed subsequently
(3546(Microwave extraction	Date/Time: 8/27/15 08:15	Acetone: ↓ Na_2SO_4 107600	Date/Time ↓	
(form 609r16.doc)	Initials ↓	Florisil ↓ Silica Gel N/A	Initials ↓	

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	N/A	12.8	1.0mL	N/A	~~JA~~ JDO	8-27-15	N/A	N/A	1.0mL	8-27-15	
1508348-1	1005	7	↓	12.8	↓	↓	↓	↓	↓	↓	↓	↓	
↓ -2	1045	7		12.8		↓							
WLCS	1000	5		12.8		1.0mL							
WLCSD	1000	5	↓	12.8	↓	↓	↓	↓	↓	↓	↓	↓	

JDO 8-27-15