N00174.AR.001952
NSWC INDIAN HEAD
5090.3a

VALIDATED DATA PACKAGE, 76657, NSWC INDIAN HEAD MD
7/13/2015
APPL LABS

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 74807

Summary Report

July 10, 2015

Tetra Tech
5700 Lake Wright Drive, Suite 309
Norfolk, Virginia 23502

Attn: Ed Corack

Title: Report of Data: Case 76657

Project: CTO JU11 112G02622 NSF Indian Head, MD

Contract #: Prime contract # for DoD: Navy CLEAN. N62470-08-D-1001
Subcontract: MSA # 1045497, Work Release # 08-JU11

Dear Mr. Corack:

Six water samples were received June 16, 2015, at 3.0°C, 3.0°C, and 3.0°C. Written results for the requested analyses are provided on this July 10, 2015.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Cynthia Clark, cclark@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/rp
Enclosure
cc: File

Number of pages in this report: 76

Sample receipt information

ARF: 76657

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The samples were received on June 16, 2015, at 3.0°C, 3.0°C, and 3.0°C. The samples were assigned Analytical Request Form (ARF) number 76657. The sample numbers and requested analyses were compared to the chain of custody. No exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
S67-MW026-061515	AZ17692	WATER	06/15/15	06/16/15
S67-MW026P-061515	AZ17693	WATER	06/15/15	06/16/15
S67-MW016-061515	AZ17694	WATER	06/15/15	06/16/15
S67-MW024-061515	AZ17695	WATER	06/15/15	06/16/15
S67-MW017-061515	AZ17696	WATER	06/15/15	06/16/15
S67-MW031-061515	AZ17697	WATER	06/15/15	06/16/15

The samples and blanks were screened for J-value responses between the detection limit (DL) and limit of quantitation (LOQ).

Laboratory control limits generated in house do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control limits generated for this project meet all control limits listed in the DoD QSM 4.2 except where noted. A copy of our in house generated control limits is available upon request. In addition, a copy of our LOQ control limits, established using 7 data points, are also available upon request.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request.

Measurement uncertainty can be reported upon request.

EPA Method 8270D
Semi-Volatile Organic Compounds

Sample Preparation and Analysis Information:

The water samples were extracted according to EPA method 3510C. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS. All holding times were met.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks

No target analyte was detected above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. All other surrogate recoveries were within the control limits.

Calibration

The initial and continuing calibrations were performed according to the method. All method acceptance criteria were met.

Tuning:

The instrument was tuned using DFTPP. All method criteria were met.

Internal Standards

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All method criteria were met.

Summary:

No problem was encountered. All data generated are acceptable.

EPA Method 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Sample Preparation and Analysis Information:

The water samples were extracted according to EPA method 3510C. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS with selective ion monitoring. All holding times were met.

Manual integrations were performed in accordance with APPL's SOP. The surrogate 2-Fluorobiphenyl was manually integrated in sample S67-MW016-061515. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks

No target analyte was detected above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. All surrogate recoveries were within the control limits.

Calibration

The initial and continuing calibrations were performed according to the method. All method acceptance criteria were met.

Tuning:

The instrument was tuned using DFTPP. All method criteria were met.

Internal Standards

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All method criteria were met.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

Dissolved Gasses
RSK-175

Sample Preparation and Analysis

The water samples were analyzed with guidance from RSK-175. The samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed using a Hewlett Packard Gas Chromatograph with a flame ionization detector. All holding times were met.

Manual integrations were performed in accordance with APPL's SOP. Methane was manually integrated in the calibration standards. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Method blanks

No target compound was detected at or above one-half the LOQ in the method blank.

Calibration

The initial and continuing calibrations were performed with guidance from RSK-175. All acceptance criteria were met.

Summary:

No analytical exception is noted. All data generated are acceptable.

EPA Method 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The water samples were prepared according to the method. The samples were analyzed according to EPA Method 6850 using an Agilent 6460 Triple Quad LC/MS. The samples were prepared and analyzed within acceptable hold time.

Manual integrations were performed in accordance to APPL's SOP. Perchlorate was manually integrated in the calibration curve, the ICS, the samples and the MSD. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Calibrations:

Calibrations were performed according to the method. All calibration acceptance criteria were met. The second source met acceptance criteria.

Blanks:

Perchlorate was not detected at or above one-half the limit of quantitation (LOQ) in the method blank.

Spikes:

Laboratory Control Spike (LCS) and Interference Check Sample (I.C.S.) were used for quality assurance. All LCS acceptance criteria were met.

The Interference Check Sample (I.C.S.) was prepared using a mixed anions solution. The ICS recovery met acceptance criteria.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Internal Standards:

The area counts of the sample Internal Standards were compared to the average IS area counts of the initial calibration. All internal standards were within the 50%D acceptance criteria.

Summary:

All data were acceptable. No other analytical exception is noted.

EPA Method 8330B
Energetics

Sample Preparation:

The water samples were extracted according to EPA method 3535. All holding times were met.

Analysis:

The samples were analyzed according to EPA Method 8330B using an Agilent 1290 HPLC with DA detector. Manual integrations were performed in accordance with APPL's SOP. The following analytes were manually integrated in the calibration standards: HMX, Nitroglycerin, PETN, 1,2-Dinitrobenzene, 1,3- Dinitrobenzene, Nitrobenzene, 2,4,6-Trinitrotoluene, Tetryl, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, 2-Nitrotoluene, 4-Nitrotoluene, 3-Nitrotoluene, 4-Amino-2,6-Dinitrotoluene, 2-Amino-4,6-Dinitrotoluene and 3,5-Dinitroaniline. Nitroglycerin was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. All spike acceptance criteria was met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks:

No target analyte was detected at or above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates:

Surrogate recoveries are summarized on the Form 2 & 8. All surrogates had acceptable recoveries.

Calibration:

The initial and continuing calibrations and second source were analyzed according to the method. All calibration criteria were met.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

EPA Method 6010C
Total and Dissolved Metals

Digestion and Analysis Information:

The water samples were digested according to EPA method 3010A. The samples were analyzed for total and dissolved metals according to EPA method 6010C using a Perkin Elmer Optima 5300DV. All holding times were met.

Quality Control/Assurance:

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

Lithium was detected above one half the LOQ in the method blanks. Lithium detections less than ten times the blank concentration are flagged with a "B" in the samples. No other target metal was detected above one half the LOQ in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), Matrix Spikes (MS/MSD), serial dilution test (DT) and post digestion spikes (PDS) were used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. Dissolved aluminum recovered above the 120% upper control limit in the MS with a 32.1% RPD. The DT was not applicable; all acceptance criteria were met in the PDS.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

Inorganic Analyses

EPA Method 300.0 and SW846 9060

Sample Preparation and Analysis

The samples were prepared and analyzed according to the methods. All holding times were met. The samples were analyzed for Anions according to EPA method 300.0 using a Dionex DX500. The samples were analyzed for TOC according to EPA method 9060 using a Tekmar Apollo 9000.

Quality Control/Assurance

Spike Recovery

Laboratory Control Spikes (LCS) were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Method blanks

No target analyte was detected one-half the limit of quantitation (LOQ) in the method blanks.

Calibration

Calibrations were performed according to the method for the initial calibration and the continuing calibration verification. The initial calibration verification is prepared from a second source standard. All calibration criteria were met.

Summary:

No analytical exception was noted. The data generated are acceptable.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
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76657

CHAIN OF CUSTODY RECORD

3.0
3.0
3.0

C.O.C. 51599

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: TetraTech Phone: 757-466-4908	Company Name: See Phone:
Address: 5700 Lake Wright Dr. Suite 309 Norfolk, VA 23502 Fax:	Address: Contract Fax:
Attn: Ed Corack	Attn:

Project Name/Number: Co-Joil 112G02622 NSF-Indian Head Site67
Purchase Order Number
Sampler (Print): Jacob Birkett
Sampler (Signature):

Date Shipped: 6-15-15
Carrier: FedEx
Waybill No.: 8744-3758-5921
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	PAHs, Phthalates	Explosives	Total Metals	Dissolved Metals	Perchlorate	Anions	Methane	TOC	Comments
S67-MW026-061515	MW26	6-15-15	1315	ET	7	7			2	2	1	1	1				
S67-MW026D061515	MW26	6-15-15	1315	ET	7	7			2	2	1	1	1				NO MS/MSD ON 3 Anion/TOC/Methane
S67-MW16-061515	MW16	6-15-15	1310	ET	24	24			6	6	3	3	3	1	1	1	Run MSMSD
S67-MW024-061515	MW24	6-15-15	1456	ET	7	7			2	2	1	1	1				
S67-MW017-061515	MW17	6-15-15	1520	ET	10	10			2	2	1	1	1	1	1	1	
S57-MW31-061515	MW31	6-15-15	1602	ET	1	1							1				
~~S67-MW~~ EW																	

6-15-15

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3 wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:
Jacob Birkett	6-15-15	1800	FedEx
Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 6/16/15	Time 10:00	Received at lab by:

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026-061515
Sample Collection Date: 6/15/2015

ARF: 76657
APPL ID: AZ17692
QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	73.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	62.6	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.8	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	65.0	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	34.4	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	76.8	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y117
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:50 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026P-061515

APPL ID: AZ17693

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	74.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.9	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.9	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	66.1	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	33.1	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	79.5	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y118
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:50 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	75.2	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	66.2	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	40.4	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	67.9	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	31.1	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	78.7	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y121
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:50 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 6/15/2015

ARF: 76657
APPL ID: AZ17695
QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	67.8	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.1	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.1	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	60.2	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	28.2	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	74.2	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y122
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:50 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D WATER

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Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 6/15/2015

ARF: 76657
APPL ID: AZ17696
QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	66.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	55.6	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	41.5	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.4	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	27.4	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.1	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y123
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:50 AM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150617W-17694 - 198530**
Batch ID: #87DJU-150617B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.6	40-125			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	61.3	50-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUOROPHENO	46.8	20-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: NITROBENZENE-	65.4	40-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: PHENOL (S)	31.0	10-115			%	6/17/2015	6/20/2015
BLANK	SURROGATE: TERPHENYL-D14	79.7	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y115
Instrument: Yoda
Sequence: Y150609
Initials: DA

GC SC-Blank-REG MDLs
Printed: 7/2/2015 9:45:13 AM

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **150617W-17694 LCS - 198530**
Batch ID: #87DJU-150617B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	38.1	76.2	40-125
BUTYL BENZYL PHTHALATE	50.0	38.6	77.2	45-115
DI-N-BUTYL PHTHALATE	50.0	39.6	79.2	55-115
DI-N-OCTYL PHTHALATE	50.0	38.9	77.8	35-135
DIETHYL PHTHALATE	50.0	29.9	59.8	40-120
DIMETHYL PHTHALATE	50.0	36.1	72.2	25-125
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	113	56.5	40-125
SURROGATE: 2-FLUORBIPHENYL (S)	100	65.3	65.3	50-110
SURROGATE: 2-FLUOROPHENOL (S)	200	92.0	46.0	20-110
SURROGATE: NITROBENZENE-D5 (S)	100	66.2	66.2	40-110
SURROGATE: PHENOL (S)	200	61.6	30.8	10-115
SURROGATE: TERPHENYL-D14 (S)	100	74.6	74.6	50-135

Comments: _____

Primary	SPK
Quant Method :	Y0609TT.M
Extraction Date :	6/17/2015
Analysis Date :	6/20/2015
Instrument :	Yoda
Run :	0609Y116
Initials :	DA

Printed: 7/2/2015 9:45:05 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **150617W-17694 MS - 198530**
Batch ID: #87DJU-150617B
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BIS (2-ETHYLHEXYL) PHTHALATE	46.7	ND	37.3	36.0	79.9	77.1	40-125	3.5	30
BUTYL BENZYL PHTHALATE	46.7	ND	36.2	35.7	77.5	76.4	45-115	1.4	30
DI-N-BUTYL PHTHALATE	46.7	ND	38.6	36.5	82.7	78.2	55-115	5.6	30
DI-N-OCTYL PHTHALATE	46.7	ND	36.3	36.9	77.7	79.0	35-135	1.6	30
DIETHYL PHTHALATE	46.7	0.11	35.5	34.6	75.8	73.9	40-120	2.6	30
DIMETHYL PHTHALATE	46.7	0.40	35.3	34.3	74.7	72.6	25-125	2.9	30
SURROGATE: 2,4,6-TRIBROMOPHENOL	187	NA	145	136	77.5	72.7	40-125		
SURROGATE: 2-FLUORBIPHENYL (S)	93.5	NA	65.9	60.6	70.5	64.8	50-110		
SURROGATE: 2-FLUOROPHENOL (S)	187	NA	91.3	80.8	48.8	43.2	20-110		
SURROGATE: NITROBENZENE-D5 (S)	93.5	NA	68.8	62.1	73.6	66.4	40-110		
SURROGATE: PHENOL (S)	187	NA	59.0	56.0	31.6	29.9	10-115		
SURROGATE: TERPHENYL-D14 (S)	93.5	NA	71.5	68.9	76.5	73.7	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0609TT.M	Y0609TT.M
Extraction Date :	6/17/2015	6/17/2015
Analysis Date :	6/20/2015	6/20/2015
Instrument :	Yoda	Yoda
Run :	0609Y119	0609Y120
Initials :	DA	

Printed: 7/2/2015 9:45:00 AM
APPL MSD SCII

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/20/15

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	40-125	73.6		50-110	61.3	
150617B-LCS	Lab Control Spike	40-125	56.5		50-110	65.3	
AZ17692	S67-MW026-061515	40-125	73.7		50-110	62.6	
AZ17693	S67-MW026P-061515	40-125	74.7		50-110	63.9	
AZ17694-MS	Matrix Spike	40-125	77.5		50-110	70.5	
AZ17694-MSD	Matrix SpikeD	40-125	72.7		50-110	64.8	
AZ17694	S67-MW016-061515	40-125	75.2		50-110	66.2	
AZ17695	S67-MW024-061515	40-125	67.8		50-110	57.1	
AZ17696	S67-MW017-061515	40-125	66.7		50-110	55.6	

Comments: Batch: #87DJU-150617B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/20/15

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	20-110	46.8		40-110	65.4	
150617B-LCS	Lab Control Spike	20-110	46.0		40-110	66.2	
AZ17692	S67-MW026-061515	20-110	50.8		40-110	65.0	
AZ17693	S67-MW026P-061515	20-110	50.9		40-110	66.1	
AZ17694-MS	Matrix Spike	20-110	48.8		40-110	73.6	
AZ17694-MSD	Matrix SpikeD	20-110	43.2		40-110	66.4	
AZ17694	S67-MW016-061515	20-110	40.4		40-110	67.9	
AZ17695	S67-MW024-061515	20-110	42.1		40-110	60.2	
AZ17696	S67-MW017-061515	20-110	41.5		40-110	57.4	

Comments: Batch: #87DJU-150617B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/20/15

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	10-115	31.0		50-135	79.7	
150617B-LCS	Lab Control Spike	10-115	30.8		50-135	74.6	
AZ17692	S67-MW026-061515	10-115	34.4		50-135	76.8	
AZ17693	S67-MW026P-061515	10-115	33.1		50-135	79.5	
AZ17694-MS	Matrix Spike	10-115	31.6		50-135	76.5	
AZ17694-MSD	Matrix SpikeD	10-115	29.9		50-135	73.7	
AZ17694	S67-MW016-061515	10-115	31.1		50-135	78.7	
AZ17695	S67-MW024-061515	10-115	28.2		50-135	74.2	
AZ17696	S67-MW017-061515	10-115	27.4		50-135	70.1	

Comments: Batch: #87DJU-150617B

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 6/20/2015

Matrix: WATER Instrument: Yoda

Blank ID: 150617B-BLK Time Analyzed: 0749

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617B-BLK	Blank	0609Y115	6/20/2015 0749
150617B-LCS	Lab Control Spike	0609Y116	6/20/2015 0818
AZ17692	S67-MW026-061515	0609Y117	6/20/2015 0848
AZ17693	S67-MW026P-061515	0609Y118	6/20/2015 0917
150617B-MS	Matrix Spike	0609Y119	6/20/2015 0947
150617B-MSD	Matrix SpikeD	0609Y120	6/20/2015 1017
AZ17694	S67-MW016-061515	0609Y121	6/20/2015 1046
AZ17695	S67-MW024-061515	0609Y122	6/20/2015 1116
AZ17696	S67-MW017-061515	0609Y123	6/20/2015 1145

Comments: Batch: #87DJU-150617B

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17692
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	51.7	50-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	76.1	40-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	79.1	50-135			%	06/17/15	06/19/15

Quant Method: P0618.M
Run #: 0618L042
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/29/15 9:55:05 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	50.0	50-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	76.8	40-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	76.9	50-135			%	06/17/15	06/19/15

Quant Method: P0618.M
Run #: 0618L043
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/29/15 9:55:05 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW016-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17694
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	50.3	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	68.9	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	73.4	50-135			%	06/17/15	06/20/15

Quant Method: P0618.M
Run #: 0618L046
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/29/15 9:55:05 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17695
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.051 J	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	58.0	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	77.4	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	84.8	50-135			%	06/17/15	06/20/15

J = Estimated value.

Quant Method: P0618.M
Run #: 0618L047
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/29/15 9:55:05 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17696
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	65.6	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	75.9	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	80.8	50-135			%	06/17/15	06/20/15

Quant Method: P0618.M
Run #: 0618L048
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/29/15 9:55:05 AM
APPL-F1-SC-NoMC-REG MDLs

Method Blank

EPA 8270D LL WATER DODv3

Blank Name/QCG: **150617W-17694 - 198430**

Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	SURROGATE: 2-FLUORBIPHENY	53.2	50-110			%	06/17/15	06/19/15
BLANK	SURROGATE: NITROBENZENE-	78.0	40-110			%	06/17/15	06/19/15
BLANK	SURROGATE: TERPHENYL-D14 (	80.4	50-135			%	06/17/15	06/19/15

Quant Method:P0618.M
Run #:0618L040
Instrument:Linus
Sequence:L150618
Initials:MA

GC SC-Blank-REG MDLs
Printed: 06/29/15 9:54:59 AM

Laboratory Control Spike Recovery

EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 LCS - 198430**
Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	5.00	2.71	54.2	45-105
ACENAPHTHENE	5.00	3.06	61.2	45-110
ACENAPHTHYLENE	5.00	3.26	65.2	50-105
ANTHRACENE	5.00	3.49	69.8	55-110
BENZ (A) ANTHRACENE	5.00	3.63	72.6	55-110
BENZO (A) PYRENE	5.00	4.35	87.0	55-110
BENZO (B) FLUORANTHENE	5.00	3.55	71.0	45-120
BENZO (G,H,I) PERYLENE	5.00	3.95	79.0	40-125
BENZO (K) FLUORANTHENE	5.00	2.63	52.6	45-125
CHRYSENE	5.00	3.97	79.4	55-110
DIBENZ (A,H) ANTHRACENE	5.00	3.99	79.8	40-125
FLUORANTHENE	5.00	3.91	78.2	55-115
FLUORENE	5.00	3.52	70.4	50-110
INDENO (1,2,3-CD) PYRENE	5.00	3.77	75.4	45-125
NAPHTHALENE	5.00	3.10	62.0	40-100
PHENANTHRENE	5.00	3.91	78.2	50-115
PYRENE	5.00	3.95	79.0	50-130
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	1.37	54.8	50-110
SURROGATE: NITROBENZENE-D5 (S)	2.50	2.10	84.0	40-110
SURROGATE: TERPHENYL-D14 (S)	2.50	1.96	78.4	50-135

Comments: _____

Primary	SPK
Quant Method :	P0618.M
Extraction Date :	06/17/15
Analysis Date :	06/19/15
Instrument :	Linus
Run :	0618L041
Initials :	MA

Printed: 06/29/15 9:55:01 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 MS - 198430**
Batch ID: #SIMDD-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-METHYLNAPHTHALENE	5.00	ND	3.07	2.73	61.4	54.6	45-105	11.7	30
ACENAPHTHENE	5.00	ND	3.26	2.99	65.2	59.8	45-110	8.6	30
ACENAPHTHYLENE	5.00	ND	3.35	3.14	67.0	62.8	50-105	6.5	30
ANTHRACENE	5.00	ND	3.32	3.20	66.4	64.0	55-110	3.7	30
BENZ (A) ANTHRACENE	5.00	ND	3.27	3.43	65.4	68.6	55-110	4.8	30
BENZO (A) PYRENE	5.00	ND	4.01	4.08	80.2	81.6	55-110	1.7	30
BENZO (B) FLUORANTHENE	5.00	ND	3.29	3.37	65.8	67.4	45-120	2.4	30
BENZO (G,H,I) PERYLENE	5.00	ND	3.65	3.66	73.0	73.2	40-125	0.27	30
BENZO (K) FLUORANTHENE	5.00	ND	2.30	2.36	46.0	47.2	45-125	2.6	30
CHRYSENE	5.00	ND	3.80	3.72	76.0	74.4	55-110	2.1	30
DIBENZ (A,H) ANTHRACENE	5.00	ND	3.67	3.64	73.4	72.8	40-125	0.82	30
FLUORANTHENE	5.00	ND	3.57	3.60	71.4	72.0	55-115	0.84	30
FLUORENE	5.00	ND	3.47	3.31	69.4	66.2	50-110	4.7	30
INDENO (1,2,3-CD) PYRENE	5.00	ND	3.53	3.56	70.6	71.2	45-125	0.85	30
NAPHTHALENE	5.00	ND	3.41	3.04	68.2	60.8	40-100	11.5	30
PHENANTHRENE	5.00	ND	3.67	3.64	73.4	72.8	50-115	0.82	30
PYRENE	5.00	ND	3.69	3.72	73.8	74.4	50-130	0.81	30
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	NA	1.70	1.56	68.0	62.4	50-110		
SURROGATE: NITROBENZENE-D5 (S)	2.50	NA	1.95	1.87	78.0	74.8	40-110		
SURROGATE: TERPHENYL-D14 (S)	2.50	NA	1.79	1.86	71.6	74.4	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	P0618.M	P0618.M
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/20/15	06/20/15
Instrument :	Linus	Linus
Run :	0618L044	0618L045
Initials :	MA	

Printed: 06/29/15 9:55:03 AM
APPL MSD SCII

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617A-BLK	Blank	50-110	53.2		40-110	78.0	
150617A-LCS	Lab Control Spike	50-110	54.8		40-110	84.0	
AZ17692	S67-MW026-061515	50-110	51.7		40-110	76.1	
AZ17693	S67-MW026P-061515	50-110	50.0		40-110	76.8	
AZ17694-MS	Matrix Spike	50-110	68.0		40-110	78.0	
AZ17694-MSD	Matrix SpikeD	50-110	62.4		40-110	74.8	
AZ17694	S67-MW016-061515	50-110	50.3		40-110	68.9	
AZ17695	S67-MW024-061515	50-110	58.0		40-110	77.4	
AZ17696	S67-MW017-061515	50-110	65.6		40-110	75.9	

Comments: Batch: #SIMDD-150617A

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617A-BLK	Blank	50-135	80.4				
150617A-LCS	Lab Control Spike	50-135	78.4				
AZ17692	S67-MW026-061515	50-135	79.1				
AZ17693	S67-MW026P-061515	50-135	76.9				
AZ17694-MS	Matrix Spike	50-135	71.6				
AZ17694-MSD	Matrix SpikeD	50-135	74.4				
AZ17694	S67-MW016-061515	50-135	73.4				
AZ17695	S67-MW024-061515	50-135	84.8				
AZ17696	S67-MW017-061515	50-135	80.8				

Comments: Batch: #SIMDD-150617A

8270D-LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

Blank ID: 150617A-BLK Time Analyzed: 2225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617A-BLK	Blank	0618L040	06/19/15 2225
150617A-LCS	Lab Control Spike	0618L041	06/19/15 2252
AZ17692	S67-MW026-061515	0618L042	06/19/15 2319
AZ17693	S67-MW026P-061515	0618L043	06/19/15 2346
150617A-MS	Matrix Spike	0618L044	06/20/15 0012
150617A-MSD	Matrix SpikeD	0618L045	06/20/15 0040
AZ17694	S67-MW016-061515	0618L046	06/20/15 0106
AZ17695	S67-MW024-061515	0618L047	06/20/15 0133
AZ17696	S67-MW017-061515	0618L048	06/20/15 0200

Comments: Batch: #SIMDD-150617A

RSK 175

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW016-061515

Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657

APPL ID: AZ17694

QCG: #RSK-150624A-198396

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
RSK 175	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method: 402RSK.M
Run #: 0624F025
Instrument: Frodo
Sequence: 150624
Dilution Factor: 1
Initials: SD

Printed: 06/25/15 4:37:28 PM
APPL-F1-SC-NoMC-REG MDLs

RSK 175

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 06/15/15

QCG: #RSK-150624A-198396

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
RSK 175	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method:	402RSK.M
Run #:	0624F026
Instrument:	Frodo
Sequence:	150624
Dilution Factor:	1
Initials:	SD

Printed: 06/25/15 4:37:28 PM

APPL-F1-SC-NoMC-REG MDLs

Method Blank
RSK 175

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150624W-17694 - 198396**
Batch ID: #RSK-150624A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
BLANK	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method: 402RSK.M
Run #: 0624F008
Instrument: Frodo
Sequence: 150624
Initials: SD

GC SC-Blank-REG MDLs
Printed: 06/25/15 4:37:32 PM

Laboratory Control Spike Recovery

RSK 175

APPL ID: **150624W-17694 LCS - 198396**
Batch ID: #RSK-150624A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
ETHANE	25.0	26.0	104	70-130
ETHENE	23.3	21.4	91.8	70-130
METHANE	13.3	14.6	110	70-130

Comments: _____

Primary	SPK
Quant Method :	402RSK.M
Extraction Date :	06/24/15
Analysis Date :	06/24/15
Instrument :	Frodo
Run :	0624F006
Initials :	SD

Printed: 06/25/15 4:37:25 PM
APPL Standard LCS

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/24/15

Matrix: WATER Instrument: Frodo

Blank ID: 150624A-BLK Time Analyzed: 0944

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150624A-LCS	Lab Control Spike	0624F006	06/24/15 0904
150624A-BLK	Blank	0624F008	06/24/15 0944
AZ17694	S67-MW016-061515	0624F025	06/24/15 1207
AZ17696	S67-MW017-061515	0624F026	06/24/15 1211

Comments: Batch: #RSK-150624A

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026-061515

APPL ID: AZ17692

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	15	6.00	4.000	2.000	ug/L	06/17/15	07/06/15

Quant Method:	QTLMFL2
Run #:	T705_057.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	10
Initials:	RP

Printed: 07/09/15 3:36:04 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693
QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	16	6.00	4.000	2.000	ug/L	06/17/15	07/06/15

Quant Method:	QTLMFL2
Run #:	T705_059.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	10
Initials:	RP

Printed: 07/09/15 3:36:04 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.24 J	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

J = Estimated value.

Quant Method:	QTLMFL2
Run #:	T621_043.d
Instrument:	AGIL_6460
Sequence:	TQ062115
Dilution Factor:	1
Initials:	RP

Printed: 07/09/15 3:36:04 PM

APPL-F1-SC-NoMC-REG MDLs

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657
APPL ID: AZ17695
QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	59 J	60.00	40.000	20.000	ug/L	06/17/15	07/06/15

J = Estimated value.

Quant Method:	QTLMFL2
Run #:	T705_062.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	100
Initials:	RP

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APPL-F1-SC-NoMC-REG MDLs

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.23 J	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

J = Estimated value.

Quant Method:	QTLMFL2
Run #:	T621_047.d
Instrument:	AGIL_6460
Sequence:	TQ062115
Dilution Factor:	1
Initials:	RP

Printed: 07/09/15 3:36:04 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW031-061515

APPL ID: AZ17697

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	1.1	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

Quant Method:	QTLMFL2
Run #:	T621_048.d
Instrument:	AGIL_6460
Sequence:	TQ062115
Dilution Factor:	1
Initials:	RP

Printed: 07/09/15 3:36:04 PM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150617W-17694 - 198528**
Batch ID: #6850-150617A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

Quant Method: QTLMFL2
Run #: T621_027.d
Instrument: AGIL_6460
Sequence: TQ062115
Initials: RP

GC SC-Blank-REG MDLs
Printed: 07/09/15 3:36:01 PM

Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150617W-17694 LCS - 198528**
Batch ID: #6850-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PERCHLORATE	0.600	0.554	92.3	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	06/17/15
Analysis Date :	06/22/15
Instrument :	AGIL_6460
Run :	T621_025.d
Initials :	RP

Printed: 07/09/15 3:36:01 PM
APPL Standard LCS

Matrix Spike Recoveries
Perchlorate

APPL ID: **150617W-17694 MS - 198528**
Batch ID: #6850-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PERCHLORATE	0.600	0.24	0.800	0.857	93.3	103	80-120	6.9	15

Comments:

Primary	SPK	DUP
Quant Method :	QTLMFL2	QTLMFL2
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/22/15	06/22/15
Instrument :	AGIL_6460	AGIL_6460
Run :	T621_044.d	T621_045.d
Initials :	RP	

Printed: 07/09/15 3:36:03 PM
APPL MSD SCII

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/22/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150617A-BLK Time Analyzed: 0044

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617A-LCS	Lab Control Spike	T621_025.d	06/22/15 0007
150617A-BLK	Blank	T621_027.d	06/22/15 0044
AZ17694	S67-MW016-061515	T621_043.d	06/22/15 0542
150617A-MS	Matrix Spike	T621_044.d	06/22/15 0601
150617A-MSD	Matrix SpikeD	T621_045.d	06/22/15 0619
AZ17696	S67-MW017-061515	T621_047.d	06/22/15 0657
AZ17697	S67-MW031-061515	T621_048.d	06/22/15 0715
AZ17692	S67-MW026-061515	T705_057.d	07/06/15 0630
AZ17693	S67-MW026P-061515	T705_059.d	07/06/15 0707
AZ17695	S67-MW024-061515	T705_062.d	07/06/15 0803

Comments: Batch: #6850-150617A

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026-061515

APPL ID: AZ17692

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-198490

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE	88.6	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000015
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/10/15 1:28:48 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026P-061515

APPL ID: AZ17693

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-198490

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE	88.7	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000016
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/10/15 1:28:48 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-198490

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE	87.0	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000017
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/10/15 1:28:48 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657
APPL ID: AZ17695
QCG: #83BJU11W-150618-198490

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE	89.9	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000018
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/10/15 1:28:48 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-198490

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE	87.3	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000019
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/10/15 1:28:48 PM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
EPA 8330B WATER

Blank Name/QCG: **150618W-17694 - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
BLANK	2,4-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
BLANK	2,6-DINITROTOLUENE	0.125 U	0.50	0.125	ug/L	06/18/15	06/29/15
BLANK	HMX	0.115 U	0.50	0.115	ug/L	06/18/15	06/29/15
BLANK	NITROGLYCERIN	0.130 U	0.50	0.130	ug/L	06/18/15	06/29/15
BLANK	RDX	0.123 U	0.50	0.123	ug/L	06/18/15	06/29/15
BLANK	TETRYL	0.133 U	0.50	0.133	ug/L	06/18/15	06/29/15
BLANK	SURROGATE: 1,2-DINITROBENZENE	92.0	70-130		%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000014
Instrument: Waldorf
Sequence: 150629
Initials: MP

GC SC-Blank-REG MDLs
Printed: 07/10/15 1:28:51 PM

Laboratory Control Spike Recovery

EPA 8330B WATER

APPL ID: **150618W-17694 LCS - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	8.00	6.98	87.3	60-135
2,6-DINITROTOLUENE	8.00	6.95	86.9	60-135
HMX	8.00	7.74	96.8	80-115
NITROGLYCERIN	8.00	6.70	83.8	70-130
RDX	8.00	7.44	93.0	50-160
TETRYL	8.00	7.29	91.1	20-175
SURROGATE: 1,2-DINITROBENZENE (S	8.00	7.04	88.0	70-130

Comments: _____

Primary	SPK
Quant Method :	W150627.M
Extraction Date :	06/18/15
Analysis Date :	06/29/15
Instrument :	Waldorf
Run :	0629_000008
Initials :	MP

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APPL Standard LCS

Matrix Spike Recoveries

EPA 8330B WATER

APPL ID: **150618W-17694 MS - 198490**
Batch ID: #83BJU11W-150618
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4-DINITROTOLUENE	8.00	ND	7.07	7.00	88.4	87.5	60-135	1.00	20
2,6-DINITROTOLUENE	8.00	ND	7.08	7.01	88.5	87.6	60-135	0.99	20
HMX	8.00	ND	7.89	7.73	98.6	96.6	80-115	2.0	20
NITROGLYCERIN	8.00	ND	6.73	6.74	84.1	84.3	70-130	0.15	20
RDX	8.00	ND	7.56	7.44	94.5	93.0	50-160	1.6	20
TETRYL	8.00	ND	7.63	7.42	95.4	92.8	20-175	2.8	20
SURROGATE: 1,2-DINITROBENZENE (S)	8.00	NA	7.13	7.04	89.1	88.0	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	W150627.M	W150627.M
Extraction Date :	06/18/15	06/18/15
Analysis Date :	06/29/15	06/29/15
Instrument :	Waldorf	Waldorf
Run :	0629_000009	0629_000010
Initials :	MP	

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APPL MSD SCII

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/29/15

Matrix: WATER Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150618-LCS	Lab Control Spike	70-130	88.0				
AZ17694-MS	Matrix Spike	70-130	89.1				
AZ17694-MSD	Matrix SpikeD	70-130	88.0				
150618-BLK	Blank	70-130	92.0				
AZ17692	S67-MW026-061515	70-130	88.6				
AZ17693	S67-MW026P-061515	70-130	88.7				
AZ17694	S67-MW016-061515	70-130	87.0				
AZ17695	S67-MW024-061515	70-130	89.9				
AZ17696	S67-MW017-061515	70-130	87.3				

Comments: Batch: #83BJU11W-15061

EPA 8330B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/29/15

Matrix: WATER Instrument: Waldorf

Blank ID: 150618-BLK Time Analyzed: 1623

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150618-LCS	Lab Control Spike	0629_000008	06/29/15 1238
150618-MS	Matrix Spike	0629_000009	06/29/15 1316
150618-MSD	Matrix SpikeD	0629_000010	06/29/15 1353
150618-BLK	Blank	0629_000014	06/29/15 1623
AZ17692	S67-MW026-061515	0629_000015	06/29/15 1701
AZ17693	S67-MW026P-061515	0629_000016	06/29/15 1738
AZ17694	S67-MW016-061515	0629_000017	06/29/15 1816
AZ17695	S67-MW024-061515	0629_000018	06/29/15 1853
AZ17696	S67-MW017-061515	0629_000019	06/29/15 1931

Comments: Batch: #83BJU11W-15061

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/16/15

Matrix: WATER Instrument: Dionex

Blank ID: 150616A1-BLK Time Analyzed: 0838

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150616A1-LCS	Lab Control Spike	31	06/16/15 0848
AZ17694	S67-MW016-061515	38	06/16/15 1434
AZ17696	S67-MW017-061515	39	06/16/15 1445
150616A1-BLK	Blank	8	06/16/15 0838

Comments: Batch: #300W-150616A1

SW846 9060

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/01/15

Matrix: WATER Instrument: Tekmar

Blank ID: 150701A-BLK Time Analyzed: 1323

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A-MS	Matrix Spike	13	07/01/15 1829
150701A-BLK	Blank	2	07/01/15 1323
150701A-LCS	Lab Control Spike	3	07/01/15 1352
150701A-DUP	Duplicate	5	07/01/15 1516
AZ17694	S67-MW016-061515	5	07/01/15 1449
AZ17696	S67-MW017-061515	7	07/01/15 1541

Comments: Batch: #906-150701A

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17692

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	118 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	9.7	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	86.4 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	98.6 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	10.5	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	91.8 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	102 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	9.3	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	80.9 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	93.7 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	11.0	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	85.6 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW016-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17694

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	80.00 U	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	50.9	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	0.58 BJ	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	20.00 U	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	29.3 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	51.2	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	0.87 BJ	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	20.00 U	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17695

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	281 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	39.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	37.0	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	326	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	261 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	38.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	39.1	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	321	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657
APPL ID: AZ17696

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	153 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	33.8 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	2.9 B	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	60.3 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	113 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	34.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	3.4 B	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	64.4 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	ALUMINUM (AL)	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	LITHIUM (LI)	0.67 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ZINC (ZN)	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ALUMINUM (AL) (DI	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	BORON (B) (DISSO	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	LITHIUM (LI) (DISSO	0.83 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	ZINC (ZN) (DISSOL	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694

J = Estimated value.

Metals SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL) (DISSOLVED)	2000	1940	97.0	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	BORON (B) (DISSOLVED)	250	238	95.2	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLVED)	100.0	92.9	92.9	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVED)	500	472	94.4	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ALUMINUM (AL)	2000	2150	108	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	BORON (B)	250	235	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	LITHIUM (LI)	100.0	93.3	93.3	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	ZINC (ZN)	500	470	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694

Comments: _____

Matrix Spike Recoveries

METALS

APPL ID: **150701W-17694 MS - 198616**

Sample ID: AZ17694

Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	ALUMINUM (AL) (DISS	2000	29.3	2640	1910	131 #	94.0	32.1 #	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	BORON (B) (DISSOLV	250	51.2	290	291	95.5	95.9	0.3	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLV	100.0	0.87	105	103	104	102	1.9	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVE	500	4.0	487	482	96.6	95.6	1.0	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ALUMINUM (AL)	2000	16.2	1930	1920	95.7	95.2	0.5	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	BORON (B)	250	50.9	284	289	93.2	95.2	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	LITHIUM (LI)	100.0	0.58	93.3	92.6	92.7	92.0	0.8	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	ZINC (ZN)	500	3.9	474	482	94.0	95.6	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694

= Recovery is outside QC limits.

Comments: _____

6010C/3010A^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/06/15

Matrix: WATER Instrument: Jules

Blank ID: 150701A-BLK Time Analyzed: 1211

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A-MSD	Matrix SpikeD	150706A	07/06/15 1300
AZ17693	S67-MW026P-061515	150706A	07/06/15 1241
AZ17694	S67-MW016-061515	150706A	07/06/15 1247
AZ17695	S67-MW024-061515	150706A	07/06/15 1307
AZ17696	S67-MW017-061515	150706A	07/06/15 1314
150701A-BLK	Blank	150706A	07/06/15 1211
150701A-LCS	Lab Control Spike	150706A	07/06/15 1216
AZ17692	S67-MW026-061515	150706A	07/06/15 1234
150701A-MS	Matrix Spike	150706A	07/06/15 1254

Comments: Batch: #61CJU-150701A

6010C/3010A^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/06/15

Matrix: WATER Instrument: Jules

Blank ID: 150701A1-BLK Time Analyzed: 1222

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A1-MSD	Matrix SpikeD	150706A	07/06/15 1645
AZ17693	S67-MW026P-061515	150706A	07/06/15 1626
AZ17694	S67-MW016-061515	150706A	07/06/15 1632
AZ17695	S67-MW024-061515	150706A	07/06/15 1652
AZ17696	S67-MW017-061515	150706A	07/06/15 1659
150701A1-BLK	Blank	150706A	07/06/15 1222
150701A1-LCS	Lab Control Spike	150706A	07/06/15 1227
150701A1-MS	Matrix Spike	150706A	07/06/15 1639
AZ17692	S67-MW026-061515	150706A	07/06/15 1619

Comments: Batch: #61CJU-150701A1

Wet Lab Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 06/15/15

ARF: 76657

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	48.3	1.0	0.20	0.08	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRATE	1.5	0.5	0.18	0.04	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	1	06/16/15	06/16/15
EPA 300.0	SULFATE	38.4	1.0	0.20	0.09	mg/L	1	06/16/15	06/16/15
SW846 9060	TOTAL ORGANIC CARBON	0.35 U	0.5	0.35	0.13	mg/L	1	07/01/15	07/01/15

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APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 06/15/15

ARF: 76657

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	27.5	1.0	0.20	0.08	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRATE	1.6	0.5	0.18	0.04	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	1	06/16/15	06/16/15
EPA 300.0	SULFATE	11.6	1.0	0.20	0.09	mg/L	1	06/16/15	06/16/15
SW846 9060	TOTAL ORGANIC CARBON	0.35 U	0.5	0.35	0.13	mg/L	1	07/01/15	07/01/15

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APPL-F1-SC-NoMC-REG MDLs

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 90	TOTAL ORGANIC C	0.35 U	0.5	0.35	0.13	mg/L	07/01/15	07/01/15	#906-150701A-AZ17694

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	22.1	20.9	94.6	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	9.98	9.13	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	20.0	18.6	93.0	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 906	TOTAL ORGANIC CARBON	10.00	10.2	102	90-110	07/01/15	07/01/15	#906-150701A-AZ17694

Comments: _____

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/16/15

Matrix: WATER Instrument: Dionex

Blank ID: 150616A1-BLK Time Analyzed: 0838

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150616A1-LCS	Lab Control Spike	31	06/16/15 0848
AZ17694	S67-MW016-061515	38	06/16/15 1434
AZ17696	S67-MW017-061515	39	06/16/15 1445
150616A1-BLK	Blank	8	06/16/15 0838

Comments: Batch: #300W-150616A1

SW846 9060

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/01/15

Matrix: WATER Instrument: Tekmar

Blank ID: 150701A-BLK Time Analyzed: 1323

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A-MS	Matrix Spike	13	07/01/15 1829
150701A-BLK	Blank	2	07/01/15 1323
150701A-LCS	Lab Control Spike	3	07/01/15 1352
150701A-DUP	Duplicate	5	07/01/15 1516
AZ17694	S67-MW016-061515	5	07/01/15 1449
AZ17696	S67-MW017-061515	7	07/01/15 1541

Comments: Batch: #906-150701A

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 74807

Data Validatable Report

July 10, 2015

Tetra Tech
5700 Lake Wright Drive, Suite 309
Norfolk, Virginia 23502

Attn: Ed Corack

Title: Report of Data: Case 76657

Project: CTO JU11 112G02622 NSF Indian Head, MD

Contract #: Prime contract # for DoD: Navy CLEAN. N62470-08-D-1001
Subcontract: MSA # 1045497, Work Release # 08-JU11

Dear Mr. Corack:

Six water samples were received June 16, 2015, at 3.0°C, 3.0°C, and 3.0°C. Written results for the requested analyses are provided on this July 10, 2015.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Cynthia Clark, cclark@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/rp
Enclosure
cc: File

Number of pages in this report: 673

Data Validation Package
for
CTO JU11 112G02622 NSF Indian Head
ARF 76657
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SAMPLE RECEIPT INFORMATION

Sample receipt information

ARF: 76657

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The samples were received on June 16, 2015, at 3.0°C, 3.0°C, and 3.0°C. The samples were assigned Analytical Request Form (ARF) number 76657. The sample numbers and requested analyses were compared to the chain of custody. No exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
S67-MW026-061515	AZ17692	WATER	06/15/15	06/16/15
S67-MW026P-061515	AZ17693	WATER	06/15/15	06/16/15
S67-MW016-061515	AZ17694	WATER	06/15/15	06/16/15
S67-MW024-061515	AZ17695	WATER	06/15/15	06/16/15
S67-MW017-061515	AZ17696	WATER	06/15/15	06/16/15
S67-MW031-061515	AZ17697	WATER	06/15/15	06/16/15

The samples and blanks were screened for J-value responses between the detection limit (DL) and limit of quantitation (LOQ).

Laboratory control limits generated in house do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control limits generated for this project meet all control limits listed in the DoD QSM 4.2 except where noted. A copy of our in house generated control limits is available upon request. In addition, a copy of our LOQ control limits, established using 7 data points, are also available upon request.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request.

Measurement uncertainty can be reported upon request.

CASE NARRATIVE

EPA Method 8270D
Semi-Volatile Organic Compounds

Sample Preparation and Analysis Information:

The water samples were extracted according to EPA method 3510C. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS. All holding times were met.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks

No target analyte was detected above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. All other surrogate recoveries were within the control limits.

Calibration

The initial and continuing calibrations were performed according to the method. All method acceptance criteria were met.

Tuning:

The instrument was tuned using DFTPP. All method criteria were met.

Internal Standards

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All method criteria were met.

Summary:

No problem was encountered. All data generated are acceptable.

EPA Method 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Sample Preparation and Analysis Information:

The water samples were extracted according to EPA method 3510C. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS with selective ion monitoring. All holding times were met.

Manual integrations were performed in accordance with APPL's SOP. The surrogate 2-Fluorobiphenyl was manually integrated in sample S67-MW016-061515. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks

No target analyte was detected above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. All surrogate recoveries were within the control limits.

Calibration

The initial and continuing calibrations were performed according to the method. All method acceptance criteria were met.

Tuning:

The instrument was tuned using DFTPP. All method criteria were met.

Internal Standards

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All method criteria were met.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

Dissolved Gasses
RSK-175

Sample Preparation and Analysis

The water samples were analyzed with guidance from RSK-175. The samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed using a Hewlett Packard Gas Chromatograph with a flame ionization detector. All holding times were met.

Manual integrations were performed in accordance with APPL's SOP. Methane was manually integrated in the calibration standards. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Method blanks

No target compound was detected at or above one-half the LOQ in the method blank.

Calibration

The initial and continuing calibrations were performed with guidance from RSK-175. All acceptance criteria were met.

Summary:

No analytical exception is noted. All data generated are acceptable.

EPA Method 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The water samples were prepared according to the method. The samples were analyzed according to EPA Method 6850 using an Agilent 6460 Triple Quad LC/MS. The samples were prepared and analyzed within acceptable hold time.

Manual integrations were performed in accordance to APPL's SOP. Perchlorate was manually integrated in the calibration curve, the ICS, the samples and the MSD. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance

Calibrations:

Calibrations were performed according to the method. All calibration acceptance criteria were met. The second source met acceptance criteria.

Blanks:

Perchlorate was not detected at or above one-half the limit of quantitation (LOQ) in the method blank.

Spikes:

Laboratory Control Spike (LCS) and Interference Check Sample (I.C.S.) were used for quality assurance. All LCS acceptance criteria were met.

The Interference Check Sample (I.C.S.) was prepared using a mixed anions solution. The ICS recovery met acceptance criteria.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Internal Standards:

The area counts of the sample Internal Standards were compared to the average IS area counts of the initial calibration. All internal standards were within the 50%D acceptance criteria.

Summary:

All data were acceptable. No other analytical exception is noted.

EPA Method 8330B
Energetics

Sample Preparation:

The water samples were extracted according to EPA method 3535. All holding times were met.

Analysis:

The samples were analyzed according to EPA Method 8330B using an Agilent 1290 HPLC with DA detector. Manual integrations were performed in accordance with APPL's SOP. The following analytes were manually integrated in the calibration standards: HMX, Nitroglycerin, PETN, 1,2-Dinitrobenzene, 1,3- Dinitrobenzene, Nitrobenzene, 2,4,6-Trinitrotoluene, Tetryl, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, 2-Nitrotoluene, 4-Nitrotoluene, 3-Nitrotoluene, 4-Amino-2,6-Dinitrotoluene, 2-Amino-4,6-Dinitrotoluene and 3,5-Dinitroaniline. Nitroglycerin was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. All spike acceptance criteria was met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. All acceptance criteria were met in the MS/MSD.

Method blanks:

No target analyte was detected at or above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates:

Surrogate recoveries are summarized on the Form 2 & 8. All surrogates had acceptable recoveries.

Calibration:

The initial and continuing calibrations and second source were analyzed according to the method. All calibration criteria were met.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

EPA Method 6010C
Total and Dissolved Metals

Digestion and Analysis Information:

The water samples were digested according to EPA method 3010A. The samples were analyzed for total and dissolved metals according to EPA method 6010C using a Perkin Elmer Optima 5300DV. All holding times were met.

Quality Control/Assurance:

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

Lithium was detected above one half the LOQ in the method blanks. Lithium detections less than ten times the blank concentration are flagged with a "B" in the samples. No other target metal was detected above one half the LOQ in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), Matrix Spikes (MS/MSD), serial dilution test (DT) and post digestion spikes (PDS) were used for quality assurance. All LCS acceptance criteria were met.

Sample S67-MW016-061515 was designated by the client for MS/MSD analysis. Dissolved aluminum recovered above the 120% upper control limit in the MS with a 32.1% RPD. The DT was not applicable; all acceptance criteria were met in the PDS.

Summary:

No other analytical problem was encountered. The data generated are acceptable.

Inorganic Analyses

EPA Method 300.0 and SW846 9060

Sample Preparation and Analysis

The samples were prepared and analyzed according to the methods. All holding times were met. The samples were analyzed for Anions according to EPA method 300.0 using a Dionex DX500. The samples were analyzed for TOC according to EPA method 9060 using a Tekmar Apollo 9000.

Quality Control/Assurance

Spike Recovery

Laboratory Control Spikes (LCS) were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Method blanks

No target analyte was detected one-half the limit of quantitation (LOQ) in the method blanks.

Calibration

Calibrations were performed according to the method for the initial calibration and the continuing calibration verification. The initial calibration verification is prepared from a second source standard. All calibration criteria were met.

Summary:

No analytical exception was noted. The data generated are acceptable.

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

CHAIN OF CUSTODY,
ARF, CRF, AND
CLIENT COMMUNICATION

APPL - Analysis Request Form 76657

Client: **Tetra Tech**
Address: **5700 Lake Wright Dr, Ste 309**
Norfolk, VA 23502
Attn: **Ed Corack**
Phone: **757-466-4908** Fax: **757-461-4148**
Job: **CTO JU11 112G02622 NSF Indian Head**
PO #: **MSA #1045497 Release #08-CTO JU11**
Chain of Custody (Y/N): **Y** # **51599**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **STD**

Received by: **YL**
Date Received: **06/16/15** Time: **10:00**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-4**
Chest Temp(s): **3X3.0°C**
Color: **VOA,C-Blk,R-OrgYell**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Cynthia Clark**
QC Report Type: **DVP4/LEDD/MD**
Due Date: **07/07/15**

Comments:
login to ed.corack@ amy.thomson@ & tobrena.sedlmyer@tetratech.com.
Rush results to Ed; 21 calendar day TAT for final report
1HC DVP4 and summary report & 2 BOOKMARKED CDs of DVP4 and
Summary report (sample & QC results w/surrogate & blank summaries) to Amy Thomson (Pittsburgh)
Include original COC with report. NOTHING to Ed in VA office
EDD: TTEC LEDD to http://isg.applications.tetratech.com/LEDDChecker2010/
EDD: email confirm to ed.corack@ amy.thomson@ & tobrena.sedlmyer@tetratech.com
Guidance: DOD QSM v4.2: DOD Forms, LOD Database
RSK: report Methane only

Sample Distribution:
GC: 5-$87DJU11W, 5-$SIMDDODW
Extractions: 6-_HPL6850, 5-_MWE3535, 5-_SEP004, 5-_SEP004S
VOA: 2-$RSK
LCMS: 6-$6850, 5-$83BJU11W
Metals: 5-$61CJU11W2(Al,B,Li,Zn), 5-$61CJU11WD2(Al,B,Li,Zn)
Wetlab: 2-$300W(NO2,NO3,CL,SO4), 2-$906
Other: 5-_M3010, 5-_M3010F

Charges:

Invoice To:
ACCOUNTS PAYABLE
661 Andersen Dr, Foster Plaza 7
Pittsburgh, PA 15220-2745
Invoice in triplicate per SOW

	Client ID	APPL ID	Sampled	Analyses Requested
1.	S67-MW026-061515	AZ17692W	06/15/15 13:15	$61CJU11W2(Al,B,Li,Zn), $61CJU11WD2(Al,B,Li,Zn), $6850, $83BJU11W, $87DJU11W, $SIMDDODW -- Li spike
2.	S67-MW026P-061515	AZ17693W	06/15/15 13:15	$61CJU11W2(Al,B,Li,Zn), $61CJU11WD2(Al,B,Li,Zn), $6850, $83BJU11W, $87DJU11W, $SIMDDODW -- Li spike

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -4 UTC

3.	S67-MW016-061515	ms/msd AZ17694W	06/15/15	13:10	$300W(NO2,NO3,CL,SO4), $61CJU11W2(Al,B,Li,Zn), $61CJU11WD2(Al,B,Li,Zn), $6850, $83BJU11W, $87DJU11W, $906, $RSK, $SIMDDODW -- Li spike; No ms/msd on 300W,TOC,RSK
4.	S67-MW024-061515	AZ17695W	06/15/15	14:56	$61CJU11W2(Al,B,Li,Zn), $61CJU11WD2(Al,B,Li,Zn), $6850, $83BJU11W, $87DJU11W, $SIMDDODW -- Li spike
5.	S67-MW017-061515	AZ17696W	06/15/15	15:20	$300W(NO2,NO3,CL,SO4), $61CJU11W2(Al,B,Li,Zn), $61CJU11WD2(Al,B,Li,Zn), $6850, $83BJU11W, $87DJU11W, $906, $RSK, $SIMDDODW -- Li spike
6.	S67-MW031-061515	AZ17697W	06/15/15	16:02	$6850

APPL Sample Receipt Form

ARF# **76657**

Sample	Container Type	Count	pH
AZ17692	4 PL 125mL	1	na
	6 PL 500mL - HNO3	2	1.7
	17 Amber Liter	2	na
	40 500mL Amber, unprsrvd	2	na
AZ17693	4 PL 125mL	1	na
	6 PL 500mL - HNO3	2	1.7
	17 Amber Liter	2	na
	40 500mL Amber, unprsrvd	2	na
AZ17694	4 PL 125mL	4	na
	6 PL 500mL - HNO3	6	1.7
	13 VOAs - HCL	1	na
	17 Amber Liter	6	na
	30 Amber 250mL - H2SO4	1	1.7
	40 500mL Amber, unprsrvd	6	na
AZ17695	4 PL 125mL	1	na
	6 PL 500mL - HNO3	2	1.7
	17 Amber Liter	2	na
	40 500mL Amber, unprsrvd	2	na
AZ17696	4 PL 125mL	2	na
	6 PL 500mL - HNO3	2	1.7
	13 VOAs - HCL	1	na
	17 Amber Liter	2	na
	30 Amber 250mL - H2SO4	1	1.7
	40 500mL Amber, unprsrvd	2	na
AZ17697	4 PL 125mL	1	na

Sample	Container Type	Count	pH

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

76657

CHAIN OF CUSTODY RECORD

3.0
3.0
3.0

C.O.C. 51599

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: TetraTech Phone: 757-466-4908	Company Name: See Phone:
Address: 5700 Lake Wright Dr. Suite 309 Norfolk, VA 23502 Fax:	Address: Contract Fax:
Attn: Ed Corack	Attn:

Project Name/Number: CO-Soil 112G02622 NSF-Indian Head Site67
Purchase Order Number
Sampler (Print): Jacob Birkett
Sampler (Signature):

Date Shipped: 6-15-15
Carrier: FedEx
Waybill No.: 8744-3758-5921
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	PAHs, Phthalates	Explosives	Total Metals	Dissolved Metals	Perchlorate	Anions	Methane	TOC	Comments
S67-MW026-061515	MW26	6-15-15	1315	ET	7	7			2	2	1	1	1				
S67-MW026D061515	MW26	6-15-15	1315	ET	7	7			2	2	1	1	1				NO MS/MSD ON Anion/TOC/Methane
S67-MW16-061515	MW16	6-15-15	1310	ET	24	24			6	6	3	3	3	1	1	1	Run MSMSD
S67-MW024-061515	MW24	6-15-15	1456	ET	7	7			2	2	1	1	1				
S67-MW017-061515	MW17	6-15-15	1520	ET	10	10			2	2	1	1	1	1	1	1	
S57-MW31-061515	MW31	6-15-15	1602	ET	1	1							1				
~~S67-MW~~ EW																	

6-15-15

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3 wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:
Jacob Birkett	6-15-15	1800	FedEx
Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 6/16/15	Time 10:00	Received at lab by: Yang Zu

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 76657**

1) Project: CTO JU11 112G02622 NSF Indian Head Date Received: 06/16/15

2) Coolers: Number of Coolers: 3

3) YES Were custody seals present and intact?
How many? 6 Name/Date on seal? See below

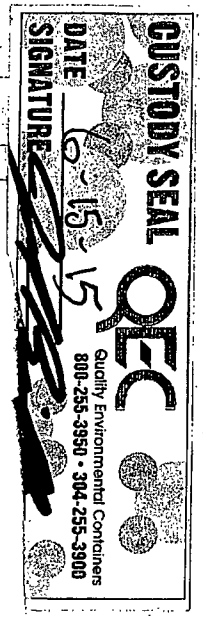
4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags
X wet ice __ dry ice __ no ice __ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use J5297

8) Cooler temp(s): In °C
1: 3.0 2: 3.0 3: 3.0 4: 5: 6:
7: 8: 9: 10: 11: 12:



Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

Personnel receiving samples: YL Second reviewer: JM
Personnel labeling samples: JM
Project manager notified: Date/Time of notification
Name of client notified: Date/Time of notification

EPA METHOD 8270D
Semivolatile Organic Compounds

APPL, INC.

EPA METHOD 8270D
Semivolatile Organic Compounds
QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150617W-17694 - 198530**
Batch ID: #87DJU-150617B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.6	40-125			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	61.3	50-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUOROPHENO	46.8	20-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: NITROBENZENE-	65.4	40-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: PHENOL (S)	31.0	10-115			%	6/17/2015	6/20/2015
BLANK	SURROGATE: TERPHENYL-D14	79.7	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y115
Instrument: Yoda
Sequence: Y150609
Initials: DA

GC SC-Blank-REG MDLs
Printed: 7/2/2015 9:45:18 AM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 6/20/2015

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	40-125	73.6		50-110	61.3	
150617B-LCS	Lab Control Spike	40-125	56.5		50-110	65.3	
AZ17692	S67-MW026-061515	40-125	73.7		50-110	62.6	
AZ17693	S67-MW026P-061515	40-125	74.7		50-110	63.9	
AZ17694-MS	Matrix Spike	40-125	77.5		50-110	70.5	
AZ17694-MSD	Matrix SpikeD	40-125	72.7		50-110	64.8	
AZ17694	S67-MW016-061515	40-125	75.2		50-110	66.2	
AZ17695	S67-MW024-061515	40-125	67.8		50-110	57.1	
AZ17696	S67-MW017-061515	40-125	66.7		50-110	55.6	

Comments: Batch: #87DJU-150617B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 6/20/2015

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	20-110	46.8		40-110	65.4	
150617B-LCS	Lab Control Spike	20-110	46.0		40-110	66.2	
AZ17692	S67-MW026-061515	20-110	50.8		40-110	65.0	
AZ17693	S67-MW026P-061515	20-110	50.9		40-110	66.1	
AZ17694-MS	Matrix Spike	20-110	48.8		40-110	73.6	
AZ17694-MSD	Matrix SpikeD	20-110	43.2		40-110	66.4	
AZ17694	S67-MW016-061515	20-110	40.4		40-110	67.9	
AZ17695	S67-MW024-061515	20-110	42.1		40-110	60.2	
AZ17696	S67-MW017-061515	20-110	41.5		40-110	57.4	

Comments: Batch: #87DJU-150617B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 6/20/2015

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617B-BLK	Blank	10-115	31.0		50-135	79.7	
150617B-LCS	Lab Control Spike	10-115	30.8		50-135	74.6	
AZ17692	S67-MW026-061515	10-115	34.4		50-135	76.8	
AZ17693	S67-MW026P-061515	10-115	33.1		50-135	79.5	
AZ17694-MS	Matrix Spike	10-115	31.6		50-135	76.5	
AZ17694-MSD	Matrix SpikeD	10-115	29.9		50-135	73.7	
AZ17694	S67-MW016-061515	10-115	31.1		50-135	78.7	
AZ17695	S67-MW024-061515	10-115	28.2		50-135	74.2	
AZ17696	S67-MW017-061515	10-115	27.4		50-135	70.1	

Comments: Batch: #87DJU-150617B

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **150617W-17694 LCS - 198530**
Batch ID: #87DJU-150617B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	38.1	76.2	40-125
BUTYL BENZYL PHTHALATE	50.0	38.6	77.2	45-115
DI-N-BUTYL PHTHALATE	50.0	39.6	79.2	55-115
DI-N-OCTYL PHTHALATE	50.0	38.9	77.8	35-135
DIETHYL PHTHALATE	50.0	29.9	59.8	40-120
DIMETHYL PHTHALATE	50.0	36.1	72.2	25-125
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	113	56.5	40-125
SURROGATE: 2-FLUORBIPHENYL (S)	100	65.3	65.3	50-110
SURROGATE: 2-FLUOROPHENOL (S)	200	92.0	46.0	20-110
SURROGATE: NITROBENZENE-D5 (S)	100	66.2	66.2	40-110
SURROGATE: PHENOL (S)	200	61.6	30.8	10-115
SURROGATE: TERPHENYL-D14 (S)	100	74.6	74.6	50-135

Comments: _____

Primary	SPK
Quant Method :	Y0609TT.M
Extraction Date :	6/17/2015
Analysis Date :	6/20/2015
Instrument :	Yoda
Run :	0609Y116
Initials :	DA

Printed: 7/2/2015 9:45:05 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **150617W-17694 MS - 198530**
Batch ID: #87DJU-150617B
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BIS (2-ETHYLHEXYL) PHTHALATE	46.7	ND	37.3	36.0	79.9	77.1	40-125	3.5	30
BUTYL BENZYL PHTHALATE	46.7	ND	36.2	35.7	77.5	76.4	45-115	1.4	30
DI-N-BUTYL PHTHALATE	46.7	ND	38.6	36.5	82.7	78.2	55-115	5.6	30
DI-N-OCTYL PHTHALATE	46.7	ND	36.3	36.9	77.7	79.0	35-135	1.6	30
DIETHYL PHTHALATE	46.7	0.11	35.5	34.6	75.8	73.9	40-120	2.6	30
DIMETHYL PHTHALATE	46.7	0.40	35.3	34.3	74.7	72.6	25-125	2.9	30
SURROGATE: 2,4,6-TRIBROMOPHENOL	187	NA	145	136	77.5	72.7	40-125		
SURROGATE: 2-FLUORBIPHENYL (S)	93.5	NA	65.9	60.6	70.5	64.8	50-110		
SURROGATE: 2-FLUOROPHENOL (S)	187	NA	91.3	80.8	48.8	43.2	20-110		
SURROGATE: NITROBENZENE-D5 (S)	93.5	NA	68.8	62.1	73.6	66.4	40-110		
SURROGATE: PHENOL (S)	187	NA	59.0	56.0	31.6	29.9	10-115		
SURROGATE: TERPHENYL-D14 (S)	93.5	NA	71.5	68.9	76.5	73.7	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0609TT.M	Y0609TT.M
Extraction Date :	6/17/2015	6/17/2015
Analysis Date :	6/20/2015	6/20/2015
Instrument :	Yoda	Yoda
Run :	0609Y119	0609Y120
Initials :	DA	

Printed: 7/2/2015 9:45:00 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 6/20/2015

Matrix: WATER Instrument: Yoda

Blank ID: 150617B-BLK Time Analyzed: 0749

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617B-BLK	Blank	0609Y115	6/20/2015 0749
150617B-LCS	Lab Control Spike	0609Y116	6/20/2015 0818
AZ17692	S67-MW026-061515	0609Y117	6/20/2015 0848
AZ17693	S67-MW026P-061515	0609Y118	6/20/2015 0917
150617B-MS	Matrix Spike	0609Y119	6/20/2015 0947
150617B-MSD	Matrix SpikeD	0609Y120	6/20/2015 1017
AZ17694	S67-MW016-061515	0609Y121	6/20/2015 1046
AZ17695	S67-MW024-061515	0609Y122	6/20/2015 1116
AZ17696	S67-MW017-061515	0609Y123	6/20/2015 1145

Comments: Batch: #87DJU-150617B

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~0609Y002.D~~ 76657
Matrix: Soil mp 7-10-15
ID: SV Tune 5/14/15

mp 7-10-15
SDG No: ~~Yoda~~ 76657
Date Analyzed: 6/9/2015
Instrument: Yoda
Time Analyzed: 13:56

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 06/09/15	0609Y003.D	6/9/2015 14:14
2		10ug/ml SVOC 06/09/1	0609Y004.D	6/9/2015 14:44
3		20ug/ml SVOC 06/09/1	0609Y005.D	6/9/2015 15:13
4		40ug/ml SVOC 06/09/1	0609Y006.D	6/9/2015 15:43
5		50ug/ml SVOC 06/09/1	0609Y007.D	6/9/2015 16:12
6		60ug/ml SVOC 06/09/1	0609Y008.D	6/9/2015 16:42
7		80ug/ml SVOC 06/09/1	0609Y009.D	6/9/2015 17:12
8		100ug/ml SVOC 06/09/	0609Y010.D	6/9/2015 17:42
9		50ug/ml SVOC SS 06/0	0609Y011.D	6/9/2015 18:12
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	30.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	50.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	27.9
365	1 - 100% of mass 198	3.4
441	0.01 - 100% of mass 443	74.5
442	40 - 150% of mass 198	106.5
443	17 - 23% of mass 442	19.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 76657
Matrix: Water
ID: SV TUNE 5/14/15

SDG No: 76657
Date Analyzed: 6/20/2015
Instrument: Yoda
Time Analyzed: 2:39

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 06/19/1	0609Y105.D	6/20/2015 2:57
2	Blank	150617B BLK 1/1000	0609Y115.D	6/20/2015 7:49
3	Lab Control Spike	150617B LCS-1 1/1000	0609Y116.D	6/20/2015 8:18
4	S67-MW026-061515	AZ17692W04 1/850	0609Y117.D	6/20/2015 8:48
5	S67-MW026P-061515	AZ17693W05 1/900	0609Y118.D	6/20/2015 9:17
6		AZ17694W13 MS-1 1/10	0609Y119.D	6/20/2015 9:47
7		AZ17694W18 MSD-1 1/1	0609Y120.D	6/20/2015 10:17
8	S67-MW016-061515	AZ17694W14 1/950	0609Y121.D	6/20/2015 10:46
9	S67-MW024-061515	AZ17695W04 1/950	0609Y122.D	6/20/2015 11:16
10	S67-MW017-061515	AZ17696W08 1/950	0609Y123.D	6/20/2015 11:45
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	30.8
68	0 - 2% of mass 69	0.1
70	0 - 2% of mass 69	0.3
127	40 - 60% of mass 198	49.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	28.7
365	1 - 100% of mass 198	3.3
441	0.01 - 100% of mass 443	77.0
442	40 - 150% of mass 198	98.1
443	17 - 23% of mass 442	19.0

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 76657

Lab File ID (Standard): 0609Y007.D Date Analyzed: 9 Jun 15 16:12

Instrument ID: Yoda Time Analyzed: 9 Jun 15 16:12

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	659031	4.80	2842140	6.23	1600410	8.21
	UPPER LIMIT	1318062	5.30	5684280	6.73	3200820	8.71
	LOWER LIMIT	329516	4.30	1421070	5.73	800205	7.71
	SAMPLE NO.						
01	50ug/ml SVOC SS 06/0	800527	4.79	3423700	6.23	1876170	8.21
02	50ug/ml SVOC 06/19/15	590096	4.79	2478510	6.23	1364730	8.20
03	150617B BLK 1/1000	655078	4.79	2844720	6.23	1610110	8.21
04	150617B LCS-1 1/1000	768071	4.79	3311950	6.22	1841010	8.20
05	AZ17692W04 1/850	642180	4.80	2880700	6.22	1608940	8.21
06	AZ17693W05 1/900	572452	4.79	2509350	6.23	1357260	8.21
07	AZ17694W13 MS-1 1/1	661321	4.79	2782290	6.23	1538240	8.20
08	AZ17694W18 MSD-1 1/	601145	4.79	2668950	6.22	1533580	8.20
09	AZ17694W14 1/950	607639	4.80	2624140	6.22	1440820	8.21
10	AZ17695W04 1/950	659311	4.80	2867650	6.23	1572540	8.21
11	AZ17696W08 1/950	622688	4.80	2593300	6.22	1417890	8.21
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 76657

Lab File ID (Standard): 0609Y007.D Date Analyzed: 9 Jun 15 16:12

Instrument ID: Yoda Time Analyzed: 9 Jun 15 16:12

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	2772740	9.94	2451720	13.00	1683710	14.63
	UPPER LIMIT	5545480	10.44	4903440	13.50	3367420	15.13
	LOWER LIMIT	1386370	9.44	1225860	12.50	841855	14.13
	SAMPLE NO.						
01	50ug/ml SVOC SS 06/0	3283760	9.93	2681600	12.99	1834460	14.64
02	50ug/ml SVOC 06/19/15	2406920	9.93	2139400	12.99	1371350	14.63
03	150617B BLK 1/1000	2877930	9.93	2486920	13.00	1537530	14.64
04	150617B LCS-1 1/1000	3239410	9.93	2926890	12.99	1859040	14.64
05	AZ17692W04 1/850	2873550	9.93	2483990	13.00	1534340	14.64
06	AZ17693W05 1/900	2413260	9.93	2137940	13.00	1321230	14.65
07	AZ17694W13 MS-1 1/1	2697920	9.93	2444000	12.99	1491080	14.63
08	AZ17694W18 MSD-1 1/	2688220	9.93	2374770	12.99	1442060	14.64
09	AZ17694W14 1/950	2579760	9.93	2212330	13.00	1378010	14.65
10	AZ17695W04 1/950	2843150	9.93	2425020	13.00	1511650	14.64
11	AZ17696W08 1/950	2513890	9.93	2165110	13.00	1316650	14.65
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8270D
Semivolatile Organic Compounds
Sample Data

APPL, INC.

EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026-061515

APPL ID: AZ17692

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	73.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	62.6	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.8	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	65.0	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	34.4	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	76.8	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y117
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:49 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y117.D Vial: 17
Acq On : 20 Jun 15 8:48 Operator: csc
Sample : AZ17692W04 1/850 Inst : Yoda
Misc : water Multiplr: 1.18

Quant Time: Jul 2 9:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	642180	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.22	136	2880702	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1608939	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2873549	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2483990	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1534343	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.85	112	2058517	119.48	ppb		-0.07
Spiked Amount 235.294			Recovery =	50.779%			
3) Phenol-D6 (S)	4.99	99	1864976	80.86	ppb		-0.02
Spiked Amount 235.294			Recovery =	34.367%			
8) Nitrobenzene-D5(S)	5.49	82	1716854	76.53	ppb		0.00
Spiked Amount 117.647			Recovery =	65.049%			
16) 2-Fluorobiphenyl(S)	7.44	172	3300792	73.67	ppb		0.00
Spiked Amount 117.647			Recovery =	62.622%			
22) 2,4,6-Tribromophenol(S)	9.19	330	653210	173.30	ppb		0.00
Spiked Amount 235.294			Recovery =	73.651%			
28) Terphenyl-D14(S)	11.73	244	4135065	90.37	ppb		0.00
Spiked Amount 117.647			Recovery =	76.819%			
Target Compounds							Qvalue
10) 2,4-Dichlorophenol	6.50	162	144	-4.45	ppb	#	24
17) Dimethyl phthalate	7.98	163	39577	0.82	ppb		98
21) Diethyl phthalate	8.73	149	6517	0.14	ppb		94
31) Di-n-octylphthalate	13.49	149	3132	0.04	ppb	#	88

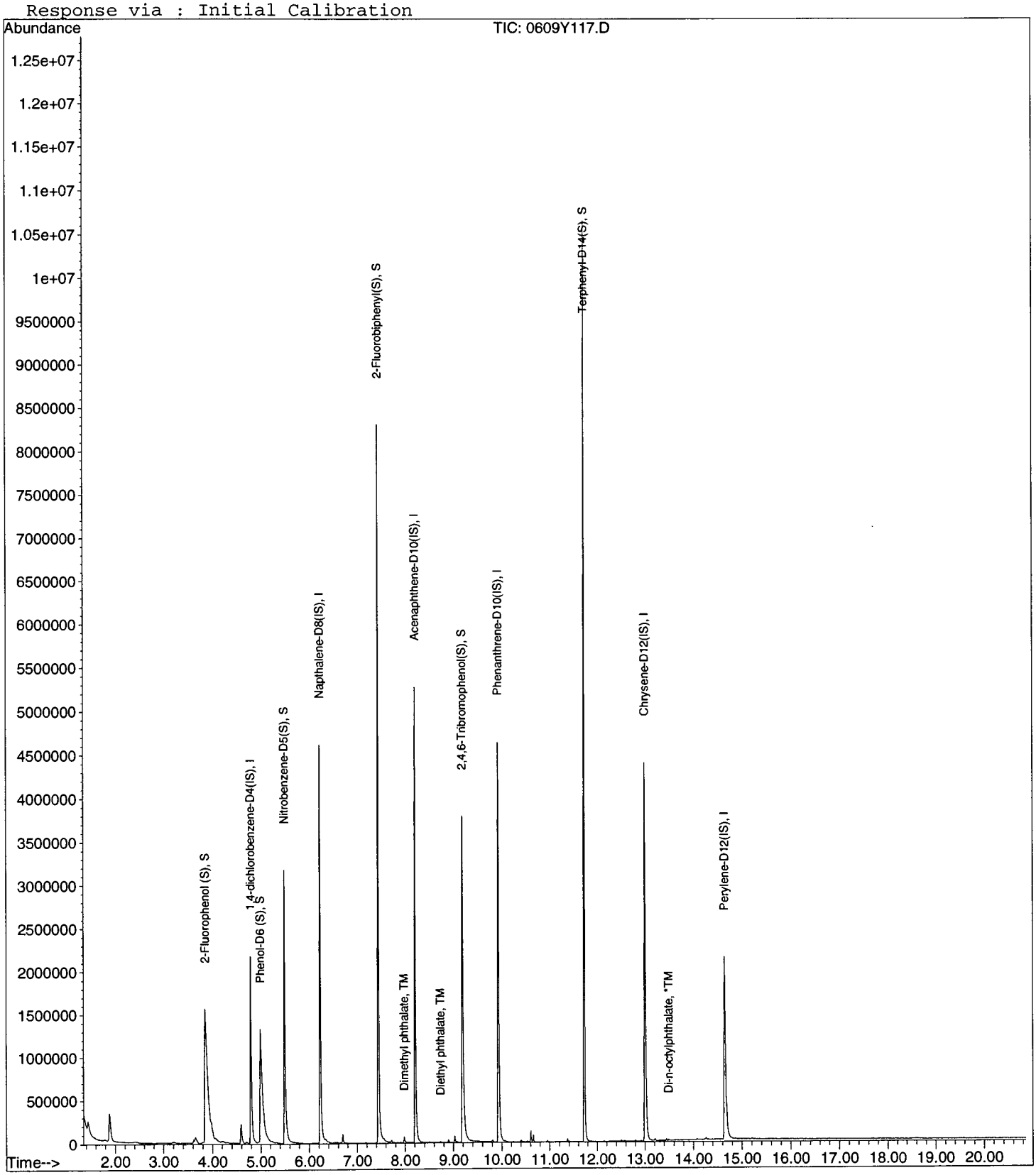
(#) = qualifier out of range (m) = manual integration

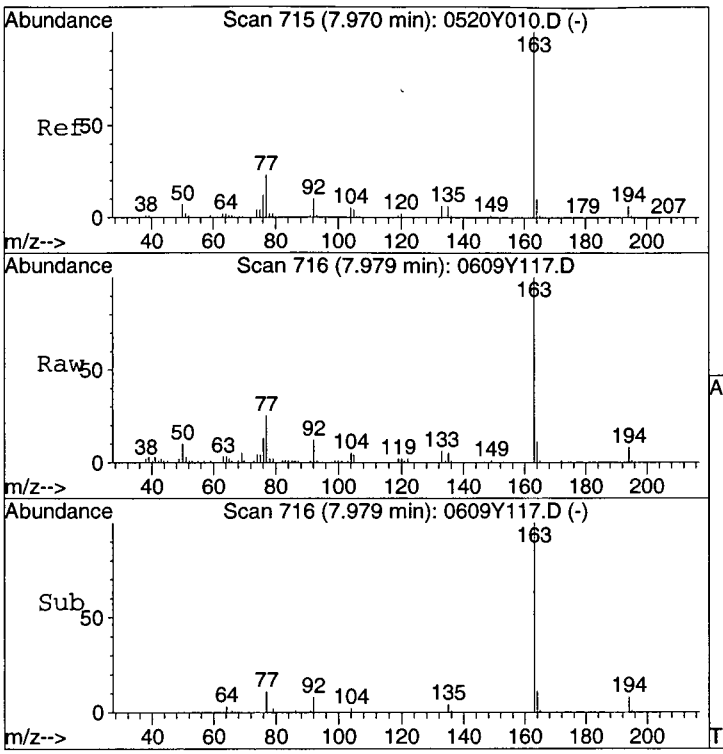
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y117.D Vial: 17
Acq On : 20 Jun 15 8:48 Operator: csc
Sample : AZ17692W04 1/850 Inst : Yoda
Misc : water Multiplr: 1.18

Quant Time: Jul 2 9:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

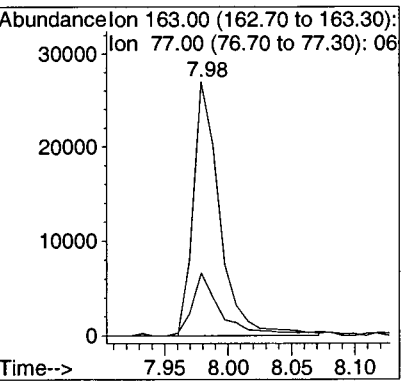


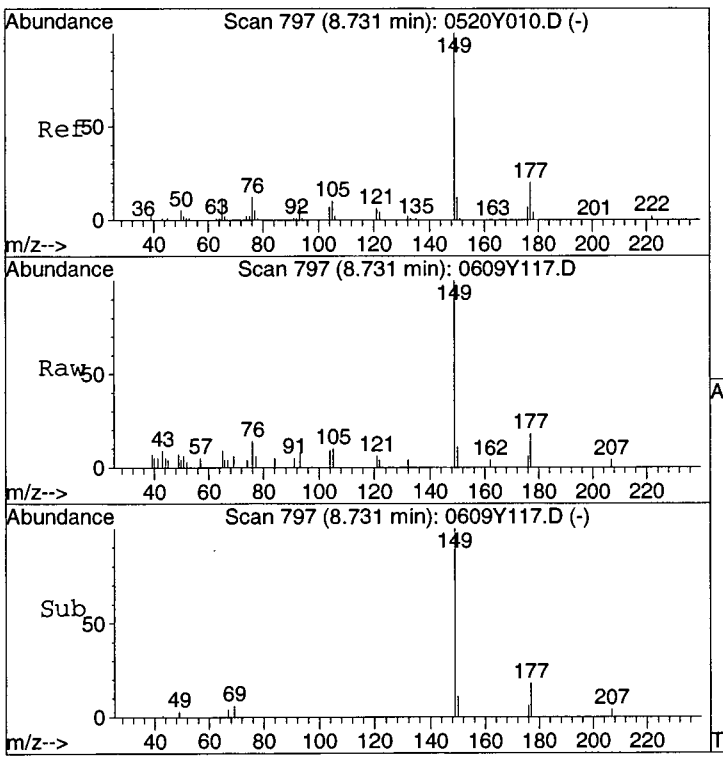


#17
Dimethyl phthalate
Concen: 0.82 ppb
RT: 7.98 min Scan# 716
Delta R.T. 0.02 min
Lab File: 0609Y117.D
Acq: 20 Jun 15 8:48

Tgt Ion:163 Resp: 39577

Ion	Ratio	Lower	Upper
163	100		
77	23.6	17.3	32.1

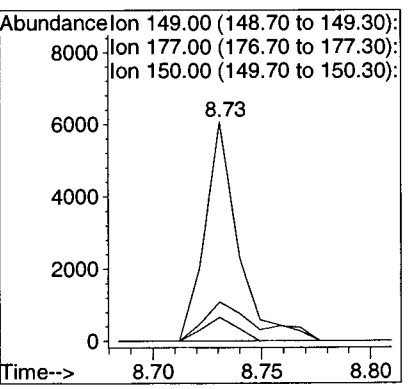


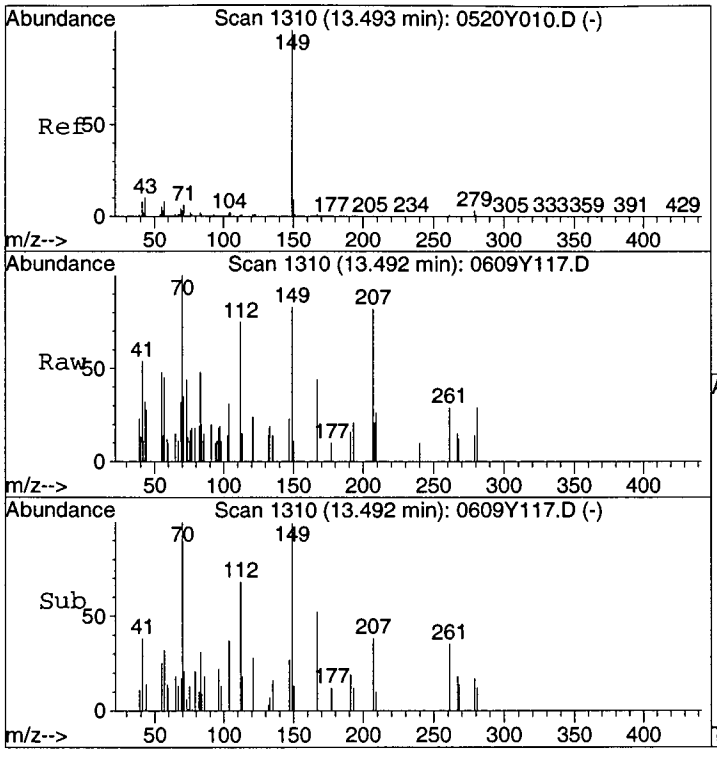


#21
Diethyl phthalate
Concen: 0.14 ppb
RT: 8.73 min Scan# 797
Delta R.T. 0.01 min
Lab File: 0609Y117.D
Acq: 20 Jun 15 8:48

Tgt Ion:149 Resp: 6517

Ion	Ratio	Lower	Upper
149	100		
177	17.9	15.1	28.0
150	10.9	8.3	15.5

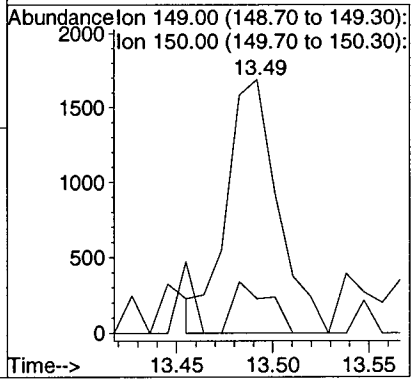




#31
Di-n-octylphthalate
Concen: 0.04 ppb
RT: 13.49 min Scan# 1310
Delta R.T. 0.01 min
Lab File: 0609Y117.D
Acq: 20 Jun 15 8:48

Tgt Ion:149 Resp: 3132

Ion	Ratio	Lower	Upper
149	100		
150	13.6	6.4	11.8#



EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026P-061515

APPL ID: AZ17693

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	74.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.9	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.9	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	66.1	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	33.1	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	79.5	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y118
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:49 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y118.D Vial: 18
Acq On : 20 Jun 15 9:17 Operator: csc
Sample : AZ17693W05 1/900 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	572452	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.23	136	2509350	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.21	164	1357264	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.93	188	2413260	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	2137944	40.00	ppb	0.00
32) Perylene-D12(IS)	14.65	264	1321230	40.00	ppb	0.02
System Monitoring Compounds						
2) 2-Fluorophenol (S)	3.85	112	1840353	101.85	ppb	-0.07
Spiked Amount 200.000			Recovery =	50.928%		
3) Phenol-D6 (S)	4.99	99	1602742	66.26	ppb	-0.02
Spiked Amount 200.000			Recovery =	33.132%		
8) Nitrobenzene-D5(S)	5.49	82	1518548	66.05	ppb	0.00
Spiked Amount 100.000			Recovery =	66.050%		
16) 2-Fluorobiphenyl(S)	7.44	172	2843483	63.95	ppb	0.00
Spiked Amount 100.000			Recovery =	63.949%		
22) 2,4,6-Tribromophenol(S)	9.20	330	558943	149.36	ppb	0.00
Spiked Amount 200.000			Recovery =	74.680%		
28) Terphenyl-D14(S)	11.73	244	3683565	79.51	ppb	0.00
Spiked Amount 100.000			Recovery =	79.507%		
Target Compounds						Qvalue
17) Dimethyl phthalate	7.99	163	27130	0.57	ppb	91

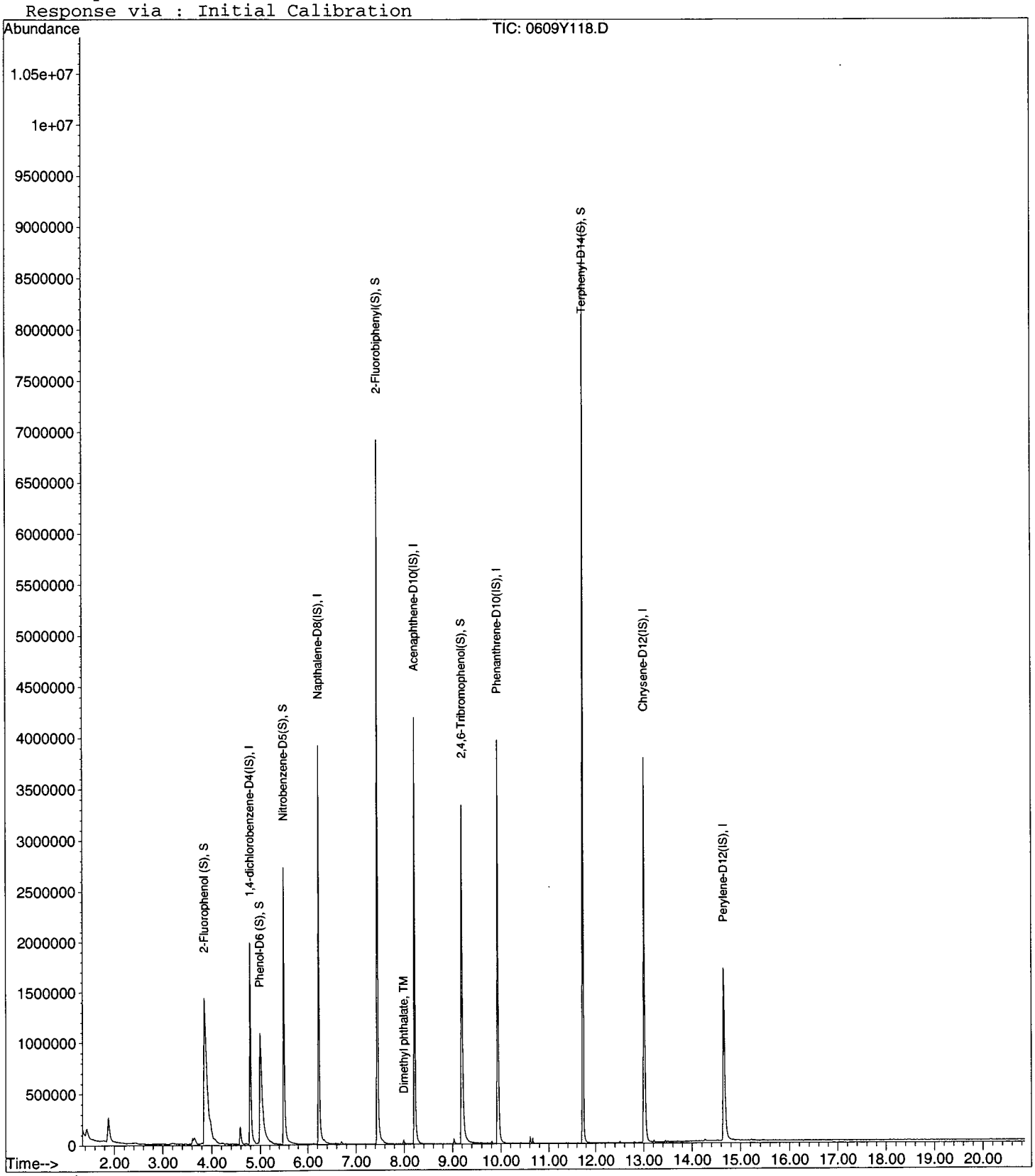
(#) = qualifier out of range (m) = manual integration

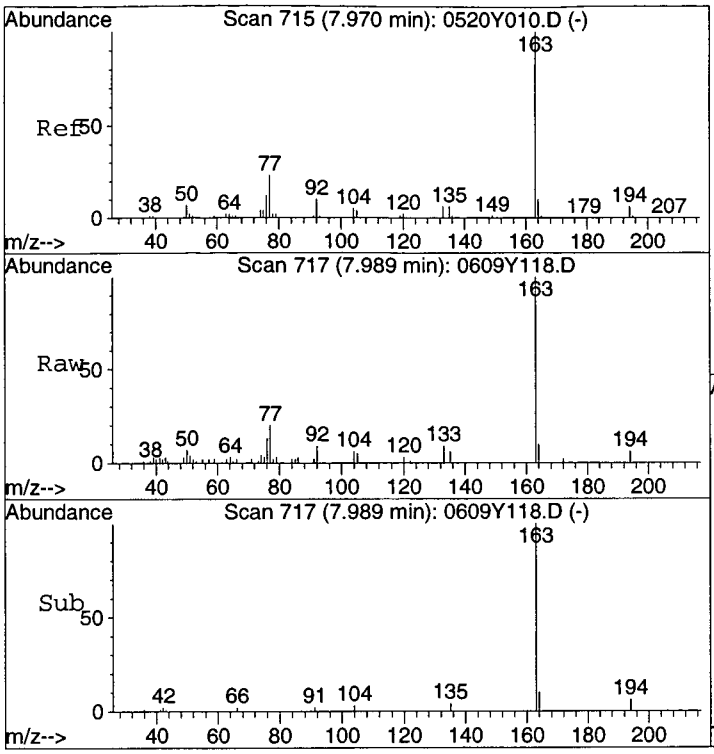
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y118.D Vial: 18
Acq On : 20 Jun 15 9:17 Operator: csc
Sample : AZ17693W05 1/900 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

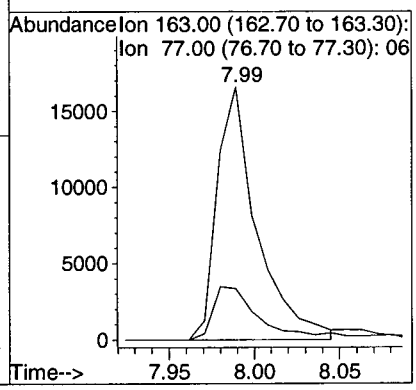




#17
Dimethyl phthalate
Concen: 0.57 ppb
RT: 7.99 min Scan# 717
Delta R.T. 0.03 min
Lab File: 0609Y118.D
Acq: 20 Jun 15 9:17

Tgt Ion:163 Resp: 27130

Ion	Ratio	Lower	Upper
163	100		
77	20.1	17.3	32.1



EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW016-061515
Sample Collection Date: 6/15/2015

ARF: 76657
APPL ID: AZ17694
QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	75.2	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	66.2	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	40.4	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	67.9	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	31.1	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	78.7	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y121
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:49 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y121.D Vial: 21
Acq On : 20 Jun 15 10:46 Operator: csc
Sample : AZ17694W14 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:36 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	607639	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.22	136	2624141	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.21	164	1440823	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.93	188	2579763	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	2212331	40.00	ppb	0.00
32) Perylene-D12(IS)	14.65	264	1378014	40.00	ppb	0.02
System Monitoring Compounds						
2) 2-Fluorophenol (S)	3.85	112	1548986	85.02	ppb	-0.07
Spiked Amount 210.526			Recovery =	40.382%		
3) Phenol-D6 (S)	4.99	99	1598269	65.53	ppb	-0.02
Spiked Amount 210.526			Recovery =	31.126%		
8) Nitrobenzene-D5(S)	5.49	82	1631345	71.42	ppb	0.00
Spiked Amount 105.263			Recovery =	67.852%		
16) 2-Fluorobiphenyl(S)	7.44	172	3126494	69.72	ppb	0.00
Spiked Amount 105.263			Recovery =	66.236%		
22) 2,4,6-Tribromophenol(S)	9.19	330	597463	158.28	ppb	0.00
Spiked Amount 210.526			Recovery =	75.183%		
28) Terphenyl-D14(S)	11.73	244	3774502	82.87	ppb	0.00
Spiked Amount 105.263			Recovery =	78.730%		
Target Compounds						Qvalue
10) 2,4-Dichlorophenol	6.54	162	474	-3.96	ppb #	66
17) Dimethyl phthalate	7.99	163	19136	0.40	ppb	88
21) Diethyl phthalate	8.73	149	5232	0.11	ppb	98

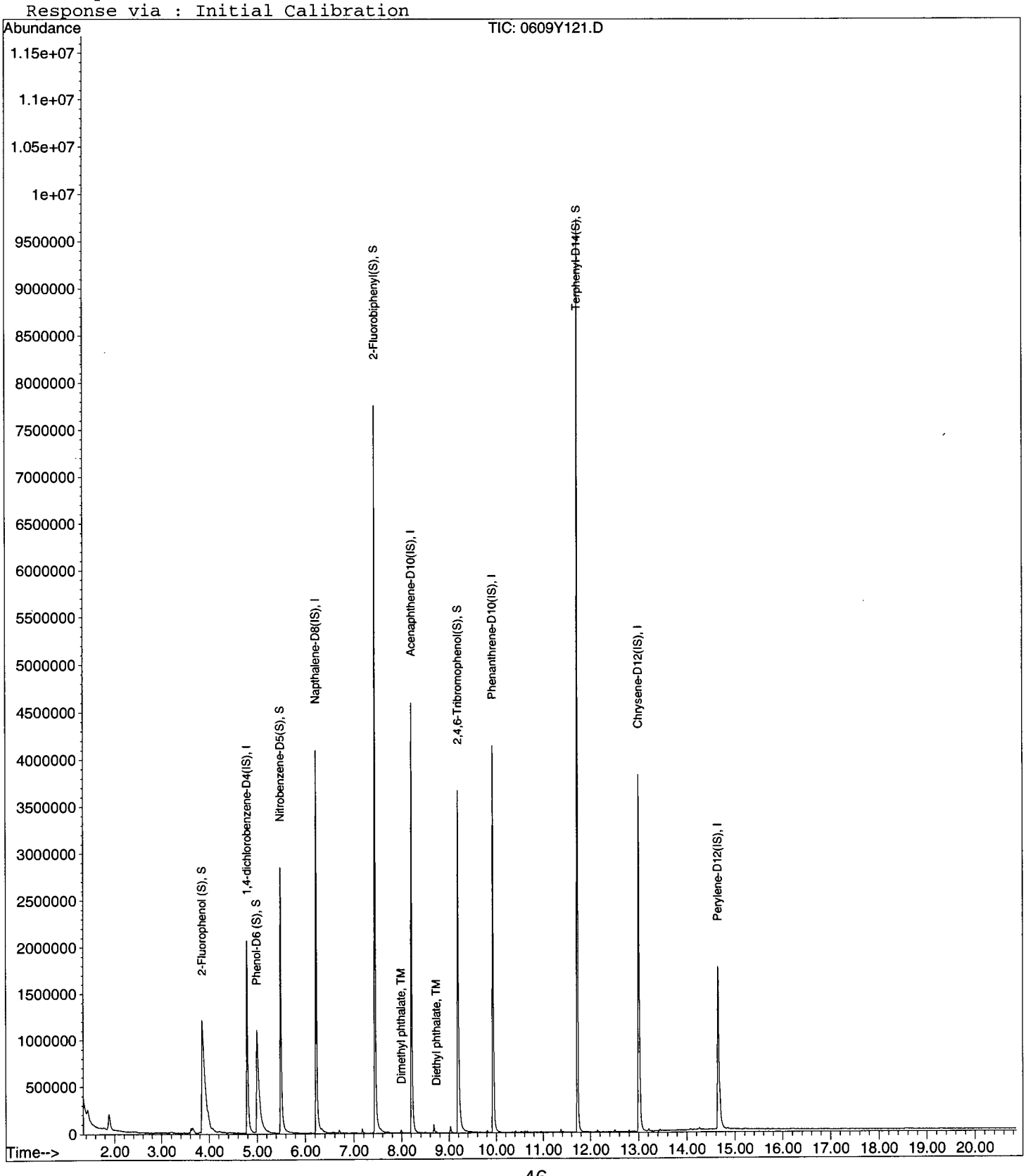
(#) = qualifier out of range (m) = manual integration

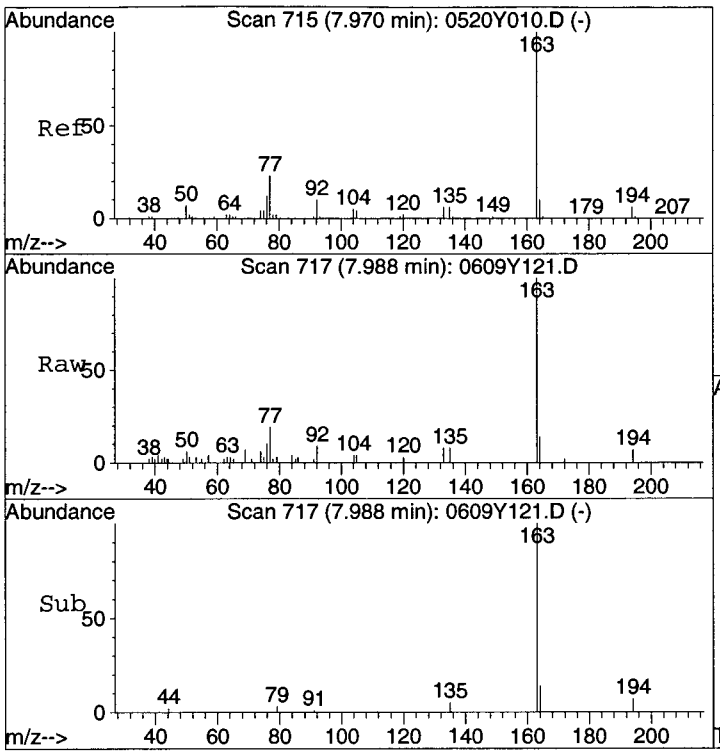
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y121.D Vial: 21
Acq On : 20 Jun 15 10:46 Operator: csc
Sample : AZ17694W14 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:36 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

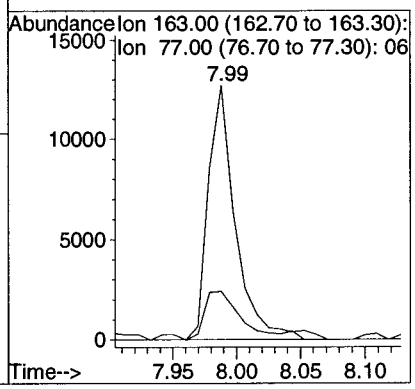


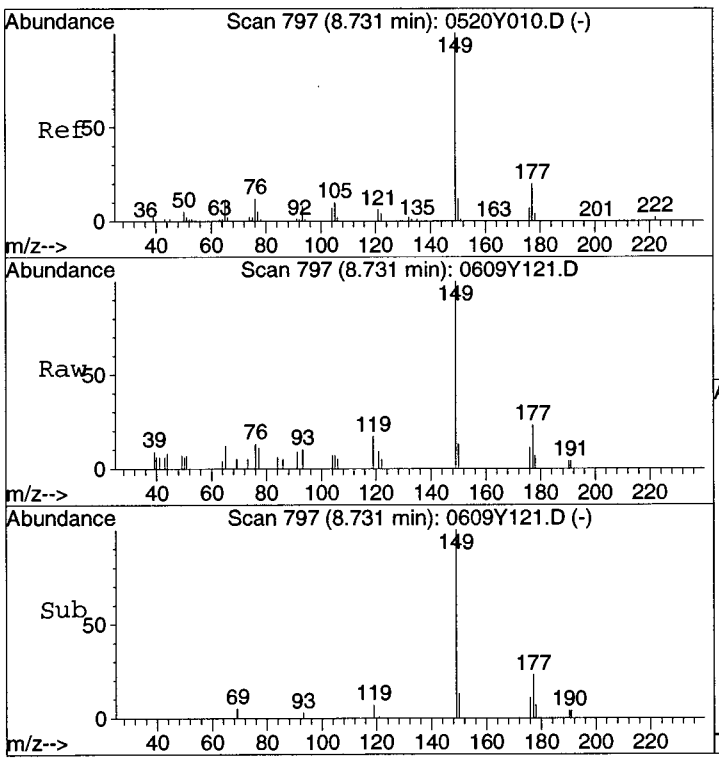


#17
Dimethyl phthalate
Concen: 0.40 ppb
RT: 7.99 min Scan# 717
Delta R.T. 0.03 min
Lab File: 0609Y121.D
Acq: 20 Jun 15 10:46

Tgt Ion:163 Resp: 19136

Ion	Ratio	Lower	Upper
163	100		
77	18.9	17.3	32.1

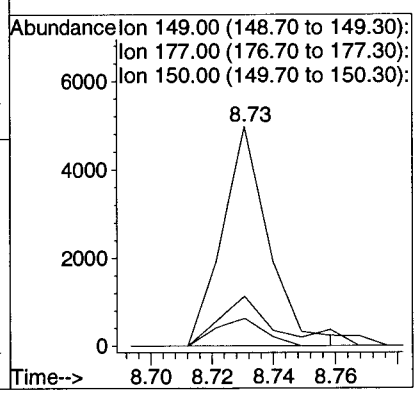




#21
Diethyl phthalate
Concen: 0.11 ppb
RT: 8.73 min Scan# 797
Delta R.T. 0.01 min
Lab File: 0609Y121.D
Acq: 20 Jun 15 10:46

Tgt Ion:149 Resp: 5232

Ion	Ratio	Lower	Upper
149	100		
177	22.8	15.1	28.0
150	12.7	8.3	15.5



EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW024-061515

APPL ID: AZ17695

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	67.8	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.1	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.1	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	60.2	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	28.2	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	74.2	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y122
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:49 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y122.D Vial: 22
Acq On : 20 Jun 15 11:16 Operator: csc
Sample : AZ17695W04 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:37 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	659311	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.23	136	2867645	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.21	164	1572541	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.93	188	2843147	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	2425018	40.00	ppb	0.00
32) Perylene-D12(IS)	14.64	264	1511652	40.00	ppb	0.00
System Monitoring Compounds						
2) 2-Fluorophenol (S)	3.85	112	1752460	88.64	ppb	-0.07
Spiked Amount 210.526			Recovery =	42.106%		
3) Phenol-D6 (S)	5.00	99	1571252	59.37	ppb	0.00
Spiked Amount 210.526			Recovery =	28.202%		
8) Nitrobenzene-D5(S)	5.49	82	1582821	63.41	ppb	0.00
Spiked Amount 105.263			Recovery =	60.243%		
16) 2-Fluorobiphenyl(S)	7.44	172	2939640	60.06	ppb	0.00
Spiked Amount 105.263			Recovery =	57.061%		
22) 2,4,6-Tribromophenol(S)	9.20	330	586512	142.78	ppb	0.00
Spiked Amount 210.526			Recovery =	67.822%		
28) Terphenyl-D14(S)	11.73	244	3899732	78.11	ppb	0.00
Spiked Amount 105.263			Recovery =	74.208%		
Target Compounds						Qvalue
17) Dimethyl phthalate	7.99	163	30279	0.58	ppb	89
30) Bis (2-ethylhexyl) phthala	12.80	149	2834	0.05	ppb	100

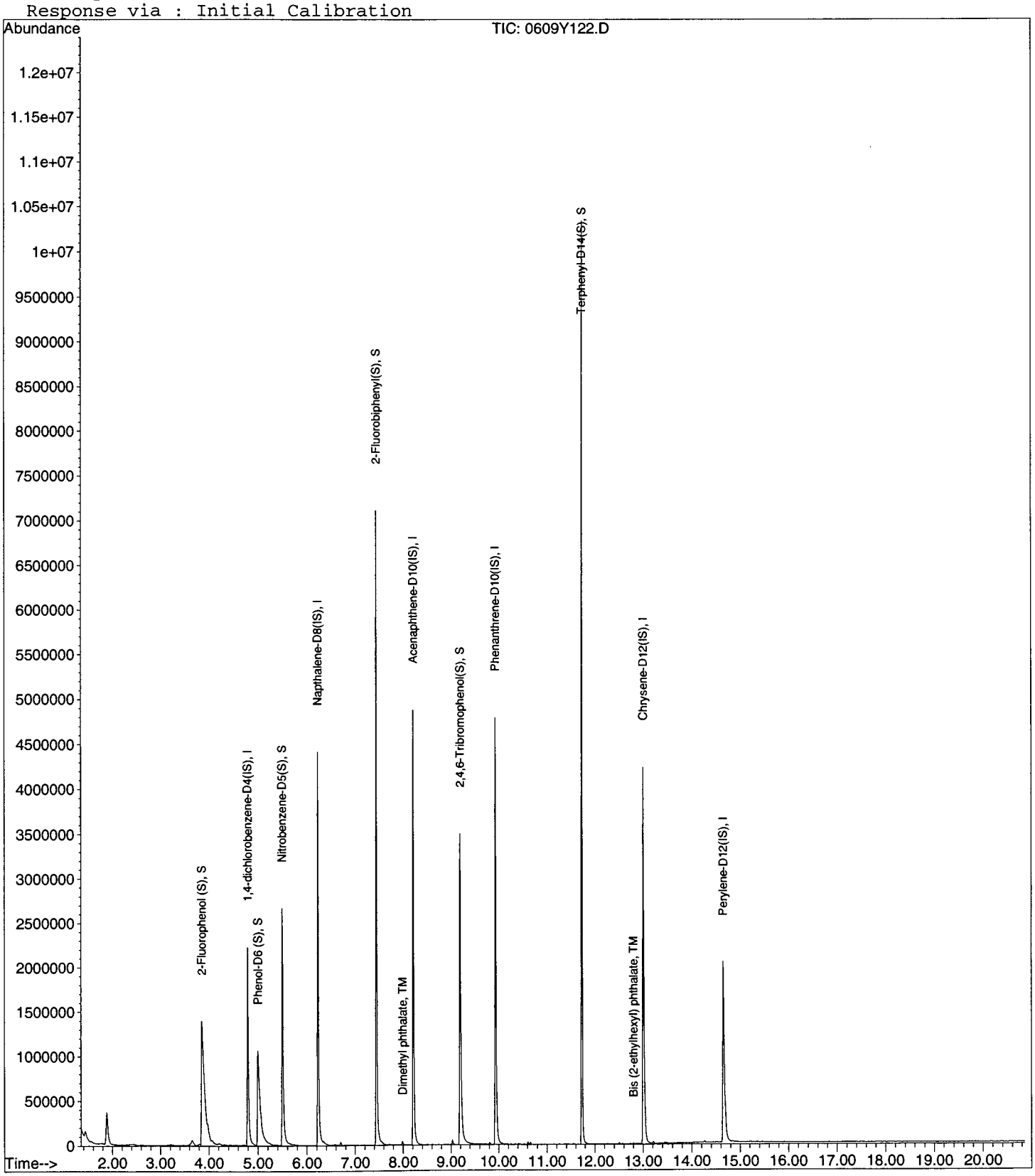
(#) = qualifier out of range (m) = manual integration

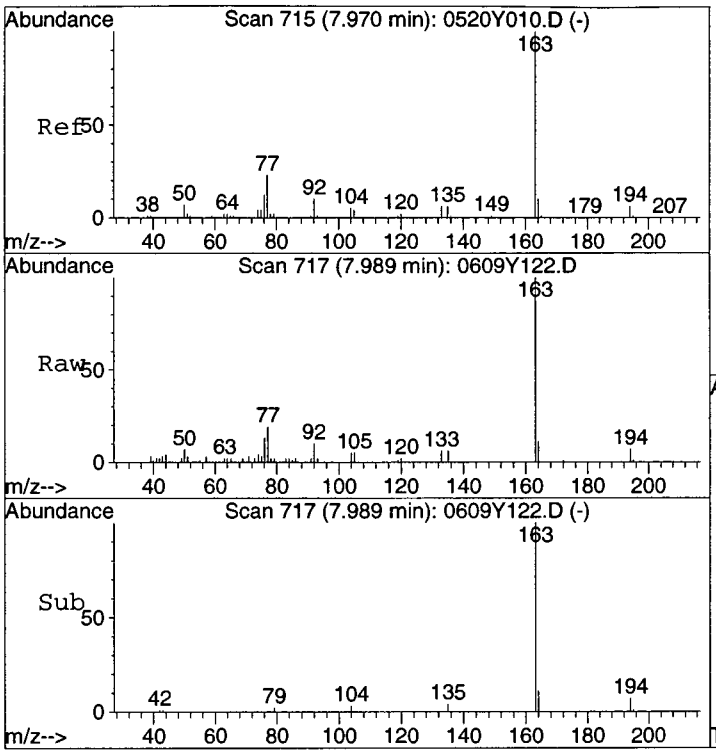
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y122.D Vial: 22
Acq On : 20 Jun 15 11:16 Operator: csc
Sample : AZ17695W04 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:37 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

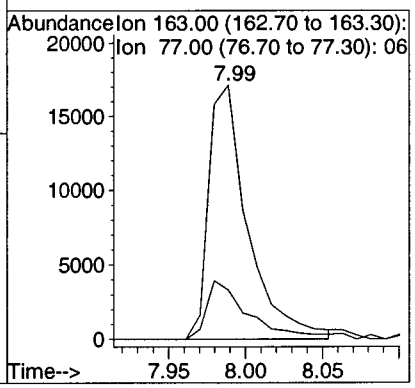


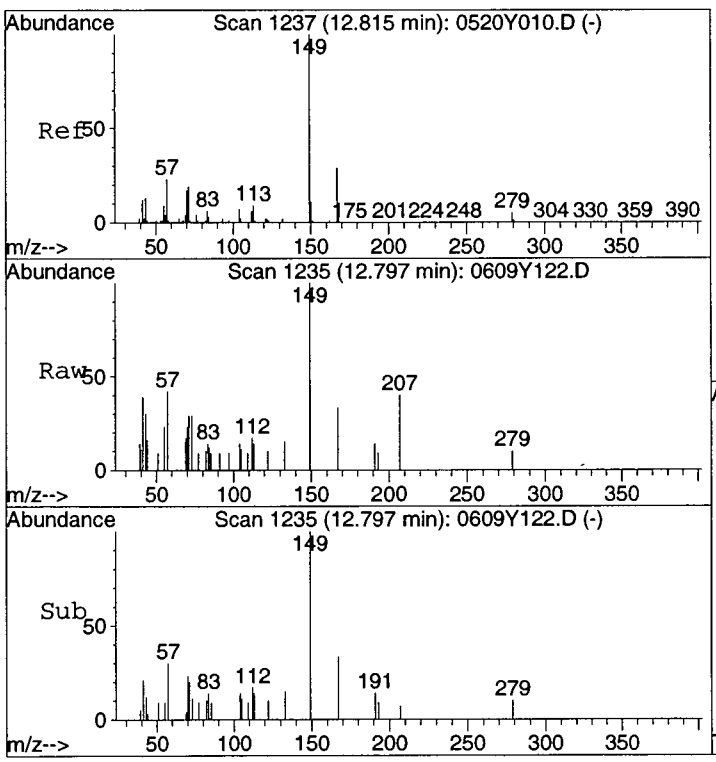


#17
Dimethyl phthalate
Concen: 0.58 ppb
RT: 7.99 min Scan# 717
Delta R.T. 0.03 min
Lab File: 0609Y122.D
Acq: 20 Jun 15 11:16

Tgt Ion:163 Resp: 30279

Ion	Ratio	Lower	Upper
163	100		
77	19.3	17.3	32.1

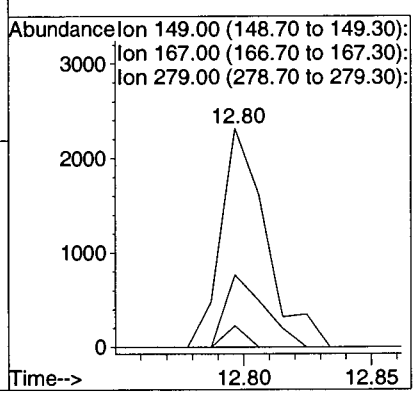




#30
Bis (2-ethylhexyl) phthalate
Concen: 0.05 ppb
RT: 12.80 min Scan# 1235
Delta R.T. -0.01 min
Lab File: 0609Y122.D
Acq: 20 Jun 15 11:16

Tgt Ion:149 Resp: 2834

Ion	Ratio	Lower	Upper
149	100		
167	33.0	23.1	42.9
279	9.8	7.1	13.3



EPA 8270D WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 6/15/2015

QCG: #87DJU-150617B-198530

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	66.7	40-125			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	55.6	50-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	41.5	20-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.4	40-110			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: PHENOL (S)	27.4	10-115			%	6/17/2015	6/20/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.1	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y123
Instrument: Yoda
Sequence: Y150609
Dilution Factor: 1
Initials: DA

Printed: 7/2/2015 9:44:49 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y123.D Vial: 23
Acq On : 20 Jun 15 11:45 Operator: csc
Sample : AZ17696W08 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:38 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	622688	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.22	136	2593298	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.21	164	1417885	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.93	188	2513885	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	2165110	40.00	ppb	0.00
32) Perylene-D12(IS)	14.65	264	1316652	40.00	ppb	0.02
System Monitoring Compounds						
2) 2-Fluorophenol (S)	3.86	112	1629474	87.27	ppb	-0.07
Spiked Amount 210.526			Recovery =	41.454%		
3) Phenol-D6 (S)	5.00	99	1441019	57.65	ppb	0.00
Spiked Amount 210.526			Recovery =	27.386%		
8) Nitrobenzene-D5(S)	5.50	82	1364676	60.46	ppb	0.00
Spiked Amount 105.263			Recovery =	57.436%		
16) 2-Fluorobiphenyl(S)	7.44	172	2583891	58.55	ppb	0.00
Spiked Amount 105.263			Recovery =	55.626%		
22) 2,4,6-Tribromophenol(S)	9.19	330	519755	140.41	ppb	0.00
Spiked Amount 210.526			Recovery =	66.693%		
28) Terphenyl-D14(S)	11.73	244	3289202	73.79	ppb	0.00
Spiked Amount 105.263			Recovery =	70.104%		
Target Compounds						Qvalue
17) Dimethyl phthalate	7.99	163	22801	0.48	ppb	89
21) Diethyl phthalate	8.73	149	28369	0.60	ppb	99
30) Bis (2-ethylhexyl) phthala	12.80	149	3194	0.07	ppb	86

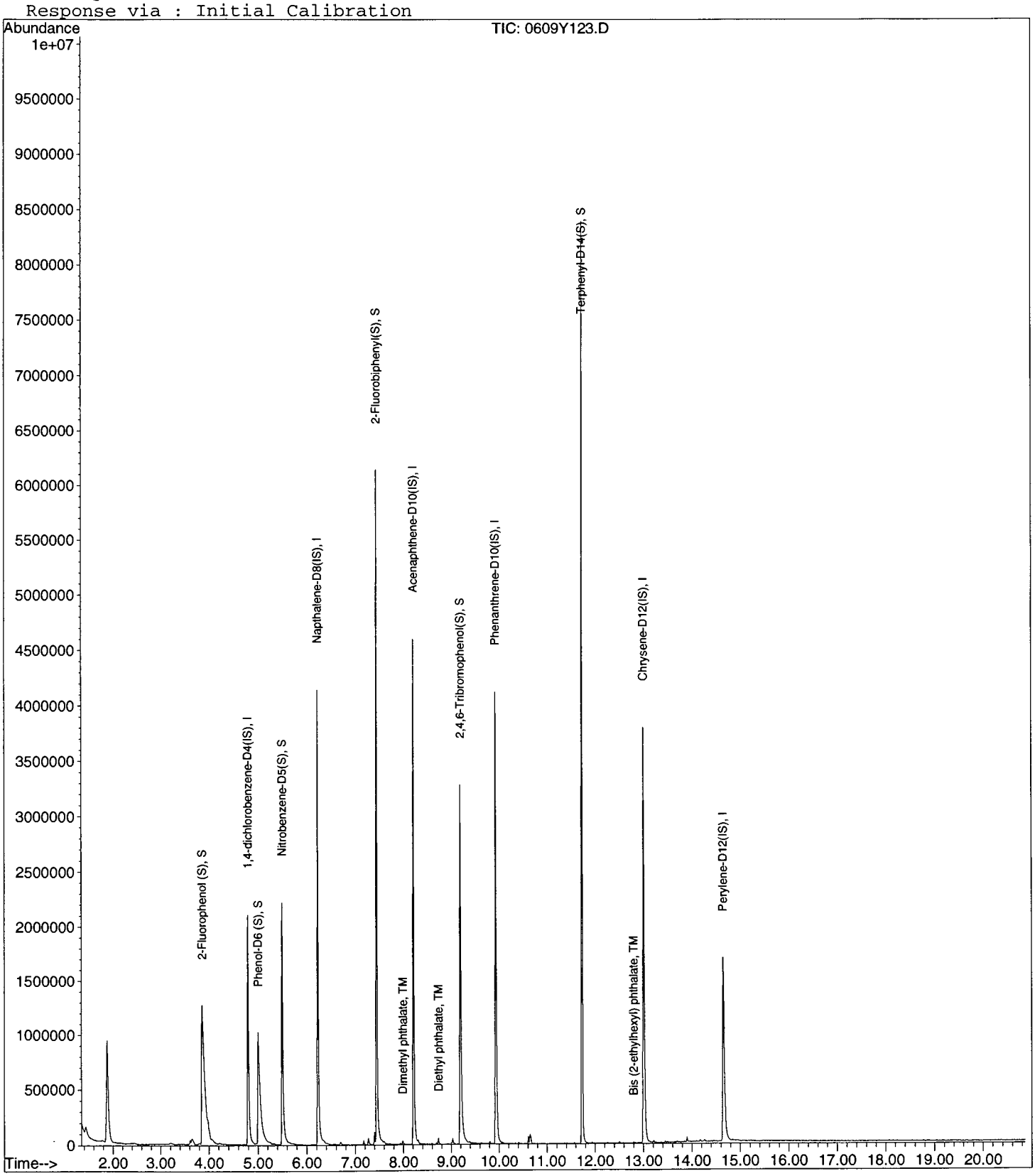
(#) = qualifier out of range (m) = manual integration

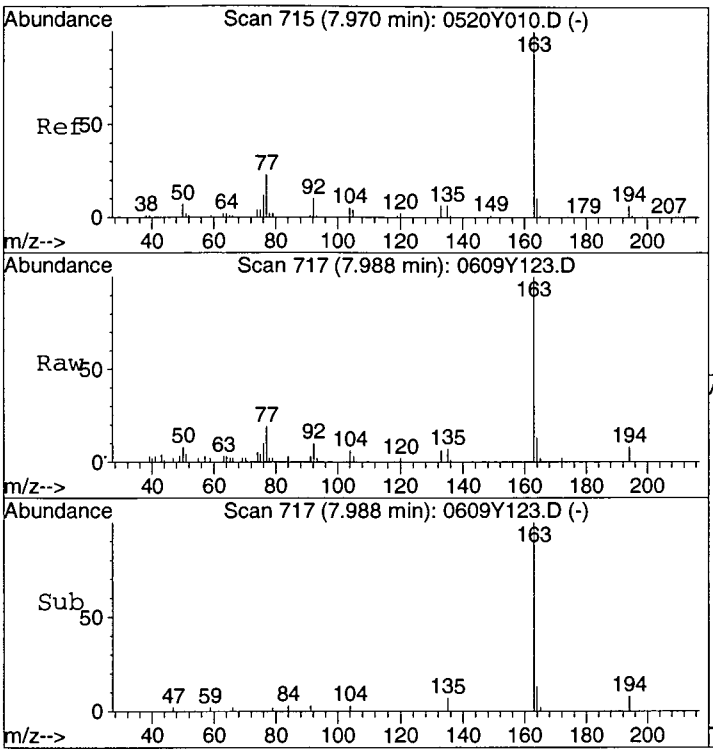
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y123.D Vial: 23
Acq On : 20 Jun 15 11:45 Operator: csc
Sample : AZ17696W08 1/950 Inst : Yoda
Misc : water Multiplr: 1.05

Quant Time: Jul 2 9:38 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

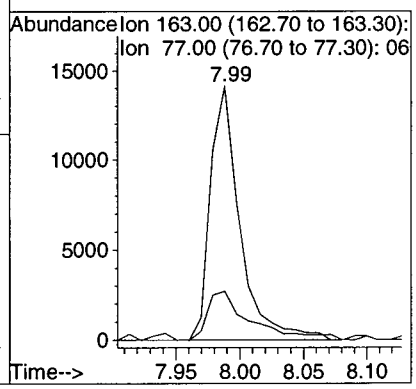


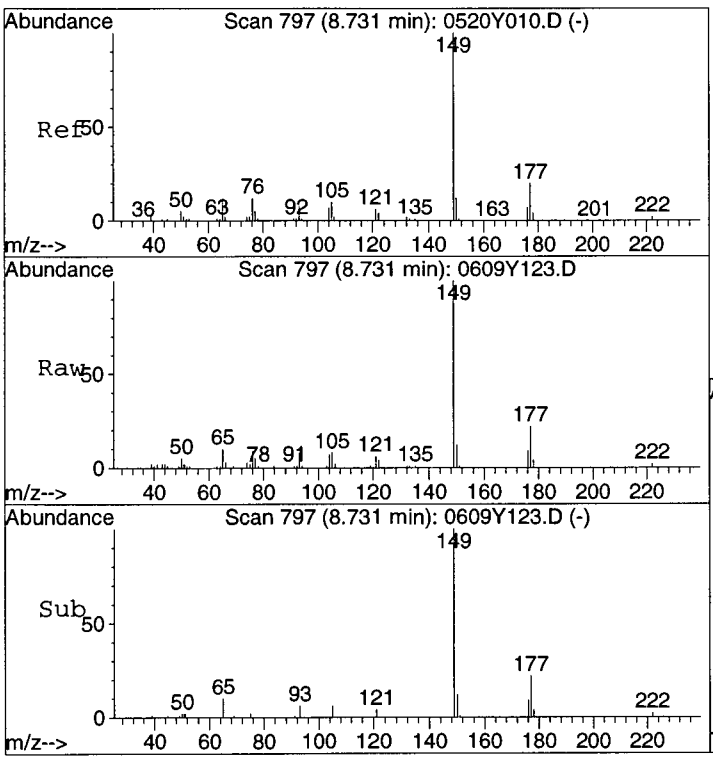


#17
Dimethyl phthalate
Concen: 0.48 ppb
RT: 7.99 min Scan# 717
Delta R.T. 0.03 min
Lab File: 0609Y123.D
Acq: 20 Jun 15 11:45

Tgt Ion:163 Resp: 22801

Ion	Ratio	Lower	Upper
163	100		
77	19.2	17.3	32.1

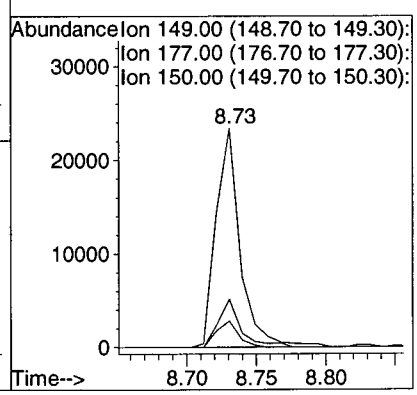


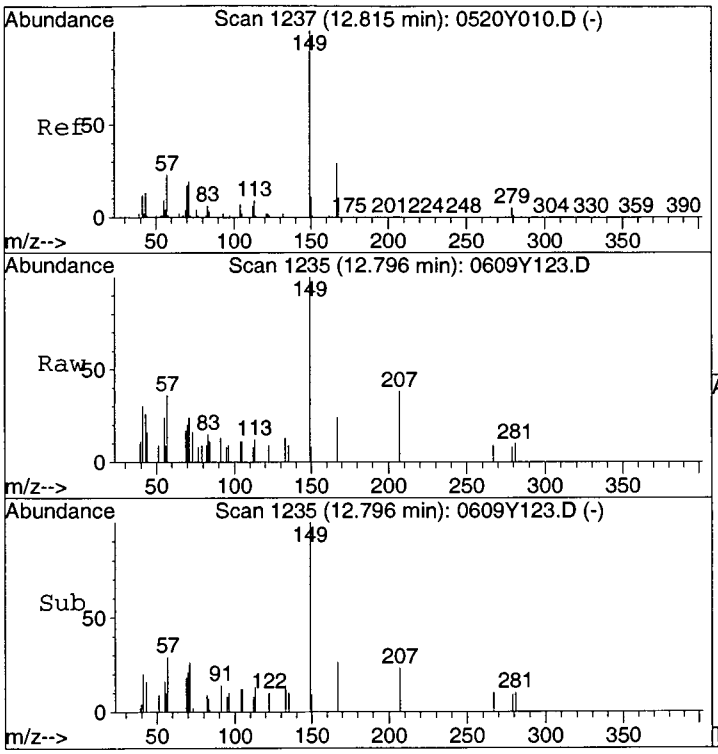


#21
Diethyl phthalate
Concen: 0.60 ppb
RT: 8.73 min Scan# 797
Delta R.T. 0.01 min
Lab File: 0609Y123.D
Acq: 20 Jun 15 11:45

Tgt Ion:149 Resp: 28369

Ion	Ratio	Lower	Upper
149	100		
177	22.1	15.1	28.0
150	12.1	8.3	15.5

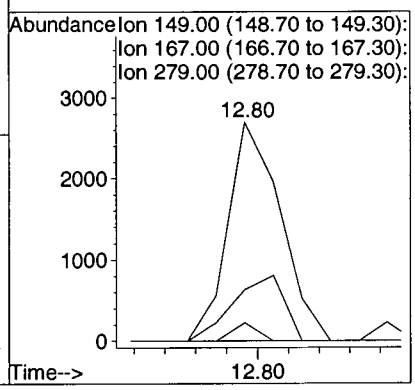




#30
Bis (2-ethylhexyl) phthalate
Concen: 0.07 ppb
RT: 12.80 min Scan# 1235
Delta R.T. -0.01 min
Lab File: 0609Y123.D
Acq: 20 Jun 15 11:45

Tgt Ion:149 Resp: 3194

Ion	Ratio	Lower	Upper
149	100		
167	23.6	23.1	42.9
279	8.4	7.1	13.3



EPA METHOD 8270D
Semivolatile Organic Compounds
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 76657
Case No: Initial Cal. Date: 6/9/2015
Matrix: Instrument: Yoda Initials:

			0609Y003.D	0609Y004.D	0609Y005 D	0609Y006.D	0609Y007.D	0609Y008.D	0609Y009.D	0609Y010.D						
		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	S	2-Fluorophenol (S)	1.153	1.148	1.308	1.264	1.303	1.332	1.324	1.269			1.3	5.8	S	
3	S	Phenol-D6 (S)		1.600	1.688	1.639	1.690	1.753	1.756	1.703			1.7	3.3	S	
4	*TM	Phenol	1.922	1.755	1.979	1.923	1.987	2.064	2.037	1.969			2.0	4.8	*TM	
5	*TM	1,4-DCB	1.713	1.582	1.769	1.733	1.788	1.800	1.827	1.761			1.7	4.3	*TM	
6	**TM	n-Nitrosodi-n-propylamine		0.7002	0.8477	0.8764	1.042	1.088	1.062	1.047			0.95	15	**TM	
7	I	Napthalene-D8(IS)														
8	S	Nitrobenzene-D5(S)	0.3260	0.3330	0.3668	0.3761	0.3812	0.3831	0.3908	0.3749			0.37	6.5	S	
9	*TM	2-Nitrophenol	0.1663	0.1659	0.1896	0.1960	0.2058	0.2107	0.2099	0.2014			0.19	9.4	*TM	
10	*TML	2,4-Dichlorophenol	0.5356	0.3678	0.3561	0.3500	0.3284	0.3434	0.3283	0.3101			0.36	20	*TML	0.996
11	*TM	Hexachlorobutadiene	0.1548	0.1446	0.1593	0.1583	0.1657	0.1668	0.1643	0.1618			0.16	4.5	*TM	
12	*TM	4-Chloro-3-methylphenol	0.0220	0.0200	0.0225	0.0234	0.0229	0.0231	0.0221	0.0216			0.02	4.8	*TM	
13	I	Acenaphthene-D10(IS)														
14	**TMQ	Hexachlorocyclopentadiene	0.0020	0.0136	0.0473	0.0985	0.1318	0.1517	0.1787	0.1915			0.10	72	**TMQ	0.996
15	*TM	2,4,6-Trichlorophenol	0.3057	0.2876	0.3259	0.3346	0.3396	0.3463	0.3540	0.3497			0.33	7.0	*TM	
16	S	2-Fluorobiphenyl(S)	1.245	1.259	1.296	1.348	1.320	1.329	1.371	1.316			1.3	3.3	S	
17	TM	Dimethyl phthalate	1.389	1.263	1.371	1.422	1.413	1.438	1.464	1.464			1.4	4.7	TM	
18	*TM	Acenaphthene	1.237	1.084	1.159	1.196	1.234	1.245	1.264	1.249			1.2	5.0	*TM	
19	**TMQ	2,4-Dinitrophenol	0.0114	0.0118	0.0775	0.1138	0.1307	0.1427	0.1595	0.1633			0.10	61	**TMQ	0.997
20	**TM	4-Nitrophenol	0.3201	0.3141	0.3471	0.3616	0.3650	0.3695	0.3691	0.3623			0.35	6.3	**TM	
21	TM	Diethyl phthalate	1.388	1.227	1.360	1.416	1.424	1.424	1.468	1.444			1.4	5.4	TM	
22	SL	2,4,6-Tribromophenol(S)	0.1557	0.0892	0.0981	0.1024	0.1051	0.1075	0.1121	0.1126			0.11	18	SL	0.998
23	I	Phenanthrene-D10(IS)														
24	*TM	n-Nitrosodiphenylamine	1.074	0.9883	1.076	1.115	1.135	1.160	1.193	1.169			1.1	6.0	*TM	
25	*TMQ	Pentachlorophenol	0.0271	0.0286	0.0304	0.0486	0.0501	0.0528	0.0579	0.0587			0.04	30	*TMQ	0.998
26	TM	Di-n-butylphthalate	1.203	1.119	1.289	1.352	1.414	1.450	1.277	1.131			1.3	9.6	TM	
27	I	Chrysene-D12(IS)														
28	S	Terphenyl-D14(S)	0.8025	0.8528	0.8637	0.8799	0.8641	0.8812	0.8987	0.8916			0.87	3.5	S	
29	TM	Butyl benzylphthalate	0.5887	0.5663	0.6499	0.6927	0.6866	0.6924	0.7007	0.6964			0.66	8.1	TM	
30	TM	Bis (2-ethylhexyl) phthalate	0.8125	0.7709	0.8810	0.9648	0.9845	1.013	1.009	0.9995			0.93	10	TM	
31	*TM	Di-n-octylphthalate	1.382	1.355	1.531	1.691	1.744	1.770	1.617	1.391			1.6	11	*TM	
32	I	Perylene-D12(IS)														
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y003.D Vial: 3
Acq On : 9 Jun 15 14:14 Operator: csc
Sample : 5ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	675317	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2954807	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1568963	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2787722	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2425199	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1639132	40.00	ppb		0.01
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.00	112	194622	10.02	ppb		0.08
Spiked Amount 200.000			Recovery =	5.011%			
3) Phenol-D6 (S)	5.09	99	259935	5.00	ppb		0.08
Spiked Amount 200.000			Recovery =	2.500%			
8) Nitrobenzene-D5(S)	5.51	82	120415	4.45	ppb		0.01
Spiked Amount 100.000			Recovery =	4.448%			
16) 2-Fluorobiphenyl(S)	7.45	172	244084	4.75	ppb		0.01
Spiked Amount 100.000			Recovery =	4.749%			
22) 2,4,6-Tribromophenol(S)	9.22	330	30536	10.83	ppb		0.01
Spiked Amount 200.000			Recovery =	5.417%			
28) Terphenyl-D14(S)	11.74	244	243291	4.63	ppb		0.01
Spiked Amount 100.000			Recovery =	4.629%			
Target Compounds							Qvalue
4) Phenol	5.10	94	162255	4.92	ppb		96
5) 1,4-DCB	4.82	146	144583	4.90	ppb		97
6) n-Nitrosodi-n-propylamine	5.28	43	62738	4.01	ppb		97
9) 2-Nitrophenol	5.88	139	61427	4.30	ppb		91
10) 2,4-Dichlorophenol	6.49	162	197835	7.34	ppb		96
11) Hexachlorobutadiene	6.35	225	57163	4.85	ppb		96
12) 4-Chloro-3-methylphenol	7.20	107	8129	4.95	ppb	#	20
14) Hexachlorocyclopentadiene	7.17	237	383	9.08	ppb	#	27
15) 2,4,6-Trichlorophenol	7.89	196	59961	4.57	ppb	#	92
17) Dimethyl phthalate	7.96	163	272494	4.95	ppb		92
18) Acenaphthene	8.25	154	242612	5.12	ppb		93
19) 2,4-Dinitrophenol	8.61	184	2227	8.03	ppb		100
20) 4-Nitrophenol	9.19	65	62785	4.56	ppb		98
21) Diethyl phthalate	8.72	149	272228	5.92	ppb		97
24) n-Nitrosodiphenylamine	10.35	167	374148	4.82	ppb		97
25) Pentachlorophenol	9.94	266	9443	7.24	ppb		92
26) Di-n-butylphthalate	10.53	149	419319	4.70	ppb		98
29) Butyl benzylphthalate	12.26	149	178453	4.46	ppb		97
30) Bis (2-ethylhexyl) phthala	12.81	149	246308	4.37	ppb		98
31) Di-n-octylphthalate	13.49	149	418923	4.43	ppb		98

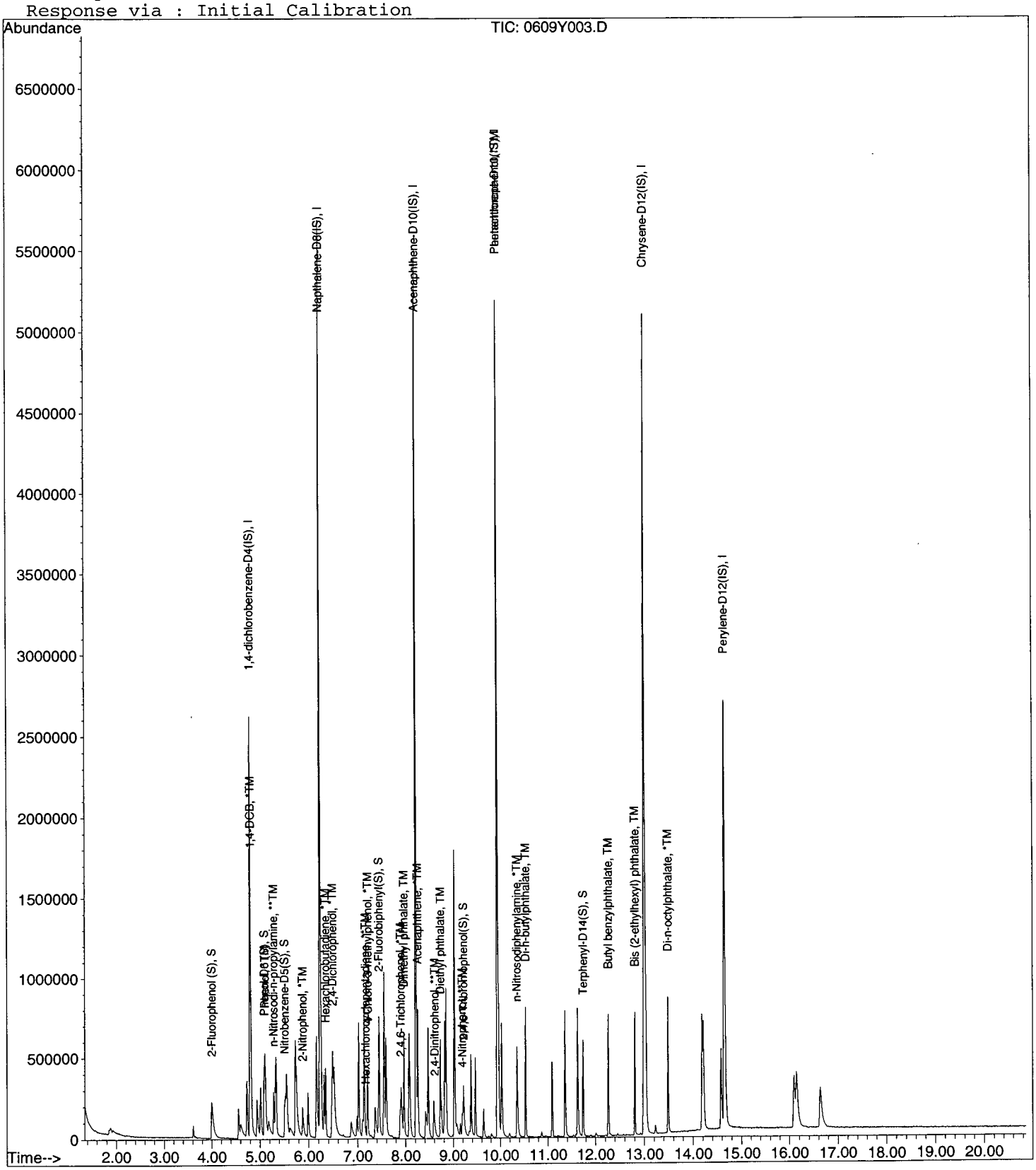
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y003.D Vial: 3
Acq On : 9 Jun 15 14:14 Operator: csc
Sample : 5ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



60

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y004.D Vial: 4
Acq On : 9 Jun 15 14:44 Operator: csc
Sample : 10ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	678070	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3007463	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1628229	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2879960	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2494781	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1737848	40.00	ppb		0.01
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.98	112	389122	19.96	ppb		0.06
Spiked Amount 200.000			Recovery =	9.978%			
3) Phenol-D6 (S)	5.07	99	542573	20.00	ppb		0.06
Spiked Amount 200.000			Recovery =	10.000%			
8) Nitrobenzene-D5(S)	5.50	82	250345	9.09	ppb		0.00
Spiked Amount 100.000			Recovery =	9.085%			
16) 2-Fluorobiphenyl(S)	7.44	172	512290	9.60	ppb		0.00
Spiked Amount 100.000			Recovery =	9.604%			
22) 2,4,6-Tribromophenol(S)	9.22	330	72584	19.70	ppb		0.01
Spiked Amount 200.000			Recovery =	9.851%			
28) Terphenyl-D14(S)	11.73	244	531895	9.84	ppb		0.00
Spiked Amount 100.000			Recovery =	9.838%			
Target Compounds							Qvalue
4) Phenol	5.09	94	297491	8.98	ppb		99
5) 1,4-DCB	4.82	146	268175	9.06	ppb		97
6) n-Nitrosodi-n-propylamine	5.28	43	118704	7.56	ppb	#	84
9) 2-Nitrophenol	5.88	139	124715	8.59	ppb		92
10) 2,4-Dichlorophenol	6.48	162	276509	10.08	ppb		98
11) Hexachlorobutadiene	6.34	225	108687	9.07	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	15054	9.01	ppb	#	18
14) Hexachlorocyclopentadiene	7.17	237	5547	10.17	ppb		94
15) 2,4,6-Trichlorophenol	7.87	196	117078	8.59	ppb		95
17) Dimethyl phthalate	7.96	163	514061	9.00	ppb	#	84
18) Acenaphthene	8.24	154	441263	8.97	ppb		97
19) 2,4-Dinitrophenol	8.55	184	4801	8.48	ppb	#	100
20) 4-Nitrophenol	9.17	65	127863	8.95	ppb		97
21) Diethyl phthalate	8.72	149	499353	9.55	ppb		99
24) n-Nitrosodiphenylamine	10.34	167	711586	8.87	ppb		100
25) Pentachlorophenol	9.93	266	20616	10.23	ppb		94
26) Di-n-butylphthalate	10.53	149	805915	8.75	ppb		99
29) Butyl benzylphthalate	12.26	149	353212	8.59	ppb		94
30) Bis (2-ethylhexyl) phthala	12.80	149	480812	8.29	ppb	#	92
31) Di-n-octylphthalate	13.49	149	845130	8.69	ppb		99

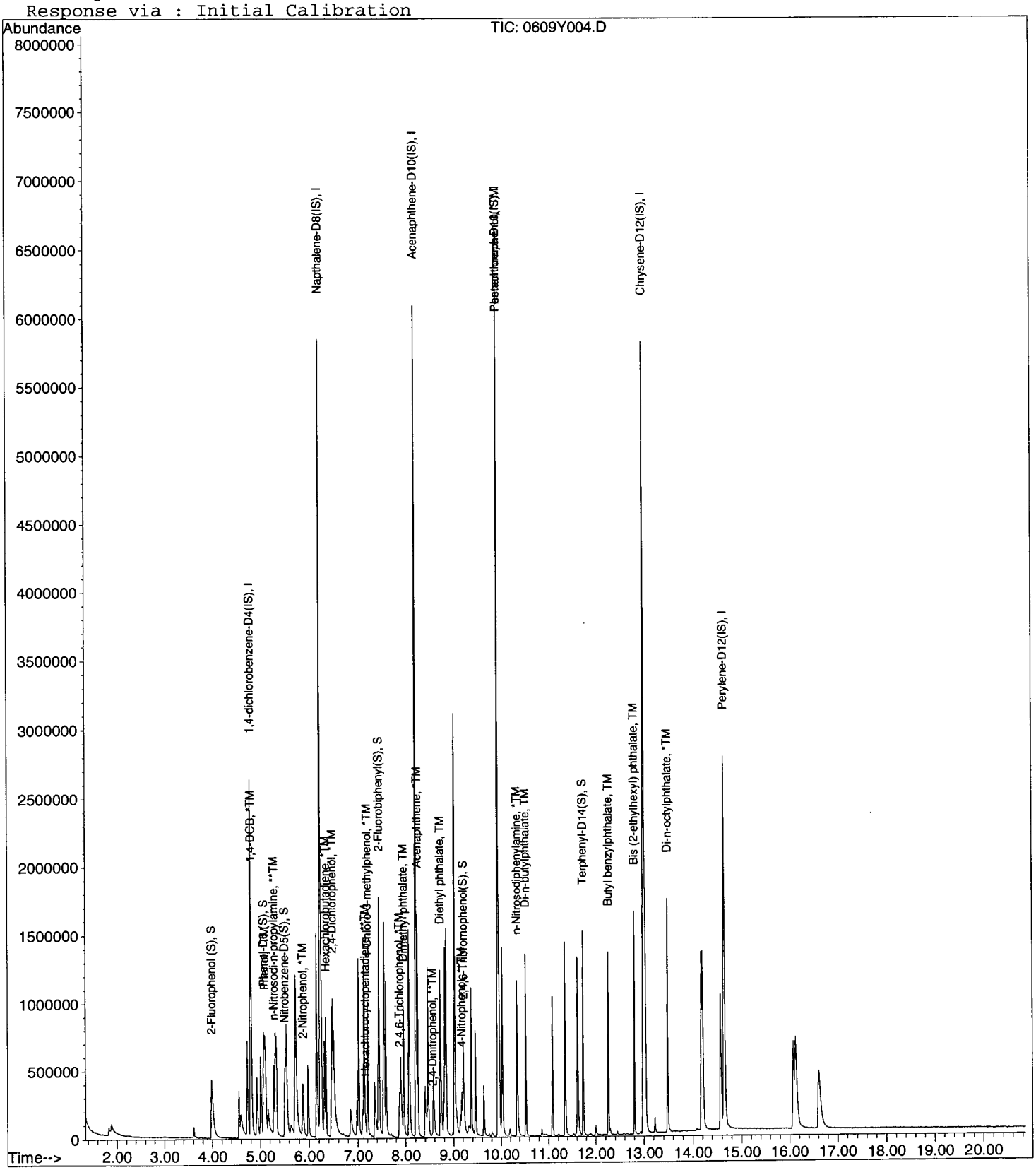
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y004.D Vial: 4
Acq On : 9 Jun 15 14:44 Operator: csc
Sample : 10ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y005.D Vial: 5
Acq On : 9 Jun 15 15:13 Operator: csc
Sample : 20ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	600705	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.22	136	2655616	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1471385	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2583247	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2265707	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1548140	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.96	112	785458	45.47	ppb		0.04
Spiked Amount 200.000			Recovery =	22.735%			
3) Phenol-D6 (S)	5.05	99	1014280	52.09	ppb		0.04
Spiked Amount 200.000			Recovery =	26.044%			
8) Nitrobenzene-D5(S)	5.50	82	487028	20.02	ppb		0.00
Spiked Amount 100.000			Recovery =	20.017%			
16) 2-Fluorobiphenyl(S)	7.44	172	953213	19.77	ppb		0.00
Spiked Amount 100.000			Recovery =	19.775%			
22) 2,4,6-Tribromophenol(S)	9.20	330	144353	38.60	ppb		0.00
Spiked Amount 200.000			Recovery =	19.300%			
28) Terphenyl-D14(S)	11.73	244	978459	19.93	ppb		0.00
Spiked Amount 100.000			Recovery =	19.928%			
Target Compounds							Qvalue
4) Phenol	5.06	94	594522	20.25	ppb		98
5) 1,4-DCB	4.81	146	531441	20.26	ppb		99
6) n-Nitrosodi-n-propylamine	5.28	43	254616	18.32	ppb	#	85
9) 2-Nitrophenol	5.86	139	251716	19.62	ppb		98
10) 2,4-Dichlorophenol	6.48	162	472769	19.51	ppb		99
11) Hexachlorobutadiene	6.35	225	211492	19.98	ppb		98
12) 4-Chloro-3-methylphenol	7.20	107	29907	20.28	ppb	#	19
14) Hexachlorocyclopentadiene	7.16	237	34765	16.71	ppb		90
15) 2,4,6-Trichlorophenol	7.86	196	239746	19.47	ppb		92
17) Dimethyl phthalate	7.96	163	1008845	19.55	ppb	#	85
18) Acenaphthene	8.25	154	852903	19.18	ppb		98
19) 2,4-Dinitrophenol	8.53	184	57042	18.71	ppb	#	100
20) 4-Nitrophenol	9.16	65	255323	19.77	ppb		99
21) Diethyl phthalate	8.72	149	1000680	19.73	ppb		96
24) n-Nitrosodiphenylamine	10.34	167	1389262	19.31	ppb		99
25) Pentachlorophenol	9.92	266	39319	16.46	ppb		91
26) Di-n-butylphthalate	10.53	149	1664387	20.14	ppb		97
29) Butyl benzylphthalate	12.26	149	736263	19.72	ppb		99
30) Bis (2-ethylhexyl) phthala	12.81	149	998008	18.96	ppb		99
31) Di-n-octylphthalate	13.48	149	1733851	19.62	ppb		99

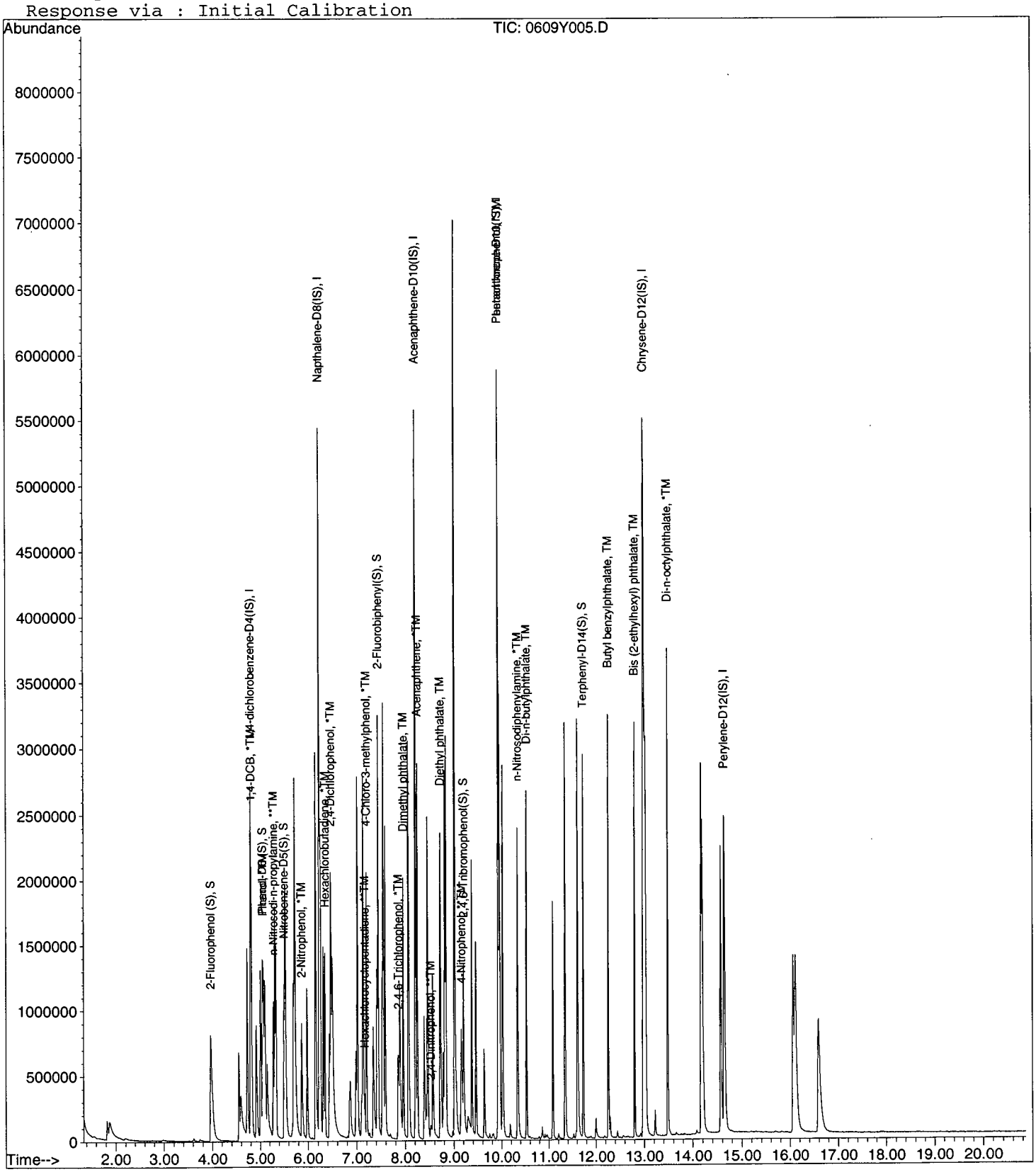
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y005.D Vial: 5
Acq On : 9 Jun 15 15:13 Operator: csc
Sample : 20ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y006.D Vial: 6
Acq On : 9 Jun 15 15:43 Operator: csc
Sample : 40ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	606196	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2608545	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1423860	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2503110	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2179997	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1488142	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.93	112	1532042	87.89	ppb		0.00
Spiked Amount 200.000			Recovery =	43.944%			
3) Phenol-D6 (S)	5.02	99	1987110	109.50	ppb		0.00
Spiked Amount 200.000			Recovery =	54.752%			
8) Nitrobenzene-D5(S)	5.50	82	980963	41.04	ppb		0.00
Spiked Amount 100.000			Recovery =	41.045%			
16) 2-Fluorobiphenyl(S)	7.44	172	1919806	41.16	ppb		0.00
Spiked Amount 100.000			Recovery =	41.157%			
22) 2,4,6-Tribromophenol(S)	9.21	330	291530	76.25	ppb		0.00
Spiked Amount 200.000			Recovery =	38.126%			
28) Terphenyl-D14(S)	11.73	244	1918215	40.60	ppb		0.00
Spiked Amount 100.000			Recovery =	40.605%			
Target Compounds							Qvalue
4) Phenol	5.04	94	1165495	39.34	ppb		99
5) 1,4-DCB	4.82	146	1050776	39.70	ppb		99
6) n-Nitrosodi-n-propylamine	5.28	43	531291	37.87	ppb	#	90
9) 2-Nitrophenol	5.86	139	511321	40.58	ppb		93
10) 2,4-Dichlorophenol	6.47	162	913044	38.36	ppb		98
11) Hexachlorobutadiene	6.35	225	412952	39.72	ppb		97
12) 4-Chloro-3-methylphenol	7.20	107	61133	42.21	ppb	#	15
14) Hexachlorocyclopentadiene	7.16	237	140258	36.32	ppb		98
15) 2,4,6-Trichlorophenol	7.84	196	476486	39.99	ppb		95
17) Dimethyl phthalate	7.96	163	2024521	40.53	ppb		85
18) Acenaphthene	8.25	154	1703240	39.59	ppb		97
19) 2,4-Dinitrophenol	8.50	184	162081	38.11	ppb	#	100
20) 4-Nitrophenol	9.15	65	514849	41.19	ppb		99
21) Diethyl phthalate	8.72	149	2016368	39.80	ppb		98
24) n-Nitrosodiphenylamine	10.33	167	2790964	40.04	ppb		99
25) Pentachlorophenol	9.90	266	121680	40.38	ppb		96
26) Di-n-butylphthalate	10.53	149	3385309	42.28	ppb	#	97
29) Butyl benzylphthalate	12.26	149	1510060	42.03	ppb		98
30) Bis (2-ethylhexyl) phthala	12.81	149	2103315	41.52	ppb		97
31) Di-n-octylphthalate	13.48	149	3685466	43.35	ppb		100

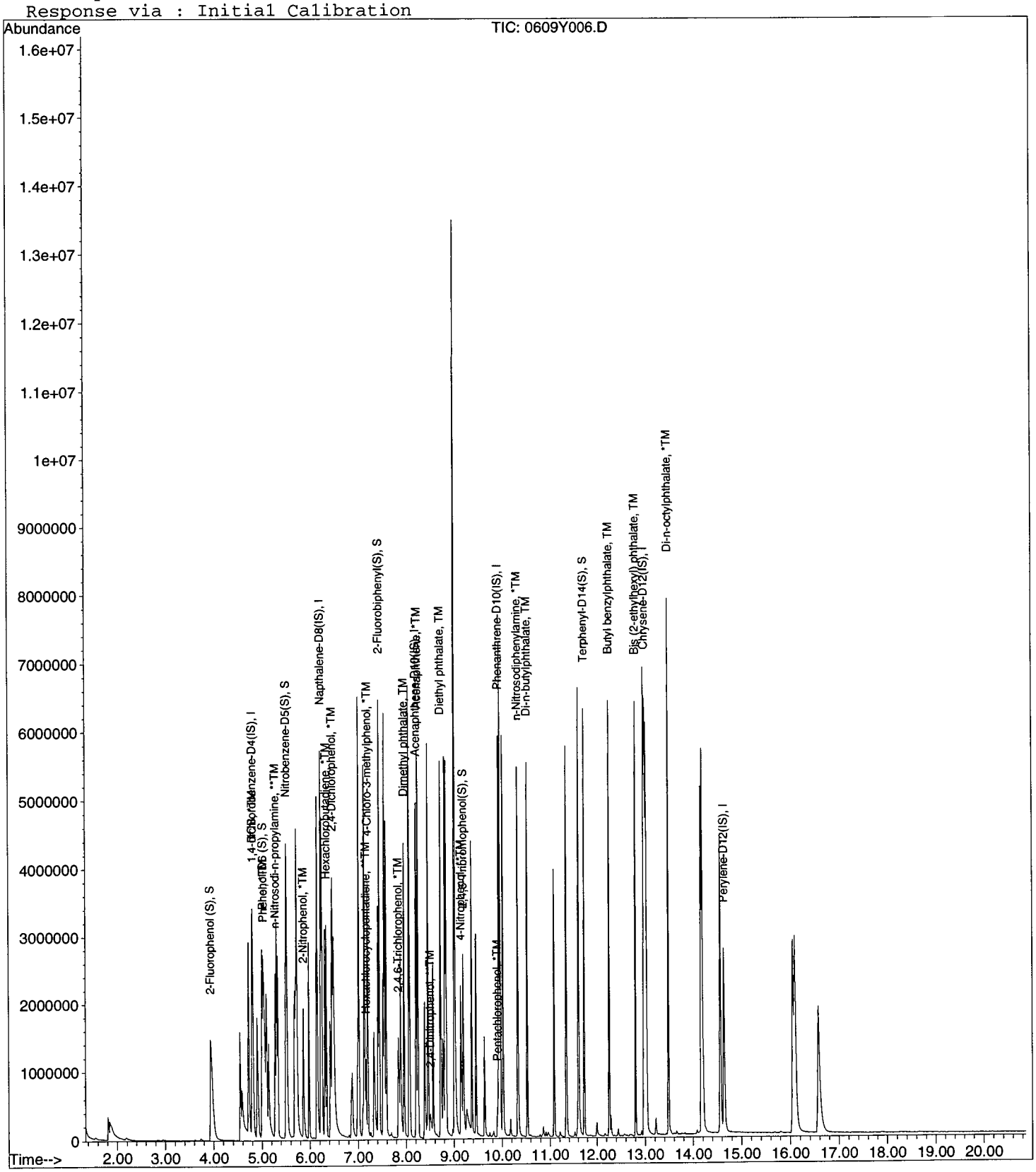
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y006.D Vial: 6
Acq On : 9 Jun 15 15:43 Operator: csc
Sample : 40ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initia1 Ca1ibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y007.D Vial: 7
Acq On : 9 Jun 15 16:12 Operator: csc
Sample : 50ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	659031	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2842143	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1600409	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	2772743	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2451721	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1683714	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.92	112	2147294	113.31	ppb		0.00
Spiked Amount 200.000			Recovery =	56.653%			
3) Phenol-D6 (S)	5.01	99	2784825	143.73	ppb		0.00
Spiked Amount 200.000			Recovery =	71.867%			
8) Nitrobenzene-D5(S)	5.50	82	1354319	52.01	ppb		0.00
Spiked Amount 100.000			Recovery =	52.009%			
16) 2-Fluorobiphenyl(S)	7.44	172	2640900	50.37	ppb		0.00
Spiked Amount 100.000			Recovery =	50.370%			
22) 2,4,6-Tribromophenol(S)	9.20	330	420679	96.77	ppb		0.00
Spiked Amount 200.000			Recovery =	48.384%			
28) Terphenyl-D14(S)	11.73	244	2648048	49.84	ppb		0.00
Spiked Amount 100.000			Recovery =	49.841%			
Target Compounds							Qvalue
4) Phenol	5.03	94	1637076	50.83	ppb		99
5) 1,4-DCB	4.81	146	1473192	51.19	ppb		99
6) n-Nitrosodi-n-propylamine	5.28	43	858132	56.27	ppb		97
9) 2-Nitrophenol	5.86	139	731073	53.26	ppb		93
10) 2,4-Dichlorophenol	6.46	162	1166794	45.00	ppb		95
11) Hexachlorobutadiene	6.35	225	588636	51.96	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	81281	51.50	ppb	#	14
14) Hexachlorocyclopentadiene	7.16	237	263626	50.25	ppb		99
15) 2,4,6-Trichlorophenol	7.84	196	679416	50.73	ppb		94
17) Dimethyl phthalate	7.96	163	2827021	50.36	ppb		91
18) Acenaphthene	8.25	154	2468067	51.04	ppb		98
19) 2,4-Dinitrophenol	8.49	184	261532	49.77	ppb	#	100
20) 4-Nitrophenol	9.15	65	730207	51.98	ppb		99
21) Diethyl phthalate	8.72	149	2848313	49.71	ppb		99
24) n-Nitrosodiphenylamine	10.33	167	3933740	50.95	ppb		98
25) Pentachlorophenol	9.89	266	173686	49.67	ppb		98
26) Di-n-butylphthalate	10.53	149	4900469	55.25	ppb		97
29) Butyl benzylphthalate	12.26	149	2104122	52.08	ppb		94
30) Bis (2-ethylhexyl) phthala	12.81	149	3017126	52.96	ppb	#	94
31) Di-n-octylphthalate	13.48	149	5345557	55.90	ppb		100

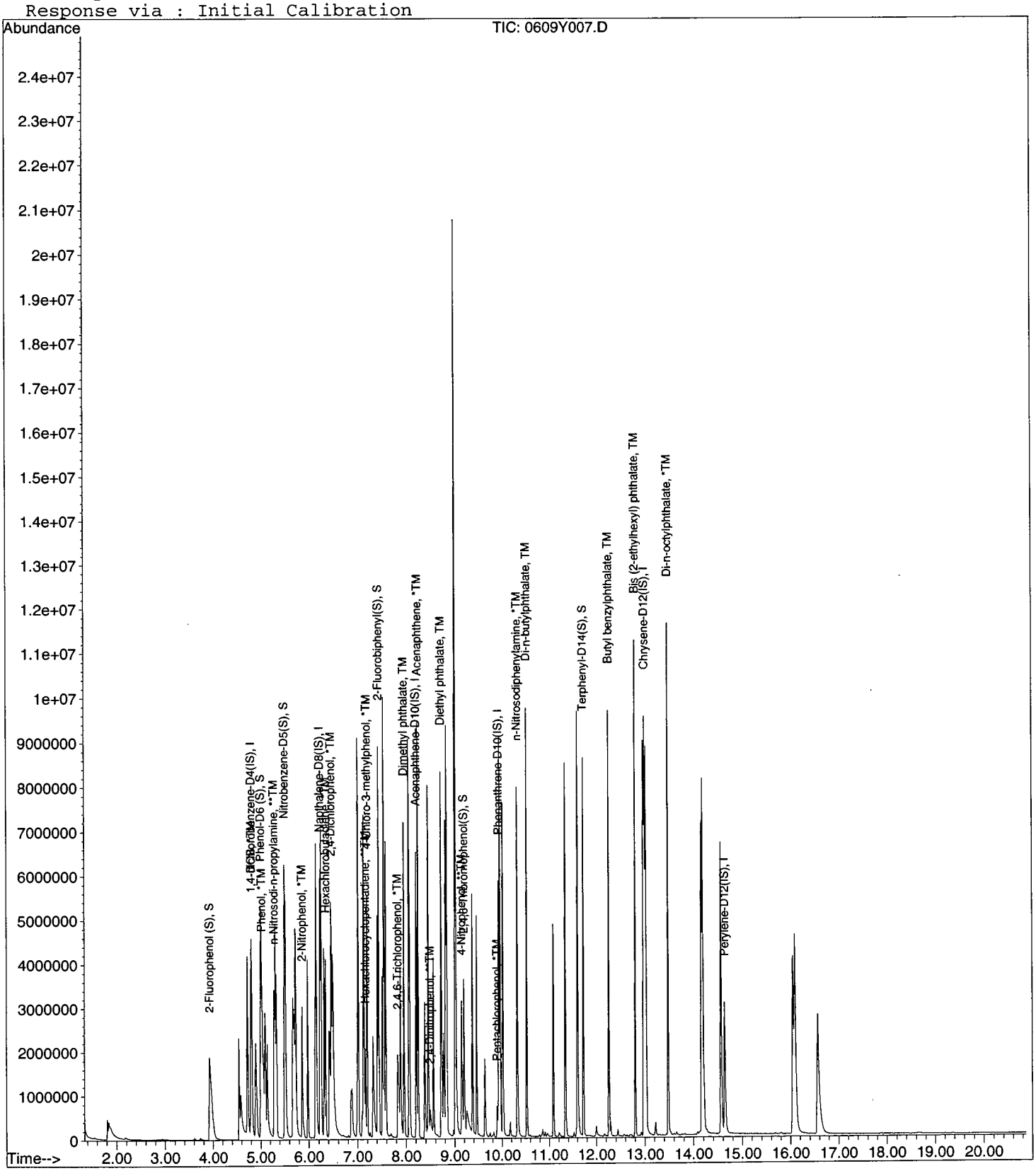
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y007.D Vial: 7
Acq On : 9 Jun 15 16:12 Operator: csc
Sample : 50ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y008.D Vial: 8
Acq On : 9 Jun 15 16:42 Operator: csc
Sample : 60ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.80	152	660567	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2908425	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1649463	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2844701	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2551004	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1722817	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.91	112	2640202	138.99	ppb		0.00
Spiked Amount 200.000			Recovery =	69.496%			
3) Phenol-D6 (S)	5.00	99	3473964	181.06	ppb		0.00
Spiked Amount 200.000			Recovery =	90.531%			
8) Nitrobenzene-D5(S)	5.50	82	1671532	62.73	ppb		0.00
Spiked Amount 100.000			Recovery =	62.728%			
16) 2-Fluorobiphenyl(S)	7.44	172	3288595	60.86	ppb		0.00
Spiked Amount 100.000			Recovery =	60.858%			
22) 2,4,6-Tribromophenol(S)	9.21	330	531861	117.81	ppb		0.00
Spiked Amount 200.000			Recovery =	58.903%			
28) Terphenyl-D14(S)	11.73	244	3372028	61.00	ppb		0.00
Spiked Amount 100.000			Recovery =	60.998%			
Target Compounds							Qvalue
4) Phenol	5.02	94	2045240	63.36	ppb		100
5) 1,4-DCB	4.82	146	1783089	61.82	ppb		99
6) n-Nitrosodi-n-propylamine	5.29	43	1077592	70.49	ppb	#	88
9) 2-Nitrophenol	5.86	139	919206	65.44	ppb		92
10) 2,4-Dichlorophenol	6.46	162	1497992	56.45	ppb		97
11) Hexachlorobutadiene	6.35	225	727669	62.77	ppb		98
12) 4-Chloro-3-methylphenol	7.20	107	100711	62.36	ppb	#	14
14) Hexachlorocyclopentadiene	7.16	237	375225	61.75	ppb		98
15) 2,4,6-Trichlorophenol	7.83	196	856894	62.08	ppb		95
17) Dimethyl phthalate	7.96	163	3558066	61.49	ppb		93
18) Acenaphthene	8.25	154	3079929	61.80	ppb		97
19) 2,4-Dinitrophenol	8.49	184	353065	60.93	ppb	#	100
20) 4-Nitrophenol	9.15	65	914138	63.14	ppb		98
21) Diethyl phthalate	8.72	149	3522462	59.41	ppb		99
24) n-Nitrosodiphenylamine	10.33	167	4949122	62.48	ppb		98
25) Pentachlorophenol	9.89	266	225230	60.15	ppb		96
26) Di-n-butylphthalate	10.53	149	6188258	68.01	ppb		97
29) Butyl benzylphthalate	12.26	149	2649444	63.02	ppb		92
30) Bis (2-ethylhexyl) phthala	12.81	149	3877647	65.42	ppb	#	94
31) Di-n-octylphthalate	13.48	149	6774310	68.09	ppb		100

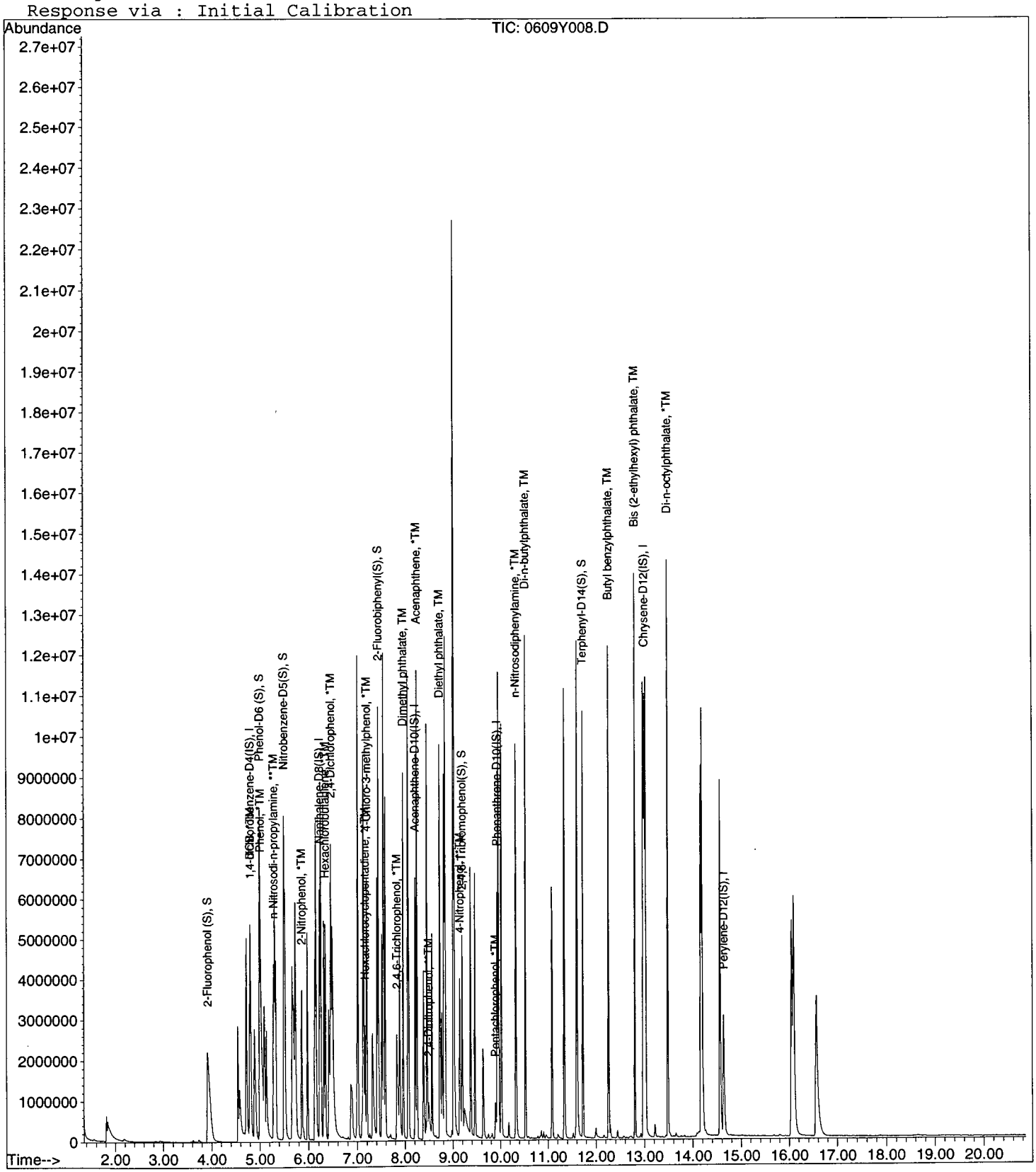
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y008.D Vial: 8
Acq On : 9 Jun 15 16:42 Operator: csc
Sample : 60ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y009.D Vial: 9
Acq On : 9 Jun 15 17:12 Operator: csc
Sample : 80ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	688070	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3002120	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1668296	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	2871091	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2592690	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1775181	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.91	112	3644543	184.19	ppb		-0.02
Spiked Amount 200.000			Recovery =	92.098%			
3) Phenol-D6 (S)	4.98	99	4833313	244.83	ppb		-0.03
Spiked Amount 200.000			Recovery =	122.416%			
8) Nitrobenzene-D5(S)	5.50	82	2346594	85.31	ppb		0.00
Spiked Amount 100.000			Recovery =	85.313%			
16) 2-Fluorobiphenyl(S)	7.44	172	4575593	83.72	ppb		0.00
Spiked Amount 100.000			Recovery =	83.719%			
22) 2,4,6-Tribromophenol(S)	9.21	330	747816	162.22	ppb		0.00
Spiked Amount 200.000			Recovery =	81.112%			
28) Terphenyl-D14(S)	11.73	244	4660031	82.94	ppb		0.00
Spiked Amount 100.000			Recovery =	82.942%			
Target Compounds							Qvalue
4) Phenol	5.00	94	2803669	83.38	ppb		99
5) 1,4-DCB	4.82	146	2513864	83.67	ppb		99
6) n-Nitrosodi-n-propylamine	5.30	43	1461340	91.77	ppb	#	91
9) 2-Nitrophenol	5.86	139	1260244	86.91	ppb		93
10) 2,4-Dichlorophenol	6.46	162	1971284	71.97	ppb		99
11) Hexachlorobutadiene	6.35	225	986358	82.43	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	132823	79.68	ppb	#	14
14) Hexachlorocyclopentadiene	7.16	237	596191	82.20	ppb		99
15) 2,4,6-Trichlorophenol	7.83	196	1181183	84.61	ppb		95
17) Dimethyl phthalate	7.96	163	4886230	83.50	ppb		99
18) Acenaphthene	8.25	154	4218683	83.69	ppb		97
19) 2,4-Dinitrophenol	8.49	184	532304	82.21	ppb	#	100
20) 4-Nitrophenol	9.15	65	1231532	84.10	ppb		99
21) Diethyl phthalate	8.73	149	4899455	81.26	ppb		98
24) n-Nitrosodiphenylamine	10.33	167	6852068	85.71	ppb		98
25) Pentachlorophenol	9.89	266	332503	81.88	ppb		97
26) Di-n-butylphthalate	10.53	149	7332306	79.84	ppb		98
29) Butyl benzylphthalate	12.26	149	3633396	85.03	ppb		90
30) Bis (2-ethylhexyl) phthala	12.81	149	5231493	86.84	ppb	#	92
31) Di-n-octylphthalate	13.48	149	8386710	82.94	ppb		96

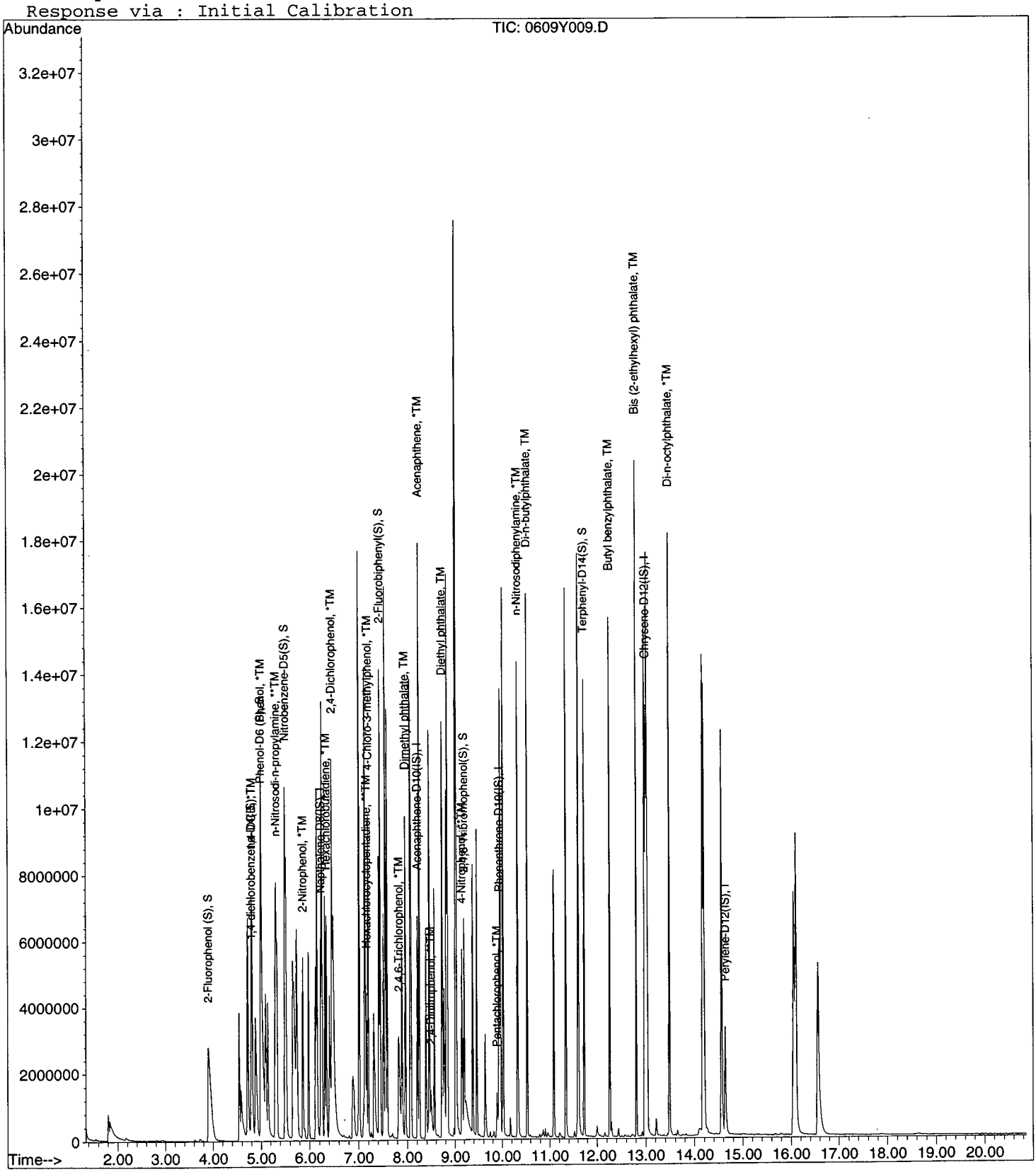
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y009.D Vial: 9
Acq On : 9 Jun 15 17:12 Operator: csc
Sample : 80ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y010.D Vial: 10
Acq On : 9 Jun 15 17:42 Operator: csc
Sample : 100ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:30:07 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	666642	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2926054	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1621641	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	2809723	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2504941	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1710688	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.90	112	4228823	220.59	ppb		-0.02
Spiked Amount 200.000			Recovery =	110.297%			
3) Phenol-D6 (S)	4.98	99	5677637	298.74	ppb		-0.03
Spiked Amount 200.000			Recovery =	149.368%			
8) Nitrobenzene-D5(S)	5.50	82	2742147	102.29	ppb		0.00
Spiked Amount 100.000			Recovery =	102.285%			
16) 2-Fluorobiphenyl(S)	7.44	172	5333921	100.40	ppb		0.00
Spiked Amount 100.000			Recovery =	100.402%			
22) 2,4,6-Tribromophenol(S)	9.20	330	913344	202.82	ppb		0.00
Spiked Amount 200.000			Recovery =	101.409%			
28) Terphenyl-D14(S)	11.73	244	5583232	102.85	ppb		0.00
Spiked Amount 100.000			Recovery =	102.854%			
Target Compounds							Qvalue
4) Phenol	5.00	94	3282282	100.76	ppb		97
5) 1,4-DCB	4.81	146	2934226	100.80	ppb		97
6) n-Nitrosodi-n-propylamine	5.30	43	1744284	113.06	ppb		96
9) 2-Nitrophenol	5.87	139	1473360	104.25	ppb		90
10) 2,4-Dichlorophenol	6.46	162	2268158	84.96	ppb		99
11) Hexachlorobutadiene	6.34	225	1183826	101.50	ppb		97
12) 4-Chloro-3-methylphenol	7.19	107	158076	97.29	ppb	#	13
14) Hexachlorocyclopentadiene	7.17	237	776342	98.66	ppb		100
15) 2,4,6-Trichlorophenol	7.82	196	1417616	104.47	ppb		95
17) Dimethyl phthalate	7.96	163	5934631	104.33	ppb		99
18) Acenaphthene	8.25	154	5064478	103.36	ppb		97
19) 2,4-Dinitrophenol	8.49	184	662066	98.73	ppb	#	100
20) 4-Nitrophenol	9.15	65	1468934	103.20	ppb		97
21) Diethyl phthalate	8.73	149	5854672	99.62	ppb		99
24) n-Nitrosodiphenylamine	10.33	167	8213462	104.99	ppb		98
25) Pentachlorophenol	9.89	266	412644	98.95	ppb		98
26) Di-n-butylphthalate	10.53	149	7943234	88.38	ppb	#	95
29) Butyl benzylphthalate	12.26	149	4361396	105.65	ppb		93
30) Bis (2-ethylhexyl) phthala	12.81	149	6259146	107.54	ppb	#	92
31) Di-n-octylphthalate	13.49	149	8709499	89.15	ppb	#	88

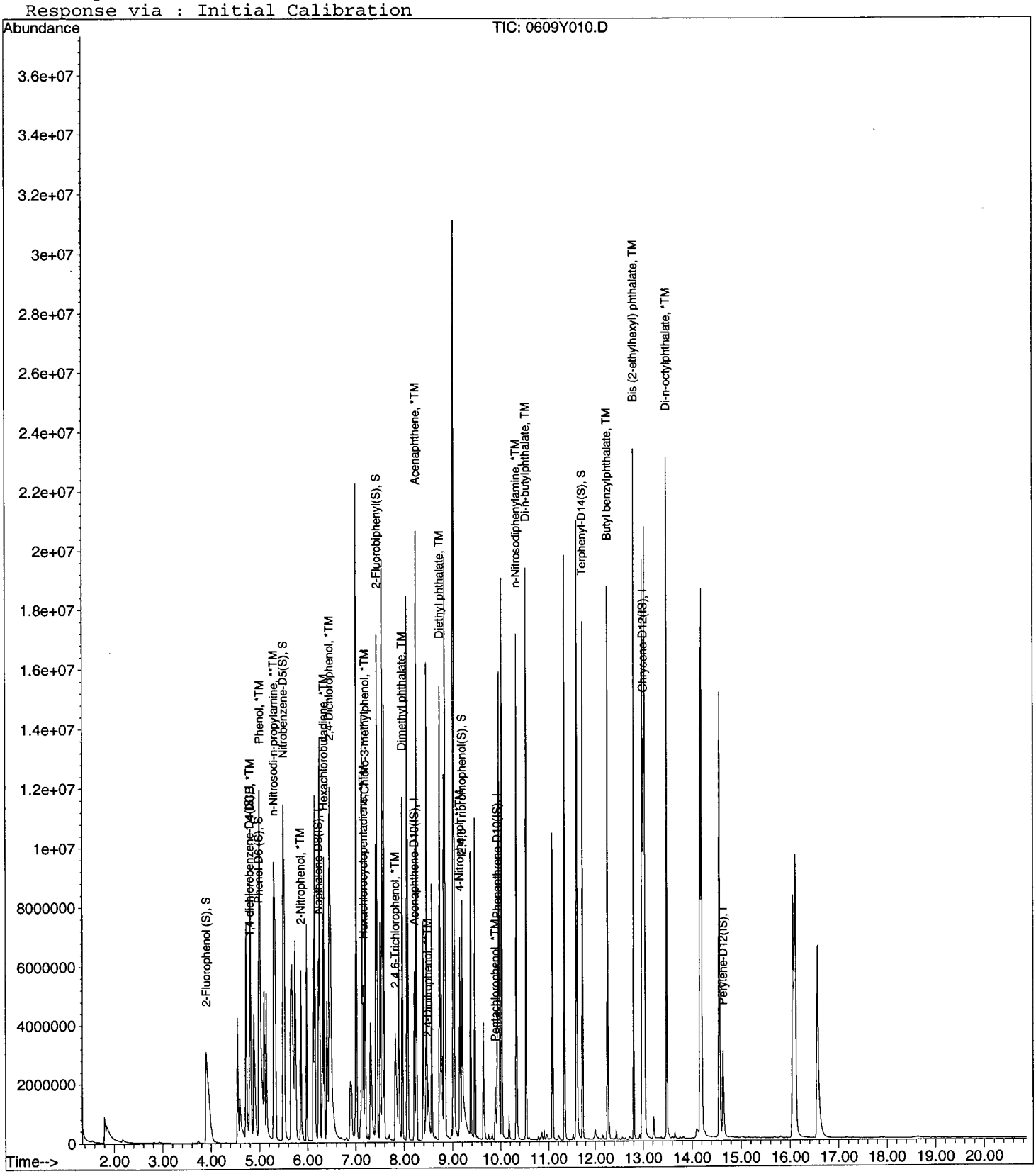
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y010.D Vial: 10
Acq On : 9 Jun 15 17:42 Operator: csc
Sample : 100ug/ml SVOC 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:34 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:39:44 2015
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 76657
Date Analyzed: 9 Jun 15 18:12
Instrument: Yoda
Initial Cal. Date: 6/9/2015
Data File: 0609Y011.D

		Compound	MEAN	CCRF	%D		%Drift	
1	*TM	Phenol	1.955	1.836	6.1	*TM		
2	*TM	1,4-DCB	1.747	1.874	7.3	*TM		
3	**TM	n-Nitrosodi-n-propylamine	0.9517	0.9467	0.53	**TM		
4	*TM	2-Nitrophenol	0.1932	0.1908	1.2	*TM		
5	*TML	2,4-Dichlorophenol	0.3650	0.3218	12	*TML	3.1	
6	*TM	Hexachlorobutadiene	0.1594	0.1784	12	*TM		
7	*TM	4-Chloro-3-methylphenol	0.0222	0.0205	7.8	*TM		
8	**TMQ	Hexachlorocyclopentadiene	0.1019	0.1424	40	**TMQ	5.6	
9	*TM	2,4,6-Trichlorophenol	0.3304	0.3005	9.1	*TM		
10	TM	Dimethyl phthalate	1.403	1.360	3.1	TM		
11	*TM	Acenaphthene	1.209	1.162	3.9	*TM		
12	**TMQ	2,4-Dinitrophenol	0.1013	0.1148	13	**TMQ	9.6	
13	**TM	4-Nitrophenol	0.3511	0.2648	25	**TM		*
14	TM	Diethyl phthalate	1.394	1.328	4.7	TM		
15	*TM	n-Nitrosodiphenylamine	1.114	1.046	6.0	*TM		
16	*TMQ	Pentachlorophenol	0.0443	0.0403	9.0	*TMQ	17	
17	TM	Di-n-butylphthalate	1.279	1.247	2.5	TM		
18	TM	Butyl benzylphthalate	0.6592	0.6835	3.7	TM		
19	TM	Bis (2-ethylhexyl) phthalate	0.9294	0.9338	0.47	TM		
20	*TM	Di-n-octylphthalate	1.560	1.652	5.9	*TM		
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			8.7			

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y011.D Vial: 11
Acq On : 9 Jun 15 18:12 Operator: csc
Sample : 50ug/ml SVOC SS 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:46 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	800527	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3423695	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1876168	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	3283763	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2681604	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1834461	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	0.00	112	0	0.00	ppb		
Spiked Amount 200.000			Recovery =	0.000%			
3) Phenol-D6 (S)	4.99	99	7565	0.22	ppb		-0.02
Spiked Amount 200.000			Recovery =	0.112%			
8) Nitrobenzene-D5(S)	0.00	82	0	0.00	ppb		
Spiked Amount 100.000			Recovery =	0.000%			
16) 2-Fluorobiphenyl(S)	0.00	172	0	0.00	ppb		
Spiked Amount 100.000			Recovery =	0.000%			
22) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00	ppb		
Spiked Amount 200.000			Recovery =	0.000%			
28) Terphenyl-D14(S)	11.73	244	819	0.01	ppb		0.00
Spiked Amount 100.000			Recovery =	0.014%			
Target Compounds							Qvalue
4) Phenol	5.05	94	1836846	46.96	ppb		89
5) 1,4-DCB	4.81	146	1875348	53.65	ppb		98
6) n-Nitrosodi-n-propylamine	5.27	43	947300m	49.73	ppb		100
9) 2-Nitrophenol	5.87	139	816727	49.39	ppb		87
10) 2,4-Dichlorophenol	6.46	162	1377381	48.45	ppb		98
11) Hexachlorobutadiene	6.34	225	763620	55.96	ppb		99
12) 4-Chloro-3-methylphenol	7.19	107	87605	46.08	ppb	#	13
14) Hexachlorocyclopentadiene	7.17	237	333926	52.80	ppb		99
15) 2,4,6-Trichlorophenol	7.83	196	704800	45.47	ppb		94
17) Dimethyl phthalate	7.96	163	3189308	48.46	ppb	#	85
18) Acenaphthene	8.24	154	2724253	48.06	ppb		97
19) 2,4-Dinitrophenol	8.49	184	269221	45.18	ppb	#	100
20) 4-Nitrophenol	9.14	65	621040	37.71	ppb		97
21) Diethyl phthalate	8.72	149	3113942	47.63	ppb		100
24) n-Nitrosodiphenylamine	10.33	167	4295379	46.98	ppb		98
25) Pentachlorophenol	9.89	266	165436	41.57	ppb		99
26) Di-n-butylphthalate	10.53	149	5119199	48.74	ppb	#	96
29) Butyl benzylphthalate	12.26	149	2291172	51.84	ppb		98
30) Bis (2-ethylhexyl) phthala	12.81	149	3130065	50.23	ppb		97
31) Di-n-octylphthalate	13.49	149	5539125	52.96	ppb		100

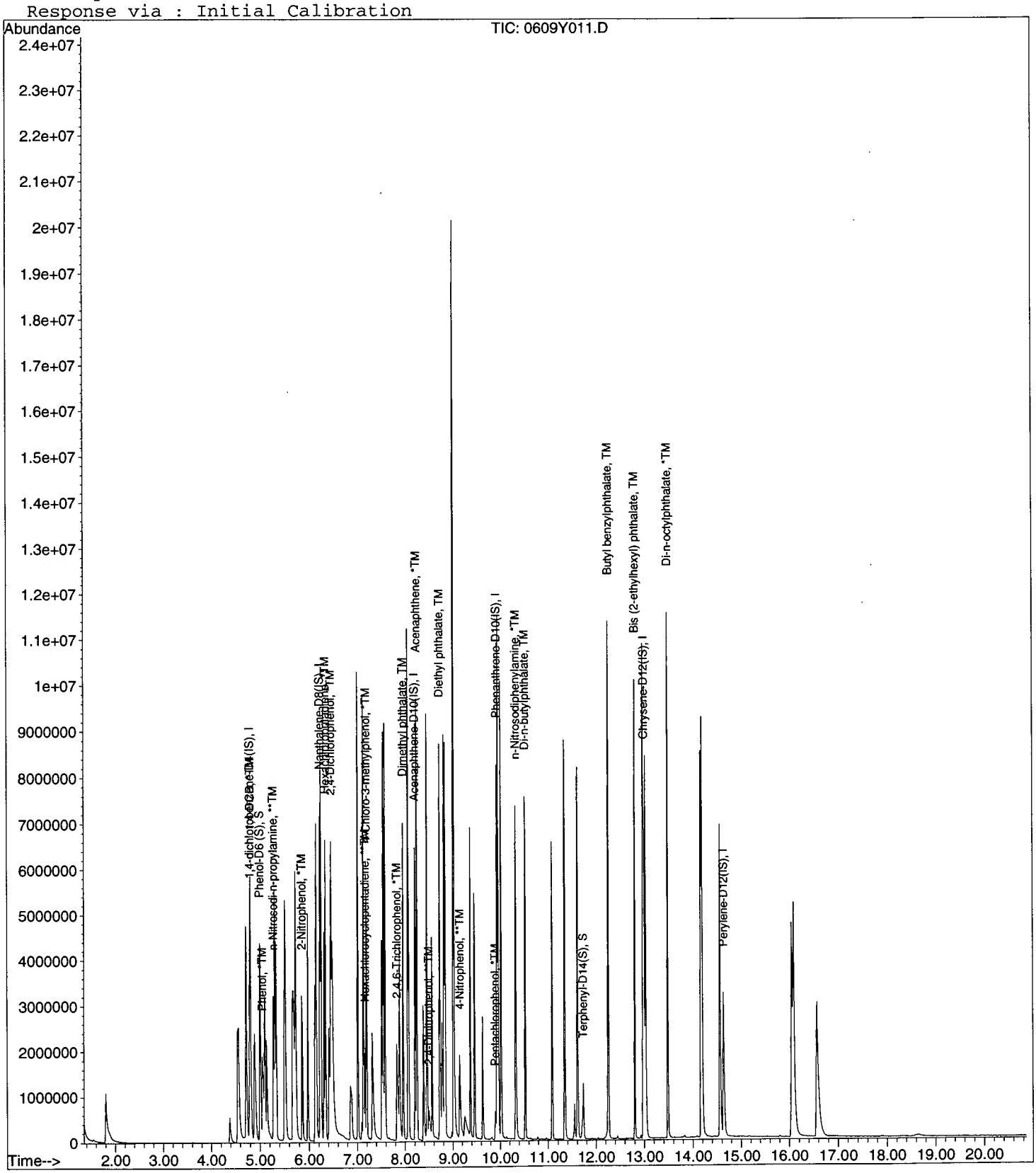
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y011.D Vial: 11
Acq On : 9 Jun 15 18:12 Operator: csc
Sample : 50ug/ml SVOC SS 06/09/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 26 14:46 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 76657
Date Analyzed: 6/20/2015
Instrument: Yoda
Initial Cal. Date: 6/9/2015
Data File: 0609Y105.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2	S	2-Fluorophenol (S)	1.263	1.294	2.5	S		
3	S	Phenol-D6 (S)	1.690	1.681	0.56	S		
4	*TM	Phenol	1.955	1.969	0.72	*TM		
5	*TM	1,4-DCB	1.747	1.768	1.2	*TM		
6	**TM	n-Nitrosodi-n-propylamine	0.9517	1.036	8.8	**TM		
7	I	Napthalene-D8(IS)	ISTD			I		
8	S	Nitrobenzene-D5(S)	0.3665	0.3843	4.9	S		
9	*TM	2-Nitrophenol	0.1932	0.2016	4.4	*TM		
10	*TML	2,4-Dichlorophenol	0.3650	0.3350	8.2	*TML	1.2	
11	*TM	Hexachlorobutadiene	0.1594	0.1636	2.6	*TM		
12	*TM	4-Chloro-3-methylphenol	0.0222	0.0227	2.2	*TM		
13	I	Acenaphthene-D10(IS)	ISTD			I		
14	**TMQ	Hexachlorocyclopentadiene	0.1019	0.0319	69	**TMQ	57	*nt
15	*TM	2,4,6-Trichlorophenol	0.3304	0.3513	6.3	*TM		
16	S	2-Fluorobiphenyl(S)	1.310	1.311	0.04	S		
17	TM	Dimethyl phthalate	1.403	1.404	0.08	TM		
18	*TM	Acenaphthene	1.209	1.196	1.0	*TM		
19	**TMQ	2,4-Dinitrophenol	0.1013	0.1086	7.2	**TMQ	13	
20	**TM	4-Nitrophenol	0.3511	0.3494	0.49	**TM		
21	TM	Diethyl phthalate	1.394	1.426	2.3	TM		
22	SL	2,4,6-Tribromophenol(S)	0.1103	0.1148	4.1	SL	5.3	
23	I	Phenanthrene-D10(IS)	ISTD			I		
24	*TM	n-Nitrosodiphenylamine	1.114	1.107	0.57	*TM		
25	*TMQ	Pentachlorophenol	0.0443	0.0581	31	*TMQ	12	
26	TM	Di-n-butylphthalate	1.279	1.354	5.8	TM		
27	I	Chrysene-D12(IS)	ISTD			I		
28	S	Terphenyl-D14(S)	0.8668	0.9470	9.3	S		
29	TM	Butyl benzylphthalate	0.6592	0.6832	3.6	TM		
30	TM	Bis (2-ethylhexyl) phthalate	0.9294	0.9728	4.7	TM		
31	*TM	Di-n-octylphthalate	1.560	1.745	12	*TM		
32	I	Perylene-D12(IS)	ISTD			I		
33								
34								
35								
36								
37								
38								
39								
40								
		Average			7.4			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y105.D Vial: 5
Acq On : 20 Jun 15 2:57 Operator: csc
Sample : 50ug/ml SVOC 06/19/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jul 1 17:14 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	590096	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2478512	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.20	164	1364729	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2406921	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2139404	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1371346	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.86	112	1908468	102.47	ppb		-0.06
Spiked Amount 200.000			Recovery =	51.234%			
3) Phenol-D6 (S)	4.95	99	2479207	99.44	ppb		-0.05
Spiked Amount 200.000			Recovery =	49.718%			
8) Nitrobenzene-D5(S)	5.49	82	1190593	52.43	ppb		0.00
Spiked Amount 100.000			Recovery =	52.430%			
16) 2-Fluorobiphenyl(S)	7.44	172	2236448	50.02	ppb		0.00
Spiked Amount 100.000			Recovery =	50.022%			
22) 2,4,6-Tribromophenol(S)	9.19	330	391780	105.32	ppb		-0.02
Spiked Amount 200.000			Recovery =	52.659%			
28) Terphenyl-D14(S)	11.73	244	2532566	54.63	ppb		0.00
Spiked Amount 100.000			Recovery =	54.626%			
Target Compounds							Qvalue
4) Phenol	4.97	94	1452244	50.36	ppb		95
5) 1,4-DCB	4.81	146	1303928	50.61	ppb		98
6) n-Nitrosodi-n-propylamine	5.28	43	763856	54.40	ppb		93
9) 2-Nitrophenol	5.85	139	624633	52.18	ppb		98
10) 2,4-Dichlorophenol	6.45	162	1037870	50.59	ppb		99
11) Hexachlorobutadiene	6.34	225	506723	51.29	ppb		99
12) 4-Chloro-3-methylphenol	7.19	107	70317	51.09	ppb	#	14
14) Hexachlorocyclopentadiene	7.15	237	54502	21.50	ppb		98
15) 2,4,6-Trichlorophenol	7.79	196	599287	53.16	ppb		95
17) Dimethyl phthalate	7.95	163	2395618	50.04	ppb		98
18) Acenaphthene	8.24	154	2040914	49.49	ppb		97
19) 2,4-Dinitrophenol	8.49	184	185317	43.37	ppb	#	100
20) 4-Nitrophenol	9.14	65	595982	49.75	ppb		100
21) Diethyl phthalate	8.71	149	2432105	51.14	ppb		98
24) n-Nitrosodiphenylamine	10.32	167	3331875	49.72	ppb		98
25) Pentachlorophenol	9.87	266	174677	56.02	ppb		92
26) Di-n-butylphthalate	10.52	149	4074512	52.92	ppb		98
29) Butyl benzylphthalate	12.25	149	1826971	51.82	ppb		85
30) Bis (2-ethylhexyl) phthala	12.80	149	2601564	52.33	ppb	#	93
31) Di-n-octylphthalate	13.47	149	4665276	55.91	ppb		100

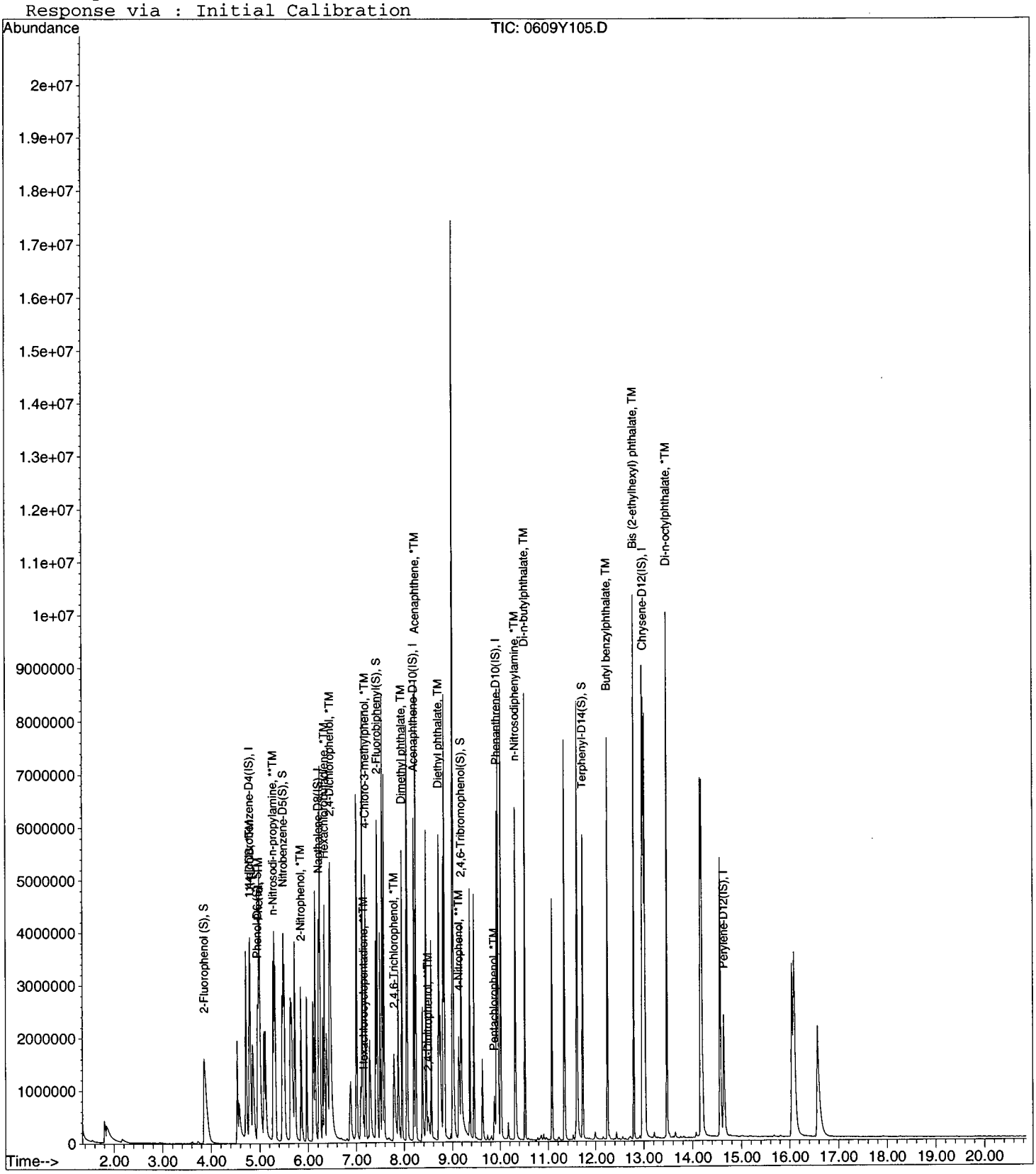
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y105.D Vial: 5
Acq On : 20 Jun 15 2:57 Operator: csc
Sample : 50ug/ml SVOC 06/19/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jul 1 17:14 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration



EPA METHOD 8270D
Semivolatile Organic Compounds
Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

Blank Name/QCG: **150617W-17694 - 198530**
Batch ID: #87DJU-150617B

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	6/17/2015	6/20/2015
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	6/17/2015	6/20/2015
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	6/17/2015	6/20/2015
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	6/17/2015	6/20/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.6	40-125			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	61.3	50-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: 2-FLUOROPHENO	46.8	20-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: NITROBENZENE-	65.4	40-110			%	6/17/2015	6/20/2015
BLANK	SURROGATE: PHENOL (S)	31.0	10-115			%	6/17/2015	6/20/2015
BLANK	SURROGATE: TERPHENYL-D14	79.7	50-135			%	6/17/2015	6/20/2015

Quant Method: Y0609TT.M
Run #: 0609Y115
Instrument: Yoda
Sequence: Y150609
Initials: DA

GC SC-Blank-REG MDLs
Printed: 7/2/2015 9:45:15 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y115.D Vial: 15
Acq On : 20 Jun 15 7:49 Operator: csc
Sample : 150617B BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:30 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	655078	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.23	136	2844716	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.21	164	1610112	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.93	188	2877933	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	2486924	40.00	ppb	0.00
32) Perylene-D12(IS)	14.64	264	1537534	40.00	ppb	0.00
System Monitoring Compounds						
2) 2-Fluorophenol (S)	3.85	112	1936984	93.68	ppb	-0.07
Spiked Amount 200.000			Recovery =	46.841%		
3) Phenol-D6 (S)	4.99	99	1718654	62.09	ppb	-0.02
Spiked Amount 200.000			Recovery =	31.047%		
8) Nitrobenzene-D5(S)	5.49	82	1703448	65.36	ppb	0.00
Spiked Amount 100.000			Recovery =	65.357%		
16) 2-Fluorobiphenyl(S)	7.44	172	3231897	61.27	ppb	0.00
Spiked Amount 100.000			Recovery =	61.270%		
22) 2,4,6-Tribromophenol(S)	9.20	330	652960	147.14	ppb	0.00
Spiked Amount 200.000			Recovery =	73.572%		
28) Terphenyl-D14(S)	11.73	244	4296406	79.72	ppb	0.00
Spiked Amount 100.000			Recovery =	79.722%		
Target Compounds						Qvalue
17) Dimethyl phthalate	7.99	163	12258	0.22	ppb	99
21) Diethyl phthalate	8.73	149	2438	0.04	ppb	97
26) Di-n-butylphthalate	10.53	149	7365	0.08	ppb	98

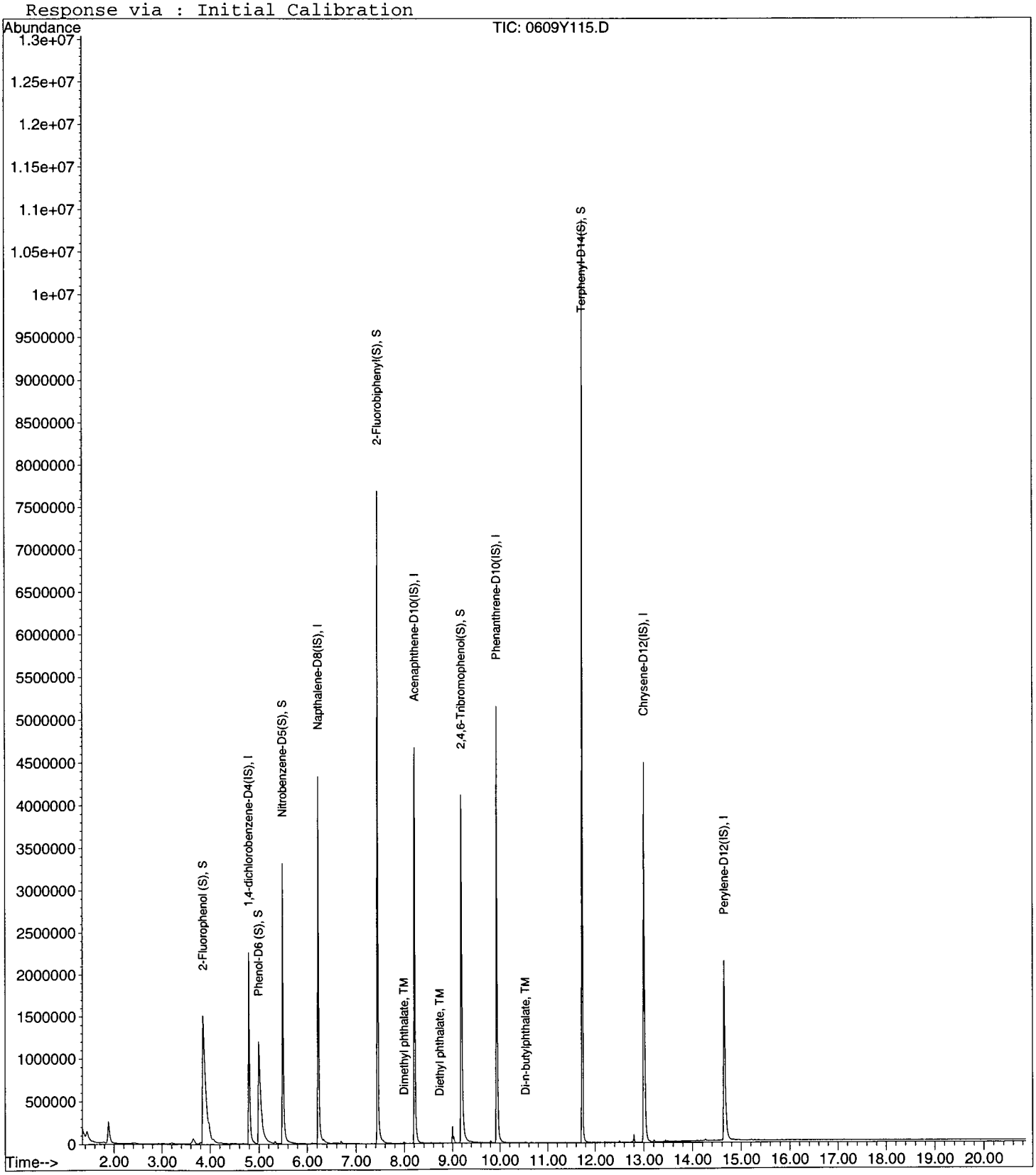
(#) = qualifier out of range (m) = manual integration

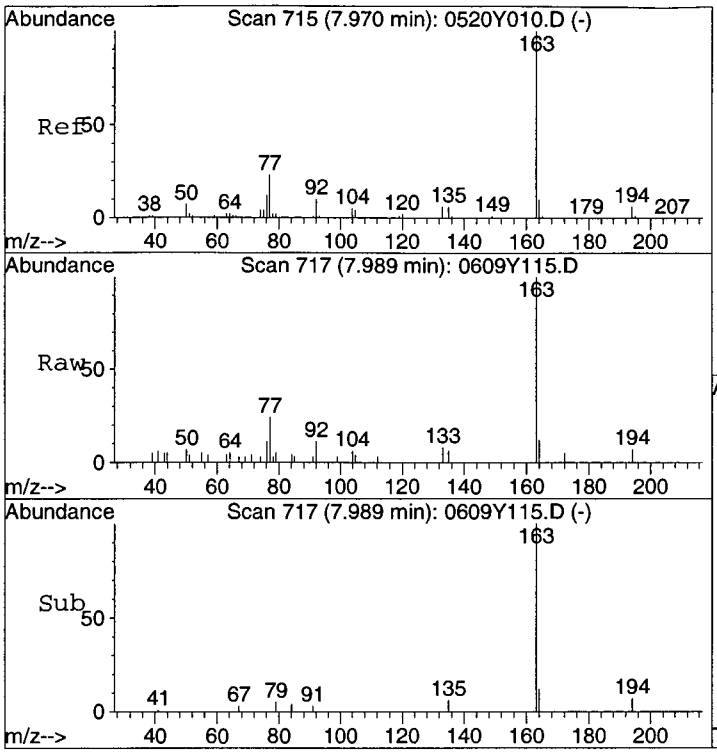
Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y115.D Vial: 15
Acq On : 20 Jun 15 7:49 Operator: csc
Sample : 150617B BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:30 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration

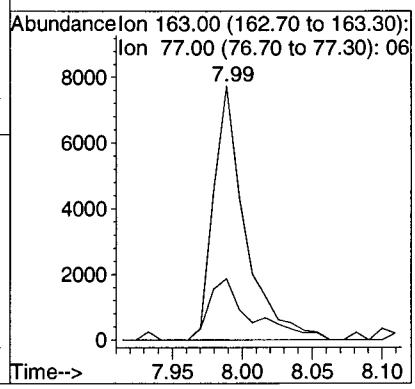


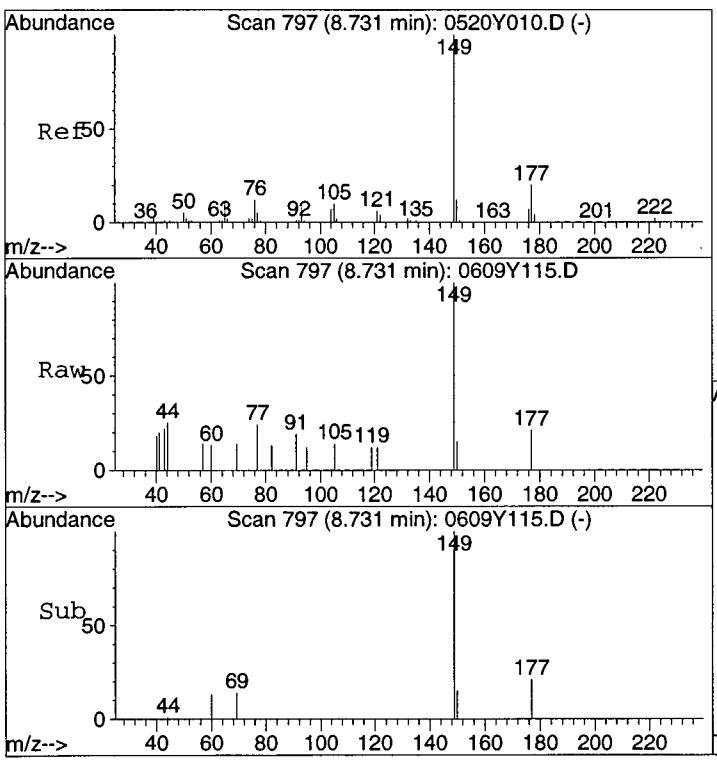


#17
Dimethyl phthalate
Concen: 0.22 ppb
RT: 7.99 min Scan# 717
Delta R.T. 0.03 min
Lab File: 0609Y115.D
Acq: 20 Jun 15 7:49

Tgt Ion:163 Resp: 12258

Ion	Ratio	Lower	Upper
163	100		
77	24.2	17.3	32.1

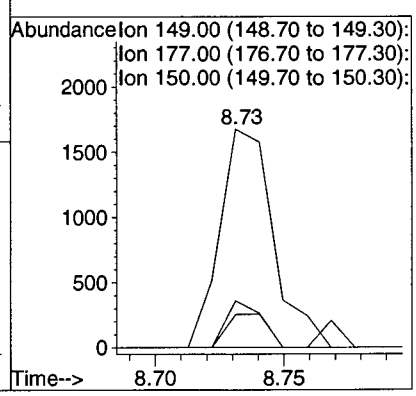


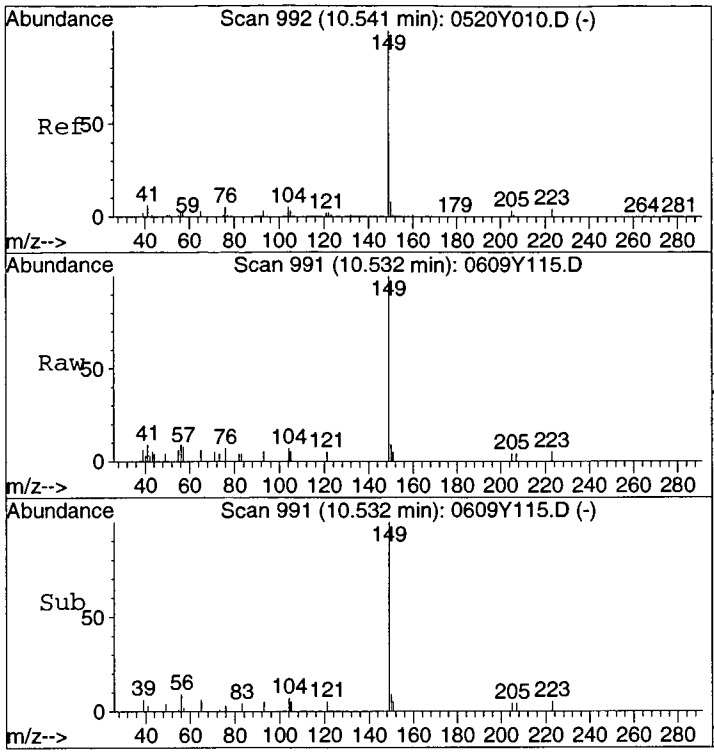


#21
Diethyl phthalate
Concen: 0.04 ppb
RT: 8.73 min Scan# 797
Delta R.T. 0.01 min
Lab File: 0609Y115.D
Acq: 20 Jun 15 7:49

Tgt Ion:149 Resp: 2438

Ion	Ratio	Lower	Upper
149	100		
177	21.5	15.1	28.0
150	15.2	8.3	15.5

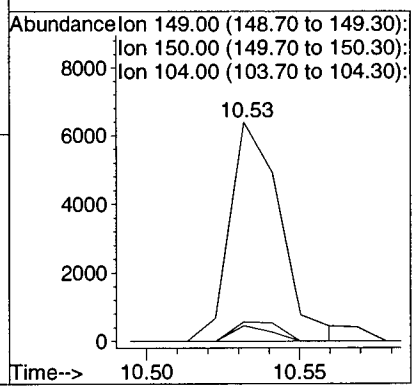




#26
Di-n-butylphthalate
Concen: 0.08 ppb
RT: 10.53 min Scan# 991
Delta R.T. 0.00 min
Lab File: 0609Y115.D
Acq: 20 Jun 15 7:49

Tgt Ion:149 Resp: 7365

Ion	Ratio	Lower	Upper
149	100		
150	9.0	6.4	11.8
104	7.3	4.3	7.9



Laboratory Control Spike Recovery

EPA 8270D WATER

APPL ID: **150617W-17694 LCS - 198530**
Batch ID: #87DJU-150617B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	38.1	76.2	40-125
BUTYL BENZYL PHTHALATE	50.0	38.6	77.2	45-115
DI-N-BUTYL PHTHALATE	50.0	39.6	79.2	55-115
DI-N-OCTYL PHTHALATE	50.0	38.9	77.8	35-135
DIETHYL PHTHALATE	50.0	29.9	59.8	40-120
DIMETHYL PHTHALATE	50.0	36.1	72.2	25-125
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	113	56.5	40-125
SURROGATE: 2-FLUORBIPHENYL (S)	100	65.3	65.3	50-110
SURROGATE: 2-FLUOROPHENOL (S)	200	92.0	46.0	20-110
SURROGATE: NITROBENZENE-D5 (S)	100	66.2	66.2	40-110
SURROGATE: PHENOL (S)	200	61.6	30.8	10-115
SURROGATE: TERPHENYL-D14 (S)	100	74.6	74.6	50-135

Comments: _____

Primary	SPK
Quant Method :	Y0609TT.M
Extraction Date :	06/17/15
Analysis Date :	06/20/15
Instrument :	Yoda
Run :	0609Y116
Initials :	DA

Printed: 07/10/15 12:01:19 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y116.D Vial: 16
Acq On : 20 Jun 15 8:18 Operator: csc
Sample : 150617B LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:30 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	768071	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.22	136	3311947	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.20	164	1841012	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	3239406	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2926887	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1859044	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.83	112	2230277	92.00	ppb		-0.09
Spiked Amount 200.000			Recovery =	45.999%			
3) Phenol-D6 (S)	4.96	99	1999827	61.62	ppb		-0.05
Spiked Amount 200.000			Recovery =	30.812%			
8) Nitrobenzene-D5(S)	5.49	82	2010297	66.25	ppb		0.00
Spiked Amount 100.000			Recovery =	66.249%			
16) 2-Fluorobiphenyl(S)	7.43	172	3939129	65.31	ppb		0.00
Spiked Amount 100.000			Recovery =	65.312%			
22) 2,4,6-Tribromophenol(S)	9.19	330	569822	113.24	ppb		-0.02
Spiked Amount 200.000			Recovery =	56.620%			
28) Terphenyl-D14(S)	11.73	244	4733468	74.63	ppb		0.00
Spiked Amount 100.000			Recovery =	74.629%			
Target Compounds							Qvalue
4) Phenol	4.98	94	606538	16.16	ppb		90
5) 1,4-DCB	4.81	146	754772	22.51	ppb		97
6) n-Nitrosodi-n-propylamine	5.27	43	560921	30.69	ppb		98
9) 2-Nitrophenol	5.85	139	562099	35.14	ppb		96
10) 2,4-Dichlorophenol	6.45	162	879766	30.70	ppb		100
11) Hexachlorobutadiene	6.34	225	283145	21.45	ppb		99
12) 4-Chloro-3-methylphenol	7.19	107	57608	31.33	ppb	#	15
14) Hexachlorocyclopentadiene	7.15	237	19259	12.54	ppb	#	95
15) 2,4,6-Trichlorophenol	7.79	196	565776	37.20	ppb		94
17) Dimethyl phthalate	7.95	163	2328440	36.06	ppb		98
18) Acenaphthene	8.24	154	1854606	33.34	ppb		97
19) 2,4-Dinitrophenol	8.49	184	98951	22.78	ppb		100
20) 4-Nitrophenol	9.13	65	526972	32.61	ppb		96
21) Diethyl phthalate	8.71	149	1916290	29.87	ppb		97
24) n-Nitrosodiphenylamine	10.32	167	3271564	36.27	ppb		99
25) Pentachlorophenol	9.88	266	122992	33.05	ppb		98
26) Di-n-butylphthalate	10.52	149	4104092	39.61	ppb		97
29) Butyl benzylphthalate	12.25	149	1862541	38.61	ppb		90
30) Bis (2-ethylhexyl) phthala	12.80	149	2588422	38.06	ppb	#	94
31) Di-n-octylphthalate	13.47	149	4439062	38.89	ppb		100

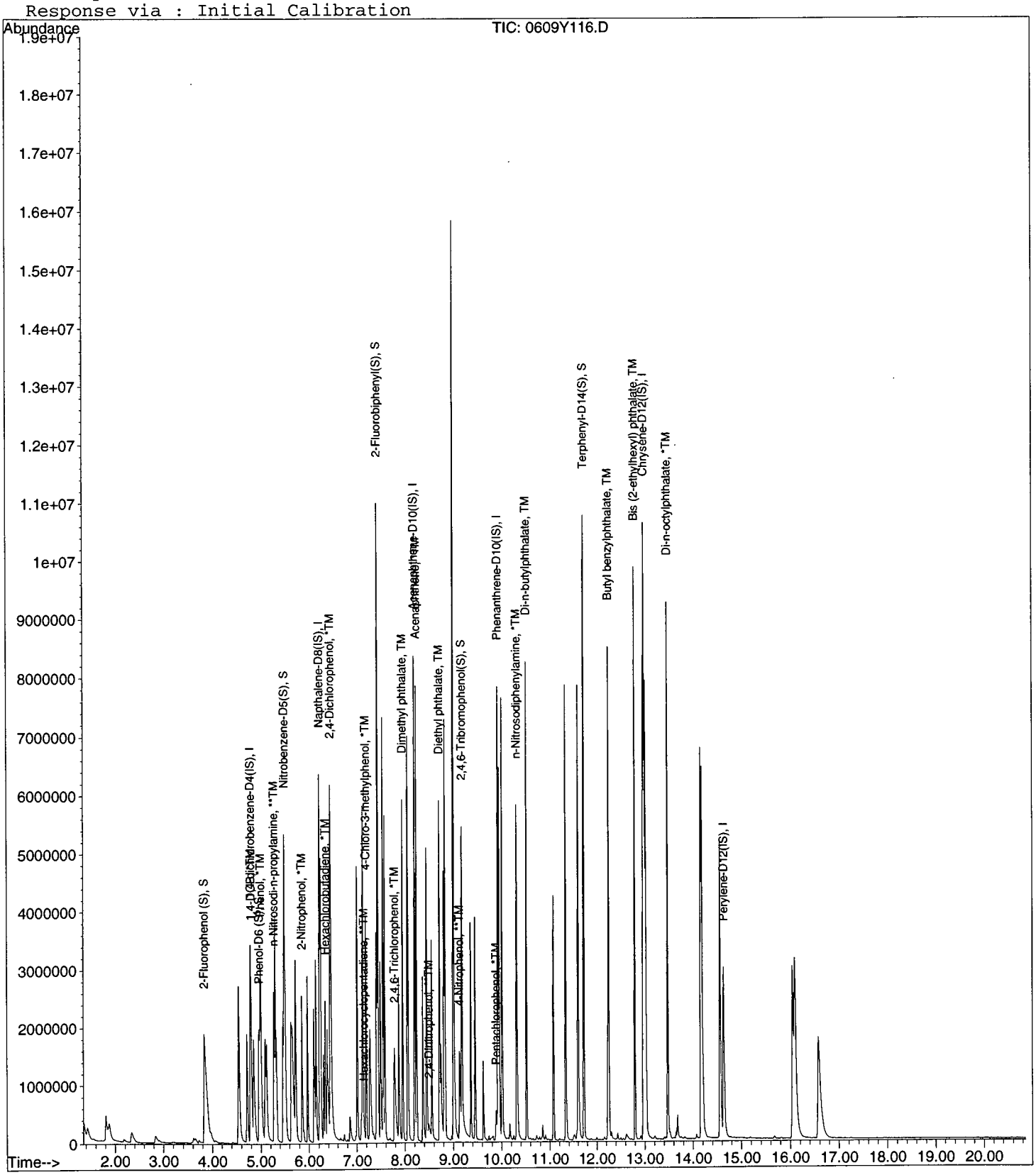
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y116.D Vial: 16
Acq On : 20 Jun 15 8:18 Operator: csc
Sample : 150617B LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Jul 2 9:30 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration



89

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **150617W-17694 MS - 198530**
Batch ID: #87DJU-150617B
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BIS (2-ETHYLHEXYL) PHTHALATE	46.7	ND	37.3	36.0	79.9	77.1	40-125	3.5	30
BUTYL BENZYL PHTHALATE	46.7	ND	36.2	35.7	77.5	76.4	45-115	1.4	30
DI-N-BUTYL PHTHALATE	46.7	ND	38.6	36.5	82.7	78.2	55-115	5.6	30
DI-N-OCTYL PHTHALATE	46.7	ND	36.3	36.9	77.7	79.0	35-135	1.6	30
DIETHYL PHTHALATE	46.7	0.11	35.5	34.6	75.8	73.9	40-120	2.6	30
DIMETHYL PHTHALATE	46.7	0.40	35.3	34.3	74.7	72.6	25-125	2.9	30
SURROGATE: 2,4,6-TRIBROMOPHENOL	187	NA	145	136	77.5	72.7	40-125		
SURROGATE: 2-FLUORBIPHENYL (S)	93.5	NA	65.9	60.6	70.5	64.8	50-110		
SURROGATE: 2-FLUOROPHENOL (S)	187	NA	91.3	80.8	48.8	43.2	20-110		
SURROGATE: NITROBENZENE-D5 (S)	93.5	NA	68.8	62.1	73.6	66.4	40-110		
SURROGATE: PHENOL (S)	187	NA	59.0	56.0	31.6	29.9	10-115		
SURROGATE: TERPHENYL-D14 (S)	93.5	NA	71.5	68.9	76.5	73.7	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0609TT.M	Y0609TT.M
Extraction Date :	6/17/2015	6/17/2015
Analysis Date :	6/20/2015	6/20/2015
Instrument :	Yoda	Yoda
Run :	0609Y119	0609Y120
Initials :	DA	

Printed: 7/2/2015 9:44:58 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y119.D Vial: 19
Acq On : 20 Jun 15 9:47 Operator: csc
Sample : AZ17694W13 MS-1 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	661321	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2782285	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.20	164	1538244	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2697919	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2443997	40.00	ppb		0.00
32) Perylene-D12(IS)	14.63	264	1491077	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.84	112	1982666	91.33	ppb		-0.08
Spiked Amount 192.308			Recovery =	47.493%			
3) Phenol-D6 (S)	4.96	99	1715981	59.05	ppb		-0.05
Spiked Amount 192.308			Recovery =	30.706%			
8) Nitrobenzene-D5(S)	5.49	82	1823176	68.77	ppb		0.00
Spiked Amount 96.154			Recovery =	71.521%			
16) 2-Fluorobiphenyl(S)	7.44	172	3455670	65.94	ppb		0.00
Spiked Amount 96.154			Recovery =	68.573%			
22) 2,4,6-Tribromophenol(S)	9.19	330	639469	144.94	ppb		-0.02
Spiked Amount 192.308			Recovery =	75.368%			
28) Terphenyl-D14(S)	11.73	244	3936845	71.47	ppb		0.00
Spiked Amount 96.154			Recovery =	74.333%			
Target Compounds							Qvalue
4) Phenol	4.98	94	523362	15.57	ppb		88
5) 1,4-DCB	4.81	146	795401	26.49	ppb		98
6) n-Nitrosodi-n-propylamine	5.27	43	479534	29.30	ppb		98
9) 2-Nitrophenol	5.85	139	494408	35.38	ppb		99
10) 2,4-Dichlorophenol	6.45	162	761492	30.53	ppb		98
11) Hexachlorobutadiene	6.34	225	311015	26.97	ppb		98
12) 4-Chloro-3-methylphenol	7.19	107	52133	32.45	ppb	#	15
14) Hexachlorocyclopentadiene	7.16	237	24032	13.67	ppb		98
15) 2,4,6-Trichlorophenol	7.78	196	478720	36.22	ppb		96
17) Dimethyl phthalate	7.95	163	1978413	35.26	ppb		99
18) Acenaphthene	8.24	154	1649347	34.12	ppb		98
19) 2,4-Dinitrophenol	8.50	184	113534	26.98	ppb	#	100
20) 4-Nitrophenol	9.14	65	492913	35.10	ppb		98
21) Diethyl phthalate	8.71	149	1976990	35.46	ppb		99
24) n-Nitrosodiphenylamine	10.32	167	2722534	34.85	ppb		99
25) Pentachlorophenol	9.88	266	102023	31.68	ppb		96
26) Di-n-butylphthalate	10.52	149	3465477	38.61	ppb		98
29) Butyl benzylphthalate	12.25	149	1517454	36.23	ppb		89
30) Bis (2-ethylhexyl) phthala	12.80	149	2205809	37.35	ppb	#	94
31) Di-n-octylphthalate	13.47	149	3599195	36.31	ppb		99

$\frac{523362 \times 40}{66/321 \times 1.955} \times 0.96 = 15.544$ TA 7/2/15

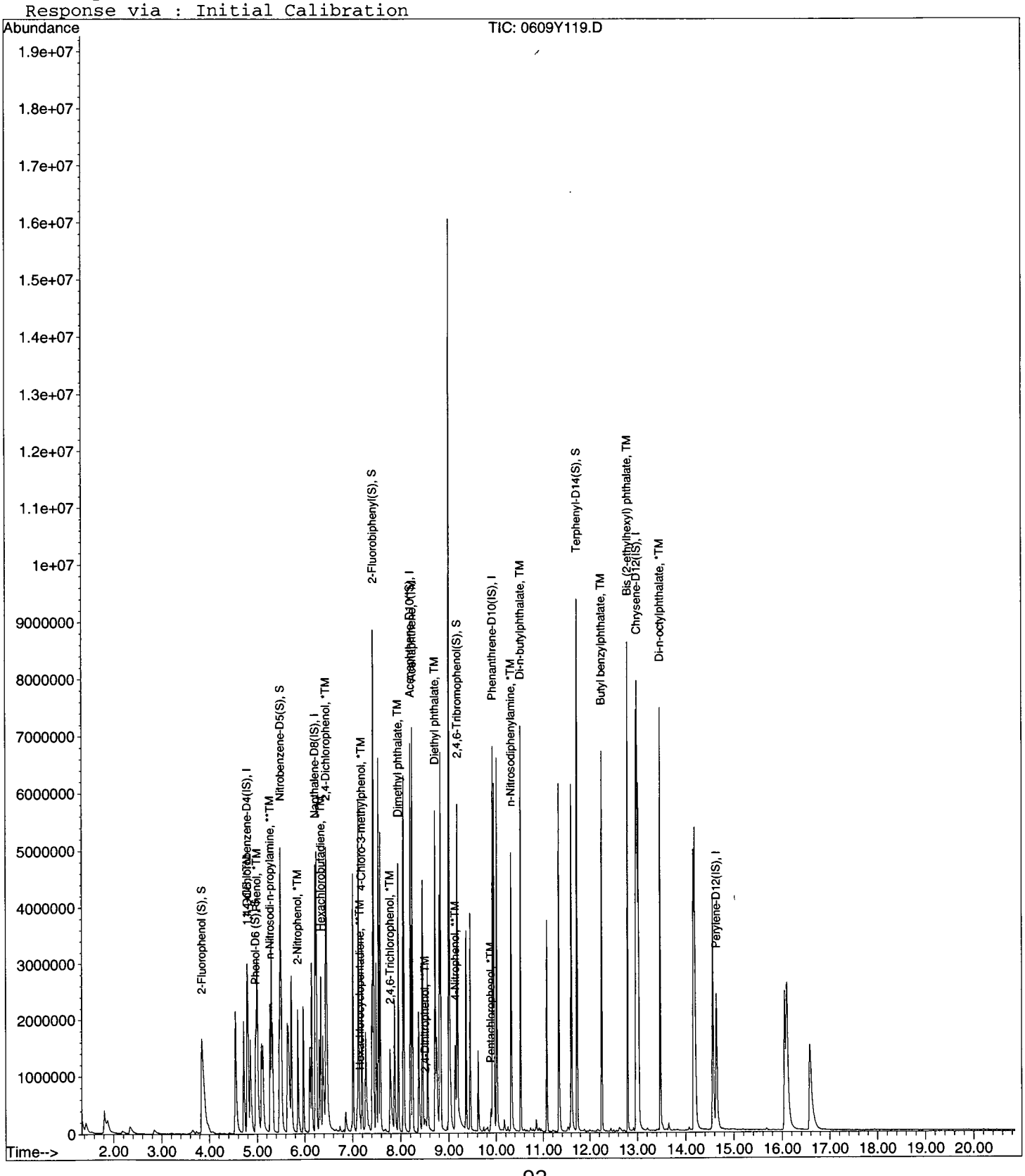
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y119.D Vial: 19
Acq On : 20 Jun 15 9:47 Operator: csc
Sample : AZ17694W13 MS-1 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150609\0609Y120.D Vial: 20
Acq On : 20 Jun 15 10:17 Operator: csc
Sample : AZ17694W18 MSD-1 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

Quant Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.79	152	601145	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.22	136	2668946	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.20	164	1533580	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.93	188	2688216	40.00	ppb		0.00
27) Chrysene-D12(IS)	12.99	240	2374768	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1442064	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.85	112	1594350	80.80	ppb		-0.07
Spiked Amount 192.308			Recovery =	42.014%			
3) Phenol-D6 (S)	4.98	99	1478999	55.99	ppb		-0.03
Spiked Amount 192.308			Recovery =	29.115%			
8) Nitrobenzene-D5(S)	5.49	82	1580530	62.15	ppb		0.00
Spiked Amount 96.154			Recovery =	64.635%			
16) 2-Fluorobiphenyl(S)	7.43	172	3167912	60.63	ppb		0.00
Spiked Amount 96.154			Recovery =	63.054%			
22) 2,4,6-Tribromophenol(S)	9.19	330	599321	136.48	ppb		-0.02
Spiked Amount 192.308			Recovery =	70.970%			
28) Terphenyl-D14(S)	11.72	244	3684966	68.85	ppb		0.00
Spiked Amount 96.154			Recovery =	71.605%			
Target Compounds							Qvalue
4) Phenol	4.99	94	447233	14.64	ppb		89
5) 1,4-DCB	4.81	146	690046	25.28	ppb		98
6) n-Nitrosodi-n-propylamine	5.27	43	542775	36.49	ppb		92
9) 2-Nitrophenol	5.86	139	446290	33.29	ppb		97
10) 2,4-Dichlorophenol	6.45	162	693882	28.82	ppb		99
11) Hexachlorobutadiene	6.34	225	283979	25.67	ppb		99
12) 4-Chloro-3-methylphenol	7.19	107	49235	31.94	ppb	#	15
14) Hexachlorocyclopentadiene	7.16	237	20191	12.91	ppb		97
15) 2,4,6-Trichlorophenol	7.79	196	455063	34.54	ppb		96
17) Dimethyl phthalate	7.95	163	1916713	34.26	ppb		91
18) Acenaphthene	8.24	154	1538861	31.93	ppb		98
19) 2,4-Dinitrophenol	8.50	184	116352	27.50	ppb	#	100
20) 4-Nitrophenol	9.14	65	491517	35.11	ppb		100
21) Diethyl phthalate	8.72	149	1924016	34.62	ppb		99
24) n-Nitrosodiphenylamine	10.32	167	2645382	33.98	ppb		99
25) Pentachlorophenol	9.89	266	108516	33.39	ppb		98
26) Di-n-butylphthalate	10.53	149	3267183	36.54	ppb		97
29) Butyl benzylphthalate	12.25	149	1452065	35.68	ppb		94
30) Bis (2-ethylhexyl) phthala	12.80	149	2067340	36.02	ppb	#	95
31) Di-n-octylphthalate	13.48	149	3557270	36.93	ppb		99

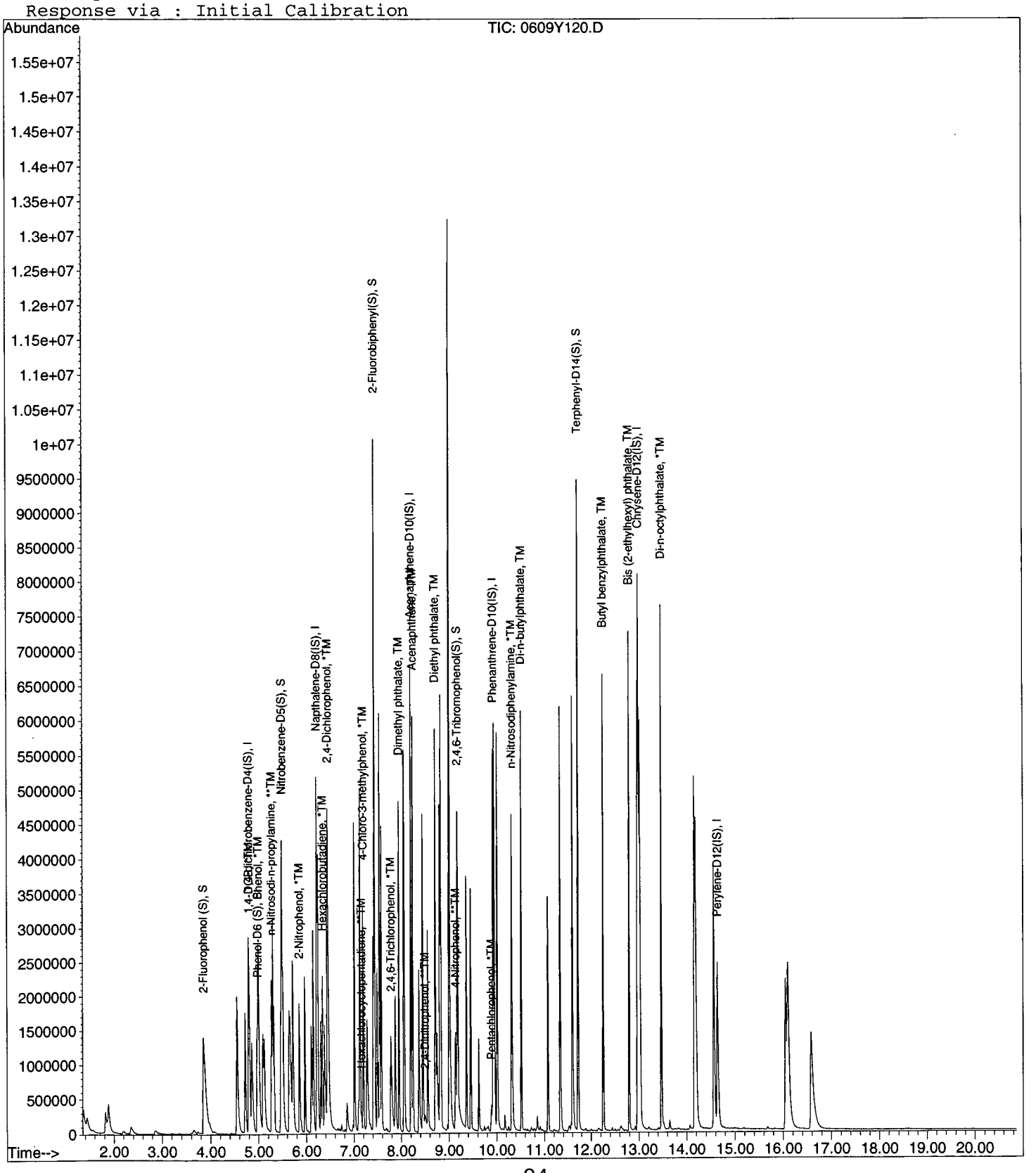
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150609\0609Y120.D Vial: 20
Acq On : 20 Jun 15 10:17 Operator: csc
Sample : AZ17694W18 MSD-1 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Jul 2 9:35 2015 Quant Results File: Y0609TT.RES

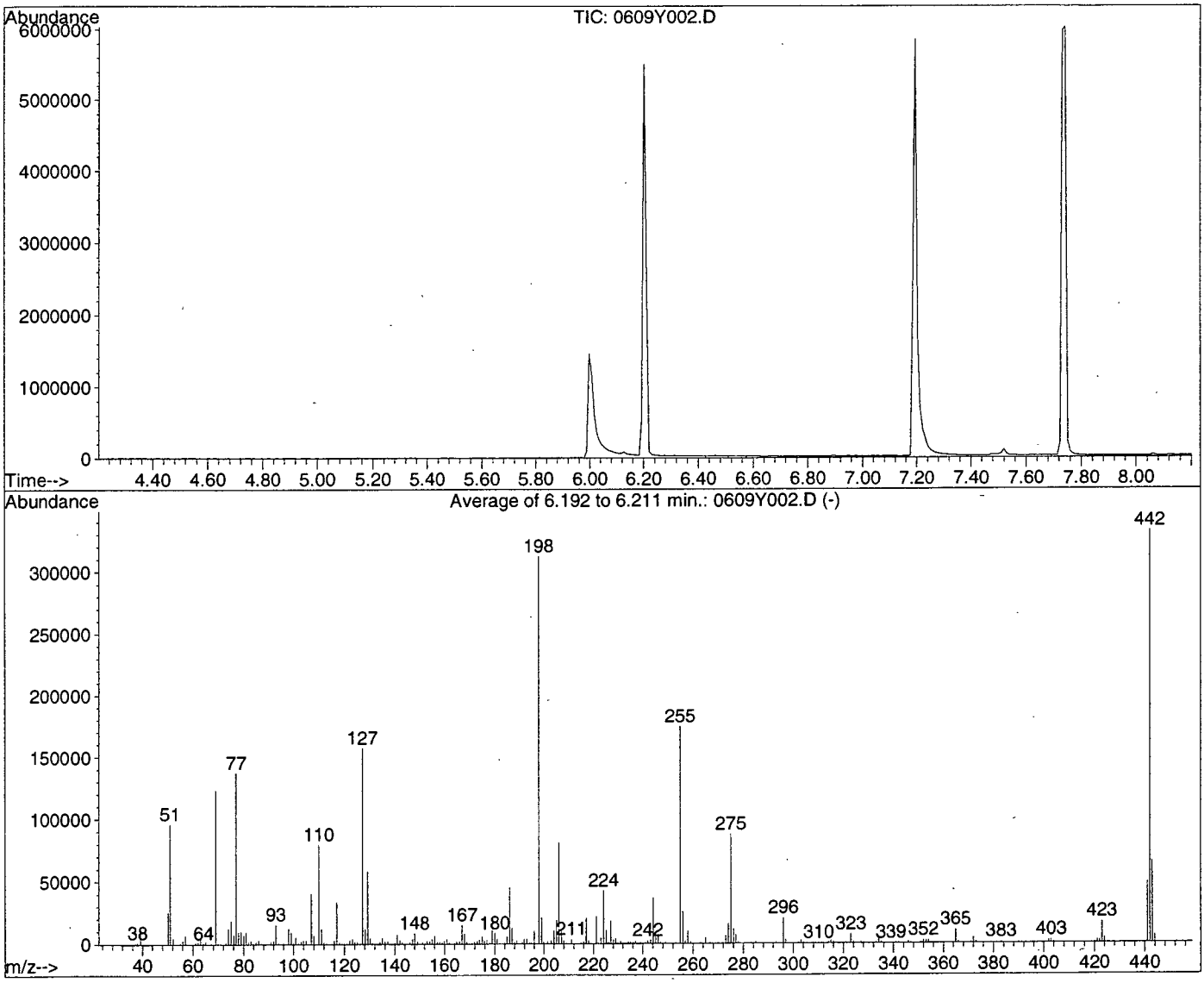
Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Jun 26 14:45:21 2015
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y150609\0609Y002.D Vial: 2
Acq On : 9 Jun 15 13:56 Operator: csc
Sample : SV Tune 5/14/15 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y150609\Y0609TT.M (RTE Integrator)
Title : EPA 8270C

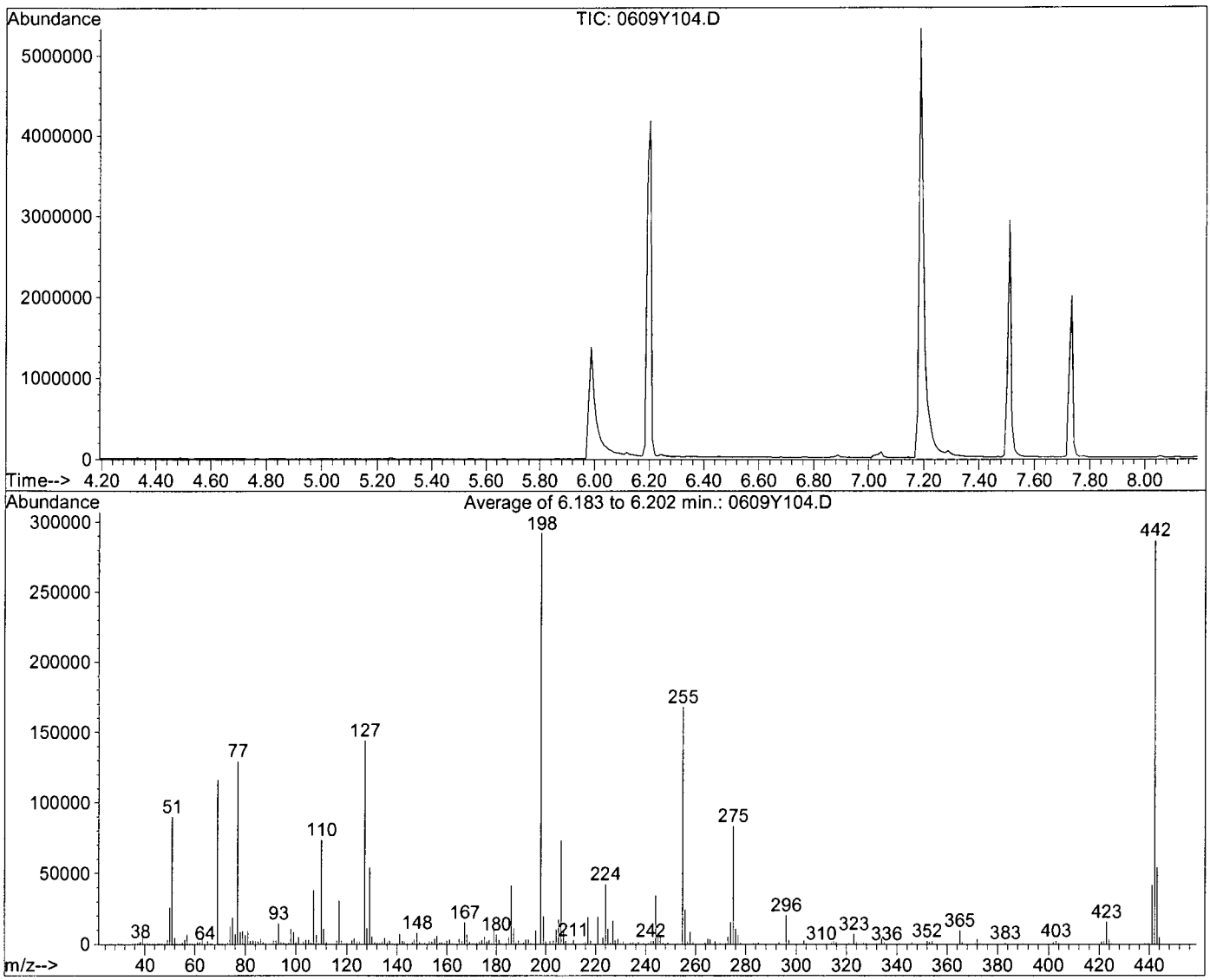


AutoFind: Scans 281, 282, 283; Background Corrected with Scan 279

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.7	95893	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	807	PASS
127	198	40	60	50.4	157232	PASS
197	198	0.00	1	0.0	114	PASS
198	198	100	100	100.0	312125	PASS
199	198	5	9	6.7	21015	PASS
275	198	10	30	27.9	87218	PASS
365	198	1	100	3.4	10540	PASS
441	443	0.01	100	74.5	48480	PASS
442	198	40	150	106.5	332529	PASS
443	442	17	23	19.6	65043	PASS

Data File : M:\YODA\DATA\Y150609\0609Y104.D Vial: 4
Acq On : 20 Jun 15 2:39 Operator: csc
Sample : SV TUNE 5/14/15 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y150609\Y0609.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 6.183 to 6.202 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.8	89909	PASS
68	69	0.00	2	0.1	150	PASS
70	69	0.00	2	0.3	337	PASS
127	198	40	60	49.4	144189	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	292128	PASS
199	198	5	9	6.9	20068	PASS
275	198	10	30	28.7	83699	PASS
365	198	1	100	3.3	9552	PASS
441	443	0.01	100	77.0	41820	PASS
442	198	50	150	98.1	286685	PASS
443	442	17	23	19.0	54332	PASS

INDOXACARB CURVE											
Prep: 5/14/15 Ex: 7/31/15-L.H.											
Supplier	**ID#**	**ug/mL**	**LOT#**	**DATE**	**EXP.DATE**	**µL**	**µL**	**µL**	**µL**	**µL**	**µL**
INDOXACARB STD.		1		07/31/14	07/31/15	5	50	100	150	200	250
						995	950	900	850	800	750
	Hexane		051914A		**FINAL VOL**	1000	1000	1000	1000	1000	1000

8270 Full Scan Second Source Stock						
	5/14/15-L.H.					
8270 Second Source Stock						
Exp:	7/21/15					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	34696-3398	5/14/15	5/14/16	1000
o2si	110391-01	2000	34693-3401	5/14/15	5/14/16	1000
o2si	010337-01	1000	17950-3514	5/14/15	11/14/15	1000
o2si	110396-01	2000	34698-3515	5/14/15	5/14/16	1000
o2si	110397-01	2000	50011-3505	5/14/15	7/21/15	1000
o2si	110393-01	2000	34694-3515	5/14/15	5/14/16	1000
o2si	110394-01	2000	35110-3515	5/14/15	5/14/16	1000
o2si	**110395-01**	2000	34697-3402	5/14/15	5/14/16	1000
o2si	110392-01	2000	18075-3397	5/14/15	5/14/16	1000
EM Science	Methylene Chloride		55006	11/06/14		1000
				Final Vol.		10000

Semivolatile (SV) Tuning Solution -L.H.						
PREP DATE:	5/14/15					
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	5/14/16					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	CL-5063-3518	05/14/15	5/14/16	1000
EM Science	Methylene Chloride		47186	11/06/14		19000
				Final Vol.		20000

8270 Full Scan CCV

PREP DATE:	06/09/15-L.H.					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	06/16/15					50
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	04/27/15	10/27/15	25
o2si	8270 BN:A (2	VAR	242352-34963	05/21/15	5/21/16	25
EM Science	Methylene Chloride		47186	11/06/14		50
Supelco	SV Internal	2000	XA10079V-34496	05/21/15	5/21/16	2

8270 Full Scan Standard Curve

PREP DATE:	6/09/15-L.H.												
8270 Standard Curve													
Exp:	06/15/15					5	10	20	40	50	60	80	100
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	04/27/15	10/27/15	5	5	10	20	25	30	40	50
o2si	8270 BN:A (2	VAR	242352-34963	05/21/15	5/21/16	5	5	10	20	25	30	40	50
EM Science	Methylene Chloride		54200	11/06/14		190	90	80	60	50	40	20	0
Supelco	SV Internal	2000	A10079V-3449	05/21/15	5/21/16	4	2	2	2	2	2	2	2
				Final Vol.		204	102	102	102	102	102	102	102

8270 Full Scan Second Source (SS)

PREP DATE:	6/09/15-L.H	EX. 06/15/15				
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	05/14/15	7/21/15	25
EM Science	Methylene Chloride		54200	11/06/14		75
Supelco	SV Internal	2000	A10079V-3449	05/21/15	5/21/16	2
				Final Vol.		102

104

04/27/15
ac

PREP DATE:	04/27/15					
8270 Stock/Spike Standard						
Exp:	**10/27/15**					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-34968	04/01/15	05/03/17	1000
Absolute	10001	2000	053014-34967	04/01/15	05/03/17	1000
Absolute	10001	2000	053014-34966	04/01/15	05/03/17	1000
Absolute	10002	2000	111114-34973	04/01/15	11/11/17	1000
Absolute	10002	2000	111114-34972	04/01/15	11/11/17	1000
Absolute	10002	2000	111114-34971	04/01/15	11/11/17	1000
Absolute	10004	2000	010815-34978	04/01/15	01/08/20	1000
Absolute	10004	2000	010815-34977	04/01/15	01/08/20	1000
Absolute	10004	2000	010815-34976	04/01/15	01/08/20	1000
Absolute	10005	2000	110314-34983	04/01/15	11/03/19	1000
Absolute	10005	2000	110314-34982	04/01/15	11/03/19	1000
Absolute	10005	2000	110314-34981	04/01/15	11/03/19	1000
Absolute	10006	2000	031715-34988	04/01/15	03/17/18	1000
Absolute	10006	2000	031715-34987	04/01/15	03/17/18	1000
Absolute	10006	2000	031715-34986	04/01/15	03/17/18	1000
Absolute	10007	2000	020515-34993	04/01/15	02/05/20	1000
Absolute	10007	2000	020515-34992	04/01/15	02/05/20	1000
Absolute	10007	2000	020515-34991	04/01/15	02/05/20	1000
Absolute	10018	2000	020315-34998	04/01/15	02/03/20	1000
Absolute	10018	2000	020315-34997	04/01/15	02/03/20	1000
Absolute	10018	2000	020315-34996	04/01/15	02/03/20	1000
Absolute	70023	1000	112114-35003	04/01/15	11/21/19	1000
Absolute	70023	1000	112114-35002	04/01/15	11/21/19	1000
Absolute	70023	1000	112114-35001	04/01/15	11/21/19	1000
Absolute	82705	2000	031215-35008	04/01/15	03/12/18	1000
Absolute	82705	2000	031215-35007	04/01/15	03/12/18	1000
Absolute	82705	2000	031215-35006	04/01/15	03/12/18	1000
Absolute	94552	2000	082914-35013	04/01/15	08/29/19	1000
Absolute	94552	2000	082914-35012	04/01/15	08/29/19	1000
Absolute	94552	2000	082914-35011	04/01/15	08/29/19	1000
				Final Vol.		30000

04/21/15
csc

PREP DATE:	04/21/15					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	04/28/15					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	11/18/14	05/21/15	25
o2si	8270 BN:A Surrogate	VAR	237956-34559	02/27/15	10/08/16	25
EM Science	Methylene Chloride		54200	11/06/14		50
Supelco	SV Internal Standard	2000	XA10079V-34496	02/27/15	09/30/17	2
				Final Vol.		102

04/21/15
csc

PREP DATE:	04/21/15					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	04/28/15					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	11/18/14	05/21/15	25
o2si	8270 BN:A Surrogate	VAR	237956-34559	02/27/15	10/08/16	25
EM Science	Methylene Chloride		54200	11/06/14		50
Supelco	SV Internal Standard	2000	XA10079V-34496	02/27/15	09/30/17	2
				Final Vol.		102

SV Internal Stanard Stock Prep: 05/21/15-L.H. Ex: 5/21/16						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA10079V-34489	5/21/15	5/21/16	1000

8270 BNA Surrogate Stock 5/21/15-L.H. Ex: 5/21/16						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
O2SI	110004-17	200/400	242352-34956	5/21/15	5/21/16	1000

PREP DATE	05/21/15-L.H.					
8270 Lv. 1						
Exp:	05/28/15					5
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	04/27/15	10/27/15	5
o2si	8270 BN:A (200:400)	VAR	242352-34956	05/21/15	05/21/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SV Internal S	2000	A10079V-344	05/21/15	5/21/16	4
				Final Vol.		204

		AR 1254 CALIBRATION CURVE					
AR1254 STANDARD		Prep:4/16/15-L.H.					
		Exp: 10/1/15					
		final					Final Vol.
	initial	conc.		Aliquot		Solvent	Solvent
LEVELS ID	conc.	(ug/ml)		(uL)			(ml)
LEVEL 10	1ug/ml	0.010		10 µL			1.0
LEVEL 50		0.050		50 µL		HEXANE	1.0
LEVEL 100		0.100		100 µL			1.0
LEVEL 250		0.250		250 µL		LOT #05191	1.0
LEVEL 1000		1.000		100 µL			1.0

MITC CURVE Prep: 5/21/15-L.H. Ex: 6/11/15												
						1	2	3	4	5	6	7
SUPPLIER	ID#	ug/mL	LOT #	DATE	EXP.	mL	mL	mL	mL	mL	mL	mL
					Final Conc.	0.02	0.13	0.25	1	2.5	3.5	5
	MITC STD	5		05/05/15	06/11/15	4	25	50	20	50	70	100
VWR	ETHYL ACETATE		043014E			996	975	950	80	50	30	N/A
					Final VOL.	1000	1000	1000	100	100	100	100

Prep: 5/21/15 Exp: 8/21/15 GA Diesel 400ppm CCV							
STANDARD	INITIAL CONC.	SOURCE D	ALIQUOT	FINAL VOL	FINAL CON	SOLVENT	
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC	
STANDARD	Prep:	12/05/14				55006	
DIESEL STD.	Exp:	11/24/15					

8270 Full Scan CCV

PREP DATE:	06/19/15-L.H.					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	06/26/15					50
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	04/27/15	10/27/15	25
o2si	8270 BN:A (2	VAR	248285-35024	06/18/15	6/18/16	25
EM Science	Methylene Chloride		55006	11/06/14		50
Supelco	SV Internal	2000	A10079V-3449	05/21/15	5/21/16	2

8270 PAH SIM CCV

PREP DATE:	06/19/15-LH					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	06/26/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIN	200	230271-34569	06/18/15	6/18/16	5
o2si	8270 BN:A (2	VAR	248285-35024	06/18/15	6/18/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM SV Inter	125	A10079V-3449	05/15/15	5/15/16	4
				Final Vol.		204

PAC ECO CURVE		prep: 06/19/15-L.H. ex: 11/19/15											
						1a	1b	1	2	3	4	5	6
	ID#	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL	µL	µL
	PAC ECO CAL ST	5		06/10/15	11/19/15	2	5	10	50	20	100	70	1000
						998	995	990	950	80	100	30	N/A
	Hexane		051914A		Final VOL.	1000	1000	1000	1000	100	200	100	1000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	150617B	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 4-27-15 exp 10-27-15		Surrogate ID 1	8270 Surrogate 248398-35028	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	06/17/15 14:45	
Spiked ID 8			Ext. End Time:	06/18/15 10:45	
			GC Requires Extract By:	**07/07/15 0:00**	

pH1	2	06/17/15 2:50:00 PM	Water Bath Temp Criteria	79 °C
pH2	14	06/17/15 3:30:00 PM		
pH3				

Spiked By: KY **Date** 06/17/15 **Witnessed By:** DC **Date** 06/17/15

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150617B Blk				1	1 equip	1000 e-wb6	1	2/1	06/17/15 14:45	
2	150617B LCS-1		0.250	1	1	1 equip	1000 E-WB6	1	2/1	06/17/15 14:45	
3	AZ17692	AZ17692W04			1	1 equip	850 E-WB6	1	2/1	06/17/15 14:45	76657
4	AZ17693	AZ17693W05			1	1 equip	900 E-WB6	1	2/1	06/17/15 14:45	76657
5	AZ17694 MS-1	AZ17694W13	0.250	1	1	1 equip	1040 E-WB6	1	2/1	06/17/15 14:45	76657
6	AZ17694 MSD-1	AZ17694W18	0.250	1	1	1 equip	1040 E-WB6	1	2/1	06/17/15 14:45	76657
7	AZ17694	AZ17694W14			1	1 equip	950 E-WB6	1	2/1	06/17/15 14:45	76657
8	AZ17695	AZ17695W04			1	1 equip	950 E-WB6	1	2/1	06/17/15 14:45	76657
9	AZ17696	AZ17696W08			1	1 equip	950 E-WB6	1	2/1	06/17/15 14:45	76657

KY 6/18/15

Solvent and Lot#	
MC	55006
+1 Sulfuric Acid	6-2-15
Acidified Na2SO4	5-20-15
3.Na2SO4	XE21E
0N NaOH	4-18-15
h strips	HC431579
Filter Paper	400098

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	6/18/15
Time	4:43
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	DC,KY
Extraction	DC,KY,IC,RP
Concentration	IC

Modified	06/18/15 1:44:12 PM

Reviewed By: KY **Date** 6/18/15

Injection Log

Directory: M:\YODA\DATA\Y150609

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0609Y002.D	1	SV Tune 5/14/15		06/09/2015 13:56
2	3	0609Y003.D	1	5ug/ml SVOC 06/09/15		06/09/2015 14:14
3	4	0609Y004.D	1	10ug/ml SVOC 06/09/15		06/09/2015 14:44
4	5	0609Y005.D	1	20ug/ml SVOC 06/09/15		06/09/2015 15:13
5	6	0609Y006.D	1	40ug/ml SVOC 06/09/15		06/09/2015 15:43
6	7	0609Y007.D	1	50ug/ml SVOC 06/09/15		06/09/2015 16:12
7	8	0609Y008.D	1	60ug/ml SVOC 06/09/15		06/09/2015 16:42
8	9	0609Y009.D	1	80ug/ml SVOC 06/09/15		06/09/2015 17:12
9	10	0609Y010.D	1	100ug/ml SVOC 06/09/15		06/09/2015 17:42
10	11	0609Y011.D	1	50ug/ml SVOC SS 06/09/15		06/09/2015 18:12
11	4	0609Y104.D	1	SV TUNE 5/14/15		06/20/2015 02:39
12	5	0609Y105.D	1	50ug/ml SVOC 06/19/15		06/20/2015 02:57
13	15	0609Y115.D	1	150617B BLK 1/1000	water	06/20/2015 07:49
14	16	0609Y116.D	1	150617B LCS-1 1/1000	water	06/20/2015 08:18
15	17	0609Y117.D	1	AZ17692W04 1/850	water	06/20/2015 08:48
16	18	0609Y118.D	1	AZ17693W05 1/900	water	06/20/2015 09:17
17	19	0609Y119.D	1	AZ17694W13 MS-1 1/1040	water	06/20/2015 09:47
18	20	0609Y120.D	1	AZ17694W18 MSD-1 1/1040	water	06/20/2015 10:17
19	21	0609Y121.D	1	AZ17694W14 1/950	water	06/20/2015 10:46
20	22	0609Y122.D	1	AZ17695W04 1/950	water	06/20/2015 11:16
21	23	0609Y123.D	1	AZ17696W08 1/950	water	06/20/2015 11:45

EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons

APPL, INC.

EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
QC Summary

APPL, INC.

Method Blank

EPA 8270D LL WATER DODv3

Blank Name/QCG: **150617W-17694 - 198430**
Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	SURROGATE: 2-FLUORBIPHENY	53.2	50-110			%	06/17/15	06/19/15
BLANK	SURROGATE: NITROBENZENE-	78.0	40-110			%	06/17/15	06/19/15
BLANK	SURROGATE: TERPHENYL-D14 (	80.4	50-135			%	06/17/15	06/19/15

Quant Method:P0618.M
Run #:0618L040
Instrument:Linus
Sequence:L150618
Initials:MA

GC SC-Blank-REG MDLs
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Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617A-BLK	Blank	50-110	53.2		40-110	78.0	
150617A-LCS	Lab Control Spike	50-110	54.8		40-110	84.0	
AZ17692	S67-MW026-061515	50-110	51.7		40-110	76.1	
AZ17693	S67-MW026P-061515	50-110	50.0		40-110	76.8	
AZ17694-MS	Matrix Spike	50-110	68.0		40-110	78.0	
AZ17694-MSD	Matrix SpikeD	50-110	62.4		40-110	74.8	
AZ17694	S67-MW016-061515	50-110	50.3		40-110	68.9	
AZ17695	S67-MW024-061515	50-110	58.0		40-110	77.4	
AZ17696	S67-MW017-061515	50-110	65.6		40-110	75.9	

Comments: Batch: #SIMDD-150617A

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150617A-BLK	Blank	50-135	80.4				
150617A-LCS	Lab Control Spike	50-135	78.4				
AZ17692	S67-MW026-061515	50-135	79.1				
AZ17693	S67-MW026P-061515	50-135	76.9				
AZ17694-MS	Matrix Spike	50-135	71.6				
AZ17694-MSD	Matrix SpikeD	50-135	74.4				
AZ17694	S67-MW016-061515	50-135	73.4				
AZ17695	S67-MW024-061515	50-135	84.8				
AZ17696	S67-MW017-061515	50-135	80.8				

Comments: Batch: #SIMDD-150617A

Laboratory Control Spike Recovery

EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 LCS - 198430**
Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	5.00	2.71	54.2	45-105
ACENAPHTHENE	5.00	3.06	61.2	45-110
ACENAPHTHYLENE	5.00	3.26	65.2	50-105
ANTHRACENE	5.00	3.49	69.8	55-110
BENZ (A) ANTHRACENE	5.00	3.63	72.6	55-110
BENZO (A) PYRENE	5.00	4.35	87.0	55-110
BENZO (B) FLUORANTHENE	5.00	3.55	71.0	45-120
BENZO (G,H,I) PERYLENE	5.00	3.95	79.0	40-125
BENZO (K) FLUORANTHENE	5.00	2.63	52.6	45-125
CHRYSENE	5.00	3.97	79.4	55-110
DIBENZ (A,H) ANTHRACENE	5.00	3.99	79.8	40-125
FLUORANTHENE	5.00	3.91	78.2	55-115
FLUORENE	5.00	3.52	70.4	50-110
INDENO (1,2,3-CD) PYRENE	5.00	3.77	75.4	45-125
NAPHTHALENE	5.00	3.10	62.0	40-100
PHENANTHRENE	5.00	3.91	78.2	50-115
PYRENE	5.00	3.95	79.0	50-130
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	1.37	54.8	50-110
SURROGATE: NITROBENZENE-D5 (S)	2.50	2.10	84.0	40-110
SURROGATE: TERPHENYL-D14 (S)	2.50	1.96	78.4	50-135

Comments: _____

Primary	SPK
Quant Method :	P0618.M
Extraction Date :	06/17/15
Analysis Date :	06/19/15
Instrument :	Linus
Run :	0618L041
Initials :	MA

Printed: 06/26/15 3:43:13 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 MS - 198430**
Batch ID: #SIMDD-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-METHYLNAPHTHALENE	5.00	ND	3.07	2.73	61.4	54.6	45-105	11.7	30
ACENAPHTHENE	5.00	ND	3.26	2.99	65.2	59.8	45-110	8.6	30
ACENAPHTHYLENE	5.00	ND	3.35	3.14	67.0	62.8	50-105	6.5	30
ANTHRACENE	5.00	ND	3.32	3.20	66.4	64.0	55-110	3.7	30
BENZ (A) ANTHRACENE	5.00	ND	3.27	3.43	65.4	68.6	55-110	4.8	30
BENZO (A) PYRENE	5.00	ND	4.01	4.08	80.2	81.6	55-110	1.7	30
BENZO (B) FLUORANTHENE	5.00	ND	3.29	3.37	65.8	67.4	45-120	2.4	30
BENZO (G,H,I) PERYLENE	5.00	ND	3.65	3.66	73.0	73.2	40-125	0.27	30
BENZO (K) FLUORANTHENE	5.00	ND	2.30	2.36	46.0	47.2	45-125	2.6	30
CHRYSENE	5.00	ND	3.80	3.72	76.0	74.4	55-110	2.1	30
DIBENZ (A,H) ANTHRACENE	5.00	ND	3.67	3.64	73.4	72.8	40-125	0.82	30
FLUORANTHENE	5.00	ND	3.57	3.60	71.4	72.0	55-115	0.84	30
FLUORENE	5.00	ND	3.47	3.31	69.4	66.2	50-110	4.7	30
INDENO (1,2,3-CD) PYRENE	5.00	ND	3.53	3.56	70.6	71.2	45-125	0.85	30
NAPHTHALENE	5.00	ND	3.41	3.04	68.2	60.8	40-100	11.5	30
PHENANTHRENE	5.00	ND	3.67	3.64	73.4	72.8	50-115	0.82	30
PYRENE	5.00	ND	3.69	3.72	73.8	74.4	50-130	0.81	30
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	NA	1.70	1.56	68.0	62.4	50-110		
SURROGATE: NITROBENZENE-D5 (S)	2.50	NA	1.95	1.87	78.0	74.8	40-110		
SURROGATE: TERPHENYL-D14 (S)	2.50	NA	1.79	1.86	71.6	74.4	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	P0618.M	P0618.M
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/20/15	06/20/15
Instrument :	Linus	Linus
Run :	0618L044	0618L045
Initials :	MA	

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APPL MSD SCII

8270D-LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/19/15

Matrix: WATER Instrument: Linus

Blank ID: 150617A-BLK Time Analyzed: 2225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617A-BLK	Blank	0618L040	06/19/15 2225
150617A-LCS	Lab Control Spike	0618L041	06/19/15 2252
AZ17692	S67-MW026-061515	0618L042	06/19/15 2319
AZ17693	S67-MW026P-061515	0618L043	06/19/15 2346
150617A-MS	Matrix Spike	0618L044	06/20/15 0012
150617A-MSD	Matrix SpikeD	0618L045	06/20/15 0040
AZ17694	S67-MW016-061515	0618L046	06/20/15 0106
AZ17695	S67-MW024-061515	0618L047	06/20/15 0133
AZ17696	S67-MW017-061515	0618L048	06/20/15 0200

Comments: Batch: #SIMDD-150617A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 76657
Matrix: Water
ID: SV Tune 05/14/15

SDG No: 76657
Date Analyzed: 06/18/15
Instrument: Linus
Time Analyzed: 9:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1ug/ml PAH 06/18/1	0618L003.D	06/18/15 9:58
2		0.2ug/ml PAH	0618L004.D	06/18/15 10:25
3		1.0ug/ml PAH	0618L006.D	06/18/15 12:02
4		5.0ug/ml PAH	0618L007.D	06/18/15 12:29
5		10ug/ml PAH	0618L008.D	06/18/15 12:56
6		50ug/ml PAH	0618L009.D	06/18/15 13:23
7		100ug/ml PAH	0618L010.D	06/18/15 13:50
8		0.5ug/ml PAH	0618L011.D	06/18/15 14:17
9		5.0ug/ml PAH SS 06/1	0618L012.D	06/18/15 14:44
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	36.5
68	0 - 2.05% of mass 69	1.5
70	0 - 2% of mass 69	0.6
127	39.5 - 60% of mass 198	50.1
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	20.2
365	1 - 100% of mass 198	1.9
441	0.01 - 100% of mass 443	78.2
442	50 - 150% of mass 198	89.3
443	17 - 23% of mass 442	19.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 76657
Matrix: Water
ID: SV TUNE 5/14/15

SDG No: 76657
Date Analyzed: 06/19/15
Instrument: Linus
Time Analyzed: 21:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0ug/ml PAH 06/19/1	0618L039.D	06/19/15 21:58
2	Blank	150617A BLK 1/1000	0618L040.D	06/19/15 22:25
3	Lab Control Spike	150617A LCS-1 1/1000	0618L041.D	06/19/15 22:52
4	S67-MW026-061515	AZ17692W05 1/980	0618L042.D	06/19/15 23:19
5	S67-MW026P-061515	AZ17693W04 1/980	0618L043.D	06/19/15 23:46
6		AZ17694W15 MS-1 1/10	0618L044.D	06/20/15 0:12
7		AZ17694W16 MSD-1 1/1	0618L045.D	06/20/15 0:40
8	S67-MW016-061515	AZ17694W17 1/980	0618L046.D	06/20/15 1:06
9	S67-MW024-061515	AZ17695W05 1/1000	0618L047.D	06/20/15 1:33
10	S67-MW017-061515	AZ17696W07 1/1010	0618L048.D	06/20/15 2:00
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	39.3
68	0 - 2.05% of mass 69	1.4
70	0 - 2% of mass 69	0.6
127	39.5 - 60% of mass 198	53.2
197	0 - 1% of mass 198	0.3
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.1
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	80.1
442	50 - 150% of mass 198	92.2
443	17 - 23% of mass 442	19.0

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 76657

Lab File ID (Standard): 0618L007.D Date Analyzed: 06/18/15

Instrument ID: Linus Time Analyzed: 12:29

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	6308	6.06	3221	8.11	5364	9.86
	UPPER LIMIT	12616	6.56	6442	8.61	10728	10.36
	LOWER LIMIT	3154	5.56	1611	7.61	2682	9.36
	SAMPLE NO.						
01	5.0ug/ml PAH 06/19/15	6473	6.06	3301	8.11	5483	9.86
02	150617A BLK 1/1000	8373	6.06	4002	8.11	6614	9.87
03	150617A LCS-1 1/1000	7615	6.06	4260	8.11	7129	9.86
04	AZ17692W05 1/980	7440	6.06	3659	8.11	5998	9.87
05	AZ17693W04 1/980	8989	6.06	4512	8.11	7599	9.86
06	AZ17694W15 MS-1 1/10	8084	6.06	4282	8.11	7156	9.86
07	AZ17694W16 MSD-1 1/	9223	6.06	4817	8.11	8115	9.86
08	AZ17694W17 1/980	8687	6.06	4158	8.11	6808	9.87
09	AZ17695W05 1/1000	8700	6.06	4308	8.11	7083	9.86
10	AZ17696W07 1/1010	9008	6.06	4390	8.11	7246	9.86
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 76657

Lab File ID (Standard): 0618L007.D Date Analyzed: 06/18/15

Instrument ID: Linus Time Analyzed: 12:29

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5590	13.04	3497	15.67		
	UPPER LIMIT	11180	13.54	6994	16.17		
	LOWER LIMIT	2795	12.54	1749	15.17		
	SAMPLE NO.						
01	5.0ug/ml PAH 06/19/15	5894	13.04	3768	15.66		
02	150617A BLK 1/1000	6996	13.04	4220	15.68		
03	150617A LCS-1 1/1000	7702	13.03	4725	15.66		
04	AZ17692W05 1/980	6435	13.06	3886	15.69		
05	AZ17693W04 1/980	7986	13.04	4860	15.68		
06	AZ17694W15 MS-1 1/1(	7627	13.04	4673	15.66		
07	AZ17694W16 MSD-1 1/	8567	13.03	5266	15.66		
08	AZ17694W17 1/980	7302	13.04	4232	15.69		
09	AZ17695W05 1/1000	7309	13.06	4316	15.69		
10	AZ17696W07 1/1010	7501	13.04	4414	15.69		
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
Sample Data

APPL, INC.

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17692
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	51.7	50-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	76.1	40-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	79.1	50-135			%	06/17/15	06/19/15

Quant Method: P0618.M
Run #: 0618L042
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/26/15 3:43:37 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L042.D Vial: 42
Acq On : 19 Jun 15 23:19 Operator: MA
Sample : AZ17692W05 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 14:56 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	7440	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	3659	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.87	188	5998	2.50000 ppb	0.01
15) Chrysene-D12(IS)	13.06	240	6435	2.50000 ppb	0.01
21) Perylene-D12(IS)	15.69	264	3886	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1095	1.94150 ppb	0.00
Spiked Amount 2.551			Recovery = 76.126%		
7) Surrogate Recovery (FBP)	7.33	172	2313	1.31803 ppb	0.01
Spiked Amount 2.551			Recovery = 51.666%		
17) Surrogate Recovery (TPH)	11.73	244	3959	2.01861 ppb	0.00
Spiked Amount 2.551			Recovery = 79.145%		

Target Compounds Qvalue

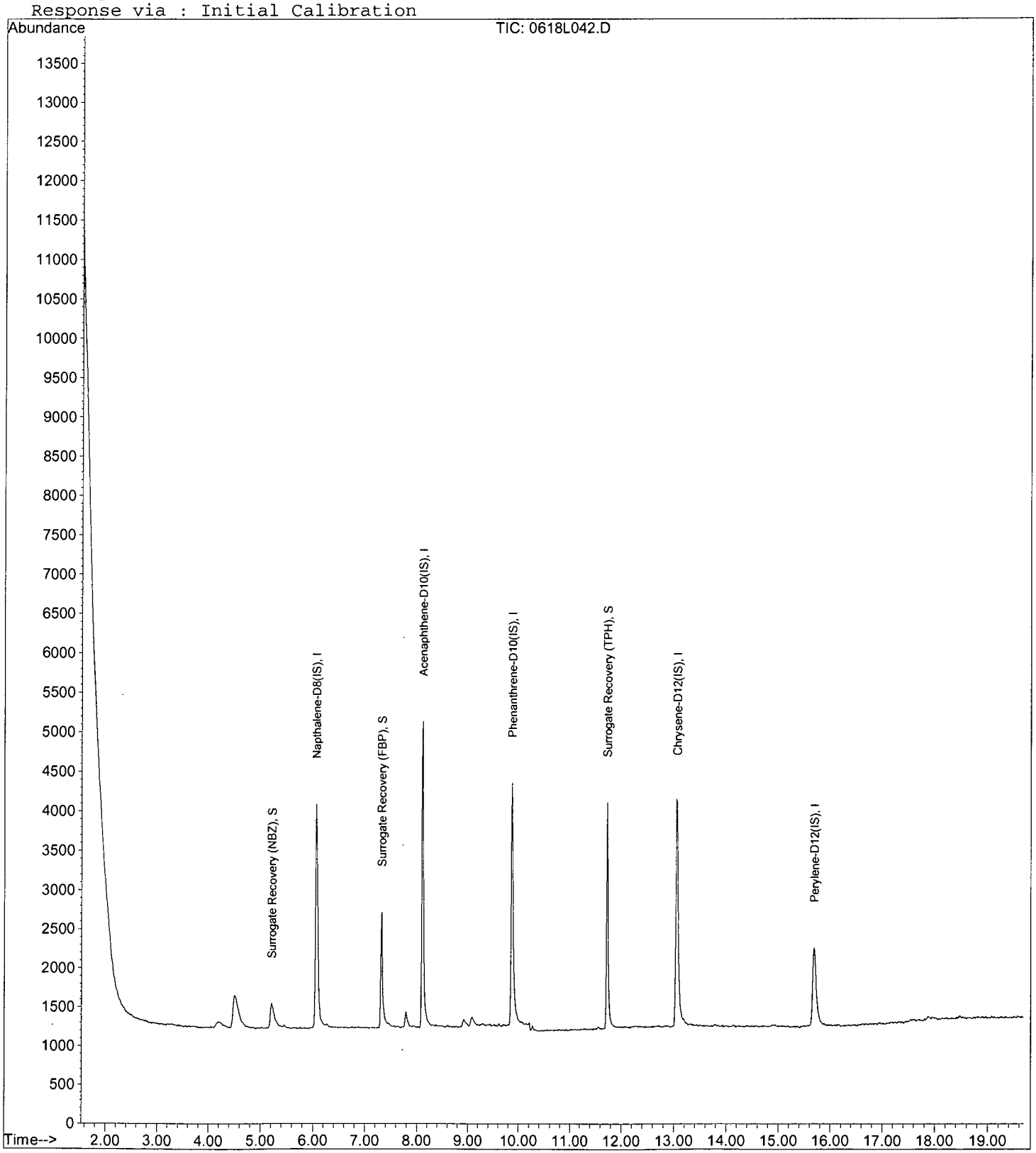
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L042.D Vial: 42
Acq On : 19 Jun 15 23:19 Operator: MA
Sample : AZ17692W05 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 14:56 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	50.0	50-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	76.8	40-110			%	06/17/15	06/19/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	76.9	50-135			%	06/17/15	06/19/15

Quant Method: P0618.M
Run #: 0618L043
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/26/15 3:43:38 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L043.D Vial: 43
Acq On : 19 Jun 15 23:46 Operator: MA
Sample : AZ17693W04 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 14:56 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8989	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4512	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.86	188	7599	2.50000 ppb	0.00
15) Chrysene-D12(IS)	13.04	240	7986	2.50000 ppb	0.00
21) Perylene-D12(IS)	15.68	264	4860	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1343	1.96000 ppb	0.00
Spiked Amount 2.551			Recovery = 76.832%		
7) Surrogate Recovery (FBP)	7.33	172	2762	1.27634 ppb	0.01
Spiked Amount 2.551			Recovery = 50.019%		
17) Surrogate Recovery (TPH)	11.73	244	4772	1.96059 ppb	0.00
Spiked Amount 2.551			Recovery = 76.871%		

Target Compounds Qvalue

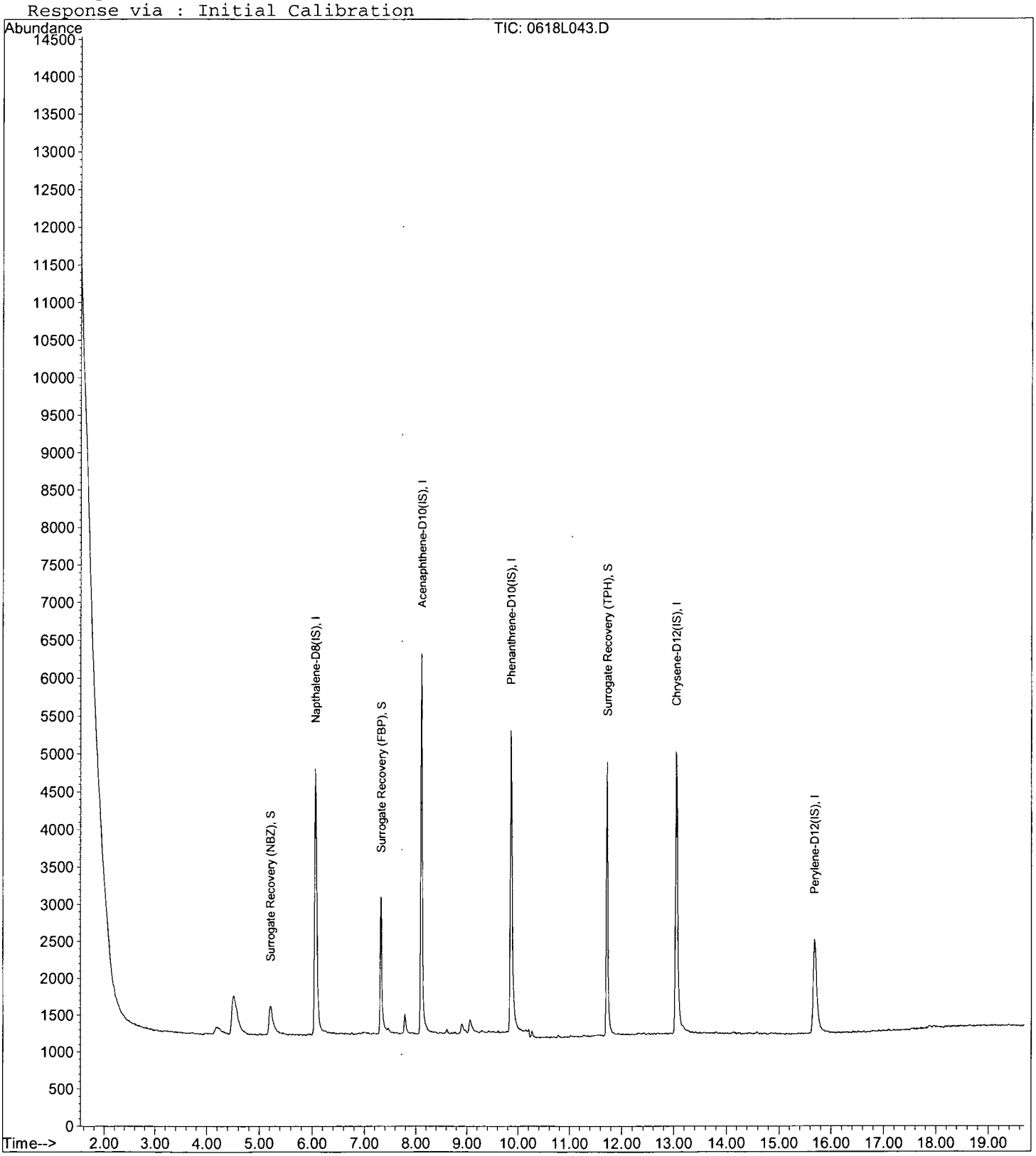
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L043.D Vial: 43
Acq On : 19 Jun 15 23:46 Operator: MA
Sample : AZ17693W04 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 14:56 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW016-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17694
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	50.3	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	68.9	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	73.4	50-135			%	06/17/15	06/20/15

Quant Method: P0618.M
Run #: 0618L046
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/26/15 3:53:07 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L046.D Vial: 46
Acq On : 20 Jun 15 1:06 Operator: MA
Sample : AZ17694W17 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 15:48 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8687	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4158	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.87	188	6808	2.50000 ppb	0.01
15) Chrysene-D12(IS)	13.04	240	7302	2.50000 ppb	0.00
21) Perylene-D12(IS)	15.69	264	4232	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1086	1.75749 ppb	0.00
Spiked Amount 2.551			Recovery = 68.874%		
7) Surrogate Recovery (FBP)	7.33	172	2557m	1.28220 ppb	0.01
Spiked Amount 2.551			Recovery = 50.254%		
17) Surrogate Recovery (TPH)	11.73	244	4166	1.87195 ppb	0.00
Spiked Amount 2.551			Recovery = 73.382%		
Target Compounds					Qvalue

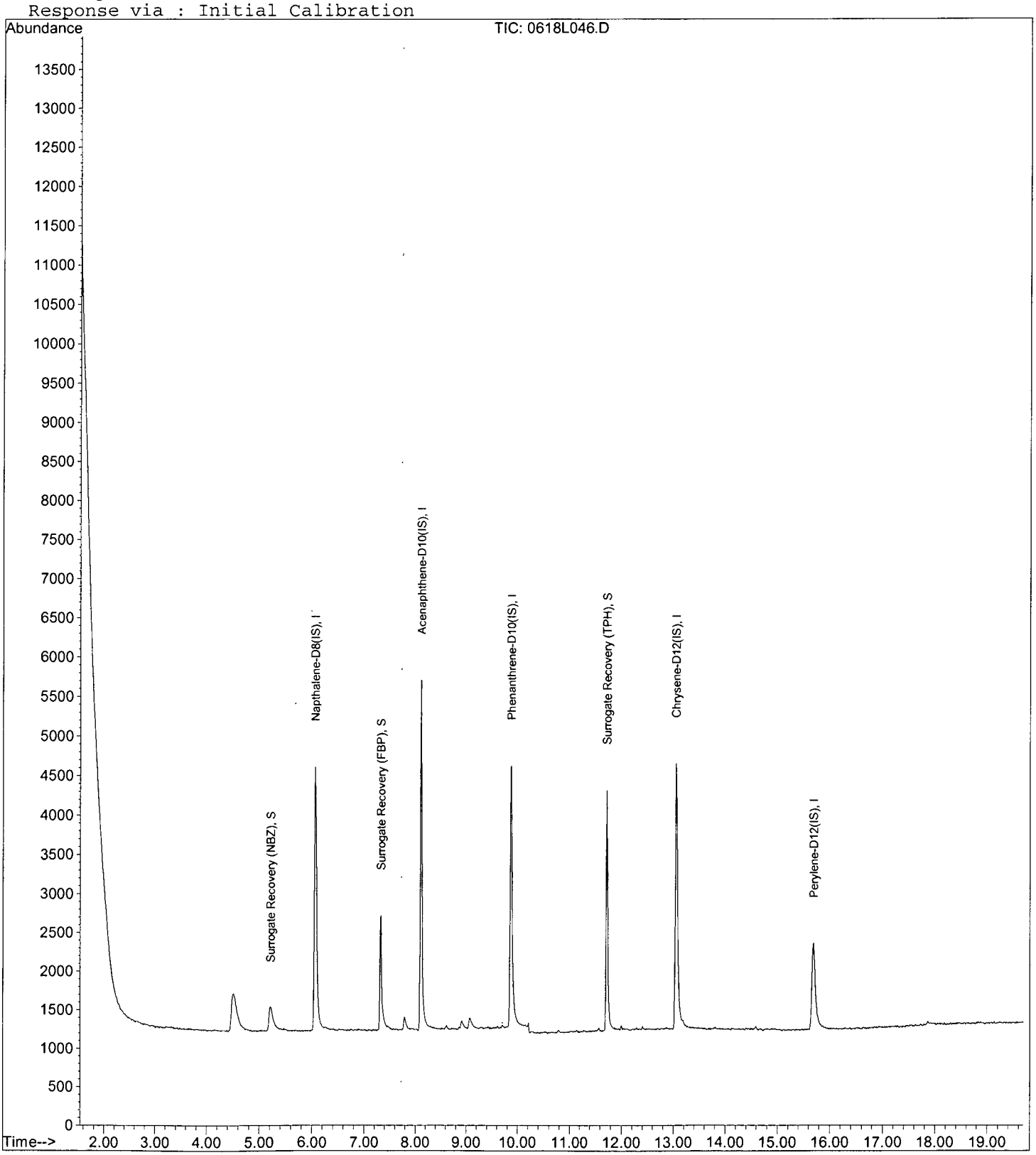
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L046.D Vial: 46
Acq On : 20 Jun 15 1:06 Operator: MA
Sample : AZ17694W17 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Jun 26 15:48 2015 Quant Results File: P0618.RES

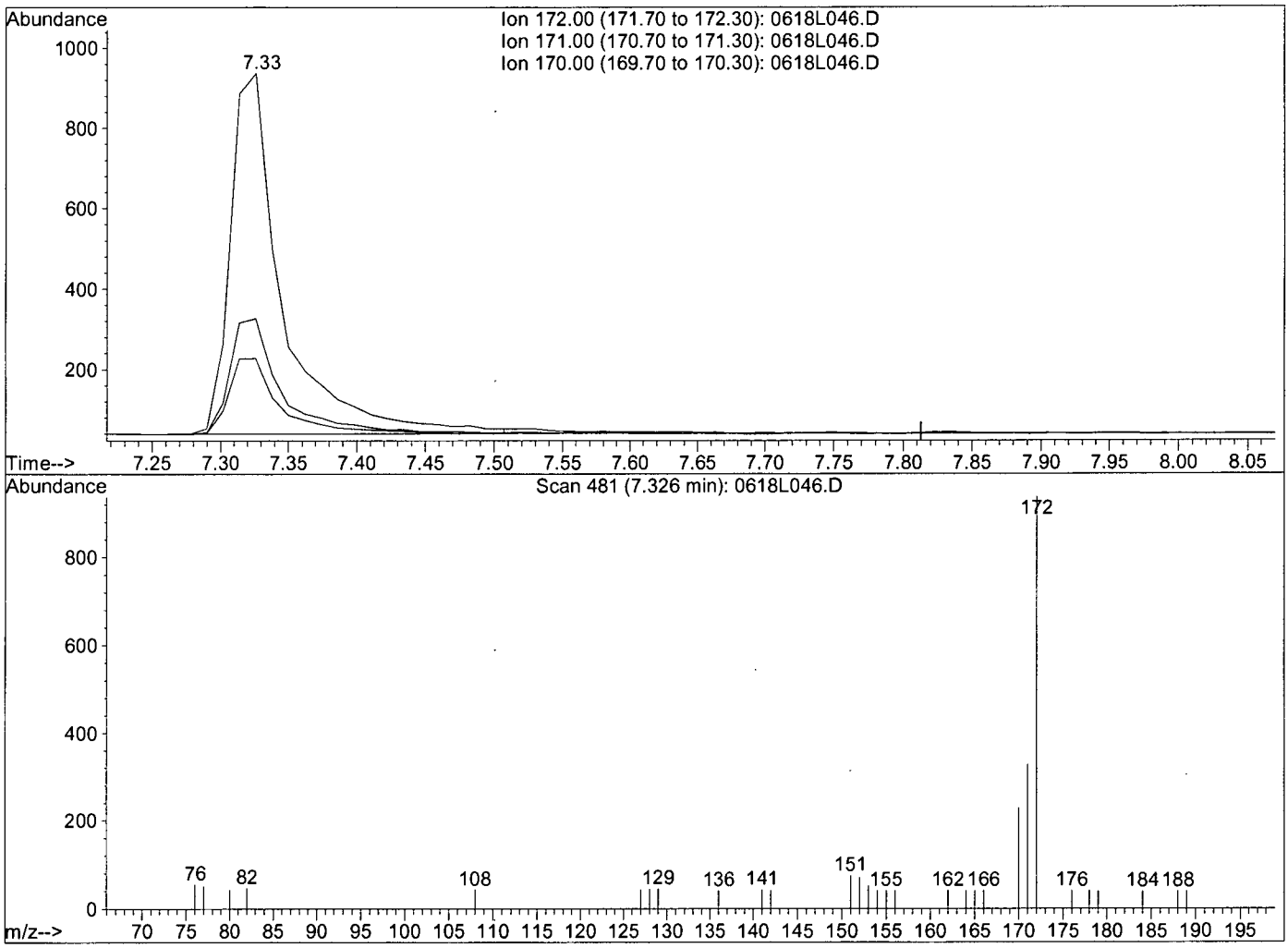
Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L046.D Vial: 46
Acq On : 20 Jun 15 1:06 Operator: MA
Sample : AZ17694W17 1/980 Inst : Linus
Misc : water Multiplr: 1.02
Quant Time: Jun 26 14:57 2015 Quant Results File: temp.res

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Multiple Level Calibration



TIC: 0618L046.D

(7) Surrogate Recovery (FBP) (S)

7.33min 1.2045ppb

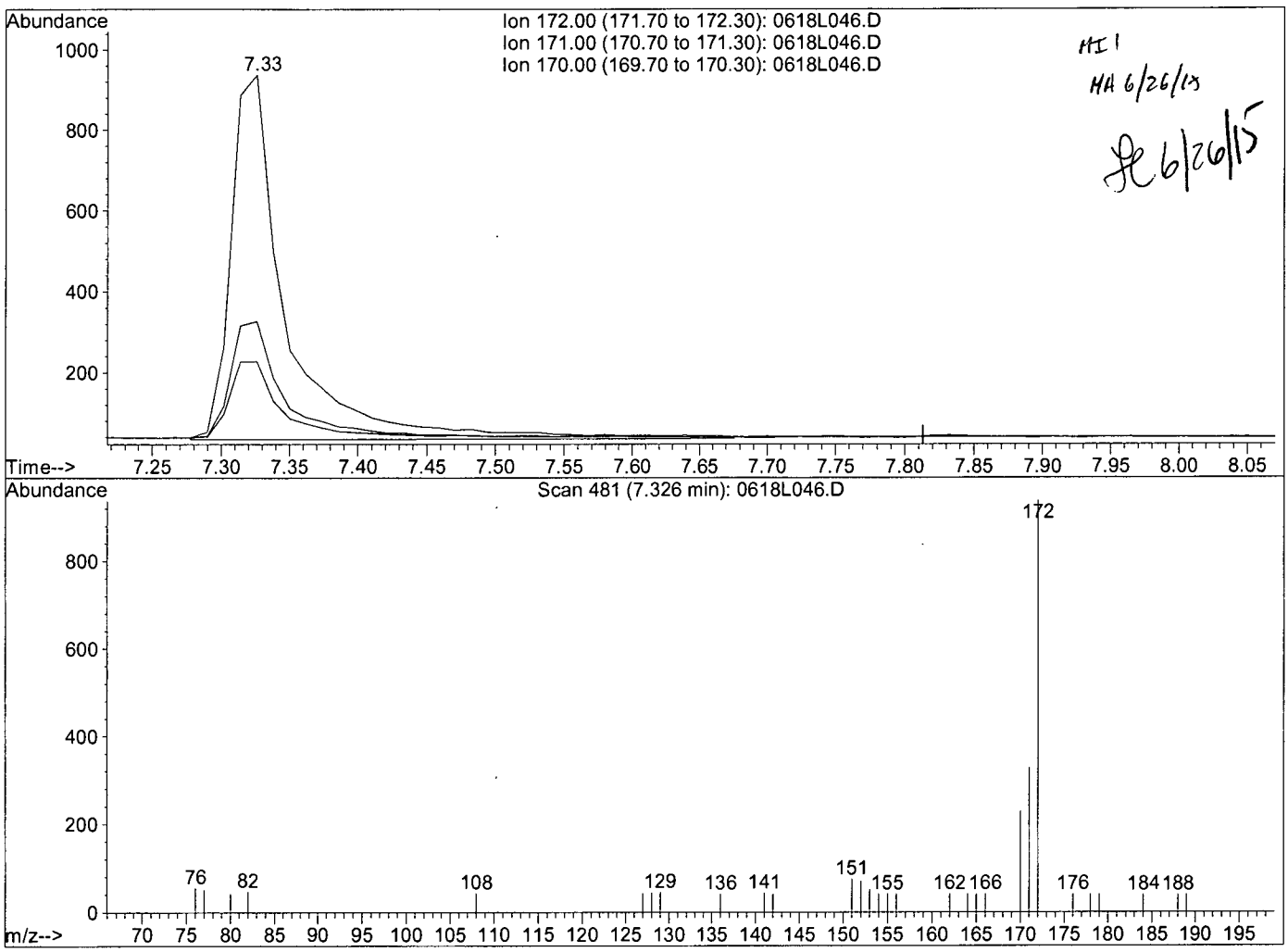
response 2402

Ion	Exp%	Act%
172.00	100	100
171.00	33.10	31.96
170.00	22.70	21.05
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L046.D Vial: 46
Acq On : 20 Jun 15 1:06 Operator: MA
Sample : AZ17694W17 1/980 Inst : Linus
Misc : water Multiplr: 1.02
Quant Time: Jun 26 15:48 2015 Quant Results File: temp.res

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Multiple Level Calibration



HI
MA 6/26/15
JC 6/26/15

TIC: 0618L046.D

(7) Surrogate Recovery (FBP) (S)

7.33min 1.2822ppb m

response 2557

Ion	Exp%	Act%
172.00	100	100
171.00	33.10	34.86
170.00	22.70	24.31
0.00	0.00	0.00

EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17695
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.051 J	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	58.0	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	77.4	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	84.8	50-135			%	06/17/15	06/20/15

J = Estimated value.

Quant Method: P0618.M
Run #: 0618L047
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/26/15 3:43:38 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L047.D Vial: 47
Acq On : 20 Jun 15 1:33 Operator: MA
Sample : AZ17695W05 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:58 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8700	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4308	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.86	188	7083	2.50000 ppb	0.00
15) Chrysene-D12(IS)	13.06	240	7309	2.50000 ppb	0.01
21) Perylene-D12(IS)	15.69	264	4316	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1314	1.93405 ppb	0.00
Spiked Amount 2.500			Recovery	= 77.360%	
7) Surrogate Recovery (FBP)	7.33	172	3057	1.44996 ppb	0.01
Spiked Amount 2.500			Recovery	= 58.000%	
17) Surrogate Recovery (TPH)	11.73	244	4822	2.12134 ppb	0.00
Spiked Amount 2.500			Recovery	= 84.840%	
Target Compounds					Qvalue
3) Naphthalene	6.08	128	196	0.05072 ppb	96

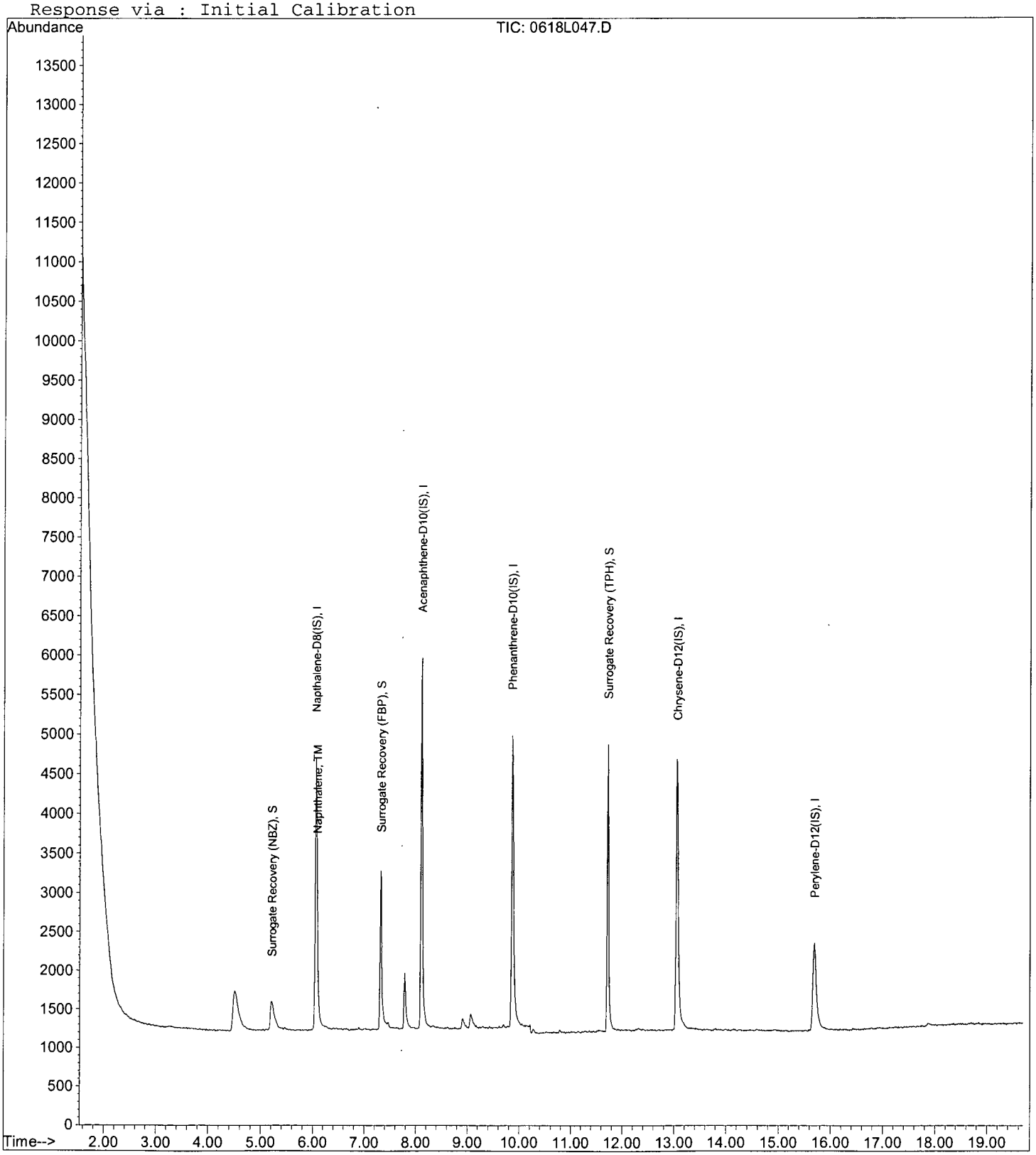
(#) = qualifier out of range (m) = manual integration

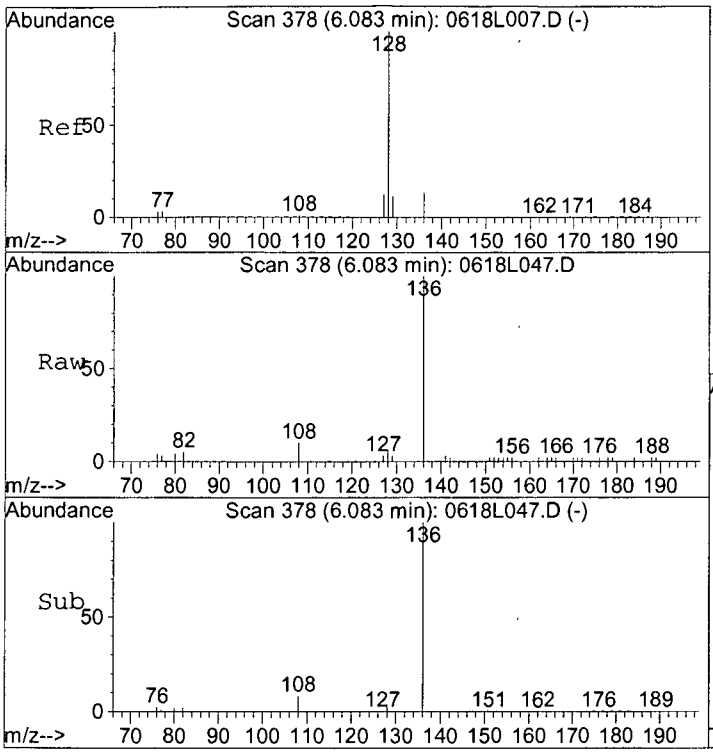
Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L047.D Vial: 47
Acq On : 20 Jun 15 1:33 Operator: MA
Sample : AZ17695W05 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:58 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration

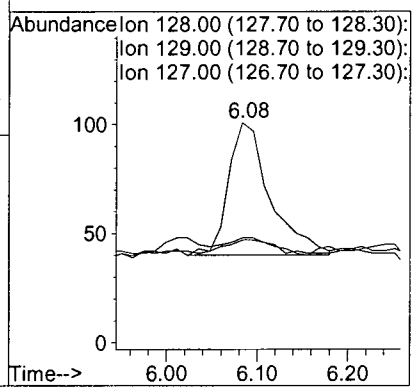




#3
Naphthalene
Concen: 0.05072 ppb
RT: 6.08 min Scan# 378
Delta R.T. 0.00 min
Lab File: 0618L047.D
Acq: 20 Jun 15 1:33

Tgt Ion:128 Resp: 196

Ion	Ratio	Lower	Upper
128	100		
129	8.2	7.4	13.8
127	11.5	8.4	15.6



EPA 8270D LL WATER DODv3

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17696
QCG: #SIMDD-150617A-198430

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-LL	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/20/15
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/20/15
8270D-LL	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/20/15
8270D-LL	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/20/15
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	65.6	50-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	75.9	40-110			%	06/17/15	06/20/15
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	80.8	50-135			%	06/17/15	06/20/15

Quant Method: P0618.M
Run #: 0618L048
Instrument: Linus
Sequence: L150618
Dilution Factor: 1
Initials: MA

Printed: 06/26/15 3:43:38 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L048.D Vial: 48
Acq On : 20 Jun 15 2:00 Operator: MA
Sample : AZ17696W07 1/1010 Inst : Linus
Misc : water Multiplr: 0.99

Quant Time: Jun 26 14:58 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	9008	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4390	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.86	188	7246	2.50000 ppb	0.00
15) Chrysene-D12(IS)	13.04	240	7501	2.50000 ppb	0.00
21) Perylene-D12(IS)	15.69	264	4414	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1320	1.87867 ppb	0.00
Spiked Amount 2.475			Recovery =	75.912%	
7) Surrogate Recovery (FBP)	7.31	172	3525	1.62446 ppb	0.00
Spiked Amount 2.475			Recovery =	65.610%	
17) Surrogate Recovery (TPH)	11.73	244	4715	2.00116 ppb	0.00
Spiked Amount 2.475			Recovery =	80.840%	

Target Compounds Qvalue

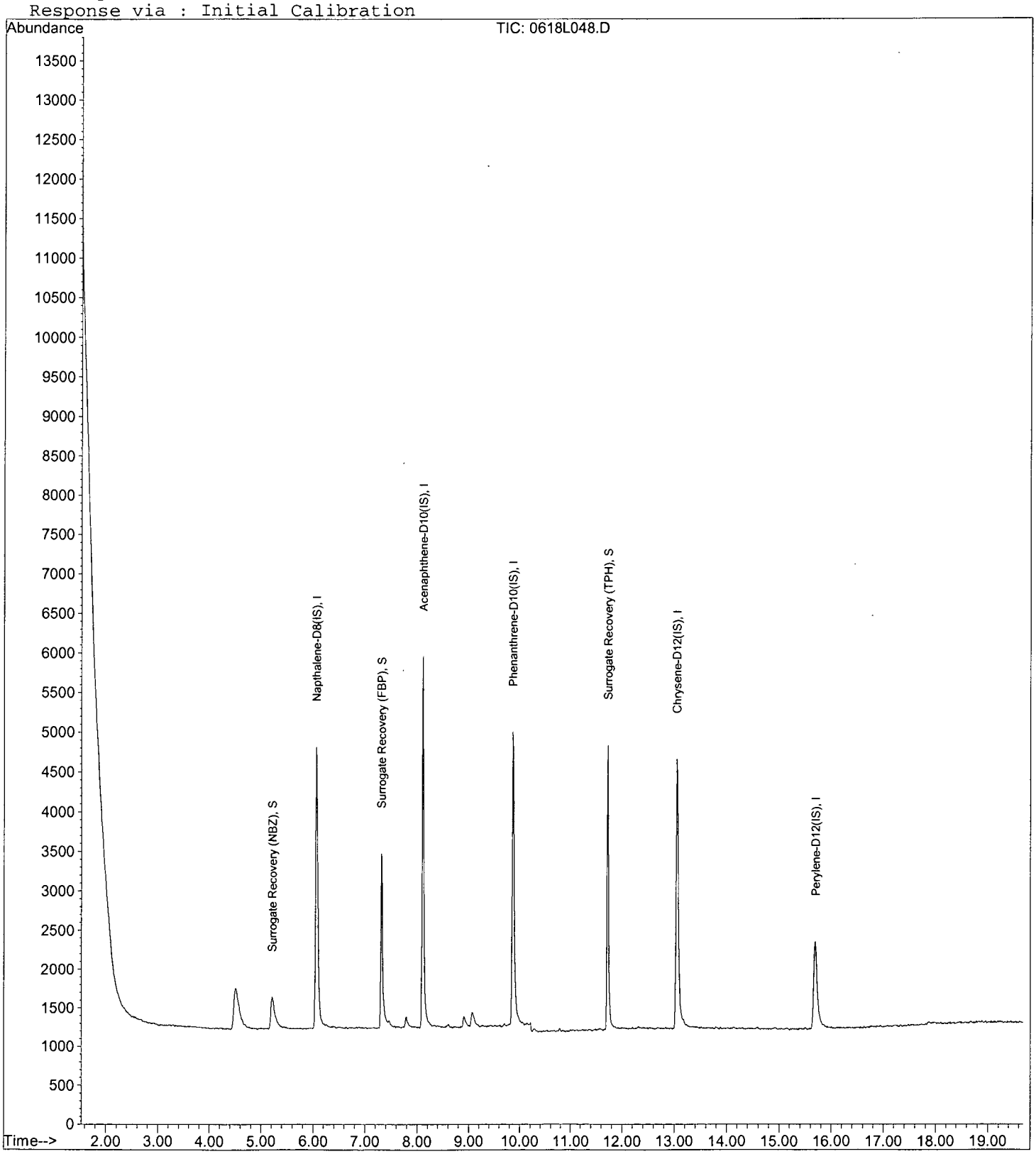
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L048.D Vial: 48
Acq On : 20 Jun 15 2:00 Operator: MA
Sample : AZ17696W07 1/1010 Inst : Linus
Misc : water Multiplr: 0.99

Quant Time: Jun 26 14:58 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 76657
Case No: Initial Cal. Date: 06/18/15
Matrix: Instrument: Linus
Initials: MA

			0618L003.D	0618L004.D	0618L011.D	0618L006.D	0618L007.D	0618L008.D	0618L009.D	0618L010.D						
		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)	0.2784	0.1843	0.1547	0.1841	0.2380	0.2492	0.2950	0.3075			0.24	24	SL	0.999
3	TM	Naphthalene	1.066	0.9571	0.9504	0.9827	1.339	1.169	1.198	1.222			1.1	13	TM	
4	TML	2-Methylnaphthalene	0.5316	0.5803	0.5213	0.5784	0.8507	0.7660	0.7917	0.8084			0.68	20	TML	1.000
5	TML	1-Methylnaphthalene	0.7256	0.6161	0.5651	0.6700	0.9388	0.7996	0.7957	0.8094			0.74	16	TML	1.000
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.209	1.092	1.136	1.115	1.411	1.378					1.2	11	S	
8	TM	Acenaphthylene	2.114	1.973	1.893	1.818	2.660	2.436	2.547	2.564			2.3	15	TM	
9	*TM	Acenaphthene	1.491	1.355	1.223	1.157	1.611	1.431	1.457	1.484			1.4	11	*TM	
10	TM	Fluorene	1.333	1.265	1.190	1.183	1.694	1.557	1.632	1.649			1.4	15	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.092	0.9844	1.089	0.9768	1.404	1.274	1.390	1.376			1.2	15	TM	
13	TM	Anthracene	1.287	1.113	1.018	1.026	1.380	1.268	1.288	1.309			1.2	11	TM	
14	*TM	Fluoranthene	1.485	1.399	1.310	1.274	1.751	1.589	1.743	1.742			1.5	13	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.477	1.280	1.279	1.294	1.755	1.574	1.590	1.540			1.5	12	TM	
17	S	Surrogate Recovery (TPH)	0.7575	0.6963	0.6949	0.6765	0.8512	0.8310	0.8620	0.8506			0.78	10	S	
18	TML	Benz (a) anthracene	1.172	0.9915	1.091	0.9532	1.530	1.379	1.373	1.503			1.2	18	TML	0.998
19	TM	Chrysene	1.481	1.330	1.340	1.323	1.449	1.314	1.344	1.198			1.3	6.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.261	1.203	1.450	1.133	1.662	1.502	1.585	1.573			1.4	14	TM	
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	1.837	1.454	1.669	1.480	2.002	1.899	2.234	2.257			1.9	17	TML	1.000
23	TML	Benzo (k) fluoranthene	1.065	1.124	0.9601	1.021	1.954	1.926	1.914	1.781			1.5	31	TML	0.999
24	*TM	Benzo (a) pyrene	1.782	1.537	1.622	1.432	2.028	1.867	1.969	1.928			1.8	12	*TM	
25	TM	Dibenz (a,h) anthracene	1.809	1.569	2.066	1.558	2.137	2.045	2.148	2.130			1.9	13	TM	
26	TM	Benzo (g,h,i) perylene	2.113	1.741	1.796	1.588	2.256	2.039	2.111	2.105			2.0	12	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L003.D Vial: 3
Acq On : 18 Jun 15 9:58 Operator: MA
Sample : 0.1ug/ml PAH 06/18/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 11:46 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 14:42:43 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8889	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4258	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.87	188	6936	2.50000 ppb		0.01
15) Chrysene-D12(IS)	13.04	240	7294	2.50000 ppb		0.00
21) Perylene-D12(IS)	15.68	264	4532	2.50000 ppb		0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.20	82	99	0.79578 ppb		-0.01
Spiked Amount 2.500			Recovery	= 31.840%		
7) Surrogate Recovery (FBP)	7.33	172	206	0.09392 ppb		0.01
Spiked Amount 2.500			Recovery	= 3.760%		
17) Surrogate Recovery (TPH)	11.74	244	221	0.09742 ppb		0.01
Spiked Amount 2.500			Recovery	= 3.880%		
Target Compounds						Qvalue
3) Naphthalene	6.08	128	379	0.09599 ppb		96
4) 2-Methylnaphthalene	6.89	142	189	0.25710 ppb		99
5) 1-Methylnaphthalene	7.01	142	258	0.09415 ppb		95
8) Acenaphthylene	7.94	152	360	0.09391 ppb		98
9) Acenaphthene	8.15	154	254	0.10643 ppb		90
10) Fluorene	8.77	166	227	0.09269 ppb		90
12) Phenanthrene	9.91	178	303	0.09114 ppb		96
13) Anthracene	9.97	178	357	0.10624 ppb		97
14) Fluoranthene	11.29	202	412	0.09664 ppb		95
16) Pyrene	11.56	202	431	0.10024 ppb		96
18) Benz (a) anthracene	13.03	228	342	0.54817 ppb		97
19) Chrysene	13.08	228	432	0.10989 ppb		97
20) Indeno (1,2,3-cd) pyrene	17.91	276	368	0.08874 ppb	#	92
22) Benzo (b) fluoranthene	14.89	252	333	0.53488 ppb		94
23) Benzo (k) fluoranthene	14.92	252	143	0.05373 ppb	#	70
24) Benzo (a) pyrene	15.45	252	323	0.10063 ppb	#	85
25) Dibenz (a,h) anthracene	17.96	278	328	0.09362 ppb	#	87
26) Benzo (g,h,i) perylene	18.45	276	383	0.10732 ppb		90

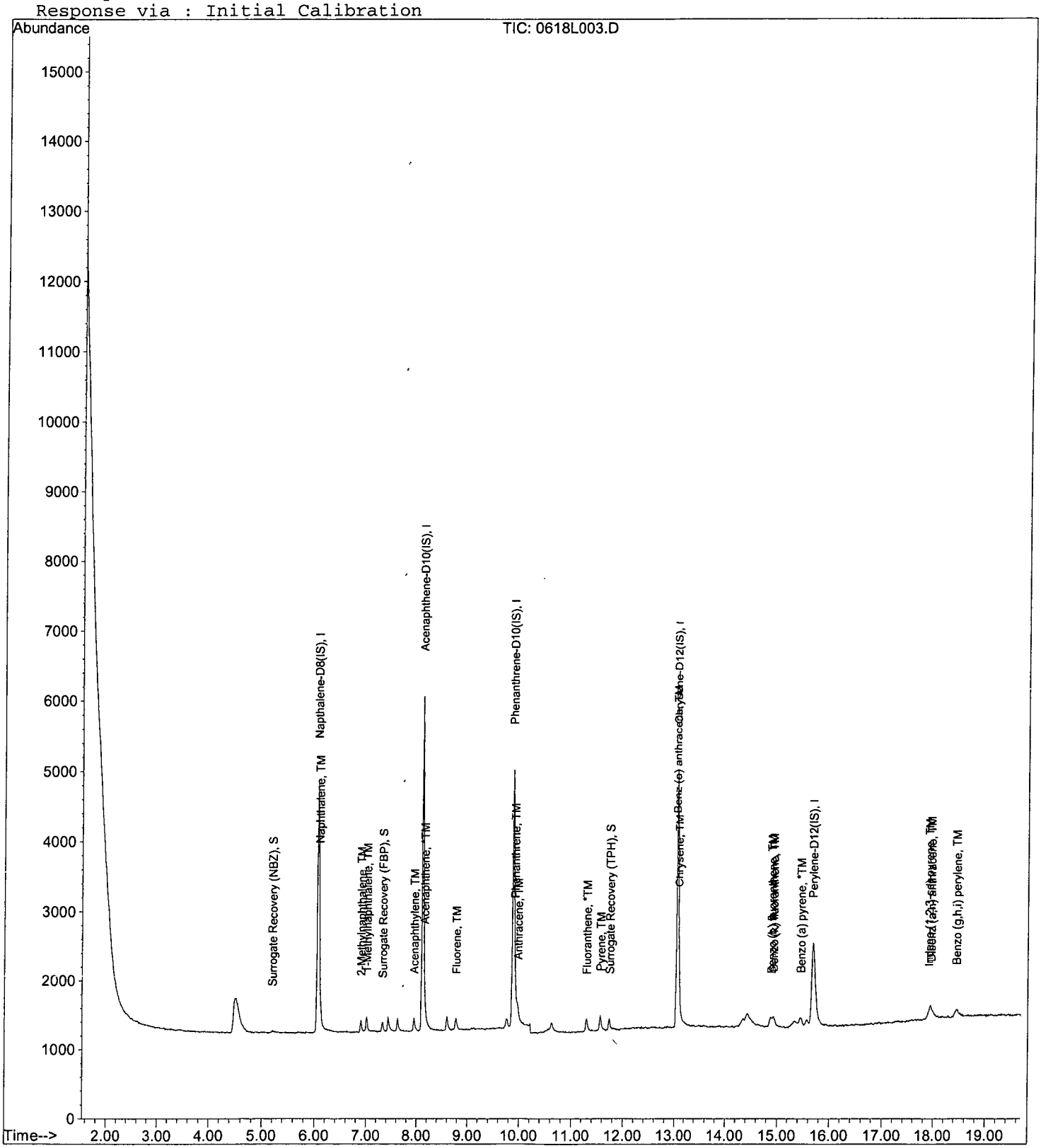
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L003.D Vial: 3
Acq On : 18 Jun 15 9:58 Operator: MA
Sample : 0.1ug/ml PAH 06/18/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 11:46 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L004.D Vial: 4
Acq On : 18 Jun 15 10:25 Operator: MA
Sample : 0.2ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 11:46 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 11:45:56 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	9090	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4270	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.87	188	6908	2.50000 ppb		0.01
15) Chrysene-D12(IS)	13.04	240	7199	2.50000 ppb		0.00
21) Perylene-D12(IS)	15.68	264	4358	2.50000 ppb		0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.21	82	67	0.76513 ppb		0.00
Spiked Amount 2.500			Recovery	= 30.600%		
7) Surrogate Recovery (FBP)	7.33	172	373	0.16958 ppb		0.01
Spiked Amount 2.500			Recovery	= 6.800%		
17) Surrogate Recovery (TPH)	11.74	244	401	0.17911 ppb		0.01
Spiked Amount 2.500			Recovery	= 7.160%		
Target Compounds						Qvalue
3) Naphthalene	6.08	128	696	0.17238 ppb		97
4) 2-Methylnaphthalene	6.89	142	422	0.33507 ppb		96
5) 1-Methylnaphthalene	7.01	142	448	0.15692 ppb		99
8) Acenaphthylene	7.94	152	674	0.17533 ppb		98
9) Acenaphthene	8.15	154	463	0.19346 ppb		97
10) Fluorene	8.77	166	432	0.17590 ppb		99
12) Phenanthrene	9.90	178	544	0.16430 ppb		98
13) Anthracene	9.97	178	615	0.18376 ppb		99
14) Fluoranthene	11.29	202	773	0.18206 ppb		98
16) Pyrene	11.56	202	737	0.17367 ppb		96
18) Benz (a) anthracene	13.03	228	571	0.60275 ppb		96
19) Chrysene	13.08	228	766	0.19742 ppb		97
20) Indeno (1,2,3-cd) pyrene	17.91	276	693	0.16932 ppb	#	98
22) Benzo (b) fluoranthene	14.88	252	507	0.58224 ppb		96
23) Benzo (k) fluoranthene	14.92	252	283	0.11058 ppb		97
24) Benzo (a) pyrene	15.45	252	536	0.17366 ppb		97
25) Dibenz (a,h) anthracene	17.96	278	547	0.16236 ppb		97
26) Benzo (g,h,i) perylene	18.45	276	607	0.17688 ppb		99

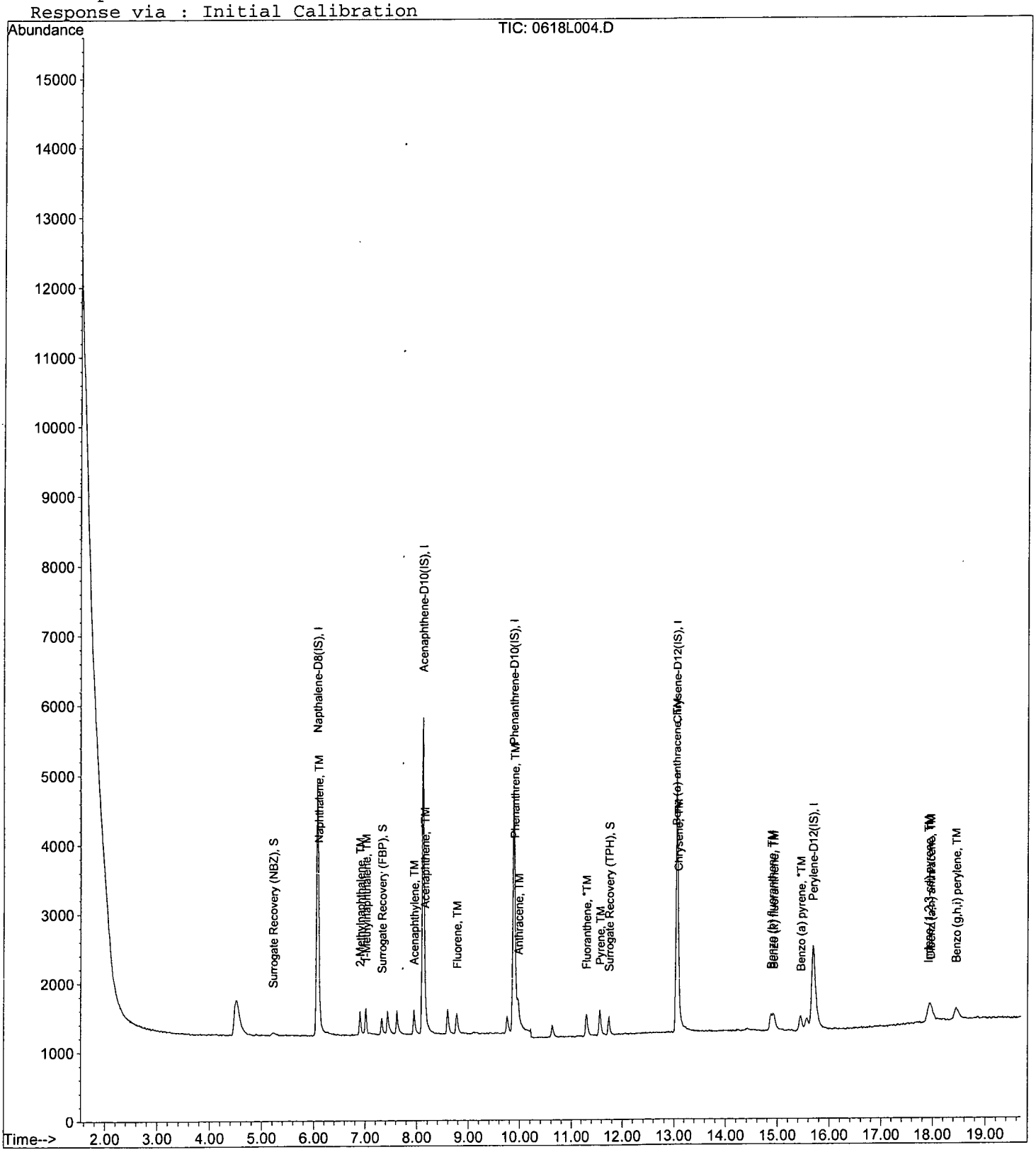
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L004.D Vial: 4
Acq On : 18 Jun 15 10:25 Operator: MA
Sample : 0.2ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 11:46 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L006.D Vial: 6
Acq On : 18 Jun 15 12:02 Operator: MA
Sample : 1.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:09 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 14:42:43 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8243	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4175	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.87	188	6803	2.50000 ppb		0.01
15) Chrysene-D12(IS)	13.06	240	6877	2.50000 ppb		0.01
21) Perylene-D12(IS)	15.68	264	4382	2.50000 ppb		0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.21	82	607	1.30432 ppb		0.00
Spiked Amount 2.500			Recovery = 52.160%			
7) Surrogate Recovery (FBP)	7.33	172	1862	0.86579 ppb		0.01
Spiked Amount 2.500			Recovery = 34.640%			
17) Surrogate Recovery (TPH)	11.74	244	1861	0.87014 ppb		0.01
Spiked Amount 2.500			Recovery = 34.800%			
Target Compounds						Qvalue
3) Naphthalene	6.08	128	3240	0.88491 ppb		99
4) 2-Methylnaphthalene	6.89	142	1907	0.90806 ppb		98
5) 1-Methylnaphthalene	7.01	142	2209	0.83450 ppb		98
8) Acenaphthylene	7.94	152	3036	0.80776 ppb		99
9) Acenaphthene	8.15	154	1932	0.82562 ppb		97
10) Fluorene	8.76	166	1975	0.82249 ppb		100
12) Phenanthrene	9.90	178	2658	0.81514 ppb		98
13) Anthracene	9.96	178	2793	0.84742 ppb		99
14) Fluoranthene	11.29	202	3466	0.82891 ppb		99
16) Pyrene	11.56	202	3559	0.87791 ppb		98
18) Benz (a) anthracene	13.03	228	2622	1.11104 ppb		98
19) Chrysene	13.08	228	3640	0.98206 ppb		99
20) Indeno (1,2,3-cd) pyrene	17.90	276	3118	0.79751 ppb	#	97
22) Benzo (b) fluoranthene	14.86	252	2595	1.10802 ppb		97
23) Benzo (k) fluoranthene	14.91	252	1501	0.19106 ppb	#	94
24) Benzo (a) pyrene	15.45	252	2510	0.80875 ppb		99
25) Dibenz (a,h) anthracene	17.94	278	2730	0.80587 ppb		99
26) Benzo (g,h,i) perylene	18.43	276	2783	0.80653 ppb		98

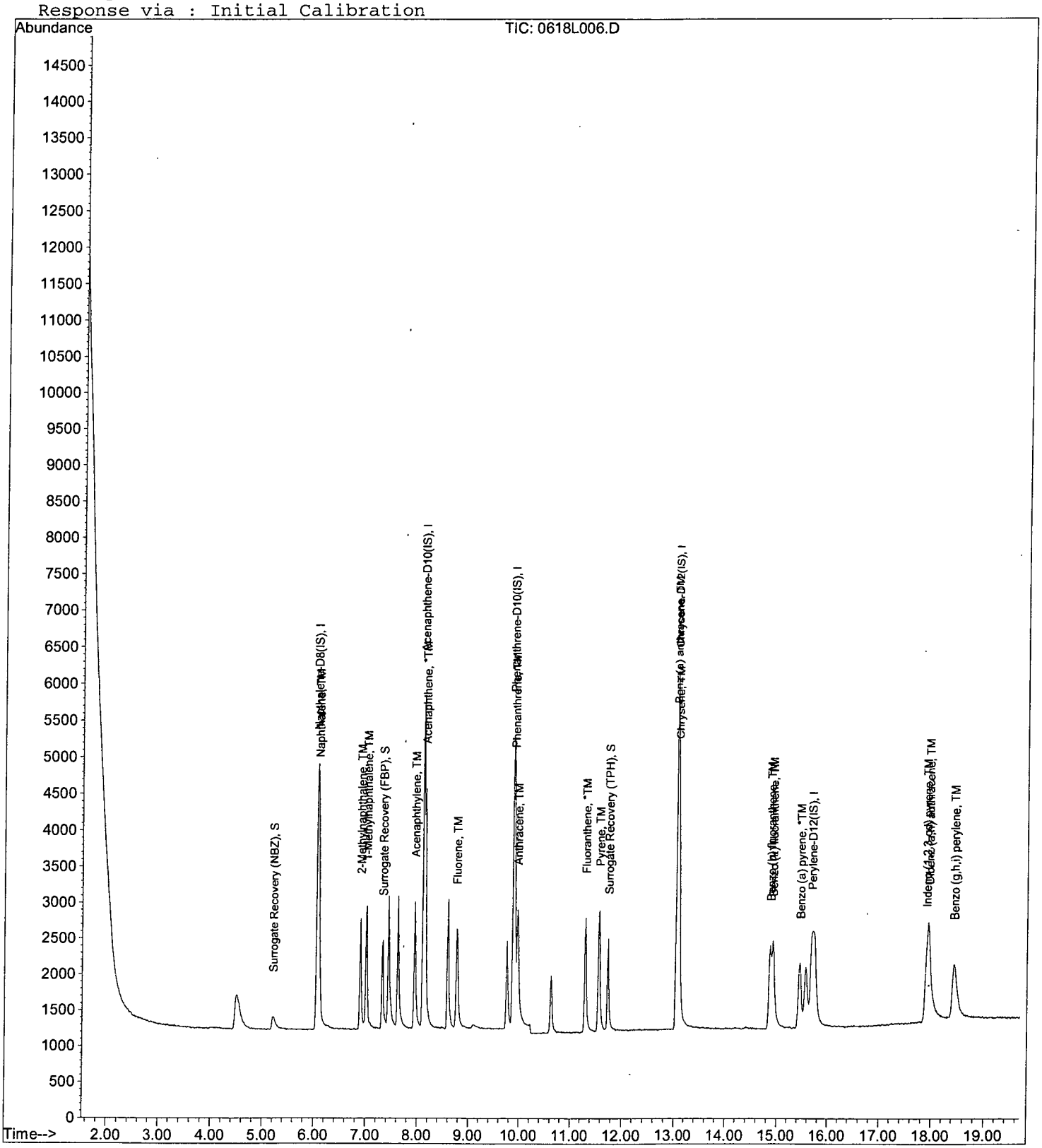
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L006.D Vial: 6
Acq On : 18 Jun 15 12:02 Operator: MA
Sample : 1.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:09 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L007.D Vial: 7
Acq On : 18 Jun 15 12:29 Operator: MA
Sample : 5.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:10 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 14:42:43 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	6308	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	3221	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.86	188	5364	2.50000 ppb	0.00
15) Chrysene-D12(IS)	13.04	240	5590	2.50000 ppb	0.00
21) Perylene-D12(IS)	15.67	264	3497	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	3002	4.57736 ppb	0.00
Spiked Amount 2.500			Recovery	= 183.080%	
7) Surrogate Recovery (FBP)	7.31	172	9087	5.47671 ppb	0.00
Spiked Amount 2.500			Recovery	= 219.080%	
17) Surrogate Recovery (TPH)	11.73	244	9516	5.47374 ppb	0.00
Spiked Amount 2.500			Recovery	= 218.960%	
Target Compounds					Qvalue
3) Naphthalene	6.08	128	16898	6.03094 ppb	100
4) 2-Methylnaphthalene	6.89	142	10732	5.46288 ppb	100
5) 1-Methylnaphthalene	7.01	142	11844	5.82146 ppb	100
8) Acenaphthylene	7.94	152	17133	5.90851 ppb	100
9) Acenaphthene	8.15	154	10375	5.74680 ppb	100
10) Fluorene	8.75	166	10912	5.89027 ppb	100
12) Phenanthrene	9.88	178	15063	5.85872 ppb	100
13) Anthracene	9.94	178	14802	5.69589 ppb	100
14) Fluoranthene	11.28	202	18787	5.69835 ppb	100
16) Pyrene	11.55	202	19620	5.95397 ppb	100
18) Benz (a) anthracene	13.02	228	17107	5.62067 ppb	100
19) Chrysene	13.08	228	16197	5.37600 ppb	100
20) Indeno (1,2,3-cd) pyrene	17.87	276	18577	5.84549 ppb	100
22) Benzo (b) fluoranthene	14.84	252	14004	4.87838 ppb	100
23) Benzo (k) fluoranthene	14.90	252	13665	5.13726 ppb	100
24) Benzo (a) pyrene	15.42	252	14183	5.72644 ppb	100
25) Dibenz (a,h) anthracene	17.92	278	14949	5.52955 ppb	100
26) Benzo (g,h,i) perylene	18.41	276	15779	5.73009 ppb	100

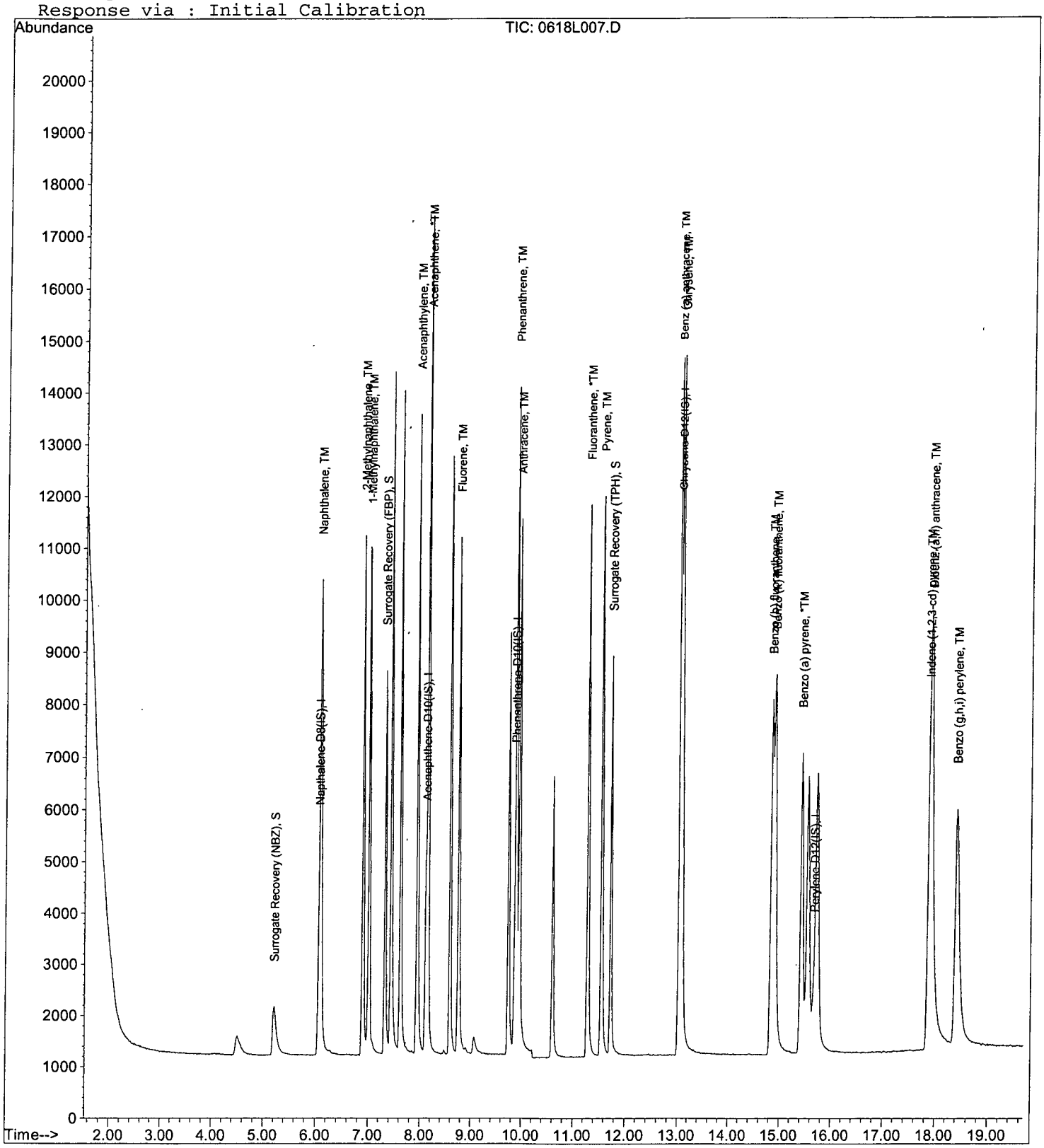
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L007.D Vial: 7
Acq On : 18 Jun 15 12:29 Operator: MA
Sample : 5.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:10 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L008.D Vial: 8
Acq On : 18 Jun 15 12:56 Operator: MA
Sample : 10ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 13:40 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 13:40:20 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	10074	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	5035	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.85	188	8492	2.50000 ppb		-0.01
15) Chrysene-D12(IS)	13.03	240	8926	2.50000 ppb		-0.01
21) Perylene-D12(IS)	15.66	264	5532	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.20	82	10041	7.95330 ppb		-0.01
Spiked Amount 2.500			Recovery = 318.120%			
7) Surrogate Recovery (FBP)	7.31	172	27754	8.57948 ppb		0.00
Spiked Amount 2.500			Recovery = 343.160%			
17) Surrogate Recovery (TPH)	11.71	244	29671	10.53480 ppb		-0.01
Spiked Amount 2.500			Recovery = 421.400%			
Target Compounds						Qvalue
3) Naphthalene	6.08	128	47088	11.52313 ppb		100
4) 2-Methylnaphthalene	6.89	142	30868	10.37249 ppb		98
5) 1-Methylnaphthalene	7.00	142	32221	12.21476 ppb		98
8) Acenaphthylene	7.94	152	49069	9.63904 ppb		99
9) Acenaphthene	8.15	154	28825	11.07399 ppb		100
10) Fluorene	8.75	166	31365	9.58317 ppb		99
12) Phenanthrene	9.88	178	43290	9.43403 ppb		100
13) Anthracene	9.94	178	43072	9.88012 ppb		99
14) Fluoranthene	11.27	202	53979	9.75221 ppb		96
16) Pyrene	11.54	202	56214	10.87976 ppb		96
18) Benz (a) anthracene	13.02	228	49221	10.39694 ppb		99
19) Chrysene	13.07	228	46921	10.87230 ppb		100
20) Indeno (1,2,3-cd) pyrene	17.86	276	53612	10.76744 ppb	#	100
22) Benzo (b) fluoranthene	14.83	252	42022	9.70679 ppb		99
23) Benzo (k) fluoranthene	14.89	252	42613	10.49300 ppb		99
24) Benzo (a) pyrene	15.41	252	41310	9.88622 ppb		99
25) Dibenz (a,h) anthracene	17.91	278	45245	10.98155 ppb		98
26) Benzo (g,h,i) perylene	18.40	276	45124	10.83172 ppb		97

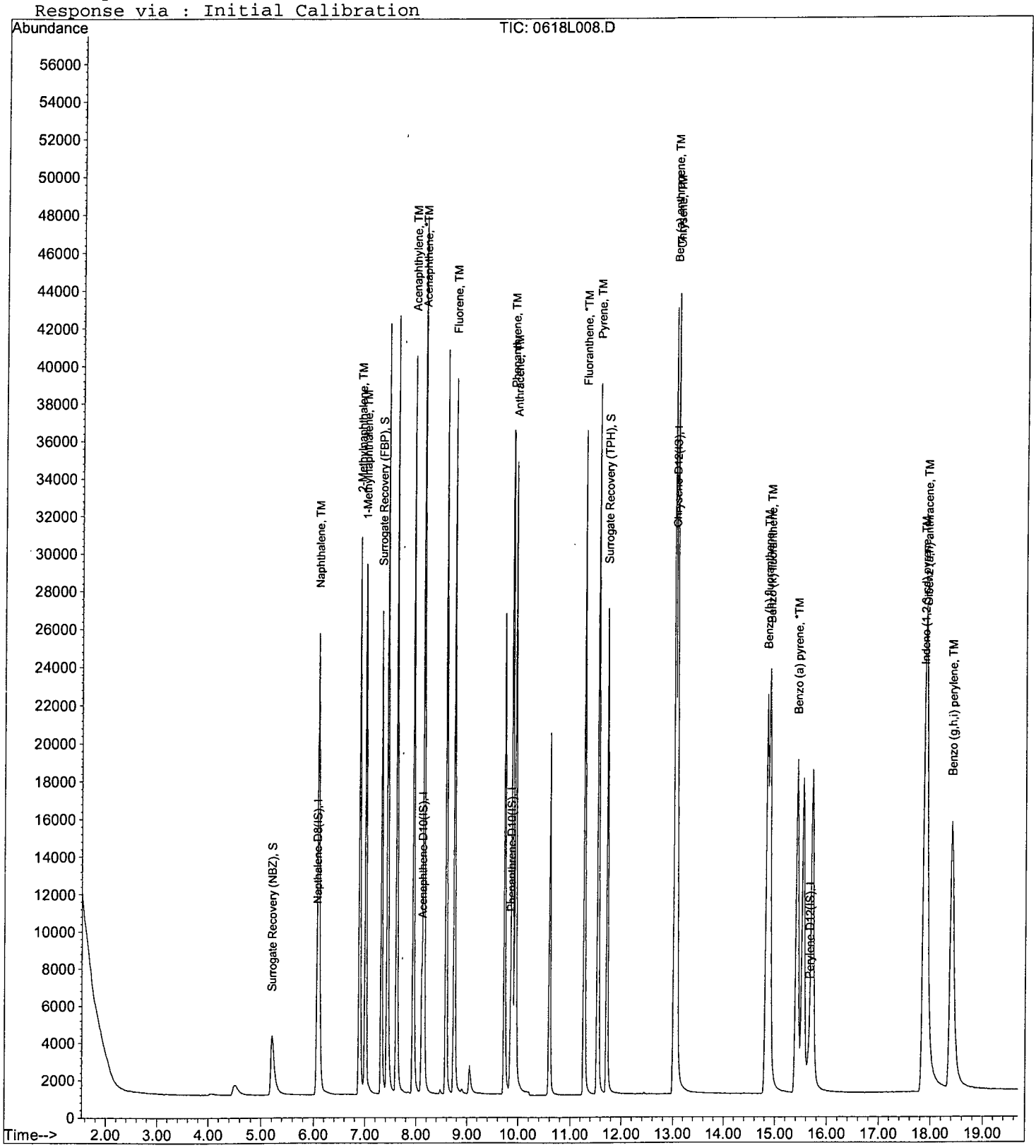
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L008.D Vial: 8
Acq On : 18 Jun 15 12:56 Operator: MA
Sample : 10ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 13:40 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L009.D Vial: 9
Acq On : 18 Jun 15 13:23 Operator: MA
Sample : 50ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:07 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 13:40:20 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	9296	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4540	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.85	188	7520	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	13.02	240	8480	2.50000 ppb	-0.02
21) Perylene-D12(IS)	15.65	264	5240	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.20	82	54840	45.86815 ppb	-0.01
Spiked Amount 2.500			Recovery	= 1834.720%	
7) Surrogate Recovery (FBP)	7.31	172	133424	46.15912 ppb	0.00
Spiked Amount 2.500			Recovery	= 1846.360%	
17) Surrogate Recovery (TPH)	11.71	244	146194	56.20002 ppb	-0.01
Spiked Amount 2.500			Recovery	= 2248.000%	
Target Compounds					Qvalue
3) Naphthalene	6.08	128	222645	54.71358 ppb	99
4) 2-Methylnaphthalene	6.89	142	147202	54.31884 ppb	99
5) 1-Methylnaphthalene	7.01	142	147939	54.82654 ppb	98
8) Acenaphthylene	7.94	152	231249	49.68969 ppb	100
9) Acenaphthene	8.15	154	132311	52.31711 ppb	99
10) Fluorene	8.75	166	148226	50.42326 ppb	98
12) Phenanthrene	9.87	178	209048	52.13793 ppb	99
13) Anthracene	9.93	178	193732	50.58216 ppb	99
14) Fluoranthene	11.27	202	262139	54.58991 ppb	96
16) Pyrene	11.54	202	269707	54.27862 ppb	97
18) Benz (a) anthracene	13.01	228	232789	52.44829 ppb	100
19) Chrysene	13.07	228	228017	51.43671 ppb	98
20) Indeno (1,2,3-cd) pyrene	17.85	276	268896	56.80178 ppb	100
22) Benzo (b) fluoranthene	14.83	252	234116	58.39099 ppb	98
23) Benzo (k) fluoranthene	14.88	252	200611	51.79873 ppb	97
24) Benzo (a) pyrene	15.41	252	206375	52.91833 ppb	98
25) Dibenz (a,h) anthracene	17.90	278	225130	58.04948 ppb	96
26) Benzo (g,h,i) perylene	18.39	276	221269	56.93608 ppb	98

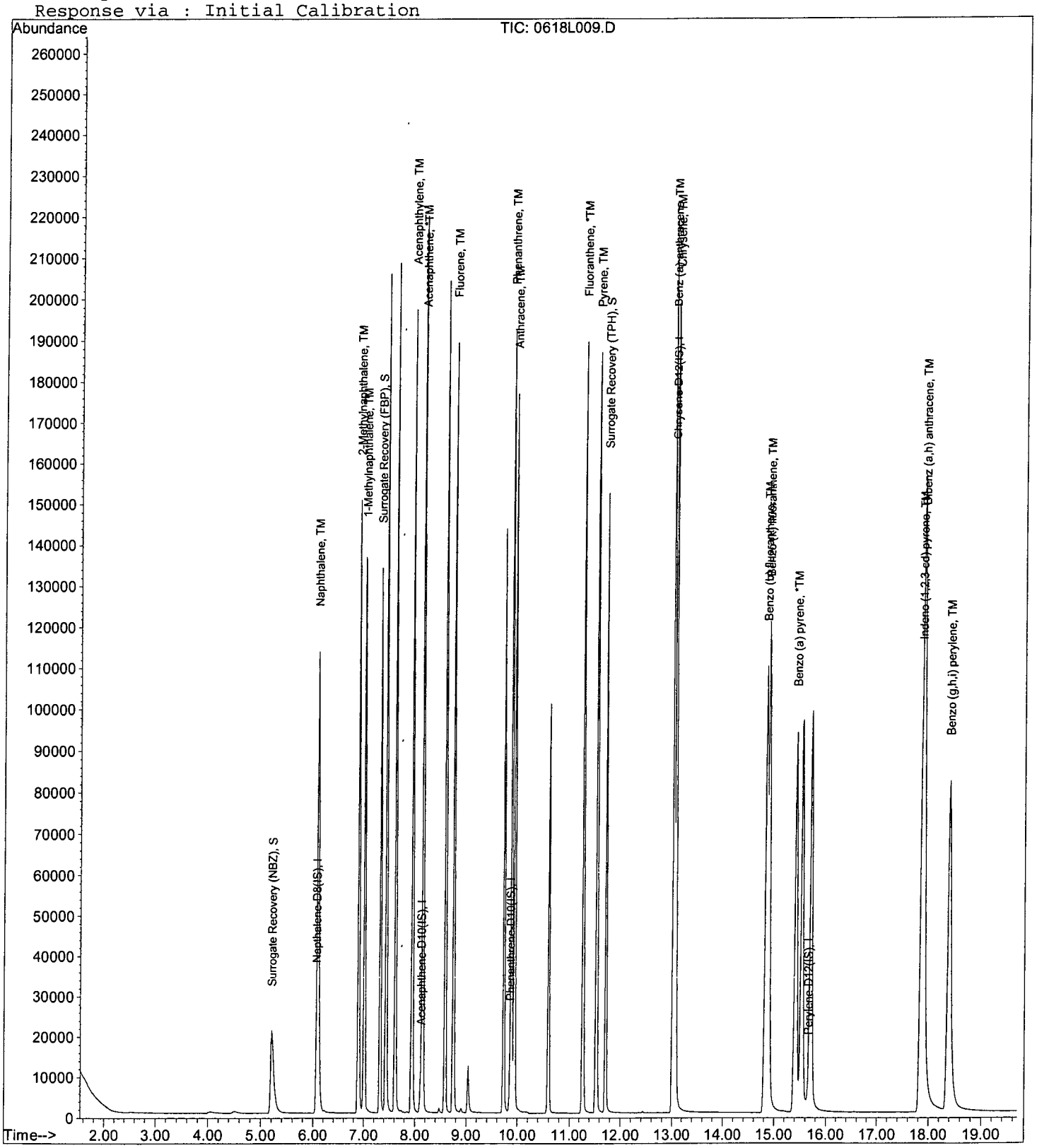
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L009.D Vial: 9
Acq On : 18 Jun 15 13:23 Operator: MA
Sample : 50ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:07 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L010.D Vial: 10
Acq On : 18 Jun 15 13:50 Operator: MA
Sample : 100ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:25 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 13:40:20 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8748	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4314	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.85	188	7287	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	13.03	240	8394	2.50000 ppb	-0.01
21) Perylene-D12(IS)	15.65	264	5192	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.20	82	107596	97.63343 ppb	-0.01
Spiked Amount 2.500			Recovery	= 3905.320%	
7) Surrogate Recovery (FBP)	7.31	172	257461	95.89279 ppb	0.00
Spiked Amount 2.500			Recovery	= 3835.720%	
17) Surrogate Recovery (TPH)	11.71	244	285606	110.98855 ppb	-0.01
Spiked Amount 2.500			Recovery	= 4439.560%	
Target Compounds					Qvalue
3) Naphthalene	6.08	128	427617	111.36953 ppb	99
4) 2-Methylnaphthalene	6.89	142	282860	110.62517 ppb	99
5) 1-Methylnaphthalene	7.01	142	283235	110.64197 ppb	99
8) Acenaphthylene	7.94	152	442497	100.38193 ppb	100
9) Acenaphthene	8.15	154	256130	106.99073 ppb	99
10) Fluorene	8.75	166	284512	102.35508 ppb	99
12) Phenanthrene	9.88	178	400967	103.49008 ppb	99
13) Anthracene	9.94	178	381601	103.53525 ppb	99
14) Fluoranthene	11.27	202	507732	109.06303 ppb	98
16) Pyrene	11.54	202	517233	105.18496 ppb	99
18) Benz (a) anthracene	13.01	228	504548	115.23289 ppb	99
19) Chrysene	13.07	228	402145	90.49161 ppb	99
20) Indeno (1,2,3-cd) pyrene	17.86	276	528221	110.57650 ppb	100
22) Benzo (b) fluoranthene	14.84	252	468748	117.97776 ppb	99
23) Benzo (k) fluoranthene	14.90	252	369855	94.47423 ppb	99
24) Benzo (a) pyrene	15.42	252	400427	103.48899 ppb	97
25) Dibenz (a,h) anthracene	17.91	278	442284	112.93570 ppb	97
26) Benzo (g,h,i) perylene	18.40	276	437192	111.93600 ppb	100

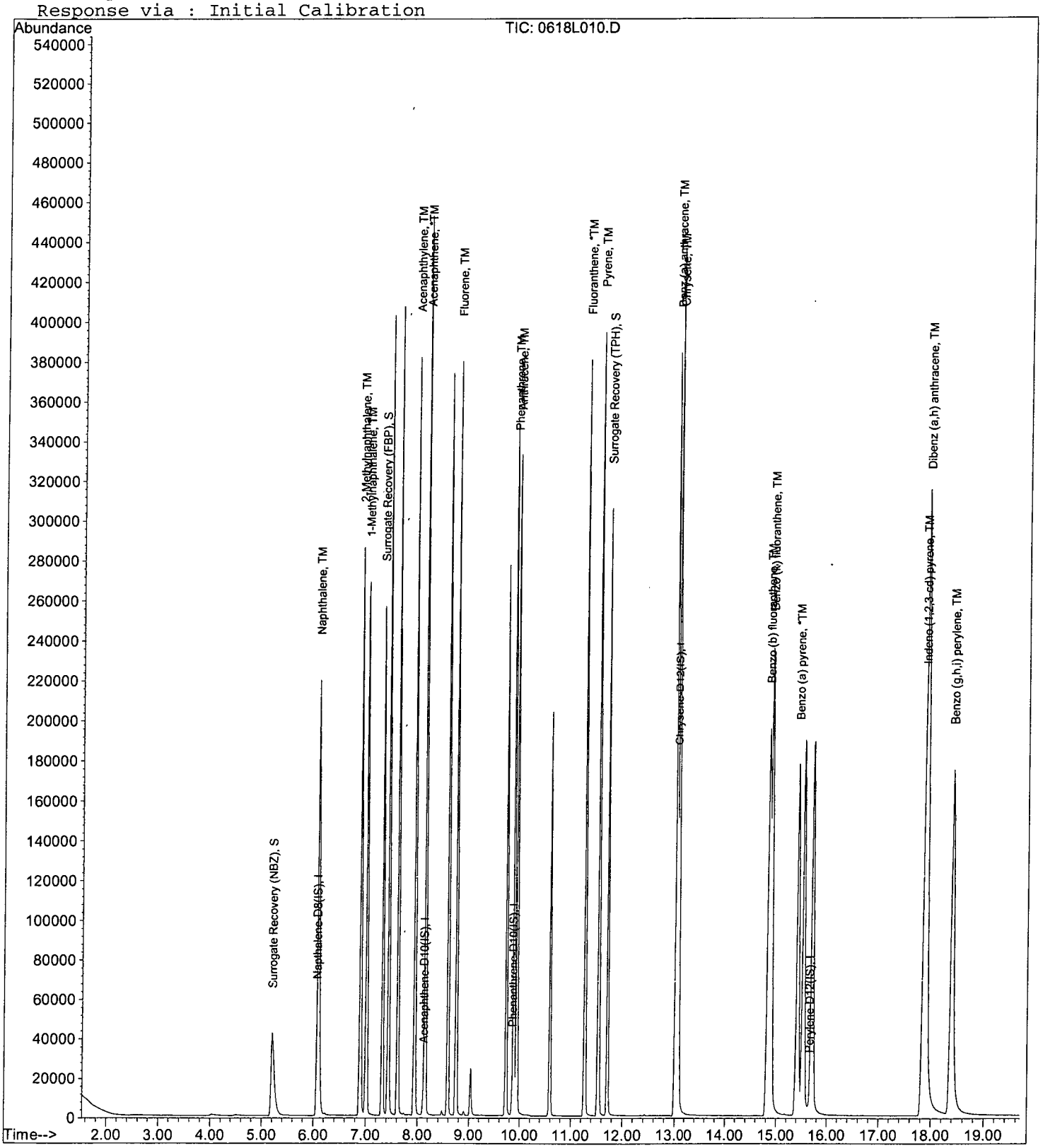
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L010.D Vial: 10
Acq On : 18 Jun 15 13:50 Operator: MA
Sample : 100ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:25 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L011.D Vial: 11
Acq On : 18 Jun 15 14:17 Operator: MA
Sample : 0.5ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:38 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Jun 18 13:40:20 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8565	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4133	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.87	188	6736	2.50000 ppb		0.01
15) Chrysene-D12(IS)	13.06	240	7181	2.50000 ppb		0.01
21) Perylene-D12(IS)	15.68	264	4458	2.50000 ppb		0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.23	82	265	0.94533 ppb		0.01
Spiked Amount 2.500			Recovery = 37.800%			
7) Surrogate Recovery (FBP)	7.33	172	939	0.66070 ppb		0.01
Spiked Amount 2.500			Recovery = 26.440%			
17) Surrogate Recovery (TPH)	11.75	244	998	0.45220 ppb		0.02
Spiked Amount 2.500			Recovery = 18.080%			
Target Compounds						Qvalue
3) Naphthalene	6.08	128	1628	0.42775 ppb		99
4) 2-Methylnaphthalene	6.89	142	893	0.50601 ppb		98
5) 1-Methylnaphthalene	7.01	142	968	0.37883 ppb		99
8) Acenaphthylene	7.94	152	1565	0.51786 ppb		99
9) Acenaphthene	8.15	154	1011	0.44018 ppb		93
10) Fluorene	8.77	166	984	0.53503 ppb		89
12) Phenanthrene	9.91	178	1467	0.53878 ppb		98
13) Anthracene	9.97	178	1372	0.49711 ppb		97
14) Fluoranthene	11.31	202	1765	0.51409 ppb		97
16) Pyrene	11.56	202	1837	0.43625 ppb		93
18) Benz (a) anthracene	13.04	228	1567	0.87053 ppb		98
19) Chrysene	13.09	228	1925	0.50507 ppb		98
20) Indeno (1,2,3-cd) pyrene	17.91	276	2083	0.48552 ppb	#	95
22) Benzo (b) fluoranthene	14.88	252	1488	0.75943 ppb		98
24) Benzo (a) pyrene	15.45	252	1446	0.46786 ppb		98
25) Dibenz (a,h) anthracene	17.96	278	1842	0.59550 ppb		96
26) Benzo (g,h,i) perylene	18.46	276	1601	0.47206 ppb		96

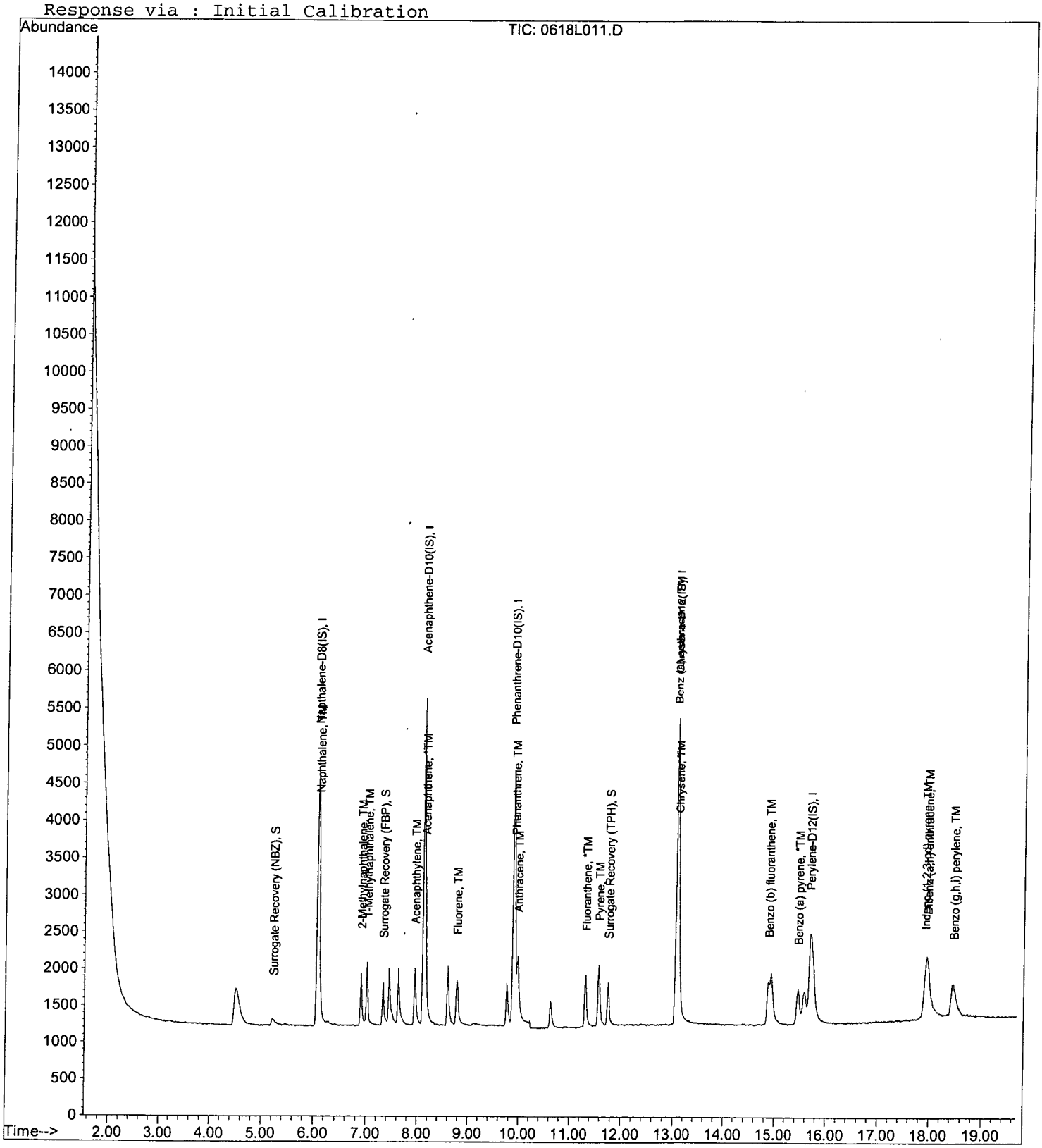
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L011.D Vial: 11
Acq On : 18 Jun 15 14:17 Operator: MA
Sample : 0.5ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 18 14:38 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 76657
Date Analyzed: 06/18/15
Instrument: Linus
Initial Cal. Date: 06/18/15
Data File: 0618L012.D

		Compound	MEAN	CCRF	%D		%Drift	
1	SL	Surrogate Recovery (NBZ)	0.2364	0.0006	100	SL	86	*
2	TM	Naphthalene	1.110	1.243	12	TM		
3	TML	2-Methylnaphthalene	0.6785	0.7779	15	TML	0.24	
4	TML	1-Methylnaphthalene	0.7400	0.8474	15	TML	5.1	
5	S	Surrogate Recovery (FBP)	1.224	0.0002	100	S		*
6	TM	Acenaphthylene	2.251	2.410	7.1	TM		
7	*TM	Acenaphthene	1.401	1.477	5.4	*TM		
8	TM	Fluorene	1.438	1.543	7.3	TM		
9	TM	Phenanthrene	1.198	1.245	3.9	TM		
10	TM	Anthracene	1.211	1.225	1.1	TM		
11	*TM	Fluoranthene	1.537	1.583	3.0	*TM		
12	TM	Pyrene	1.474	1.573	6.7	TM		
13	S	Surrogate Recovery (TPH)	0.7775	0.0009	100	S		*
14	TML	Benz (a) anthracene	1.249	1.401	12	TML	3.7	
15	TM	Chrysene	1.347	1.322	1.9	TM		
16	TM	Indeno (1,2,3-cd) pyrene	1.421	1.474	3.7	TM		
17	TML	Benzo (b) fluoranthene	1.854	1.829	1.4	TML	10	
18	TML	Benzo (k) fluoranthene	1.468	1.589	8.2	TML	18	
19	*TM	Benzo (a) pyrene	1.771	2.059	16	*TM		
20	TM	Dibenz (a,h) anthracene	1.933	2.024	4.7	TM		
21	TM	Benzo (g,h,i) perylene	1.969	2.002	1.7	TM		
22								
23								
24								
25								
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28								
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31								
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33								
34								
35								
36								
37								
38								
39								
40								
		Average			20.3			

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L012.D Vial: 12
Acq On : 18 Jun 15 14:44 Operator: MA
Sample : 5.0ug/ml PAH SS 06/18/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:22 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	7928	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4155	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.86	188	6936	2.50000 ppb		0.00
15) Chrysene-D12(IS)	13.04	240	7246	2.50000 ppb		0.00
21) Perylene-D12(IS)	15.66	264	4418	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.19	82	9	0.71439 ppb		-0.02
Spiked Amount 2.500			Recovery = 28.560%			
7) Surrogate Recovery (FBP)	7.31	172	2	0.00098 ppb		0.00
Spiked Amount 2.500			Recovery = 0.040%			
17) Surrogate Recovery (TPH)	11.74	244	13	0.00577 ppb		0.01
Spiked Amount 2.500			Recovery = 0.240%			
Target Compounds						Qvalue
3) Naphthalene	6.08	128	19704	5.59542 ppb		100
4) 2-Methylnaphthalene	6.89	142	12335	5.01218 ppb		100
5) 1-Methylnaphthalene	7.01	142	13437	5.25531 ppb		100
8) Acenaphthylene	7.94	152	20026	5.35375 ppb		100
9) Acenaphthene	8.15	154	12274	5.27040 ppb		99
10) Fluorene	8.76	166	12826	5.36713 ppb		99
12) Phenanthrene	9.88	178	17273	5.19563 ppb		99
13) Anthracene	9.96	178	16993	5.05698 ppb		99
14) Fluoranthene	11.28	202	21953	5.14951 ppb		99
16) Pyrene	11.55	202	22790	5.33538 ppb		98
18) Benz (a) anthracene	13.02	228	20297	5.18443 ppb		100
19) Chrysene	13.08	228	19160	4.90607 ppb		99
20) Indeno (1,2,3-cd) pyrene	17.89	276	21366	5.18659 ppb	#	97
22) Benzo (b) fluoranthene	14.84	252	16161	4.49544 ppb		99
23) Benzo (k) fluoranthene	14.90	252	14037	4.12390 ppb		98
24) Benzo (a) pyrene	15.42	252	18195	5.81485 ppb		99
25) Dibenz (a,h) anthracene	17.92	278	17884	5.23615 ppb		99
26) Benzo (g,h,i) perylene	18.42	276	17692	5.08545 ppb		97

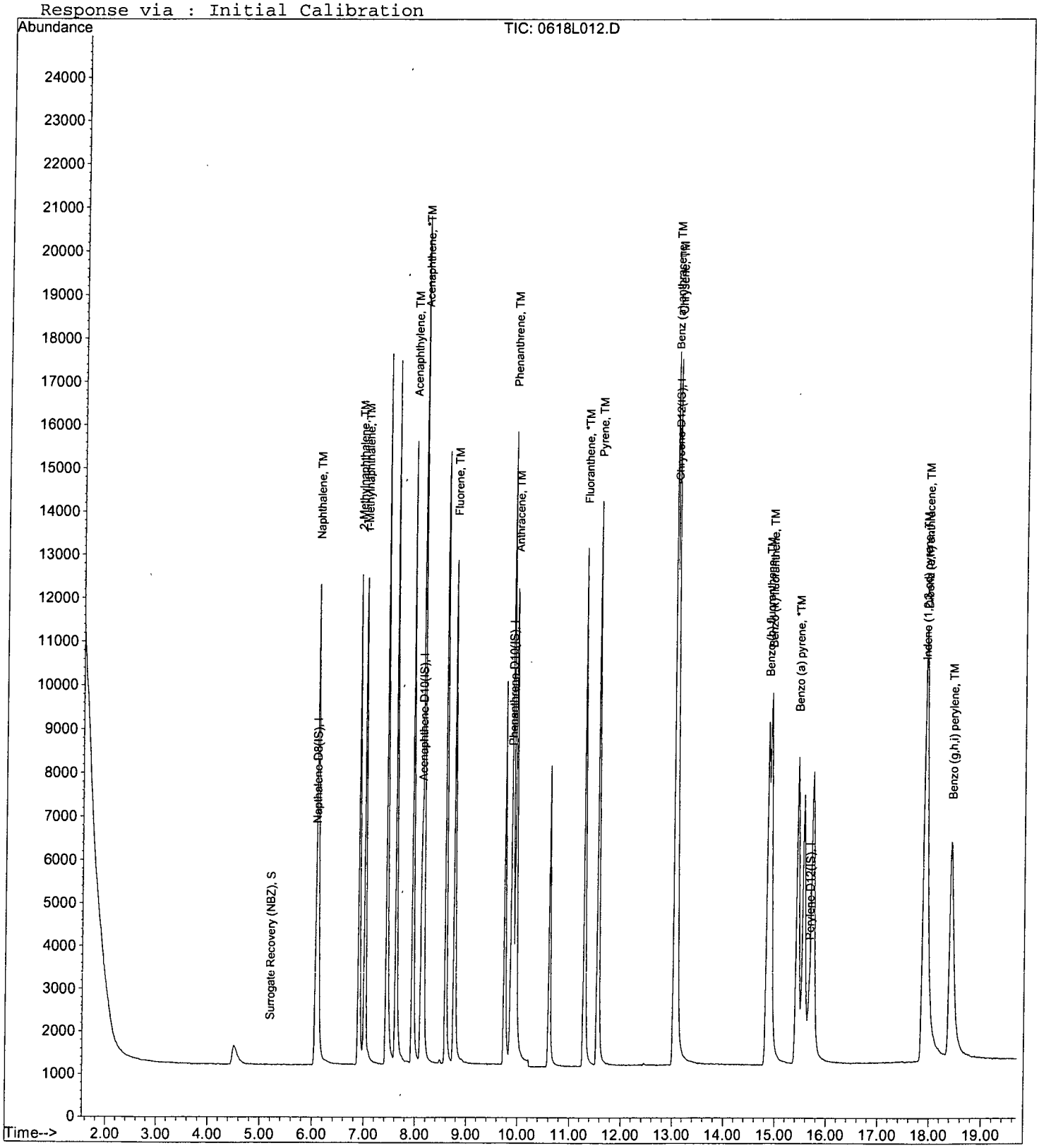
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L012.D Vial: 12
Acq On : 18 Jun 15 14:44 Operator: MA
Sample : 5.0ug/ml PAH SS 06/18/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 19 12:22 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 76657
Date Analyzed: 06/19/15
Instrument: Linus
Initial Cal. Date: 06/18/15
Data File: 0618L039.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2364	0.2552	8.0	SL	2.8
3	TM	Naphthalene	1.110	1.253	13	TM	
4	TML	2-Methylnaphthalene	0.6785	0.8165	20	TML	5.0
5	TML	1-Methylnaphthalene	0.7400	0.9025	22	TML	12
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.224	1.456	19	S	
8	TM	Acenaphthylene	2.251	2.610	16	TM	
9	*TM	Acenaphthene	1.401	1.550	11	*TM	
10	TM	Fluorene	1.438	1.669	16	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.198	1.415	18	TM	
13	TM	Anthracene	1.211	1.364	13	TM	
14	*TM	Fluoranthene	1.537	1.754	14	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.474	1.721	17	TM	
17	S	Surrogate Recovery (TPH)	0.7775	0.8960	15	S	
18	TML	Benz (a) anthracene	1.249	1.385	11	TML	2.7
19	TM	Chrysene	1.347	1.582	17	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.421	1.681	18	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	1.854	2.074	12	TML	0.74
23	TML	Benzo (k) fluoranthene	1.468	1.728	18	TML	9.8
24	*TM	Benzo (a) pyrene	1.771	1.987	12	*TM	
25	TM	Dibenz (a,h) anthracene	1.933	2.206	14	TM	
26	TM	Benzo (g,h,i) perylene	1.969	2.229	13	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L039.D Vial: 39
Acq On : 19 Jun 15 21:58 Operator: MA
Sample : 5.0ug/ml PAH 06/19/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 22 13:48 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 19 12:14:29 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	6473	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	3301	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.86	188	5483	2.50000 ppb		0.00
15) Chrysene-D12(IS)	13.04	240	5894	2.50000 ppb		0.00
21) Perylene-D12(IS)	15.66	264	3768	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.21	82	3304	4.85827 ppb		0.00
Spiked Amount 2.500			Recovery	= 194.320%		
7) Surrogate Recovery (FBP)	7.33	172	9610	5.94859 ppb		0.01
Spiked Amount 2.500			Recovery	= 237.960%		
17) Surrogate Recovery (TPH)	11.73	244	10562	5.76205 ppb		0.00
Spiked Amount 2.500			Recovery	= 230.480%		
Target Compounds						Qvalue
3) Naphthalene	6.08	128	16223	5.64244 ppb		100
4) 2-Methylnaphthalene	6.89	142	10571	5.25143 ppb		98
5) 1-Methylnaphthalene	7.01	142	11684	5.59660 ppb		100
8) Acenaphthylene	7.94	152	17228	5.79728 ppb		100
9) Acenaphthene	8.15	154	10233	5.53078 ppb		99
10) Fluorene	8.75	166	11017	5.80283 ppb		100
12) Phenanthrene	9.88	178	15522	5.90621 ppb		100
13) Anthracene	9.94	178	14961	5.63213 ppb		99
14) Fluoranthene	11.28	202	19231	5.70643 ppb		98
16) Pyrene	11.55	202	20283	5.83770 ppb		99
18) Benz (a) anthracene	13.02	228	16332	5.13363 ppb		99
19) Chrysene	13.08	228	18649	5.87059 ppb		99
20) Indeno (1,2,3-cd) pyrene	17.88	276	19818	5.91435 ppb	#	96
22) Benzo (b) fluoranthene	14.84	252	15630	5.03695 ppb		98
23) Benzo (k) fluoranthene	14.89	252	13022	4.51059 ppb		98
24) Benzo (a) pyrene	15.42	252	14977	5.61211 ppb		99
25) Dibenz (a,h) anthracene	17.92	278	16624	5.70686 ppb		99
26) Benzo (g,h,i) perylene	18.41	276	16799	5.66175 ppb		98

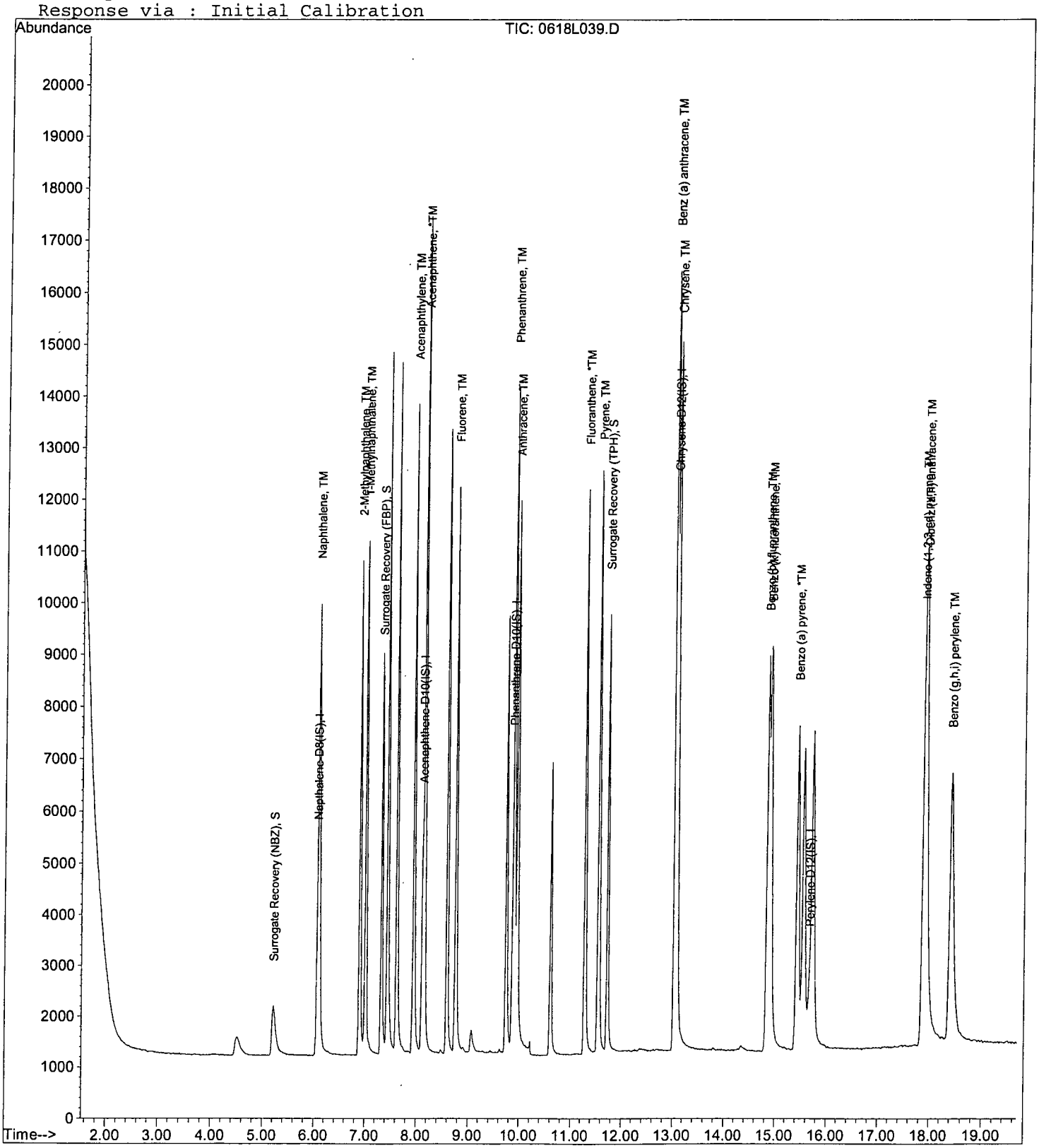
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L039.D Vial: 39
Acq On : 19 Jun 15 21:58 Operator: MA
Sample : 5.0ug/ml PAH 06/19/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 22 13:48 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
Raw Data

APPL, INC.

Method Blank

EPA 8270D LL WATER DODv3

Blank Name/QCG: **150617W-17694 - 198430**
Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	BENZ (A) ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	BENZO (A) PYRENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (B) FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	BENZO (G,H,I) PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	BENZO (K) FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	DIBENZ (A,H) ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	06/17/15	06/19/15
BLANK	INDENO (1,2,3-CD) PYRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	06/17/15	06/19/15
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	06/17/15	06/19/15
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	06/17/15	06/19/15
BLANK	SURROGATE: 2-FLUORBIPHENY	53.2	50-110			%	06/17/15	06/19/15
BLANK	SURROGATE: NITROBENZENE-	78.0	40-110			%	06/17/15	06/19/15
BLANK	SURROGATE: TERPHENYL-D14 (	80.4	50-135			%	06/17/15	06/19/15

Quant Method:P0618.M
Run #:0618L040
Instrument:Linus
Sequence:L150618
Initials:MA

GC SC-Blank-REG MDLs
Printed: 06/26/15 3:43:44 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L040.D Vial: 40
Acq On : 19 Jun 15 22:25 Operator: MA
Sample : 150617A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:55 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8373	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4002	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.87	188	6614	2.50000 ppb	0.01
15) Chrysene-D12(IS)	13.04	240	6996	2.50000 ppb	0.00
21) Perylene-D12(IS)	15.68	264	4220	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.21	82	1280	1.94901 ppb	0.00
Spiked Amount 2.500			Recovery =	77.960%	
7) Surrogate Recovery (FBP)	7.33	172	2604	1.32954 ppb	0.01
Spiked Amount 2.500			Recovery =	53.200%	
17) Surrogate Recovery (TPH)	11.73	244	4370	2.00850 ppb	0.00
Spiked Amount 2.500			Recovery =	80.360%	

Target Compounds Qvalue

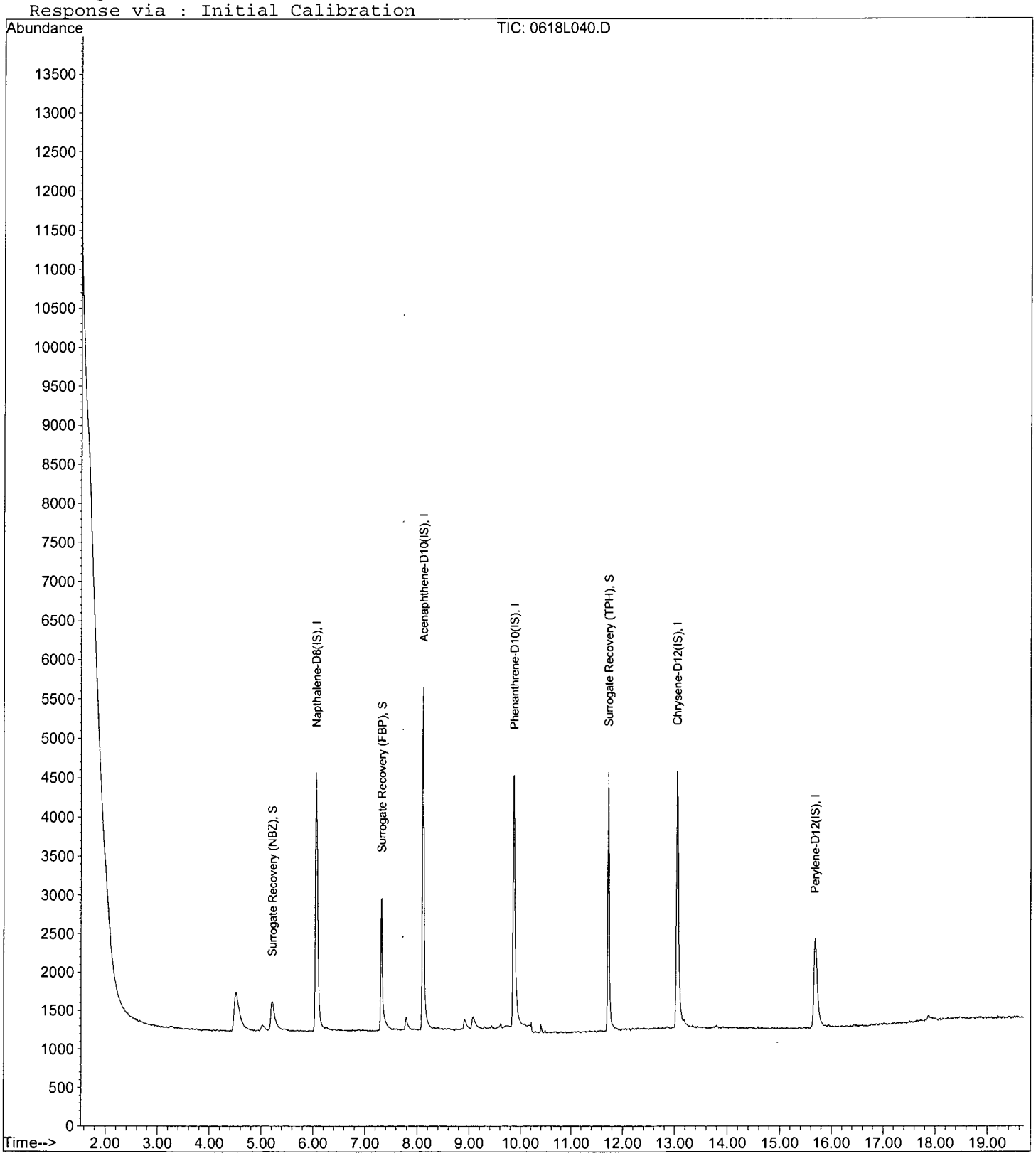
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L040.D Vial: 40
Acq On : 19 Jun 15 22:25 Operator: MA
Sample : 150617A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:55 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 LCS - 198430**
Batch ID: #SIMDD-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	5.00	2.71	54.2	45-105
ACENAPHTHENE	5.00	3.06	61.2	45-110
ACENAPHTHYLENE	5.00	3.26	65.2	50-105
ANTHRACENE	5.00	3.49	69.8	55-110
BENZ (A) ANTHRACENE	5.00	3.63	72.6	55-110
BENZO (A) PYRENE	5.00	4.35	87.0	55-110
BENZO (B) FLUORANTHENE	5.00	3.55	71.0	45-120
BENZO (G,H,I) PERYLENE	5.00	3.95	79.0	40-125
BENZO (K) FLUORANTHENE	5.00	2.63	52.6	45-125
CHRYSENE	5.00	3.97	79.4	55-110
DIBENZ (A,H) ANTHRACENE	5.00	3.99	79.8	40-125
FLUORANTHENE	5.00	3.91	78.2	55-115
FLUORENE	5.00	3.52	70.4	50-110
INDENO (1,2,3-CD) PYRENE	5.00	3.77	75.4	45-125
NAPHTHALENE	5.00	3.10	62.0	40-100
PHENANTHRENE	5.00	3.91	78.2	50-115
PYRENE	5.00	3.95	79.0	50-130
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	1.37	54.8	50-110
SURROGATE: NITROBENZENE-D5 (S)	2.50	2.10	84.0	40-110
SURROGATE: TERPHENYL-D14 (S)	2.50	1.96	78.4	50-135

Comments: _____

Primary	SPK
Quant Method :	P0618.M
Extraction Date :	06/17/15
Analysis Date :	06/19/15
Instrument :	Linus
Run :	0618L041
Initials :	MA

Printed: 06/26/15 3:43:44 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L041.D Vial: 41
Acq On : 19 Jun 15 22:52 Operator: MA
Sample : 150617A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Napthalene-D8(IS)	6.06	136	7615	2.50000	ppb	0.00
6) Acenaphthene-D10(IS)	8.11	164	4260	2.50000	ppb	0.00
11) Phenanthrene-D10(IS)	9.86	188	7129	2.50000	ppb	0.00
15) Chrysene-D12(IS)	13.03	240	7702	2.50000	ppb	-0.01
21) Perylene-D12(IS)	15.66	264	4725	2.50000	ppb	-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.21	82	1310	2.10487	ppb	0.00
Spiked Amount 2.500			Recovery	= 84.200%		
7) Surrogate Recovery (FBP)	7.31	172	2856	1.36989	ppb	0.00
Spiked Amount 2.500			Recovery	= 54.800%		
17) Surrogate Recovery (TPH)	11.73	244	4695	1.96008	ppb	0.00
Spiked Amount 2.500			Recovery	= 78.400%		
Target Compounds						Qvalue
3) Naphthalene	6.08	128	10491	3.10162	ppb	99
4) 2-Methylnaphthalene	6.89	142	6196	2.71238	ppb	98
5) 1-Methylnaphthalene	7.00	142	7028	2.86361	ppb	97
8) Acenaphthylene	7.94	152	12521	3.26486	ppb	99
9) Acenaphthene	8.15	154	7316	3.06403	ppb	99
10) Fluorene	8.75	166	8634	3.52390	ppb	99
12) Phenanthrene	9.88	178	13373	3.91363	ppb	99
13) Anthracene	9.94	178	12064	3.49295	ppb	99
14) Fluoranthene	11.28	202	17124	3.90803	ppb	97
16) Pyrene	11.54	202	17918	3.94644	ppb	92
18) Benz (a) anthracene	13.02	228	14445	3.62628	ppb	99
19) Chrysene	13.07	228	16482	3.97048	ppb	99
20) Indeno (1,2,3-cd) pyrene	17.87	276	16525	3.77394	ppb	97
22) Benzo (b) fluoranthene	14.84	252	13222	3.54556	ppb	99
23) Benzo (k) fluoranthene	14.90	252	9932	2.63215	ppb	98
24) Benzo (a) pyrene	15.42	252	14560	4.35083	ppb	99
25) Dibenz (a,h) anthracene	17.92	278	14568	3.98815	ppb	98
26) Benzo (g,h,i) perylene	18.42	276	14707	3.95276	ppb	97

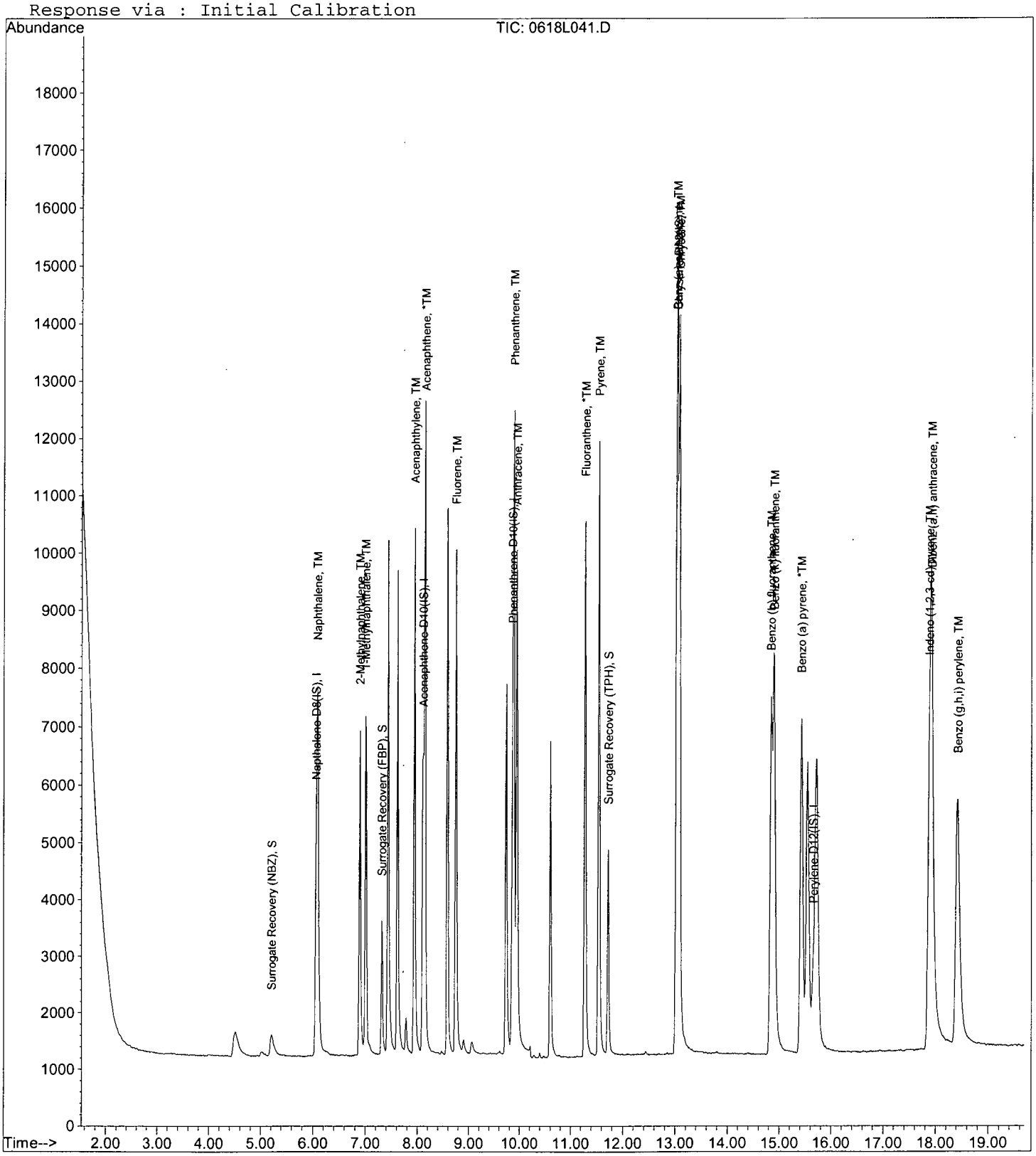
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L041.D Vial: 41
Acq On : 19 Jun 15 22:52 Operator: MA
Sample : 150617A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D LL WATER DODv3

APPL ID: **150617W-17694 MS - 198430**
Batch ID: #SIMDD-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-METHYLNAPHTHALENE	5.00	ND	3.07	2.73	61.4	54.6	45-105	11.7	30
ACENAPHTHENE	5.00	ND	3.26	2.99	65.2	59.8	45-110	8.6	30
ACENAPHTHYLENE	5.00	ND	3.35	3.14	67.0	62.8	50-105	6.5	30
ANTHRACENE	5.00	ND	3.32	3.20	66.4	64.0	55-110	3.7	30
BENZ (A) ANTHRACENE	5.00	ND	3.27	3.43	65.4	68.6	55-110	4.8	30
BENZO (A) PYRENE	5.00	ND	4.01	4.08	80.2	81.6	55-110	1.7	30
BENZO (B) FLUORANTHENE	5.00	ND	3.29	3.37	65.8	67.4	45-120	2.4	30
BENZO (G,H,I) PERYLENE	5.00	ND	3.65	3.66	73.0	73.2	40-125	0.27	30
BENZO (K) FLUORANTHENE	5.00	ND	2.30	2.36	46.0	47.2	45-125	2.6	30
CHRYSENE	5.00	ND	3.80	3.72	76.0	74.4	55-110	2.1	30
DIBENZ (A,H) ANTHRACENE	5.00	ND	3.67	3.64	73.4	72.8	40-125	0.82	30
FLUORANTHENE	5.00	ND	3.57	3.60	71.4	72.0	55-115	0.84	30
FLUORENE	5.00	ND	3.47	3.31	69.4	66.2	50-110	4.7	30
INDENO (1,2,3-CD) PYRENE	5.00	ND	3.53	3.56	70.6	71.2	45-125	0.85	30
NAPHTHALENE	5.00	ND	3.41	3.04	68.2	60.8	40-100	11.5	30
PHENANTHRENE	5.00	ND	3.67	3.64	73.4	72.8	50-115	0.82	30
PYRENE	5.00	ND	3.69	3.72	73.8	74.4	50-130	0.81	30
SURROGATE: 2-FLUORBIPHENYL (S)	2.50	NA	1.70	1.56	68.0	62.4	50-110		
SURROGATE: NITROBENZENE-D5 (S)	2.50	NA	1.95	1.87	78.0	74.8	40-110		
SURROGATE: TERPHENYL-D14 (S)	2.50	NA	1.79	1.86	71.6	74.4	50-135		

Comments: _____

Primary	SPK	DUP
Quant Method :	P0618.M	P0618.M
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/20/15	06/20/15
Instrument :	Linus	Linus
Run :	0618L044	0618L045
Initials :	MA	

Printed: 06/26/15 3:43:54 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L044.D Vial: 44
Acq On : 20 Jun 15 00:12 Operator: MA
Sample : AZ17694W15 MS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	8084	2.50000	ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4282	2.50000	ppb		0.00
11) Phenanthrene-D10(IS)	9.86	188	7156	2.50000	ppb		0.00
15) Chrysene-D12(IS)	13.04	240	7627	2.50000	ppb		0.00
21) Perylene-D12(IS)	15.66	264	4673	2.50000	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.21	82	1238	1.95120	ppb		0.00
Spiked Amount 2.500			Recovery	= 78.040%			
7) Surrogate Recovery (FBP)	7.31	172	3572	1.70452	ppb		0.00
Spiked Amount 2.500			Recovery	= 68.200%			
17) Surrogate Recovery (TPH)	11.73	244	4234	1.78500	ppb		0.00
Spiked Amount 2.500			Recovery	= 71.400%			
Target Compounds							Qvalue
3) Naphthalene	6.08	128	12239	3.40848	ppb		99
4) 2-Methylnaphthalene	6.89	142	7504	3.06746	ppb		100
5) 1-Methylnaphthalene	7.00	142	8273	3.17486	ppb		97
8) Acenaphthylene	7.94	152	12922	3.35211	ppb		100
9) Acenaphthene	8.15	154	7831	3.26287	ppb		99
10) Fluorene	8.75	166	8545	3.46966	ppb		96
12) Phenanthrene	9.88	178	12581	3.66796	ppb		100
13) Anthracene	9.94	178	11498	3.31652	ppb		99
14) Fluoranthene	11.28	202	15711	3.57202	ppb		98
16) Pyrene	11.54	202	16607	3.69366	ppb	#	91
18) Benz (a) anthracene	13.02	228	12691	3.27021	ppb		99
19) Chrysene	13.08	228	15619	3.79958	ppb		99
20) Indeno (1,2,3-cd) pyrene	17.88	276	15316	3.53223	ppb	#	98
22) Benzo (b) fluoranthene	14.84	252	12008	3.29293	ppb		98
23) Benzo (k) fluoranthene	14.90	252	8709	2.30149	ppb		99
24) Benzo (a) pyrene	15.42	252	13268	4.00887	ppb		99
25) Dibenz (a,h) anthracene	17.92	278	13243	3.66576	ppb		98
26) Benzo (g,h,i) perylene	18.41	276	13445	3.65378	ppb		97

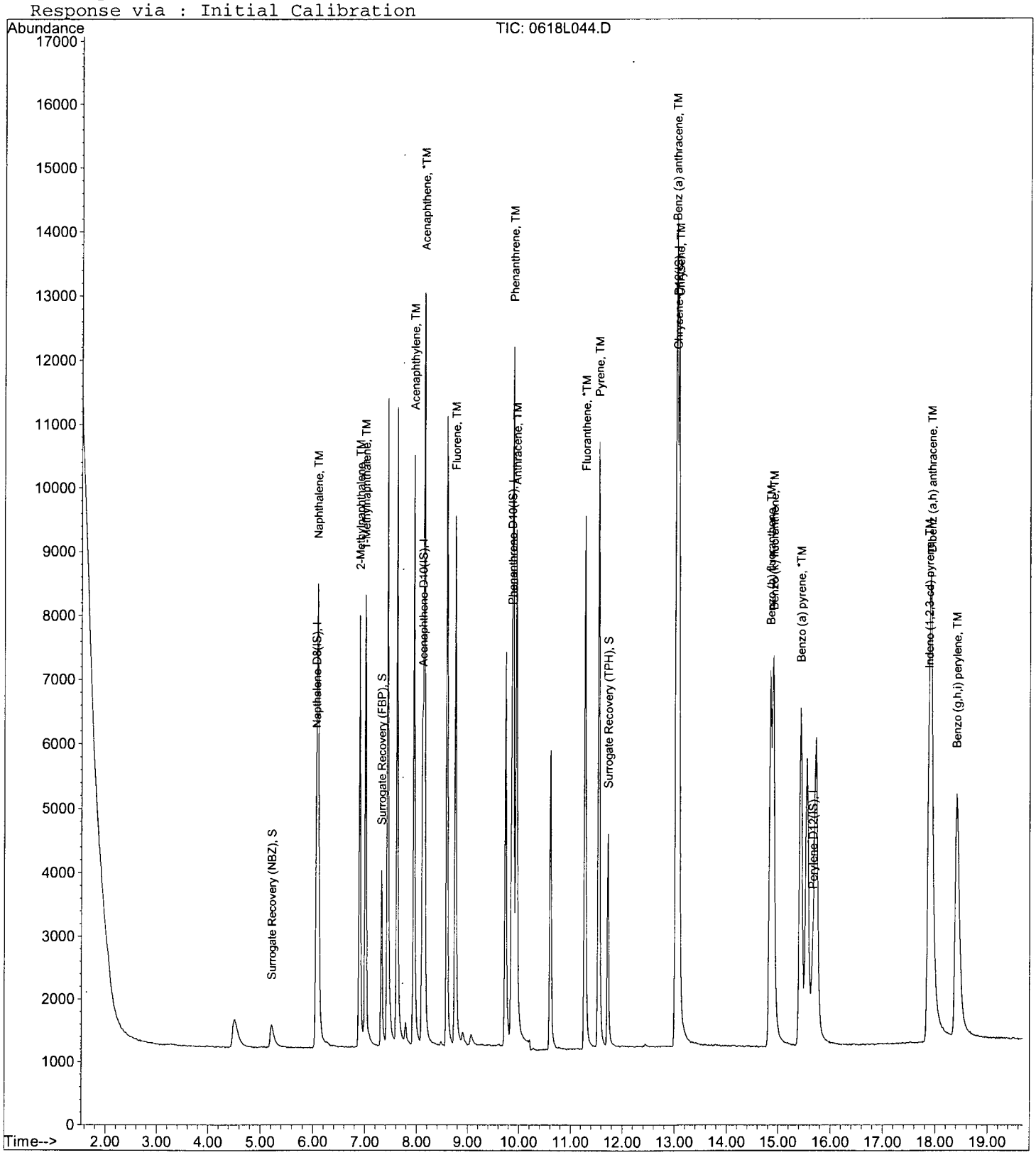
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L044.D Vial: 44
Acq On : 20 Jun 15 00:12 Operator: MA
Sample : AZ17694W15 MS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150618\0618L045.D Vial: 45
Acq On : 20 Jun 15 00:40 Operator: MA
Sample : AZ17694W16 MSD-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

Quant Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.06	136	9223	2.50000	ppb		0.00
6) Acenaphthene-D10(IS)	8.11	164	4817	2.50000	ppb		0.00
11) Phenanthrene-D10(IS)	9.86	188	8115	2.50000	ppb		0.00
15) Chrysene-D12(IS)	13.03	240	8567	2.50000	ppb		-0.01
21) Perylene-D12(IS)	15.66	264	5266	2.50000	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.21	82	1323	1.87231	ppb		0.00
Spiked Amount 2.500			Recovery = 74.880%				
7) Surrogate Recovery (FBP)	7.31	172	3667	1.55550	ppb		0.00
Spiked Amount 2.500			Recovery = 62.240%				
17) Surrogate Recovery (TPH)	11.73	244	4958	1.86088	ppb		0.00
Spiked Amount 2.500			Recovery = 74.440%				
Target Compounds							Qvalue
3) Naphthalene	6.08	128	12440	3.03662	ppb		100
4) 2-Methylnaphthalene	6.89	142	7552	2.72838	ppb		99
5) 1-Methylnaphthalene	7.00	142	8580	2.88643	ppb		100
8) Acenaphthylene	7.94	152	13609	3.13823	ppb		100
9) Acenaphthene	8.15	154	8075	2.99085	ppb		99
10) Fluorene	8.75	166	9160	3.30629	ppb		100
12) Phenanthrene	9.88	178	14162	3.64096	ppb		100
13) Anthracene	9.94	178	12574	3.19827	ppb		99
14) Fluoranthene	11.27	202	17940	3.59679	ppb		95
16) Pyrene	11.54	202	18812	3.72499	ppb		95
18) Benz (a) anthracene	13.02	228	15076	3.43150	ppb		100
19) Chrysene	13.07	228	17189	3.72270	ppb		98
20) Indeno (1,2,3-cd) pyrene	17.89	276	17318	3.55571	ppb	#	96
22) Benzo (b) fluoranthene	14.84	252	13917	3.37375	ppb		99
23) Benzo (k) fluoranthene	14.89	252	10054	2.36468	ppb		97
24) Benzo (a) pyrene	15.42	252	15206	4.07705	ppb		98
25) Dibenz (a,h) anthracene	17.92	278	14825	3.64155	ppb		97
26) Benzo (g,h,i) perylene	18.42	276	15189	3.66291	ppb		96

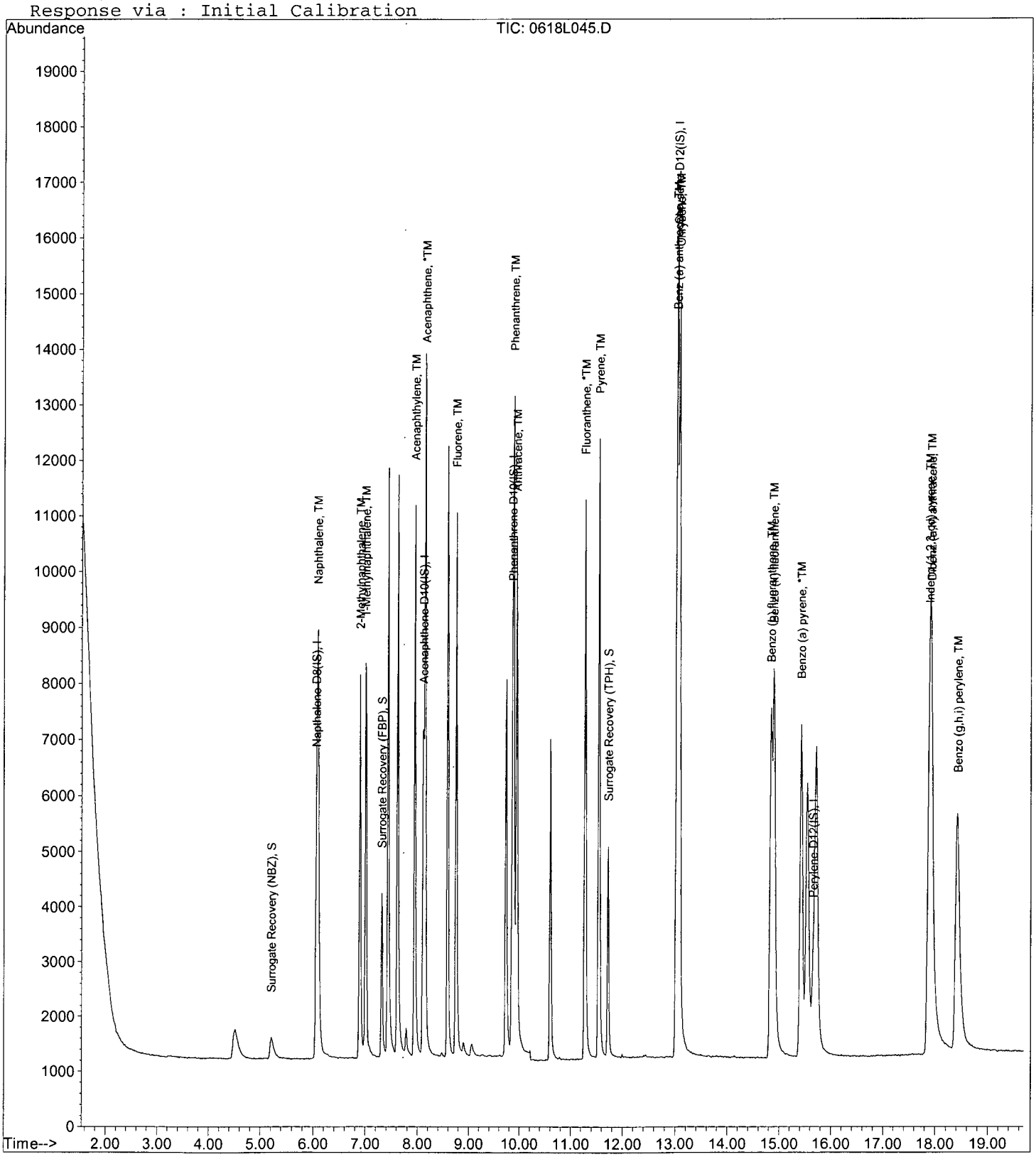
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150618\0618L045.D Vial: 45
Acq On : 20 Jun 15 00:40 Operator: MA
Sample : AZ17694W16 MSD-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Jun 26 14:54 2015 Quant Results File: P0618.RES

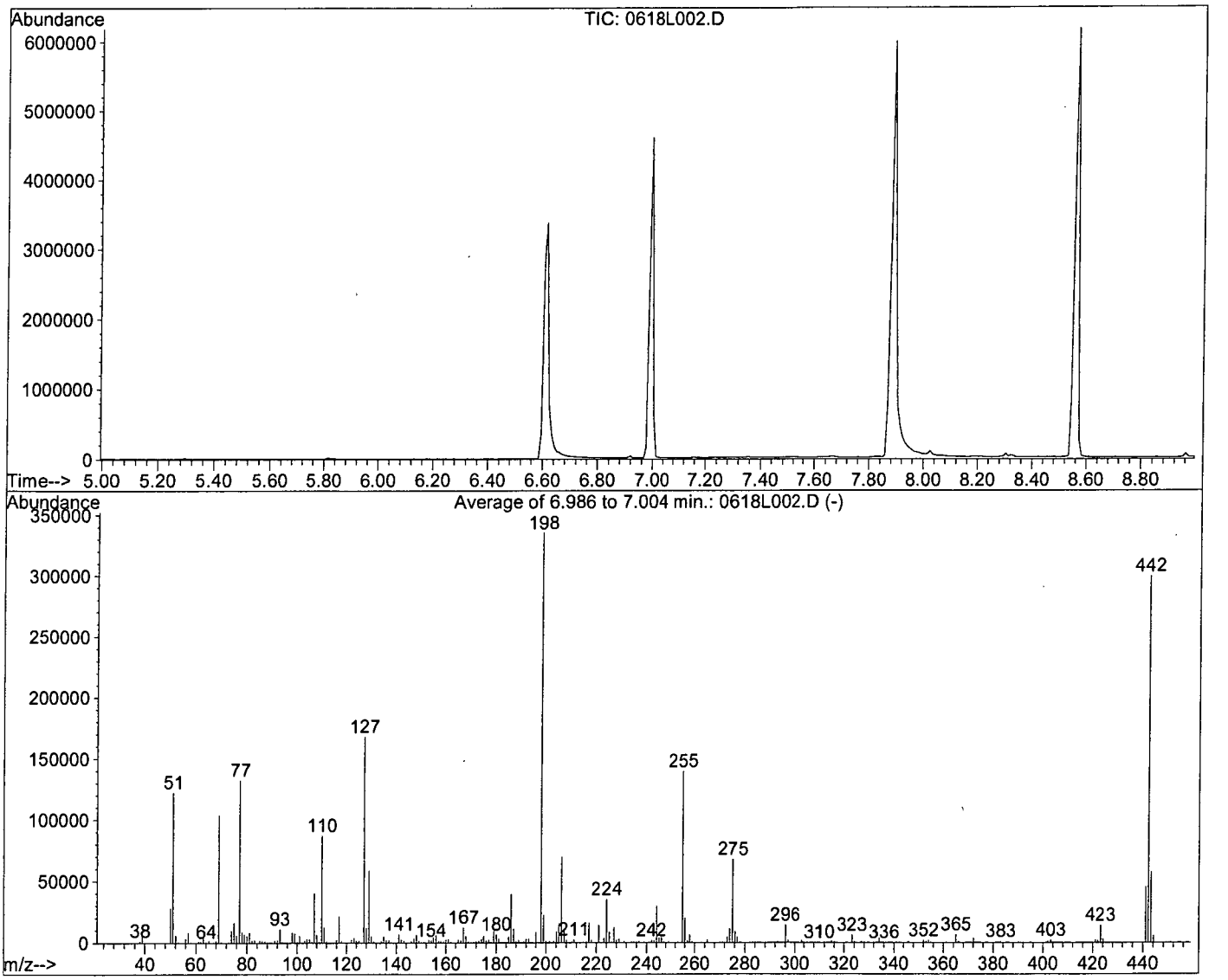
Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Jun 26 11:18:27 2015
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L150618\0618L002.D Vial: 2
Acq On : 18 Jun 15 9:41 Operator: MA
Sample : SV Tune 05/14/15 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 475, 476, 477; Background Corrected with Scan 472

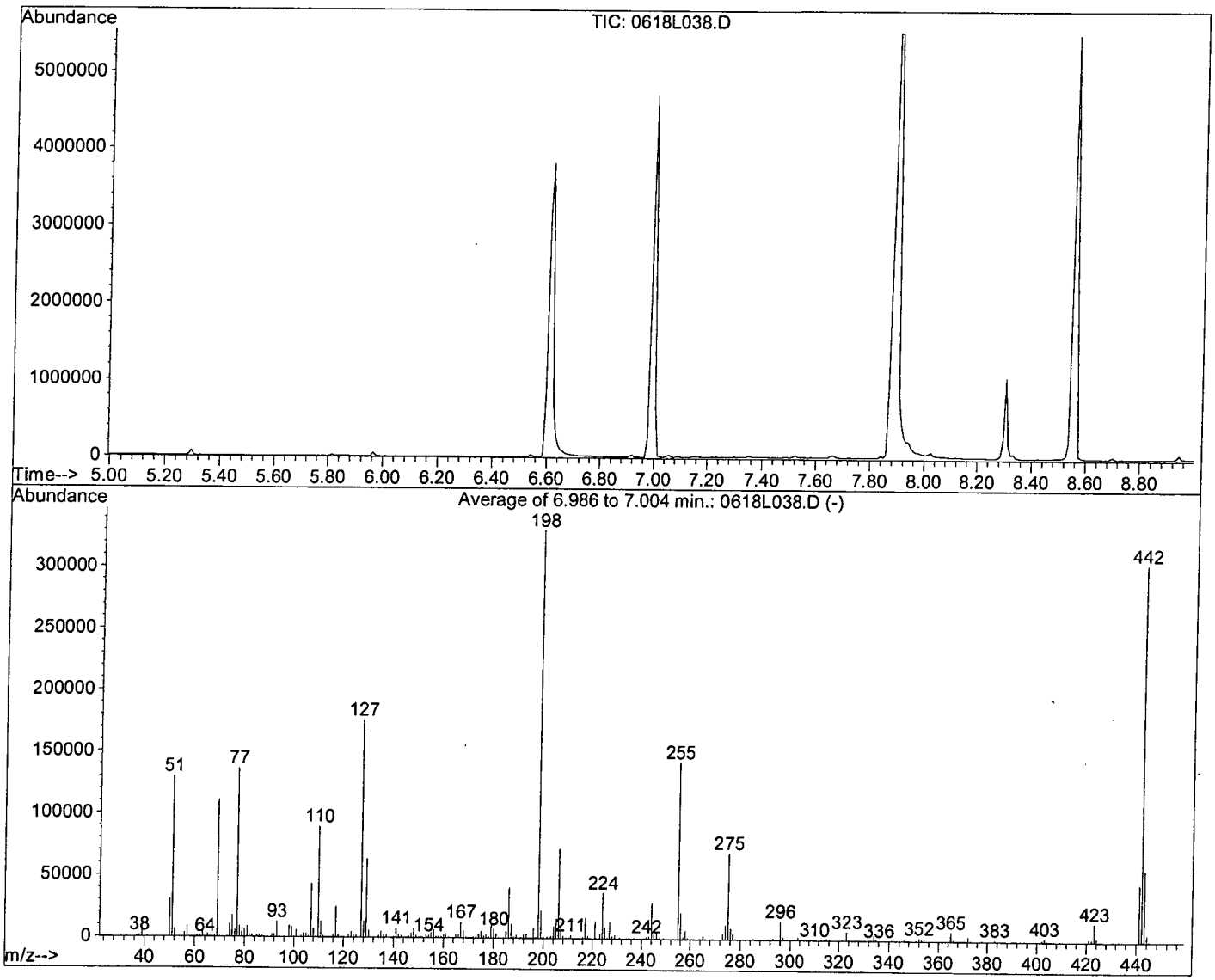
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	36.5	122440	PASS
68	69	0.00	2	1.5	1544	PASS
70	69	0.00	2	0.6	611	PASS
127	198	40	60	50.1	168168	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	335547	PASS
199	198	5	9	6.7	22397	PASS
275	198	10	30	20.2	67637	PASS
365	198	1	100	1.9	6441	PASS
441	443	0.01	100	78.2	45228	PASS
442	198	50	150	89.3	299757	PASS
443	442	17	23	19.3	57859	PASS

DFTPP

Data File : M:\LINUS\DATA\L150618\0618L038.D
Acq On : 19 Jun 15 21:41
Sample : SV TUNE 5/14/15
Misc :

Vial: 38
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L150515\P0618.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 475, 476, 477; Background Corrected with Scan 472

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.3	129963	PASS
68	69	0.00	2	1.4	1572	PASS
70	69	0.00	2	0.6	718	PASS
127	198	40	60	53.2	175830	PASS
197	198	0.00	1	0.3	989	PASS
198	198	100	100	100.0	330621	PASS
199	198	5	9	6.7	22164	PASS
275	198	10	30	21.1	69620	PASS
365	198	1	100	2.2	7347	PASS
441	443	0.01	100	80.1	46269	PASS
442	198	50	150	92.2	304715	PASS
443	442	17	23	19.0	57763	PASS

0618L038.D P0618.M Fri Jun 26 11:53:11 2015

Semivolatile (SV) Tuning Solution -L.H.						
PREP DATE:	5/14/15					
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	5/14/16					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	CL-5063-3518	05/14/15	5/14/16	1000
EM Science	Methylene Chloride		47186	11/06/14		19000
				Final Vol.		20000

8270 PAH SIM Standard Curve

PREP DATE:	06/18/15-L.H.												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**06/25/15**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
o2si	8270 PAH SIM	200	230271-34569	06/18/15	06/18/16	0	0	0	0	5	5	25	50
	5.0ug/mL	5		06/18/15	**06/25/15**	0	0	10	20	0	0	0	0
	1.0ug/mL	1		06/18/15	**06/25/15**	10	20	0	0	0	0	0	0
o2si	8270 BN:A (2	VAR	242352-34963	06/18/15	06/18/16	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		54200	11/06/14		90	80	90	80	190	90	50	0
Supelco	SIM SV Inter	125	A10079V-3449	06/01/15	12/1/15	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS

PREP DATE:	06/18/15-L.H.					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	**06/25/15**					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM	200	243252-34609	02/27/15	8/26/15	5
EM Science	Methylene Chloride		54200	11/06/14		195
Supelco	SIM SV Inter	125	A10079V-3449	06/01/15	12/01/15	4
				Final Vol.		204

PAH SIM STD prep: 06/18/16-L.H.						
Exp:	10/27/15					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	242353-34583	06/18/15	06/18/16	1000
o2si	110780-01	200	242353-34584	06/18/15	06/18/16	1000
o2si	110780-01	200	242353-34585	06/18/15	06/18/16	1000
o2si	110780-01	200	230271-34571	06/18/15	06/18/16	1000
o2si	110780-01	200	230271-34572	06/18/15	06/18/16	1000
				Fin Vol.		5000

8270 BNA Surrogate Stock 06/18/15-L.H. Ex: 06/18/16						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
O2SI	110004-17	200/400	248285-35024	6/18/15	6/18/16	1000

8270 SIM PAH Internal Standard						
PREP DATE:	6/1/15-L.H.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	11/15/15					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA10079V-34491	05/15/15	5/15/16	350
EM Science	Methylene Chloride		47186	11/06/14		5250
				Final Vol.		5600

02/27/15 CSC

8270D PAH SIM Solution, Second Source, 200 mg/L, 1 mL

110780-01-SS

Lot #	Storage	Expiry
243252	≤ -10 °C	15/Jan/2017

Solv: Methylene Chloride

8270D PAH SIM (SS)
Lot #: 243252 - 34609
Rec: 1/23/15 MFR exp. 1/15/17

Received: 01/23/15
Opened: 02/27/15
Expired: 01/15/17

02/27/15 CSC

Part #: 30031
Lot #: 060111
Laboratory Use Only - See MSDS CSC
Exp: 060116 Storage 20 °C

EPA Method 525 - Internal Standard
4 components CAUTION: Sonicate Before Use
500 ug/mL in aceto

ABSOLUTE STANDA

EPA Method 525 Internal Std
Lot #: 060111 - 32256
Rec: 4/16/13 MFR exp. 6/1/16

Received: 04/16/13
opened: 02/27/15
Expired: 06/01/16

02/27/15 CSC

PREP DATE:	02/27/15						CSC
8270 SIM PAH Internal Standard Mix 125ug/ml							
Exp. DATE:	08/27/15						
		Conc.		Date	Exp.	125	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL	
Supelco	Internal Standard	2000	XA10079V-34496	12/11/14	09/30/17	50	
EM Science	Methylene Chloride		54200	11/06/14		750	
				Final Vol.		800	

02/27/15 CSC

PREP DATE:	02/27/15						CSC
525 Working Standard 20ug/mL (PCP @ 80ug/ml)							
Exp. DATE:	03/04/15						20
		Conc.		Date	Exp.		
Supplier	ID #	ug/ml	Lot #	Code	Date	ul	
Ultra-Scientific	Extractables Mixture (PSM-525A)	500	CK-2769-34658	02/17/15	09/30/16	24	
Ultra-Scientific	PAH Mixture (PM-525B)	500	CK-2706-34660	02/17/15	09/30/16	24	
EM Science	Methylene Chloride		54200	11/06/14		552	
				Final Vol.		600	

02/27/15 CSC

PREP DATE:	02/27/15					CSC
525 Continuing Calibration Verification 5ug/ml (20ppb PC						
Exp. DATE:	03/04/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Ultra Scienti	525 Working Std (PSM-525A) & (PM-525B)	20	VAR	02/17/15	09/30/16	50
Absolute	525 Internal Std (30031)	500	060111-32256	04/16/13	06/01/16	2
EM Science	Methylene Chloride		54200	11/06/14		148
				Final Vol.		200

02/26/15 CSC

REP DATE:	02/26/15		EXP:	03/03/15											CSC
Sulfolane Standard Curve															
						1	5	10	20	40	50	60	80	100	
		Conc.		Date	Exp.										
Supplier	ID #	µg/mL	Lot#	Code	Date	µL	µL	µL	µL	µL	µL	µL	µL	µL	
o2si	Sulfolane Calibration Standard	200	VAR	10/22/14	03/11/15	5	5	5	10	20	25	30	40	50	
EM Science	Methylene Chloride		54200	11/06/14		995	195	95	90	80	75	70	60	50	
				Final Vol.		1000	200	100	100	100	100	100	100	100	

8270 PAH SIM CCV						
PREP DATE:	06/19/15-LH					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	**06/26/15**					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIN	200	230271-34569	06/18/15	6/18/16	5
o2si	8270 BN:A (2	VAR	248285-35024	06/18/15	6/18/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM SV Inter	125	A10079V-3449	05/15/15	5/15/16	4
				Final Vol.		204

SV Internal Stanard Stock Prep: 05/15/15-L.H. Ex: 5/15/16						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supelco	SV Internal Standa	2000	A10079V-3449	05/15/15	5/15/16	1000

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	150617A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	SIM Spike 230271-33745		Surrogate ID 1	SIM Surrogate 248398-35028	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	06/17/15 10:25	
Spiked ID 8			Ext. End Time:	06/17/15 15:00	
			GC Requires Extract By:	**07/07/15 0:00**	

pH1	2	6/17/15 10:30:00 AM	Water Bath Temp Criteria	80 °C
pH2	14	6/17/15 11:50:00 AM		
pH3				

Spiked By: KY **Date** 06/17/15 **Witnessed By:** DC **Date** 06/17/15

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150617A Blk				0.0250	1	1000	1	2/1	06/17/15 10:25	
						equip	E-WB6				
2	150617A LCS-1		0.0250	1	0.0250	1	1000	1	2/1	06/17/15 10:25	
						equip	E-WB6				
3	AZ17692	AZ17692W05			0.0250	1	980	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
4	AZ17693	AZ17693W04			0.0250	1	980	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
5	AZ17694 MS-1	AZ17694W15	0.0250	1	0.0250	1	1000	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
6	AZ17694 MSD-1	AZ17694W16	0.0250	1	0.0250	1	1000	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
7	AZ17694	AZ17694W17			0.0250	1	980	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
8	AZ17695	AZ17695W05			0.0250	1	1000	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				
9	AZ17696	AZ17696W07			0.0250	1	1010	1	2/1	06/17/15 10:25	76657
						equip	E-WB6				

Key 6/17/15

Solvent and Lot#	
+1 Acid	6-2-15
PH STRIP	HC431579
MC	55006
A. Na2SO4	5-20-15
0N NaOH	4-18-15
3. Na2SO4	XE21E
FILTER PAPER	400098

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	6/18/15
Time	4:45
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DC,RP
Extraction	KY,DC,RP
Concentration	IC

Modified	06/17/15 3:44:52 PM

Reviewed By: Key **Date** 6/17/15

Injection Log

Directory: M:\LINUS\DATA\L150618\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0618L002.D	1	SV Tune 05/14/15		18 Jun 15 9:41
2	3	0618L003.D	1	0.1ug/ml PAH 06/18/15		18 Jun 15 9:58
3	4	0618L004.D	1	0.2ug/ml PAH		18 Jun 15 10:25
4	6	0618L006.D	1	1.0ug/ml PAH		18 Jun 15 12:02
5	7	0618L007.D	1	5.0ug/ml PAH		18 Jun 15 12:29
6	8	0618L008.D	1	10ug/ml PAH		18 Jun 15 12:56
7	9	0618L009.D	1	50ug/ml PAH		18 Jun 15 13:23
8	10	0618L010.D	1	100ug/ml PAH		18 Jun 15 13:50
9	11	0618L011.D	1	0.5ug/ml PAH		18 Jun 15 14:17
10	12	0618L012.D	1	5.0ug/ml PAH SS 06/18/15		18 Jun 15 14:44
11	38	0618L038.D	1	SV TUNE 5/14/15		19 Jun 15 21:41
12	39	0618L039.D	1	5.0ug/ml PAH 06/19/15		19 Jun 15 21:58
13	40	0618L040.D	1	150617A BLK 1/1000	water	19 Jun 15 22:25
14	41	0618L041.D	1	150617A LCS-1 1/1000	water	19 Jun 15 22:52
15	42	0618L042.D	1.02041	AZ17692W05 1/980	water	19 Jun 15 23:19
16	43	0618L043.D	1.02041	AZ17693W04 1/980	water	19 Jun 15 23:46
17	44	0618L044.D	1	AZ17694W15 MS-1 1/1000	water	20 Jun 15 00:12
18	45	0618L045.D	1	AZ17694W16 MSD-1 1/1000	water	20 Jun 15 00:40
19	46	0618L046.D	1.02041	AZ17694W17 1/980	water	20 Jun 15 1:06
20	47	0618L047.D	1	AZ17695W05 1/1000	water	20 Jun 15 1:33
21	48	0618L048.D	0.990099	AZ17696W07 1/1010	water	20 Jun 15 2:00

RSK-175

APPL, INC.

RSK-175
QC Summary

APPL, INC.

Method Blank
RSK 175

Blank Name/QCG: **150624W-17694 - 198396**
Batch ID: #RSK-150624A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
BLANK	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method: 402RSK.M
Run #: 0624F008
Instrument: Frodo
Sequence: 150624
Initials: SD

GC SC-Blank-REG MDLs
Printed: 06/25/15 4:37:32 PM

Laboratory Control Spike Recovery

RSK 175

APPL ID: **150624W-17694 LCS - 198396**
Batch ID: #RSK-150624A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
ETHANE	25.0	26.0	104	70-130
ETHENE	23.3	21.4	91.8	70-130
METHANE	13.3	14.6	110	70-130

Comments: _____

Primary	SPK
Quant Method :	402RSK.M
Extraction Date :	06/24/15
Analysis Date :	06/24/15
Instrument :	Frodo
Run :	0624F006
Initials :	SD

Printed: 06/25/15 4:37:25 PM
APPL Standard LCS

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/24/15

Matrix: WATER Instrument: Frodo

Blank ID: 150624A-BLK Time Analyzed: 0944

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150624A-LCS	Lab Control Spike	0624F006	06/24/15 0904
150624A-BLK	Blank	0624F008	06/24/15 0944
AZ17694	S67-MW016-061515	0624F025	06/24/15 1207
AZ17696	S67-MW017-061515	0624F026	06/24/15 1211

Comments: Batch: #RSK-150624A

RSK-175
Sample Data

APPL, INC.

RSK 175

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW016-061515

Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657

APPL ID: AZ17694

QCG: #RSK-150624A-198396

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
RSK 175	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method:	402RSK.M
Run #:	0624F025
Instrument:	Frodo
Sequence:	150624
Dilution Factor:	1
Initials:	SD

Printed: 06/25/15 4:37:28 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\150624\0624F025.D Vial: 25
Acq On : 24 Jun 2015 12:07 Operator: SD
Sample : AZ17694W01 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 25 15:37 2015 Quant Results File: 402RSK.RES

Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jun 25 14:58:59 2015
Response via : Multiple Level Calibration

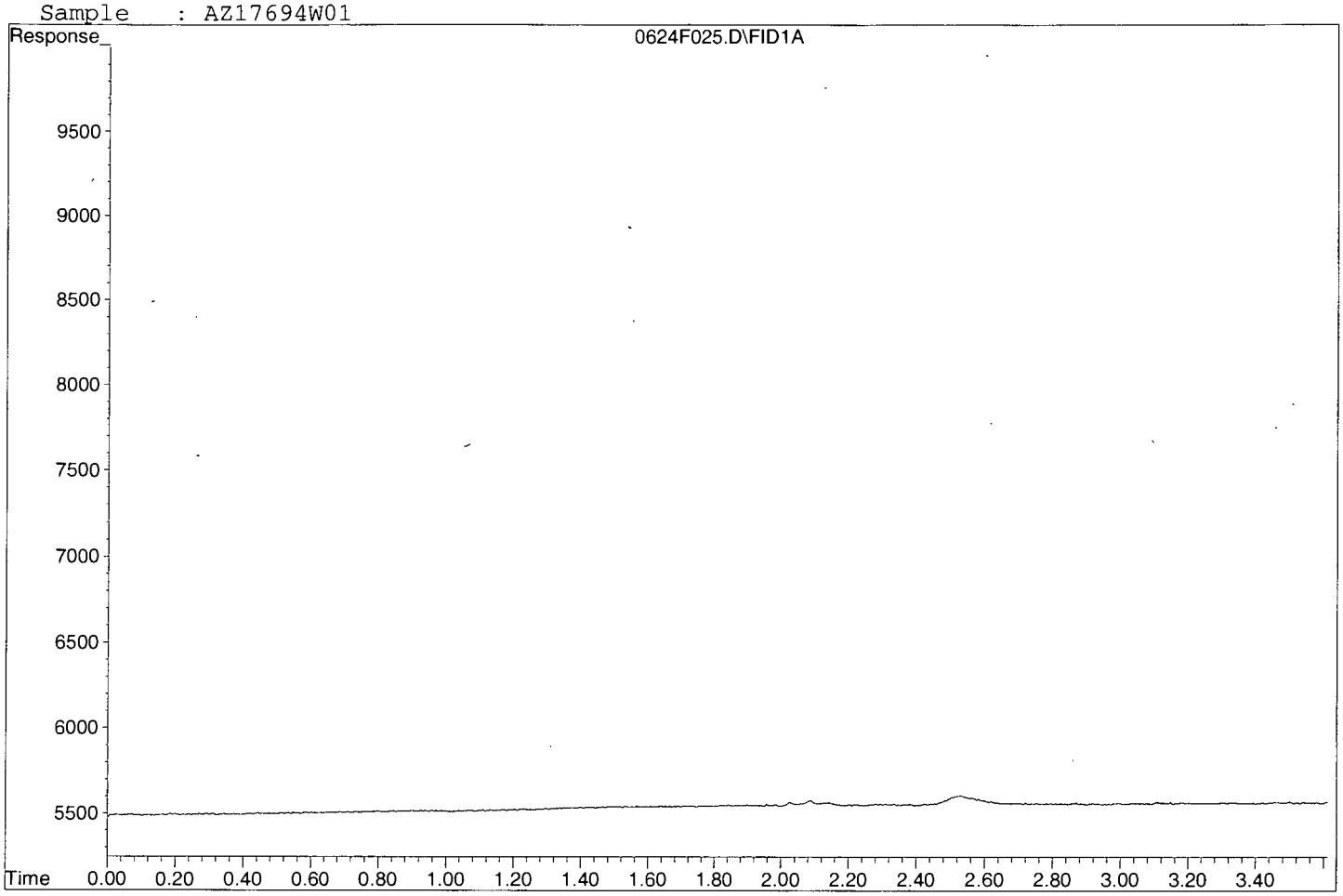
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

Quantitation Report

Data File: V:\FRODO\DATA\150624\0624F025.D
Sample : AZ17694W01



RSK 175

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW017-061515

Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657

APPL ID: AZ17696

QCG: #RSK-150624A-198396

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
RSK 175	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method: 402RSK.M
Run #: 0624F026
Instrument: Frodo
Sequence: 150624
Dilution Factor: 1
Initials: SD

Printed: 06/25/15 4:37:28 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\150624\0624F026.D Vial: 26
Acq On : 24 Jun 2015 12:11 Operator: SD
Sample : AZ17696W01 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 25 15:37 2015 Quant Results File: 402RSK.RES

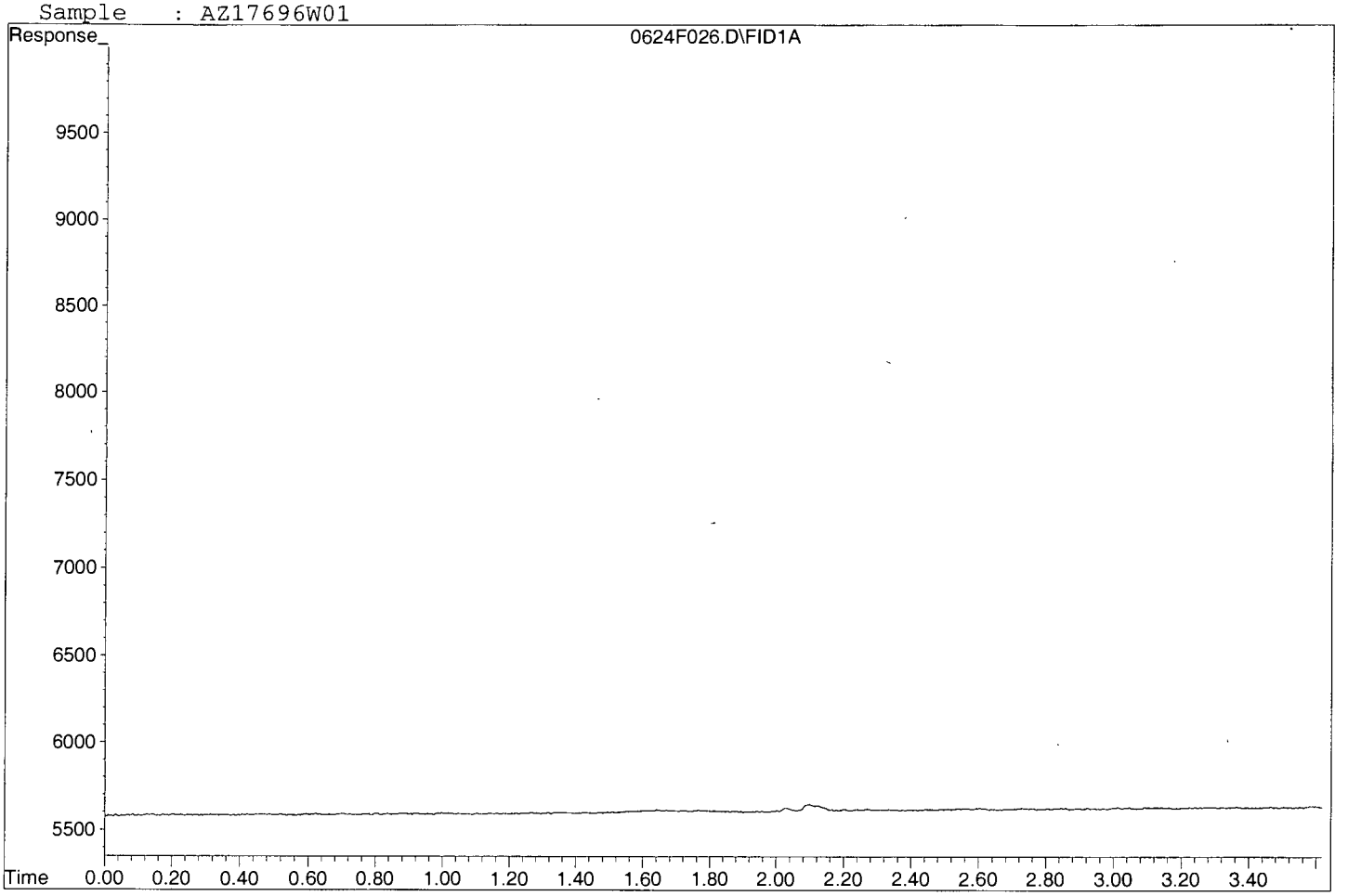
Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jun 25 14:58:59 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

Data File: V:\FRODO\DATA\150624\0624F026.D
Sample : AZ17696W01



RSK-175
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:

Case No: Initial Cal. Date: 3/29/15 and 4/2/15

Matrix: Water Instrument: Frodo Initials: sd

			0329F010.D	0329F001.D	0329F005.D	0329F012.D	0329F013.D	0329F015.D	0329F016.D	0402F001.D	0329F009.D					
		Compound	1	2	3	4	5	6	7	8	1A		Avg	%RSD		
1	ATM	Methane	364	332	325	371	276	318	258	300	433		331	16	ATM	
2	ATM	Ethane	285	219	313	327	277	316	267	321	232		284	14	ATM	
3	ATM	Ethene	352	253	348	326	293	340	281	333	205		303	16	ATM	
4																
5																
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1.3236504

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™

Gas Mix 1%
Lot #: 164PLU4SPC05L - 34437
Rec: 12/1/14 MFR exp. 7/8/17

Shipped From: 6141 EASTON ROAD, BLDG 1 PO BOX 310
PLUMSTEADVILLE PA 18949-0310
Phone: 800-331-4953 Fax: 215-766-7226

C E R T I F I C A T E O F A N A L Y S I S

SIGMA-ALDRICH
PO#P442671
595 NORTH HARRISON ROAD
BELLEFONTE PA 16823
US

DOCUMENT#:56058812 -005
PO#: P442671
ITEM #: T216-48
CUST ITEM #: 23462
DATE: 08Jul2014

ANALYTICAL ACCURACY: +/-02%
PRODUCT EXPIRATION: 08Jul2017

LOT # : 164PLU4SPC05L

COMPONENT	REQUESTED GAS CONC MOLES		ANALYSIS (MOLES)	
ACETYLENE	1.	%	1.0	%
CARBON DIOXIDE	1.	%	1.0	%
CARBON MONOXIDE	1.	%	1.01	%
ETHANE	1.	%	1.01	%
ETHYLENE	1.	%	1.01	%
METHANE	1.	%	1.01	%
NITROGEN		BALANCE		BALANCE

MANUFACTURED DATE: 08Jul2014 SCOTTY SIZE: 48

APPROVED BY: _____
DAN TRAVISANO

Quantitation Report (QT Reviewed)

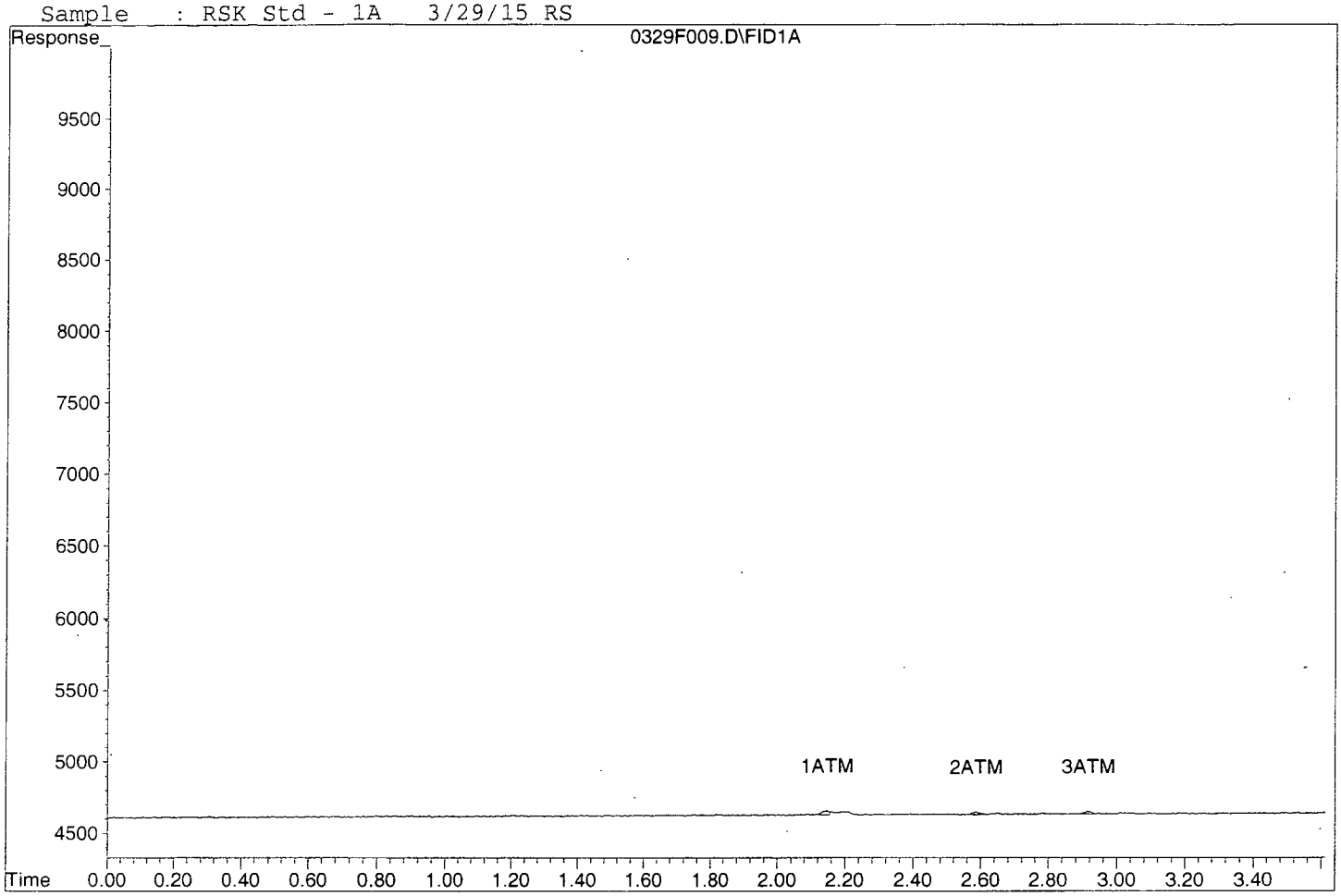
Data File : V:\FRODO\DATA\150329\0329F009.D Vial: 9
Acq On : 29 Mar 2015 09:45 Operator: SD
Sample : RSK Std - 1A 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:37 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	2.15	390	1.029	ppb	m
2) ATM Ethane	2.59	395	1.285	ppb	
3) ATM Ethene	2.92	328	0.962	ppb	

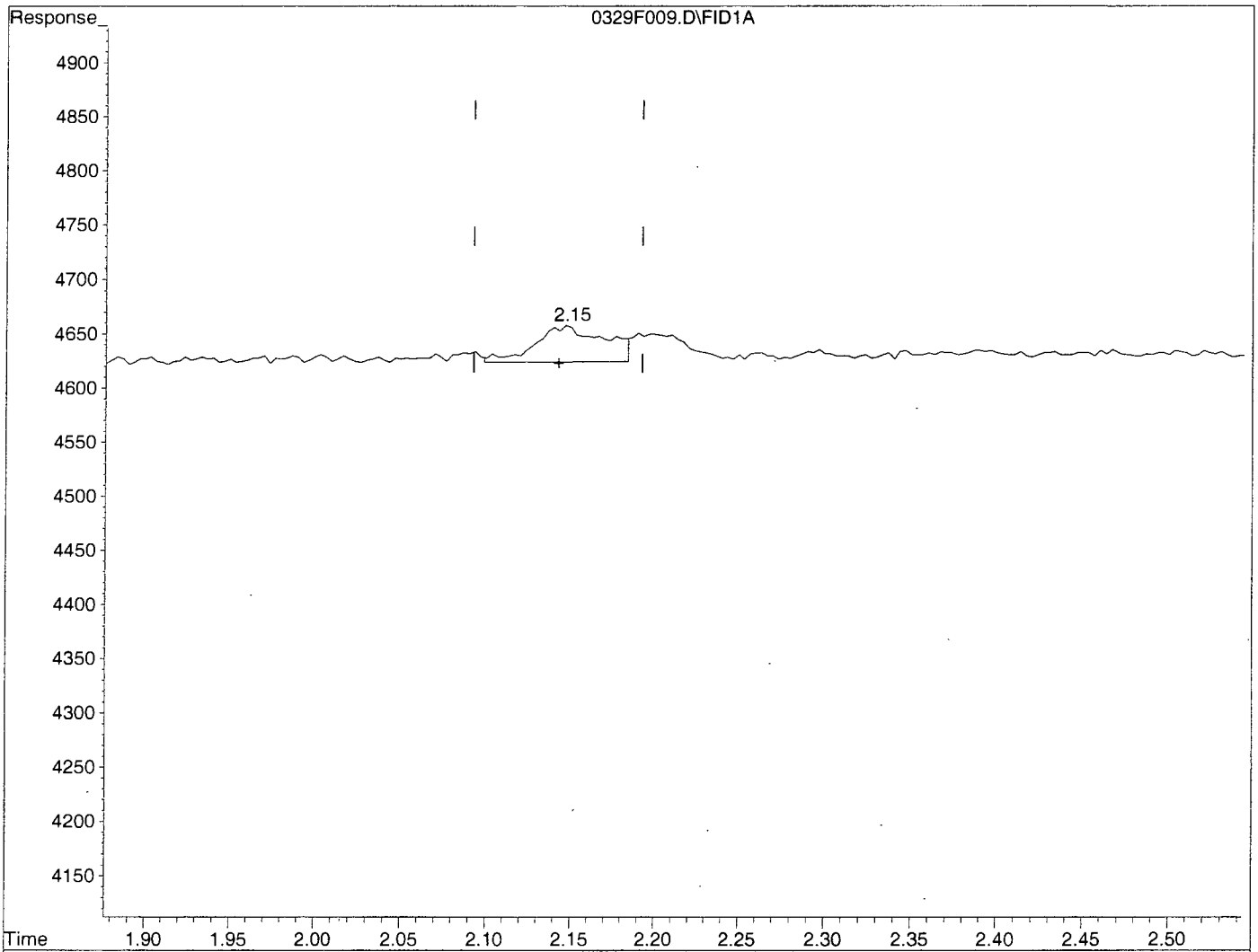
Data File: V:\FRODO\DATA\150329\0329F009.D
Sample : RSK Std - 1A 3/29/15 RS



Quantitation Report

Data File : V:\FRODO\DATA\150329\0329F009.D Vial: 9
Acq On : 29 Mar 2015 09:45 Operator: SD
Sample : RSK Std - 1A 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 10:54 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 10:50:10 2015
Response via : Multiple Level Calibration



QEdit

(1) Methane (ATM)

2.15min 2.405ppb

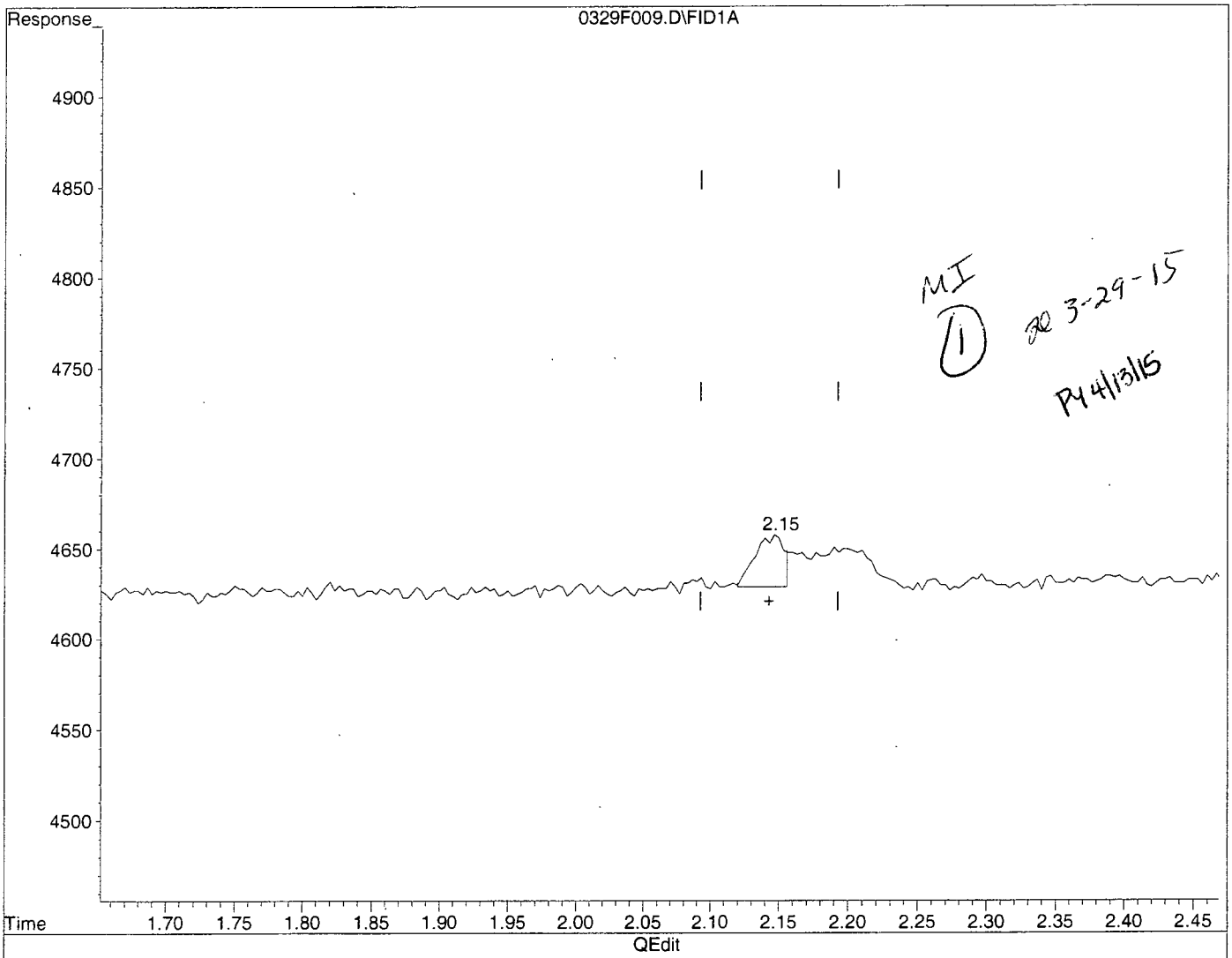
response 911

(+) = Expected Retention Time

Quantitation Report

Data File : V:\FRODO\DATA\150329\0329F009.D Vial: 9
Acq On : 29 Mar 2015 09:45 Operator: SD
Sample : RSK Std - 1A 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 10:55 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration



(1) Methane (ATM)

2.15min 1.029ppb m

response 390

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\150329\0329F010.D Vial: 10
Acq On : 29 Mar 2015 10:04 Operator: SD
Sample : RSK Std 1 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:43 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

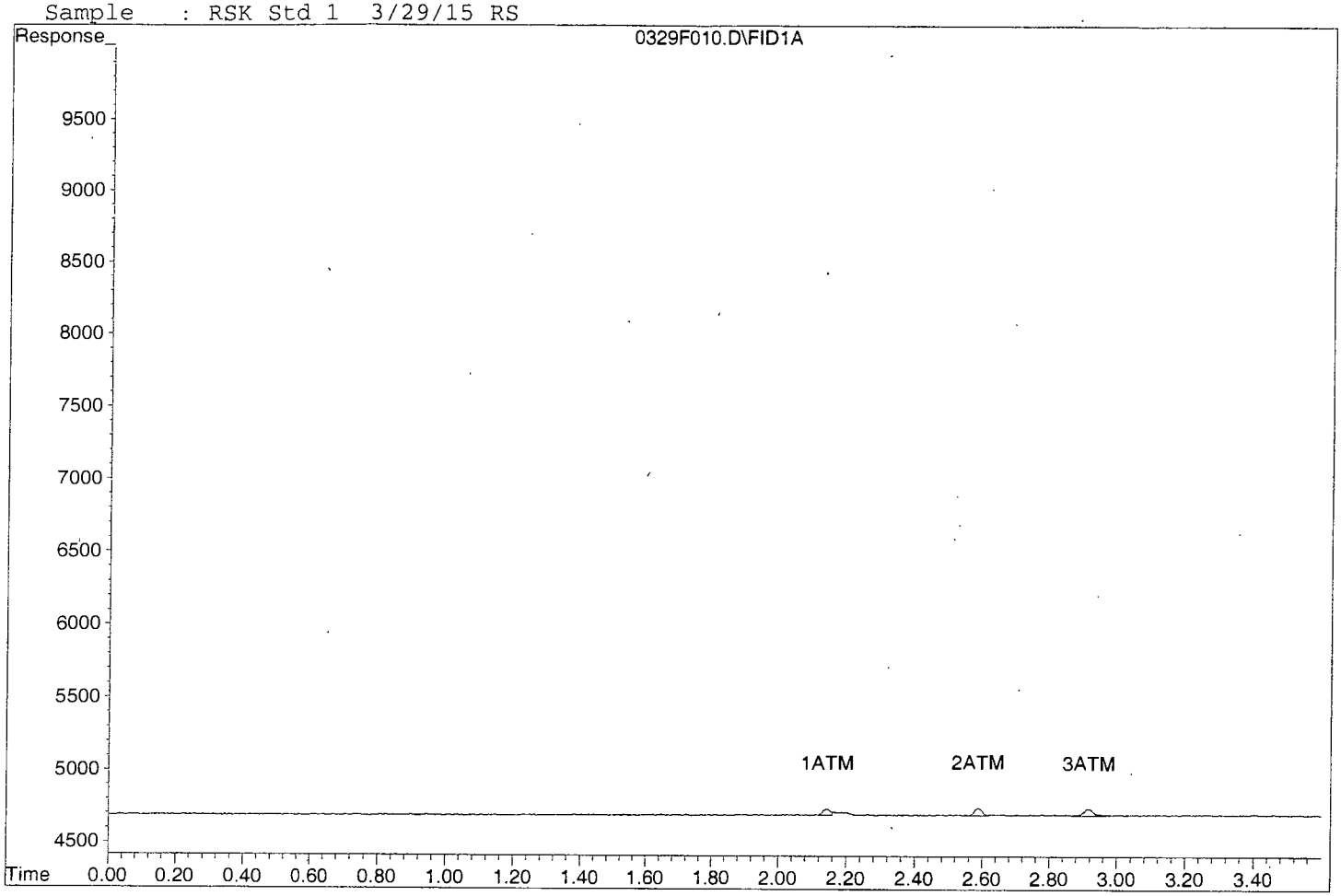
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	2.14	656	1.735	ppb	m
2) ATM Ethane	2.59	968	3.187	ppb	
3) ATM Ethene	2.92	1125	3.540	ppb	

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

Quantitation Report

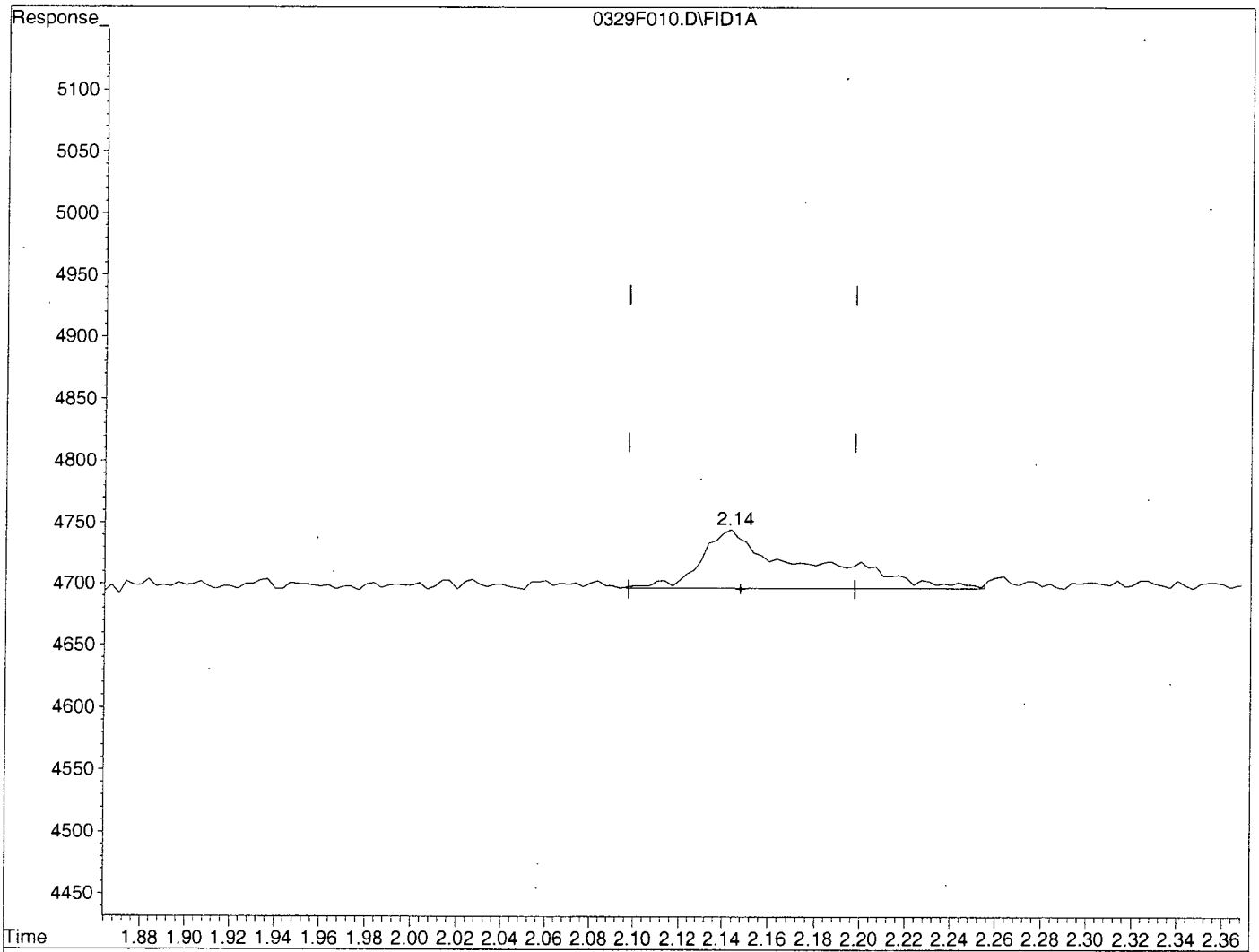
Data File: V:\FRODO\DATA\150329\0329F010.D
Sample : RSK Std 1 3/29/15 RS



Quantitation Report

Data File : V:\FRODO\DATA\150329\0329F010.D Vial: 10
Acq On : 29 Mar 2015 10:04 Operator: SD
Sample : RSK Std 1 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 10:08 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 10:50:10 2015
Response via : Multiple Level Calibration



(1) Methane (ATM)

2.14min 1.589ppb

response 1509

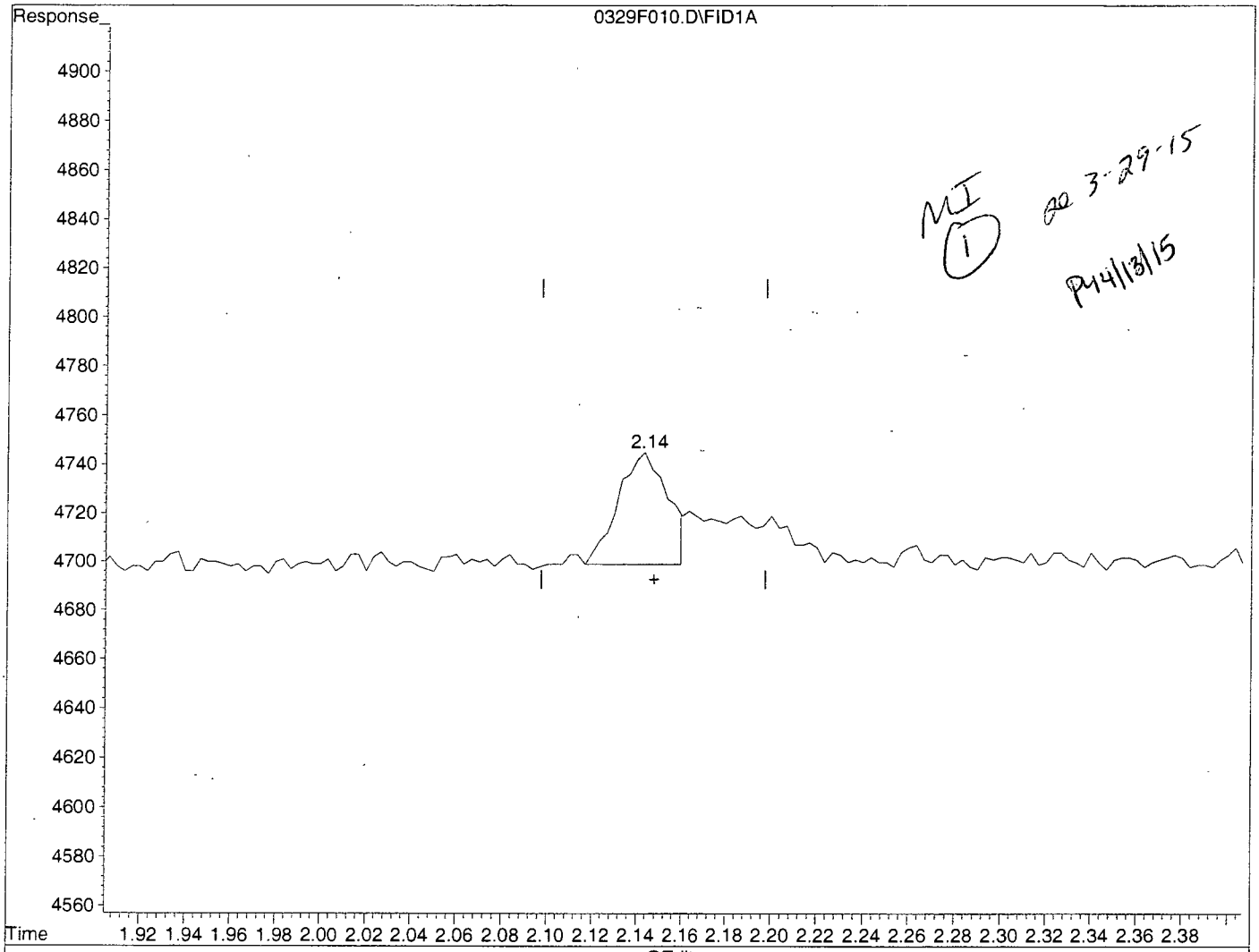
(+) = Expected Retention Time

0329F010.D RSK175Q.M Sun Mar 29 10:51:16 2015

Quantitation Report

Data File : V:\FRODO\DATA\150329\0329F010.D Vial: 10
Acq On : 29 Mar 2015 10:04 Operator: SD
Sample : RSK Std 1 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 10:57 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration



MI (1) 3-29-15

PM 4/13/15

(1) Methane (ATM)

2.14min 1.735ppb m

response 656

(+) = Expected Retention Time

0329F010.D RSK175Q.M Sun Mar 29 11:43:55 2015

Quantitation Report (Not Reviewed)

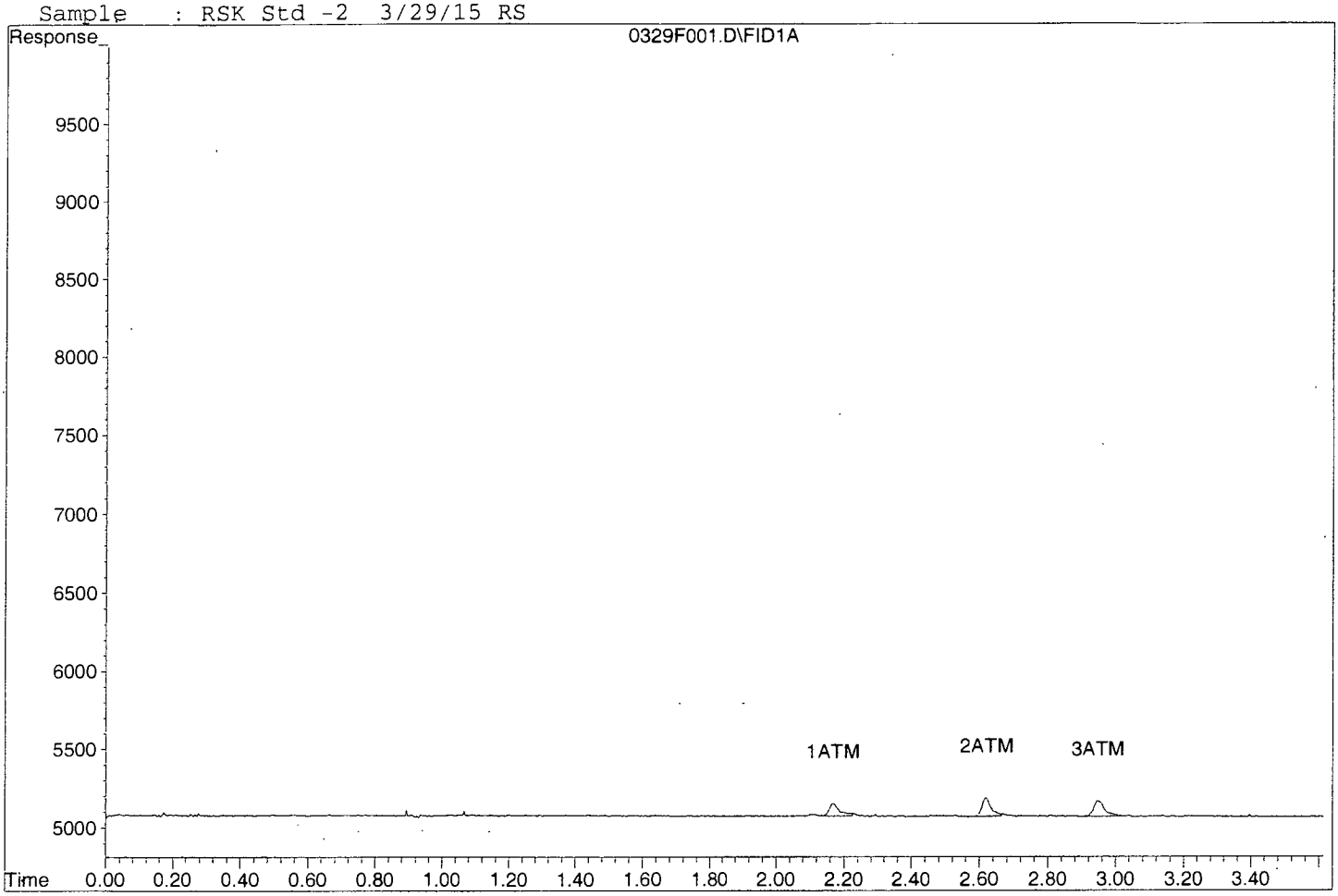
Data File : V:\FRODO\DATA\150329\0329F001.D Vial: 1
Acq On : 29 Mar 2015 08:09 Operator: SD
Sample : RSK Std -2 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:36 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.17	1692	4.997 ppb
2) ATM Ethane	2.62	2079	7.159 ppb
3) ATM Ethene	2.95	2255	7.357 ppb

Data File: V:\FRODO\DATA\150329\0329F001.D
Sample : RSK Std -2 3/29/15 RS



Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\150329\0329F005.D Via1: 5
Acq On : 29 Mar 2015 09:04 Operator: SD
Sample : RSK Std -3 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:31 2015 Quant Results File: RSK175Q.RES

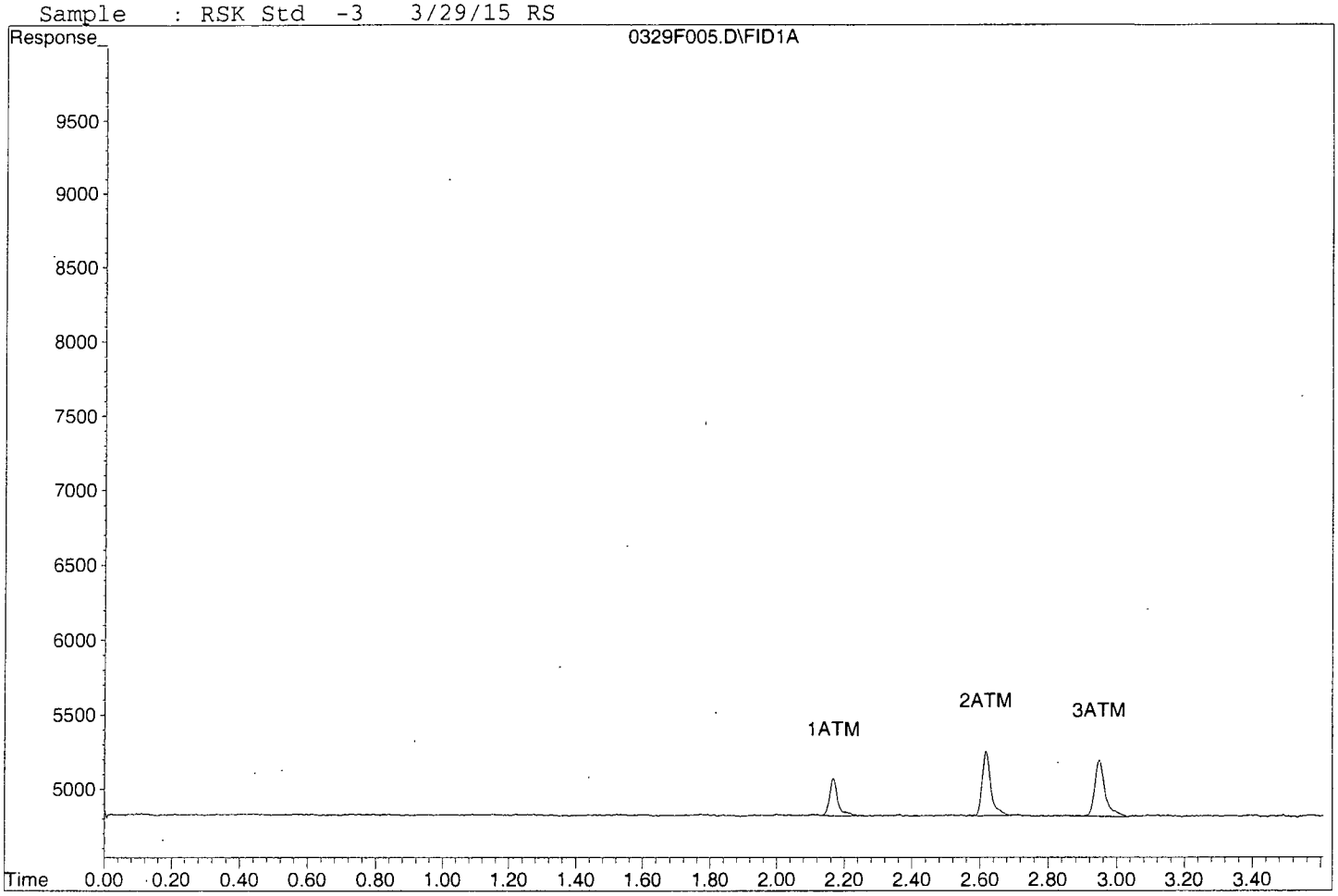
Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.17	4339	12.304 ppb
2) ATM Ethane	2.62	7833	26.979 ppb
3) ATM Ethene	2.95	8101	26.692 ppb

Quantitation Report

Data File: V:\FRODO\DATA\150329\0329F005.D
Sample : RSK Std -3 3/29/15 RS



Quantitation Report (Not Reviewed)

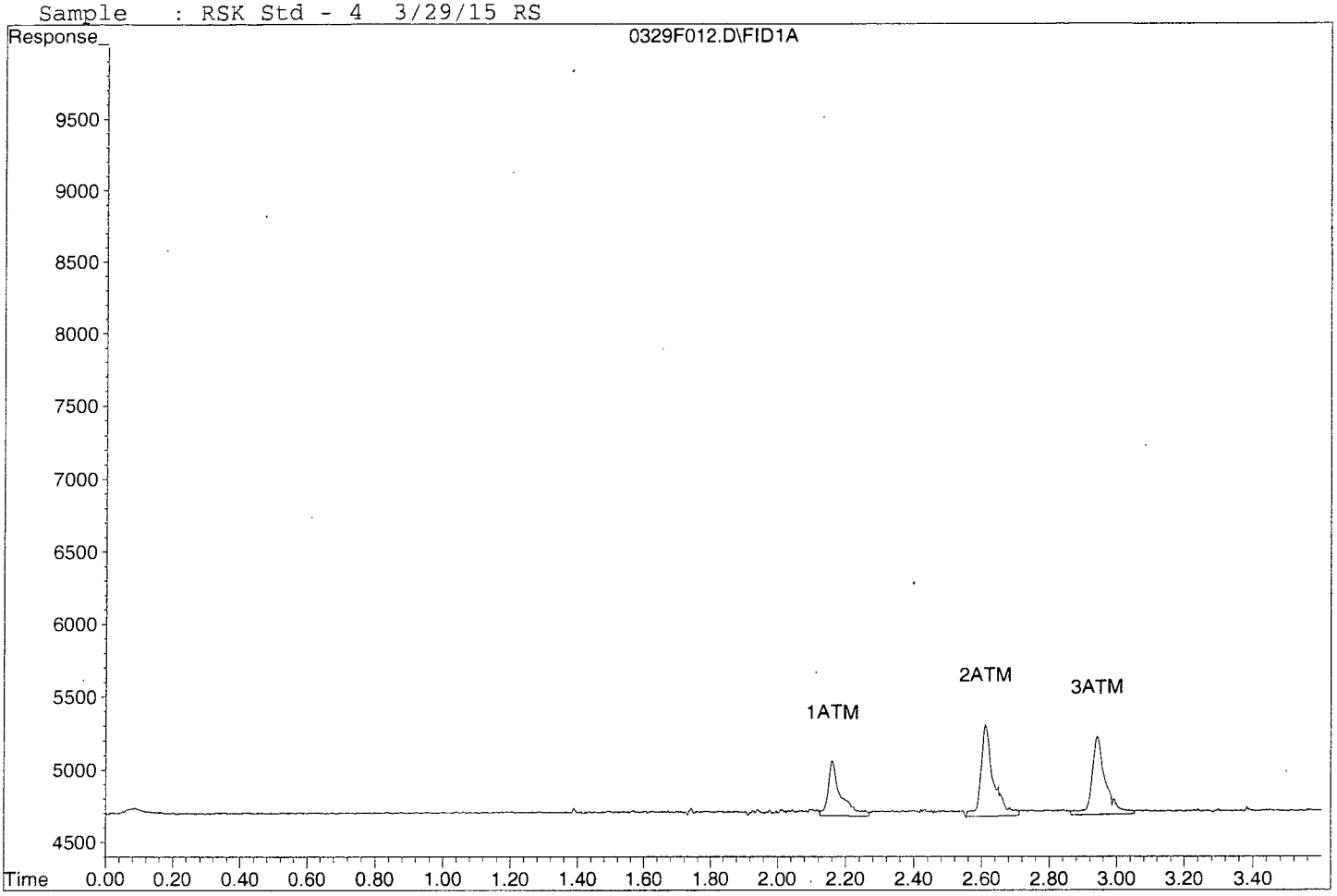
Data File : V:\FRODO\DATA\150329\0329F012.D Vial: 12
Acq On : 29 Mar 2015 10:16 Operator: SD
Sample : RSK Std - 4 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:31 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.16	9905	28.474 ppb
2) ATM Ethane	2.61	16348	56.938 ppb
3) ATM Ethene	2.94	15197	50.416 ppb

Data File: V:\FRODO\DATA\150329\0329F012.D
Sample : RSK Std - 4 3/29/15 RS



Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\150329\0329F013.D Vial: 13
Acq On : 29 Mar 2015 10:20 Operator: SD
Sample : RSK Std - 5 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:33 2015 Quant Results File: RSK175Q.RES

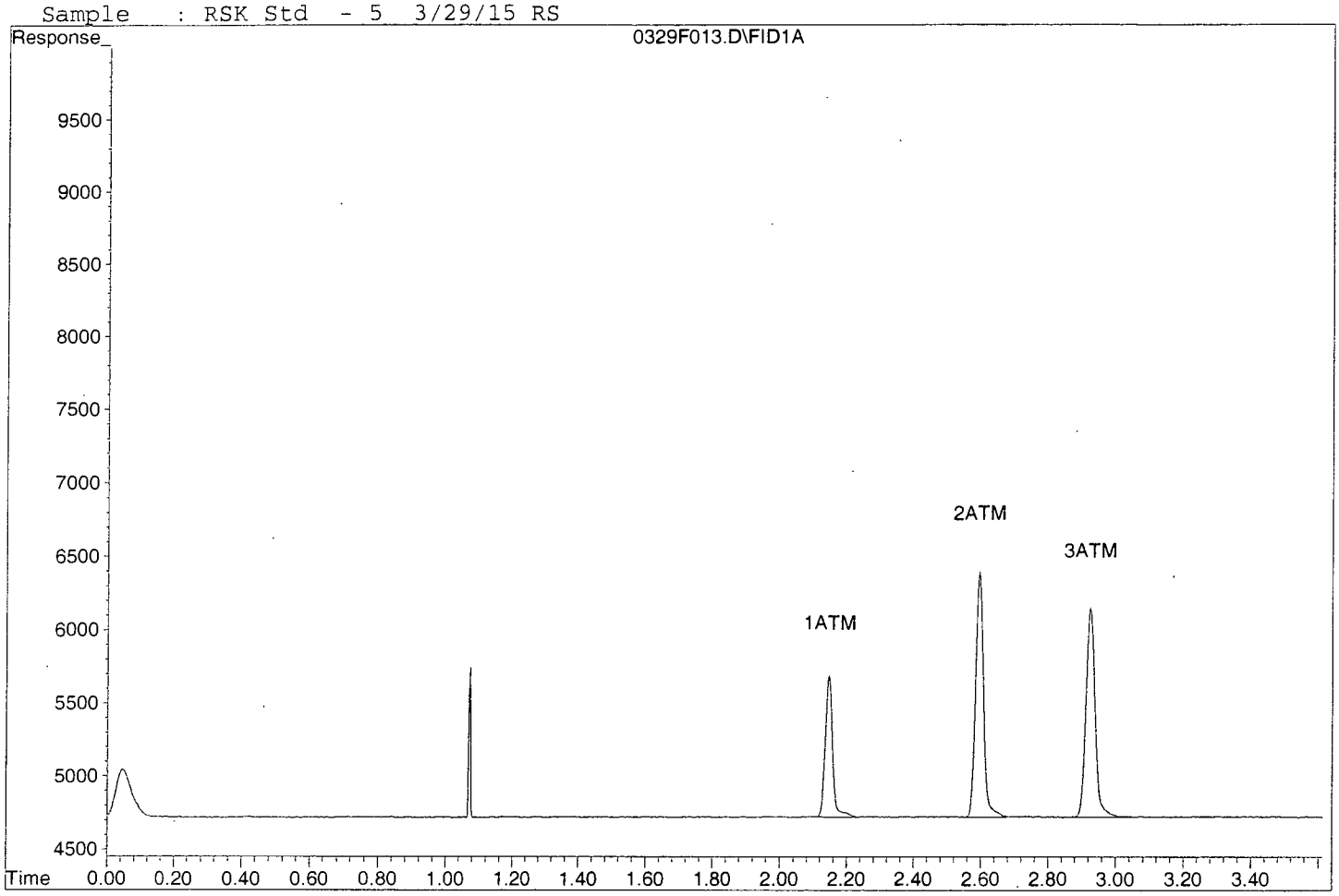
Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.15	14757	37.309 ppb
2) ATM Ethane	2.60	27687	82.950 ppb
3) ATM Ethene	2.93	27304	77.476 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.
0329F013.D RSK175Q.M Sun Mar 29 11:47:48 2015 Page 1

Data File: V:\FRODO\DATA\150329\0329F013.D
Sample : RSK Std - 5 3/29/15 RS



Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\150329\0329F015.D Vial: 15
Acq On : 29 Mar 2015 10:34 Operator: SD
Sample : RSK Std 6 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:32 2015 Quant Results File: RSK175Q.RES

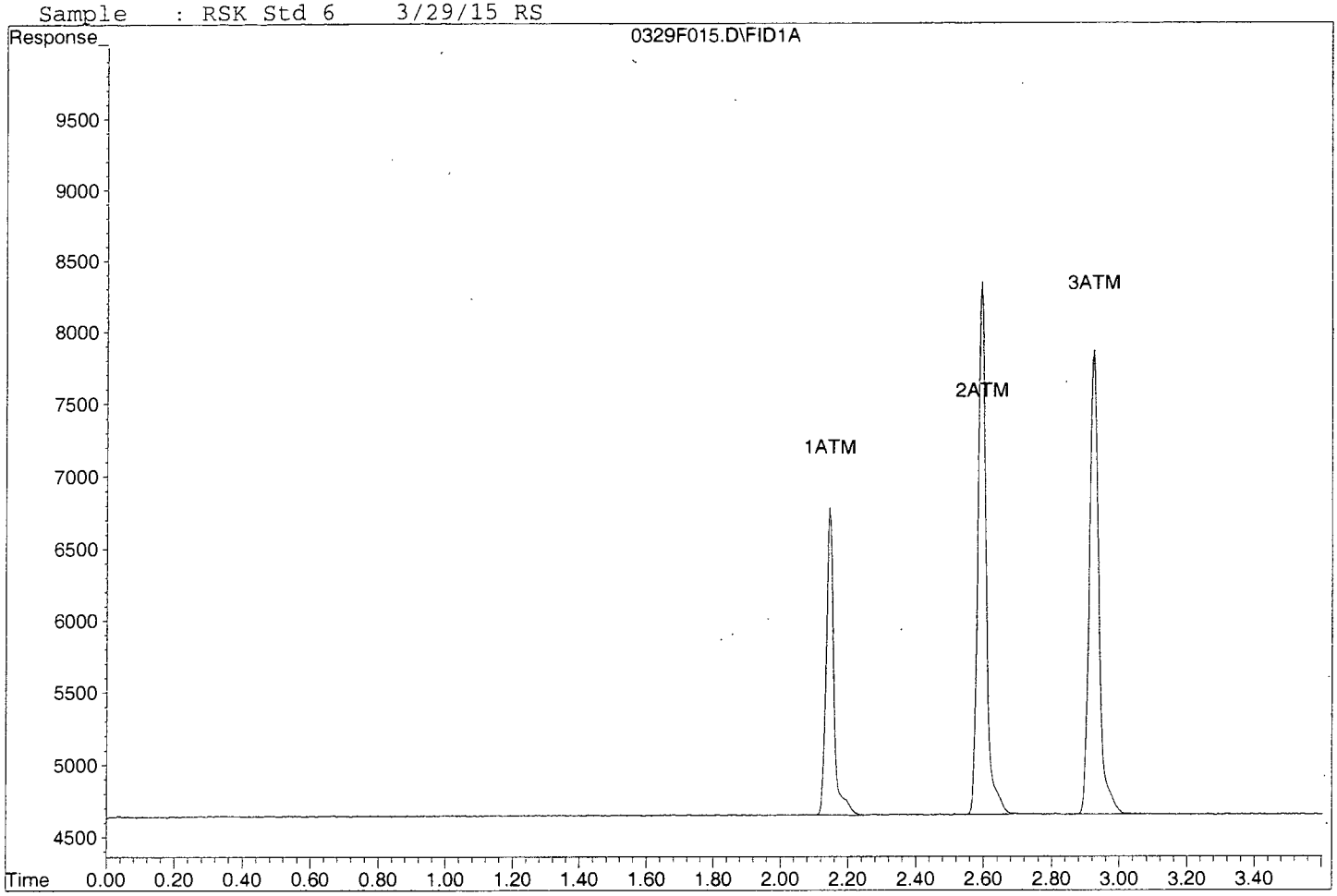
Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.15	33981	96.772 ppb
2) ATM Ethane	2.59	63177	217.921 ppb
3) ATM Ethene	2.92	63376	208.092 ppb

Quantitation Report

Data File: V:\FRODO\DATA\150329\0329F015.D
Sample : RSK Std 6 3/29/15 RS



Quantitation Report (Not Reviewed)

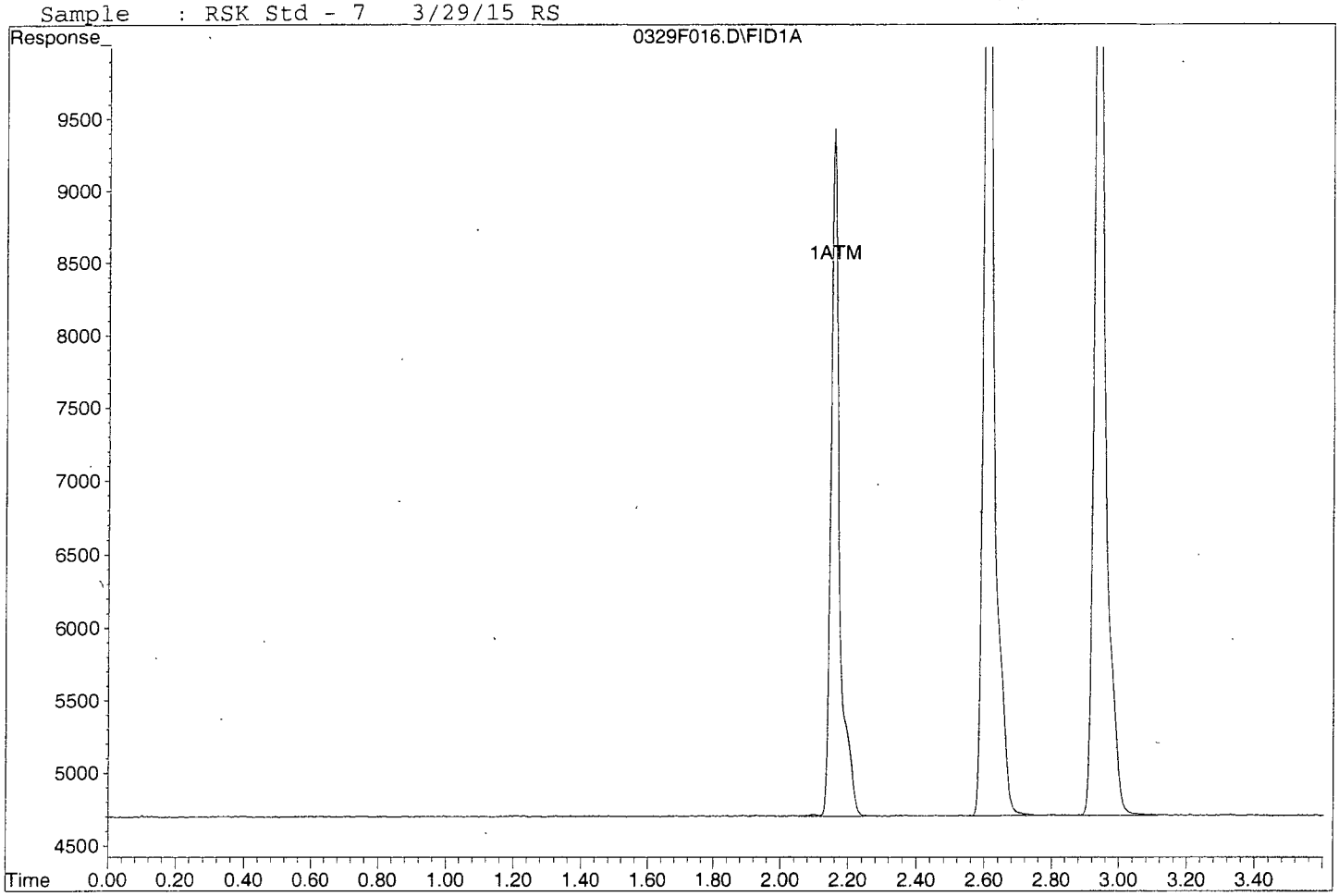
Data File : V:\FRODO\DATA\150329\0329F016.D Vial: 16
Acq On : 29 Mar 2015 11:11 Operator: SD
Sample : RSK Std - 7 3/29/15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 29 11:33 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150329\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Mar 29 11:20:33 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.16	82685	235.885 ppb
2) ATM Ethane	2.61	160017	552.898 ppb
3) ATM Ethene	2.94	156995	516.370 ppb

Data File: V:\FRODO\DATA\150329\0329F016.D
Sample : RSK Std - 7 3/29/15 RS



Quantitation Report (Not Reviewed)

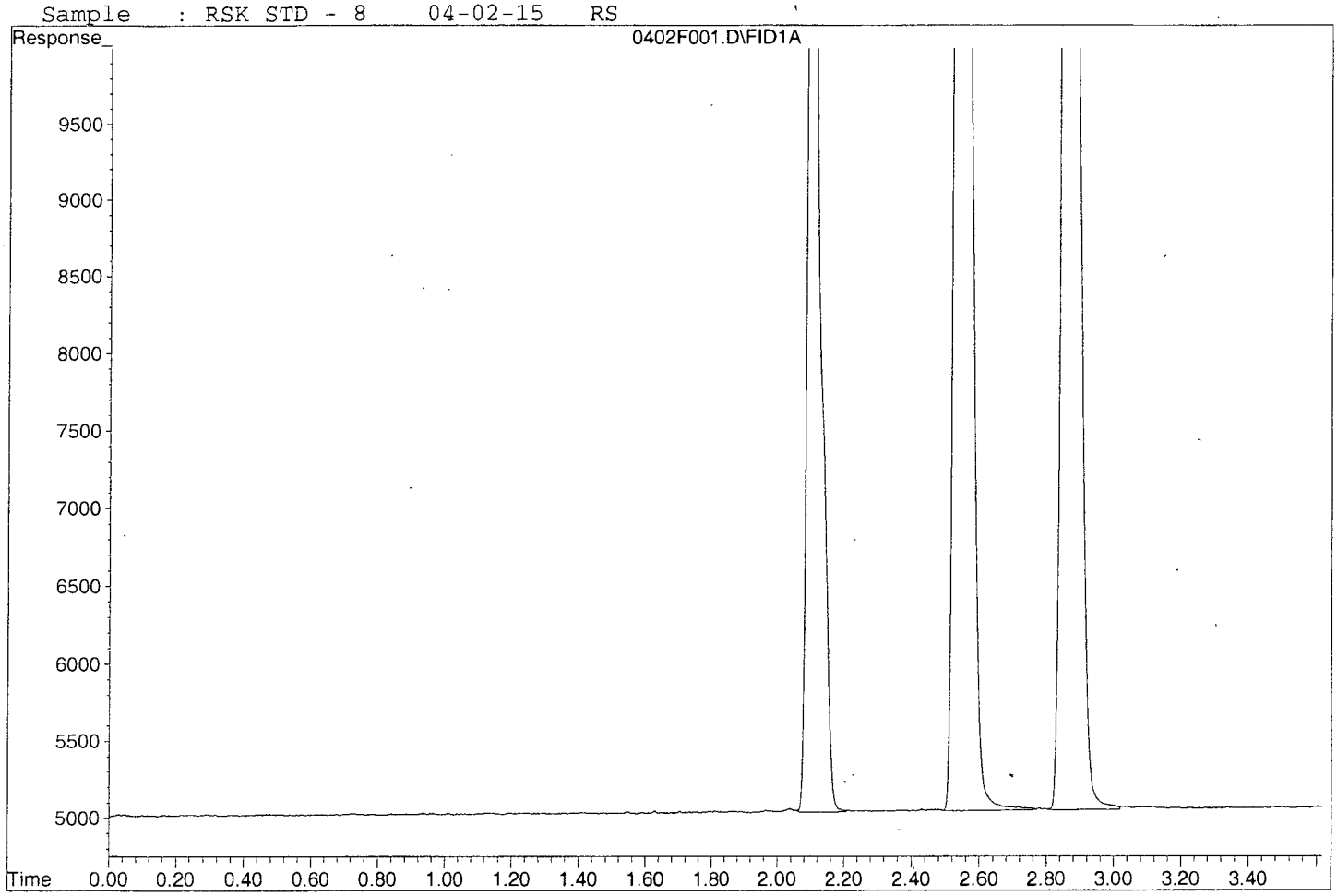
Data File : V:\FRODO\DATA\150402\0402F001.D Vial: 1
Acq On : 2 Apr 2015 07:55 Operator: SD
Sample : RSK STD - 8 04-02-15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 2 10:14 2015 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\150402\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Apr 02 11:00:03 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	2.10	240698	719.028	ppb
2) ATM Ethane	2.54	482100	1724.981	ppb
3) ATM Ethene	2.86	466060	1555.247	ppb

Data File: V:\FRODO\DATA\150402\0402F001.D
Sample : RSK STD - 8 04-02-15 RS



Form 7

Second Source

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 2 Apr 2015 08:15
Instrument: Frodo
Initial Cal. Date: 04/02/15
Data File: 0402F002.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	331	331	0.04	ATM	
2	ATM	Ethane	284	303	6.5	ATM	
3	ATM	Ethene	303	312	2.8	ATM	
4							
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7							
8							
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10							
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37							
38							
39							
40							
		Average			3.1		

Quantitation Report (Not Reviewed)

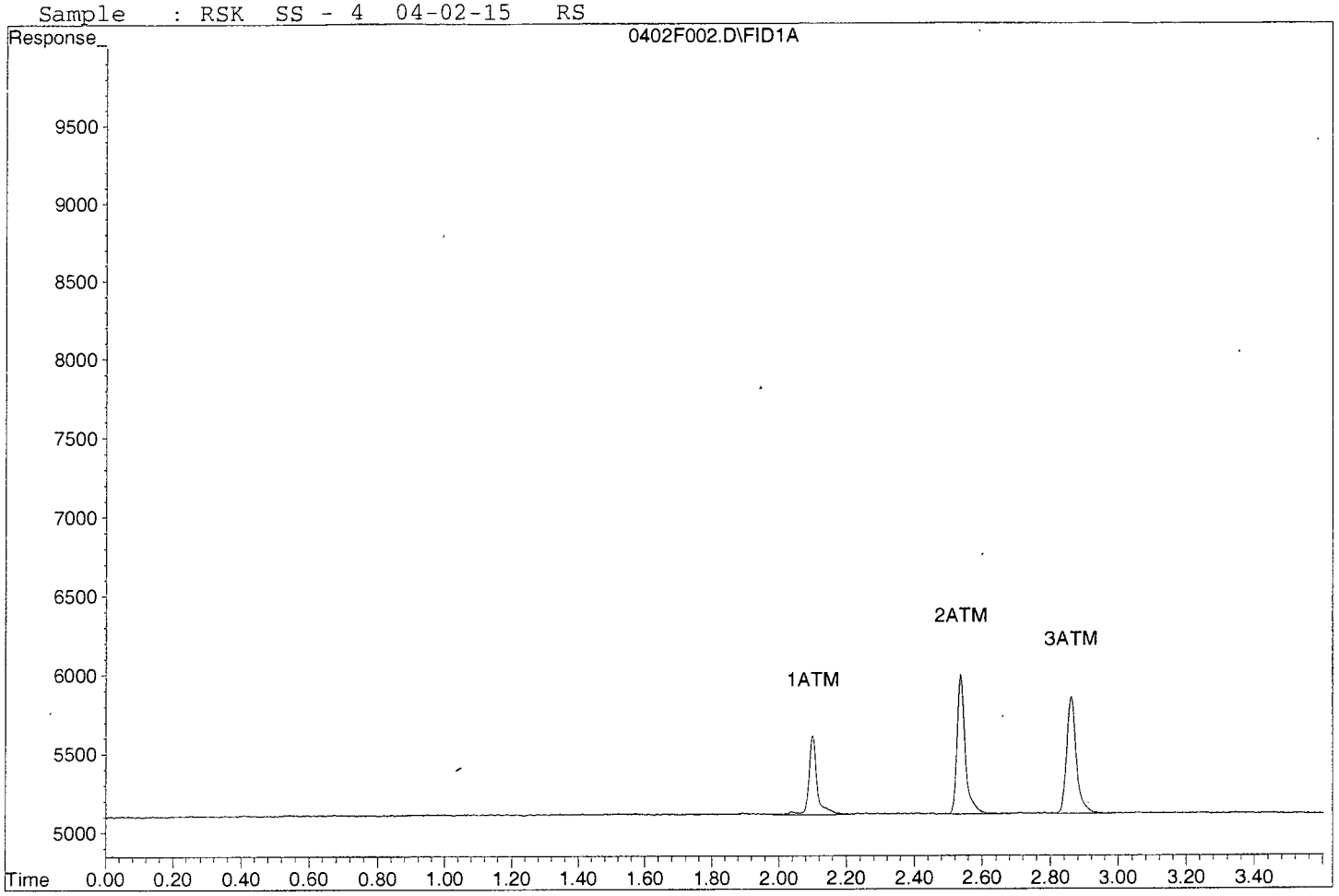
Data File : V:\FRODO\DATA\150402\0402F002.D Vial: 2
Acq On : 2 Apr 2015 08:15 Operator: SD
Sample : RSK SS - 4 04-02-15 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 10 17:44 2015 Quant Results File: 402RSK.RES

Method : V:\FRODO\DATA\150402\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Apr 03 10:14:53 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.10	8834	26.690 ppb
2) ATM Ethane	2.54	15133	53.264 ppb
3) ATM Ethene	2.86	14529	47.882 ppb

Data File: V:\FRODO\DATA\150402\0402F002.D
Sample : RSK SS - 4 04-02-15 RS



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 06/24/15
Instrument: Frodo
Initial Cal. Date: 06/24/15
Data File: 0624F004.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATM	Methane	331	337	1.9	ATM	
2	ATM	Ethane	284	278	2.0	ATM	
3	ATM	Ethene	303	247	19	ATM	
4							
5							
6							
7							
8							
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35							
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37							
38							
39							
40							
		Average			7.6		

Quantitation Report (Not Reviewed)

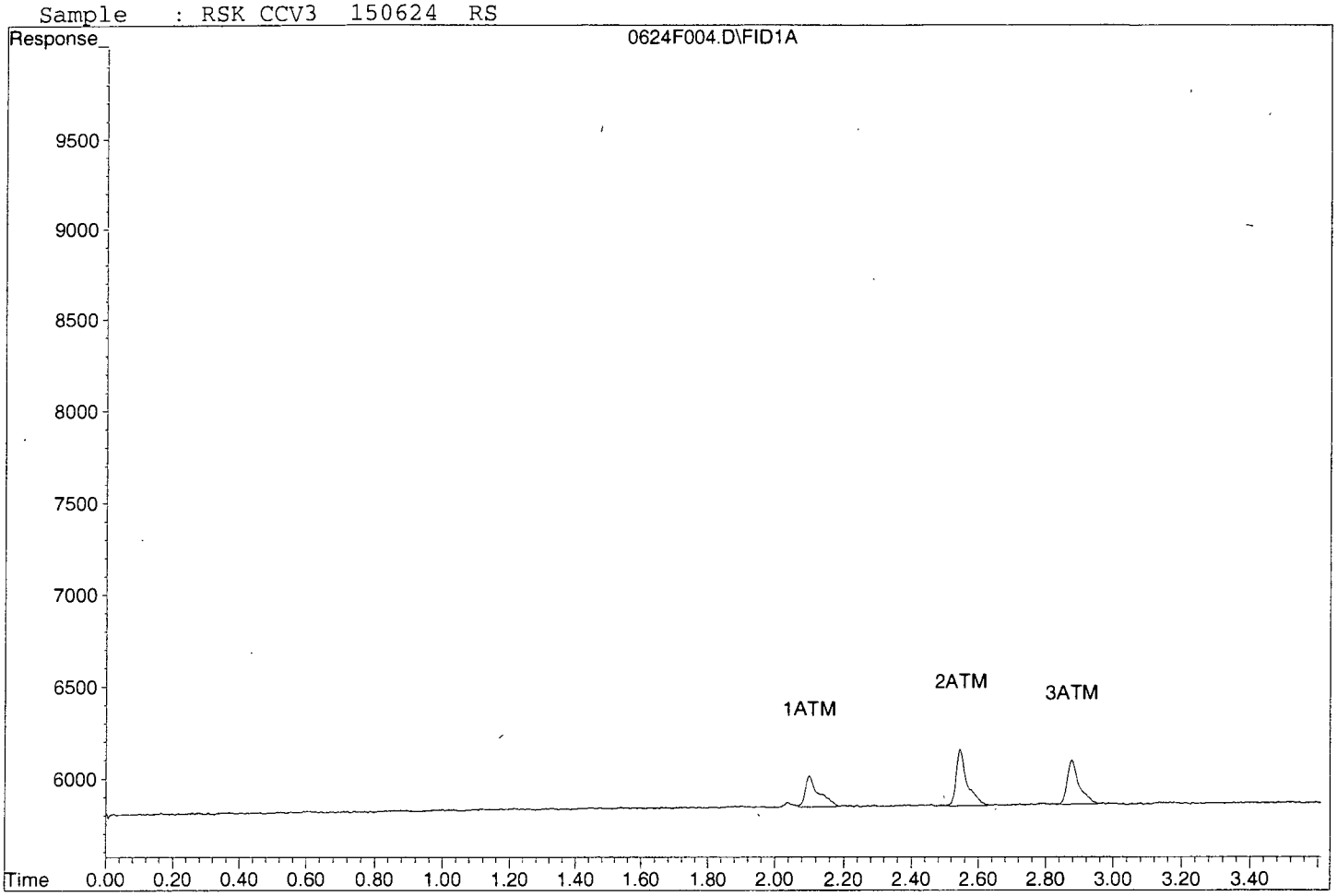
Data File : V:\FRODO\DATA\150624\0624F004.D Vial: 4
Acq On : 24 Jun 2015 08:20 Operator: SD
Sample : RSK CCV3 150624 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 24 8:40 2015 Quant Results File: 402RSK.RES

Method : V:\FRODO\DATA\150625\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Jun 24 11:41:55 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	2.10	4500	13.595	ppb
2) ATM Ethane	2.55	6961	24.500	ppb
3) ATM Ethene	2.88	5761	18.985	ppb

Data File: V:\FRODO\DATA\150624\0624F004.D
Sample : RSK CCV3 150624 RS



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 06/24/15
Instrument: Frodo
Initial Cal. Date: 06/24/15
Data File: 0624F023.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	331	309	6.5	ATM	
2	ATM	Ethane	284	320	13	ATM	
3	ATM	Ethene	303	322	6.1	ATM	
4							
5							
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40							
		Average			8.5		

Quantitation Report (Not Reviewed)

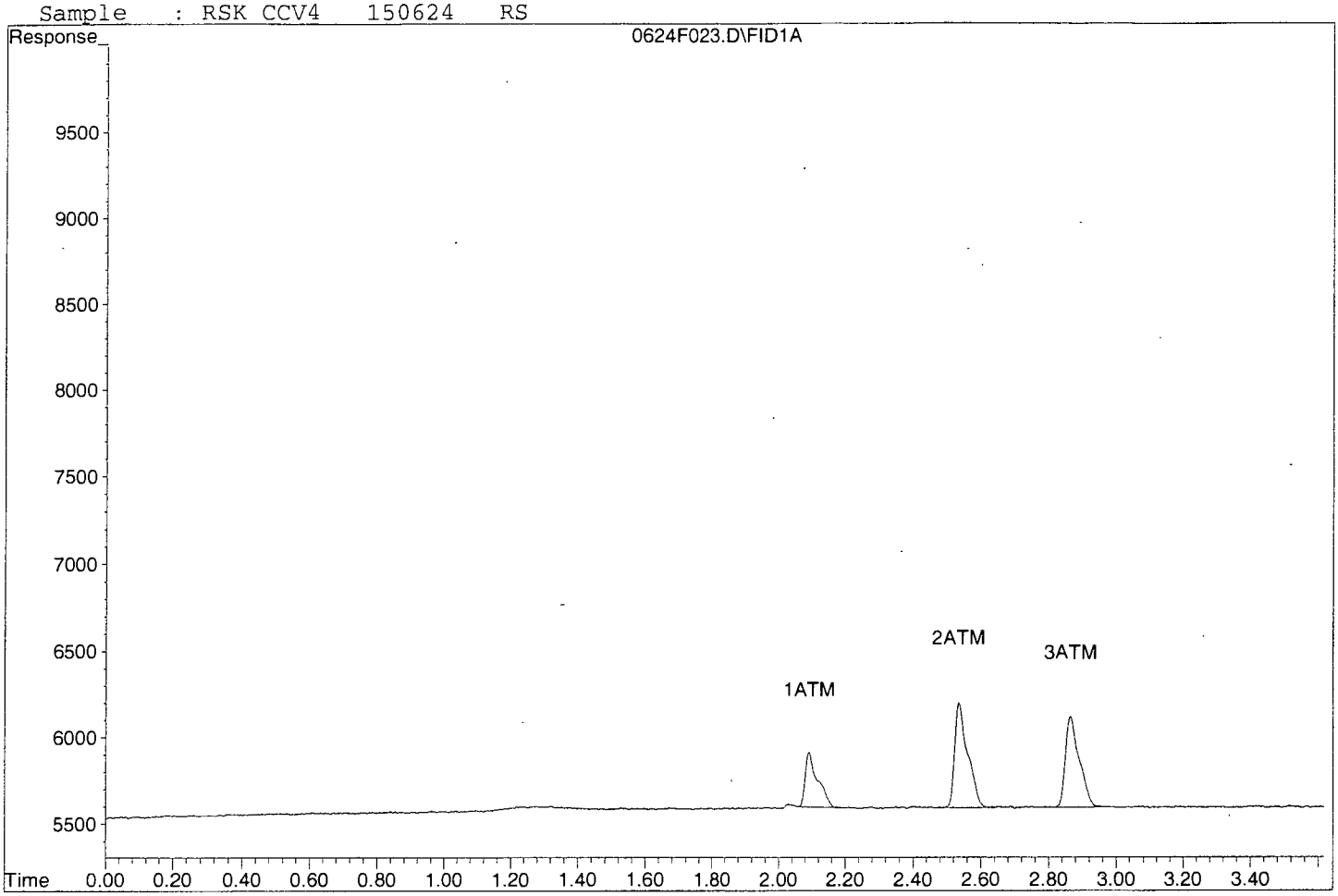
Data File : V:\FRODO\DATA\150624\0624F023.D Vial: 23
Acq On : 24 Jun 2015 11:53 Operator: SD
Sample : RSK CCV4 150624 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 24 11:56 2015 Quant Results File: 402RSK.RES

Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jun 25 14:58:59 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.09	8261	24.960 ppb
2) ATM Ethane	2.54	15997	56.303 ppb
3) ATM Ethene	2.86	15005	49.452 ppb

Data File: V:\FRODO\DATA\150624\0624F023.D
Sample : RSK CCV4 150624 RS



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 06/24/15
Instrument: Frodo
Initial Cal. Date: 06/24/15
Data File: 0624F037.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATM	Methane	331	293	12	ATM	
2	ATM	Ethane	284	309	8.9	ATM	
3	ATM	Ethene	303	303	0.07	ATM	
4							
5							
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39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\150624\0624F037.D Vial: 37
Acq On : 24 Jun 2015 15:34 Operator: SD
Sample : RSK CCV4 150624 RS Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 24 15:38 2015 Quant Results File: 402RSK.RES

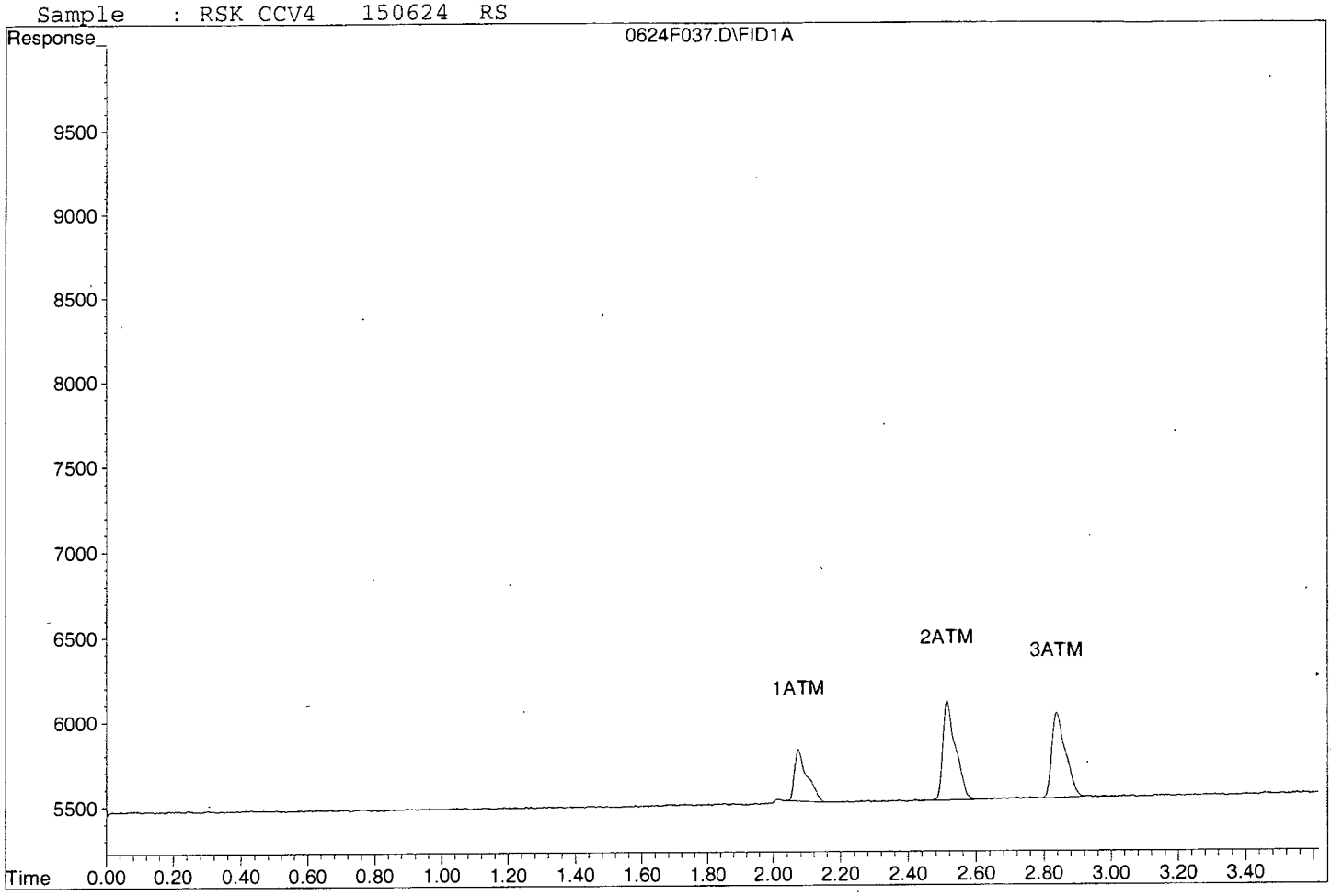
Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jun 25 14:58:59 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.07	7812	23.602 ppb
2) ATM Ethane	2.51f	15465	54.432 ppb
3) ATM Ethene	2.84f	14130	46.570 ppb

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

Data File: V:\FRODO\DATA\150624\0624F037.D
Sample : RSK CCV4 150624 RS



RSK-175
Raw Data

APPL, INC.

Method Blank
RSK 175

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150624W-17694 - 198396**
Batch ID: #RSK-150624A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	ETHANE	0.85 U	1.7	0.85	0.51	ug/L	06/24/15	06/24/15
BLANK	ETHENE	0.80 U	1.8	0.80	0.47	ug/L	06/24/15	06/24/15
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	06/24/15	06/24/15

Quant Method: 402RSK.M
Run #: 0624F008
Instrument: Frodo
Sequence: 150624
Initials: SD

GC SC-Blank-REG MDLs
Printed: 06/25/15 4:37:32 PM

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\150624\0624F008.D Vial: 8
Acq On : 24 Jun 2015 09:44 Operator: SD
Sample : 150624A BLK-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 24 12:28 2015 Quant Results File: 402RSK.RES

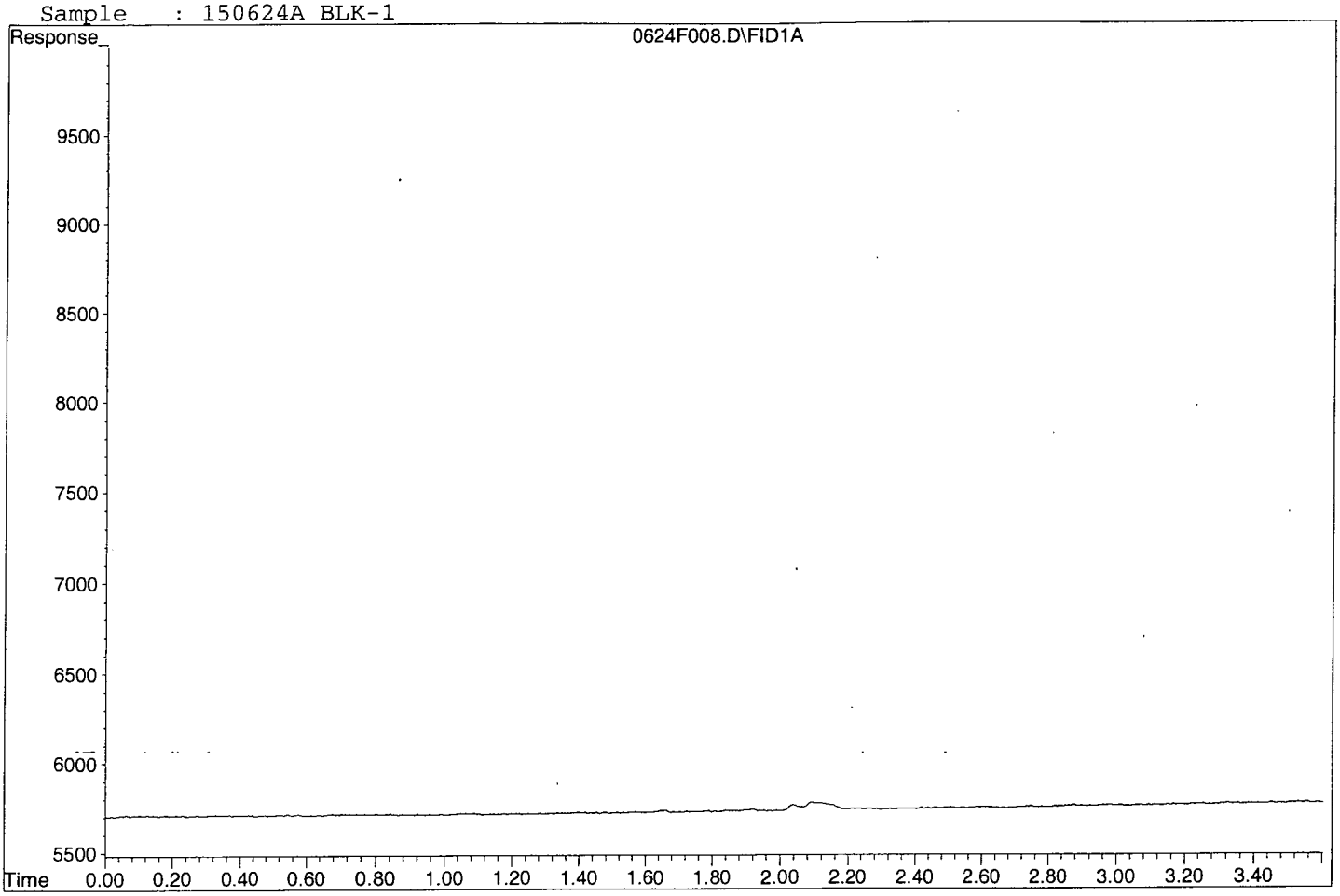
Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Jun 24 11:41:55 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units

Target Compounds

Data File: V:\FRODO\DATA\150624\0624F008.D
Sample : 150624A BLK-1



Laboratory Control Spike Recovery

RSK 175

APPL ID: **150624W-17694 LCS - 198396**
Batch ID: #RSK-150624A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
ETHANE	25.0	26.0	104	70-130
ETHENE	23.3	21.4	91.8	70-130
METHANE	13.3	14.6	110	70-130

Comments: _____

Primary	SPK
Quant Method :	402RSK.M
Extraction Date :	06/24/15
Analysis Date :	06/24/15
Instrument :	Frodo
Run :	0624F006
Initials :	SD

Printed: 06/25/15 4:37:25 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\150624\0624F006.D Vial: 6
Acq On : 24 Jun 2015 09:04 Operator: SD
Sample : 150624A LCS-3 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 24 9:14 2015 Quant Results File: 402RSK.RES

Method : V:\FRODO\DATA\150624\402RSK.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Jun 24 11:41:55 2015
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

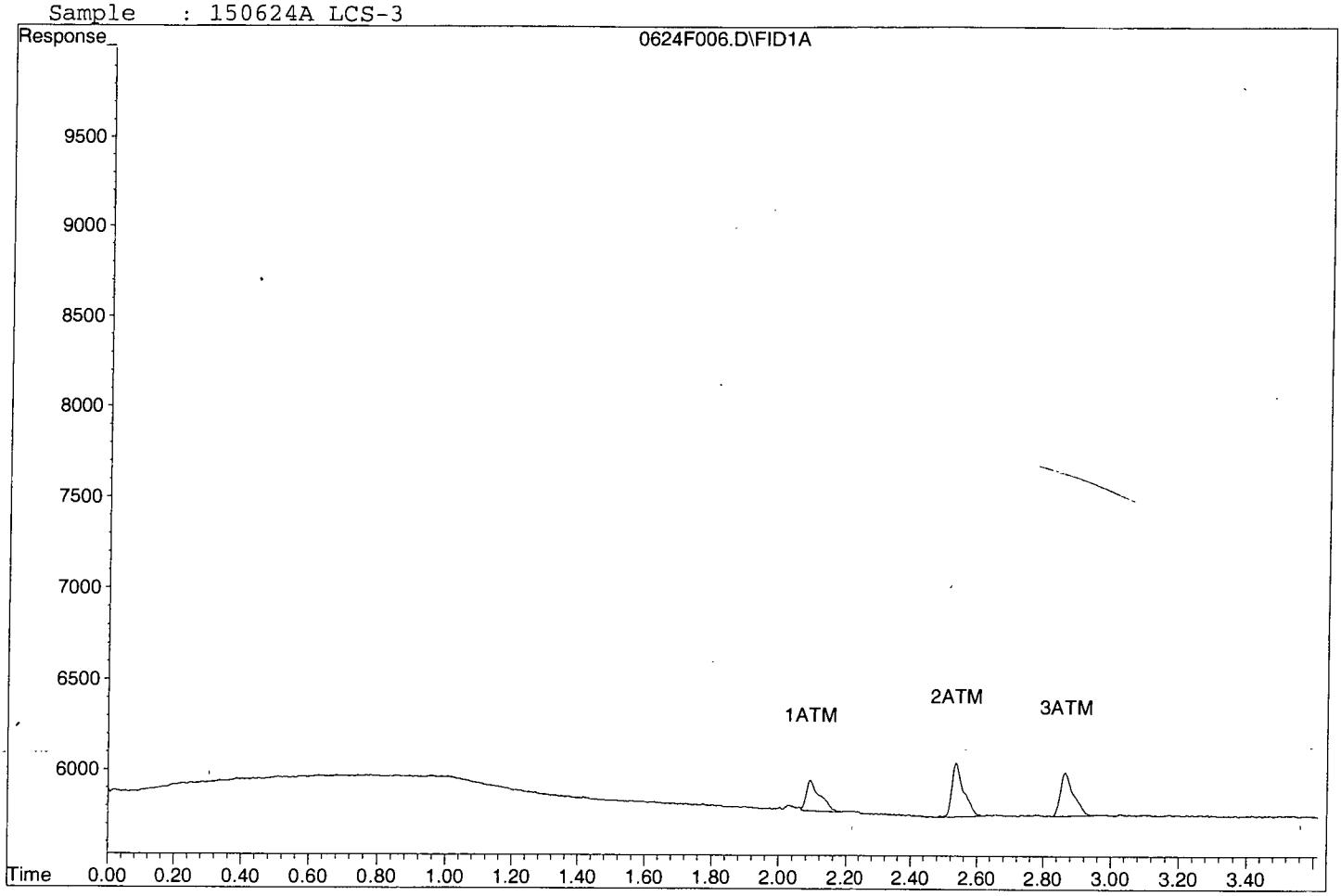
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.09	4841	14.627 ppb ✓
2) ATM Ethane	2.54	7376	25.961 ppb
3) ATM Ethene	2.86	6494	21.403 ppb

Algorithm $\frac{4841\ (1.00)}{331} = 14.63$ ✓

JE 6-25-15

(f)=RT Delta > 1/2 Window (m)=manual int.
0624F006.D 402RSK.M Thu Jun 25 14:57:39 2015 Page 1

Data File: V:\FRODO\DATA\150624\0624F006.D
Sample : 150624A LCS-3



Primary Source Stock Standard 10,000ppmV **Expires 7-8-2017**

RSK Gas Mix (Scott Specialty Gas) Cat.# T216-48, Lot # 164PLU4SPC95L-34437, Manufacturer Exp Date 7-8-2017 **RS 3/29/15**

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV 3/29/15 **Expires 4/29/15** **RS 3/29/15**

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34437 standard.

RSK Calibration Curve **Vial expiration date 4/29/14** **RS 3/29/15**

Analye	Conc Std 1A (ug/L)	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)
Methane (MW 16.04)	0.90	1.80	5.10	13.33	26.70	53.40	106.80	320.40
Ethane (MW 30.07)	1.70	3.40	9.50	25.00	50.00	100.00	200.00	600.00
Ethene (MW 28.05)	1.60	3.20	8.90	23.30	46.60	93.20	186.40	559.20
Stock Source	Intermediate Calib Std 3/29/15	Intermediate Calib Std 3/29/16	Intermediate Calib Std 3/29/17	Intermediate Calib Std 3/29/18	Intermediate Calib Std 3/29/19	Intermediate Calib Std 3/29/20	Primary Source Std #164PLU4S PC05L-34439	Primary Source Std #164PLU4 SPC05L-34440
Stock Conc (ppmv)	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	0 100 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (mL)	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	8.0 mL	0.160 mL	0.480 mL
Final Volume P&T Water	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV APPL extended Exp Date: 9/29/15 (comparrison to primary source on 3/29/15)

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 248PLU2SPC03L-31312, Manufacturer Exp Date 9-6-12 **RS 3/29/15**

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV 3/29/15 **Expires 7/29/15** **RS 3/29/15**

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 248PLU2SPC03L-31312 standard.

Second Source - Level 3, 3/29/15 **Expires 04/29/15** **RS 3/29/15**

2mL of Intermediate cal stock 3/29/15 into 10mL P&T water

final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

Analye	Conc Std 8 (ug/L)
Methane (MW 16.04)	801.00
Ethane (MW 30.07)	1500.00
Ethene (MW 28.05)	1398.00
Stock Source	Primary Source Std #164PLU4S PC05L-34440
Stock Conc (ppmv)	10,000 ppmV
Stock Aliquot (mL)	1.20 mL
Final Volume P&T Water	10 mL

Added higher ICAL point to curve. **RS 04/02/15**

Second Source - Level 4 3/29/15 **Expires 05/02/15** **RS 04/02/15**

4mL of Intermediate cal stock 3/29/15A into 10mL P&T water

final conc:26.7ppb Methane, 50.0ppb Ethane, and 46.6ppb Ethene

Intermediate Calibration Stock Standard 100ppmV 06/15/15 **Expires 7/15/15** **RS 06/15/15**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34437 standard.

CCV4 06/15/15 Expires 07/15/15 **RS 06/15/15**
4mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:26.7ppb Methane, 50.0ppb Ethane, and 46.6ppb Ethene

CCV3 06/15/15 Expires 07/15/15 **RS 06/15/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

LCS-4 150615A **RS 06/15/15**
4mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:26.7ppb Methane, 50.0ppb Ethane, and 46.6ppb Ethene

AZ17333W11 MS/MSD (level 4) **RS 06/15/15**
4mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:26.7ppb Methane, 50.0ppb Ethane, and 46.6ppb Ethene

CCV3 06/24/15 Expires 07/15/15 **RS 06/24/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

CCV4 06/24/15 Expires 07/15/15 **RS 06/24/15**
4mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:26.7ppb Methane, 50.0ppb Ethane, and 46.6ppb Ethene

LCS-3 150624A **RS 06/24/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

AZ17690W08 MS/MSD (level 3) **RS 06/24/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

CCV3 06/25/15 Expires 07/15/15 **RS 06/25/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

LCS-3 150625A **RS 06/25/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

AZ17815W05 MS/MSD (level 3) **RS 06/25/15**
2mL of Intermediate cal stock 6/15/15 into 10mL P&T water
final conc:13.3ppb Methane, 25.0ppb Ethane, and 23.3ppb Ethene

76657

Directory: V:\FRODO\DATA\150329\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0329F001.D	1	**RSK Std -2 3/29/15 RS**	Water	29 Mar 2015 08:09
5	5	0329F005.D	1	**RSK Std -3 3/29/15 RS**	Water	29 Mar 2015 09:04
9	9	0329F009.D	1	**RSK Std - 1A 3/29/15 RS**	Water	29 Mar 2015 09:45
10	10	0329F010.D	1	**RSK Std 1 3/29/15 RS**	Water	29 Mar 2015 10:04
12	12	0329F012.D	1	**RSK Std - 4 3/29/15 RS**	Water	29 Mar 2015 10:16
13	13	0329F013.D	1	**RSK Std - 5 3/29/15 RS**	Water	29 Mar 2015 10:20
15	15	0329F015.D	1	**RSK Std 6 3/29/15 RS**	Water	29 Mar 2015 10:34
16	16	0329F016.D	1	**RSK Std - 7 3/29/15 RS**	Water	29 Mar 2015 11:11
41	1	0402F001.D	1	**RSK STD - 8 04-02-15 RS**	Water	2 Apr 2015 07:55
42	2	0402F002.D	1	**RSK SS - 4 04-02-15 RS**	Water	2 Apr 2015 08:15
4	4	0624F004.D	1	**RSK CCV3 150624 RS**	Water	24 Jun 2015 08:20
6	6	0624F006.D	1	150624A LCS-3	Water	24 Jun 2015 09:04
23	23	0624F023.D	1	**RSK CCV4 150624 RS**	Water	24 Jun 2015 11:53
25	25	0624F025.D	1	AZ17694W01	Water	24 Jun 2015 12:07
26	26	0624F026.D	1	AZ17696W01	Water	24 Jun 2015 12:11
37	37	0624F037.D	1	**RSK CCV4 150624 RS**	Water	24 Jun 2015 15:34

EPA METHOD 6850
Perchlorate
LC/MS

APPL, INC.

EPA METHOD 6850
Perchlorate
LC/MS

QC Summary

APPL, INC.

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150617W-17694 - 198528**
Batch ID: #6850-150617A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

Quant Method: QTLMFL2
Run #: T621_027.d
Instrument: AGIL_6460
Sequence: TQ062115
Initials: RP

GC SC-Blank-REG MDLs
Printed: 07/02/15 8:44:24 AM

Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150617W-17694 LCS - 198528**
Batch ID: #6850-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PERCHLORATE	0.600	0.554	92.3	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	06/17/15
Analysis Date :	06/22/15
Instrument :	AGIL_6460
Run :	T621_025.d
Initials :	RP

Printed: 07/02/15 8:44:19 AM
APPL Standard LCS

Matrix Spike Recoveries

Perchlorate

APPL ID: **150617W-17694 MS - 198528**
Batch ID: #6850-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PERCHLORATE	0.600	0.24	0.800	0.857	93.3	103	80-120	6.9	15

Comments: _____

Primary	SPK	DUP
Quant Method :	QTLMFL2	QTLMFL2
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/22/15	06/22/15
Instrument :	AGIL_6460	AGIL_6460
Run :	T621_044.d	T621_045.d
Initials :	RP	

Printed: 07/02/15 9:06:41 AM
APPL MSD SCII

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/22/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150617A-BLK Time Analyzed: 0044

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150617A-LCS	Lab Control Spike	T621_025.d	06/22/15 0007
150617A-BLK	Blank	T621_027.d	06/22/15 0044
AZ17694	S67-MW016-061515	T621_043.d	06/22/15 0542
150617A-MS	Matrix Spike	T621_044.d	06/22/15 0601
150617A-MSD	Matrix SpikeD	T621_045.d	06/22/15 0619
AZ17696	S67-MW017-061515	T621_047.d	06/22/15 0657
AZ17697	S67-MW031-061515	T621_048.d	06/22/15 0715
AZ17692	S67-MW026-061515	T705_057.d	07/06/15 0630
AZ17693	S67-MW026P-061515	T705_059.d	07/06/15 0707
AZ17695	S67-MW024-061515	T705_062.d	07/06/15 0803

Comments: Batch: #6850-150617A

Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150617W-17694 ICS-198528
Batch ID: #6850-150617A

APPL Inc.
908 N. Temperance Ave.
Clovis, CA 93711

Compound Name	Spike Level ug/L	Spk Result ug/L	SPK% Recovery	Recovery Limits
Perchlorate	0.600	0.596	99.3%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	06/17/15
Analysis Date:	06/22/15
Instrument:	AGIL_6560
Run:	T621_026.D
Initials:	RP

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. **SDG No.**

Lab File ID (Standard): T312_003-_008.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	11032021		
	UPPER LIMIT RESPONSE	16548032		
	LOWER LIMIT RESPONSE	5516011		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T312_003.d	PERCHLORATE 0.0002 ug/ml 11/11/14	3/12/15 17:52	8337058	13.732
T312_004.d	PERCHLORATE 0.0004 ug/ml 11/11/14	3/12/15 18:11	10671196	13.783
T312_005.d	PERCHLORATE 0.001 ug/ml 11/11/14	3/12/15 18:29	10651968	13.803
T312_006.d	PERCHLORATE 0.002 ug/ml 11/11/14	3/12/15 18:48	13529952	13.803
T312_007.d	PERCHLORATE 0.005 ug/ml 11/11/14	3/12/15 19:07	11028880	13.874
T312_008.d	PERCHLORATE 0.010 ug/ml 08/27/14	3/12/15 19:25	11973072	13.874
T312_010.d	PER_SS 0.0004 ug/ml 11/11/14	3/12/15 20:02	12977621	13.946
T312_011.d	PER_SS 0.002 ug/ml 11/11/14	3/12/15 20:21	13747369	13.976
T312_013.d	PER_CCV_1 0.0004 ug/ml 11/11/14	3/12/15 20:58	12323795	14.109
T312_014.d	PER_CCV_1 0.002 ug/ml 11/11/14	3/12/15 21:17	13576634	14.139

AREA UPPER LIMIT = +50% of internal standard average
AREA LOWER LIMIT = -50% of internal standard average
Column used to flag values outside QC limits
* Values outside of QC limits

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. **SDG No.** **76657**

Lab File ID (Standard): T621_003.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	3612259		
	UPPER LIMIT RESPONSE	5418389		
	LOWER LIMIT RESPONSE	1806130		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T621_002.d	PER_CCV 0.0004 ug/ml 06/11/15	6/21/15 16:58	3616272	13.701
T621_003.d	PER_CCV 0.002 ug/ml 06/11/15	6/21/15 17:17	3612259	14.262
T621_022.d	PER_CCV 0.0004 ug/ml 06/11/15	6/21/15 23:11	3398652	13.803
T621_023.d	PER_CCV 0.002 ug/ml 06/11/15	6/21/15 23:30	4057583	14.333
T621_025.d	150617WA_LCS-1 1052.6 DF 06/17/15	6/22/15 0:07	3614497	14.323
T621_026.d	150617W_ICSA 1052.6 DF 06/17/15	6/22/15 0:26	2986292	13.385
T621_027.d	150617WBLKA 1052.6 DF 06/17/15	6/22/15 0:44	2952138	14.323
T621_036.d	PER_CCV 0.0004 ug/ml 06/11/15	6/22/15 3:32	3181165	14.109
T621_037.d	PER_CCV 0.002 ug/ml 06/11/15	6/22/15 3:50	4320373	14.577
T621_043.d	AZ17694_W02 1052.6 DF 06/17/15	6/22/15 5:42	3718621	13.813
T621_044.d	AZ17694_W02_MS-1 1052.6 DF 06/17/15	6/22/15 6:01	3948816	13.813
T621_045.d	AZ17694_W02_MSD-1 1052.6 DF 06/17/15	6/22/15 6:19	3711820	13.834
T621_047.d	AZ17696_W02 1052.6 DF 06/17/15	6/22/15 6:57	3311875	14.333
T621_048.d	AZ17697_W01 1052.6 DF 06/17/15	6/22/15 7:15	3273682	14.251
T621_050.d	PER_CCV 0.0004 ug/ml 06/11/15	6/22/15 7:53	3697116	14.007
T621_051.d	PER_CCV 0.002 ug/ml 06/11/15	6/22/15 8:11	4265032	14.455

AREA UPPER LIMIT = +50% of internal standard average
AREA LOWER LIMIT = -50% of internal standard average
Column used to flag values outside QC limits
* Values outside of QC limits

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. **SDG No.** **Page 1 of 1**

Lab File ID (Standard):T705_003.d **Date Analyzed: 07/05/15 13:44 thru 07/06/15 08:59**

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	8885934		
	UPPER LIMIT RESPONSE	13328901		
	LOWER LIMIT RESPONSE	4442967		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T705_003.d	PER_CCV 0.002 ug/ml 06/27/15	07/05/15 13:44	8885934	13.406
T705_054.d	PER_CCV 0.0004 ug/ml 06/27/15	07/06/15 5:34	6914336	13.090
T705_055.d	PER_CCV 0.002 ug/ml 06/27/15	07/06/15 5:53	8541849	13.681
T705_057.d	AZ17692_W01 10526.3 DF 06/17/15_6/22	07/06/15 6:30	8145620	13.650
T705_059.d	AZ17693_W01 10526.3 DF 06/17/15_6/22	07/06/15 7:07	8275345	13.620
T705_062.d	AZ17695_W01 105263.2 DF 06/17/15_6/22	07/06/15 8:03	10084439	13.599
T705_064.d	PER_CCV 0.0004 ug/ml 06/27/15	07/06/15 8:41	6379056	13.171
T705_065.d	PER_CCV 0.002 ug/ml 06/27/15	07/06/15 8:59	8433612	13.711

AREA UPPER LIMIT = +50% of internal standard average
AREA LOWER LIMIT = -50% of internal standard average
Column used to flag values outside QC limits
* Values outside of QC limits

Perchlorate LC/MS Ion Ratio Report

acceptable ratio is between 2.3 and 3.8 (DoD Perchlorate Handbook, 2006)

Data File Path : D:\masshunter\data\150312
Instrument Name : TQ (Agilent 6460 Triple Quad LC/MS)
Method File : 6460_ESI_PER_N_NEWER_K'_COLUMN.m
Operator : BA

Date Aquired: 03/12/15 17:15
Sample Name: PER_IS_50:50 0.005 ug/ml 11/11/14
Vial Number: NA
Data File ID: T312_001.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.014	113760	3.1
2)	Perchlorate_85	14.071	36914	

Date Aquired: 03/12/15 17:33
Sample Name: PERCHLORATE 0.0001 ug/ml 11/11/14
Vial Number: NA
Data File ID: T312_002.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.504	237168	3.1
2)	Perchlorate_85	13.541	77486	

Date Aquired: 03/12/15 17:52
Sample Name: PERCHLORATE 0.0002 ug/ml 11/11/14
Vial Number: NA
Data File ID: T312_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.789	446712	3.1
2)	Perchlorate_85	13.704	144754	

Date Aquired: 03/12/15 18:11
Sample Name: PERCHLORATE 0.0004 ug/ml 11/11/14
Vial Number: NA
Data File ID: T312_004.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.8	1023403	3.0
2)	Perchlorate_85	13.827	337305	

Date Aquired: 03/12/15 18:29
Sample Name: PERCHLORATE 0.001 ug/ml 11/11/14
Vial Number: NA
Data File ID: T312_005.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.82	2483393	3.2
2)	Perchlorate_85	13.827	781617	

Date Aquired: 03/12/15 18:48
Sample Name: PERCHLORATE 0.002 ug/ml 11/11/14

Vial Number: NA
Data File ID: T312_006.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.83	6351752	3.3
2)	Perchlorate_85	13.817	1920912	

Date Aquired: 03/12/15 19:07
Sample Name: PERCHLORATE 0.005 ug/ml 11/11/14

Vial Number: NA
Data File ID: T312_007.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.861	14499255	3.4
2)	Perchlorate_85	13.878	4209044	

Date Aquired: 03/12/15 19:25
Sample Name: PERCHLORATE 0.010 ug/ml 08/27/14

Vial Number: NA
Data File ID: T312_008.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.881	34223790	3.4
2)	Perchlorate_85	13.878	9985270	

Date Aquired: 03/12/15 19:44
Sample Name: PER_IS_50:50 0.005 ug/ml 11/11/14

Vial Number: NA
Data File ID: T312_009.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.912	249406	2.9
2)	Perchlorate_85	13.949	85978	

Date Aquired: 03/12/15 20:02 Vial Number: NA
Sample Name: PER_SS 0.0004 ug/ml 11/11/14 Data File ID: T312_010.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.942	1472839	3.3
2)	Perchlorate_85	13.959	440675	

Date Aquired: 03/12/15 20:21 Vial Number: NA
Sample Name: PER_SS 0.002 ug/ml 11/11/14 Data File ID: T312_011.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.014	7468678	3.4
2)	Perchlorate_85	14	2222387	

Date Aquired: 03/12/15 20:40 Vial Number: NA
Sample Name: PER_IS_50:50 0.005 ug/ml 11/11/14 Data File ID: T312_012.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.657	10916	2.0
2)	Perchlorate_85	13.776	5521	

Date Aquired: 03/12/15 20:58 Vial Number: NA
Sample Name: PER_CCV_1 0.0004 ug/ml 11/11/14 Data File ID: T312_013.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.105	1267031	3.1
2)	Perchlorate_85	14.143	410558	

Date Aquired: 03/12/15 21:17 Vial Number: NA
Sample Name: PER_CCV_1 0.002 ug/ml 11/11/14 Data File ID: T312_014.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.146	6907110	3.3
2)	Perchlorate_85	14.122	2093567	

Date Aquired: 03/12/15 21:36 Vial Number: NA
Sample Name: PER_IS_50:50 0.005 ug/ml 11/11/14 Data File ID: T312_015.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.36	64783	9.6
2)	Perchlorate_85	13.715	6730	

Date Aquired: 03/12/15 18:48 Vial Number: NA
Sample Name: PERCHLORATE 0.002 ug/ml 11/11/14 Data File ID: T312_006.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.83	6351752	3.3
2)	Perchlorate_85	13.817	1920912	

Date Aquired: 06/21/15 16:40 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_001.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.187	9215	0.9
2)	Perchlorate_85	14.265	10785	

Date Aquired: 06/21/15 16:58 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/11/15 Data File ID: T621_002.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.718	373241	2.8
2)	Perchlorate_85	13.654	134911	

Date Aquired: 06/21/15 17:17 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/11/15 Data File ID: T621_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.248	1702545	3.1
2)	Perchlorate_85	14.285	545597	

Date Aquired: 06/21/15 22:34 Vial Number: NA
Sample Name: AZ17975_S04 7974.5 DF 06/19/15 Data File ID: T621_020.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.187	776760	3.1
2)	Perchlorate_85	14.204	254136	

Date Aquired: 06/21/15 22:52 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_021.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.268	2540	1.3
2)	Perchlorate_85	14.255	1895	

Date Aquired: 06/21/15 23:11 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/11/15 Data File ID: T621_022.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.851	360324	2.7
2)	Perchlorate_85	13.806	134900	

Date Aquired: 06/21/15 23:30 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/11/15 Data File ID: T621_023.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.34	1918192	3.2
2)	Perchlorate_85	14.326	601552	

Date Aquired: 06/21/15 23:48 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_024.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.289	11462	3.9
2)	Perchlorate_85	14.275	2976	

Date Aquired: 06/22/15 0:07 Vial Number: NA
Sample Name: 150617WA_LCS-1 1052.6 DF 06/17/15 Data File ID: T621_025.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.34	483242	2.8
2)	Perchlorate_85	14.357	172796	

Date Aquired: 06/22/15 0:26 Vial Number: NA
Sample Name: 150617W_ICSA 1052.6 DF 06/17/15 Data File ID: T621_026.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.372	429617	2.7
2)	Perchlorate_85	13.399	159084	

Date Aquired: 06/22/15 0:44 Vial Number: NA
Sample Name: 150617WBLKA 1052.6 DF 06/17/15 Data File ID: T621_027.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.268	2235	3.0
2)	Perchlorate_85	14.326	747	

Date Aquired: 06/22/15 1:03 Vial Number: NA
Sample Name: 6850_H20_LOD 1052.6 DF 06/17/15 Data File ID: T621_028.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.35	359317	2.9
2)	Perchlorate_85	14.367	125330	

Date Aquired: 06/22/15 1:21 Vial Number: NA
Sample Name: 6850_H20_LOQ 1052.6 DF 06/17/15 Data File ID: T621_029.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.401	515230	3.5
2)	Perchlorate_85	14.377	149059	

Date Aquired: 06/22/15 1:40 Vial Number: NA
Sample Name: AZ17671_W03 1052.6 DF 06/17/15 Data File ID: T621_030.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.238	432	0.3
2)	Perchlorate_85	14.194	1450	

Date Aquired: 06/22/15 1:59 Vial Number: NA
Sample Name: AZ17672_W03 1052.6 DF 06/17/15 Data File ID: T621_031.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.258	660	0.5
2)	Perchlorate_85	14.316	1207	

Date Aquired: 06/22/15 2:17 Vial Number: NA
Sample Name: AZ17673_W03 1052.6 DF 06/17/15 Data File ID: T621_032.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.329	590	0.1
2)	Perchlorate_85	14.316	7287	

Date Aquired: 06/22/15 2:36 Vial Number: NA
Sample Name: AZ17674_W04 1052.6 DF 06/17/15 Data File ID: T621_033.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.248	709	0.2
2)	Perchlorate_85	14.265	4400	

Date Aquired: 06/22/15 2:55 Vial Number: NA
Sample Name: AZ17675_W04 1052.6 DF 06/17/15 Data File ID: T621_034.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.217	319	0.1
2)	Perchlorate_85	14.173	3322	

Date Aquired: 06/22/15 3:13 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_035.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.472	9235	2.7
2)	Perchlorate_85	14.357	3458	

Date Aquired: 06/22/15 3:32 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/11/15 Data File ID: T621_036.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.126	323274	2.8
2)	Perchlorate_85	14.102	116222	

Date Aquired: 06/22/15 3:50 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/11/15 Data File ID: T621_037.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.605	2009755	3.2
2)	Perchlorate_85	14.601	621096	

Date Aquired: 06/22/15 4:09 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_038.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.319	682	0.2
2)	Perchlorate_85	14.306	3282	

Date Aquired: 06/22/15 4:28 Vial Number: NA
Sample Name: AZ17676_W03 1052.6 DF 06/17/15 Data File ID: T621_039.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.156	2774	0.6
2)	Perchlorate_85	14.194	4440	

Date Aquired: 06/22/15 4:46 Vial Number: NA
Sample Name: AZ17677_W03 1052.6 DF 06/17/15 Data File ID: T621_040.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.177	2168	0.9
2)	Perchlorate_85	14.255	2308	

Date Aquired: 06/22/15 5:05 Vial Number: NA
Sample Name: AZ17692_W01 1052.6 DF 06/17/15 Data File ID: T621_041.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.401	12638849	3.5
2)	Perchlorate_85	14.397	3615058	

Date Aquired: 06/22/15 5:23 Vial Number: NA
Sample Name: AZ17693_W01 1052.6 DF 06/17/15 Data File ID: T621_042.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.431	13479136	3.5
2)	Perchlorate_85	14.438	3868938	

Date Aquired: 06/22/15 5:42 Vial Number: NA
Sample Name: AZ17694_W02 1052.6 DF 06/17/15 Data File ID: T621_043.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.84	211137	2.3
2)	Perchlorate_85	13.837	93237	

Date Aquired: 06/22/15 6:01 Vial Number: NA
Sample Name: AZ17694_W02_MS-1 1052.6 DF 06/17/15 Data File ID: T621_044.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.8	762372	3.0
2)	Perchlorate_85	13.837	251777	

Date Aquired: 06/22/15 6:19 Vial Number: NA
Sample Name: AZ17694_W02_MSD-1 1052.6 DF 06/17/15 Data File ID: T621_045.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.83	768054	2.9
2)	Perchlorate_85	13.847	269312	

Date Aquired: 06/22/15 6:38 Vial Number: NA
Sample Name: AZ17695_W01 1025.6 DF 06/17/15 Data File ID: T621_046.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.127	72900487	3.4
2)	Perchlorate_85	13.124	21618667	

Date Aquired: 06/22/15 6:57 Vial Number: NA
Sample Name: AZ17696_W02 1052.6 DF 06/17/15 Data File ID: T621_047.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.319	185272	2.8
2)	Perchlorate_85	14.377	65991	

Date Aquired: 06/22/15 7:15 Vial Number: NA
Sample Name: AZ17697_W01 1052.6 DF 06/17/15 Data File ID: T621_048.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.248	861514	3.1
2)	Perchlorate_85	14.224	282275	

Date Aquired: 06/22/15 7:34 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 06/11/15 Data File ID: T621_049.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.615	12980	2.9
2)	Perchlorate_85	14.041	4504	

Date Aquired: 06/22/15 7:53 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/11/15 Data File ID: T621_050.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.003	380901	2.8
2)	Perchlorate_85	13.99	137565	

Date Aquired: 06/22/15 8:11 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/11/15 Data File ID: T621_051.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.452	2009262	3.2
2)	Perchlorate_85	14.438	620569	

Perchlorate LC/MS Ion Ratio Report

acceptable ratio is between 2.3 and 3.8 (DoD Perchlorate Handbook, 2006)

Data File Path : D:\masshunter\data\150705
Instrument Name : TQ (Agilent 6460 Triple Quad LC/MS)
Method File : 6460_ESI_PER_N_NEWER_K'_COLUMN.m
Operator : BA

Date Aquired: 07/05/15 13:44 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/27/15 Data File ID: T705_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.412	4169858	3.3
2)	Perchlorate_85	13.44	1250542	

Date Aquired: 07/06/15 5:34 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/27/15 Data File ID: T705_054.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.107	726404	3.2
2)	Perchlorate_85	13.052	226257	

Date Aquired: 07/06/15 5:53 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/27/15 Data File ID: T705_055.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.688	3962381	3.3
2)	Perchlorate_85	13.684	1203882	

Date Aquired: 07/06/15 6:30 Vial Number: NA
Sample Name: AZ17692_W01 10526.3 DF 06/17/15_6/22 Data File ID: T705_057.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.657	2877000	3.4
2)	Perchlorate_85	13.633	848633	

Date Aquired: 07/06/15 7:07 Vial Number: NA
Sample Name: AZ17693_W01 10526.3 DF 06/17/15_6/22 Data File ID: T705_059.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.626	3202309	3.4
2)	Perchlorate_85	13.623	930263	

Date Aquired: 07/06/15 8:03 Vial Number: NA
Sample Name: AZ17695_W01 105263.2 DF 06/17/15_6/22 Data File ID: T705_062.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.626	1425304	3.3
2)	Perchlorate_85	13.582	437770	

Date Aquired: 07/06/15 8:41 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 06/27/15 Data File ID: T705_064.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.198	674754	3.2
2)	Perchlorate_85	13.114	210284	

Date Aquired: 07/06/15 8:59 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 06/27/15 Data File ID: T705_065.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.718	3940278	3.4
2)	Perchlorate_85	13.715	1143947	

EPA METHOD 6850
Perchlorate
LC/MS

Sample Data

APPL, INC.

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026-061515

APPL ID: AZ17692

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	15	6.00	4.000	2.000	ug/L	06/17/15	07/06/15

Quant Method:	QTLMFL2
Run #:	T705_057.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	10
Initials:	RP

Printed: 07/08/15 8:27:48 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T705_057.d

Date Injected : 07/06/15

Time Injected : 6:30

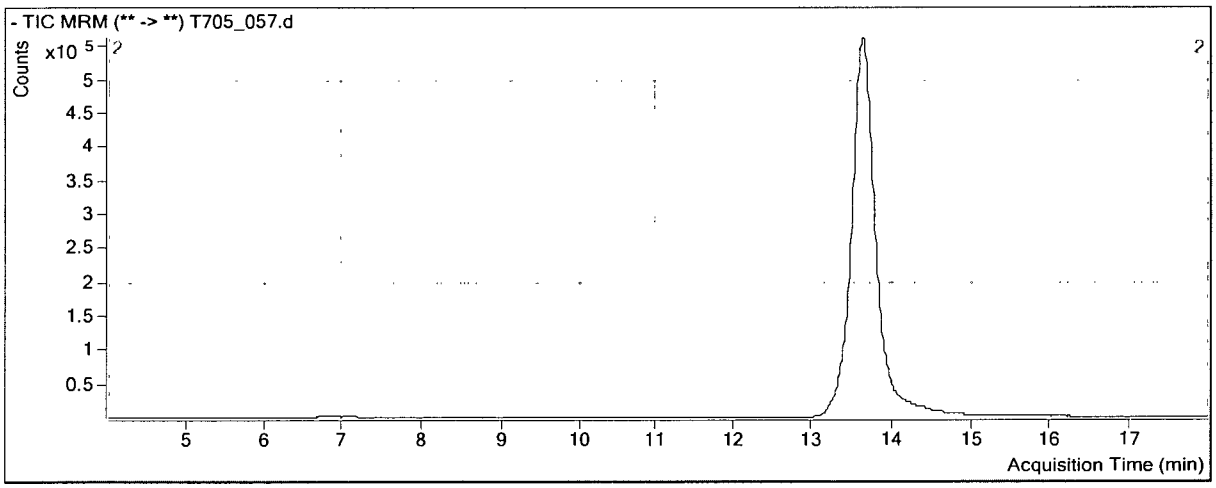
Sample ID : AZ17692_W01 10526.3 DF 06/17/15_6/22

Client ID : S67-MW026-061515

Retention Time	Area Count Response	Compound_ID Product Ion					
13.600	8145620	PER_IS_89					
13.657	2877000	Perchlorate_83	(2877000 * 0.0050) / (1.27 *	8145620.00) *	10526.30 =	14.634249	ppb
13.633	848633	Perchlorate_85	(848633 * 0.0050) / (0.39 *	8145620.00) *	10526.30 =	14.002104	ppb

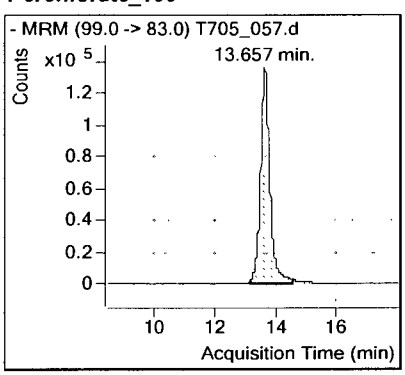
Quantitative Analysis Sample Report

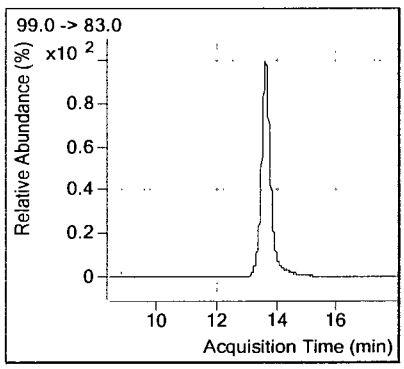
Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_057.d	**Sample Name**	AZ17692_W01 10526.3 DF 06/17/15_6/22
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:30
ClientID	S67-MW026-061515	**Inj Vol**	20

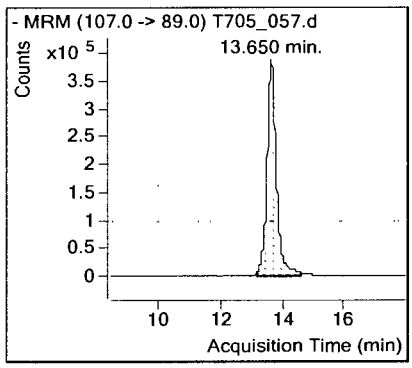


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.657	2877000	8145620
Perchlorate_102	PER_IS_108	13.633	848633	8145620

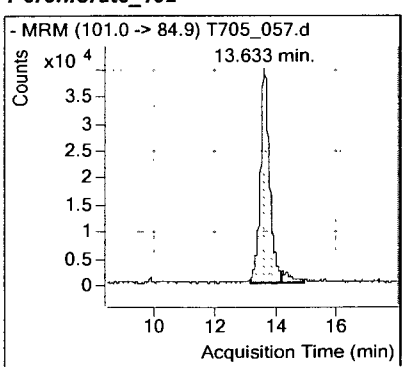
Perchlorate_100

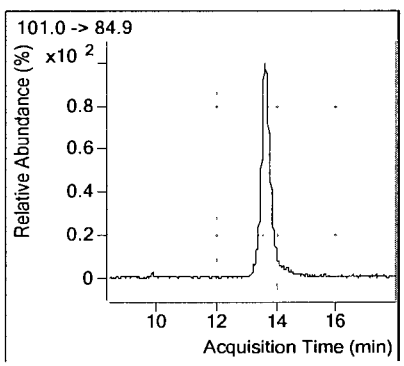


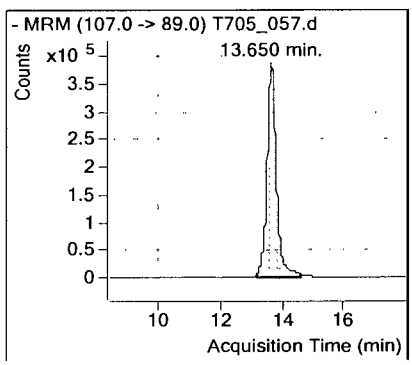




Perchlorate_102







Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW026P-061515

APPL ID: AZ17693

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	16	6.00	4.000	2.000	ug/L	06/17/15	07/06/15

Quant Method:	QTLMFL2
Run #:	T705_059.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	10
Initials:	RP

Printed: 07/08/15 8:27:48 AM

APPL-F1-SC-NoMC-REG MDLs

Data File ID: T705_059.d

Date Injected : 07/06/15

Time Injected : 7:07

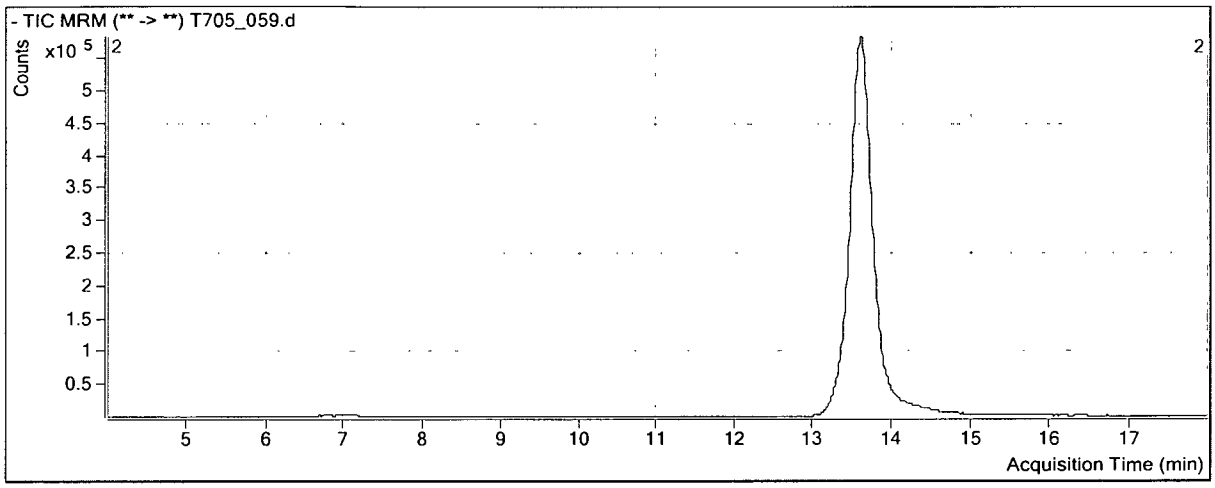
Sample ID : AZ17693_W01 10526.3 DF 06/17/15_6/22

Client ID : S67-MW026P-061515

Retention Time	Area Count Response	Compound_ID Product Ion			
13.600	8275345	PER_IS_89			
13.626	3202309	Perchlorate_83	(3202309 * 0.0050) / (1.27 * 8275345.00) *	10526.30 =	16.033630 ppb
13.623	930263	Perchlorate_85	(930263 * 0.0050) / (0.39 * 8275345.00) *	10526.30 =	15.108354 ppb

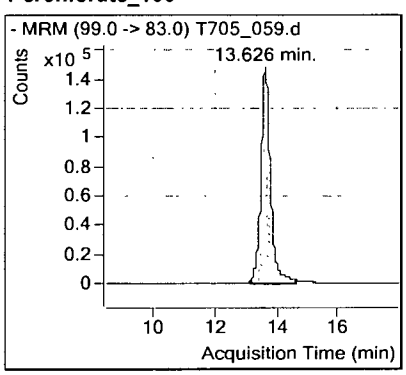
Quantitative Analysis Sample Report

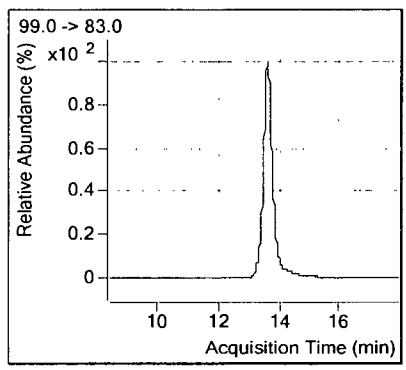
Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_059.d	**Sample Name**	AZ17693_W01 10526.3 DF 06/17/15_6/22
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	7:07
ClientID	S67-MW026P-061515	**Inj Vol**	20

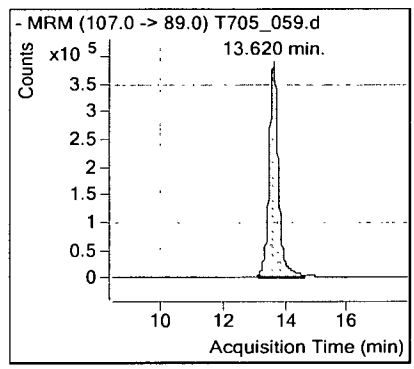


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.626	3202309	8275345
Perchlorate_102	PER_IS_108	13.623	930263	8275345

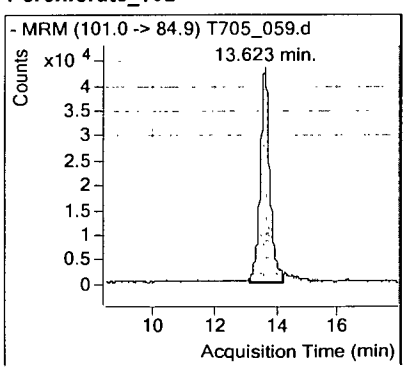
Perchlorate_100

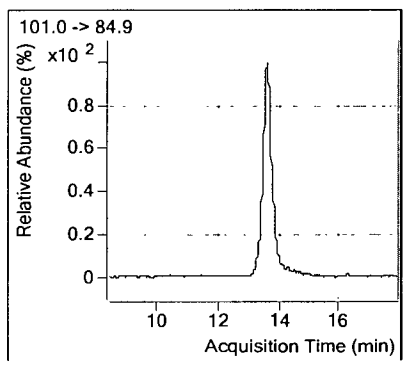


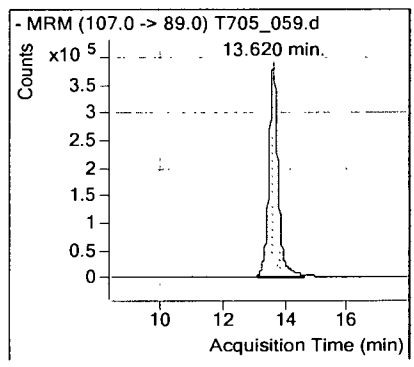




Perchlorate_102







Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 06/15/15

QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.24 J	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

J = Estimated value.

Quant Method: QTLMFL2
Run #: T621_043.d
Instrument: AGIL_6460
Sequence: TQ062115
Dilution Factor: 1
Initials: RP

Printed: 07/02/15 8:44:21 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T621_043.d

Date Injected : 06/22/15

Time Injected : 5:42

Sample ID : AZ17694_W02 1052.6 DF 06/17/15

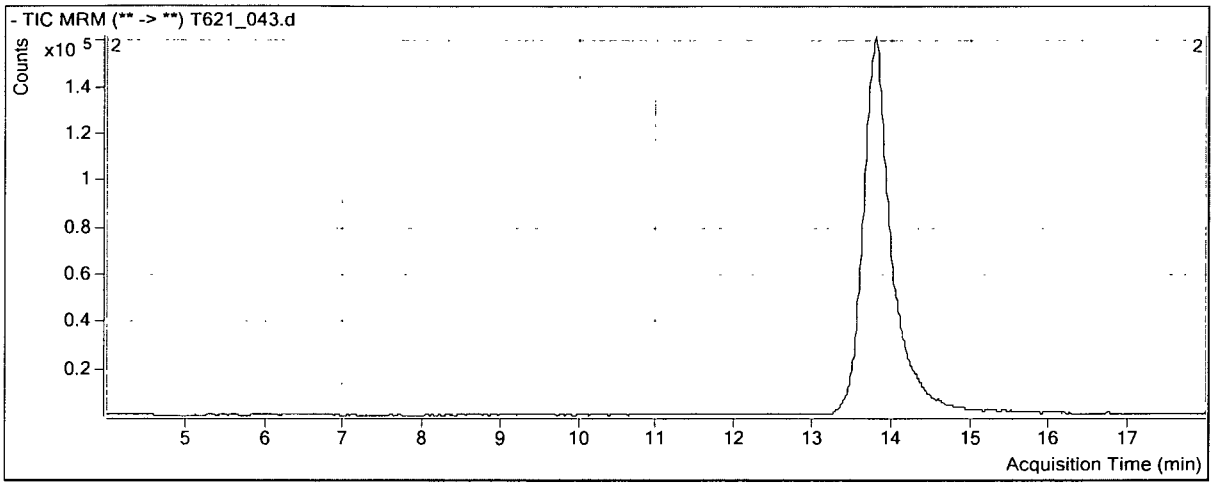
Client ID : S67-MW016-061515

Retention Time		Area Count Response	Compound_ID Product Ion			
13.813		3718621	PER_IS_89			
13.800		211137	Perchlorate_83	(211137 * 0.0050) / (1.27 * 3718621.00) *	1052.60 =	0.235247 ppb
13.837	*	93237	Perchlorate_85	(93237 * 0.0050) / (0.39 * 3718621.00) *	1052.60 =	0.336970 ppb

* MANUAL INTEGRAION

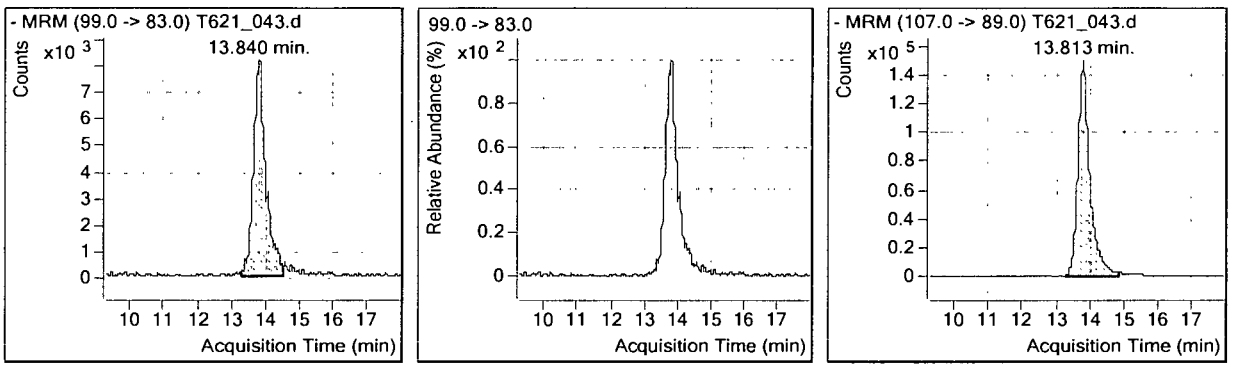
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_043.d	**Sample Name**	AZ17694_W02 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	5:42
ClientID	S67-MW016-061515	**Inj Vol**	20

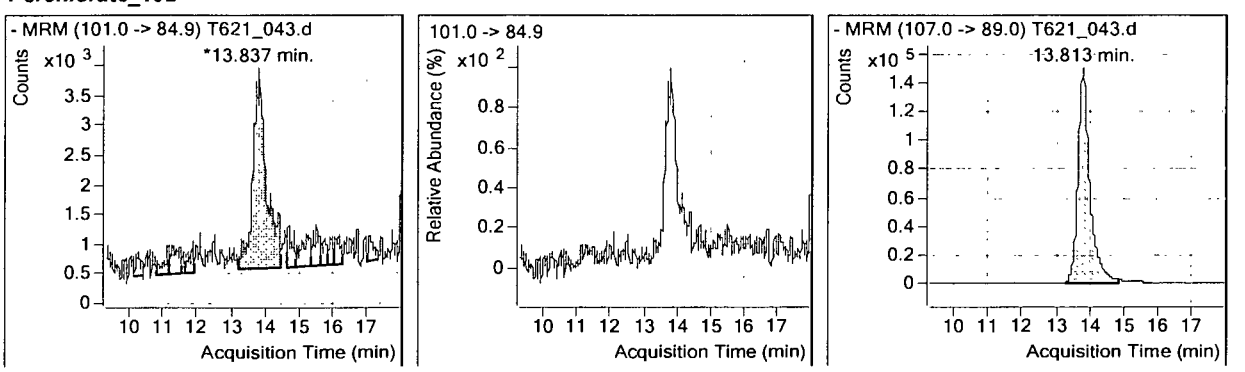


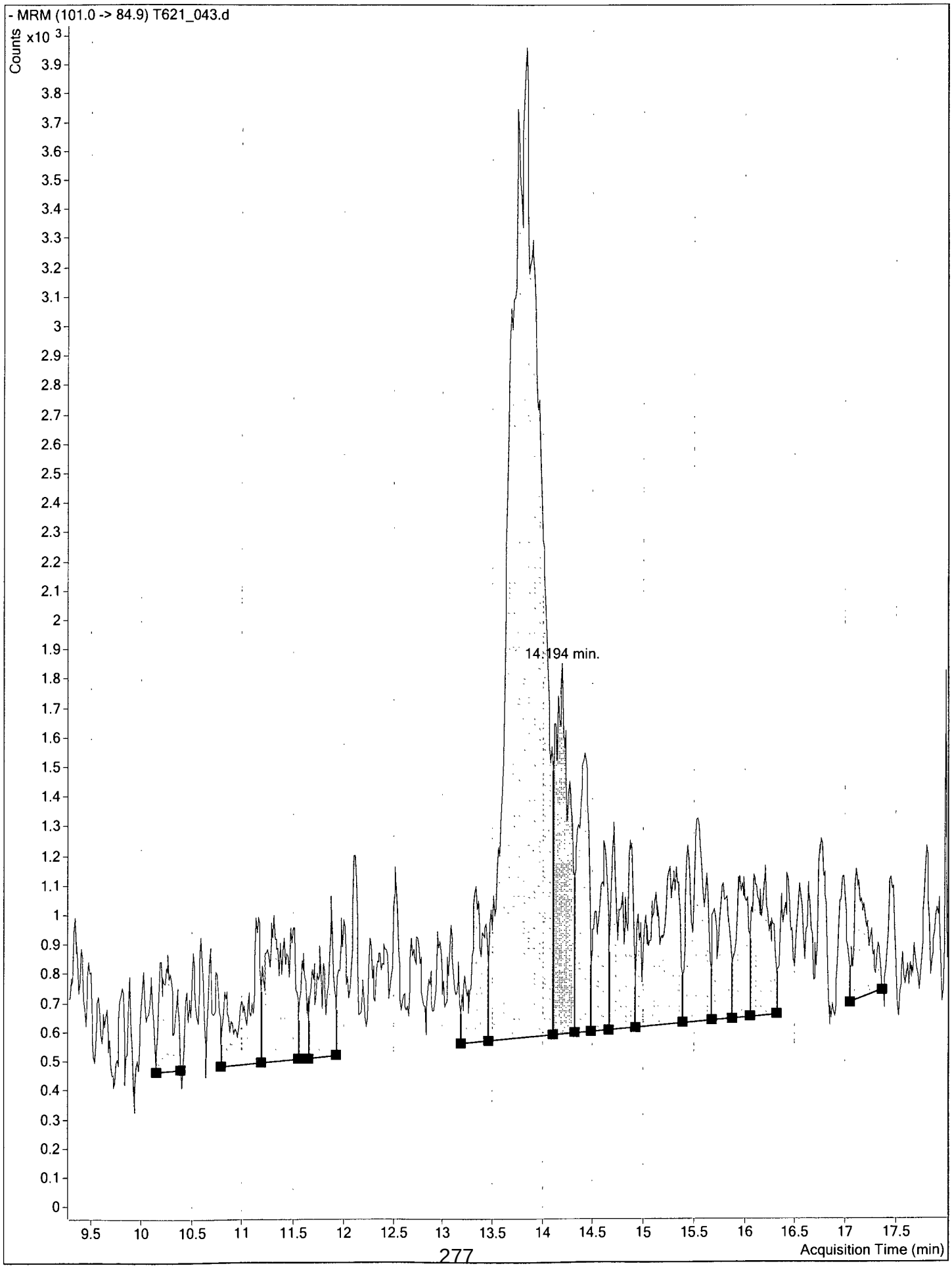
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.840	211137	3718621	
Perchlorate_102	PER_IS_108	*	13.837	93237	3718621	* MANUAL INT

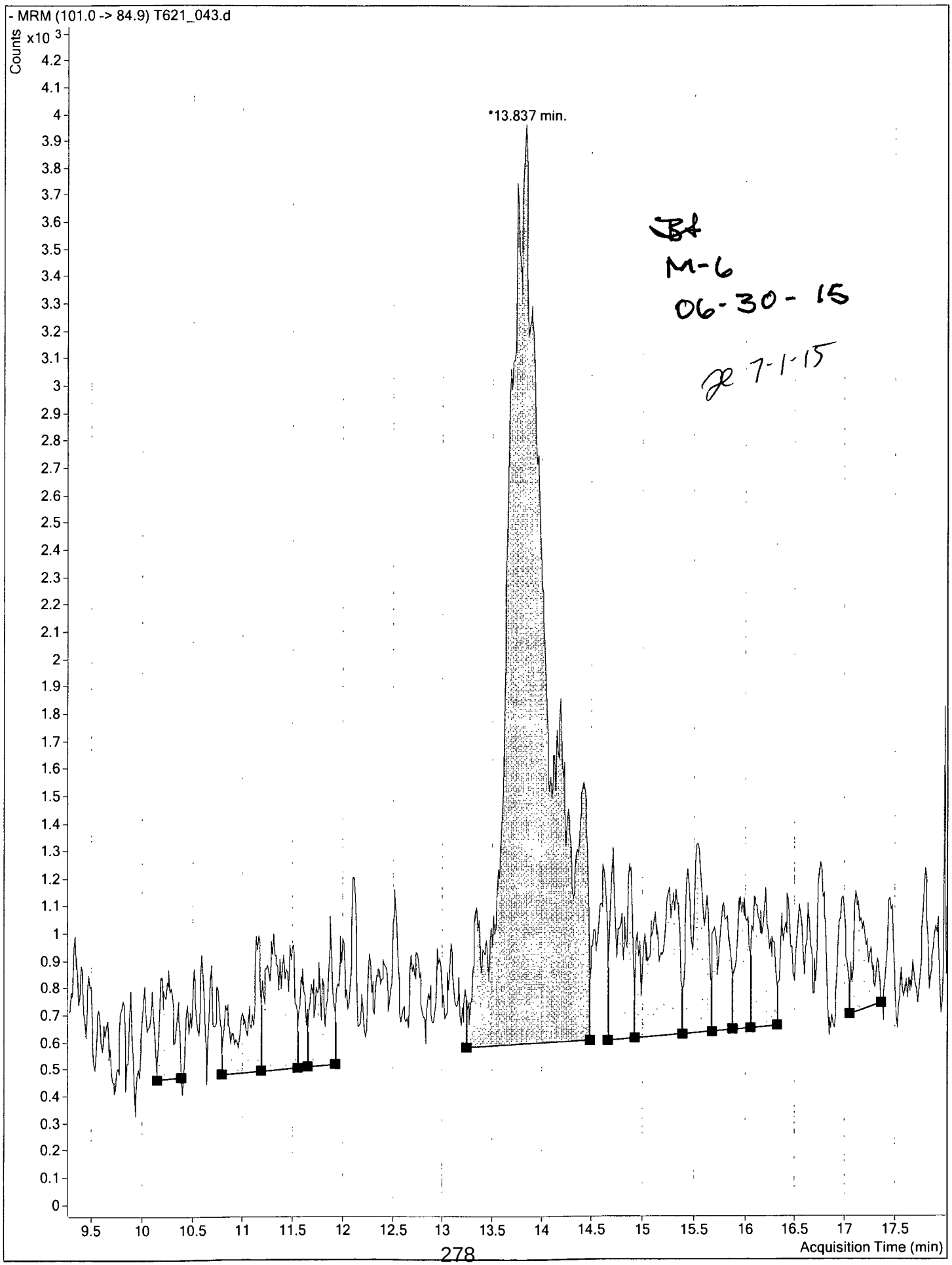
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T621_043.d
Counts
x10 3
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
14.194 min.
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)


- MRM (101.0 -> 84.9) T621_043.d
Counts
x10 3
*13.837 min.
Acquisition Time (min)
JB
M-6
06-30-15
JE 7-1-15

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657
APPL ID: AZ17695
QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	59 J	60.00	40.000	20.000	ug/L	06/17/15	07/06/15

J = Estimated value.

Quant Method:	QTLMFL2
Run #:	T705_062.d
Instrument:	AGIL_6460
Sequence:	TQ070515
Dilution Factor:	100
Initials:	RP

Printed: 07/08/15 8:27:48 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T705_062.d

Date Injected : 07/06/15

Time Injected : 8:03

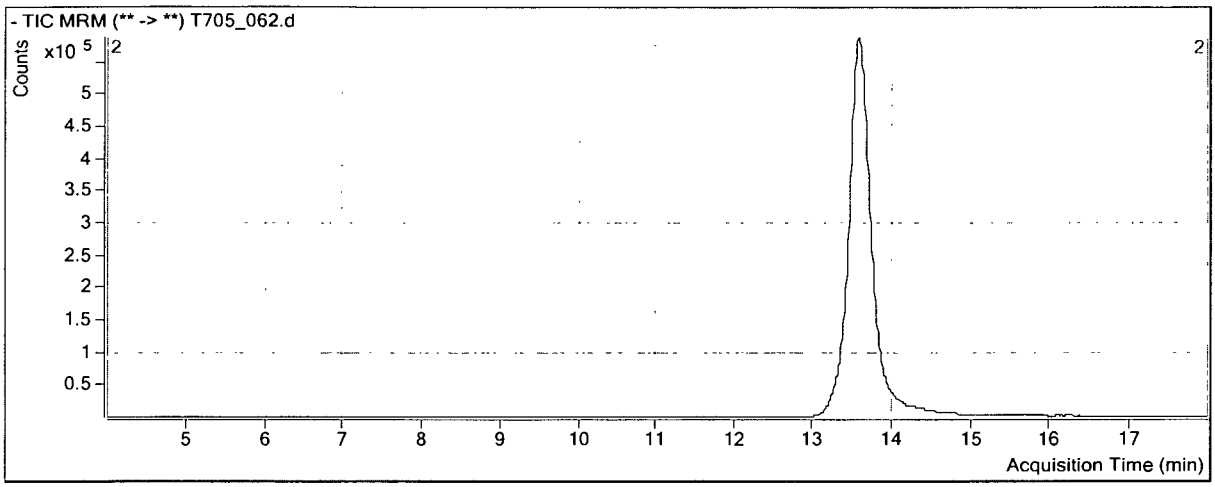
Sample ID : AZ17695_W01 105263.2 DF 06/17/15_6/22

Client ID : S67-MW024-061515

Retention Time	Area Count Response	Compound_ID Product Ion		
13.599	10084439	PER_IS_89		
13.626	1425304	Perchlorate_83	(1425304 * 0.0050) / (1.27 * 10084439.00) * 105263.20 =	58.561383 ppb
13.582	437770	Perchlorate_85	(437770 * 0.0050) / (0.39 * 10084439.00) * 105263.20 =	58.343516 ppb

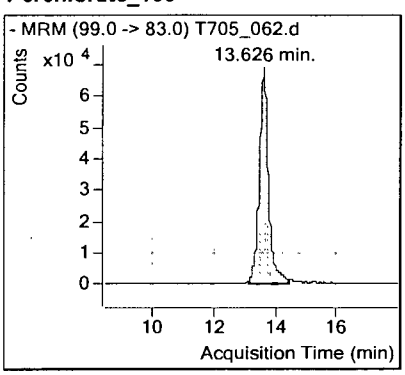
Quantitative Analysis Sample Report

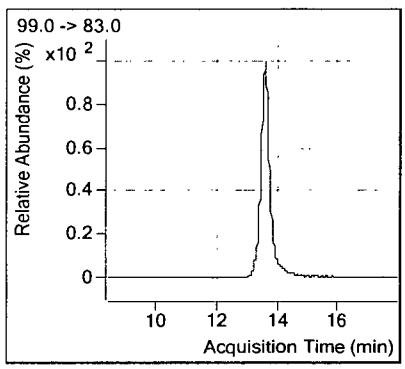
Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_062.d	**Sample Name**	AZ17695_W01 105263.2 DF 06/17/15_6/22
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:03
ClientID	S67-MW024-061515	**Inj Vol**	20

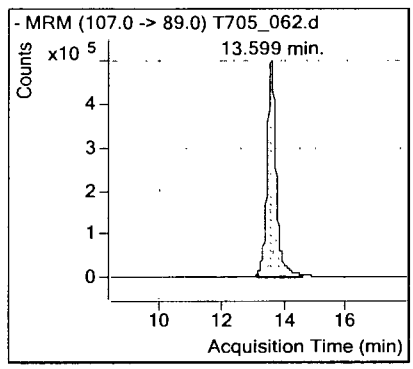


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.626	1425304	10084439
Perchlorate_102	PER_IS_108	13.582	437770	10084439

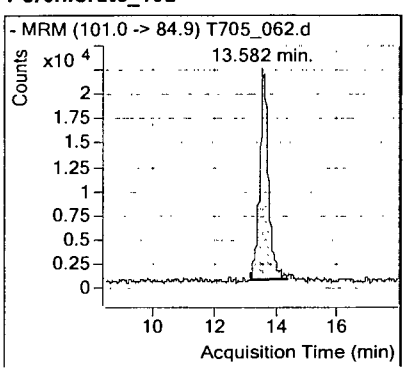
Perchlorate_100

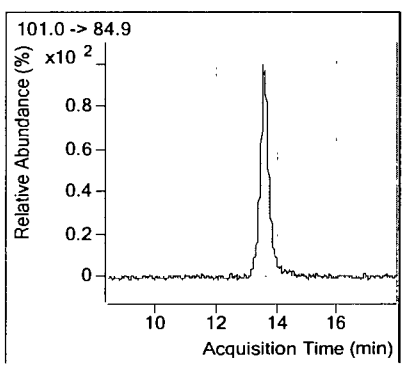


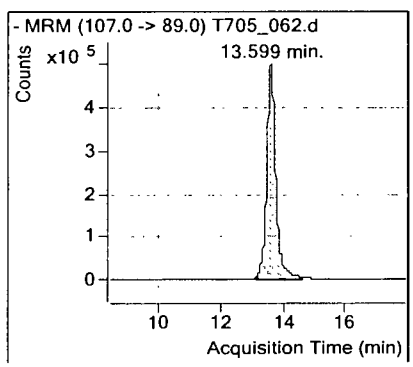




Perchlorate_102







Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657
APPL ID: AZ17696
QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.23 J	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

J = Estimated value.

Quant Method:	QTLMFL2
Run #:	T621_047.d
Instrument:	AGIL_6460
Sequence:	TQ062115
Dilution Factor:	1
Initials:	RP

Printed: 07/02/15 8:44:21 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T621_047.d

Date Injected : 06/22/15

Time Injected : 6:57

Sample ID : AZ17696_W02 1052.6 DF 06/17/15

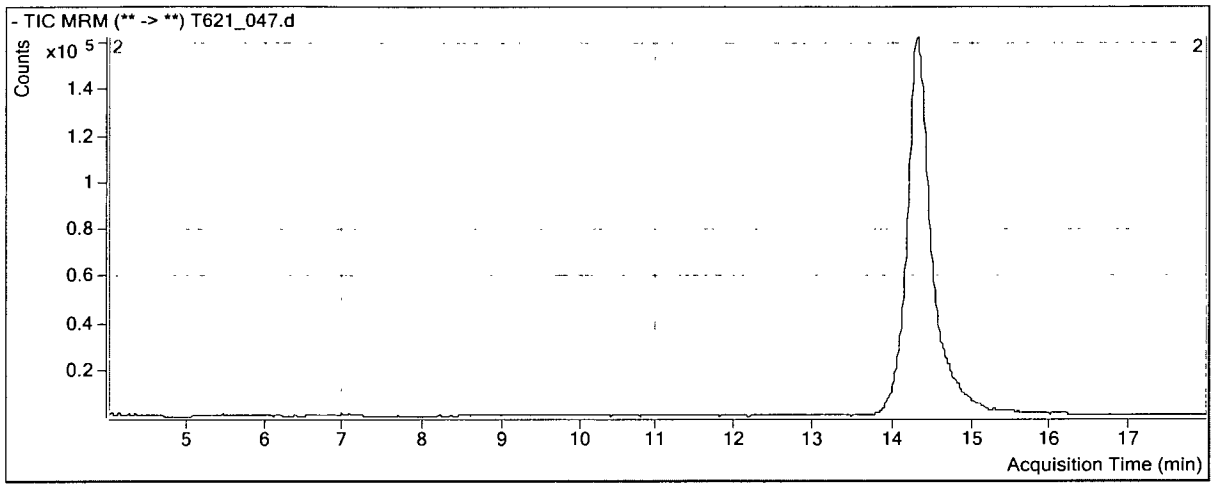
Client ID : S67-MW017-061515

Retention Time		Area Count Response	Compound_ID Product Ion			
14.333		3311875	PER_IS_89			
14.319	*	185272	Perchlorate_83	(185272 * 0.0050) / (1.27 * 3311875.00) *	1052.60 =	0.231781 ppb
14.377	*	65991	Perchlorate_85	(65991 * 0.0050) / (0.39 * 3311875.00) *	1052.60 =	0.267791 ppb

* MANUAL INTEGRAION

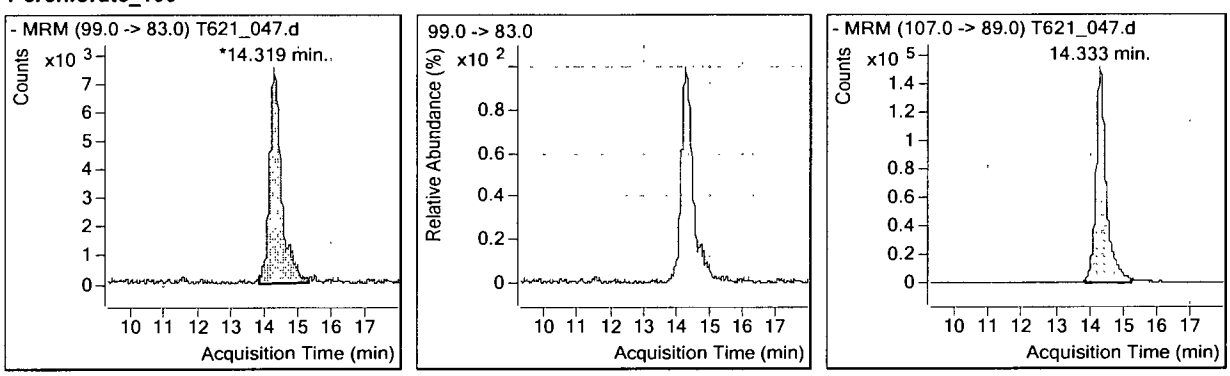
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_047.d	**Sample Name**	AZ17696_W02 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:57
ClientID	S67-MW017-061515	**Inj Vol**	20

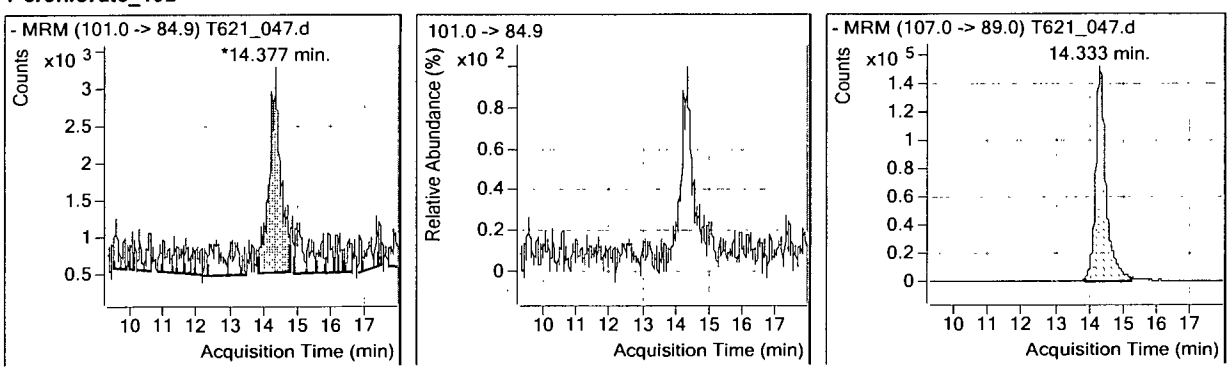


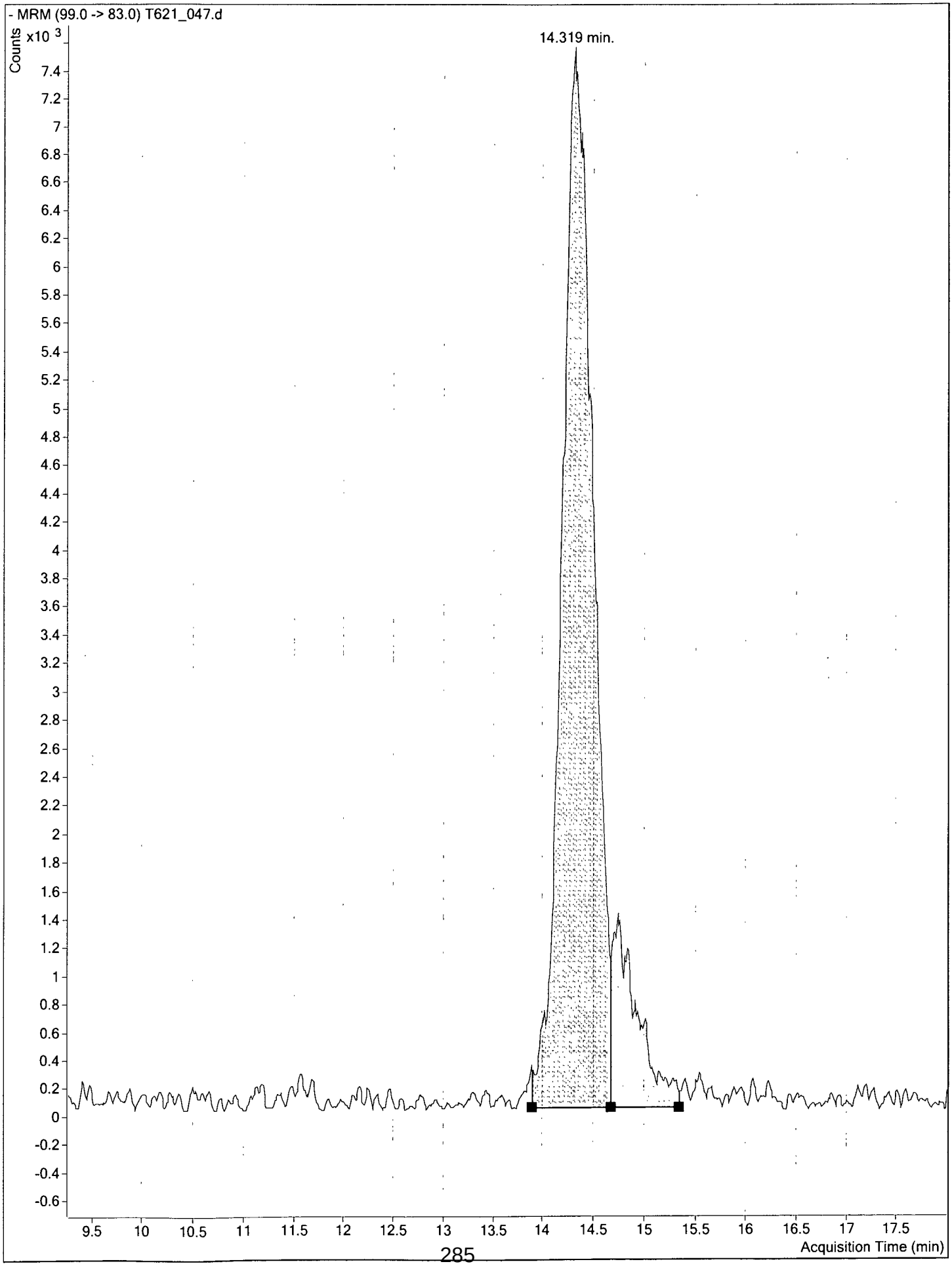
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	14.319	185272	3311875	* MANUAL INT
Perchlorate_102	PER_IS_108	*	14.377	65991	3311875	* MANUAL INT

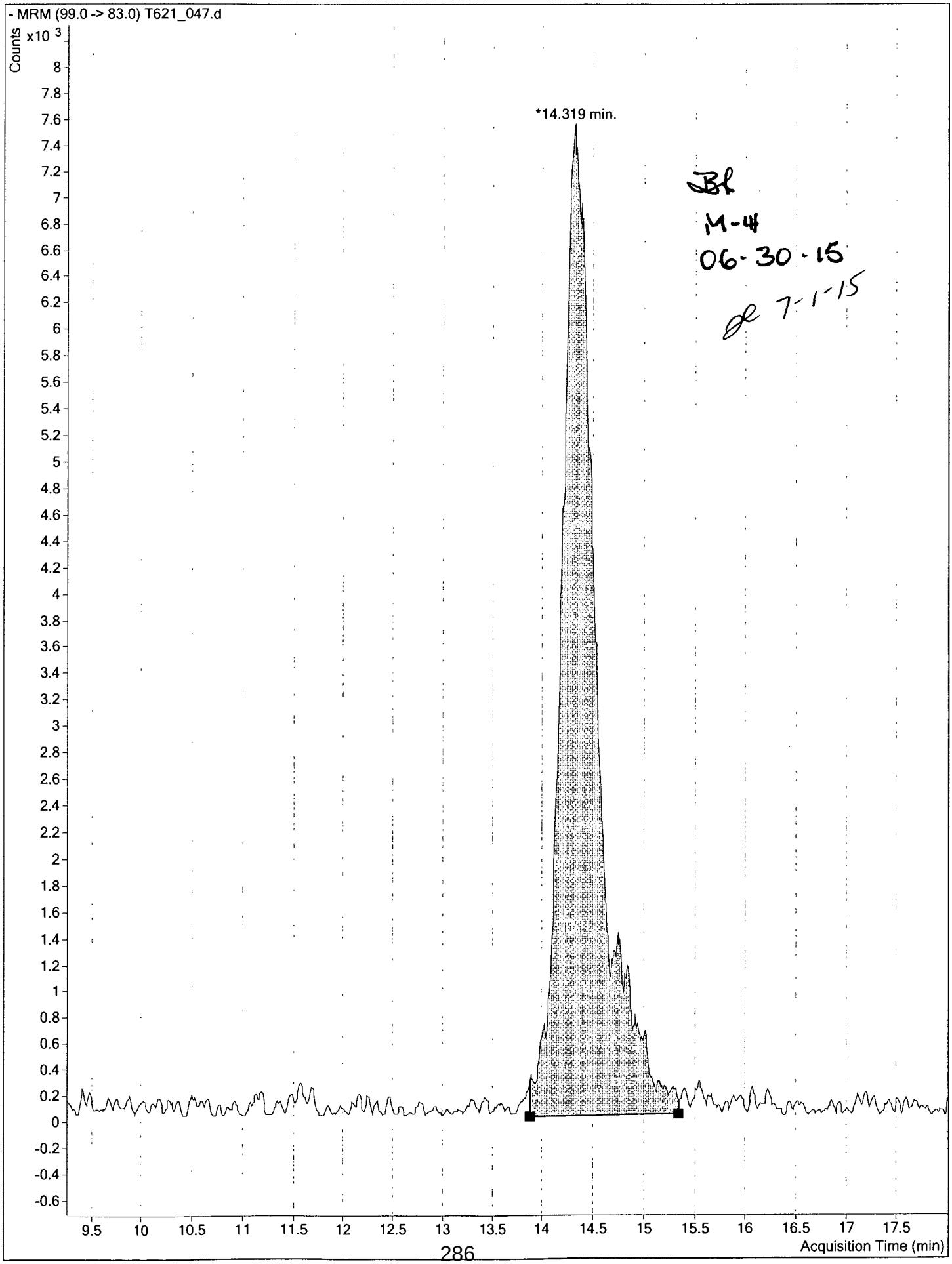
Perchlorate_100



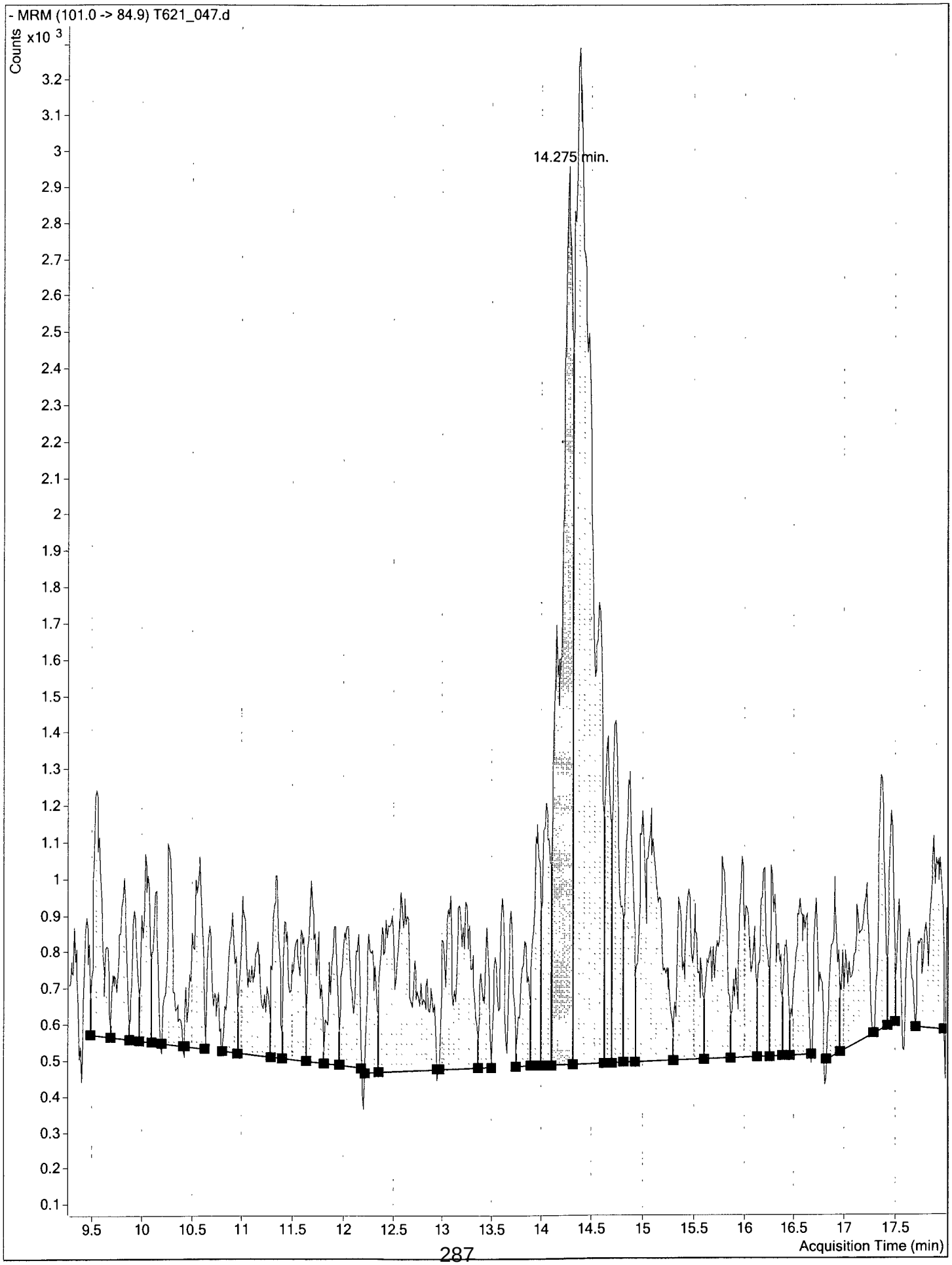
Perchlorate_102

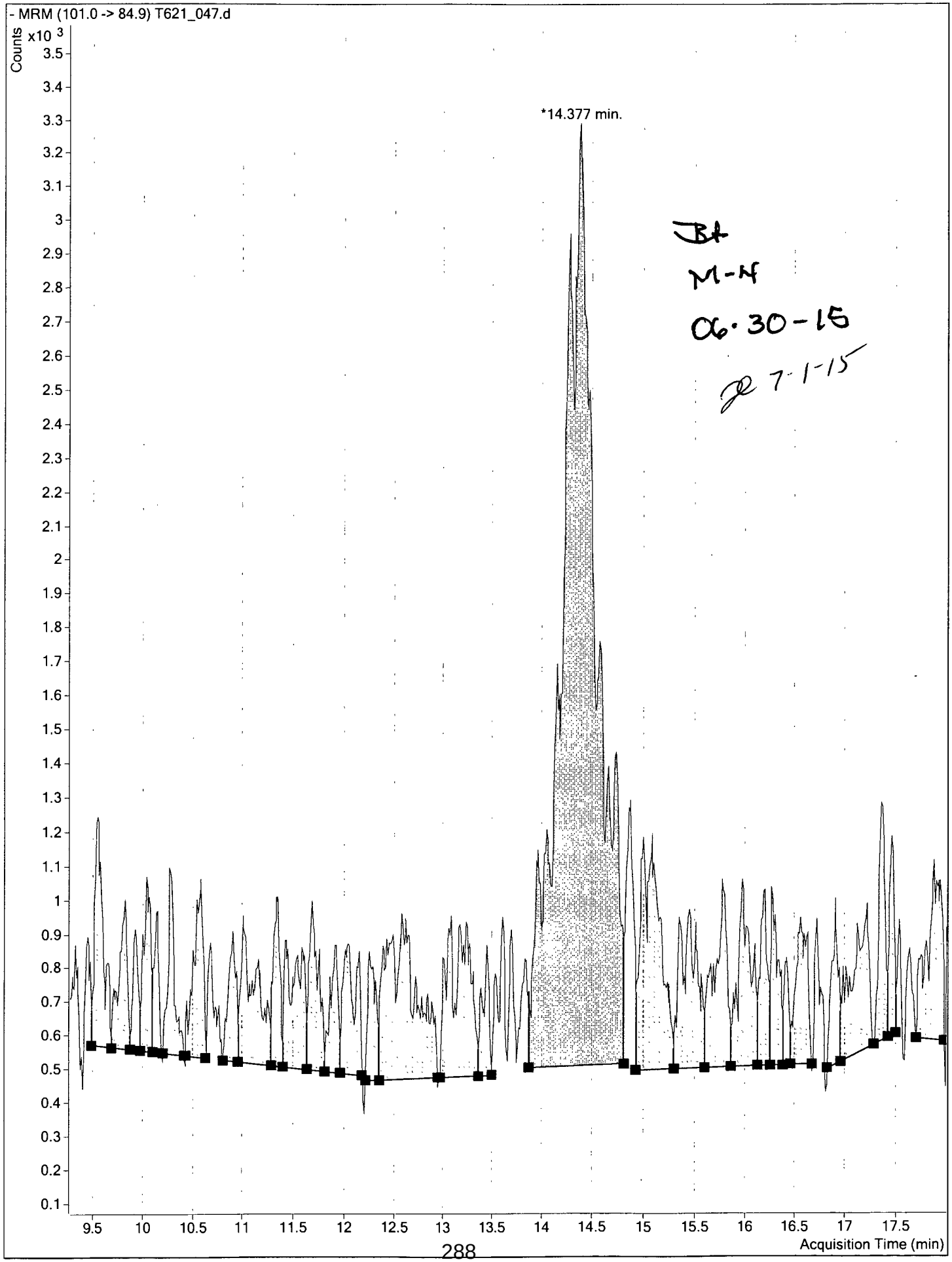



- MRM (99.0 -> 83.0) T621_047.d
Counts
x10 3
14.319 min.
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
4.2
4
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)



JBL
M-4
06-30-15
JBL 7-1-15


- MRM (101.0 -> 84.9) T621_047.d
Counts
x10 3
3.2
3.1
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
14.275 min.
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)


- MRM (101.0 -> 84.9) T621_047.d
Counts
x10 3
*14.377 min.
Acquisition Time (min)
JB
M-N
06.30-15
7-1-15

Perchlorate

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW031-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17697
QCG: #6850-150617A-198528

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	1.1	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

Quant Method:	QTLMFL2
Run #:	T621_048.d
Instrument:	AGIL_6460
Sequence:	TQ062115
Dilution Factor:	1
Initials:	RP

Printed: 07/02/15 8:44:21 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T621_048.d

Date Injected : 06/22/15

Time Injected : 7:15

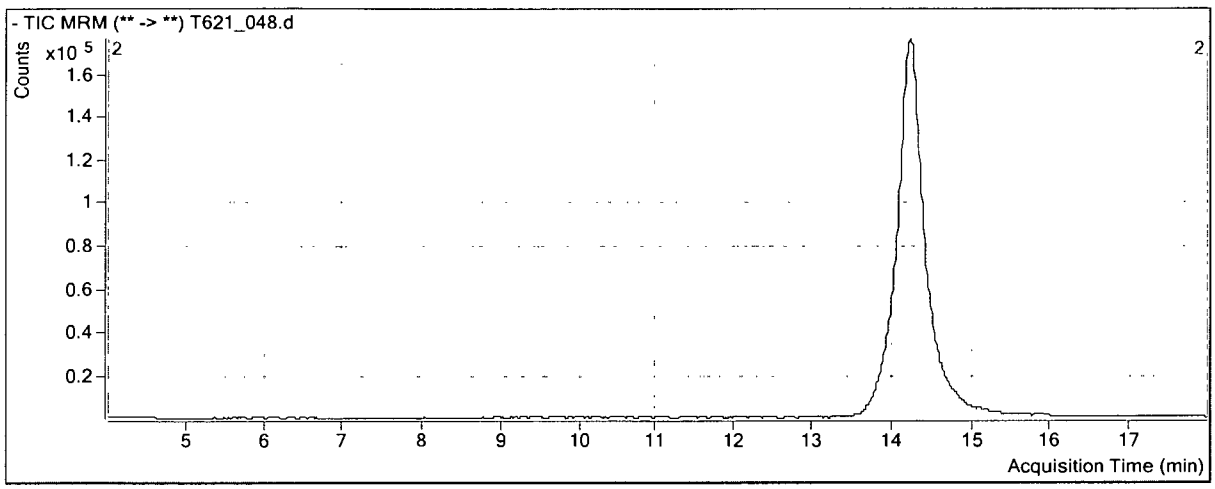
Sample ID : AZ17697_W01 1052.6 DF 06/17/15

Client ID : S67-MW031-061515

Retention Time	Area Count Response	Compound_ID Product Ion			
14.251	3273682	PER_IS_89			
14.248	861514	Perchlorate_83	(861514 * 0.0050) / (1.27 * 3273682.00) *	1052.60 =	1.090356 ppb
14.224	282275	Perchlorate_85	(282275 * 0.0050) / (0.39 * 3273682.00) *	1052.60 =	1.158834 ppb

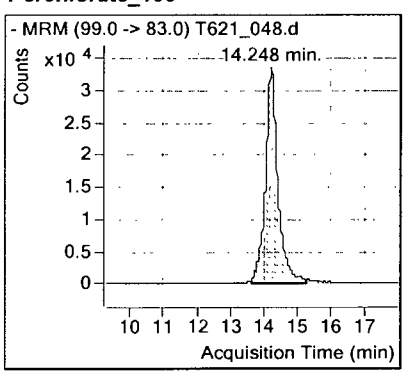
Quantitative Analysis Sample Report

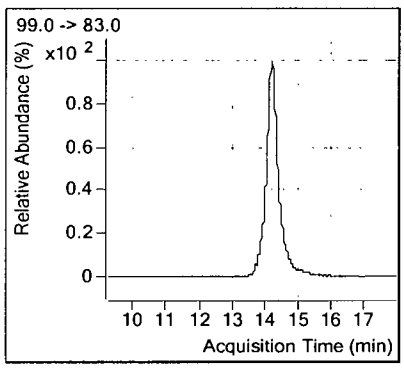
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_048.d	**Sample Name**	AZ17697_W01 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	7:15
ClientID	S67-MW031-061515	**Inj Vol**	20

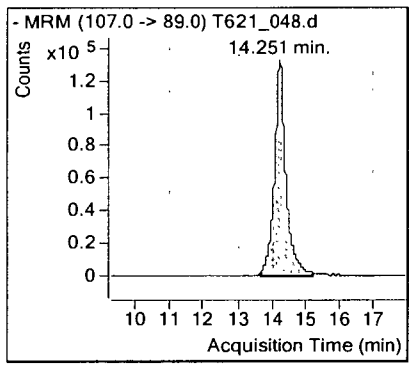


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.248	861514	3273682
Perchlorate_102	PER_IS_108	14.224	282275	3273682

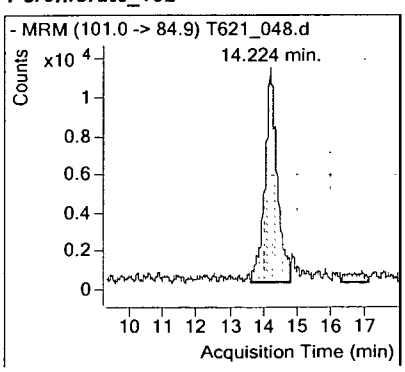
Perchlorate_100

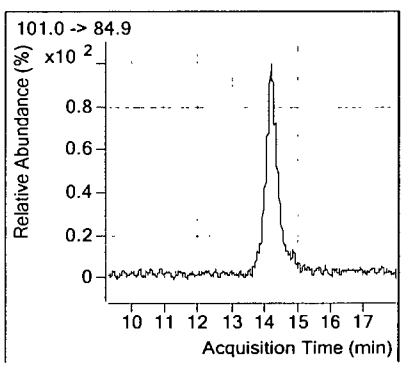


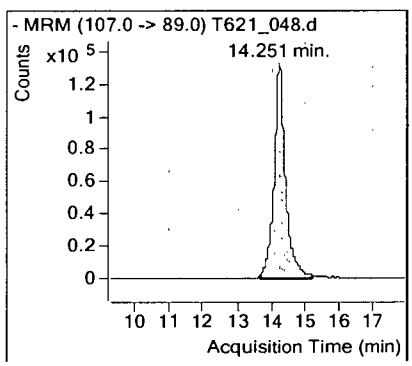




Perchlorate_102







EPA METHOD 6850
Perchlorate
LC/MS

Calibration Data

APPL, INC.

METHOD 6850 CALIBRATION SUMMARY

Lab Name: APPL Inc. **DETECTOR ID : Agilent 6460 Triple Quad LC/MS**

Average Relative Response Factor Summary

Analyte Id:	R.R.F.#1 PERCHLORATE 0.0002 PPM	R.R.F.#2 PERCHLORATE 0.0004 PPM	R.R.F.#3 PERCHLORATE 0.001 PPM	R.R.F.#4 PERCHLORATE 0.002 PPM	R.R.F.#5 PERCHLORATE 0.005 PPM	R.R.F.#6 PERCHLORATE 0.010 PPM	AVERAGE REL.RESP. FACTOR	%RSD RRF
Perchlorate_83	1.339537	1.198791	1.165697	1.173646	1.314663	1.429198	1.270255	8.44
Perchlorate_85	0.434068	0.395112	0.366889	0.354937	0.381638	0.416989	0.391605	7.67

FILE ID : TQ0312A.FRB

Perchlorate_83

RESPONSE FACTOR CALCULATIONS - AREA COUNTS

DATA FILES : T312_003.d - T312_008.d

The Data points that were Read Were

Standard Response	Standard Concentration µg/ml	Internal Standard Response	Internal Standard Concentration µg/ml	Response Factor	RPD	%RSD
446712.00	0.0002	8337058.00	0.0050	1.339537	5.45	8.44
1023403.00	0.0004	10671196.00	0.0050	1.198791	5.63	
2483393.00	0.0010	10651968.00	0.0050	1.165697	8.23	
6351752.00	0.0020	13529952.00	0.0050	1.173646	7.61	
14499255.00	0.0050	11028880.00	0.0050	1.314663	3.50	
34223790.00	0.0100	11973072.00	0.0050	1.429198	12.51	

The Average Response Factor = 1.270255

Perchlorate_85

RESPONSE FACTOR CALCULATIONS - AREA COUNTS

DATA FILES : T312_003.d - T312_008.d

The Data points that were Read Were

Standard Response	Standard Concentration µg/ml	Internal Standard Response	Internal Standard Concentration µg/ml	Response Factor	RPD	IRSD
144754.00	0.0002	8337058.00	0.0050	0.434068	10.84	7.67
337305.00	0.0004	10671196.00	0.0050	0.395112	0.90	
781617.00	0.0010	10651968.00	0.0050	0.366889	6.31	
1920912.00	0.0020	13529952.00	0.0050	0.354937	9.36	
4209044.00	0.0050	11028880.00	0.0050	0.381638	2.55	
9985270.00	0.0100	11973072.00	0.0050	0.416989	6.48	

The Average Response Factor = 0.391605

Data File ID: T312_003.d

Date Injected : 03/12/15

Time Injected : 17:52

Sample ID : PERCHLORATE 0.0002 ug/ml 11/11/14

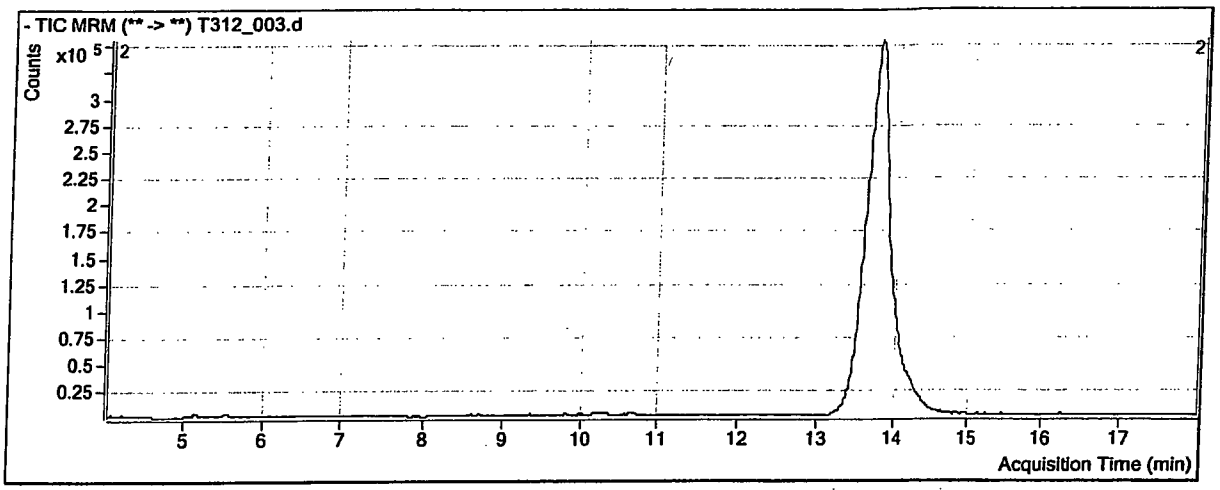
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.732		8337058	PER_IS_89
13.789	*	446712	Perchlorate_83
13.704		144754	Perchlorate_85

* MANUAL INTEGRAION

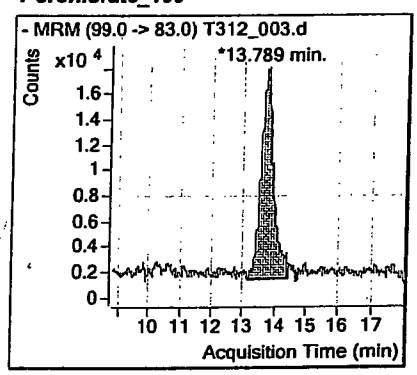
Quantitative Analysis Sample Report

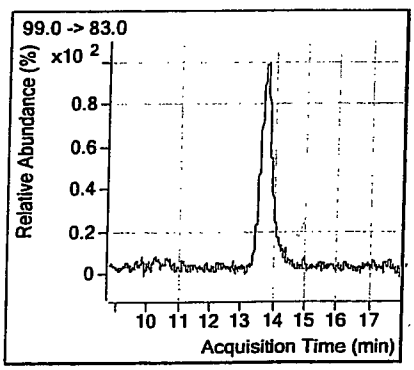
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_003.d	**Sample Name**	PERCHLORATE 0.0002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	17:52
ClientID	NA	**Inj Vol**	20

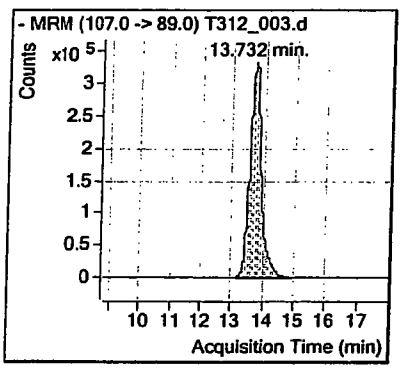


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.789	446712	8337058	* MANUAL INT
Perchlorate_102	PER_IS_108		13.704	144754	8337058	

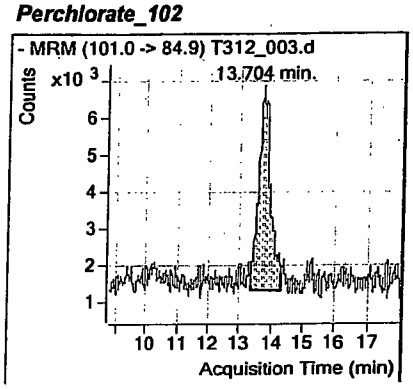
Perchlorate_100

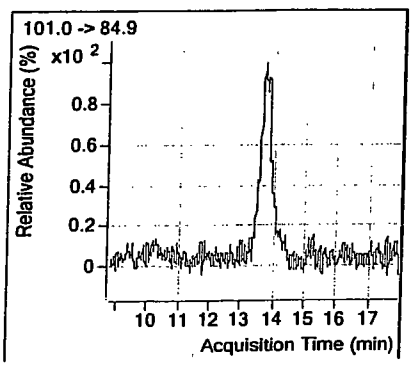


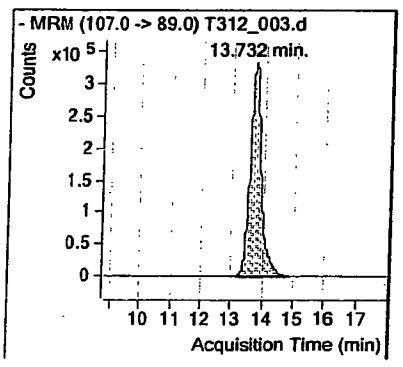


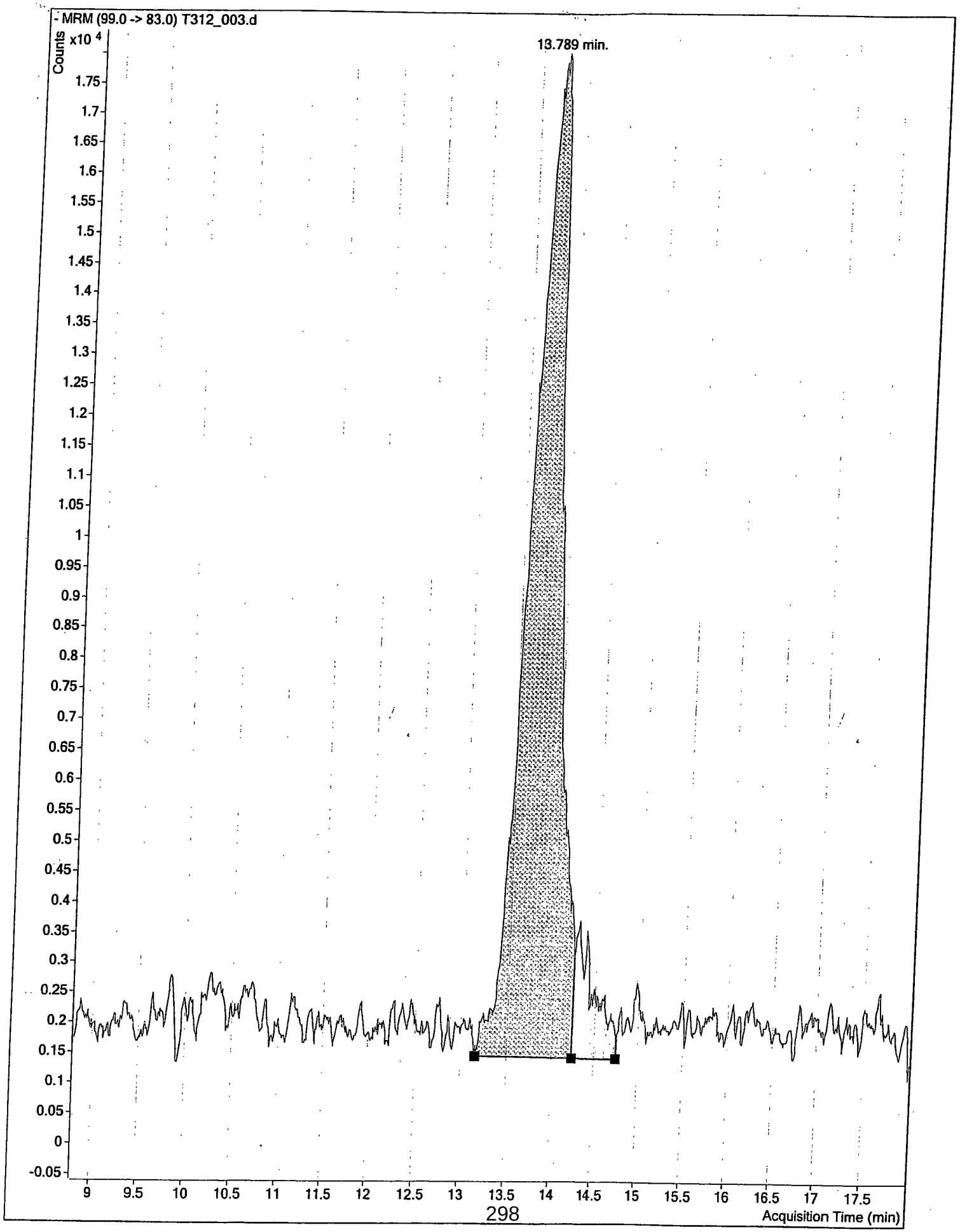


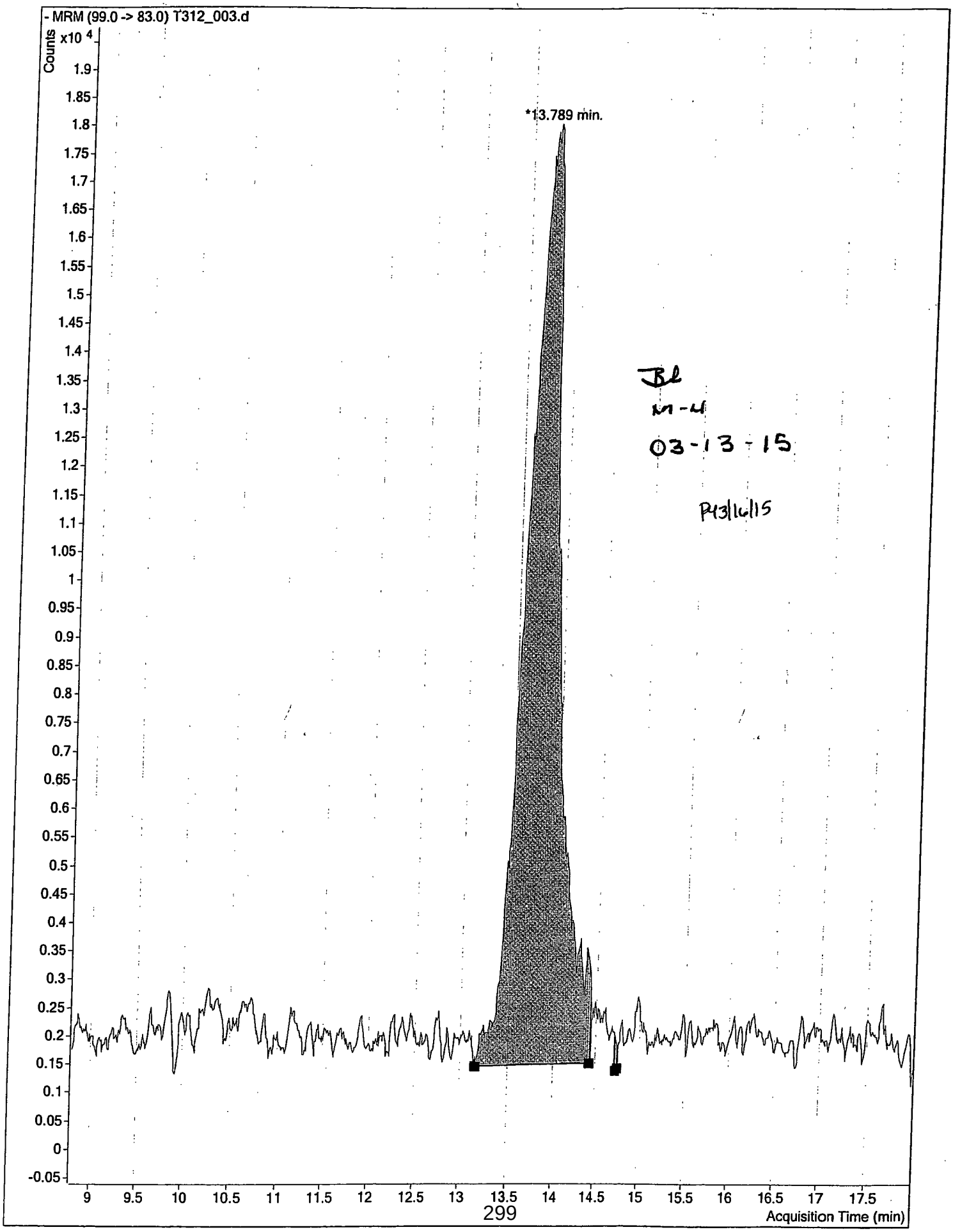
Perchlorate_102








- MRM (99.0 -> 83.0) T312_003.d
Counts
x10 4
13.789 min.
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
9
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)


- MRM (99.0 -> 83.0) T312_003.d
Counts
x10 4
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
*13.789 min.
BL
M-4
03-13-15
P13|16|15
9
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)

Data File ID: T312_004.d

Date Injected : 03/12/15

Time Injected : 18:11

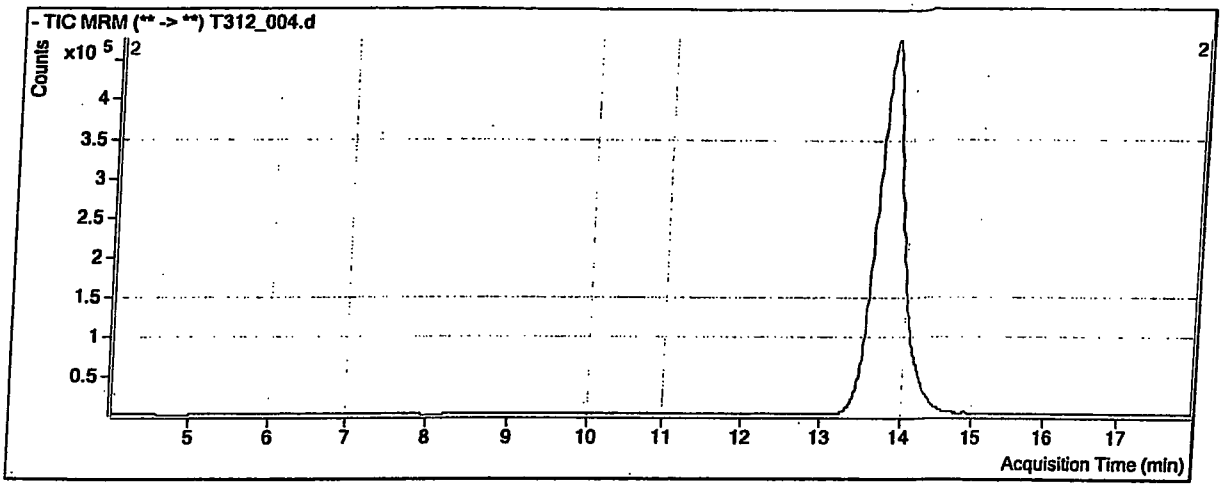
Sample ID : PERCHLORATE 0.0004 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.783	10671196	PER_IS_89
13.8	1023403	Perchlorate_83
13.827	337305	Perchlorate_85

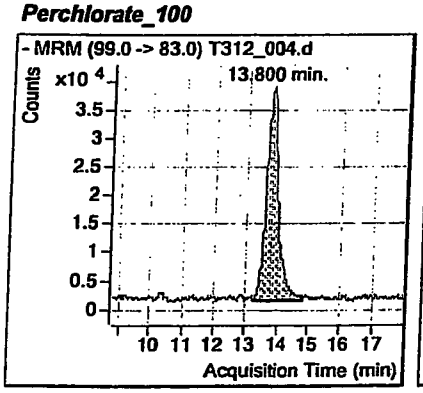
Quantitative Analysis Sample Report

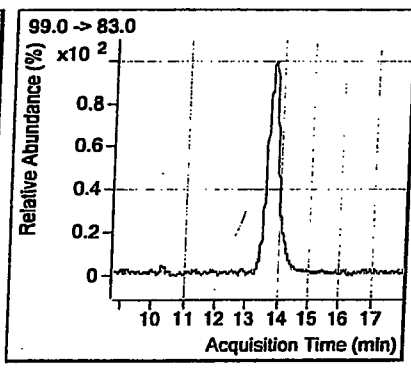
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_004.d	**Sample Name**	PERCHLORATE 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:11
ClientID	NA	**Inj Vol**	20

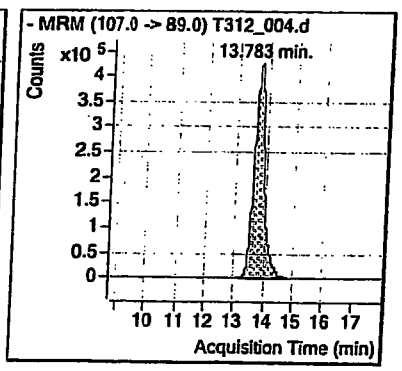


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.800	1023403	10671196
Perchlorate_102	PER_IS_108	13.827	337305	10671196

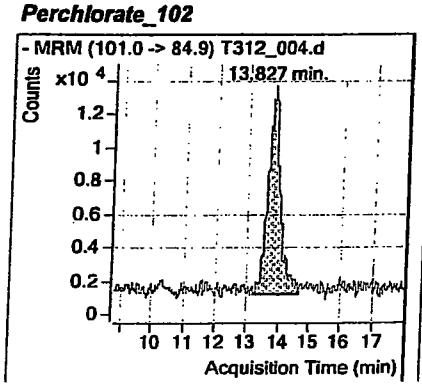
Perchlorate_100

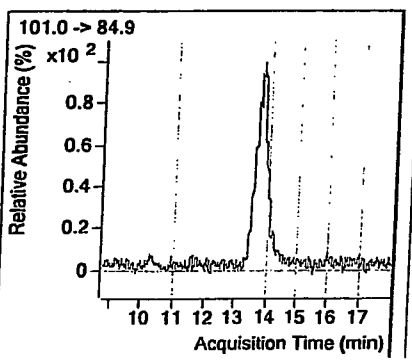


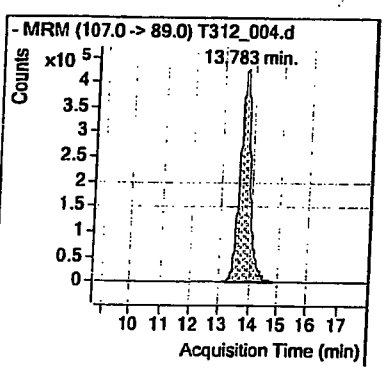




Perchlorate_102







Data File ID: T312_005.d

Date Injected : 03/12/15

Time Injected : 18:29

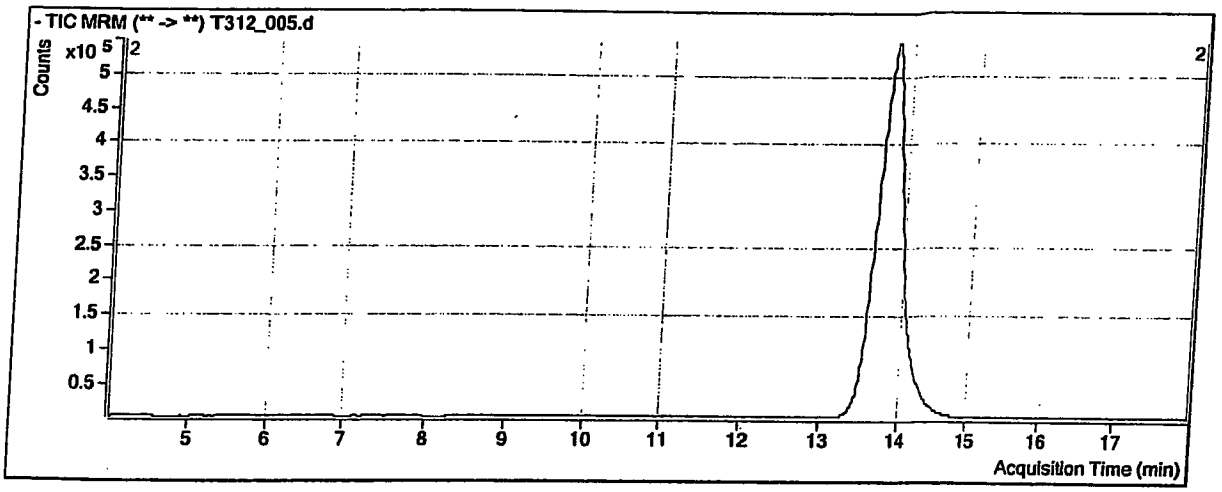
Sample ID : PERCHLORATE 0.001 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.803	10651968	PER_IS_89
13.82	2483393	Perchlorate_83
13.827	781617	Perchlorate_85

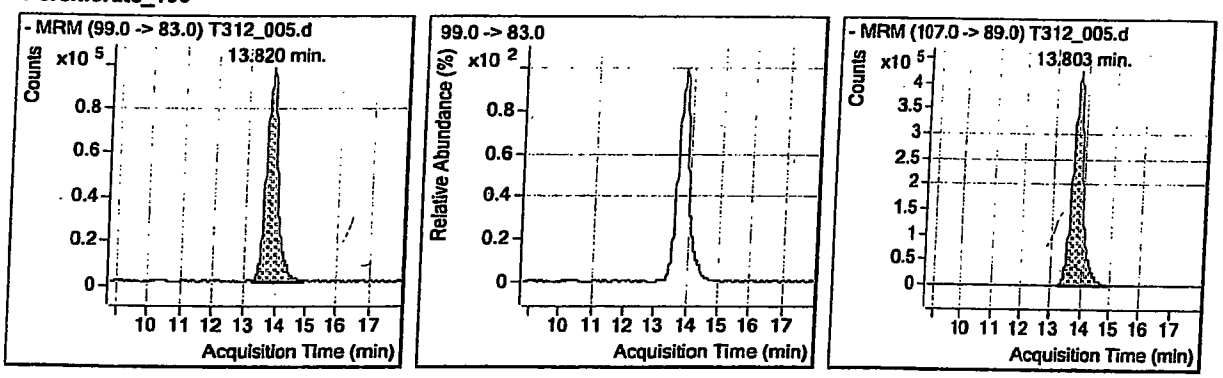
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_005.d	**Sample Name**	PERCHLORATE 0.001 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:29
ClientID	NA	**Inj Vol**	20

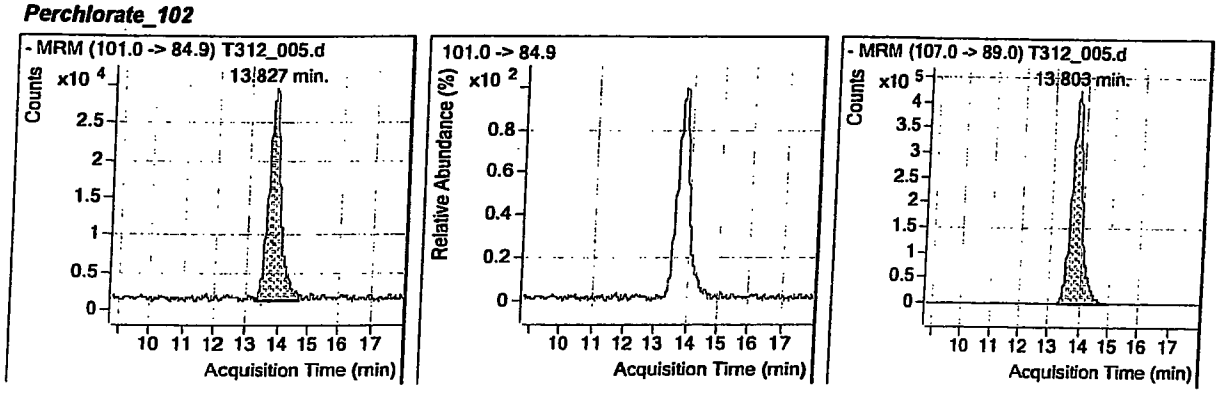


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.820	2483393	10651968
Perchlorate_102	PER_IS_108	13.827	781617	10651968

Perchlorate_100



Perchlorate_102



Data File ID: T312_006.d

Date Injected : 03/12/15

Time Injected : 18:48

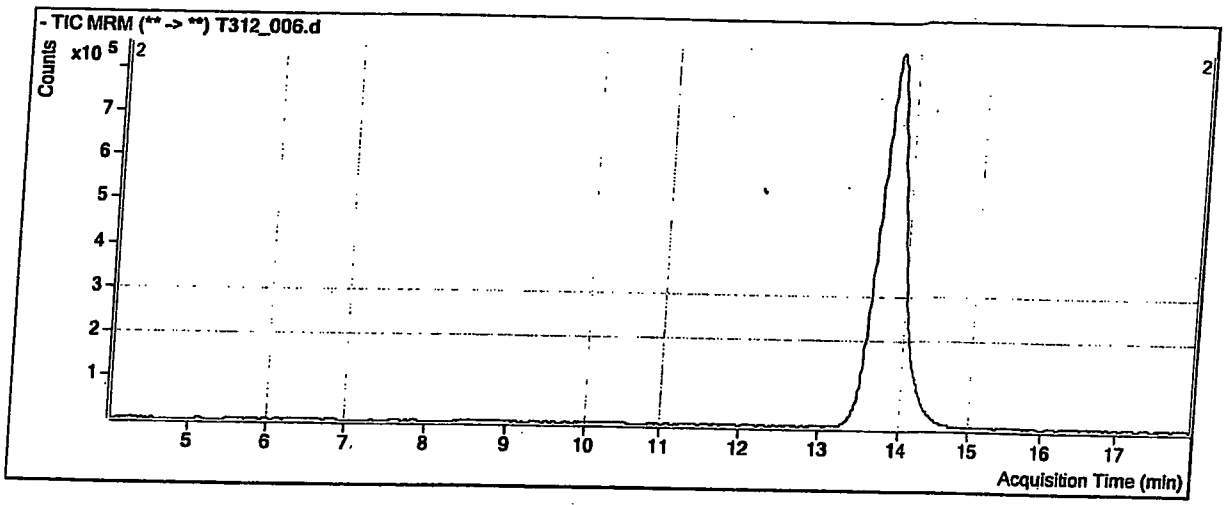
Sample ID : PERCHLORATE 0.002 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.803	13529952	PER_IS_89
13.83	6351752	Perchlorate_83
13.817	1920912	Perchlorate_85

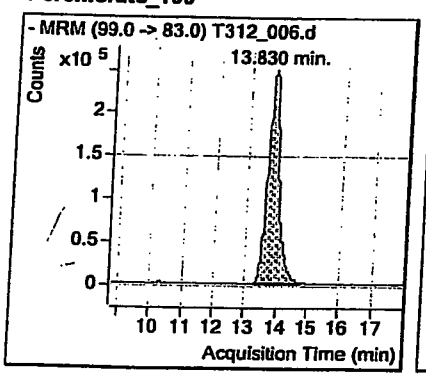
Quantitative Analysis Sample Report

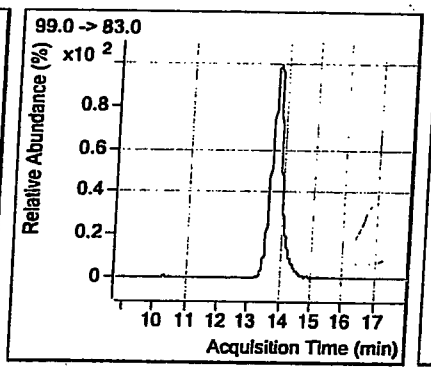
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_006.d	**Sample Name**	PERCHLORATE 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:48
ClientID	NA	**Inj Vol**	20

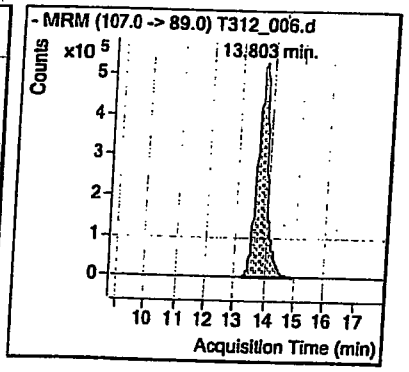


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.830	6351752	13529952
Perchlorate_102	PER_IS_108	13.817	1920912	13529952

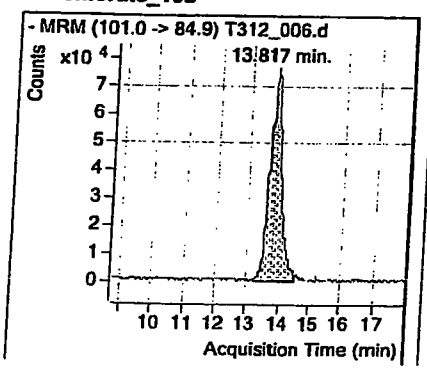
Perchlorate_100

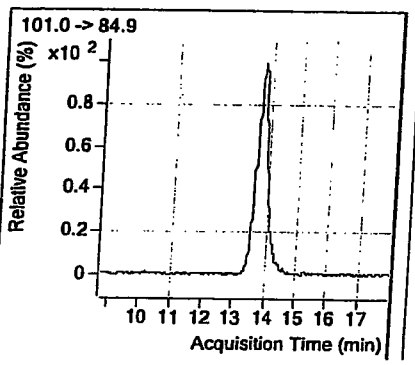


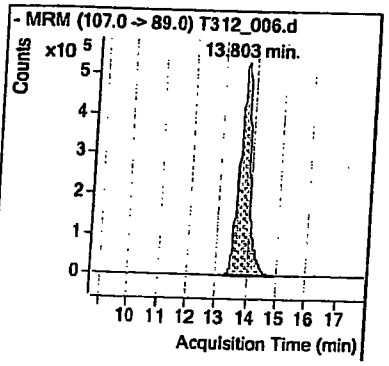




Perchlorate_102







Data File ID: T312_007.d

Date Injected : 03/12/15

Time Injected : 19:07

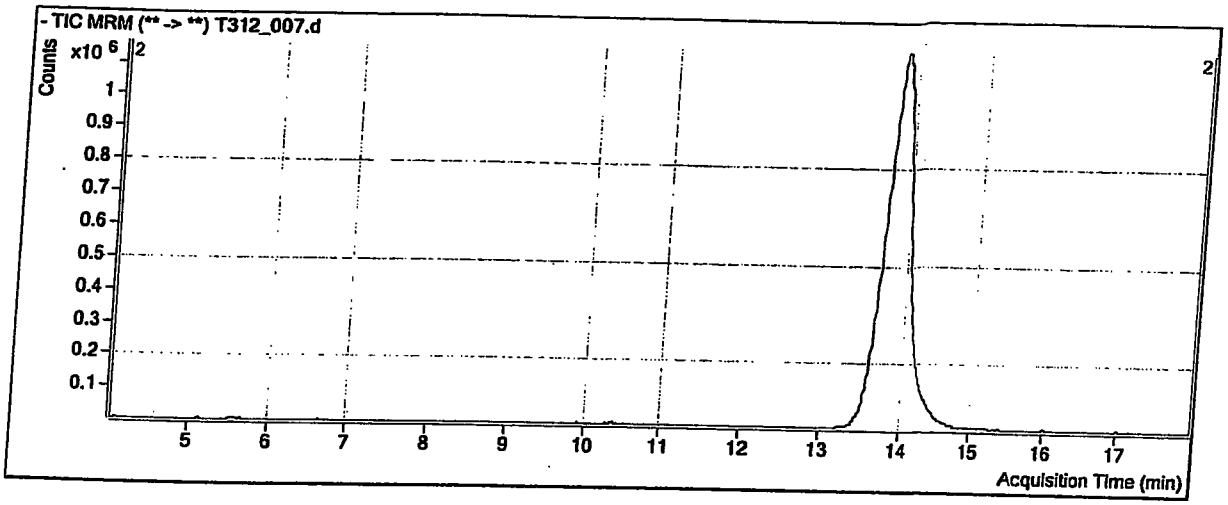
Sample ID : PERCHLORATE 0.005 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.874	11028880	PER_IS_89
13.861	14499255	Perchlorate_83
13.878	4209044	Perchlorate_85

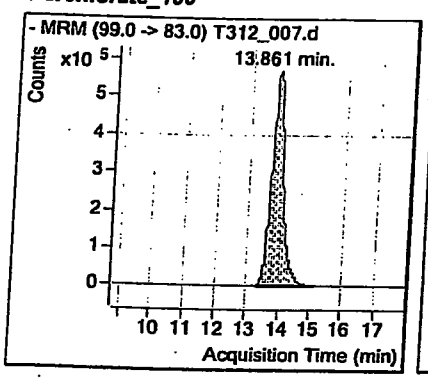
Quantitative Analysis Sample Report

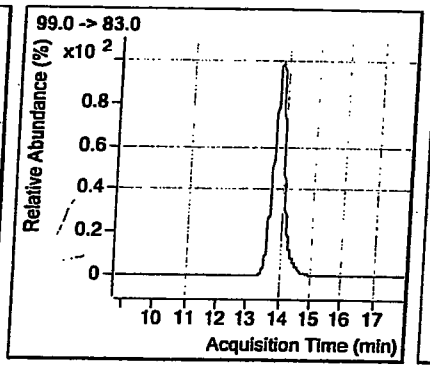
Batch-Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_007.d	**Sample Name**	PERCHLORATE 0.005 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:07
ClientID	NA	**Inj Vol**	20

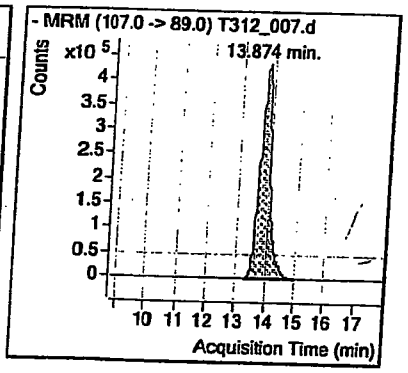


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.861	14499255	11028880
Perchlorate_102	PER_IS_108	13.878	4209044	11028880

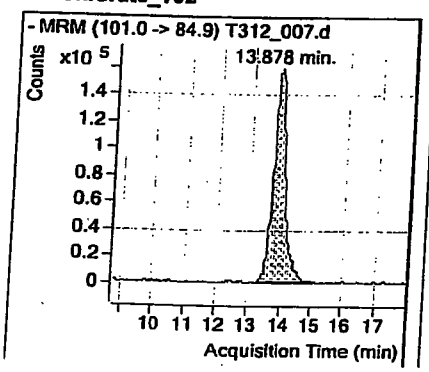
Perchlorate_100

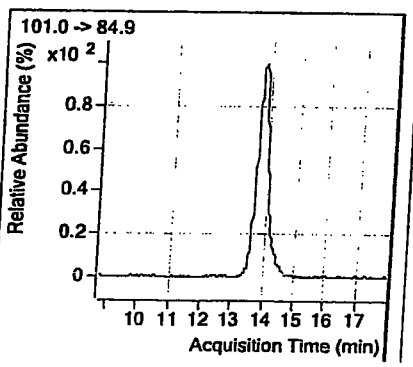


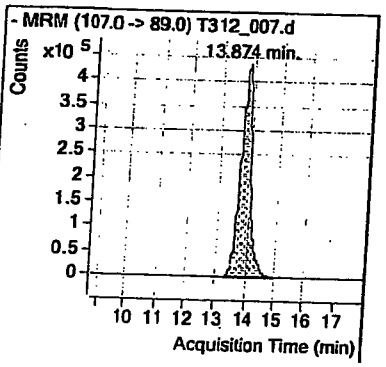




Perchlorate_102







Data File ID: T312_008.d

Date Injected : 03/12/15

Time Injected : 19:25

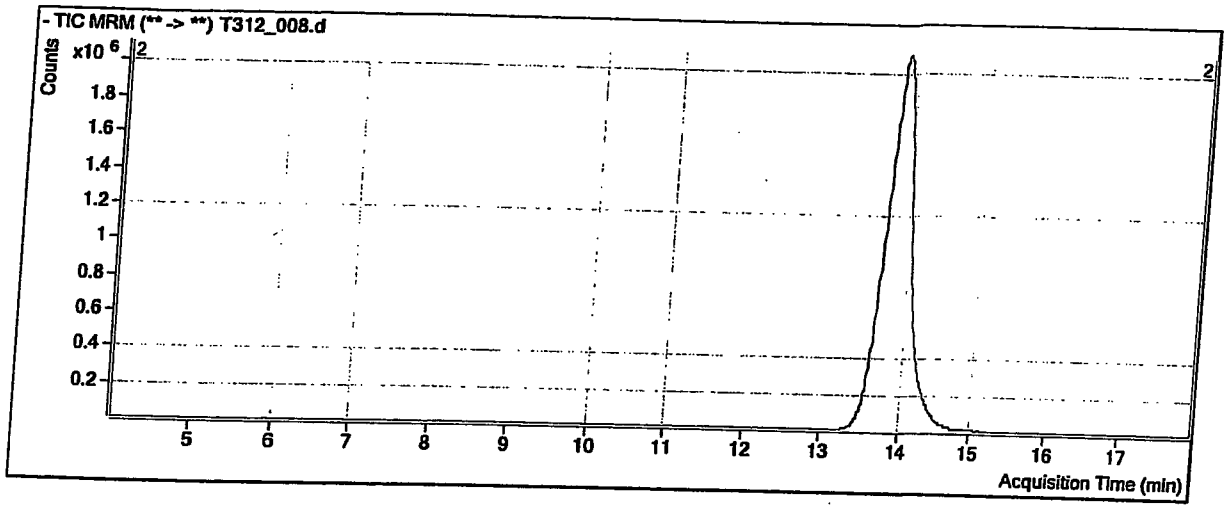
Sample ID : PERCHLORATE 0.010 ug/ml 08/27/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.874	11973072	PER_IS_89
13.881	34223790	Perchlorate_83
13.878	9985270	Perchlorate_85

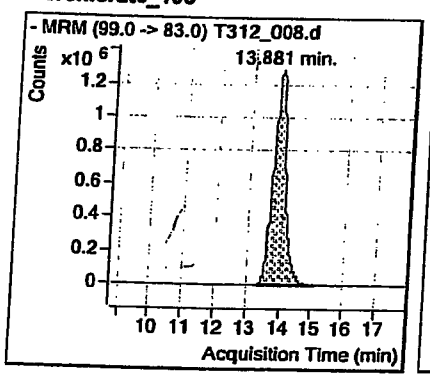
Quantitative Analysis Sample Report

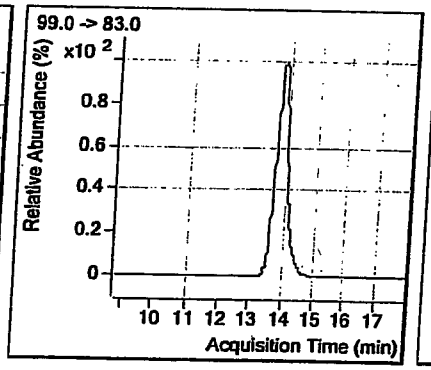
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_008.d	**Sample Name**	PERCHLORATE 0.010 ug/ml 08/27/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:25
ClientID	NA	**Inj Vol**	20

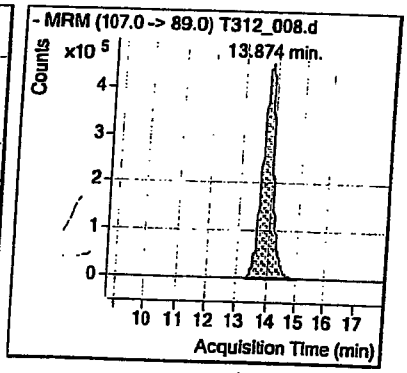


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.881	34223790	11973072
Perchlorate_102	PER_IS_108	13.878	9985270	11973072

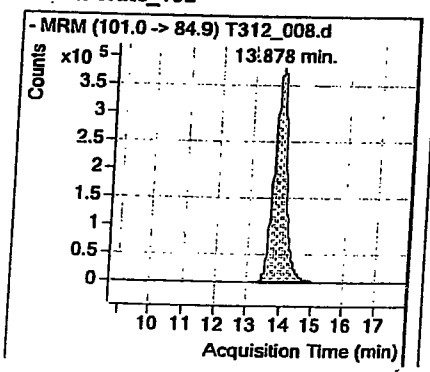
Perchlorate_100

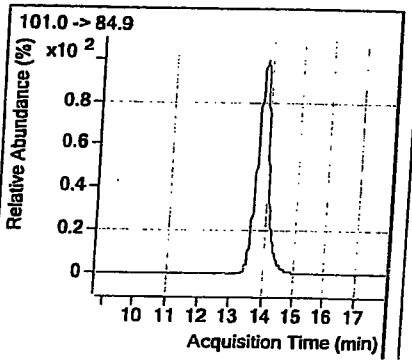


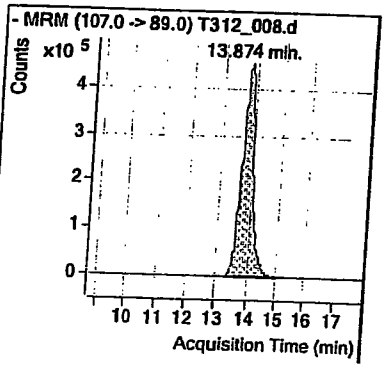




Perchlorate_102







SECOND SOURCE CALIBRATION VERIFICATION SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_010.d

	Date (s) of Analysis From:03/12/15 To:03/12/15 Time (s) of Analysis From:17:33 To:19:44				Date of Analysis: 03/12/15 Time of Analysis: 20:02 Standard Id: PER_SS (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.50	13.40	13.60	1.270255	13.94	1.418633	N	11.7
Perchlorate_85	13.54	13.44	13.64	0.391605	13.96	0.424457	N	8.4

E ID : TQCK1210.RFB

Data File ID: T312_010.d

Date Injected : 03/12/15

Time Injected : 20:02

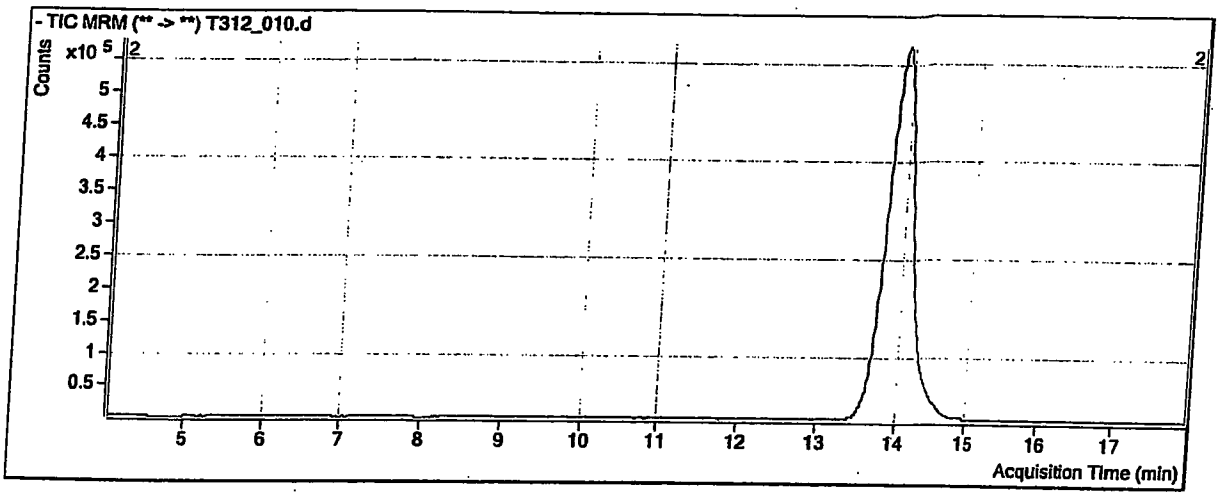
Sample ID : PER_SS 0.0004 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.946	12977621	PER_IS_89
13.942	1472839	Perchlorate_83
13.959	440675	Perchlorate_85

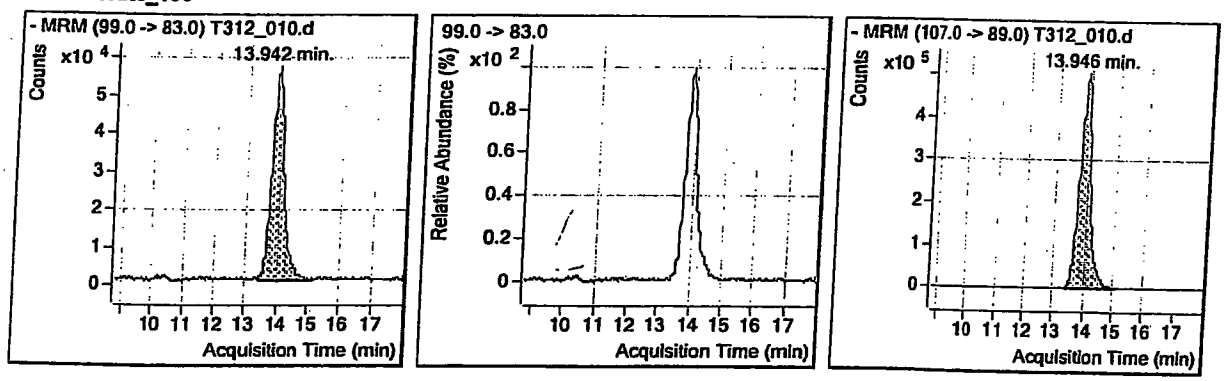
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_010.d	**Sample Name**	PER_SS 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:02
ClientID	NA	**Inj Vol**	20

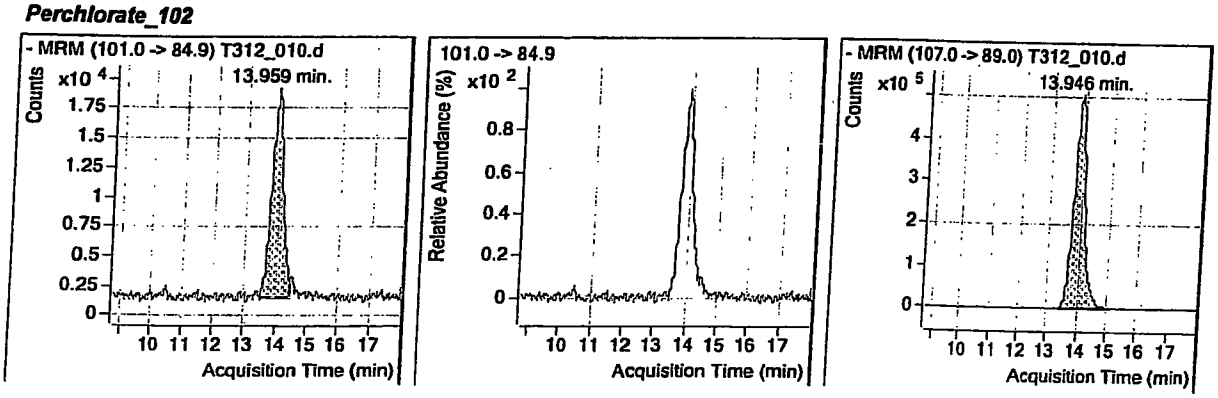


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.942	1472839	12977621
Perchlorate_102	PER_IS_108	13.959	440675	12977621

Perchlorate_100



Perchlorate_102



SECOND SOURCE CALIBRATION VERIFICATION SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_011.d

	Date (s) of Analysis From:03/12/15 To:03/12/15 Time (s) of Analysis From:17:33 To:19:44				Date of Analysis: 03/12/15 Time of Analysis: 20:21 Standard Id: PER_SS (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.50	13.40	13.60	1.270255	14.01	1.358201	N	6.9
Perchlorate_85	13.54	13.44	13.64	0.391605	14.00	0.404148	N	3.2

:LE ID : TQCK1211.RFB

Data File ID: T312_011.d

Date Injected : 03/12/15

Time Injected : 20:21

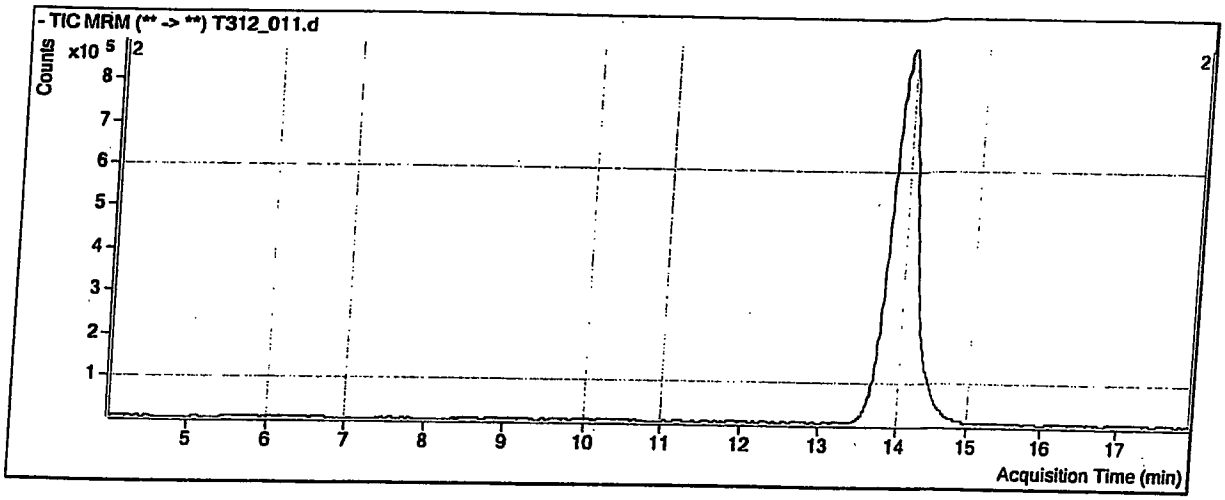
Sample ID : PER_SS 0.002 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.976	13747369	PER_IS_89
14.014	7468678	Perchlorate_83
14.000	2222387	Perchlorate_85

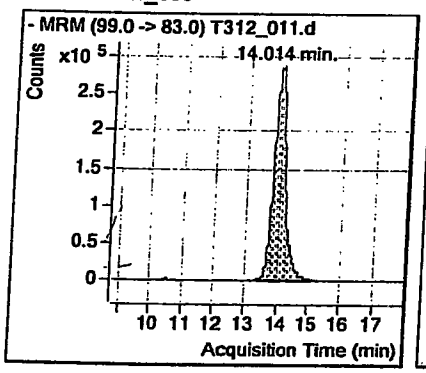
Quantitative Analysis Sample Report

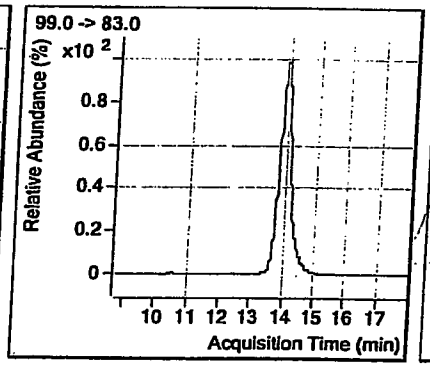
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_011.d	**Sample Name**	PER_SS 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:21
ClientID	NA	**Inj Vol**	20

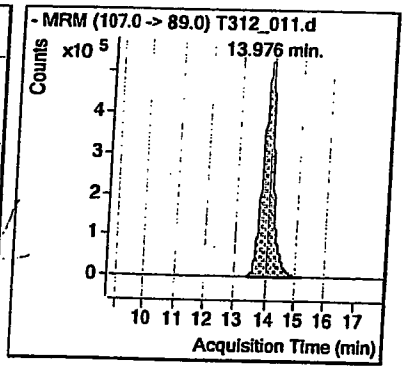


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.014	7468678	13747369
Perchlorate_102	PER_IS_108	14.000	2222387	13747369

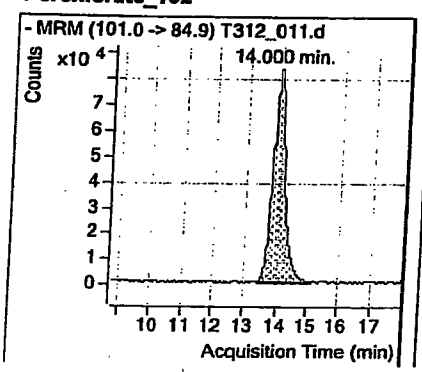
Perchlorate_100

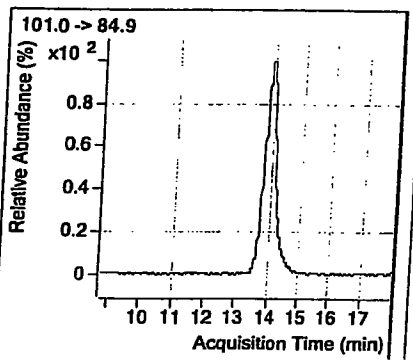


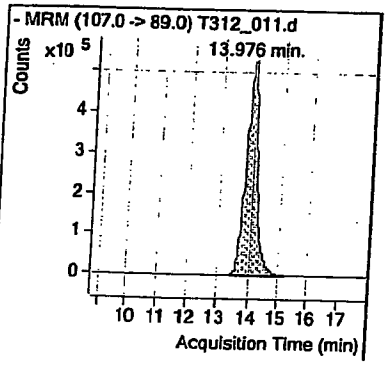




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_013.d

	Date (s) of Analysis From:03/12/15 To:03/12/15 Time (s) of Analysis From:17:33 To:20:40				Date of Analysis: 03/12/15 Time of Analysis: 20:58 Standard Id: PER_CCV_1 (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.50	13.40	13.60	1.270255	14.10	1.285147	N	1.2
Perchlorate_85	13.54	13.44	13.64	0.391605	14.14	0.416428	N	6.3

LE ID : TQCK1213.RFB

Data File ID: T312_013.d

Date Injected : 03/12/15

Time Injected : 20:58

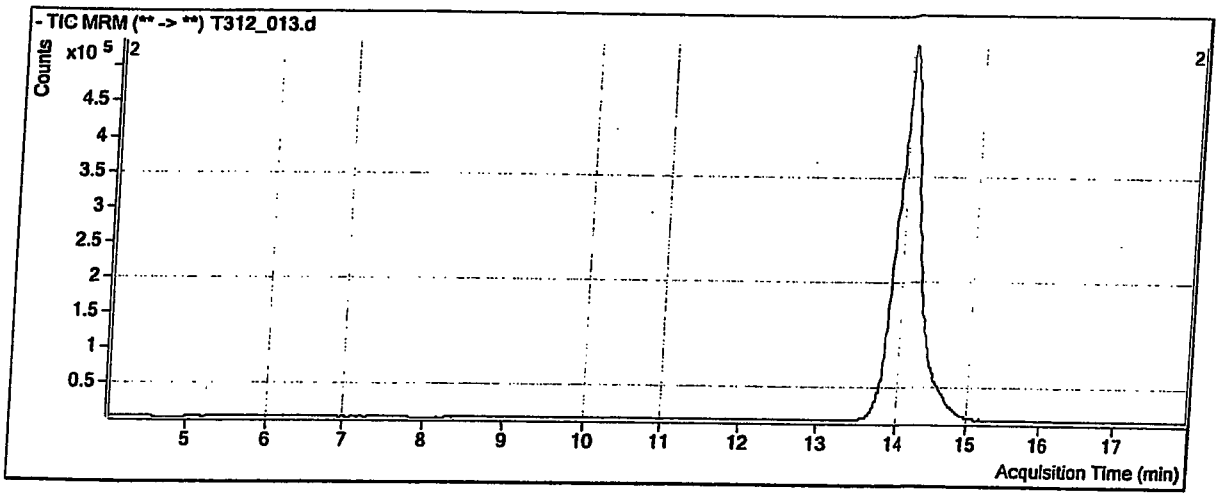
Sample ID : PER_CCV_1 0.0004 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.109	12323795	PER_IS_89
14.105	1267031	Perchlorate_83
14.143	410558	Perchlorate_85

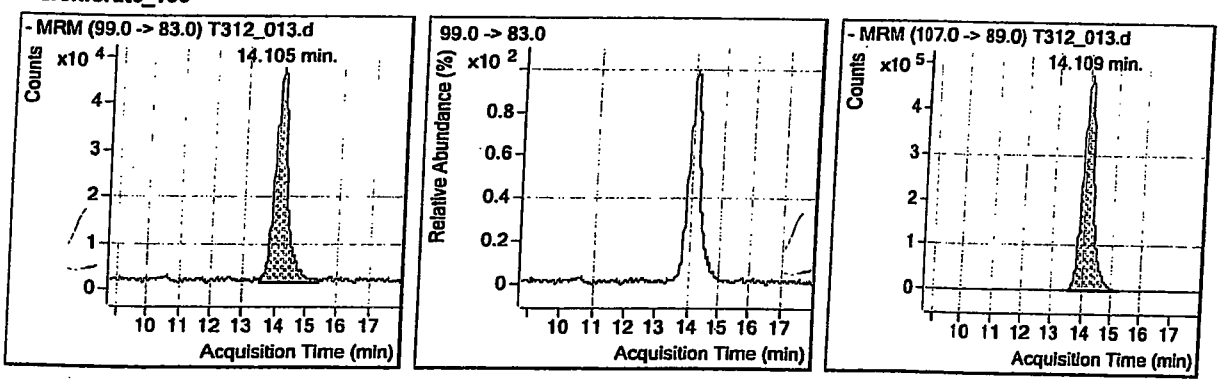
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_013.d	**Sample Name**	PER_CCV_1 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:58
ClientID	NA	**Inj Vol**	20

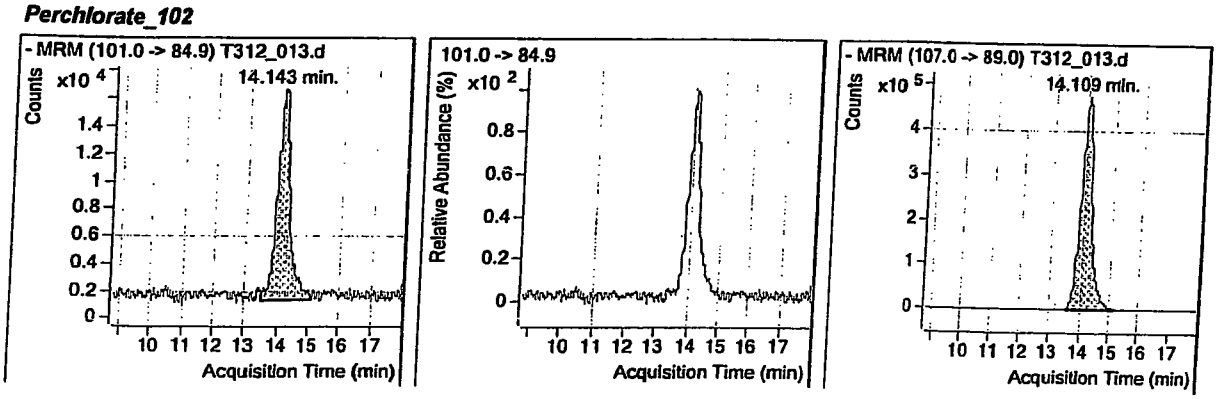


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.105	1267031	12323795
Perchlorate_102	PER_IS_108	14.143	410558	12323795

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_014.d

	Date (s) of Analysis From:03/12/15 To:03/12/15 Time (s) of Analysis From:17:33 To:20:40				Date of Analysis: 03/12/15 Time of Analysis: 21:17 Standard Id: PER_CCV_1 (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.50	13.40	13.60	1.270255	14.15	1.271875	N	0.1
Perchlorate_85	13.54	13.44	13.64	0.391605	14.12	0.385509	N	1.6

ILE ID : TQCK1214.RFB

Data File ID: T312_014.d

Date Injected : 03/12/15

Time Injected : 21:17

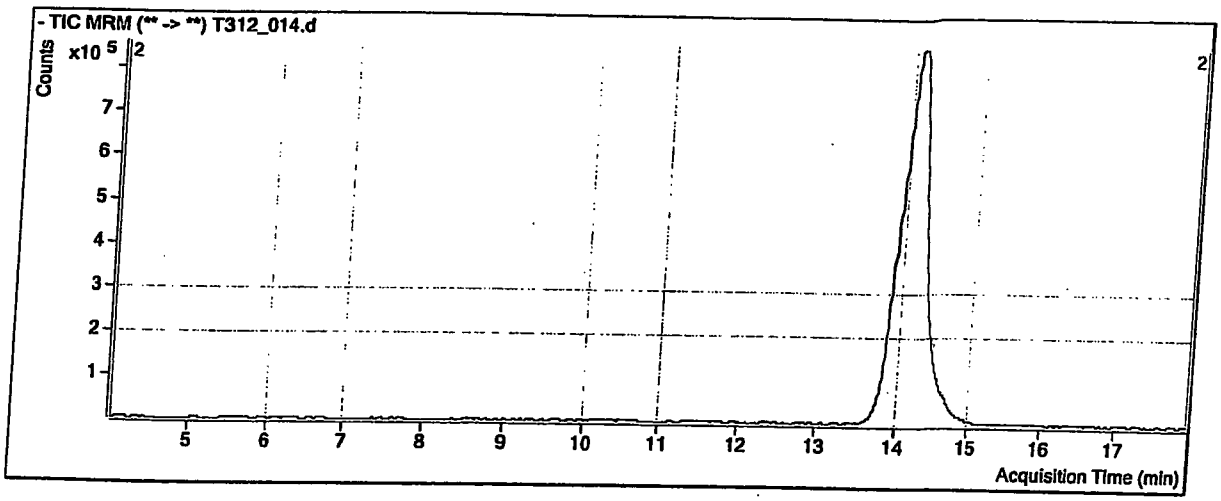
Sample ID : PER_CCV_1 0.002 ug/ml 11/11/14

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.139	13576634	PER_IS_89
14.146	6907110	Perchlorate_83
14.122	2093567	Perchlorate_85

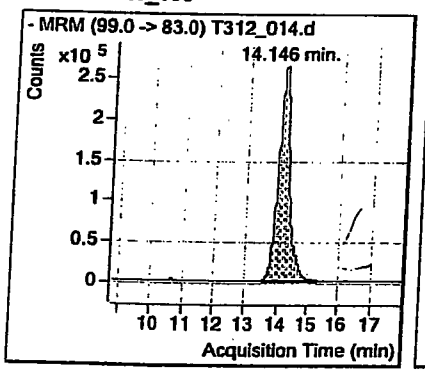
Quantitative Analysis Sample Report

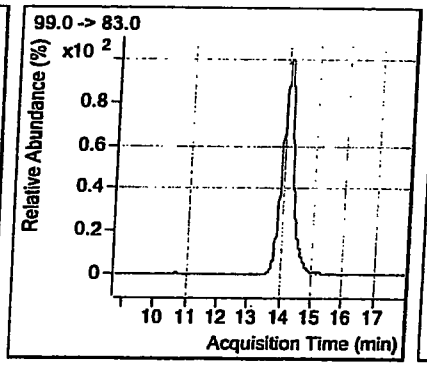
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_014.d	**Sample Name**	PER_CCV_1 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	21:17
ClientID	NA	**Inj Vol**	20

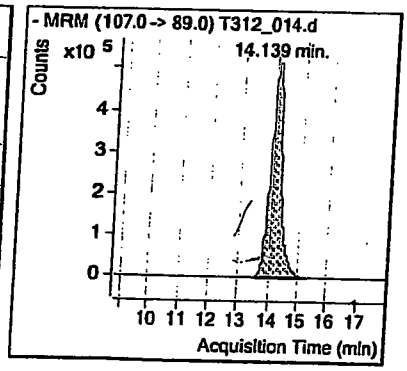


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.146	6907110	13576634
Perchlorate_102	PER_IS_108	14.122	2093567	13576634

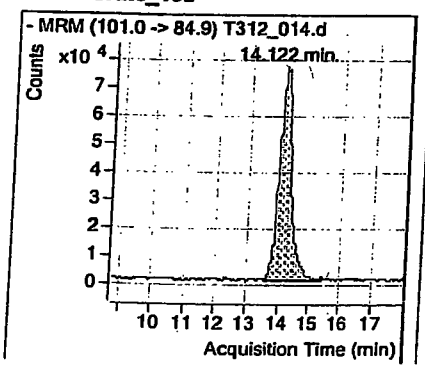
Perchlorate_100

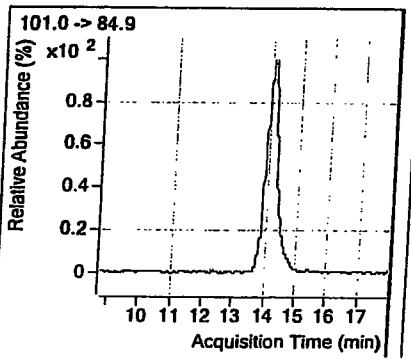


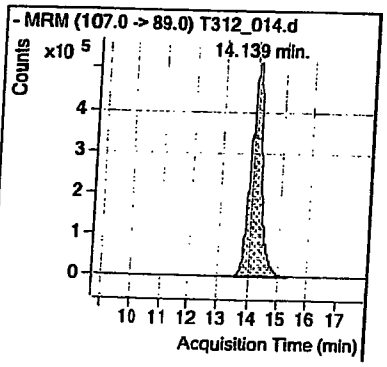




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_002.d

	Date (s) of Analysis From:03/12/15 To:06/21/15 Time (s) of Analysis From:17:52 To:16:40				Date of Analysis: 06/21/15 Time of Analysis: 16:58 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.72	1.290144	N	1.6
Perchlorate_85	13.70	13.60	13.80	0.391605	13.65	0.466333	N	19.1

FILE ID : TQCK2102.RFB

Data File ID: T621_002.d

Date Injected : 06/21/15

Time Injected : 16:58

Sample ID : PER_CCV 0.0004 ug/ml 06/11/15

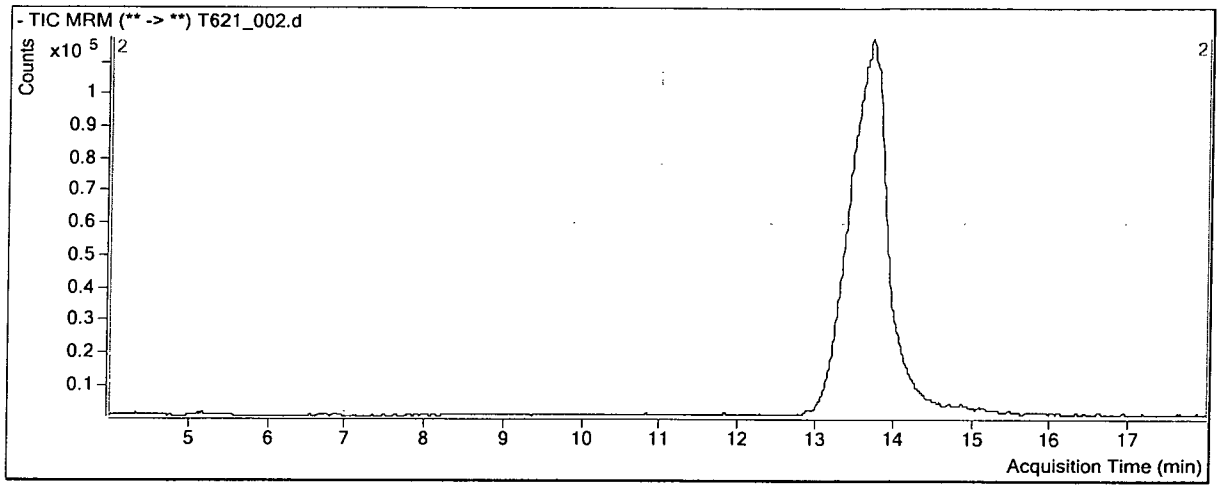
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.701		3616272	PER_IS_89
13.718		373241	Perchlorate_83
13.654	*	134911	Perchlorate_85

* MANUAL INTEGRAION

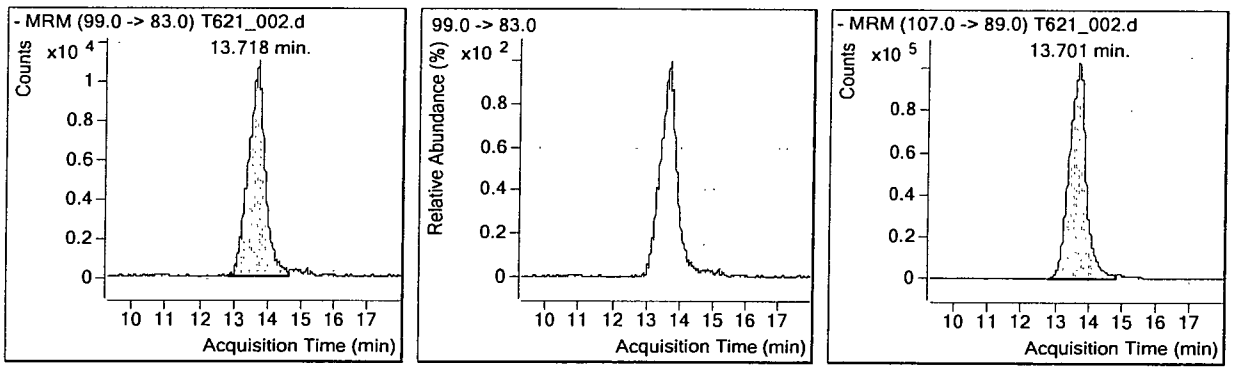
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_002.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/21/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	16:58
ClientID	NA	**Inj Vol**	20

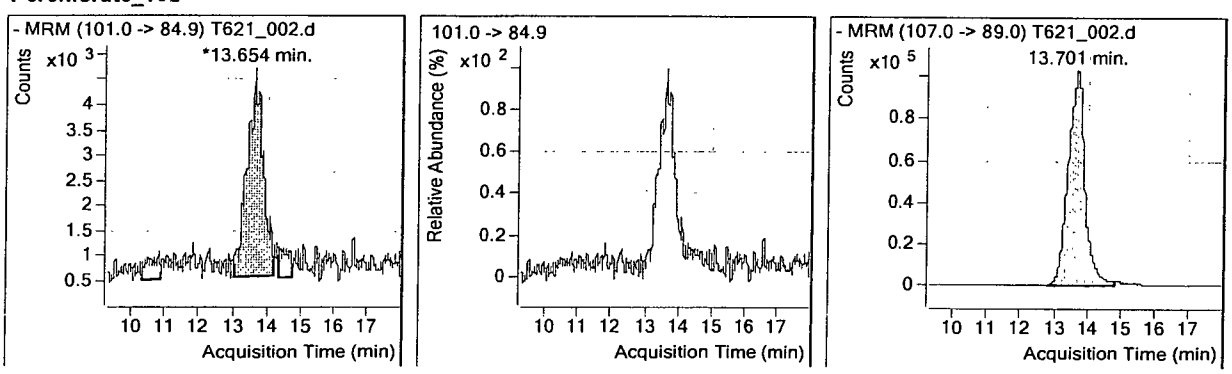


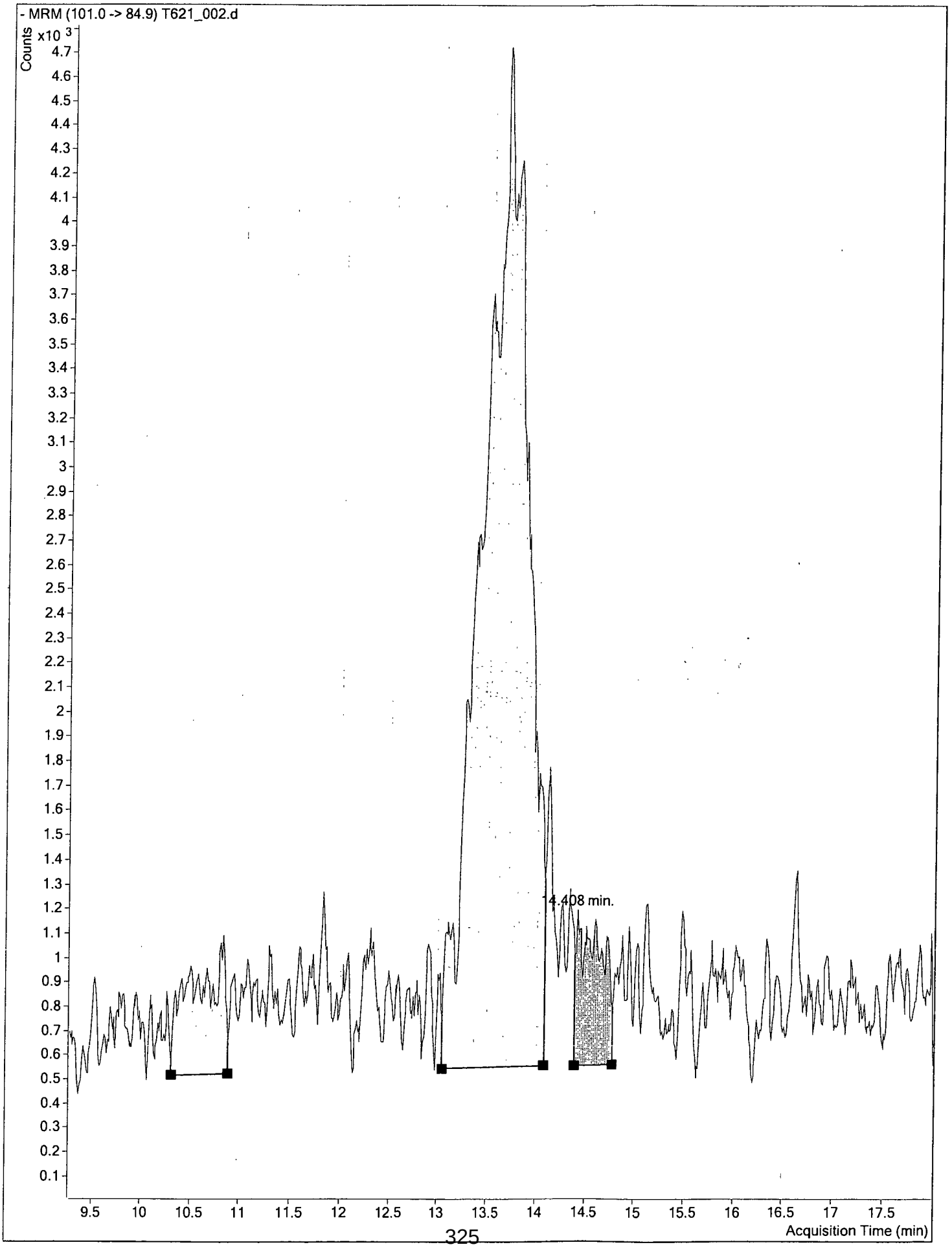
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.718	373241	3616272	
Perchlorate_102	PER_IS_108	*	13.654	134911	3616272	* MANUAL INT

Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T621_002.d
Counts
x10 3
4.7
4.6
4.5
4.4
4.3
4.2
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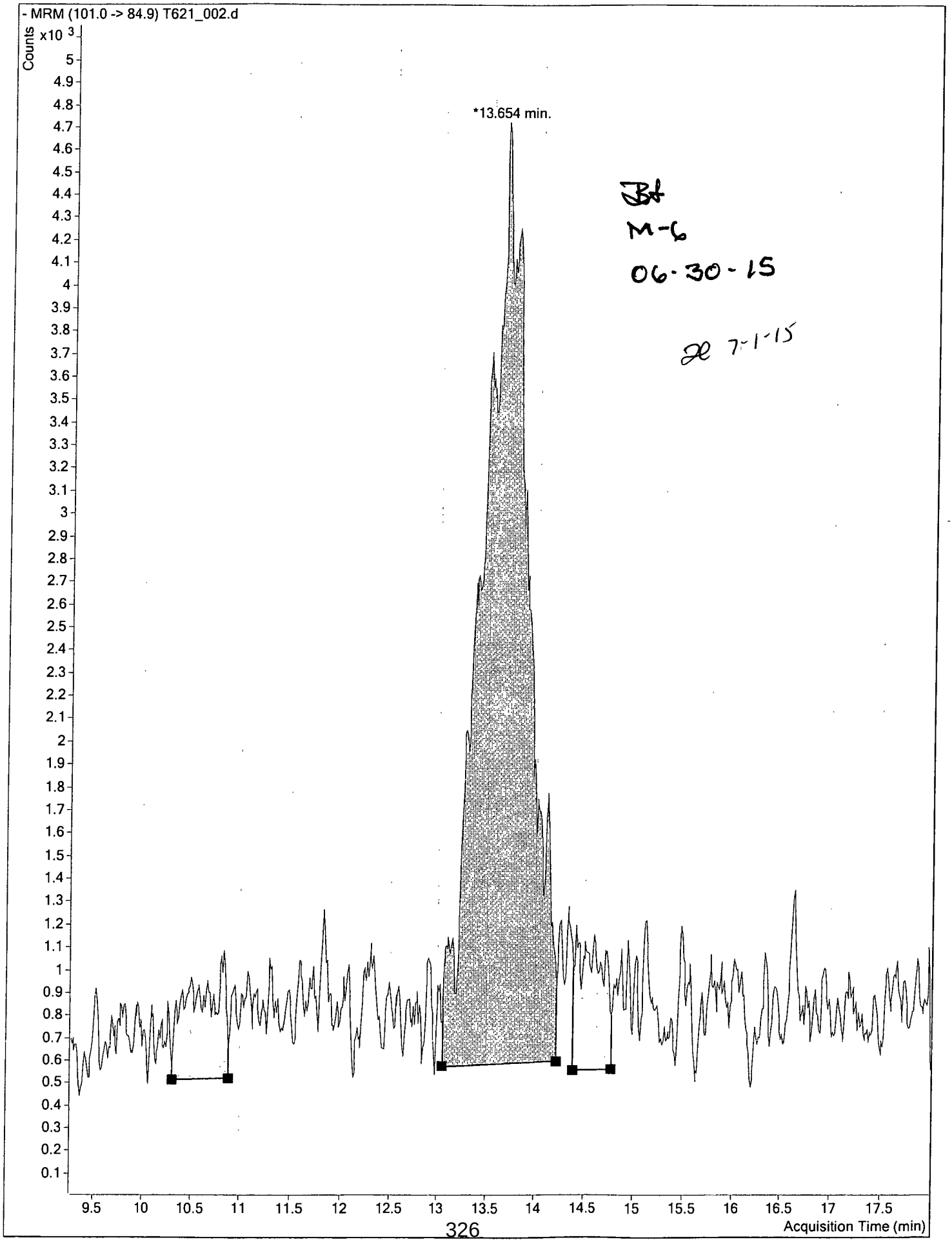
4
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
4.408 min.
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)



Bf
M-6
06-30-15

JC 7-1-15

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_003.d

	Date (s) of Analysis From:03/12/15 To:06/21/15 Time (s) of Analysis From:17:52 To:16:40				Date of Analysis: 06/21/15 Time of Analysis: 17:17 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.25	1.178310	N	7.2
Perchlorate_85	13.70	13.60	13.80	0.391605	14.28	0.377601	N	3.6

FILE ID : TQCK2103.RFB

Data File ID: T621_003.d

Date Injected : 06/21/15

Time Injected : 17:17

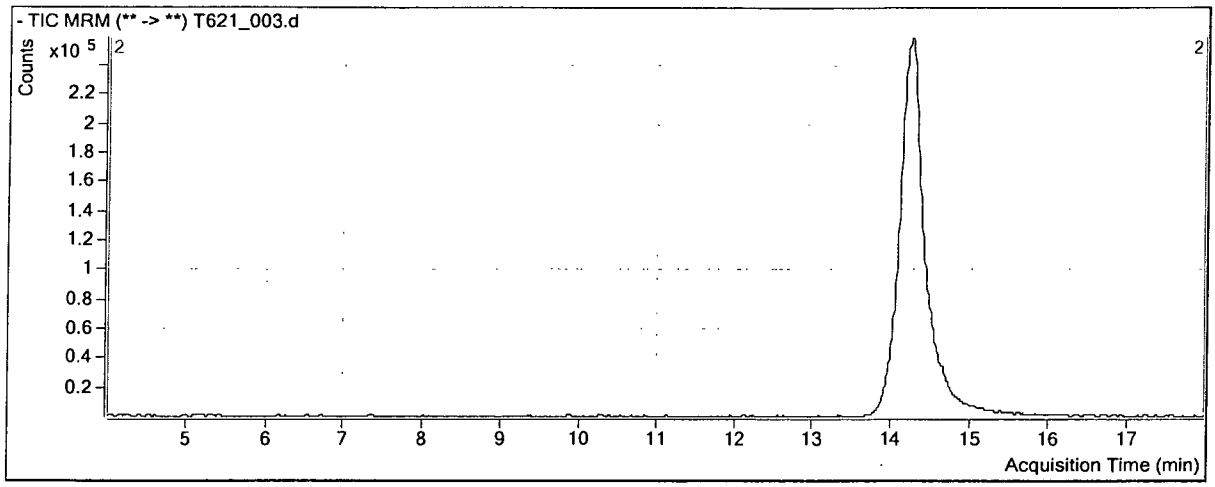
Sample ID : PER_CCV 0.002 ug/ml 06/11/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.262	3612259	PER_IS_89
14.248	1702545	Perchlorate_83
14.285	545597	Perchlorate_85

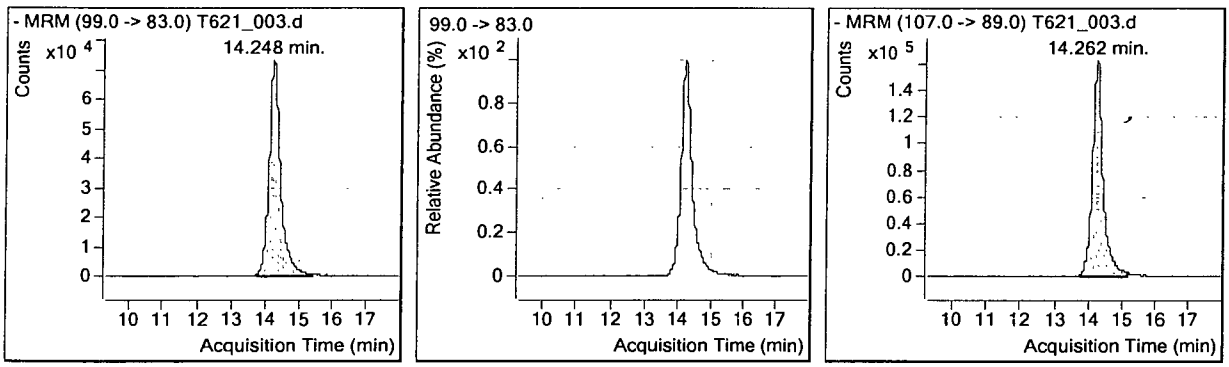
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_003.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/21/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	17:17
ClientID	NA	**Inj Vol**	20

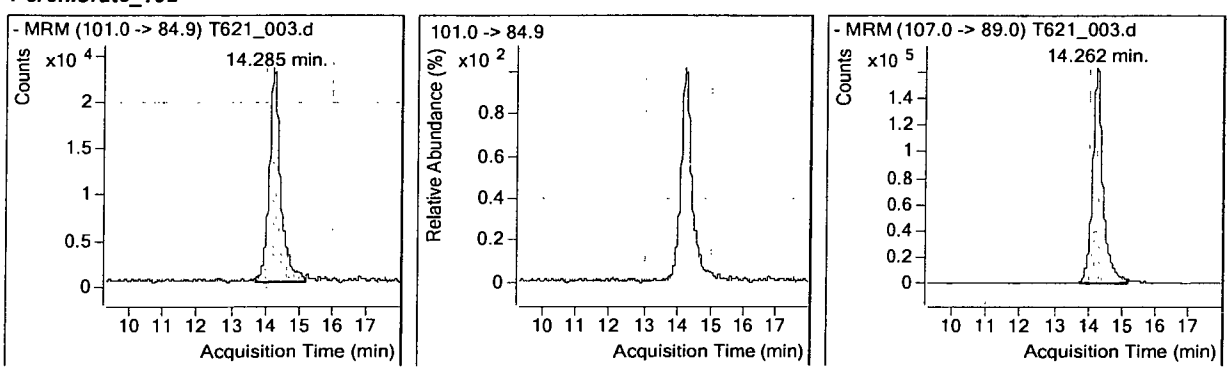


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.248	1702545	3612259
Perchlorate_102	PER_IS_108	14.285	545597	3612259

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_022.d

	Date (s) of Analysis From:03/12/15 To:06/21/15 Time (s) of Analysis From:17:52 To:22:34				Date of Analysis: 06/21/15 Time of Analysis: 23:11 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.85	1.325246	N	4.3
Perchlorate_85	13.70	13.60	13.80	0.391605	13.81	0.496153	N	26.7

FILE ID : TQCK2122.RFB

Data File ID: T621_022.d

Date Injected : 06/21/15

Time Injected : 23:11

Sample ID : PER_CCV 0.0004 ug/ml 06/11/15

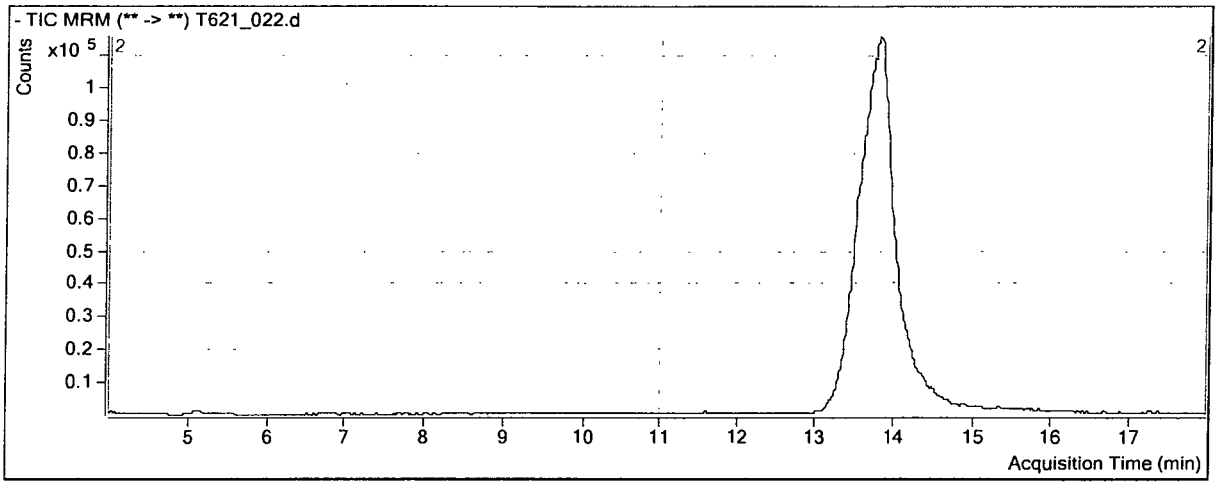
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.803		3398652	PER_IS_89
13.851		360324	Perchlorate_83
13.806	*	134900	Perchlorate_85

* MANUAL INTEGRAION

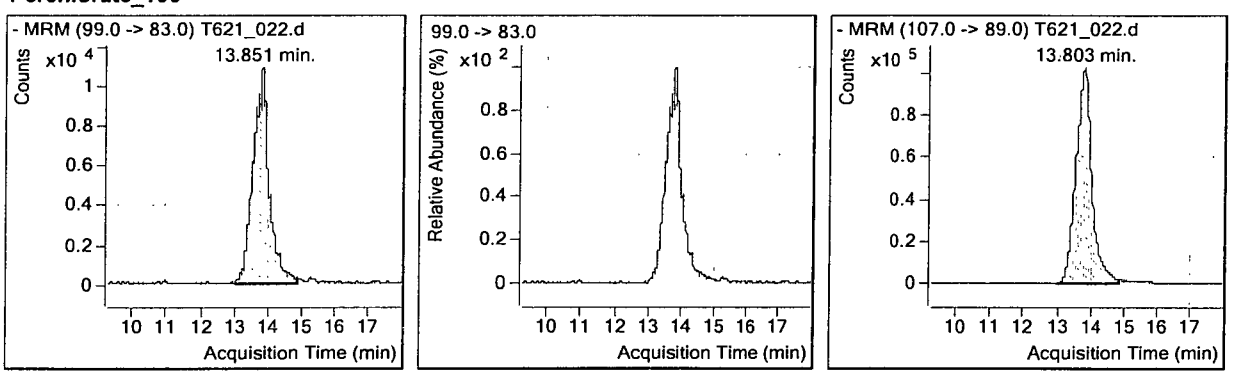
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_022.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/21/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	23:11
ClientID	NA	**Inj Vol**	20

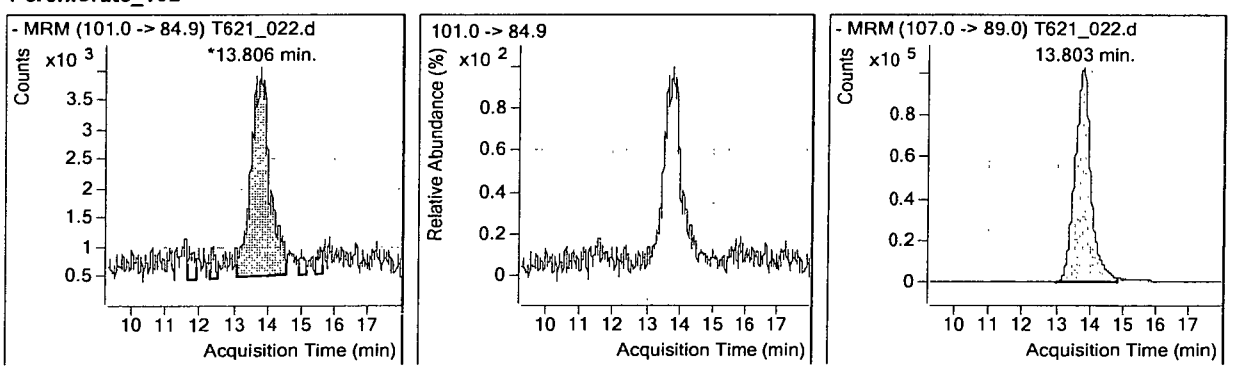


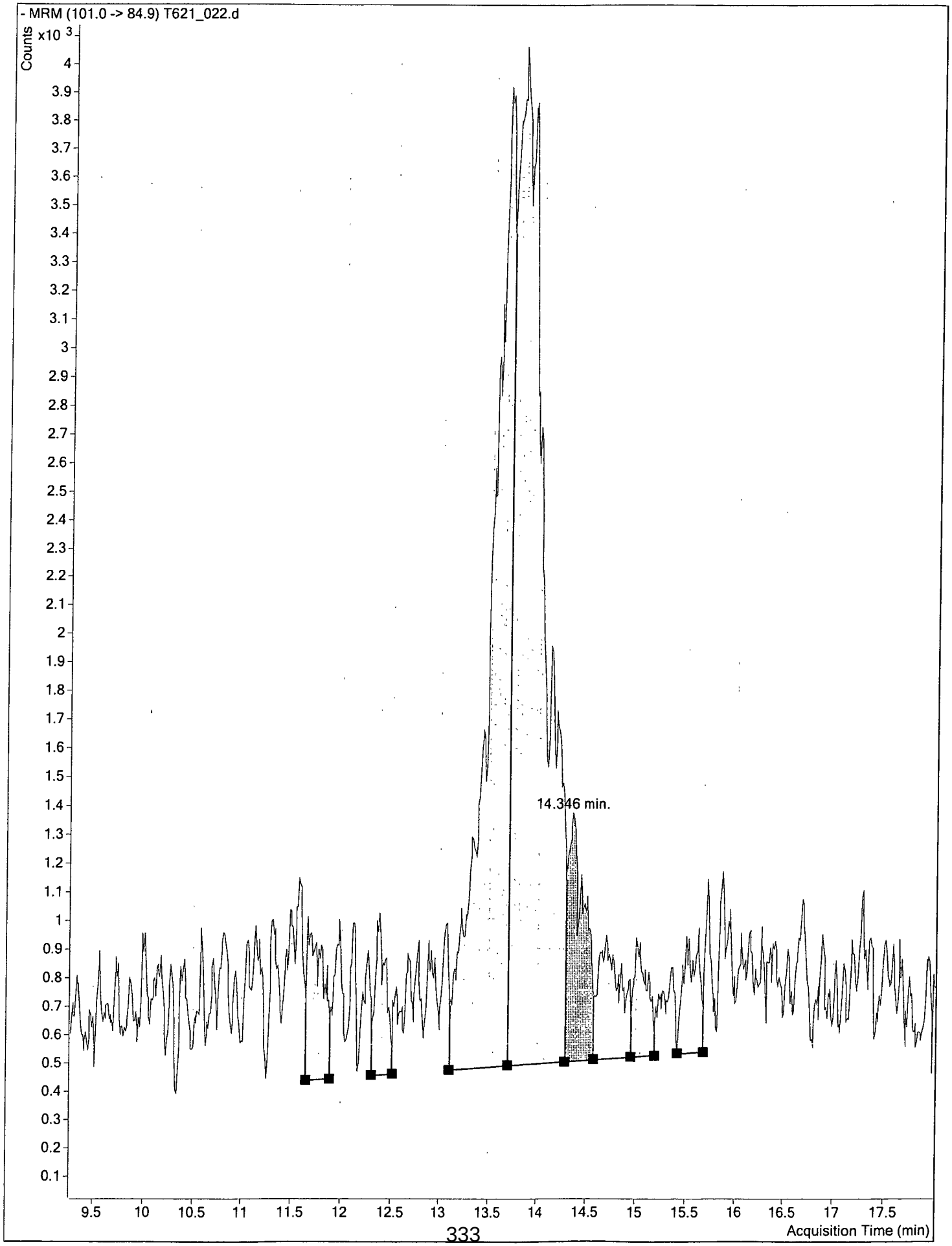
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.851	360324	3398652	
Perchlorate_102	PER_IS_108	*	13.806	134900	3398652	* MANUAL INT

Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T621_022.d
Counts
x10 3
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3.9
3.8
3.7
3.6
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3.4
3.3
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2.4
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2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
14.346 min.
9.5
10
10.5
11
11.5
12
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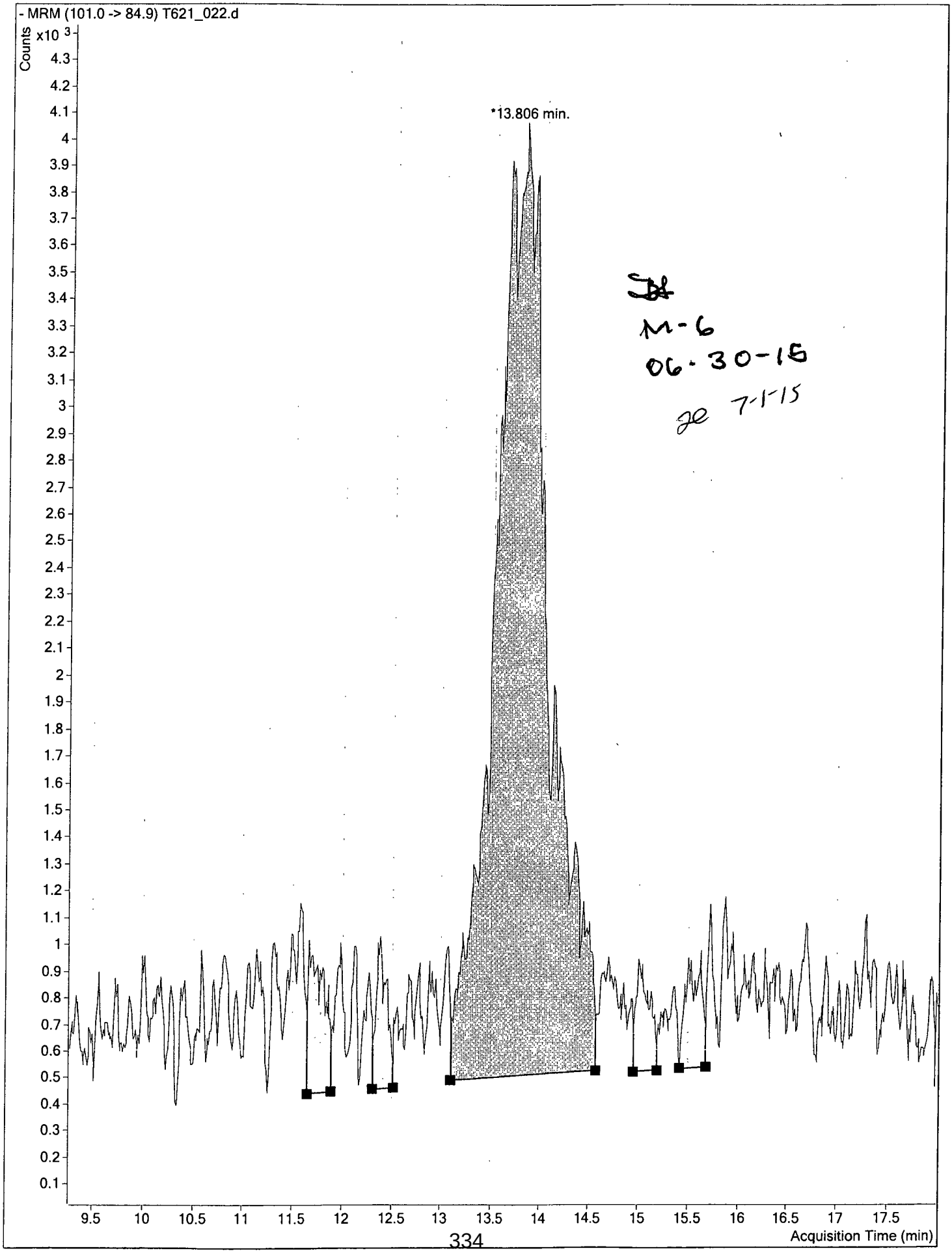
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)



SB
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06-30-15
JE 7-1-15

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_023.d

	Date (s) of Analysis From:03/12/15 To:06/21/15 Time (s) of Analysis From:17:52 To:22:34				Date of Analysis: 06/21/15 Time of Analysis: 23:30 Standard Id: PER CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.34	1.181856	N	7.0
Perchlorate_85	13.70	13.60	13.80	0.391605	14.33	0.370634	N	5.4

FILE ID : TQCK2123.RFB

Data File ID: T621_023.d

Date Injected : 06/21/15

Time Injected : 23:30

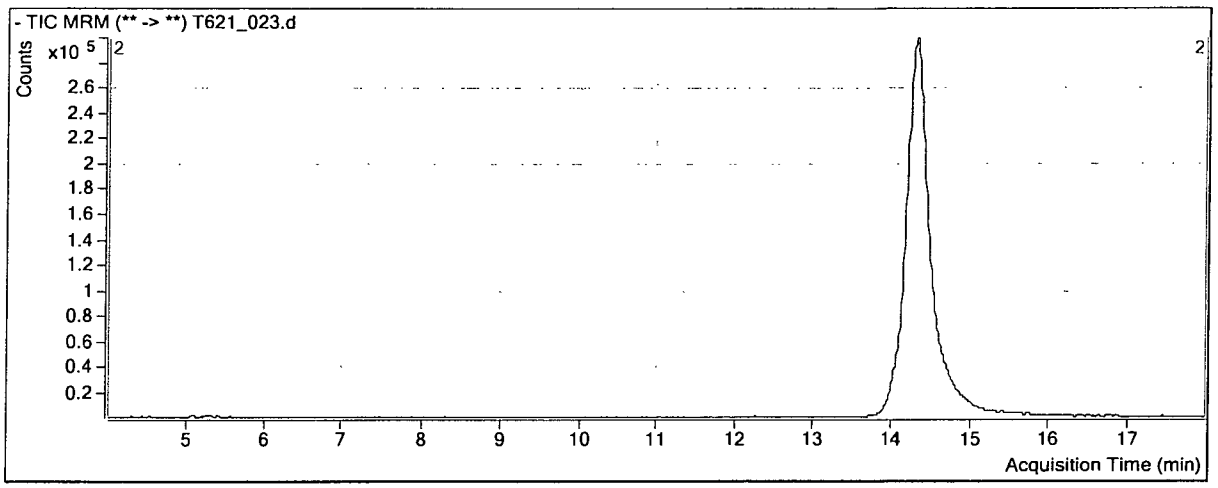
Sample ID : PER_CCV 0.002 ug/ml 06/11/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.333	4057583	PER_IS_89
14.300	1918192	Perchlorate_83
14.326	601552	Perchlorate_85

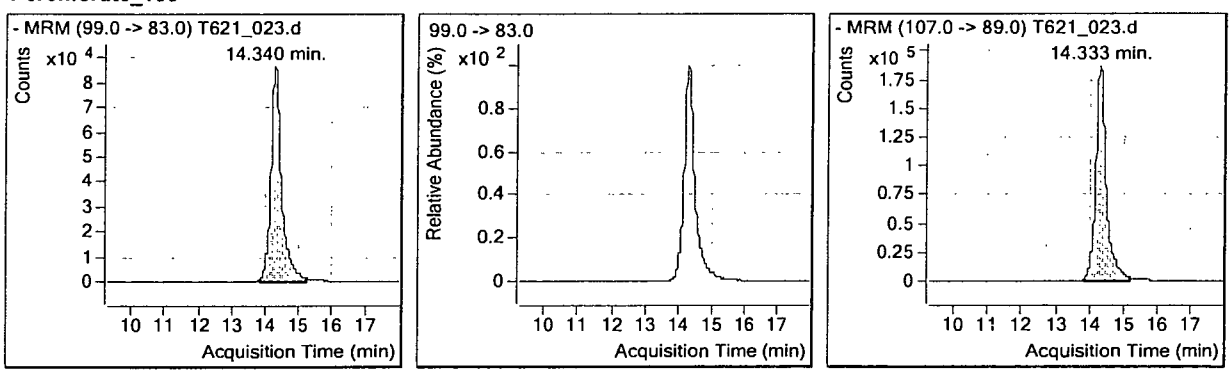
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_023.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/21/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	23:30
ClientID	NA	**Inj Vol**	20

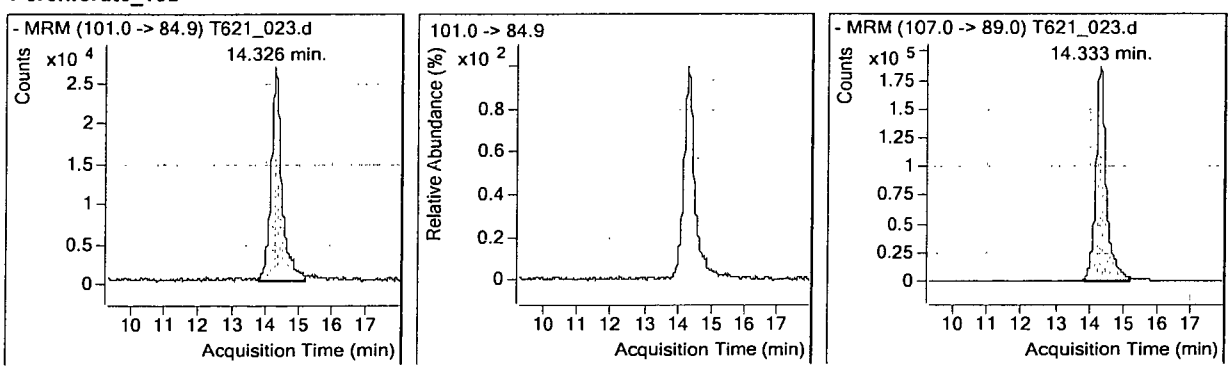


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.340	1918192	4057583
Perchlorate_102	PER_IS_108	14.326	601552	4057583

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_036.d

	Date (s) of Analysis From:03/12/15 To:06/22/15 Time (s) of Analysis From:17:52 To:2:55				Date of Analysis: 06/22/15 Time of Analysis: 3:32 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.13	1.270266	N	0.0
Perchlorate_85	13.70	13.60	13.80	0.391605	14.10	0.456680	N	16.6

FILE ID : TQCK2136.RFB

Data File ID: T621_036.d

Date Injected : 06/22/15

Time Injected : 3:32

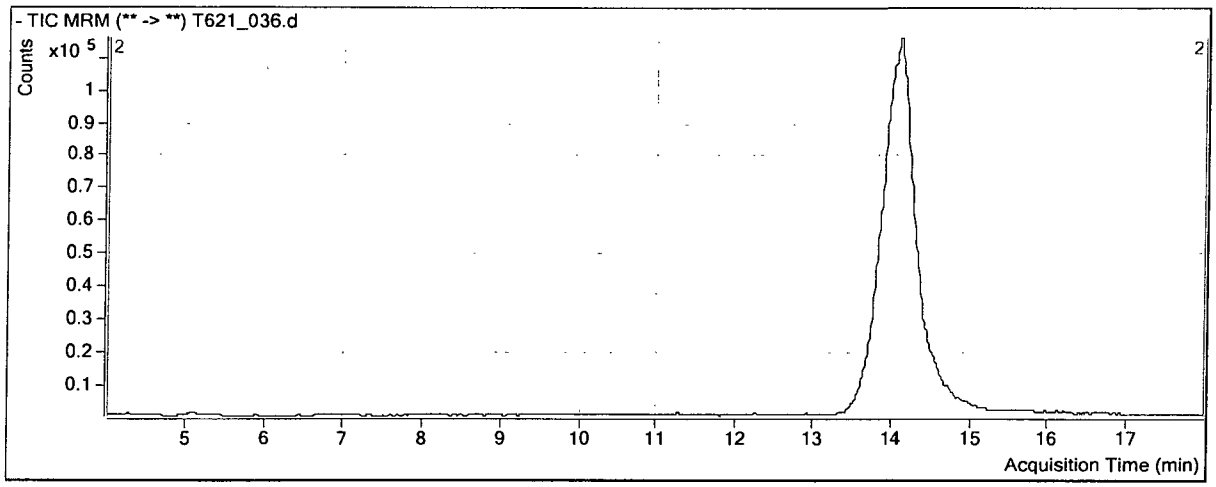
Sample ID : PER_CCV 0.0004 ug/ml 06/11/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.109	3181165	PER_IS_89
14.126	323274	Perchlorate_83
14.102	116222	Perchlorate_85

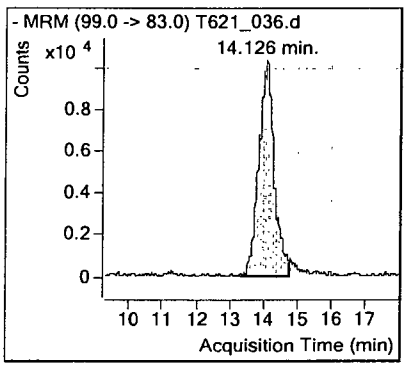
Quantitative Analysis Sample Report

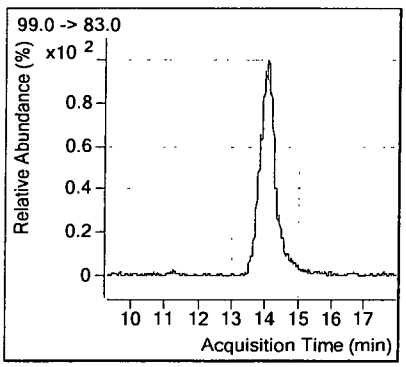
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_036.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	3:32
ClientID	NA	**Inj Vol**	20

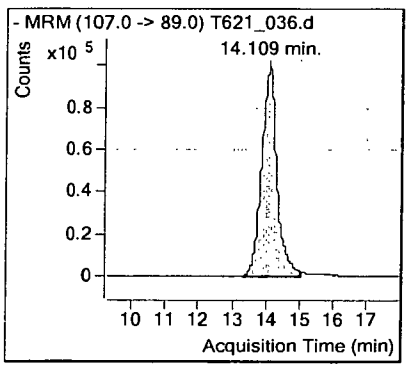


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.126	323274	3181165
Perchlorate_102	PER_IS_108	14.102	116222	3181165

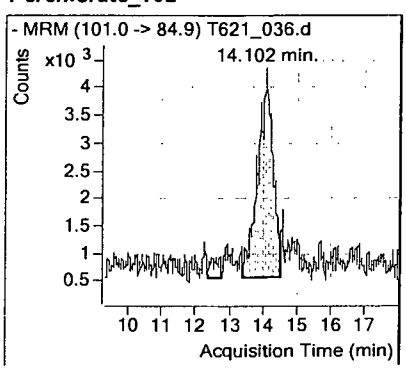
Perchlorate_100

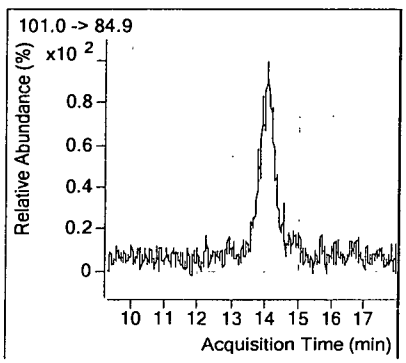


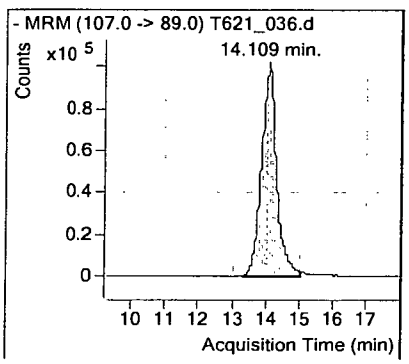




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_037.d

	Date (s) of Analysis From:03/12/15 To:06/22/15 Time (s) of Analysis From:17:52 To:2:55				Date of Analysis: 06/22/15 Time of Analysis: 3:50 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.60	1.162952	N	8.4
Perchlorate_85	13.70	13.60	13.80	0.391605	14.60	0.359400	N	8.2

FILE ID : TQCK2137.RFB

Data File ID: T621_037.d

Date Injected : 06/22/15

Time Injected : 3:50

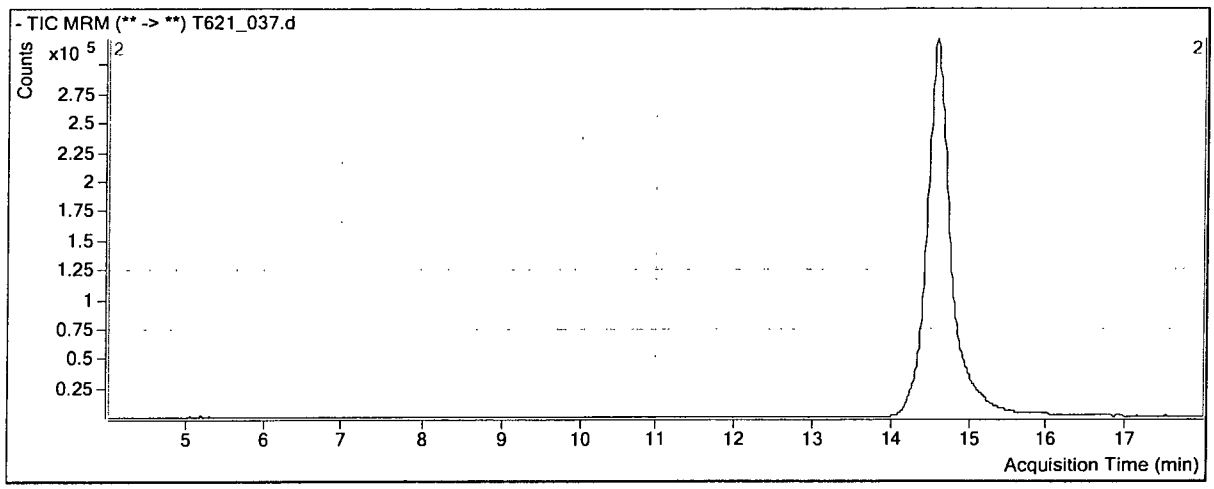
Sample ID : PER_CCV 0.002 ug/ml 06/11/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.577	4320373	PER_IS_89
14.605	2009755	Perchlorate_83
14.601	621096	Perchlorate_85

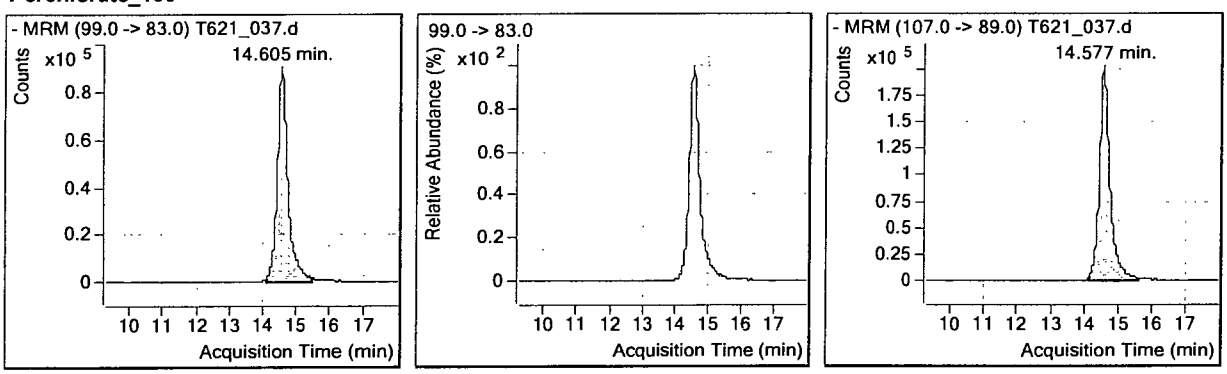
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_037.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	3:50
ClientID	NA	**Inj Vol**	20

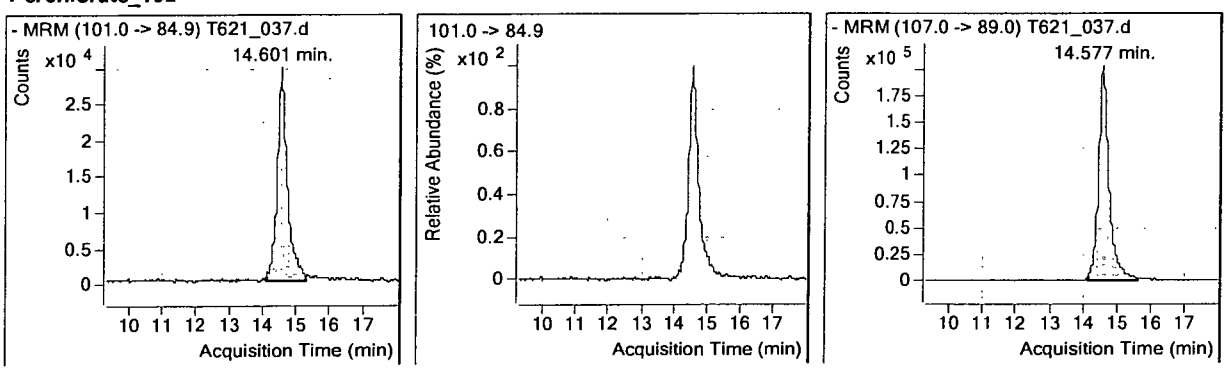


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.605	2009755	4320373
Perchlorate_102	PER_IS_108	14.601	621096	4320373

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_050.d

	Date (s) of Analysis From:03/12/15 To:06/22/15 Time (s) of Analysis From:17:52 To:7:15				Date of Analysis: 06/22/15 Time of Analysis: 7:53 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.00	1.287832	N	1.4
Perchlorate_85	13.70	13.60	13.80	0.391605	13.99	0.465109	N	18.8

FILE ID : TQCK2150.RFB

Data File ID: T621_050.d

Date Injected : 06/22/15

Time Injected : 7:53

Sample ID : PER_CCV 0.0004 ug/ml 06/11/15

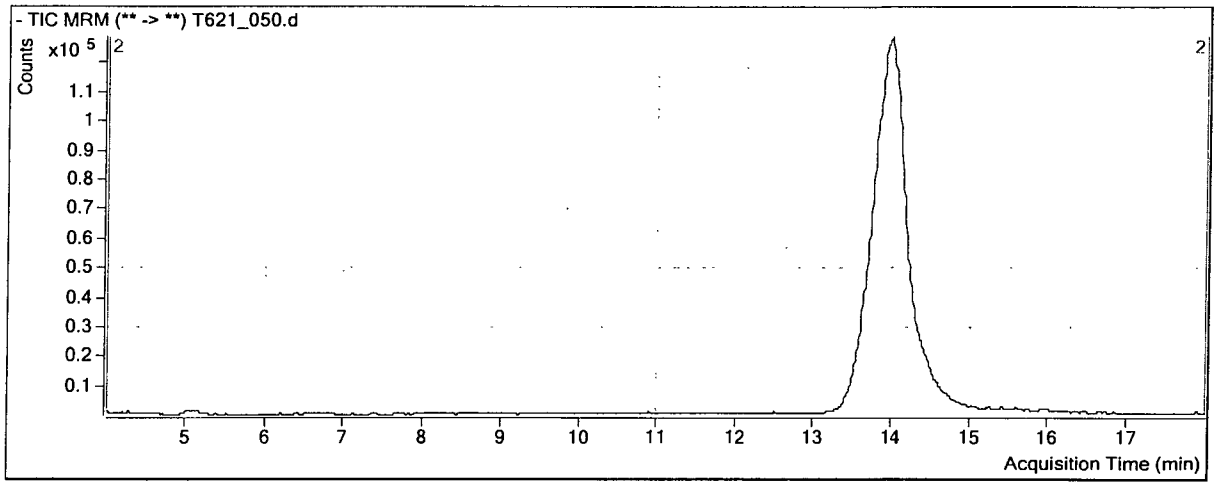
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
14.007		3697116	PER_IS_89
14.003		380901	Perchlorate_83
13.900	*	137565	Perchlorate_85

* MANUAL INTEGRAION

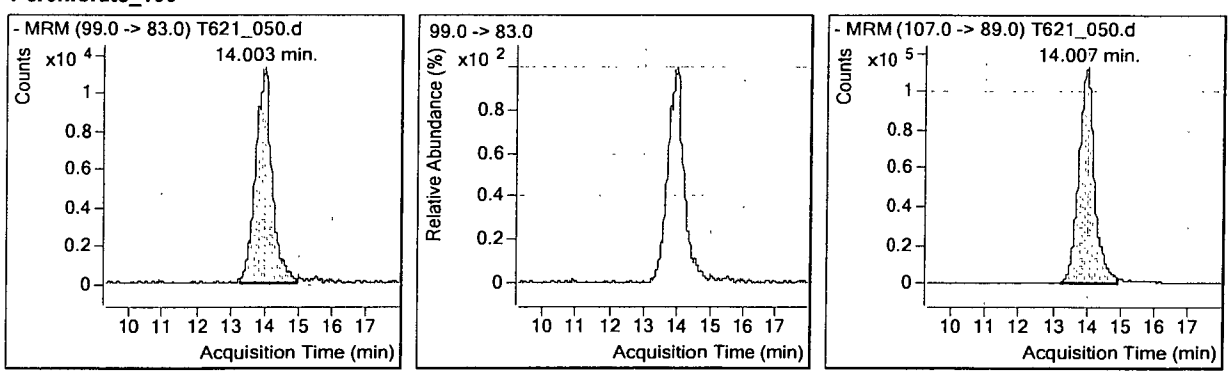
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_050.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	7:53
ClientID	NA	**Inj Vol**	20

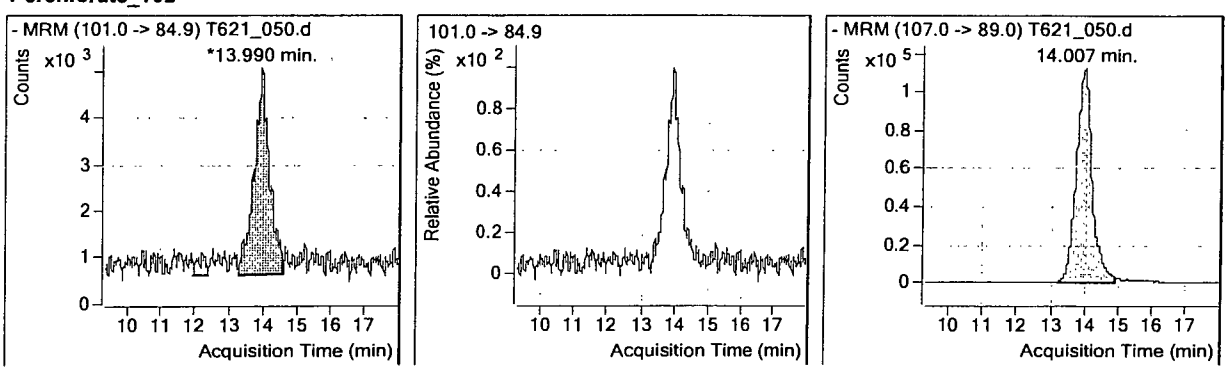


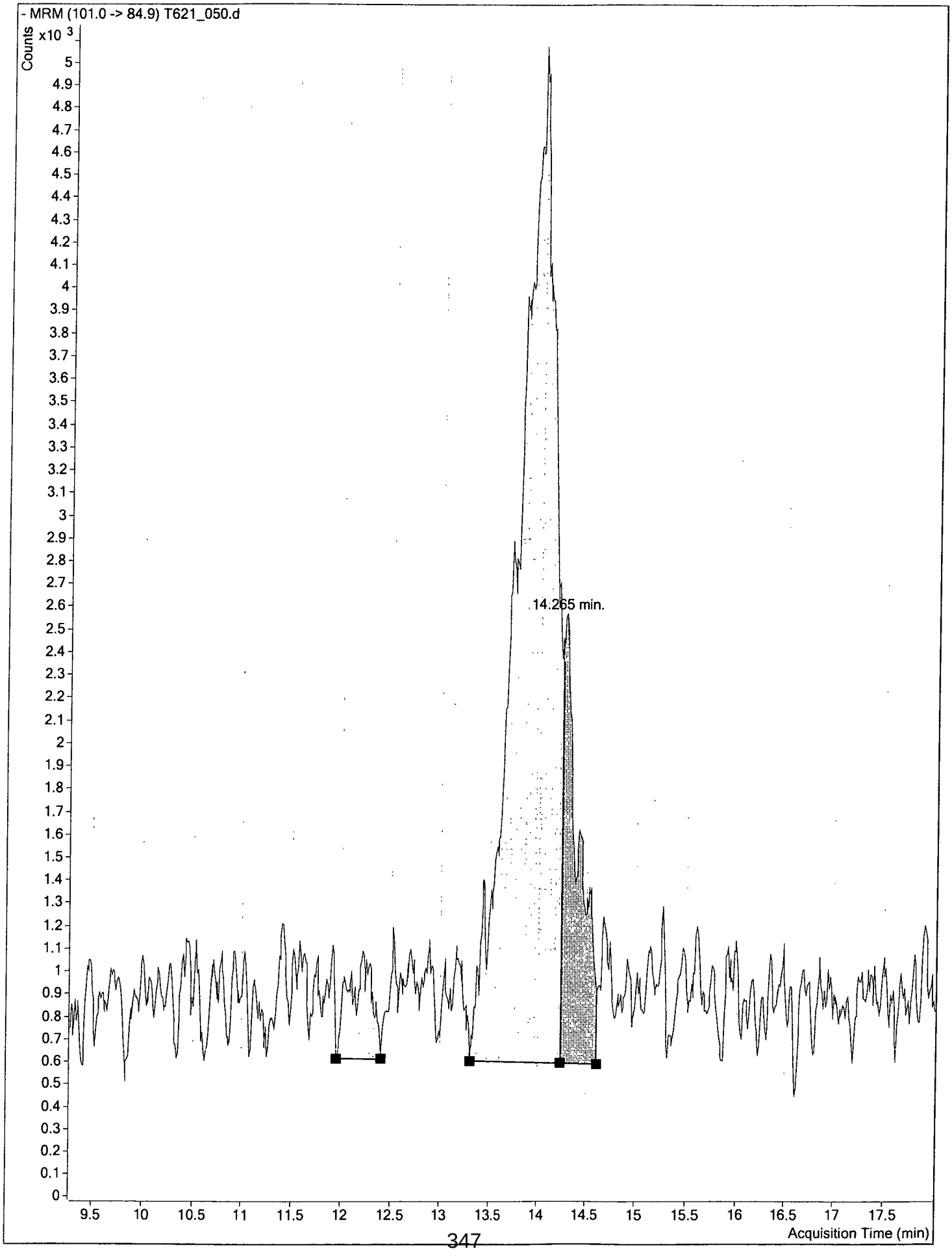
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		14.003	380901	3697116	
Perchlorate_102	PER_IS_108	*	13.990	137565	3697116	* MANUAL INT

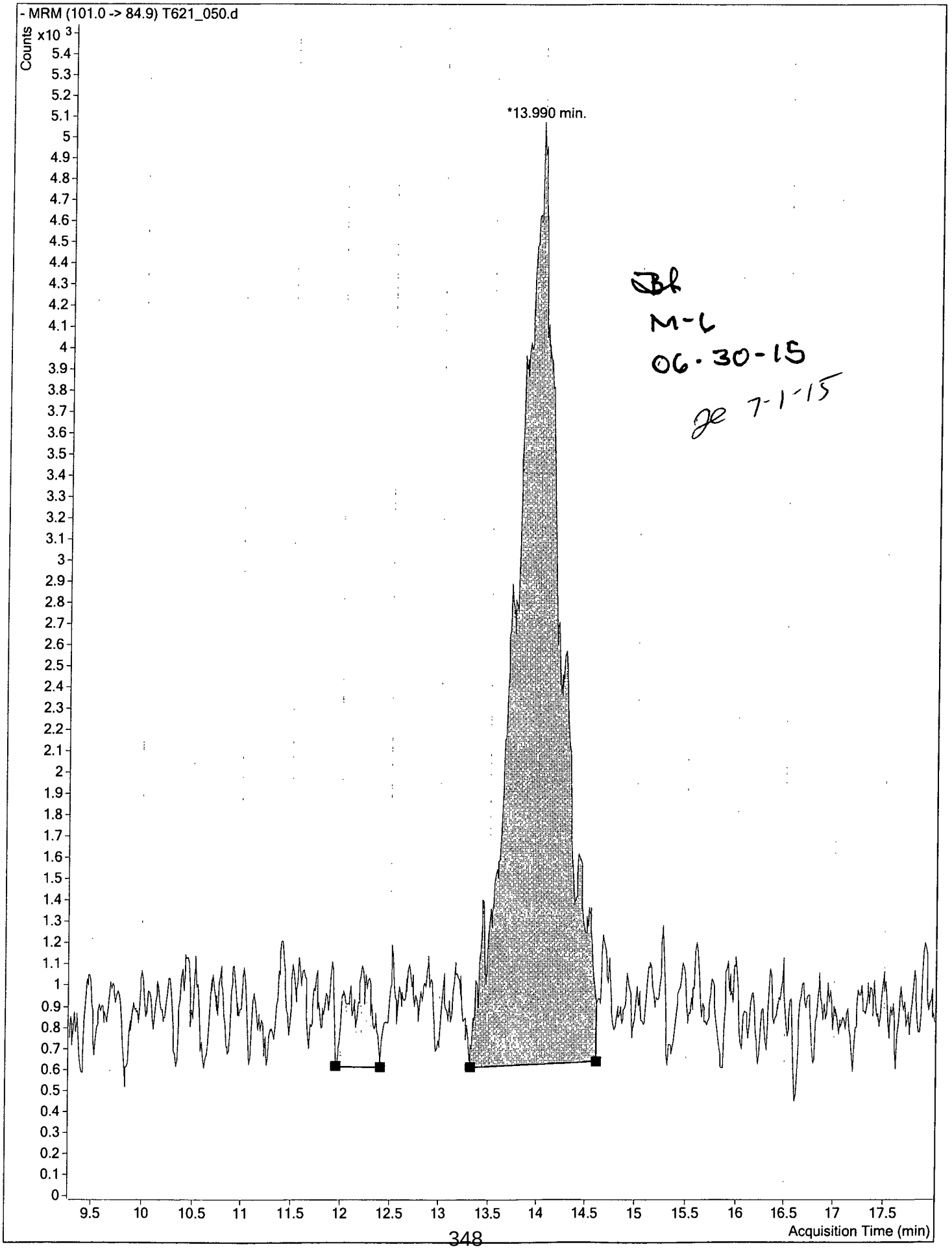
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T621_050.d
Counts
x10 3
14.265 min.
Acquisition Time (min)



JBL
M-L
06.30-15
JE 7-1-15

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T621_051.d

	Date (s) of Analysis From:03/12/15 To:06/22/15 Time (s) of Analysis From:17:52 To:7:15				Date of Analysis: 06/22/15 Time of Analysis: 8:11 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.45	1.177753	N	7.3
Perchlorate_85	13.70	13.60	13.80	0.391605	14.44	0.363754	N	7.1

FILE ID : TQCK2151.RFB

Data File ID: T621_051.d

Date Injected : 06/22/15

Time Injected : 8:11

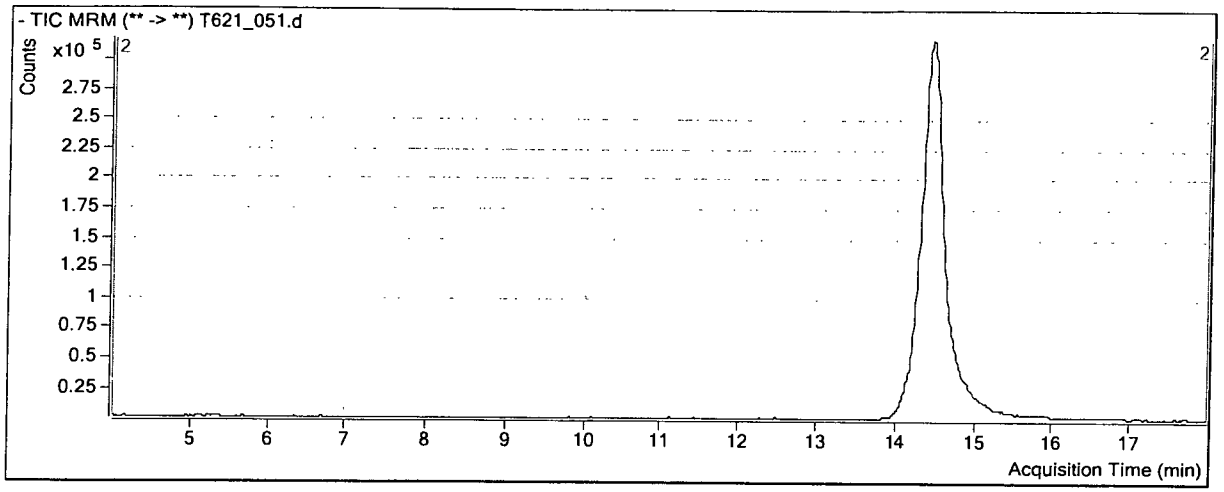
Sample ID : PER_CCV 0.002 ug/ml 06/11/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.455	4265032	PER_IS_89
14.452	2009262	Perchlorate_83
14.438	620569	Perchlorate_85

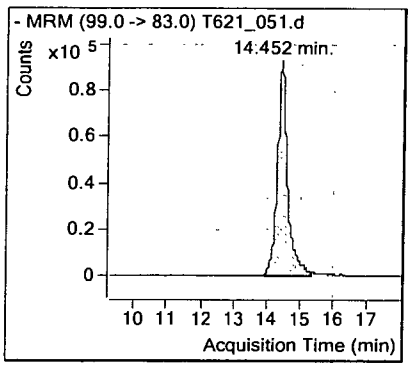
Quantitative Analysis Sample Report

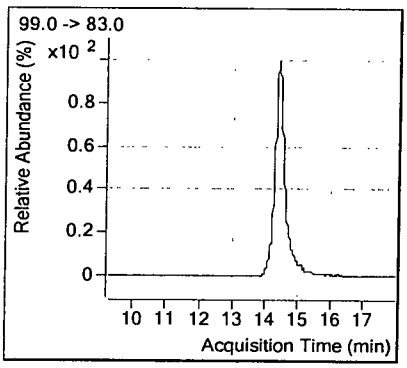
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_051.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/11/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:11
ClientID	NA	**Inj Vol**	20

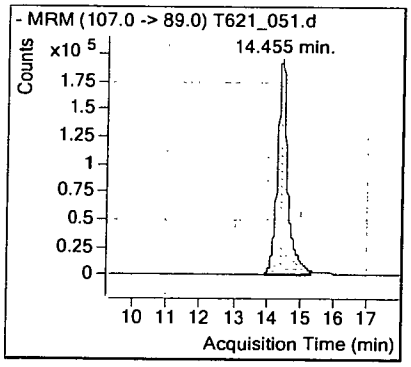


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.452	2009262	4265032
Perchlorate_102	PER_IS_108	14.438	620569	4265032

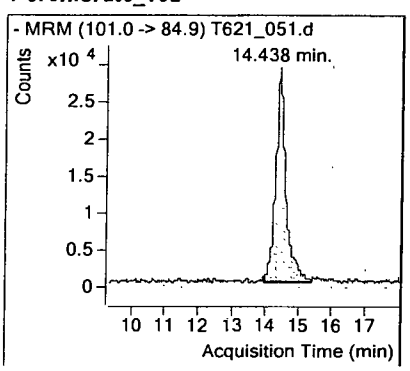
Perchlorate_100

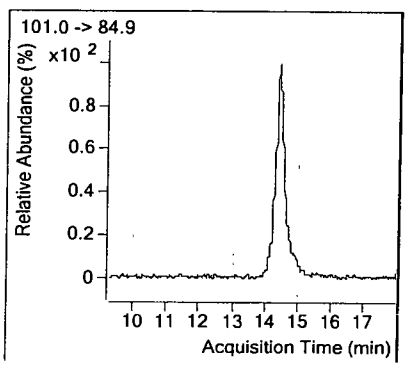


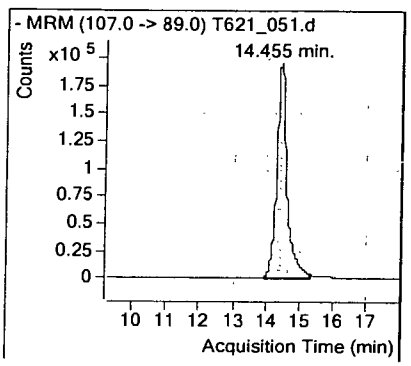




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T705_003.d

	Date (s) of Analysis From:03/12/15 To:07/05/15 Time (s) of Analysis From:17:52 To:13:06				Date of Analysis: 07/05/15 Time of Analysis: 13:44 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.41	1.173163	N	7.6
Perchlorate_85	13.70	13.60	13.80	0.391605	13.44	0.351832	N	10.2

FILE ID : TQCK0503.RFB

Data File ID: T705_003.d

Date Injected : 07/05/15

Time Injected : 13:44

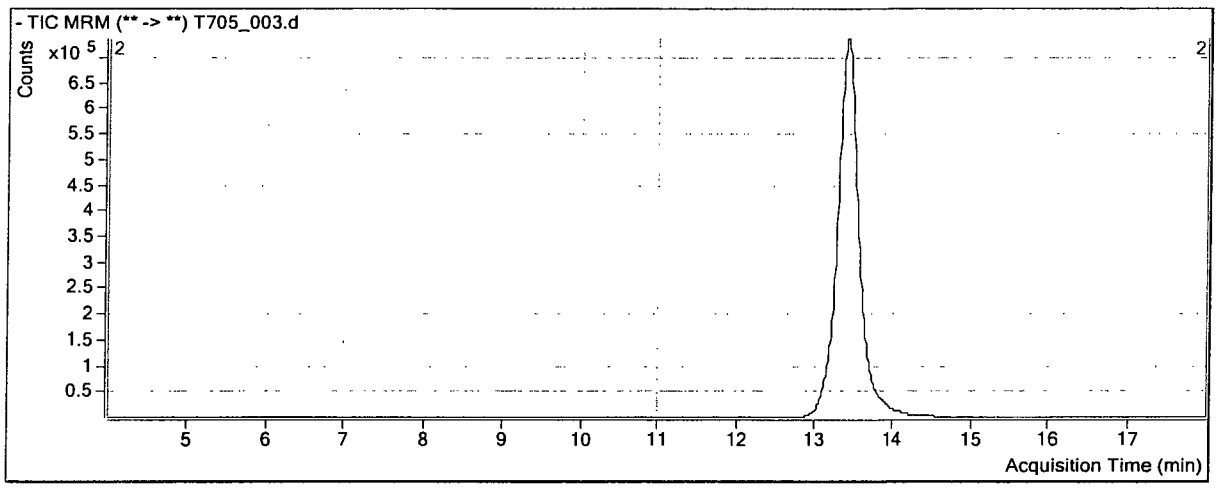
Sample ID : PER_CCV 0.002 ug/ml 06/27/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.406	8885934	PER_IS_89
13.412	4169858	Perchlorate_83
13.400	1250542	Perchlorate_85

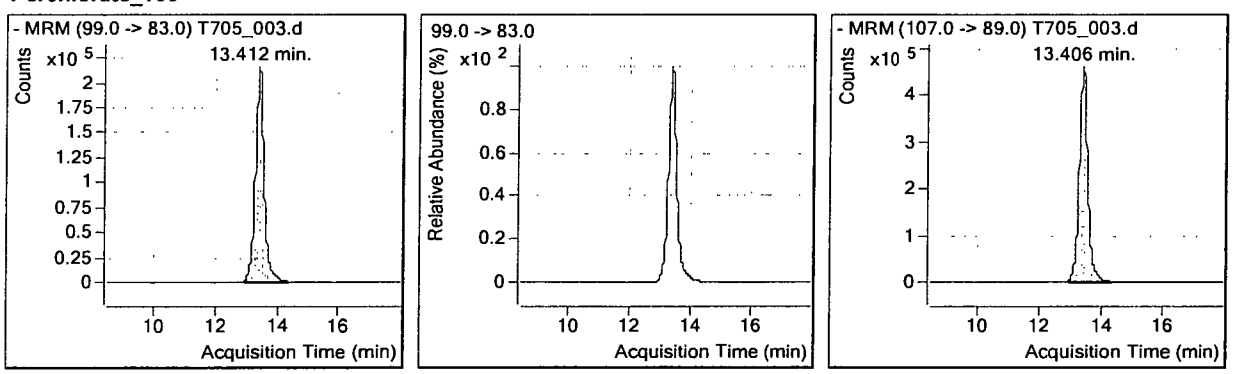
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_003.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/27/15
Sample Type	Sample	**Acq_Date**	07/05/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	13:44
ClientID	NA	**Inj Vol**	20

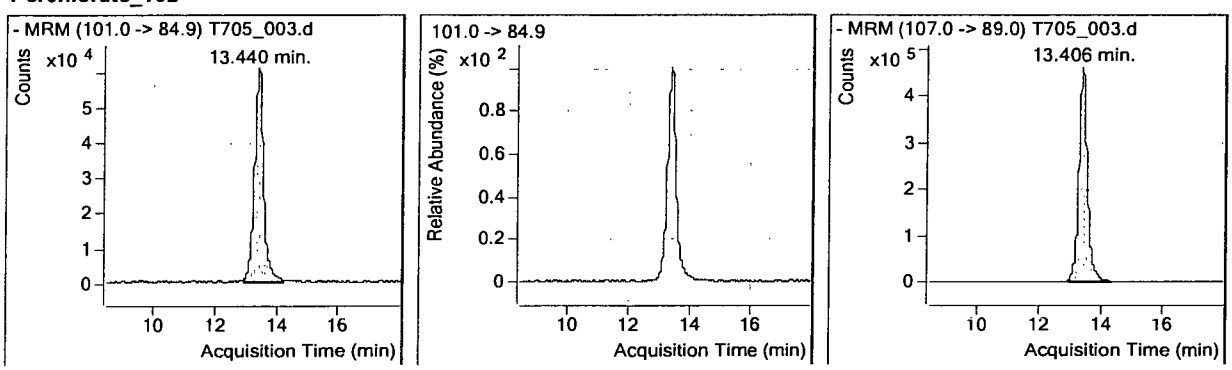


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.412	4169858	8885934
Perchlorate_102	PER_IS_108	13.440	1250542	8885934

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T705_054.d

	Date (s) of Analysis From:03/12/15 To:07/06/15 Time (s) of Analysis From:17:52 To:4:57				Date of Analysis: 07/06/15 Time of Analysis: 5:34 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.11	1.313221	N	3.4
Perchlorate_85	13.70	13.60	13.80	0.391605	13.05	0.409036	N	4.5

FILE ID : TQCK0554.RFB

Data File ID: T705_054.d

Date Injected : 07/06/15

Time Injected : 5:34

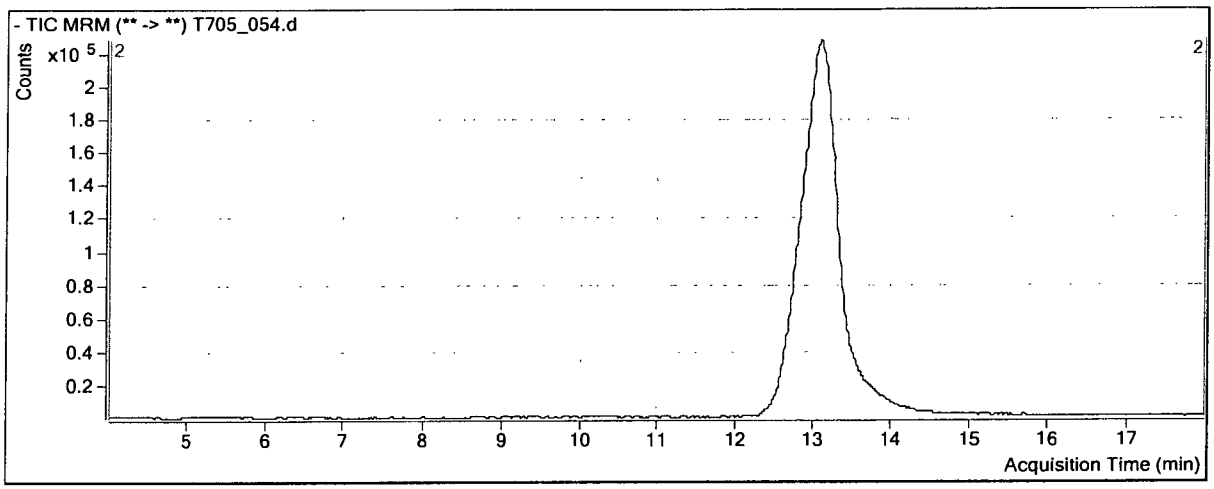
Sample ID : PER_CCV 0.0004 ug/ml 06/27/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.000	6914336	PER_IS_89
13.107	726404	Perchlorate_83
13.052	226257	Perchlorate_85

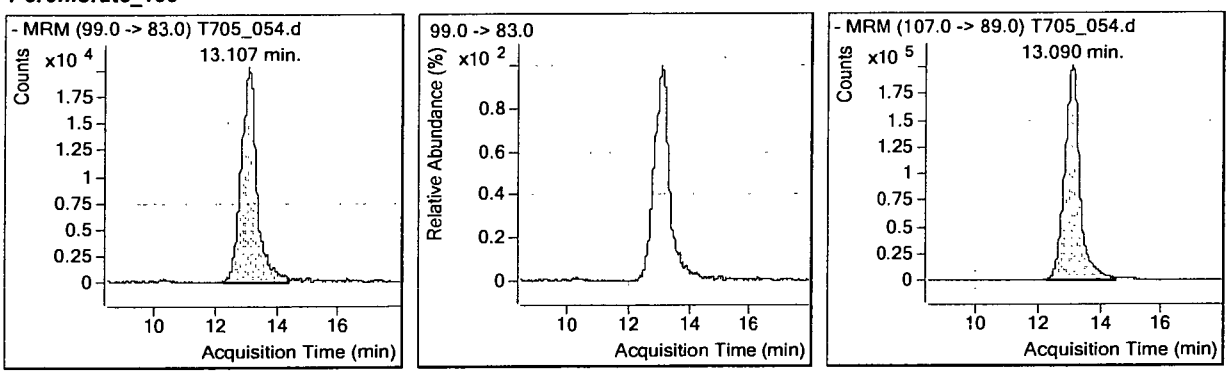
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_054.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/27/15
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	5:34
ClientID	NA	**Inj Vol**	20

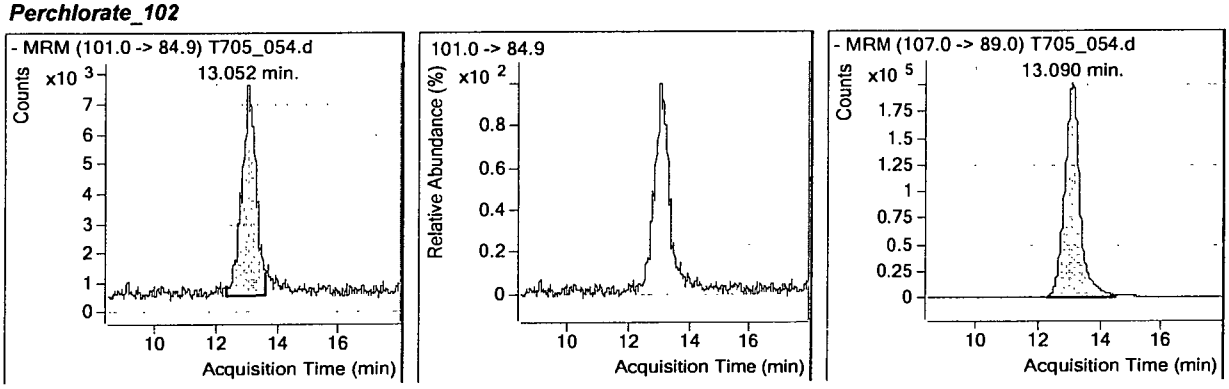


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.107	726404	6914336
Perchlorate_102	PER_IS_108	13.052	226257	6914336

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T705_055.d

	Date (s) of Analysis From:03/12/15 To:07/06/15 Time (s) of Analysis From:17:52 To:4:57				Date of Analysis: 07/06/15 Time of Analysis: 5:53 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.69	1.159697	N	8.7
Perchlorate_85	13.70	13.60	13.80	0.391605	13.68	0.352348	N	10.0

FILE ID : TQCK0555.RFB

Data File ID: T705_055.d

Date Injected : 07/06/15

Time Injected : 5:53

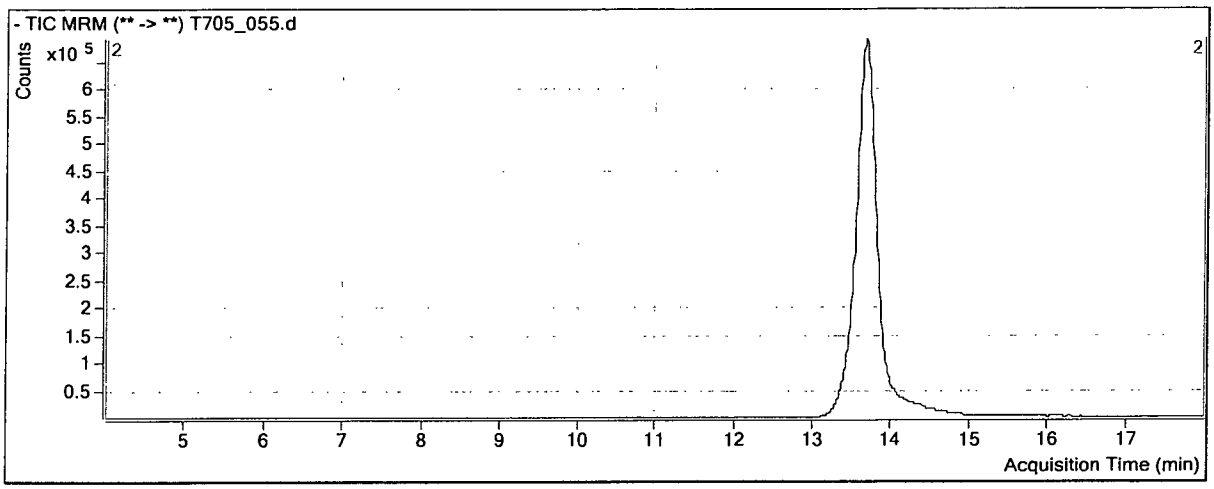
Sample ID : PER_CCV 0.002 ug/ml 06/27/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.681	8541849	PER_IS_89
13.688	3962381	Perchlorate_83
13.684	1203882	Perchlorate_85

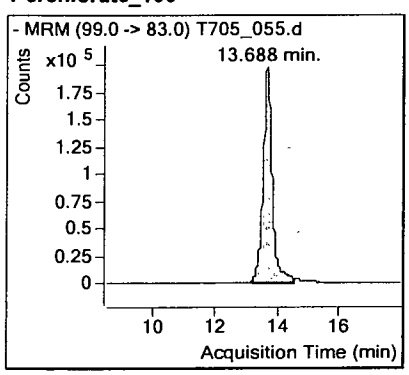
Quantitative Analysis Sample Report

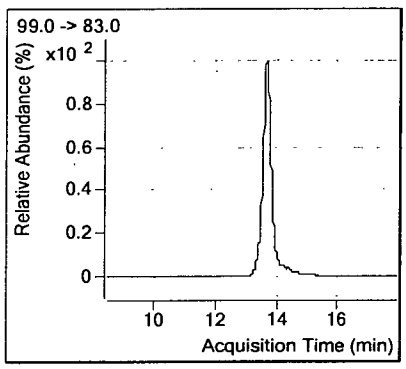
Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_055.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/27/15
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	5:53
ClientID	NA	**Inj Vol**	20

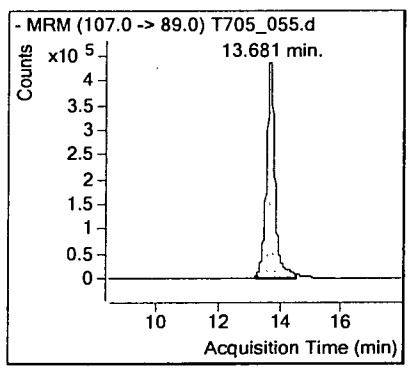


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.688	3962381	8541849
Perchlorate_102	PER_IS_108	13.684	1203882	8541849

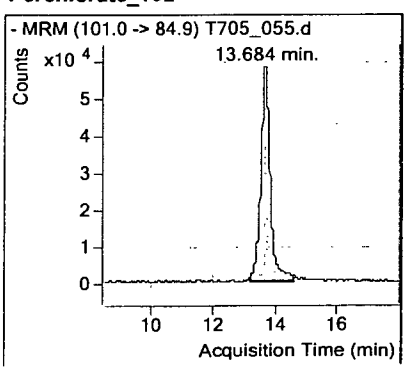
Perchlorate_100

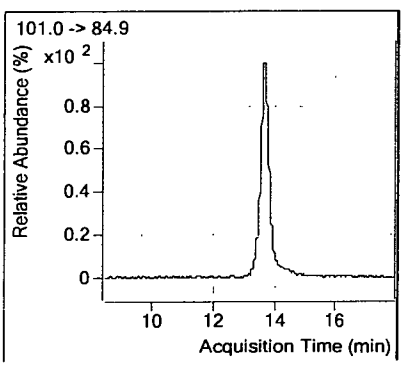


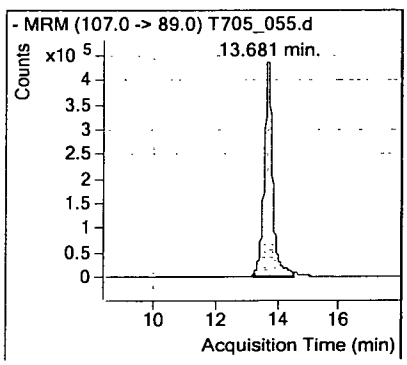




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T705_064.d

	Date (s) of Analysis From:03/12/15 To:07/06/15 Time (s) of Analysis From:17:52 To:8:03				Date of Analysis: 07/06/15 Time of Analysis: 8:41 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.20	1.322206	N	4.1
Perchlorate_85	13.70	13.60	13.80	0.391605	13.11	0.412059	N	5.2

FILE ID : TQCK0564.RFB

Data File ID: T705_064.d

Date Injected : 07/06/15

Time Injected : 8:41

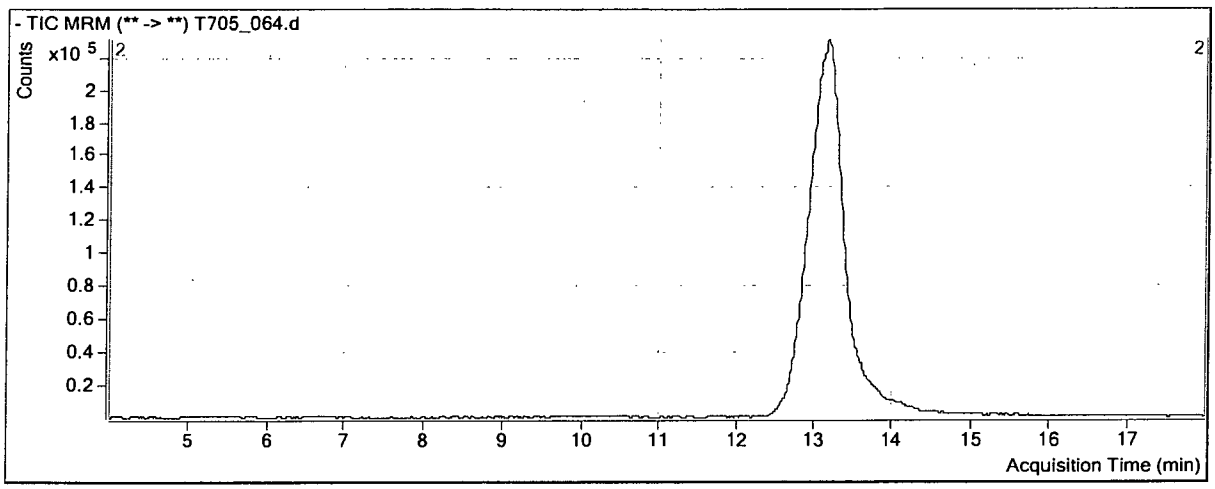
Sample ID : PER_CCV 0.0004 ug/ml 06/27/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.171	6379056	PER_IS_89
13.198	674754	Perchlorate_83
13.114	210284	Perchlorate_85

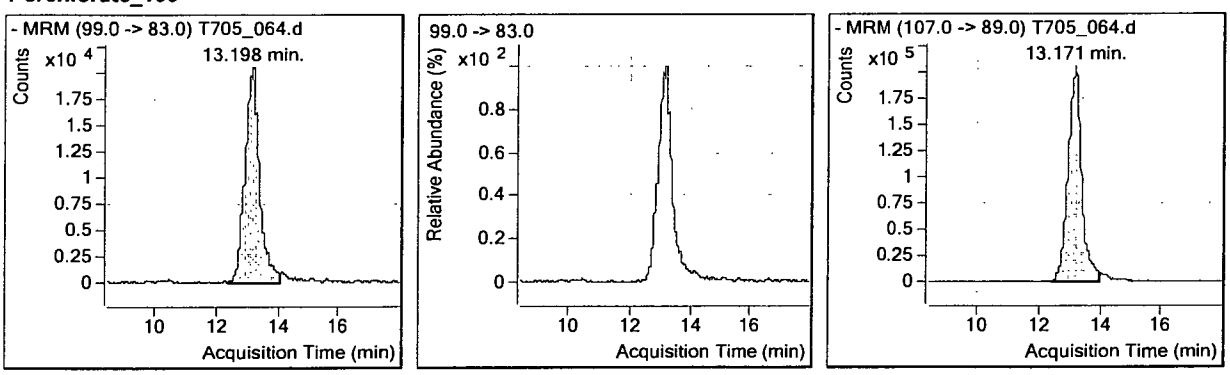
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_064.d	**Sample Name**	PER_CCV 0.0004 ug/ml 06/27/15
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:41
ClientID	NA	**Inj Vol**	20

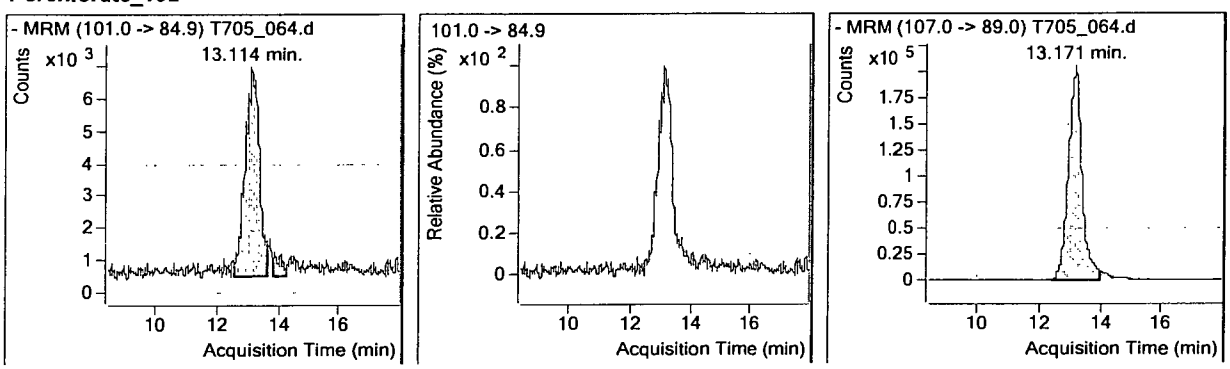


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.198	674754	6379056
Perchlorate_102	PER_IS_108	13.114	210284	6379056

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T705_065.d

	Date (s) of Analysis From:03/12/15 To:07/06/15 Time (s) of Analysis From:17:52 To:8:03				Date of Analysis: 07/06/15 Time of Analysis: 8:59 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	13.72	1.168028	N	8.0
Perchlorate_85	13.70	13.60	13.80	0.391605	13.71	0.339104	N	13.4

FILE ID : TQCK0565.RFB

Data File ID: T705_065.d

Date Injected : 07/06/15

Time Injected : 8:59

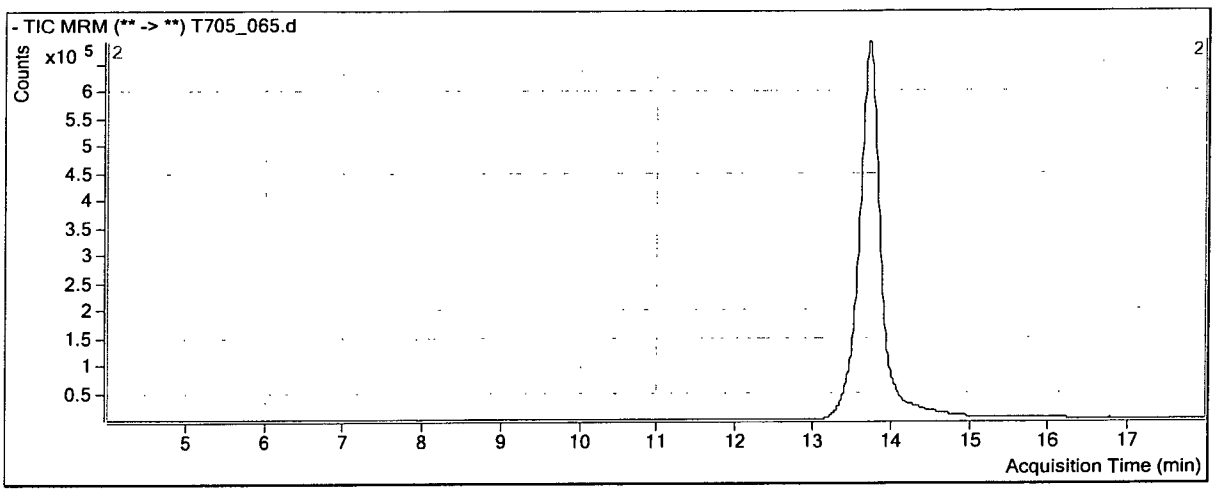
Sample ID : PER_CCV 0.002 ug/ml 06/27/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.711	8433612	PER_IS_89
13.718	3940278	Perchlorate_83
13.715	1143947	Perchlorate_85

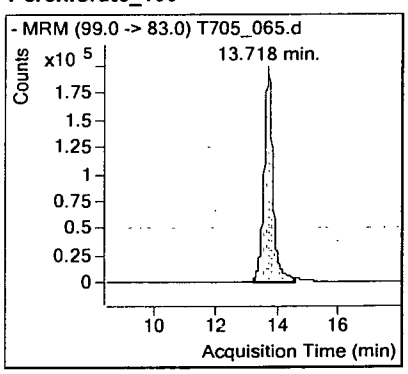
Quantitative Analysis Sample Report

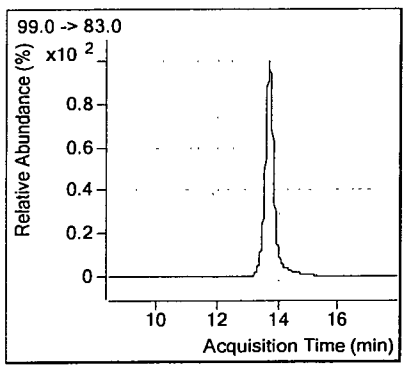
Batch Data Path	D:\MassHunter\Data\150705\QuantResults\150705_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T705_065.d	**Sample Name**	PER_CCV 0.002 ug/ml 06/27/15
Sample Type	Sample	**Acq_Date**	07/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:59
ClientID	NA	**Inj Vol**	20

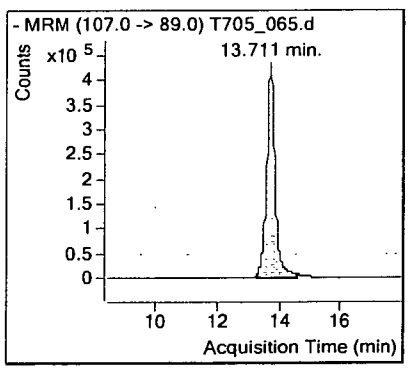


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.718	3940278	8433612
Perchlorate_102	PER_IS_108	13.715	1143947	8433612

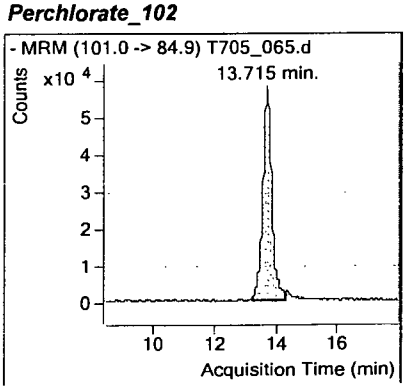
Perchlorate_100

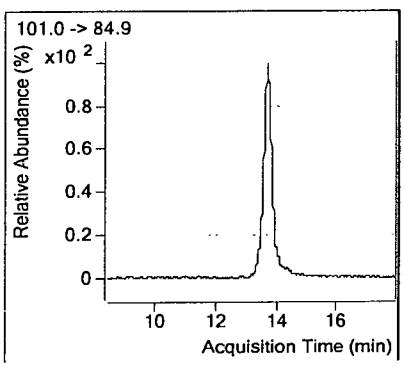


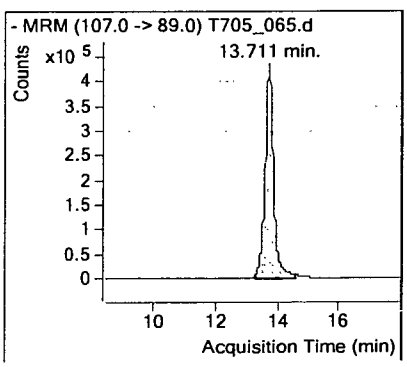




Perchlorate_102







EPA METHOD 6850
Perchlorate
LC/MS

Raw Data

APPL, INC.

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150617W-17694 - 198528**
Batch ID: #6850-150617A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	06/17/15	06/22/15

Quant Method: QTLMFL2
Run #: T621_027.d
Instrument: AGIL_6460
Sequence: TQ062115
Initials: RP

GC SC-Blank-REG MDLs
Printed: 07/02/15 8:44:23 AM

Data File ID: T621_027.d

Date Injected : 06/22/15

Time Injected : 0:44

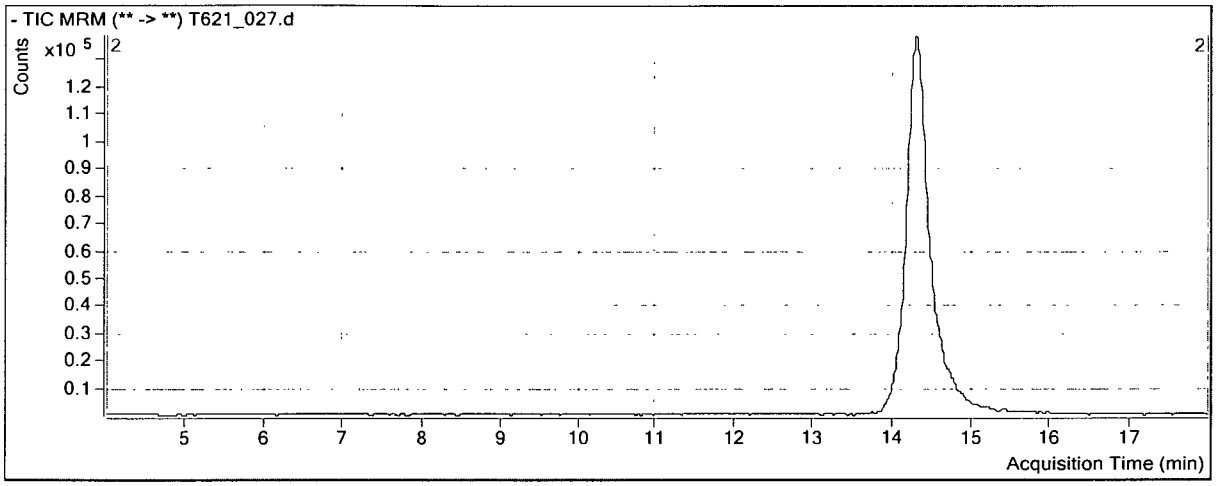
Sample ID : 150617WBLKA 1052.6 DF 06/17/15

Client ID : LAB_CNTL_W_BLKA

Retention Time	Area Count Response	Compound_ID Product Ion			
14.323	2952138	PER_IS_89			
14.268	2235	Perchlorate_83	(2235 * 0.0050) / (1.27 * 2952138.00) *	1052.60 =	0.003137 ppb
14.326	747	Perchlorate_85	(747 * 0.0050) / (0.39 * 2952138.00) *	1052.60 =	0.003401 ppb

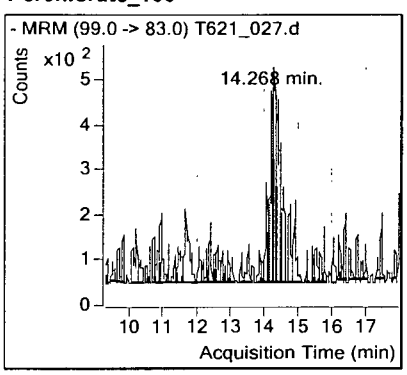
Quantitative Analysis Sample Report

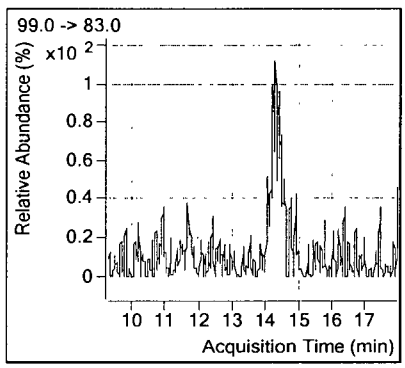
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_027.d	**Sample Name**	150617WBLKA 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	0:44
ClientID	LAB_CNTL_W_BLKA	**Inj Vol**	20

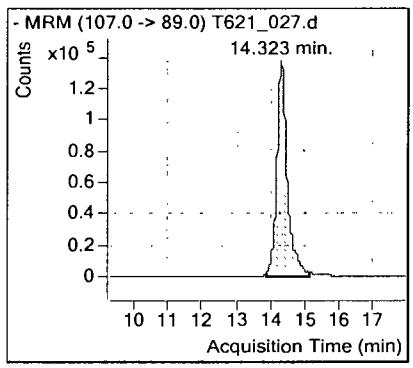


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.268	2235	2952138
Perchlorate_102	PER_IS_108	14.326	747	2952138

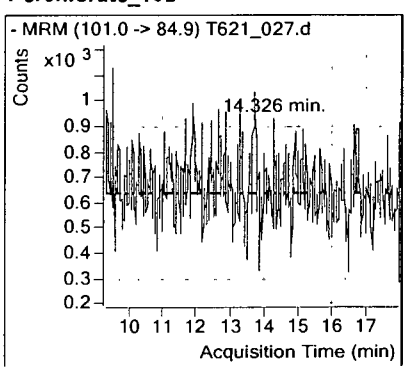
Perchlorate_100

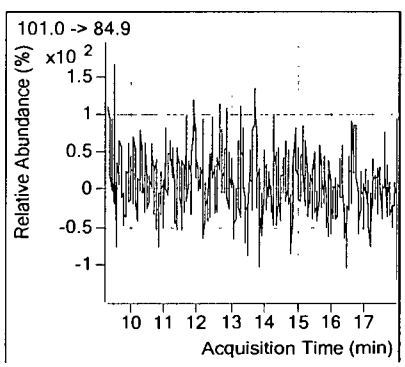


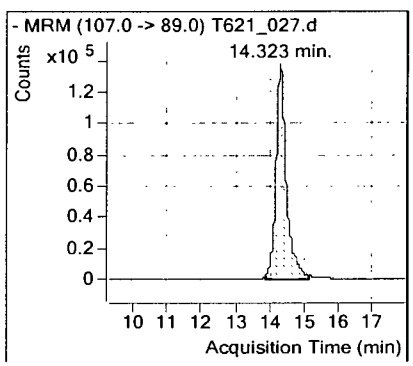




Perchlorate_102







Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150617W-17694 LCS - 198528**
Batch ID: #6850-150617A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PERCHLORATE	0.600	0.554	92.3	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	06/17/15
Analysis Date :	06/22/15
Instrument :	AGIL_6460
Run :	T621_025.d
Initials :	RP

Printed: 07/02/15 8:44:18 AM
APPL Standard LCS

Data File ID: T621_025.d

Date Injected : 06/22/15

Time Injected : 0:07

Sample ID : 150617WA_LCS-1 1052.6 DF 06/17/15

Client ID : LAB_CNTL_W_SPKA

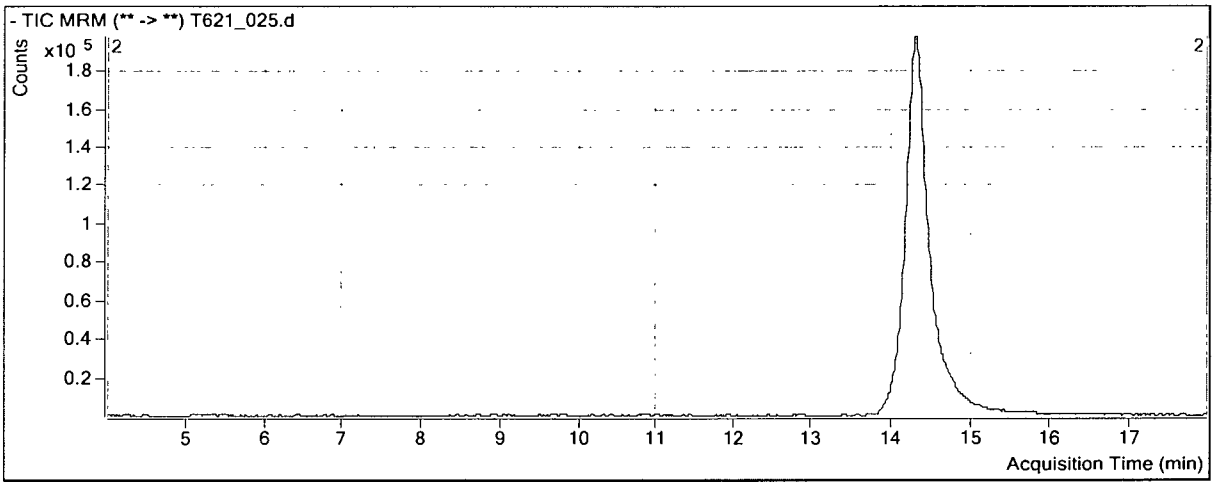
Retention Time	Area Count Response	Compound_ID Product Ion				
14.323	3614497	PER_IS_89				
14.300	483242	Perchlorate_83	(483242 * 0.0050) / (1.27 * 3614497.00) *	1052.60 =	0.553935	ppb
14.357	172796	Perchlorate_85	(172796 * 0.0050) / (0.39 * 3614497.00) *	1052.60 =	0.642497	ppb

$$\frac{(1052.6)(483242)(0.005)}{(1.270255)(3614497)} = 0.553936$$

7/2/15
AP

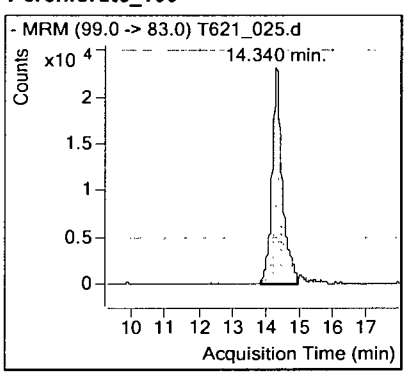
Quantitative Analysis Sample Report

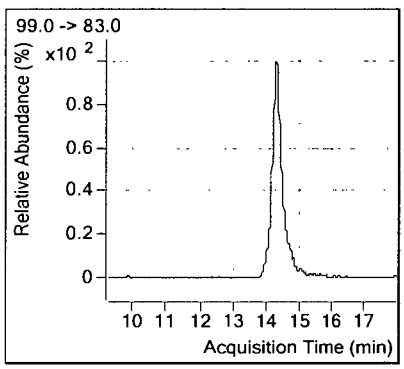
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_025.d	**Sample Name**	150617WA_LCS-1 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	0:07
ClientID	LAB_CNTL_W_SPKA	**Inj Vol**	20

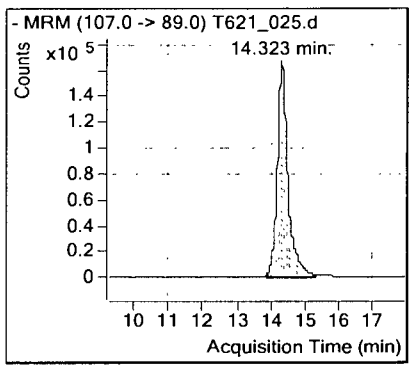


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.340	483242	3614497
Perchlorate_102	PER_IS_108	14.357	172796	3614497

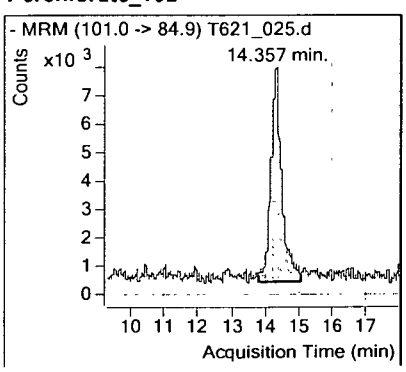
Perchlorate_100

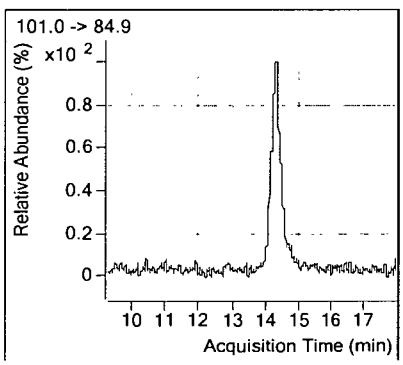


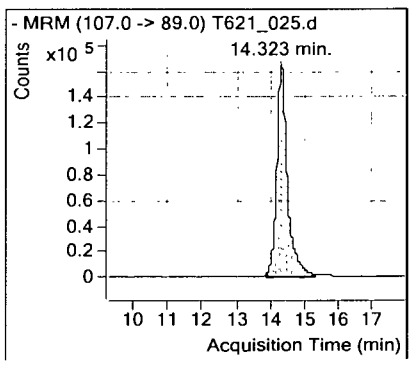




Perchlorate_102







Matrix Spike Recoveries

Perchlorate

APPL ID: **150617W-17694 MS - 198528**
Batch ID: #6850-150617A
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PERCHLORATE	0.600	0.24	0.800	0.857	93.3	103	80-120	6.9	15

Comments: _____

Primary	SPK	DUP
Quant Method :	QTLMFL2	QTLMFL2
Extraction Date :	06/17/15	06/17/15
Analysis Date :	06/22/15	06/22/15
Instrument :	AGIL_6460	AGIL_6460
Run :	T621_044.d	T621_045.d
Initials :	RP	

Printed: 07/02/15 9:06:40 AM
APPL MSD SCII

Data File ID: T621_044.d

Date Injected : 06/22/15

Time Injected : 6:01

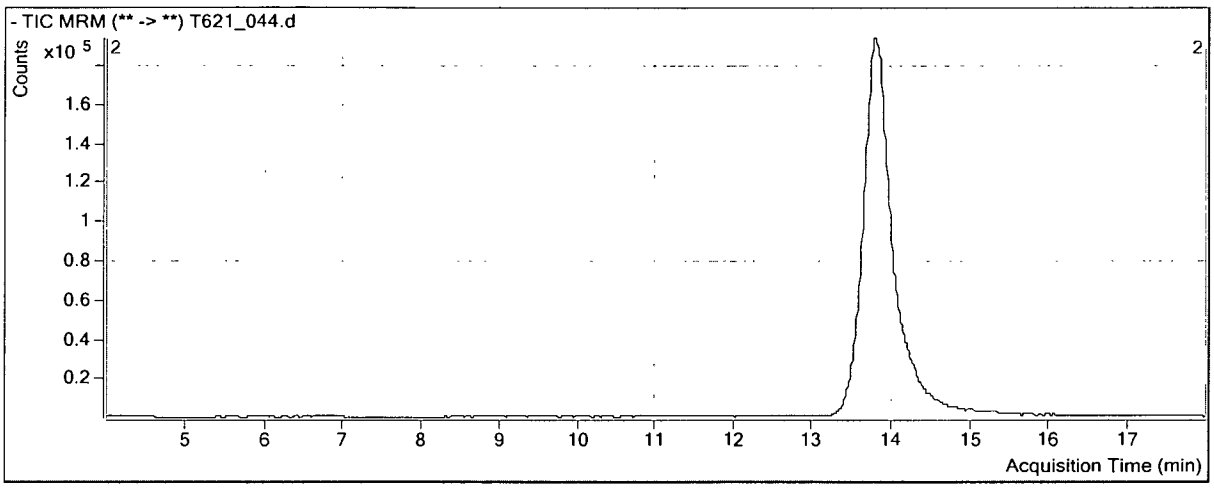
Sample ID : AZ17694_W02_MS-1 1052.6 DF 06/17/15

Client ID : S67-MW016-061515_MS-1

Retention Time	Area Count Response	Compound_ID Product Ion			
13.813	3948816	PER_IS_89			
13.000	762372	Perchlorate_83	(762372 * 0.0050) / (1.27 * 3948816.00) *	1052.60 =	0.799912 ppb
13.837	251777	Perchlorate_85	(251777 * 0.0050) / (0.39 * 3948816.00) *	1052.60 =	0.856908 ppb

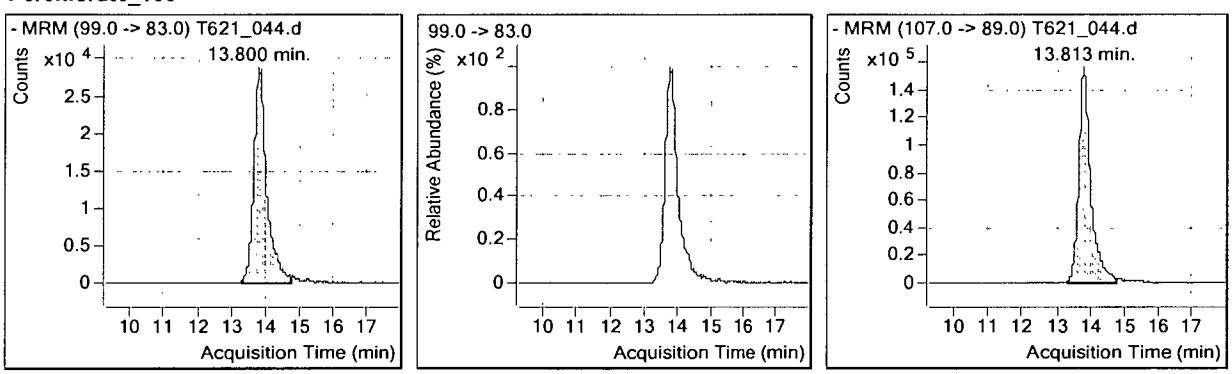
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_044.d	**Sample Name**	AZ17694_W02_MS-1 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:01
ClientID	S67-MW016-061515_MS-1	**Inj Vol**	20

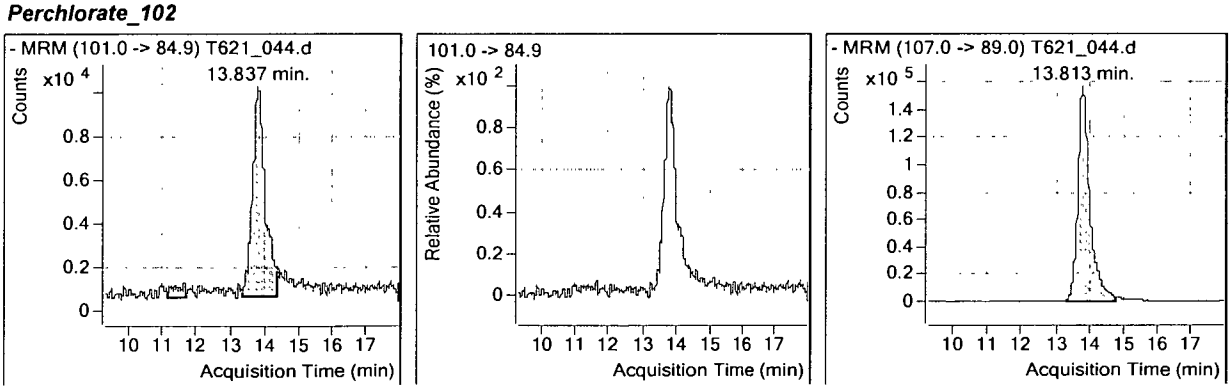


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.800	762372	3948816
Perchlorate_102	PER_IS_108	13.837	251777	3948816

Perchlorate_100



Perchlorate_102



Data File ID: T621_045.d

Date Injected : 06/22/15

Time Injected : 6:19

Sample ID : AZ17694_W02_MSD-1 1052.6 DF 06/17/15

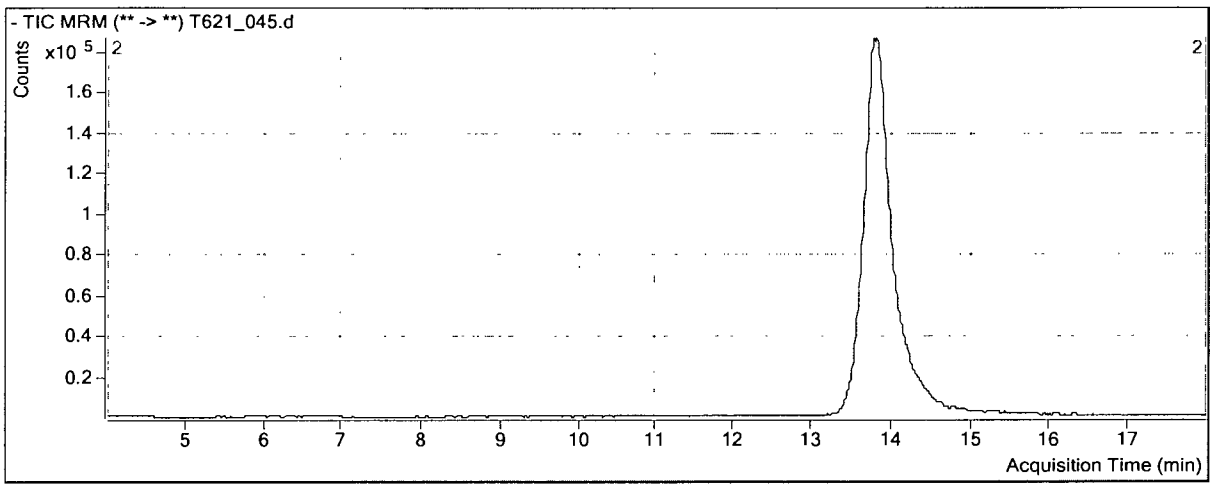
Client ID : S67-MW016-061515_MSD-1

Retention Time		Area Count Response	Compound_ID Product Ion			
13.834		3711820	PER_IS_89			
13.800		768054	Perchlorate_83	(768054 * 0.0050) / (1.27 * 3711820.00) *	1052.60 =	0.857328 ppb
13.847	*	269312	Perchlorate_85	(269312 * 0.0050) / (0.39 * 3711820.00) *	1052.60 =	0.975111 ppb

* MANUAL INTEGRAION

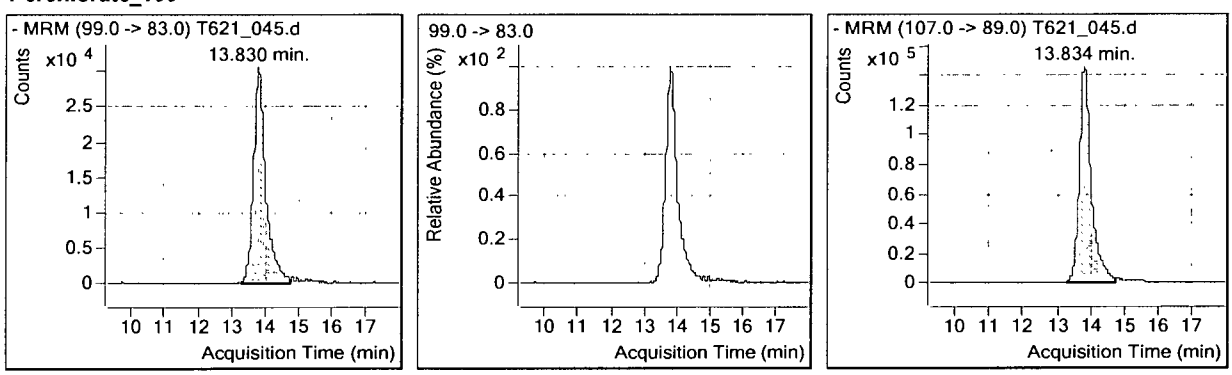
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_045.d	**Sample Name**	AZ17694_W02_MSD-1 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:19
ClientID	S67-MW016-061515_MSD-1	**Inj Vol**	20

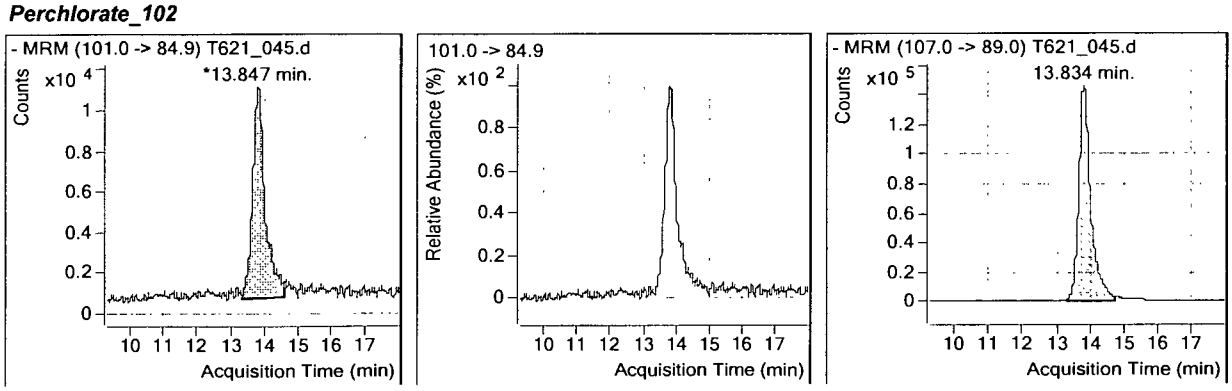


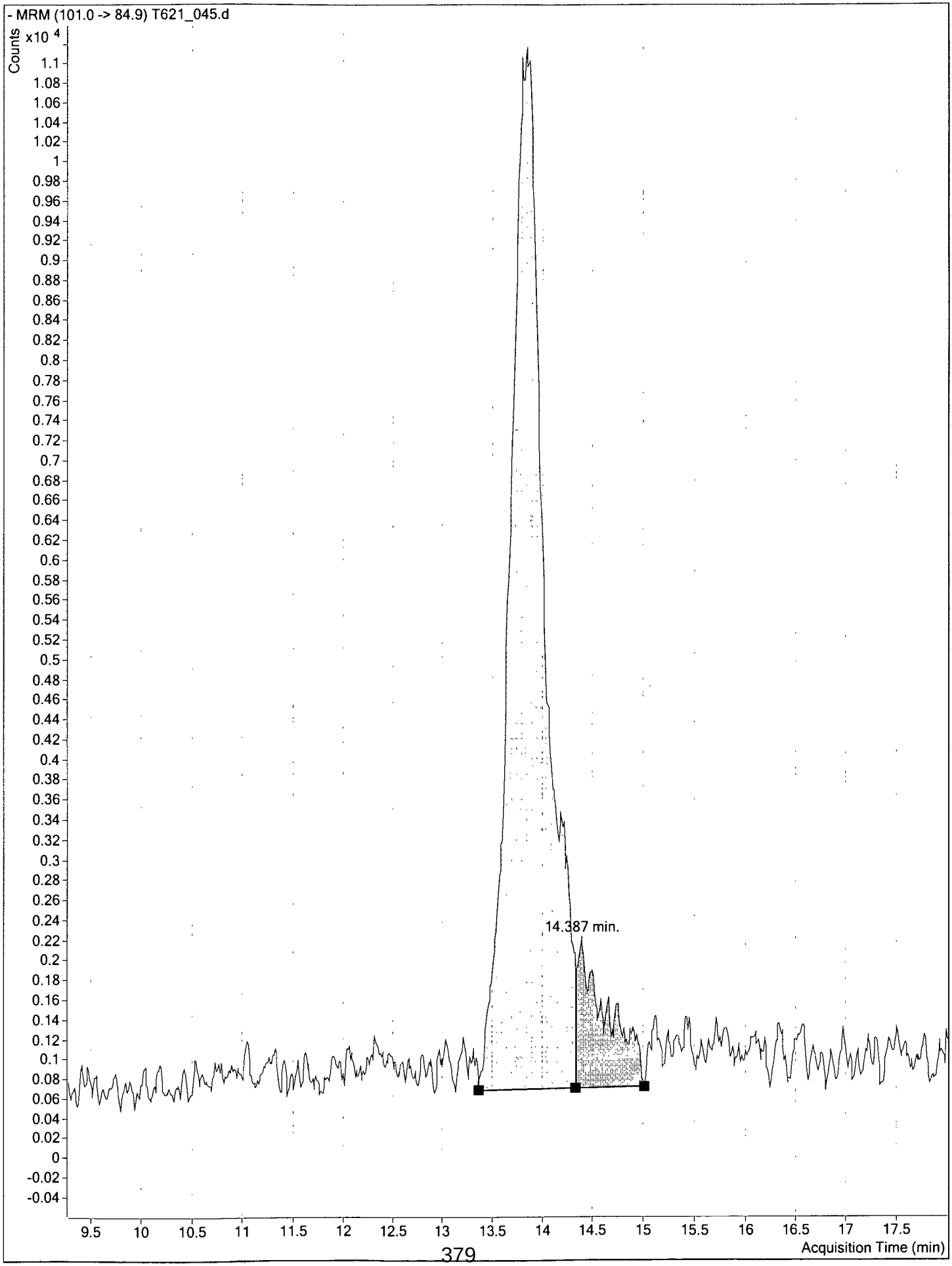
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.830	768054	3711820	
Perchlorate_102	PER_IS_108	*	13.847	269312	3711820	* MANUAL INT

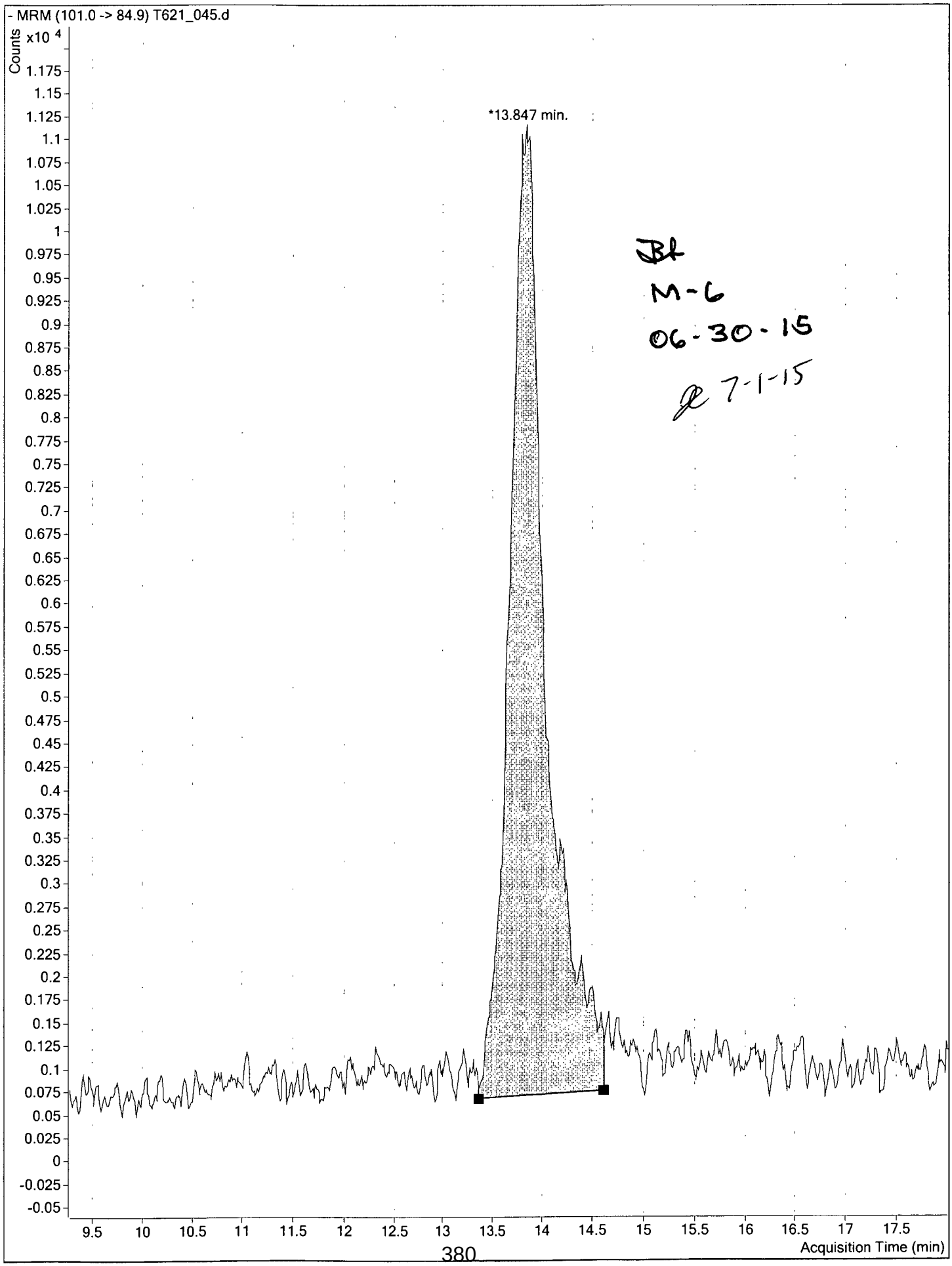
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T621_045.d
Counts
x10 4
1.1
1.08
1.06
1.04
1.02
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0.74
0.72
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.56
0.54
0.52
0.5
0.48
0.46
0.44
0.42
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
14.387 min.
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)


- MRM (101.0 -> 84.9) T621_045.d
Counts
x10 4
*13.847 min.
Acquisition Time (min)
JBt
M-6
06-30-15
7-1-15

Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150617W-17694 ICS-198528
Batch ID: #6850-150617A

APPL Inc.
908 N. Temperance Ave.
Clovis, CA 93711

Compound Name	Spike Level ug/L	Spk Result ug/L	SPK% Recovery	Recovery Limits
Perchlorate	0.600	0.596	99.3%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	06/17/15
Analysis Date:	06/22/15
Instrument:	AGIL_6560
Run:	T621_026.D
Initials:	RP

Data File ID: T621_026.d

Date Injected : 06/22/15

Time Injected : 0:26

Sample ID : 150617W_ICSA 1052.6 DF 06/17/15

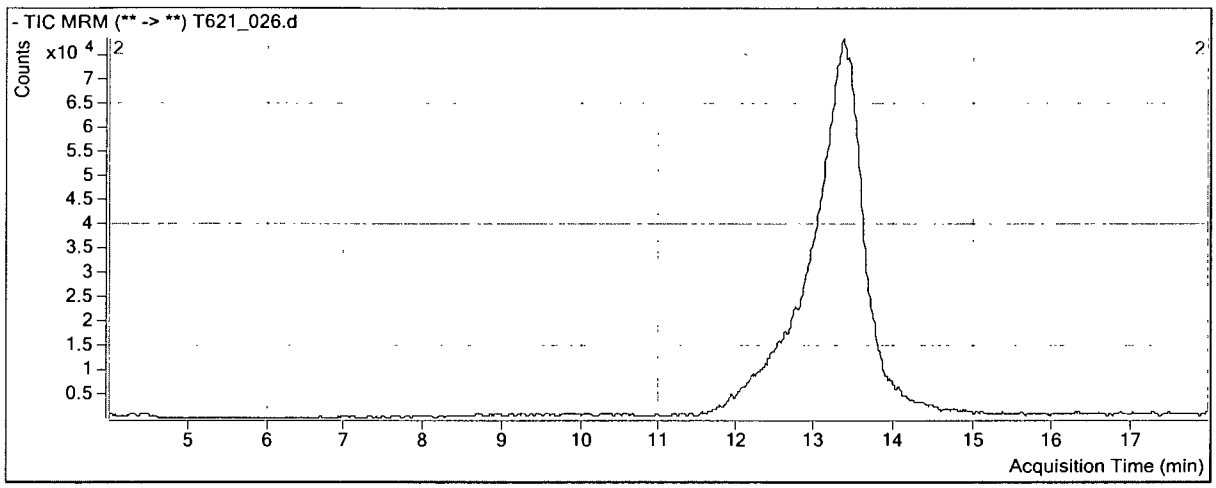
Client ID : LAB_CNTL_W_ICSA

Retention Time		Area Count Response	Compound_ID Product Ion				
13.385		2986292	PER_IS_89				
13.372		429617	Perchlorate_83	(429617 * 0.0050) / (1.27 * 2986292.00) *	1052.60 =	0.596062	ppb
13.399	*	159084	Perchlorate_85	(159084 * 0.0050) / (0.39 * 2986292.00) *	1052.60 =	0.715945	ppb

* MANUAL INTEGRAION

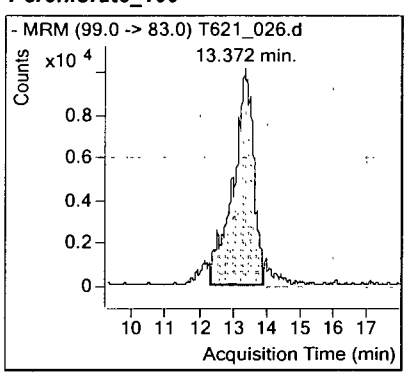
Quantitative Analysis Sample Report

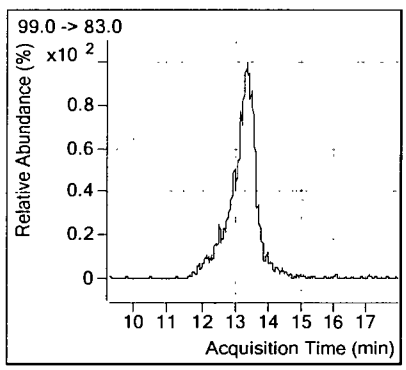
Batch Data Path	D:\MassHunter\Data\150621\QuantResults\150621_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T621_026.d	**Sample Name**	150617W_ICSA 1052.6 DF 06/17/15
Sample Type	Sample	**Acq_Date**	06/22/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	0:26
ClientID	LAB_CNTL_W_ICSA	**Inj Vol**	20

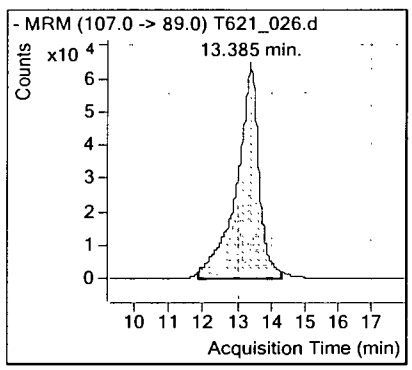


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.372	429617	2986292	
Perchlorate_102	PER_IS_108	*	13.399	159084	2986292	* MANUAL INT

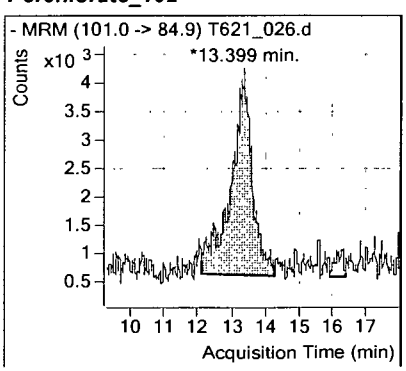
Perchlorate_100

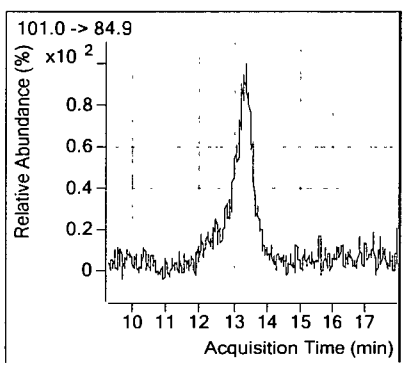


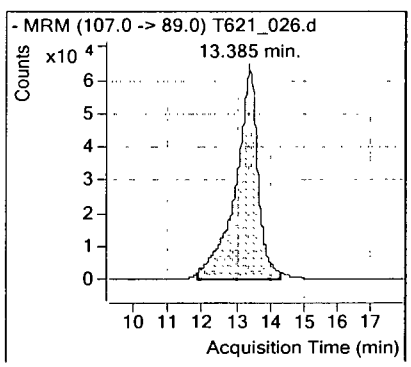


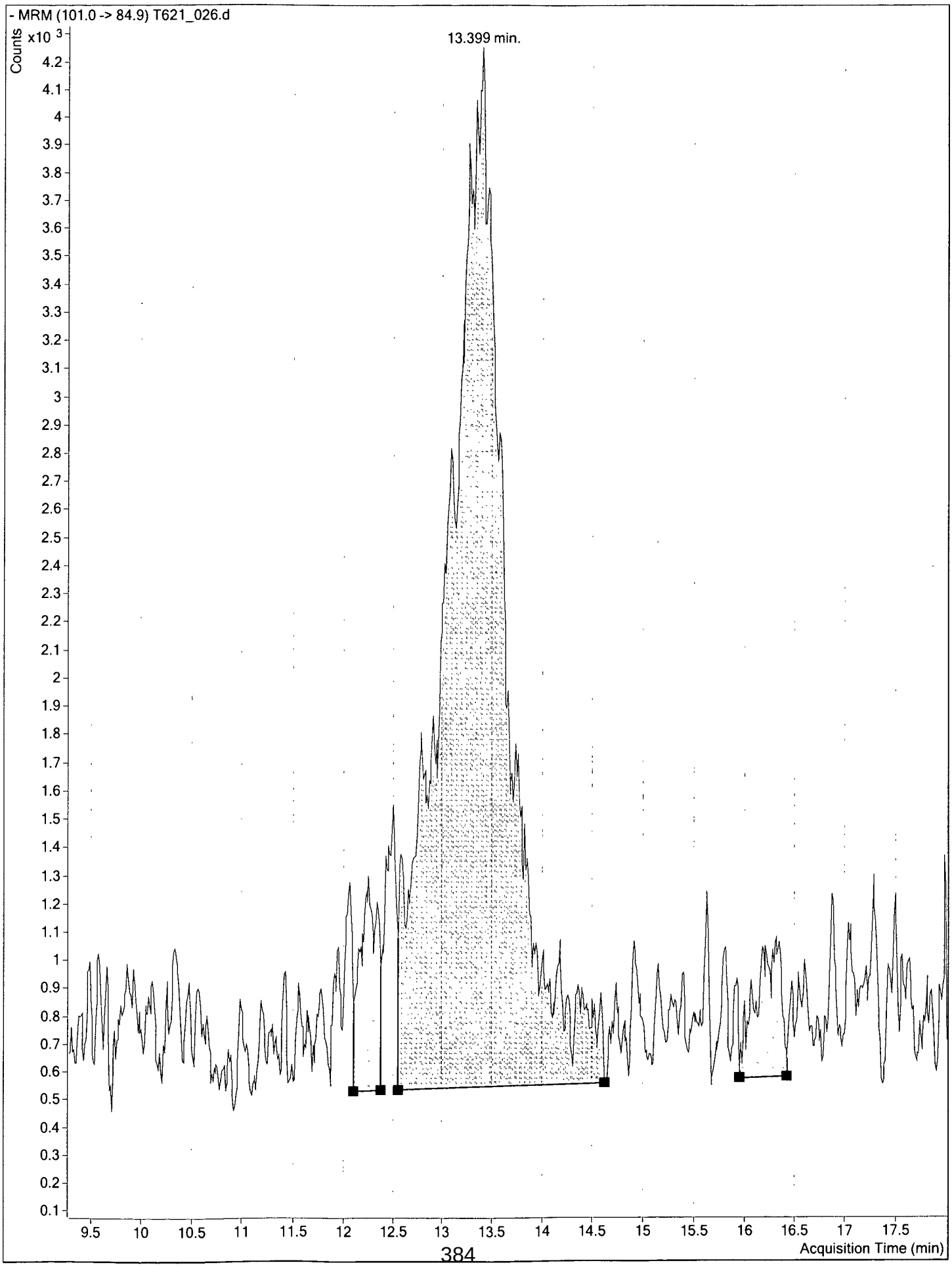


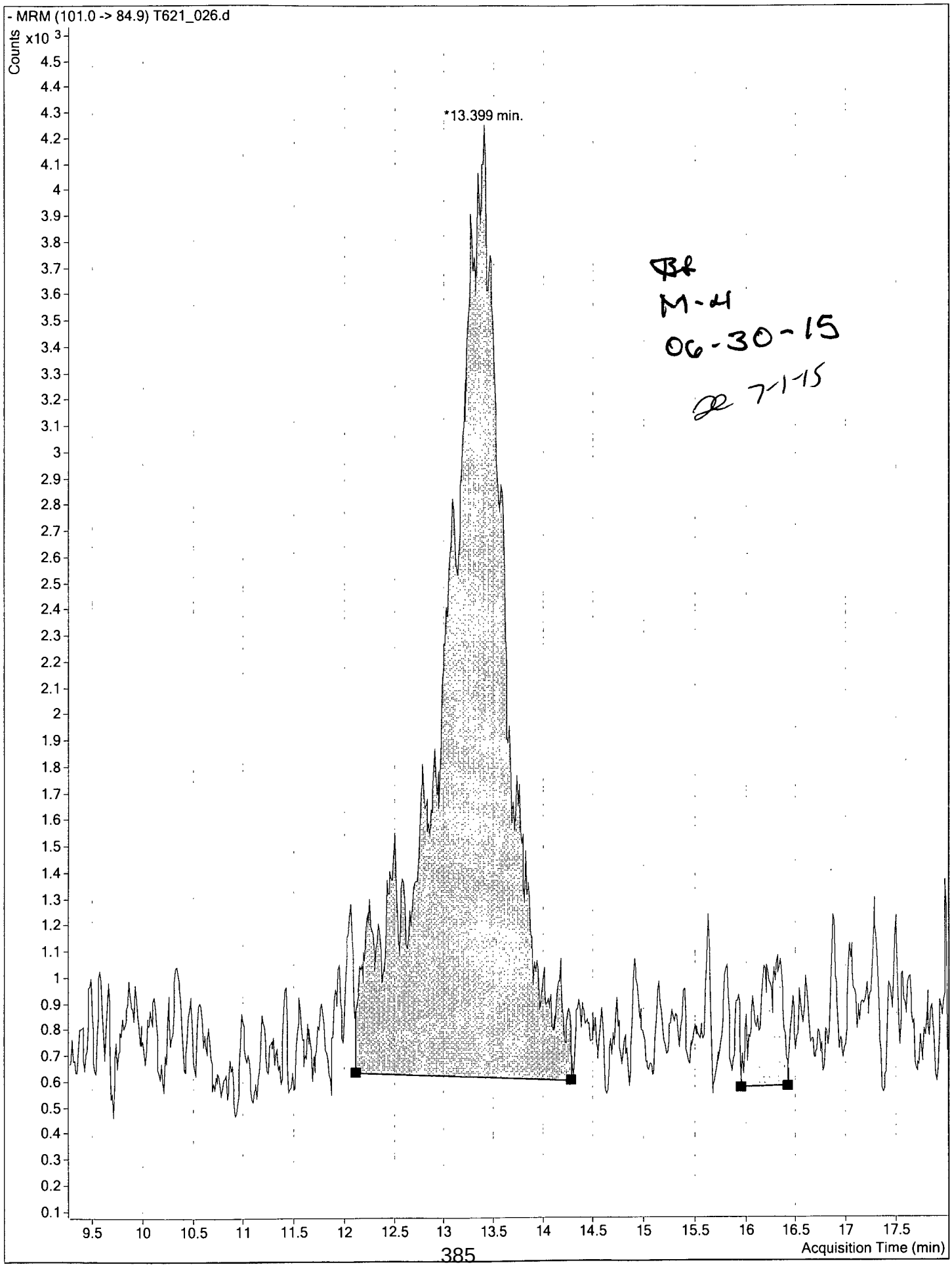
Perchlorate_102








- MRM (101.0 -> 84.9) T621_026.d
Counts
x10 3
13.399 min.
Acquisition Time (min)



BF
M-4
06-30-15
JE 7-1-15

ACN_H20_50:50 1 DF 08/27/14:

Burdick & Jackson Acetonitrile Lot DL308 took 10.000 ml and added to 10.000 ml Laboratory Source DI_H20

Note : Above solution was prepared as needed.

PER_IS_50:50 0.005 ug/ml 11/11/14:

Took 19.000 ml ACN_H20_50:50 11/11/14 and added 1.000 ml O2SI 18_O_4 Perchlorate 100 ug/L lot 1059192-33479

Note: Solution prepared as needed.

PERCHLORATE 0.005 ug/ml 11/11/14:

PERCHLORATE 0.010 ug/ml 08/28/14 took 0.500 ml and added to 0.500 ml PER_IS_50:50 0.005 ug/ml 11/11/14.

PERCHLORATE 0.002 ug/ml 11/11/14:

PERCHLORATE 0.010 ug/ml 08/27/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.

PERCHLORATE 0.001 ug/ml 11/11/14:

PERCHLORATE 0.010 ug/ml 08/27/14 took 0.100 ml and added to 0.900 ml PER_IS_50:50 0.005 ug/ml 11/11/14.

PERCHLORATE 0.0004 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PERCHLORATE 0.0002 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.020 ml and added to 0.980 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PERCHLORATE 0.0001 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.010 ml and added to 0.990 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_1 0.0004 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_1 0.002 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_2 0.0004 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.

PER_CCV_2 0.002 ug/ml 08/27/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_3 0.0004 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_3 0.002 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/28/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_4 0.0004 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_CCV_4 0.002 ug/ml 11/11/14: PERCHLORATE 0.010 ug/ml 08/27/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_SS 0.0004 ug/ml 11/11/14: PER_SS 0.010 ug/ml 08/28/14 took 0.040 ml and added to 0.960 ml PER_IS_50:50 0.005 ug/ml 11/11/14.
PER_SS 0.002 ug/ml 11/11/14: PER_SS 0.010 ug/ml 08/28/14 took 0.200 ml and added to 0.800 ml PER_IS_50:50 0.005 ug/ml 11/11/14.

LCMS STANDARD PREP LOG# 103 Page# 34

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE / INITIALS
Scav_spk 250ng/mL							
Hexahydro-1,3,5-tris-hydroxyethyltriazine	1010	04-10-15	1.24	5.0	250	ACN/DM394	04-17-15
2,2'-thiodiethanol	1090	04-10-15	1.15				
2-(1,3,5-Dithiazinan-5-yl)ethanol	1020	04-10-15	1.23				

PER_CCV 0.0004 µg/mL 04-20-15: BL 04-20-15
PER_SS 0.010 µg/mL 08-28-14
took 0.040 mL and added to
0.910 mL laboratory Source DI_H2O
that had previously received
0.050 mL 02SI $^{18}O_4$ Perchlorate
100 µg/L lot 1059192-33479

PER_CCV 0.002 µg/mL 04-20-15:
PER_SS 0.010 µg/mL 08-28-14
took 0.200 mL and added to
0.750 mL Laboratory Source DI_H2O
that had previously received
0.050 mL 02SI $^{18}O_4$ Perchlorate
100 µg/L lot 1059192-33479

040 LC/MS STANDARD PREP LOG# 105 PAGE 40

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE/ INITIALS
PER IS	0.005µg/mL	04-20-15:					JL
02SI	$^{18}O_4$ Perchlorate	100µg/L					04-21-15
Lot 1059192-33479 took 0.050mL and added to 0.950 mL Laboratory Source DI-H2O.							
NOTE: Repeated the above process four times in order to prepare 2-2mL vials that were full. The above was performed as dated. JL							

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: 05-19-15 JF

PER_CCV 0.0004 µg/mL 05:07-15: JF
PER_SS 0.010 µg/mL 08-28-14 took 05-07-15
0.040 mL and added to 0.910 mL
Laboratory Source DI-H20 that
had previously received 0.050 mL
02SI $^{18}O_4$ Perchlorate 100µg/L
lot 1074176-35163

PER_CCV 0.002 µg/mL 05-07-15:
PER_SS 0.010 µg/mL 08-28-14
took 0.200 mL and added to
0.750 ML Laboratory Source
DI-H20 that had previously
received 0.050 mL 02SI $^{18}O_4$
Perchlorate 100µg/L lot
1074176-35163

PER_IS 0.005µg/mL 05-07-15:
02SI $^{18}O_4$ Perchlorate 100µg/L
Lot 1074176-35163 took 0.050
mL and added to 0.950 mL
Laboratory Source DI-H20
NOTE: Repeated the above
process four times in order
to prepare 2-2mL vials
that were full.

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIAL'S

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JF 06-19-15 — JF 06-19-15

PER_CCV ~~0.000M~~ ~~0.004~~ µg/ml 05-29-15: — JF 05-29-15

PER_SS 0.010 µg/ml 08-28-14 took 0.040 ml and added to 0.910 ml Laboratory Source DI_H2O that had received 0.050 ml 02SI $^{18}O_4$ Perchlorate 100µg/L lot 1074176-35163

PER_CCV 0.002 µg/ml 05-29-15:
PER_SS 0.010 µg/ml 08-28-14 took 0.200 ml and added to 0.750 ml Laboratory Source DI_H2O that had previously received 0.050 ml 02SI $^{18}O_4$ Perchlorate 100 µg/L lot 1074176-35163

PER_IS 0.005 µg/ml 05-29-15:
02SI $^{18}O_4$ Perchlorate 100 µg/L lot 1074176-35163 took 0.050 ml and added to 0.950 ml Laboratory Source DI_H2O.
NOTE: Repeated the above process four times in order to prepare 2-2 ml vials that were field.

LC/MS STANDARD PREP LOG# 105 PAGE# 104

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE/ INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JH 06-26-15							JR 06-26-15
PER_IS_50:50 0.005µg/ml 06-03-15: Combined 10.000 ml Laboratory Source DI_H2O with 10.000 ml Burdick & Jackson Acetonitrile lot DL308. Withdrew 1.000 ml and then delivered 1.000 ml 02SI $^{18}O_4$ Perchlorate 100µg/L lot 107417G-35163.							JR 06-03-15
AZ16965_W01 10526.3 DF 06-02-15_6/3: AZ16965_W01 1052.6 DF 06-02-15 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 06-03-15							
AZ16965_W01 105263.2 DF 06-02-15_6/3: AZ16965_W01 10526.3 DF 06-02-15_6/3 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 06-03-15							
AZ16967_W01 10526.3 DF 06-02-15_6/3: AZ16967_W01 1052.6 DF 06-02-15 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 06-03-15							

LC/MS STANDARD PREP LOG# 105 PAGE# 108

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CNC	SOL'N. LOT #	DATE/ INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JH 06-28-15 — JH 06-28-15

AZ17047-W01 21052.6 DF 06-04-15_6/5: JH
AZ17047-W01 1052.6 DF 06-04-15 — 06-05-15
TOOK 0.050 mL AND ADDED TO
0.950 mL PER-IS-50:50 0.005 µg/mL
06-03-15

AZ17047-W01 10526.3 DF 06-04-15_6/5:
AZ17047-W01 1052.6 DF 06-04-15
TOOK 0.050 mL AND ADDED TO
0.450 mL PER-IS-50:50 0.005 µg/mL
06-03-15

PER-CCV 0.0004 µg/mL 06-11-15: JH
PER-SS 0.010 µg/mL 08-28-14 — 06-11-15
took 0.040 mL and added to
0.910 mL Laboratory Source
DI-H2O that had received
0.050 mL 025I $^{18}O_4$ Perchlorate
100 µg/L lot 107H176-351623

PER-CCV 0.002 µg/mL 06-11-15:
PER-SS 0.010 µg/mL 08-28-15
took 0.200 mL and added to
0.750 mL Laboratory Source
DI-H2O that had received
0.050 mL 025I $^{18}O_4$ Perchlorate
100 µg/L lot 107H176-35163

LCMS STANDARD PREP LOG# 105 PAGE 109

109

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED. JR 06-29-15							JR 06-29-15
PER_IS 0.005 µg/ml 06-11-15:							JR
O2SI $^{18}O_4$ Perchlorate	100 µg/L		0.050 ml	0.950 ml		Lot 10T4176-35163	06-11-15
Laboratory Source DI_H2O							
NOTE: Repeated the above process four times in order to prepare 2-2 ml vials that were full.							
AZ16235_W01 10526.3 DF 05-12-15_6/12:							JR
AZ16235-W01 1052.6 DF 05-12-15			0.050 ml	0.450 ml		PER_IS_50:50 0.005µg/ml 06-03-15	06-12-15
~~AZ16963_W01 10526.3 DF 06-02-15_6/3~~							JR 6-29-15
AZ17692-W01 10526.3 DF 06-17-15_6/22							JR
AZ17692-W01 1052.6 DF 06-17-15			0.050 ml	0.450 ml		PER_IS_50:50 0.005µg/ml 06-03-15	06-22-15
AZ17693_W01 10526.3 DF 06-17-15_6/22							
AZ17693-W01 1052.6 DF 06-17-15			JR ~~0.04~~ 0.050 ml	0.450 ml		PER_IS_50:50 0.005µg/ml 06-03-15	

LCMS STANDARD PREP LOG# 105 PAGE# 116

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE / INITIALS
NOTE: THE FOLLOWING DOCUMENTATION							JH
WAS PERFORMED AS DATED!						07-01-15	07-01-15
AZ17695_WO1 105263.3 DF 06-17-15_6/22							JH
AZ17695_WO1 1052.6 DF 06-17-15							06-22-15
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15							
AZ17695_WO1 105263.2 DF 06-17-15_6/22: AZ17695_WO1 105263.3 DF 06-17-15_6/22 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15							
AZ17695_WO1 105263.6 DF 06-17-15_6/22 ~~AZ17695_WO1~~ AZ17695_WO1 105263.2 DF 06-17-15_6/22 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15							
PER CCV 0.0004 µg/mL 06-27-15							JH
PER SS 0.010 µg/mL 08-28-15 took 0.040 mL and added to 0.910 mL Laboratory Source DI-H2O that had received 0.050 mL 02SI $^{18}O_4$ Perchlorate 100 µg/L lot 1074176-35163. Repeated the above process and then combined the aliquots into a single vial.							06-21-15

LCMS STANDARD PREP LOG# 105 PAGE# 111

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL. TEN. LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JR 07-01-15 07-01-15

PER-CCV 0.002 µg/mL 06-27-15: JR

PER-SS 0.010 µg/mL 08-28-15 06-27-15

Took 0.200 mL and added to 0.750 mL Laboratory Source DI H2O that had received 0.050 mL 02SI $^{18}O_4$ Perchlorate 100 µg/L lot 10TN176-35163. Repeated the above process and then combined the aliquots into a single vial.

AZ17826_W03 10526.3 DF 06-23-15_6/28 JR 7 JR

AZ17826-W03 1052.6 DF 06-23-15 06-28-15 JR

TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15

AZ17826_W03 105263.2 DF 06-23-15_6/28 7 JR

AZ17826_W03 10526.3 DF 06-23-15_6/28 7 JR

TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15

AZ17826_W03 1052631.6 DF 06-23_15_6/28 7 JR

AZ17826_W03 10526.3 DF 06-23-15_6/28 7 JR

TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 06-03-15

_HPL6850

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150617A	Extraction Method	HPL6850	Units	mL

Spiked ID 1	Perchlorate Spike Mix 0.1ppm 8-28-14 EXP 7-31-15		Surrogate ID 1		
Spiked ID 2	Mix Anions 25,000ppm 2-10-15 EXP 2-10-16		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	06/17/15 15:47	
Spiked ID 8			Ext. End Time:	06/17/15 15:51	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 06/17/15 3:45:00 PM **Witnessed By:** RP **Date** 06/17/15 3:45:00 PM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150617A Blk				NA	NA equip	5ML	5ML	NA	06/17/15 15:47	
2	150617A LCS-1		0.030	1	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	
3	150617A ICS		0.030/0.060	1/2	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	
4	6850_LOD		0.020	1	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	LOD
5	6850_LOQ		0.030	1	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	LOQ
6	AZ17671	AZ17671W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
7	AZ17672	AZ17672W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
8	AZ17673	AZ17673W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
9	AZ17674	AZ17674W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
10	AZ17675	AZ17675W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
11	AZ17676	AZ17676W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
12	AZ17677	AZ17677W03			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76654
13	AZ17692	AZ17692W01			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
14	AZ17693	AZ17693W01			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
15	AZ17694 MS-1	AZ17694W02	0.030	1	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
16	AZ17694 MSD-1	AZ17694W02	0.030	1	NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657

Solvent and Lot#	
DI WATER	6-17-15

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	6/17/15
Time	16:50
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	06/17/15 3:52:07 PM

Reviewed By: PM **Date** 6/17/15

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150617A	Extraction Method	HPL6850	Units	mL

Spiked ID 1	Perchlorate Spike Mix 0.1ppm 8-28-14 EXP 7-31-15		Surrogate ID 1		
Spiked ID 2	Mix Anions 25,000ppm 2-10-15 EXP 2-10-16		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	06/17/15 15:47	
Spiked ID 8			Ext. End Time:	06/17/15 15:51	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 06/17/15 3:45:00 PM **Witnessed By:** RP **Date** 06/17/15 3:45:00 PM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ17694	AZ17694W02			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
18	AZ17695	AZ17695W01			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
19	AZ17696	AZ17696W02			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657
20	AZ17697	AZ17697W01			NA	NA equip	5ML	5ML	NA	06/17/15 15:47	76657

Solvent and Lot#	
DI WATER	6-17-15

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	6/17/15
Time	16:50
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	06/17/15 3:52:07 PM

Reviewed By: PM **Date** 6/17/15

METHOD 6850 INJECTION LOG: 03/12/15, 06/21/15

DETECTOR ID: Agilent 6460 Triple Quad LC/MS

SAMPLE INJECTION ID:	DATA FILE ID:	INJECTION DATE/TIME
PERCHLORATE 0.0002 ug/ml 11/11/14	T312_003.d	03/12/15 17:52
PERCHLORATE 0.0004 ug/ml 11/11/14	T312_004.d	03/12/15 18:11
PERCHLORATE 0.001 ug/ml 11/11/14	T312_005.d	03/12/15 18:29
PERCHLORATE 0.002 ug/ml 11/11/14	T312_006.d	03/12/15 18:48
PERCHLORATE 0.005 ug/ml 11/11/14	T312_007.d	03/12/15 19:07
PERCHLORATE 0.010 ug/ml 08/27/14	T312_008.d	03/12/15 19:25
PER_SS 0.0004 ug/ml 11/11/14	T312_010.d	03/12/15 20:02
PER_SS 0.002 ug/ml 11/11/14	T312_011.d	03/12/15 20:21
PER_CCV_1 0.0004 ug/ml 11/11/14	T312_013.d	03/12/15 20:58
PER_CCV_1 0.002 ug/ml 11/11/14	T312_014.d	03/12/15 21:17
PER_CCV 0.0004 ug/ml 06/11/15	T621_002.d	06/21/15 16:58
PER_CCV 0.002 ug/ml 06/11/15	T621_003.d	06/21/15 17:17
PER_CCV 0.0004 ug/ml 06/11/15	T621_022.d	06/21/15 23:11
PER_CCV 0.002 ug/ml 06/11/15	T621_023.d	06/21/15 23:30
150617WA_LCS-1 1052.6 DF 06/17/15	T621_025.d	06/22/15 0:07
150617W_ICSA 1052.6 DF 06/17/15	T621_026.d	06/22/15 0:26
150617WBLKA 1052.6 DF 06/17/15	T621_027.d	06/22/15 0:44
PER_CCV 0.0004 ug/ml 06/11/15	T621_036.d	06/22/15 3:32
PER_CCV 0.002 ug/ml 06/11/15	T621_037.d	06/22/15 3:50
AZ17694_W02 1052.6 DF 06/17/15	T621_043.d	06/22/15 5:42
AZ17694_W02_MS-1 1052.6 DF 06/17/15	T621_044.d	06/22/15 6:01
AZ17694_W02_MSD-1 1052.6 DF 06/17/15	T621_045.d	06/22/15 6:19
AZ17696_W02 1052.6 DF 06/17/15	T621_047.d	06/22/15 6:57
AZ17697_W01 1052.6 DF 06/17/15	T621_048.d	06/22/15 7:15
PER_CCV 0.0004 ug/ml 06/11/15	T621_050.d	06/22/15 7:53
PER_CCV 0.002 ug/ml 06/11/15	T621_051.d	06/22/15 8:11

METHOD 6850 INJECTION LOG : 07/05/15 THRU 07/06/15

DETECTOR ID : Agilent 6460 Triple Quad LC/MS PAGE 1 OF 1

SAMPLE INJECTION ID :			DATA FILE ID:	INJECTION DATE/TIME
PER_CCV	0.002 ug/ml	06/27/15	T705_003.d	07/05/15 13:44
PER_CCV	0.0004 ug/ml	06/27/15	T705_054.d	07/06/15 5:34
PER_CCV	0.002 ug/ml	06/27/15	T705_055.d	07/06/15 5:53
AZ17692_W01	10526.3 DF	06/17/15	T705_057.d	07/06/15 6:30
AZ17693_W01	10526.3 DF	06/17/15	T705_059.d	07/06/15 7:07
AZ17695_W01	105263.2DF	06/17/15	T705_062.d	07/06/15 8:03
PER_CCV	0.0004 ug/ml	06/27/15	T705_064.d	07/06/15 8:41
PER_CCV	0.002 ug/ml	06/27/15	T705_065.d	07/06/15 8:59

FILE ID : R76657.SEQ

EXPLOSIVES
EPA METHOD 8330

APPL, INC.

EPA 8330
EXPLOSIVES

QC Summary

APPL, INC.

Method Blank
EPA 8330B WATER

Blank Name/QCG: **150618W-17694 - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
BLANK	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
BLANK	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
BLANK	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
BLANK	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
BLANK	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
BLANK	SURROGATE: 1,2-DINITROBENZ	92.0	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000014
Instrument: Waldorf
Sequence: 150629
Initials: MP

GC SC-Blank-REG MDLs
Printed: 07/01/15 10:00:57 AM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/29/15

Matrix: WATER Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150618-LCS	Lab Control Spike	70-130	88.0				
AZ17694-MS	Matrix Spike	70-130	89.1				
AZ17694-MSD	Matrix SpikeD	70-130	88.0				
150618-BLK	Blank	70-130	92.0				
AZ17692	S67-MW026-061515	70-130	88.6				
AZ17693	S67-MW026P-061515	70-130	88.7				
AZ17694	S67-MW016-061515	70-130	87.0				
AZ17695	S67-MW024-061515	70-130	89.9				
AZ17696	S67-MW017-061515	70-130	87.3				

Comments: Batch: #83BJU11W-15061

Laboratory Control Spike Recovery
EPA 8330B WATER

APPL ID: **150618W-17694 LCS - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	8.00	6.98	87.3	60-135
2,6-DINITROTOLUENE	8.00	6.95	86.9	60-135
HMX	8.00	7.74	96.8	80-115
NITROGLYCERIN	8.00	6.70	83.8	70-130
RDX	8.00	7.44	93.0	50-160
TETRYL	8.00	7.29	91.1	20-175
SURROGATE: 1,2-DINITROBENZENE (S	8.00	7.04	88.0	70-130

Comments: _____

Primary	SPK
Quant Method :	W150627.M
Extraction Date :	06/18/15
Analysis Date :	06/29/15
Instrument :	Waldorf
Run :	0629_000008
Initials :	MP

Printed: 07/01/15 10:00:54 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8330B WATER

APPL ID: **150618W-17694 MS - 198490**
Batch ID: #83BJU11W-150618
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4-DINITROTOLUENE	8.00	ND	7.07	7.00	88.4	87.5	60-135	1.00	20
2,6-DINITROTOLUENE	8.00	ND	7.08	7.01	88.5	87.6	60-135	0.99	20
HMX	8.00	ND	7.89	7.73	98.6	96.6	80-115	2.0	20
NITROGLYCERIN	8.00	ND	6.73	6.74	84.1	84.3	70-130	0.15	20
RDX	8.00	ND	7.56	7.44	94.5	93.0	50-160	1.6	20
TETRYL	8.00	ND	7.63	7.42	95.4	92.8	20-175	2.8	20
SURROGATE: 1,2-DINITROBENZENE (S)	8.00	NA	7.13	7.04	89.1	88.0	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	W150627.M	W150627.M
Extraction Date :	06/18/15	06/18/15
Analysis Date :	06/29/15	06/29/15
Instrument :	Waldorf	Waldorf
Run :	0629_000009	0629_000010
Initials :	MP	

Printed: 07/01/15 10:00:50 AM
APPL MSD SCII

EPA 8330B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/29/15

Matrix: WATER Instrument: Waldorf

Blank ID: 150618-BLK Time Analyzed: 1623

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150618-LCS	Lab Control Spike	0629_000008	06/29/15 1238
150618-MS	Matrix Spike	0629_000009	06/29/15 1316
150618-MSD	Matrix SpikeD	0629_000010	06/29/15 1353
150618-BLK	Blank	0629_000014	06/29/15 1623
AZ17692	S67-MW026-061515	0629_000015	06/29/15 1701
AZ17693	S67-MW026P-061515	0629_000016	06/29/15 1738
AZ17694	S67-MW016-061515	0629_000017	06/29/15 1816
AZ17695	S67-MW024-061515	0629_000018	06/29/15 1853
AZ17696	S67-MW017-061515	0629_000019	06/29/15 1931

Comments: Batch: #83BJU11W-15061

EPA 8330
EXPLOSIVES

Sample Data

APPL, INC.

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW026-061515

Sample Collection Date: 06/15/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76657

APPL ID: AZ17692

QCG: #83BJU11W-150618-19849

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	88.6	70-130			%	06/18/15	06/29/15

Quant Method:	W150627.M
Run #:	0629_000015
Instrument:	Waldorf
Sequence:	150629
Dilution Factor:	1
Initials:	MP

Printed: 07/01/15 10:01:03 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 17:01:10
Operator : MP
Sample : AZ17692W02 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4100 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:52:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	3.780	0	791922	N.D.	0.886 #
	Spiked Amount 1.000			Recovery	=	0.00%	88.60%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8)	TM NITROGLYC...	0.000	6.406	0	26254	N.D. d DRT	NoCal
9)	TM TETRYL	6.842	0.000	3349	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	7.291	0.000	6699	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.668	0.000	11398	0	NoCal	N.D.
12)	TM 4-AMINO-2...	8.006	0.000	5142	0	NoCal	N.D.
13)	TM 2,4-DINIT...	9.139	0.000	16334	0	NoCal	N.D.
14)	TM 2,6-DINIT...	9.519	9.520	41103	21899	NoCal <3L	~~0.048~~ #
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

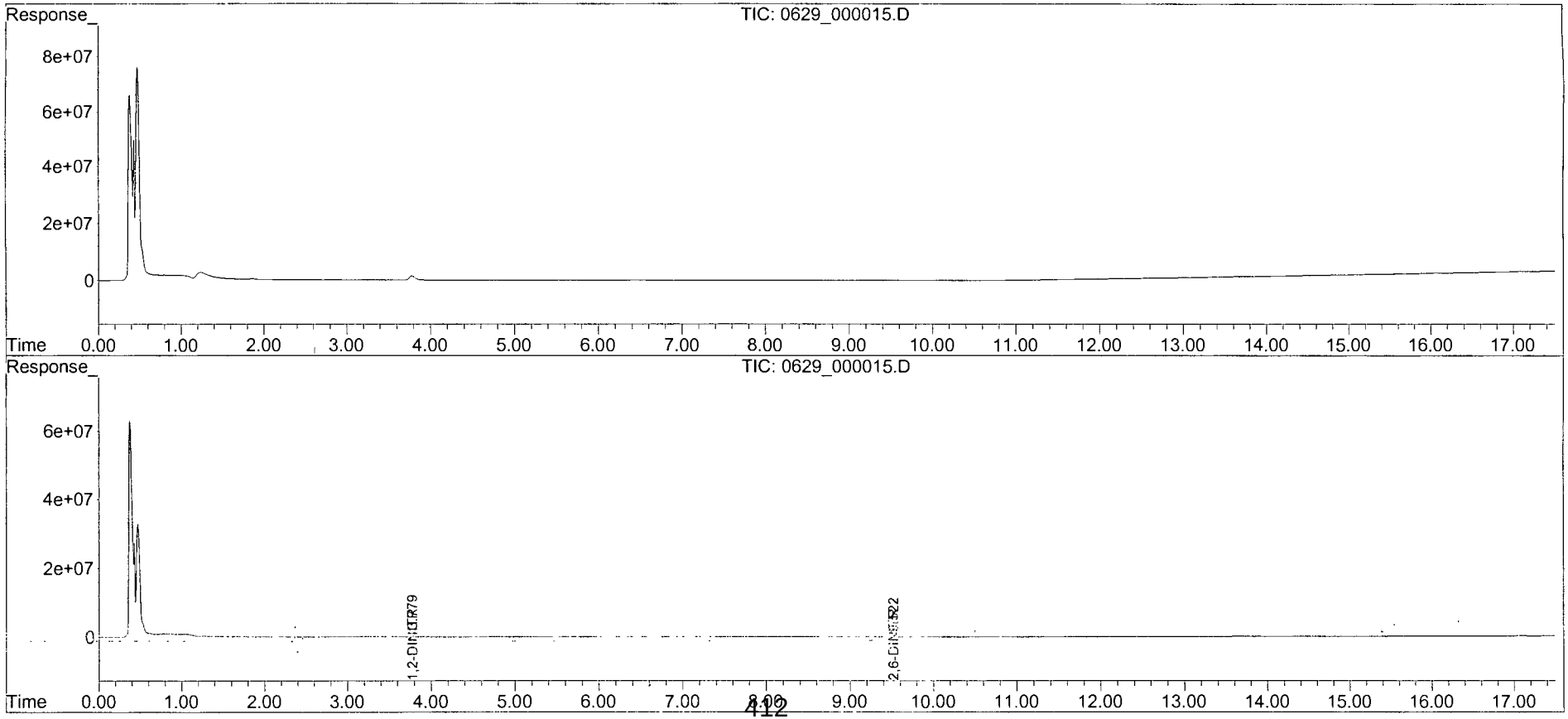
MP
06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 17:01:10
Operator : MP
Sample : AZ17692W02 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4100 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:52:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693
QCG: #83BJU11W-150618-19849

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	88.7	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000016
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/01/15 10:01:03 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 17:38:40
Operator : MP
Sample : AZ17693W02 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4101 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:53:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.779	0	792620	N.D.	0.887	#
	Spiked Amount 1.000			Recovery	=	0.00%	88.70%	
	Target Compounds							
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.	
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.	
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.	
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.	
8)	TM NITROGLYC...	0.000	6.411	0	23575	N.D. d	DMT NoCal	
9)	TM TETRYL	6.773	0.000	15207	0	NoCal	N.D.	
10)	TM 2,4,6-TRI...	7.236	0.000	10018	0	NoCal	N.D.	
11)	TM 2-AMINO-4...	7.626	0.000	3730	0	NoCal	N.D.	
12)	TM 4-AMINO-2...	8.006	0.000	5619	0	NoCal	N.D.	
13)	TM 2,4-DINIT...	9.039	0.000	16839	0	NoCal	N.D.	
14)	TM 2,6-DINIT...	9.515	0.000	42885	0	NoCal	LDL N.D.	d
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	NT N.D.	d
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	NT N.D.	d
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

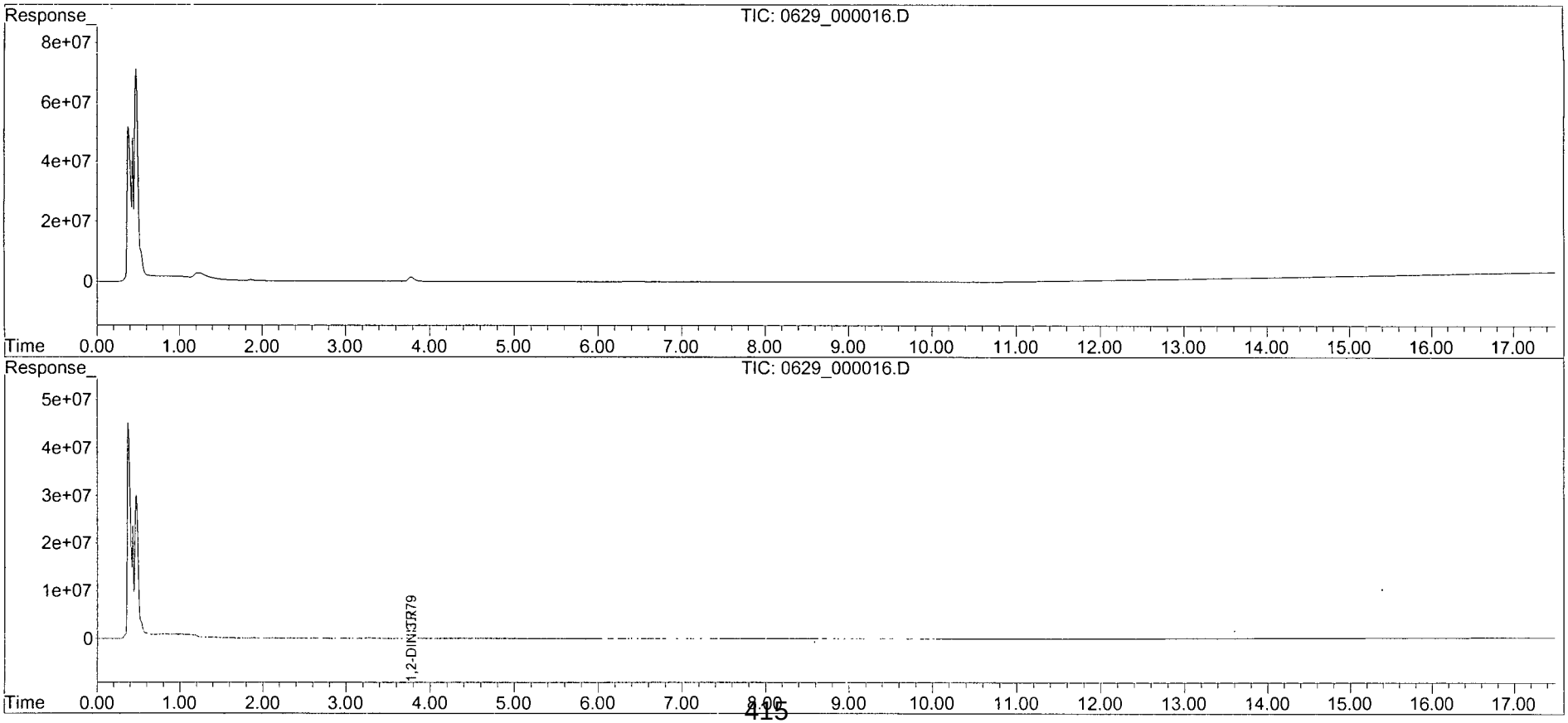
MP
06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 17:38:40
Operator : MP
Sample : AZ17693W02 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4101 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:53:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW016-061515

APPL ID: AZ17694

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-19849

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	87.0	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000017
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/01/15 10:01:03 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 18:16:10
Operator : MP 6 MP 7-1-15
Sample : AZ17894W07 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4102 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:54:53 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	3.779	0	777145	N.D.	0.870 #
	Spiked Amount 1.000			Recovery =		0.00%	87.00%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8)	TM NITROGLYC...	0.000	6.407	0	24457	N.D. d LOL	NoCal
9)	TM TETRYL	6.800	0.000	25659	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	7.246	0.000	19009	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.613	0.000	16408	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.945	0.000	15323	0	NoCal	N.D.
13)	TM 2,4-DINIT...	9.231	0.000	8838	0	NoCal	N.D.
14)	TM 2,6-DINIT...	9.496	0.000	50548	0	NoCal	N.D.
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D. NT	N.D. d
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18)	TM PETN	0.000	0.000	0	0	N.D. d NT	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

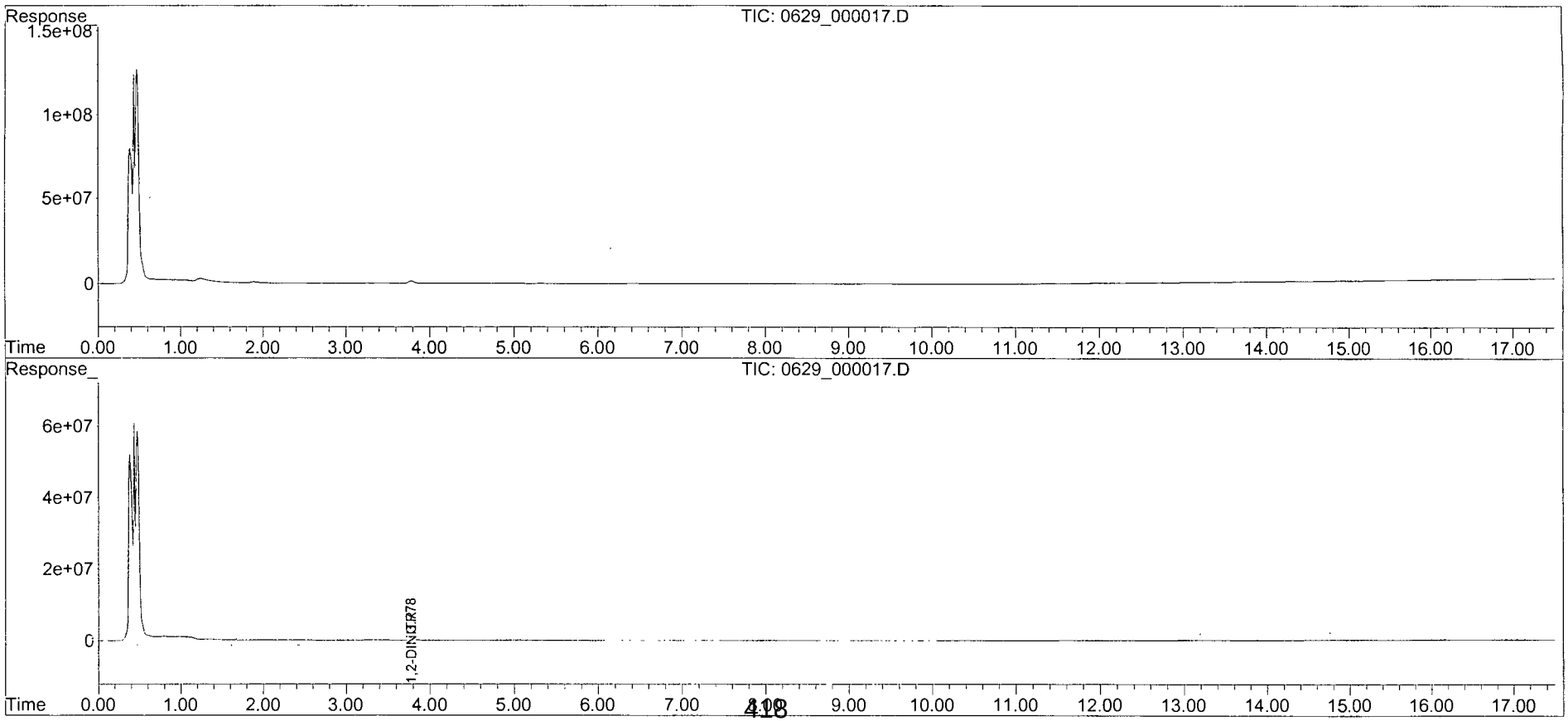
MP 06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 18:16:10
Operator : MP
Sample : AZ17394W07 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4102 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:54:53 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW024-061515

APPL ID: AZ17695

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-19849

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	89.9	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000018
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/01/15 10:01:03 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 18:53:41
Operator : MP 6 MP 9-1-15
Sample : AZ17795W03 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4103 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:55:59 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.776	0	803697	N.D.	0.899	#
	Spiked Amount 1.000			Recovery =		0.00%	89.90%	
	Target Compounds							
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.	
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.	
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.	
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.	
8)	TM NITROGLYC...	0.000	6.401	0	32071	N.D. d	NoCal	
9)	TM TETRYL	6.885	0.000	7040	0	NoCal	N.D.	
10)	TM 2,4,6-TRI...	7.363	0.000	9192	0	NoCal	N.D.	
11)	TM 2-AMINO-4...	7.646	0.000	5132	0	NoCal	N.D.	
12)	TM 4-AMINO-2...	8.052	0.000	444	0	NoCal	N.D.	
13)	TM 2,4-DINIT...	9.213	0.000	11338	0	NoCal	N.D.	
14)	TM 2,6-DINIT...	9.507	0.000	54632	0	NoCal	N.D.	d
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	d
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

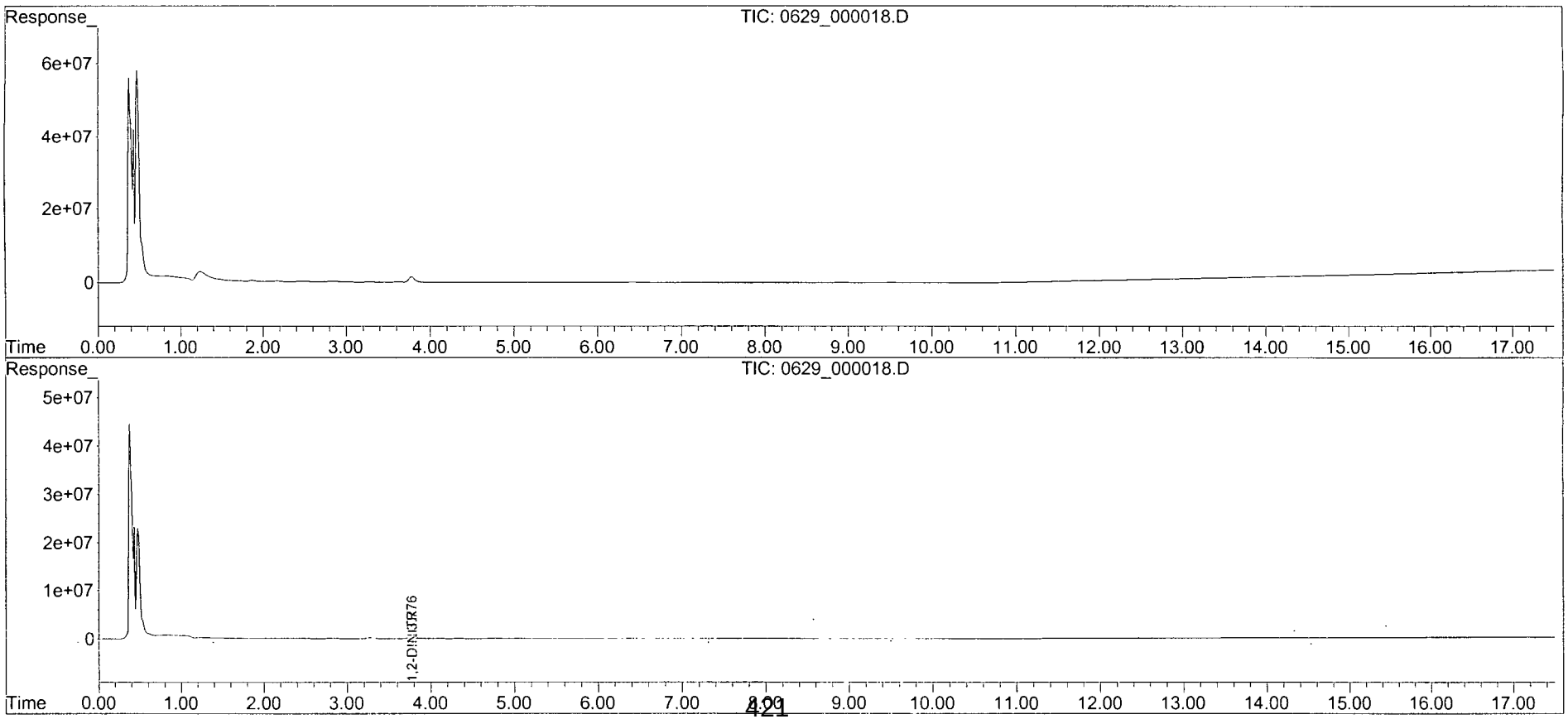
MP 06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 18:53:41
Operator : MP
Sample : AZ17395W03 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4103 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:55:59 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Tue Jun 30 07:56:12 2015 WALDORF Page: 2

EPA 8330B WATER

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76657

Sample ID: S67-MW017-061515

APPL ID: AZ17696

Sample Collection Date: 06/15/15

QCG: #83BJU11W-150618-19849

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
EPA 8330B	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
EPA 8330B	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
EPA 8330B	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
EPA 8330B	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	87.3	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000019
Instrument: Waldorf
Sequence: 150629
Dilution Factor: 1
Initials: MP

Printed: 07/01/15 10:01:03 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 19:31:11
Operator : MP 6 mp 7-1-15
Sample : AZ17796W05 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4104 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:57:05 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.772	0	780372	N.D.	0.873	#
	Spiked Amount 1.000			Recovery =		0.00%	87.30%	
	Target Compounds							
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.	
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.	
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.	
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.	
8)	TM NITROGLYC...	6.399	0.000	124022	0	0.329 DRT	N.D.	d#
9)	TM TETRYL	6.921	0.000	44964	0	NoCal LDL	N.D.	d
10)	TM 2,4,6-TRI...	7.246	0.000	19706	0	NoCal	N.D.	
11)	TM 2-AMINO-4...	7.629	0.000	16274	0	NoCal	N.D.	
12)	TM 4-AMINO-2...	7.973	0.000	5743	0	NoCal	N.D.	
13)	TM 2,4-DINIT...	9.150	0.000	10210	0	NoCal	N.D.	
14)	TM 2,6-DINIT...	9.520	0.000	52944	0	NoCal LDL	N.D.	d
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.	
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

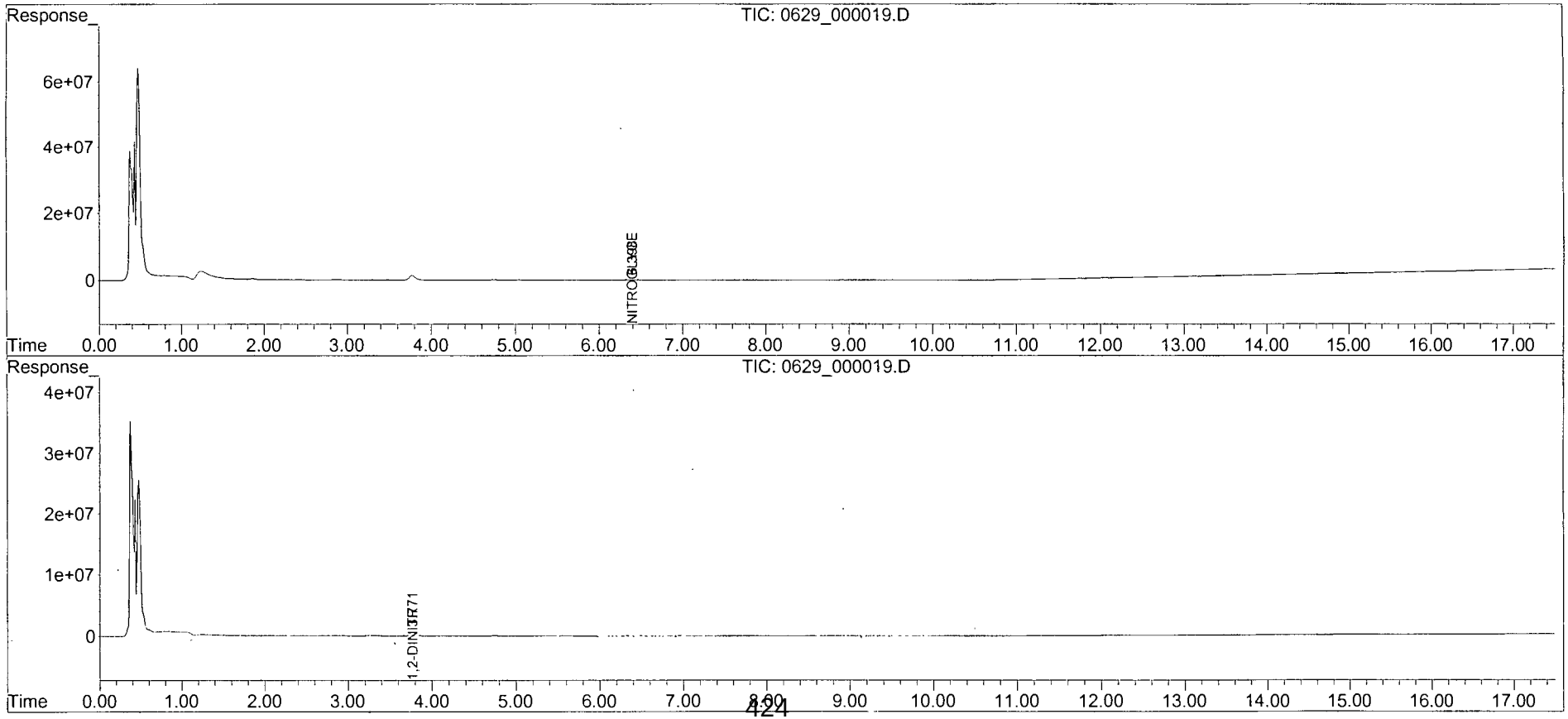
MP
06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 19:31:11
Operator : MP
Sample : AZ17396W05 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4104 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:57:05 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



EPA 8330
EXPLOSIVES

Calibration Data

APPL, INC.

Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 06/27/15
Matrix: Instrument: Waldorf
Initials: MP

			0627_000004.D	0627_000005.D	0627_000006.D	0627_000007.D	0627_000008.D	0627_000009.D	0627_000010.D	0627_000011.D	0627_000027.D				
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	
####	TM	NITROGLYCERIN	149	173	160	151	151	150	130	146	145		150.6	7.6	TM
####	TM	PETN			128	133	128	129	113	128	128		126.7	5.0	TM
####		Signal #2													
####	TM	HMX #2	689	712	727	712	714	719	618	692	692		697.3	4.7	TM
####	TM	RDX #2	435	474	455	460	465	466	411	458	460		453.9	4.2	TM
####	TM	1,3,5-TRINITROBENZENE #2	838	834	844	834	832	842	731	815	824		821.5	4.3	TM
####	S	1,2-DINITROBENZENE #2	361	357	363	361	362	364	318	360	370		357.5	4.2	S
####	TM	1,3-DINITROBENZENE #2	758	762	773	768	768	778	680	769	787		760.5	4.1	TM
####	TM	3,5-DINITROANILINE #2	651	660	673	667	668	674	592	665	660		656.6	3.9	TM
####	TM	NITROBENZENE #2	351	352	353	351	351	355	309	350	358		347.7	4.3	TM
####	TM	TETRYL #2	281	295	293	280	298	271	237	264	282		277.7	6.8	TM
####	TM	2,4,6-TRINITROTOLUENE #2	357	357	362	355	353	359	309	350	356		350.9	4.6	TM
####	TM	2-AMINO-4,6-DINITROTOLUENE	332	340	346	342	342	345	298	339	346		336.6	4.5	TM
####	TM	4-AMINO-2,6-DINITROTOLUENE	254	252	257	253	253	255	220	248	252		249.4	4.6	TM
####	TM	2,4-DINITROTOLUENE #2	328	327	333	330	328	333	288	329	338		326.1	4.6	TM
####	TM	2,6-DINITROTOLUENE #2	186	186	188	187	186	188	162	185	190		184.3	4.6	TM
####	TM	2-NITROTOLUENE #2	133	136	138	133	134	135	116	134	137		132.9	4.9	TM
####	TM	4-NITROTOLUENE #2	135	133	135	130	131	132	114	131	135		130.6	5.0	TM
####	TM	3-NITROTOLUENE #2	155	155	159	157	157	159	137	157	162		155.3	4.6	TM
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:32:24 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.723	0	72206	N.D.	5.536 #
Spiked Amount 62.500			Recovery	=	0.00%	8.86%
Target Compounds						
1) TM HMX	0.000	0.942	0	137888	N.D.	5.155m#
2) TM RDX	0.000	1.790	0	87021	N.D.	5.111m#
3) TM 1,3,5-TRI...	0.000	2.916	0	167563	N.D.	5.562 #
5) TM 1,3-DINIT...	0.000	3.878	0	151682	N.D.	5.489 #
6) TM 3,5-DINIT...	0.000	4.137	0	130156	N.D.	5.476 #
7) TM NITROBENZENE	0.000	5.287	0	70198	N.D.	5.599 #
8) TM NITROGLYC...	6.195	0.000	29718	0	5.087m	N.D. #
9) TM TETRYL	6.689	6.690	95673	56138	NoCal	5.146 #
10) TM 2,4,6-TRI...	7.150	7.152	99736	71368	NoCal	5.652 #
11) TM 2-AMINO-4...	7.516	7.518	111371	66371	NoCal	5.570 #
12) TM 4-AMINO-2...	7.876	7.874	99976	50898	NoCal	5.725 #
13) TM 2,4-DINIT...	8.999	8.992	60635	65628	NoCal	5.681 #
14) TM 2,6-DINIT...	9.356	9.355	65824	37239	NoCal	5.589 #
15) TM 2-NITROTO...	0.000	12.773	0	26615	N.D.	5.269m#
16) TM 4-NITROTO...	0.000	13.358	0	26945	N.D.	5.258m#
17) TM 3-NITROTO...	0.000	14.228	0	30957	N.D.	5.092 #
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D.

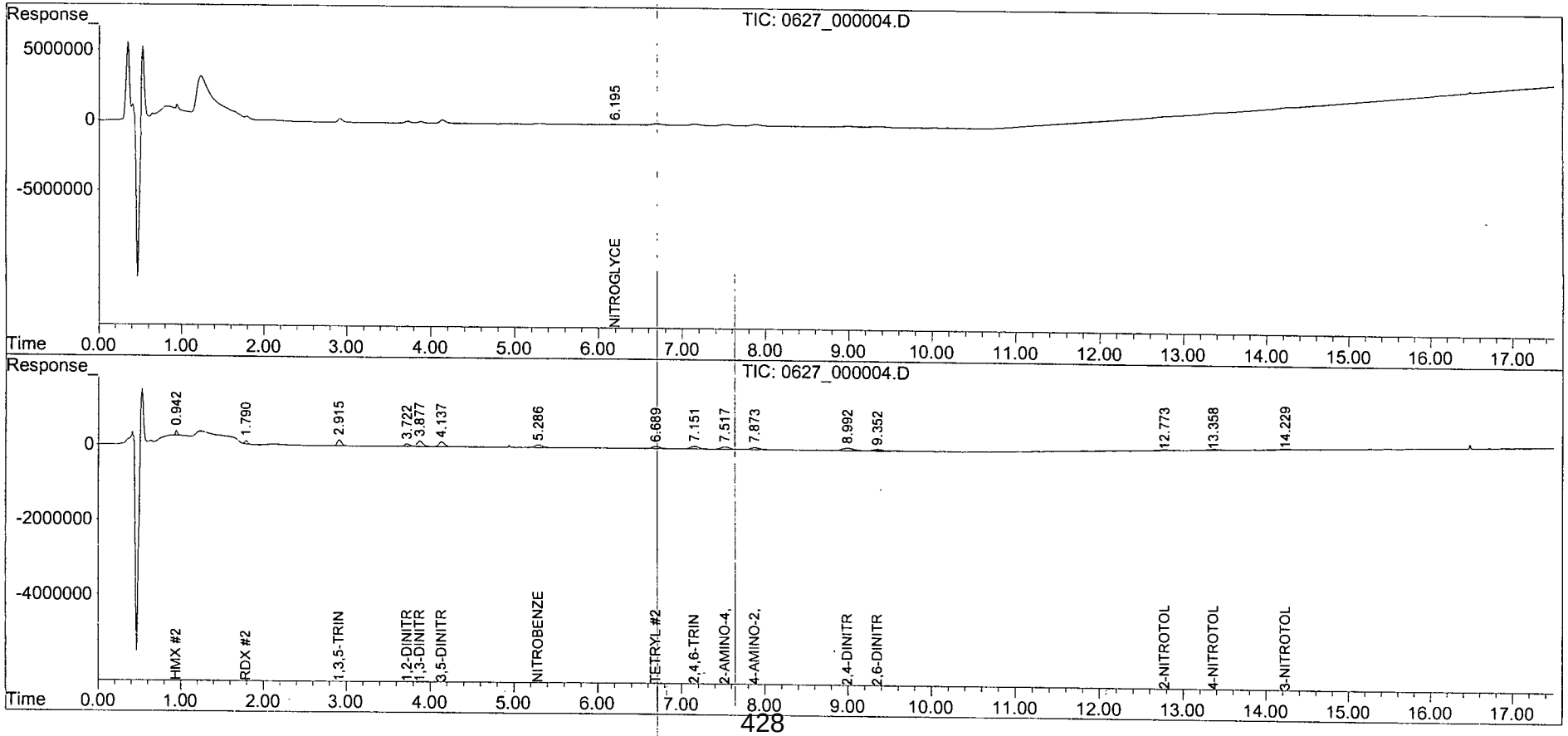
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:32:24 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

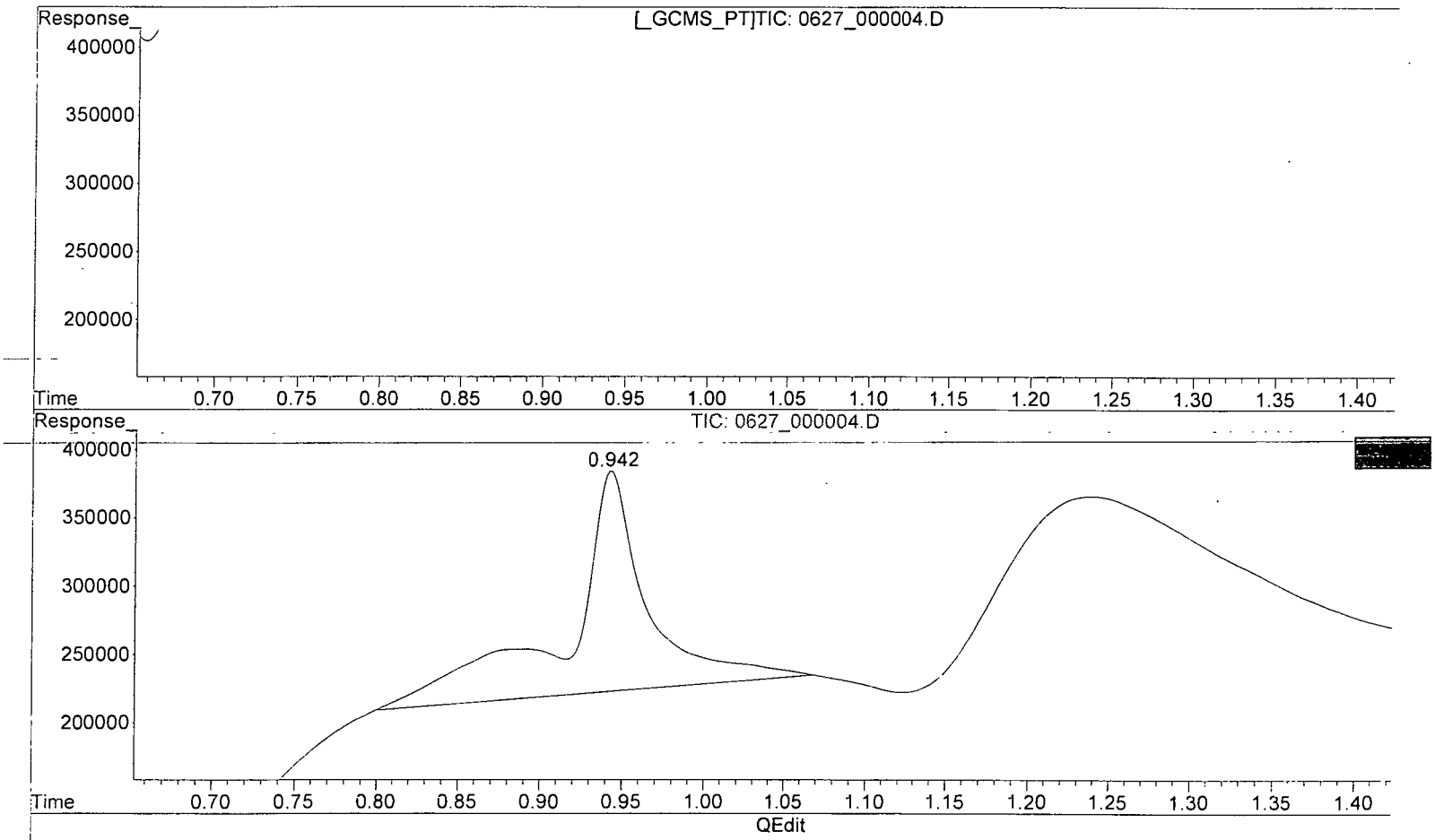


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0



(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.944min 5.990 ppb

response 160217

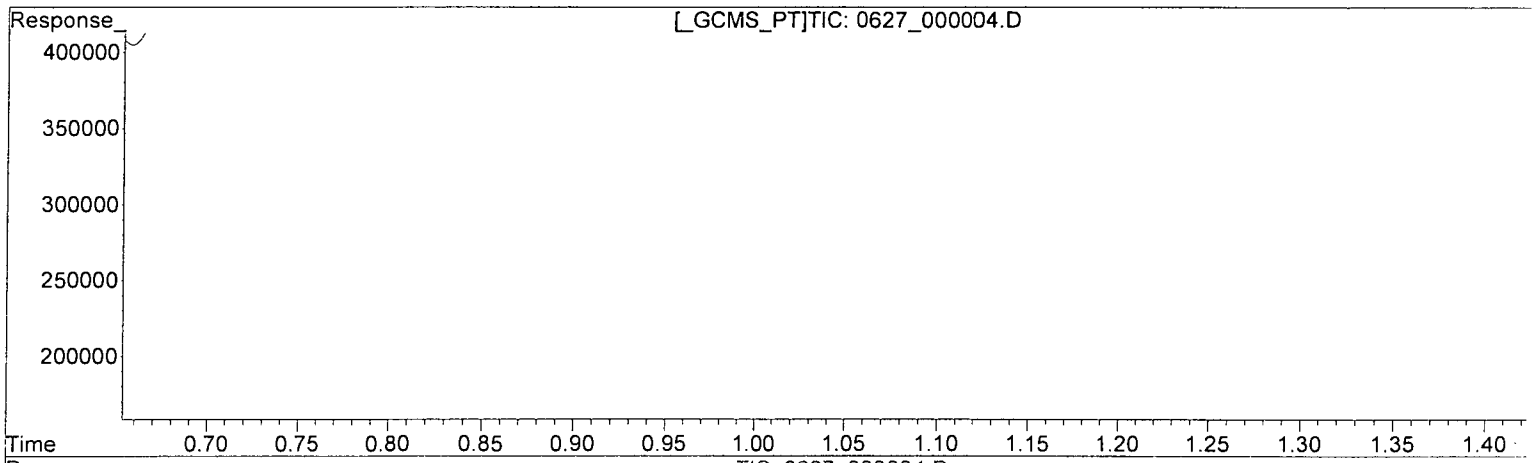
(+) = Expected Retention Time

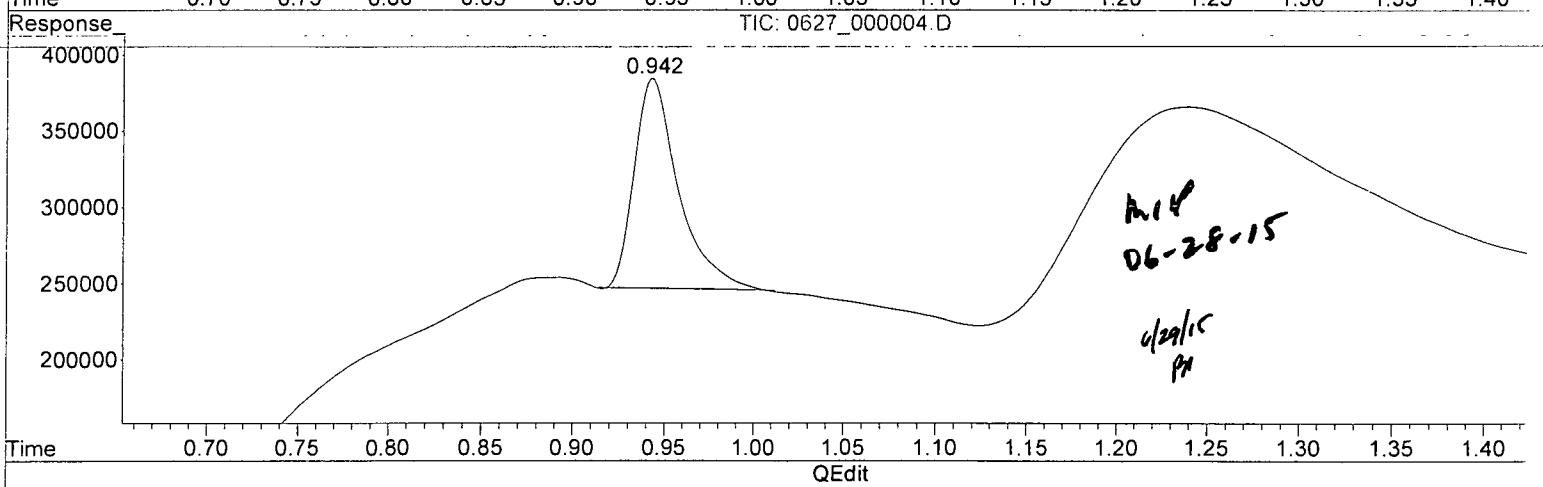
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0





AMP 06-28-15

6/29/15 PM

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.942min 5.155 ppb m

response 137888

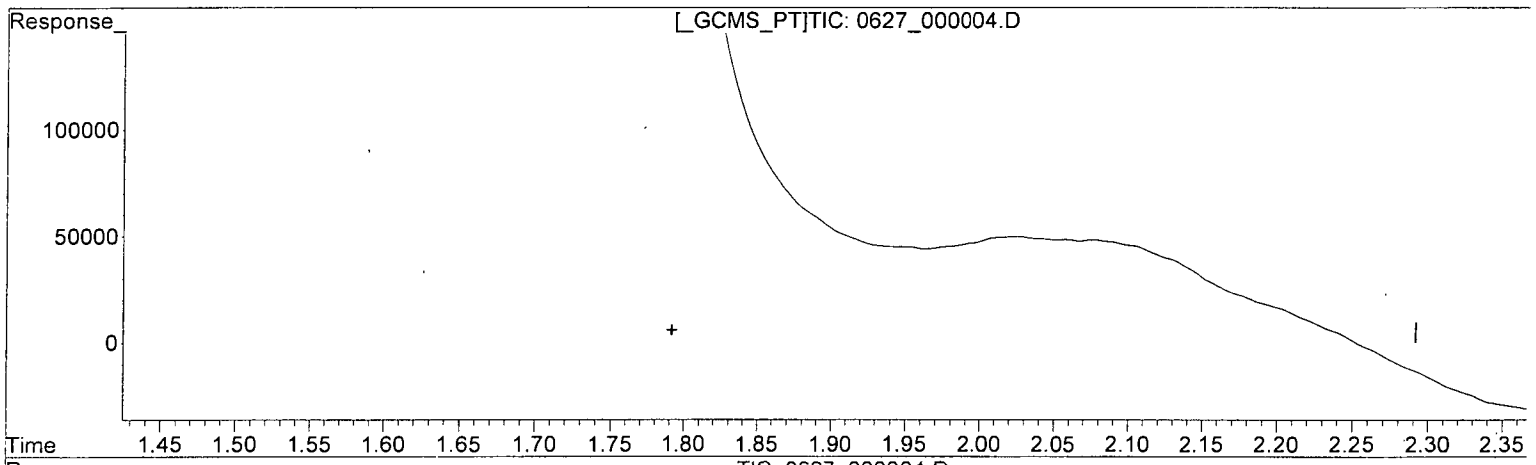
(+) = Expected Retention Time

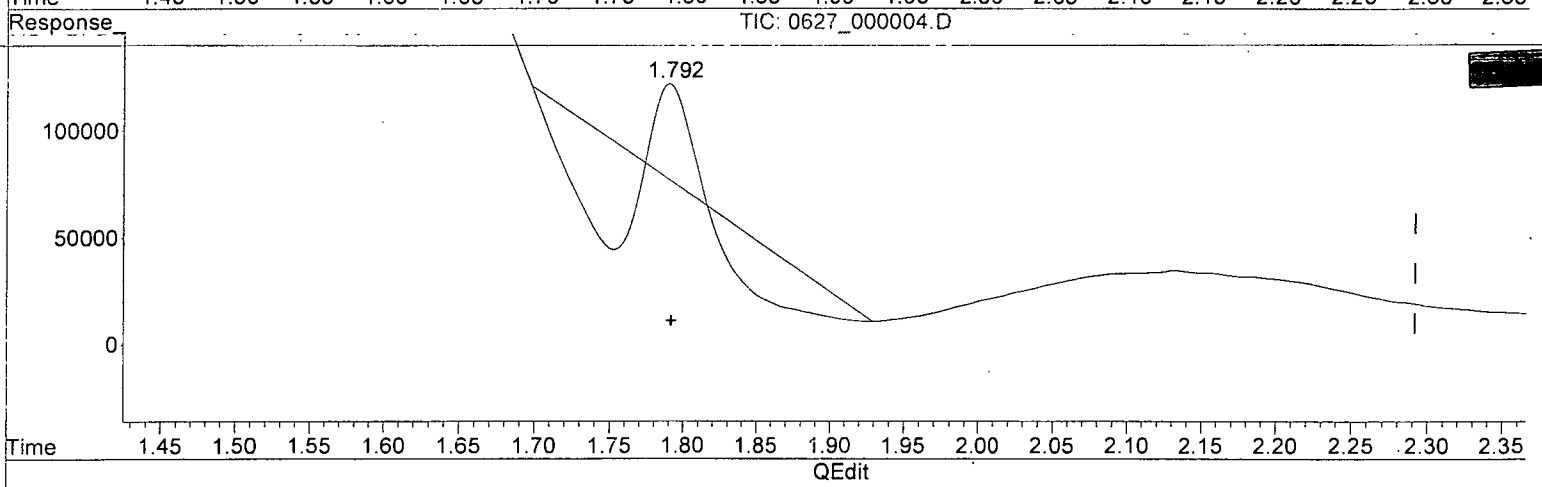
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0





(2) RDX (TM)

0.000min 0.000 ppb

response 0

(2) RDX #2 (TM)

1.790min 2.642 ppb

response 44976

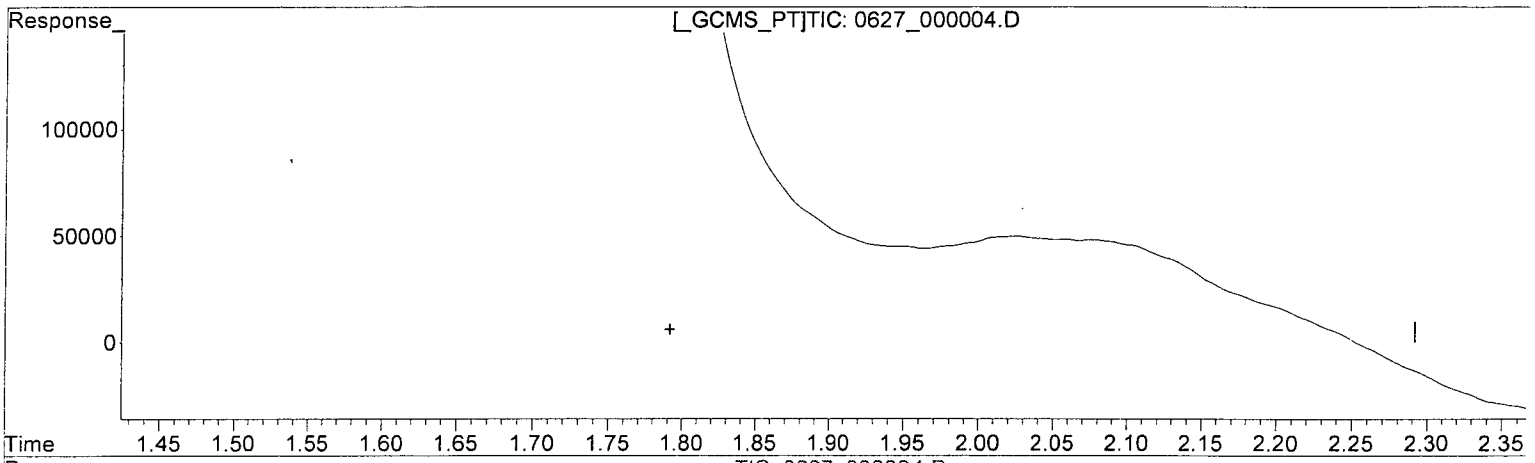
(+) = Expected Retention Time

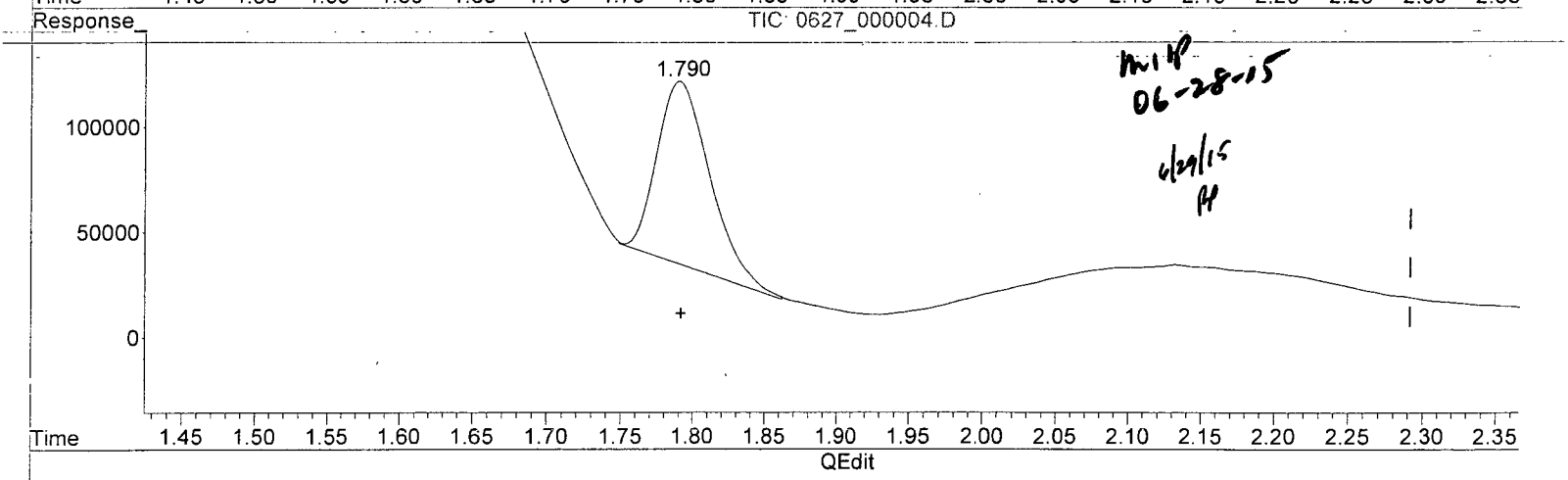
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r





MP 06-28-15

6/29/15 MP

(2) RDX (TM)

0.000min 0.000 ppb

response 0

(2) RDX #2 (TM)

1.790min 5.111 ppb m

response 87021

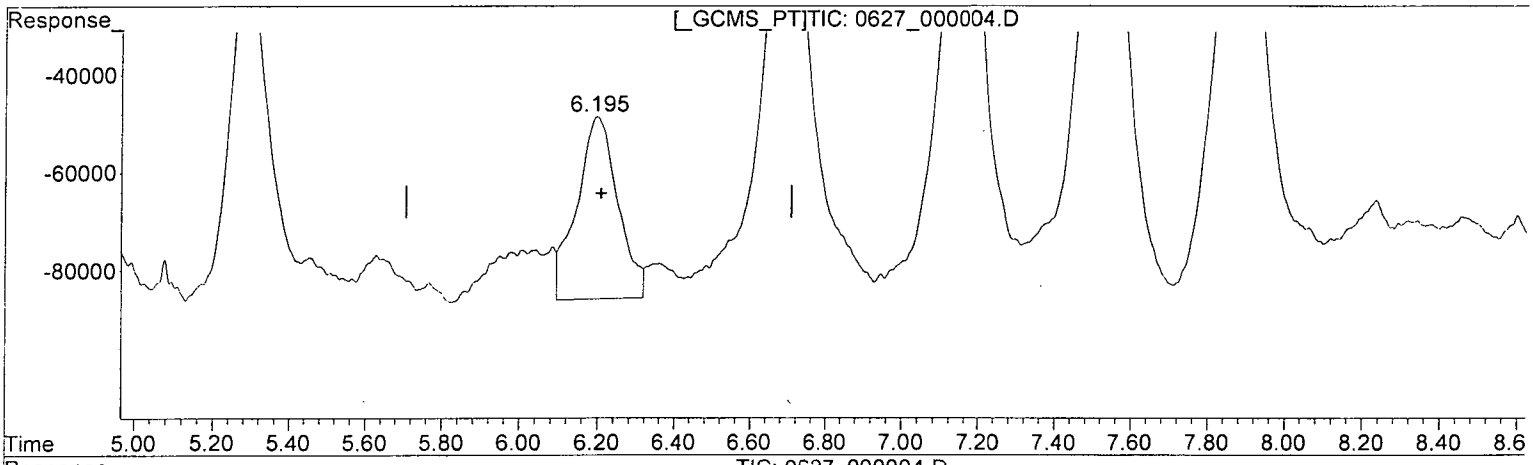
(+) = Expected Retention Time

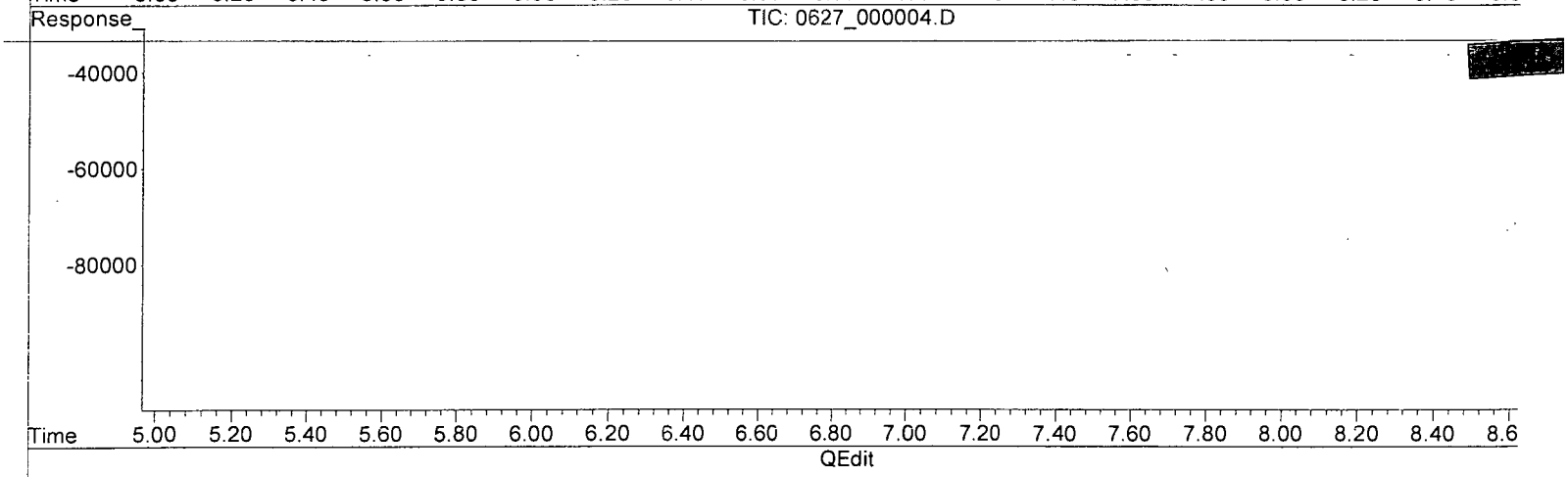
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0





(8) NITROGLYCERIN (TM)

6.196min 6.392 ppb

response 37343

(8) NITROGLYCERIN #2 (TM)

0.000min 0.000 ppb

response 0

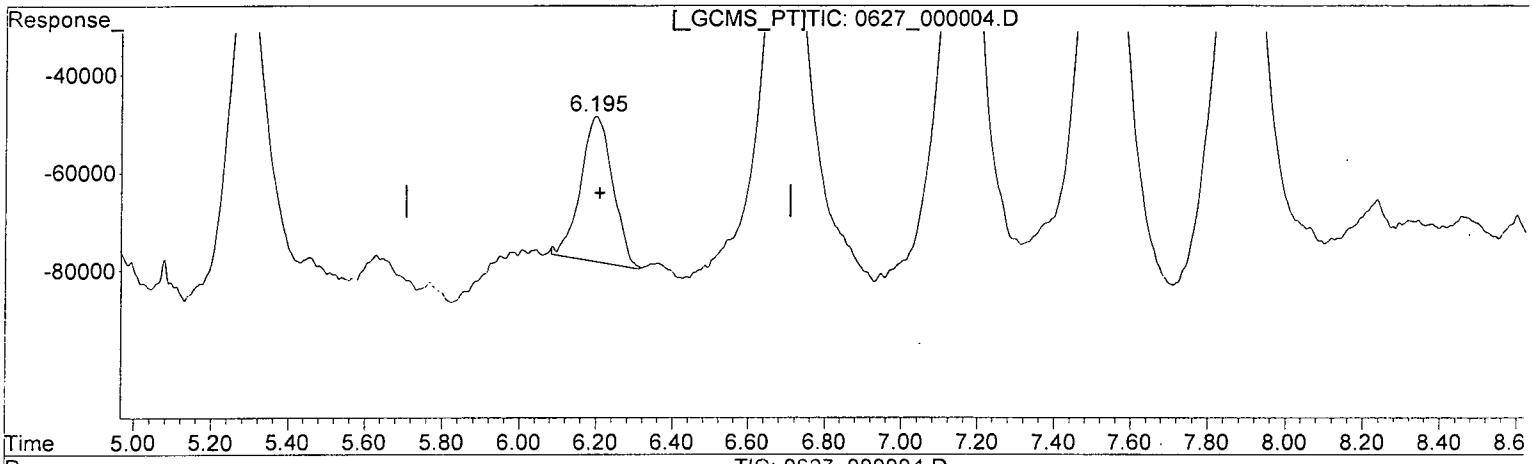
(+) = Expected Retention Time

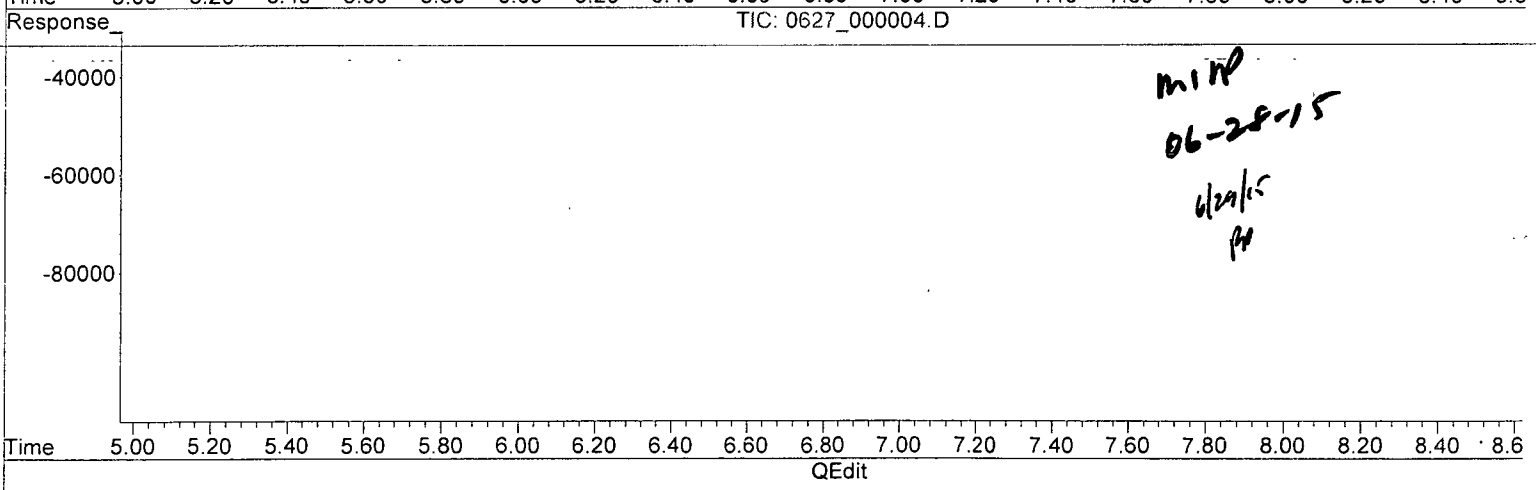
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r





MHP 06-28-15 6/29/15 MH

(8) NITROGLYCERIN (TM)

6.195min 5.087 ppb m

response 29718

(8) NITROGLYCERIN #2 (TM)

0.000min 0.000 ppb

response 0

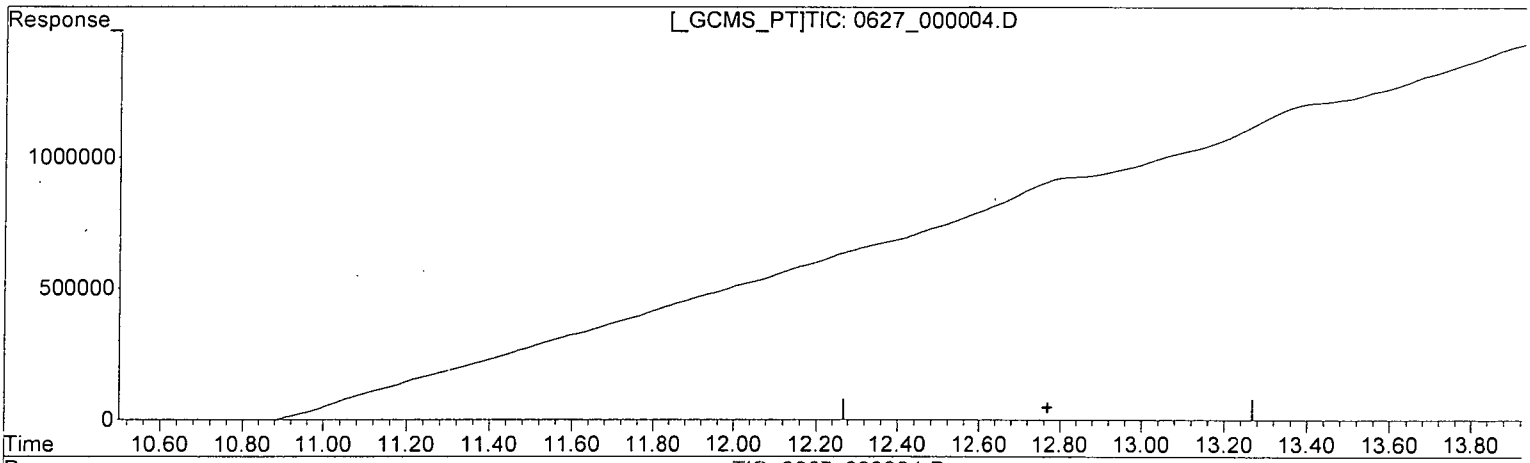
(+) = Expected Retention Time

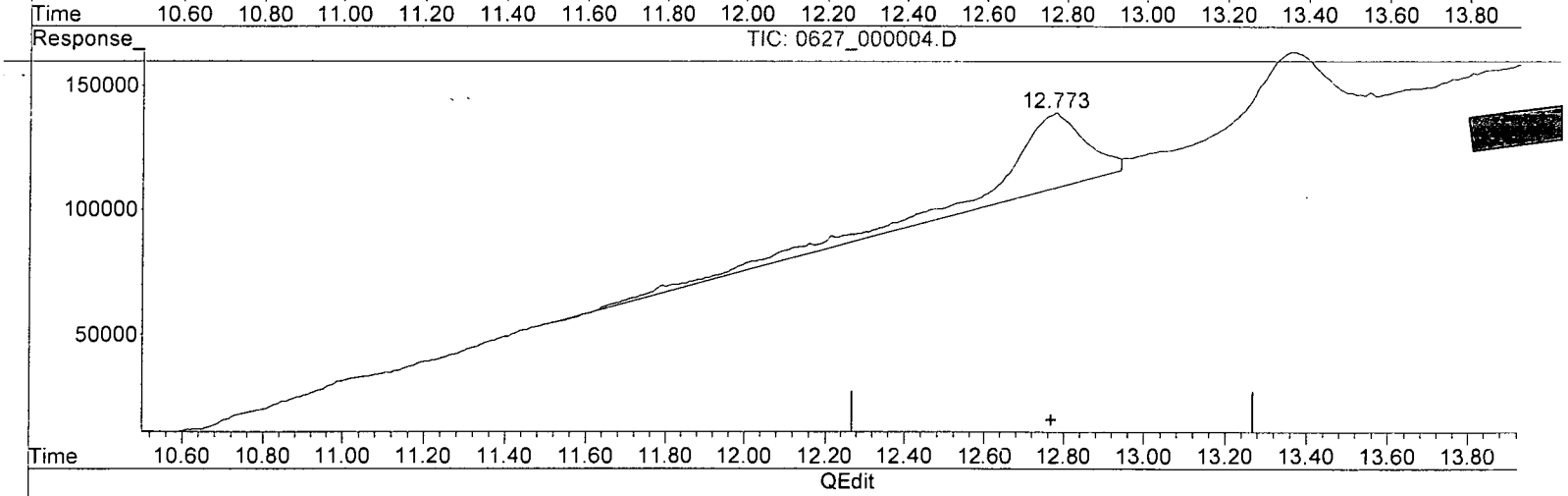
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r





(15) 2-NITROTOLUENE (TM)

0.000min 0.000 ppb

response 0

(15) 2-NITROTOLUENE #2 (TM)

12.772min 6.021 ppb

response 30411

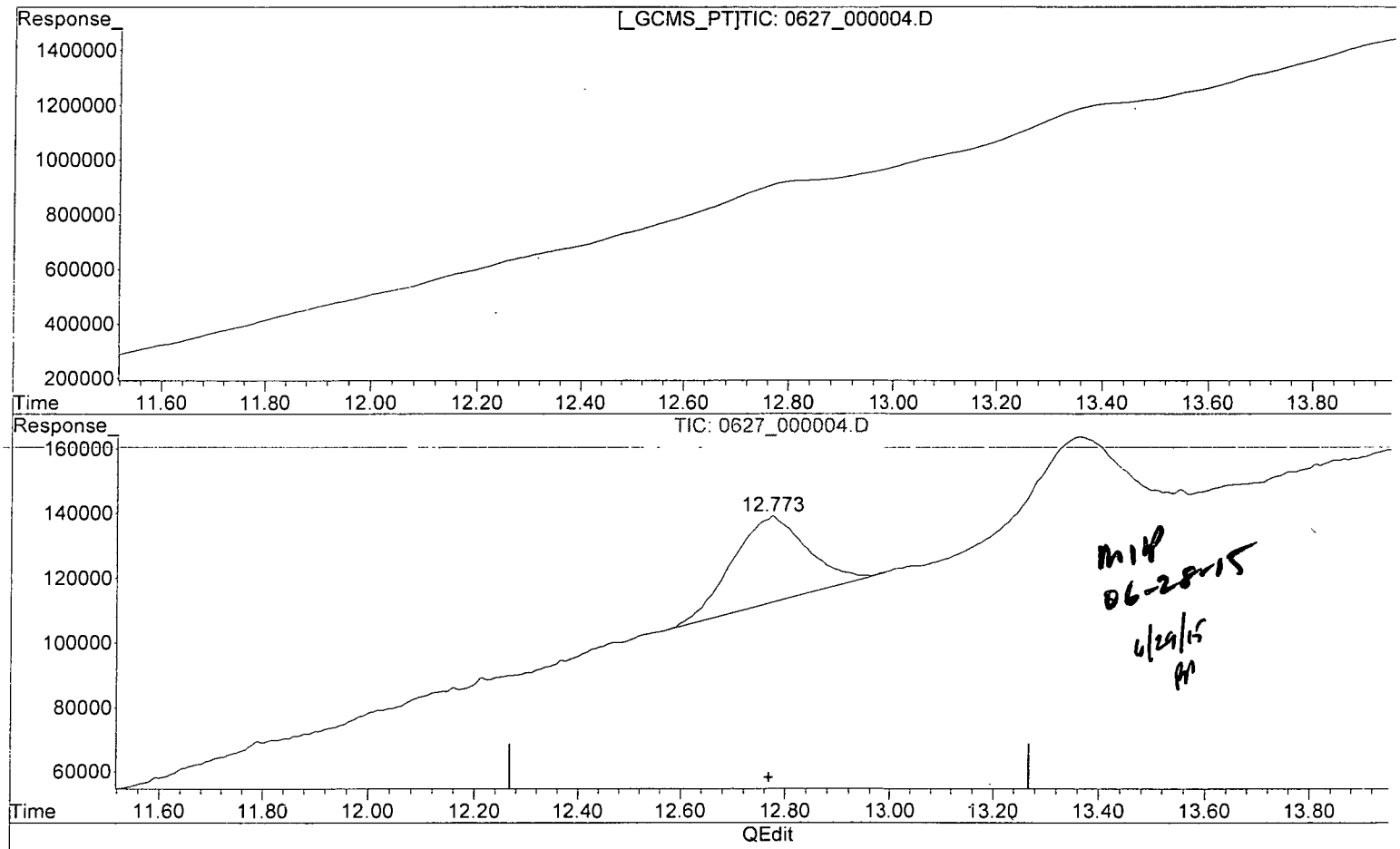
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r



(15) 2-NITROTOLUENE (TM)

0.000min 0.000 ppb

response 0

(15) 2-NITROTOLUENE #2 (TM)

12.773min 5.269 ppb m

response 26615

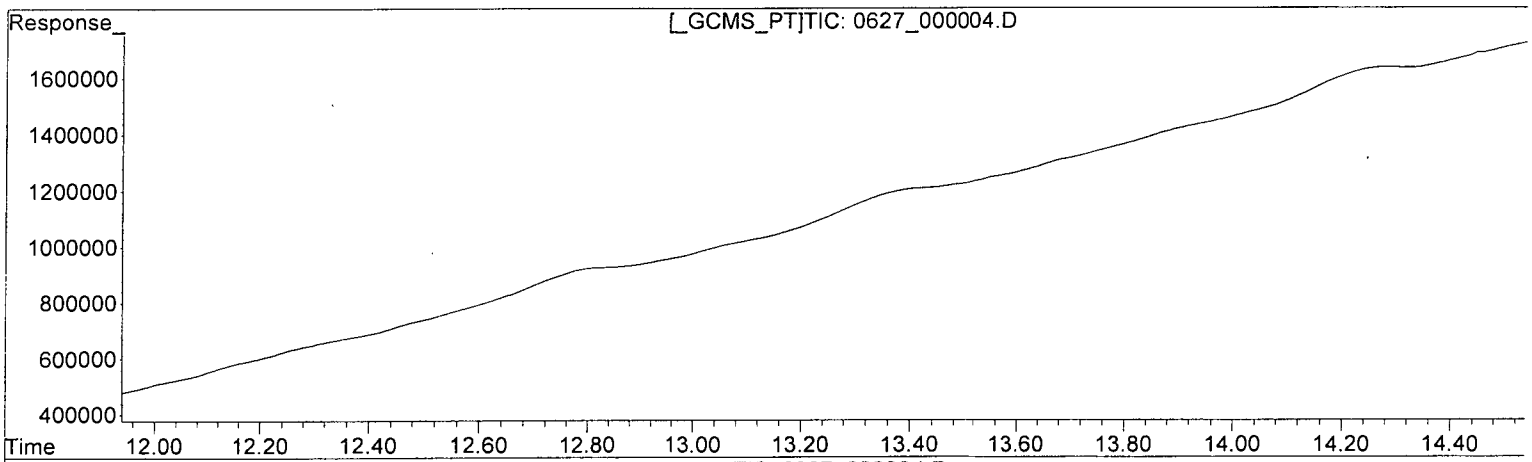
(+) = Expected Retention Time

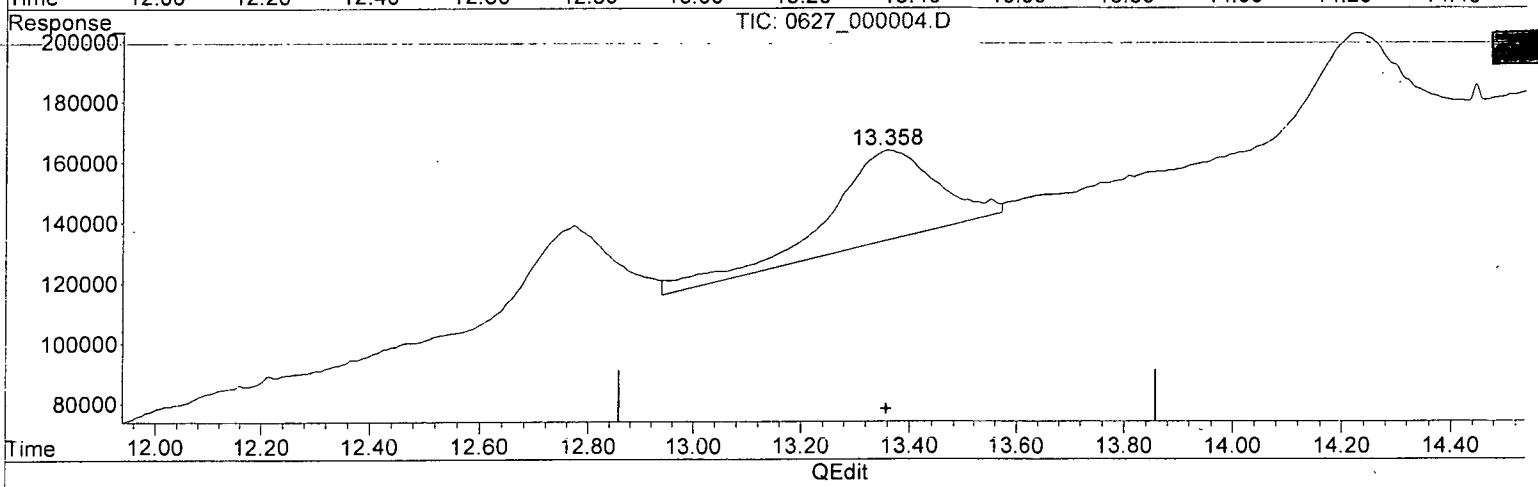
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r





QEdit

(16) 4-NITROTOLUENE (TM)

0.000min 0.000 ppb

response 0

(16) 4-NITROTOLUENE #2 (TM)

13.362min 5.782 ppb

response 29632

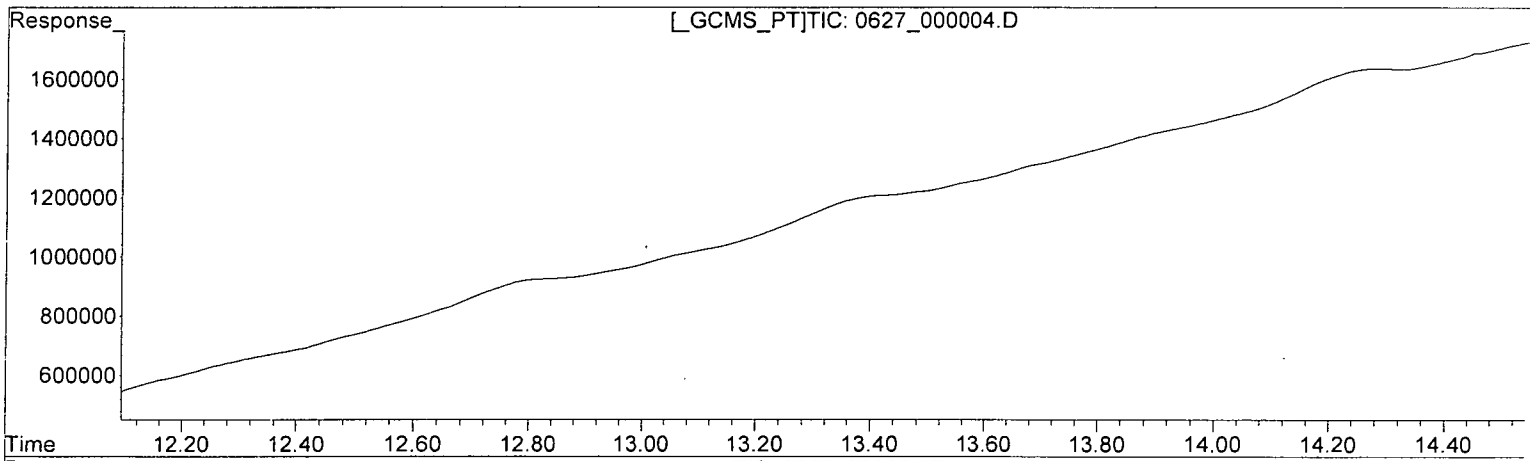
(+) = Expected Retention Time

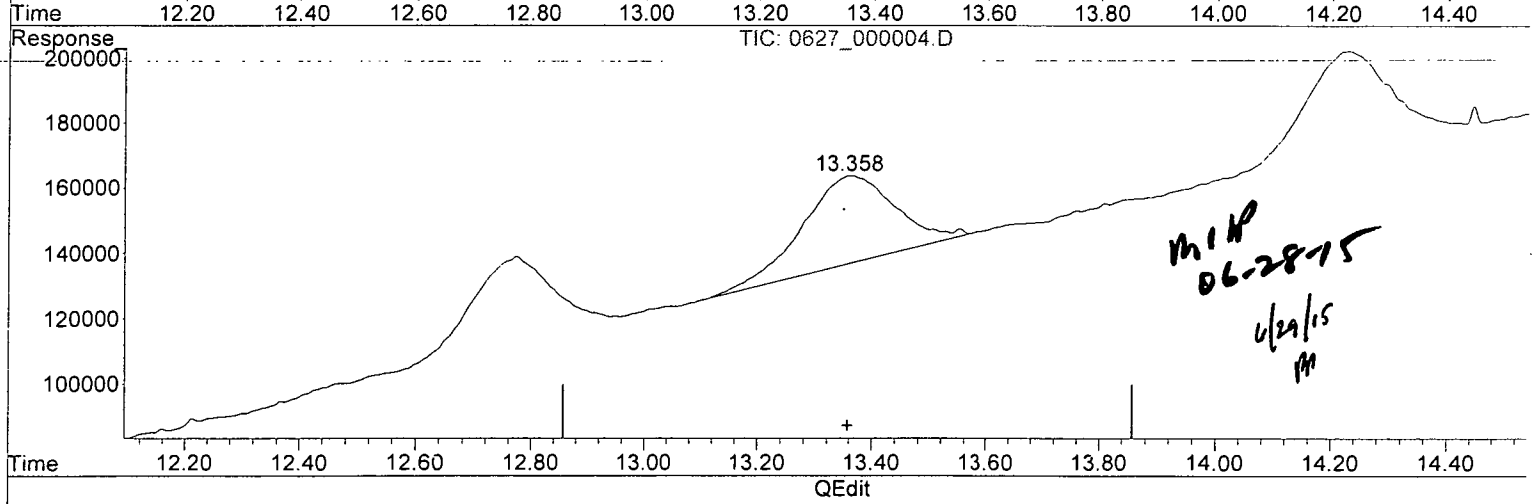
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 15:48:31
Operator : MP
Sample : 8330_CB 0.005 PPM 06/26/15
Misc :
ALS Vial : 8448 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0





MHP 06-28-15
6/29/15 MP

(16) 4-NITROTOLUENE (TM)

0.000min 0.000 ppb

response 0

(16) 4-NITROTOLUENE #2 (TM)

13.358min 5.258 ppb m

response 26945

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 16:26:01
Operator : MP
Sample : 8330_CB 0.010 PPM 06/26/15
Misc :
ALS Vial : 8449 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:30:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.725	0	142908	N.D.	10.957 #
Spiked Amount 62.500			Recovery	=	0.00%	17.53%
Target Compounds						
1) TM HMX	0.000	0.942	0	284788	N.D.	10.647m#
2) TM RDX	0.000	1.792	0	189534	N.D.	11.132 #
3) TM 1,3,5-TRI...	0.000	2.917	0	333485	N.D.	11.070 #
5) TM 1,3-DINIT...	0.000	3.880	0	304951	N.D.	11.035 #
6) TM 3,5-DINIT...	0.000	4.141	0	264091	N.D.	11.112 #
7) TM NITROBENZENE	0.000	5.287	0	140899	N.D.	11.238 #
8) TM NITROGLYC...	6.200	0.000	69073	0	11.823	N.D. #
9) TM TETRYL	6.688	6.690	198326	117831	NoCal	10.800 #
10) TM 2,4,6-TRI...	7.154	7.153	179150	142932	NoCal	11.320 #
11) TM 2-AMINO-4...	7.520	7.521	203145	135960	NoCal	11.411 #
12) TM 4-AMINO-2...	7.875	7.878	185184	100816	NoCal	11.340 #
13) TM 2,4-DINIT...	8.994	8.994	100923	130824	NoCal	11.324 #
14) TM 2,6-DINIT...	9.357	9.359	109009	74444	NoCal	11.172 #
15) TM 2-NITROTO...	0.000	12.770	0	54338	N.D.	10.759 #
16) TM 4-NITROTO...	0.000	13.360	0	53369	N.D.	10.414 #
17) TM 3-NITROTO...	0.000	14.229	0	61832	N.D.	10.170 #
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. d

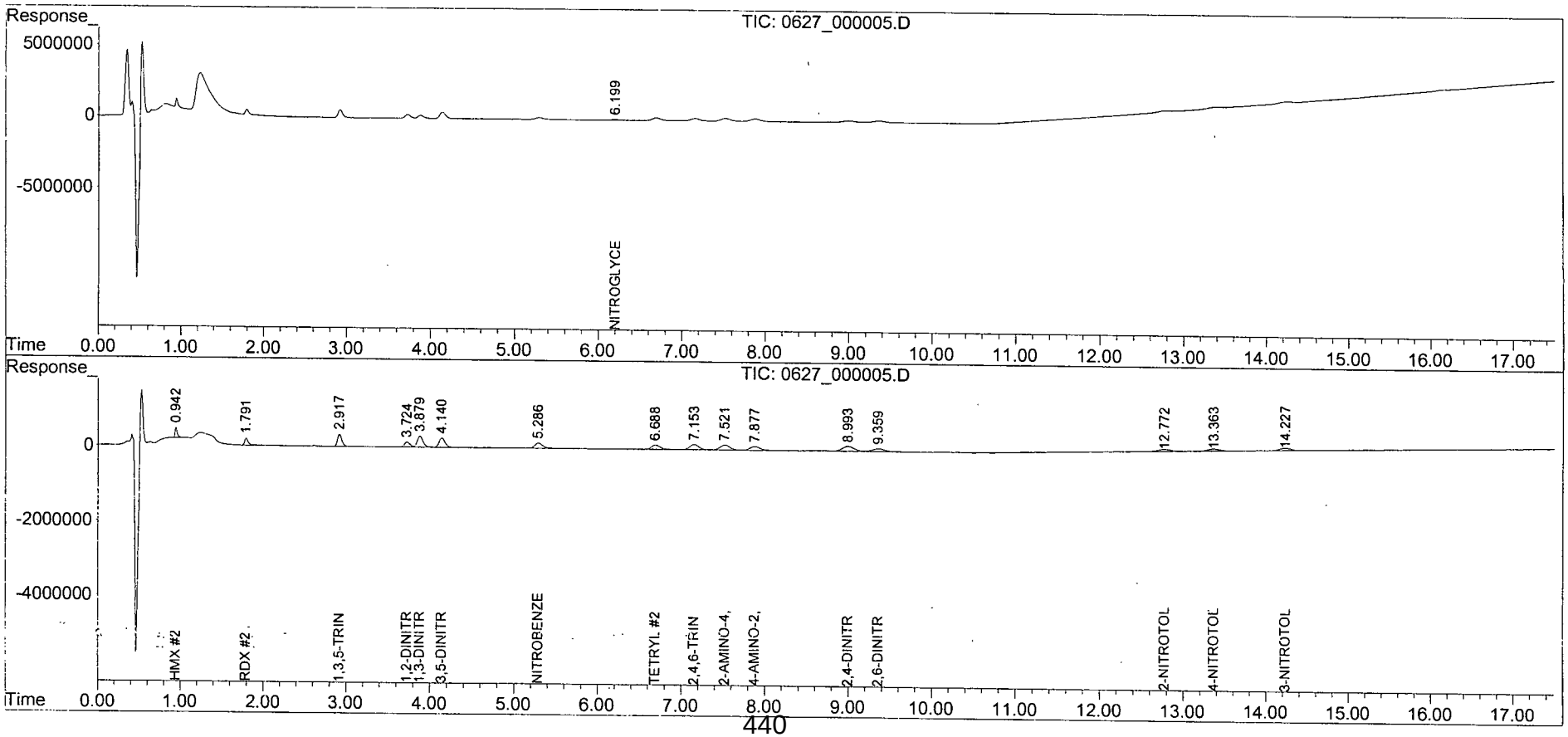
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 16:26:01
Operator : MP
Sample : 8330_CB 0.010 PPM 06/26/15
Misc :
ALS Vial : 8449 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:30:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

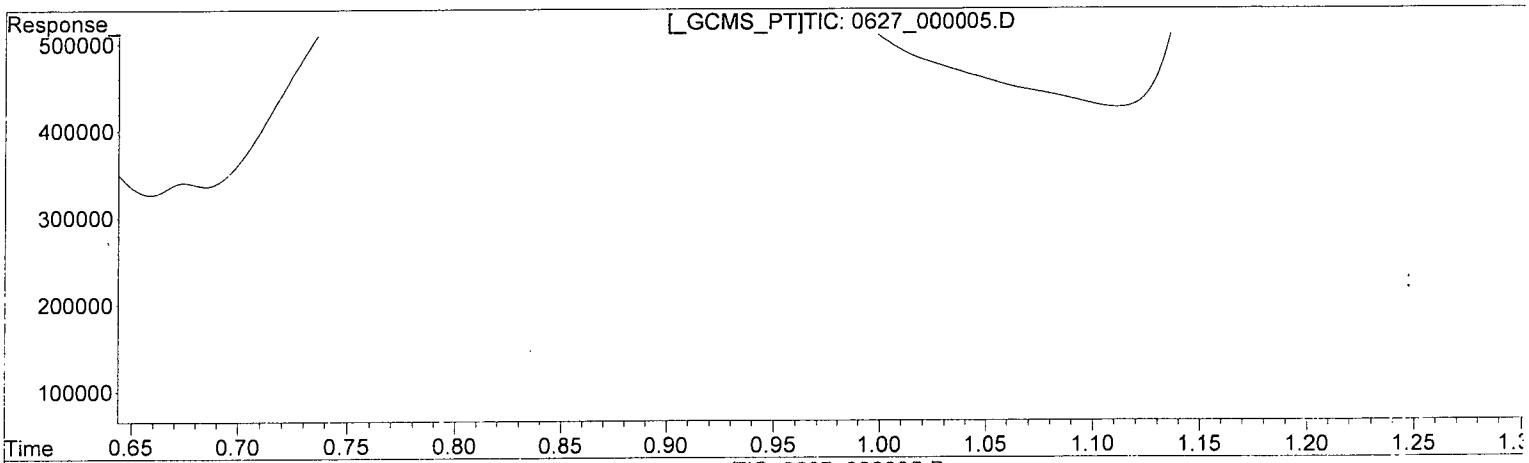


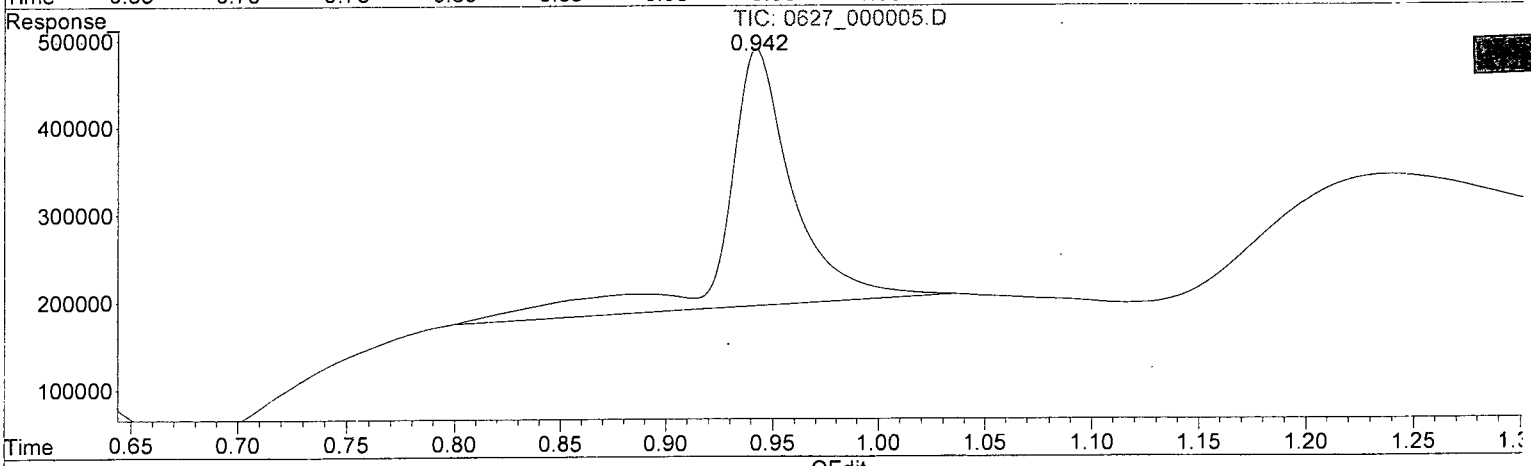
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 16:26:01
Operator : MP
Sample : 8330_CB 0.010 PPM 06/26/15
Misc :
ALS Vial : 8449 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:43 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r





QEdit

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.943min 10.867 ppb

response 290656

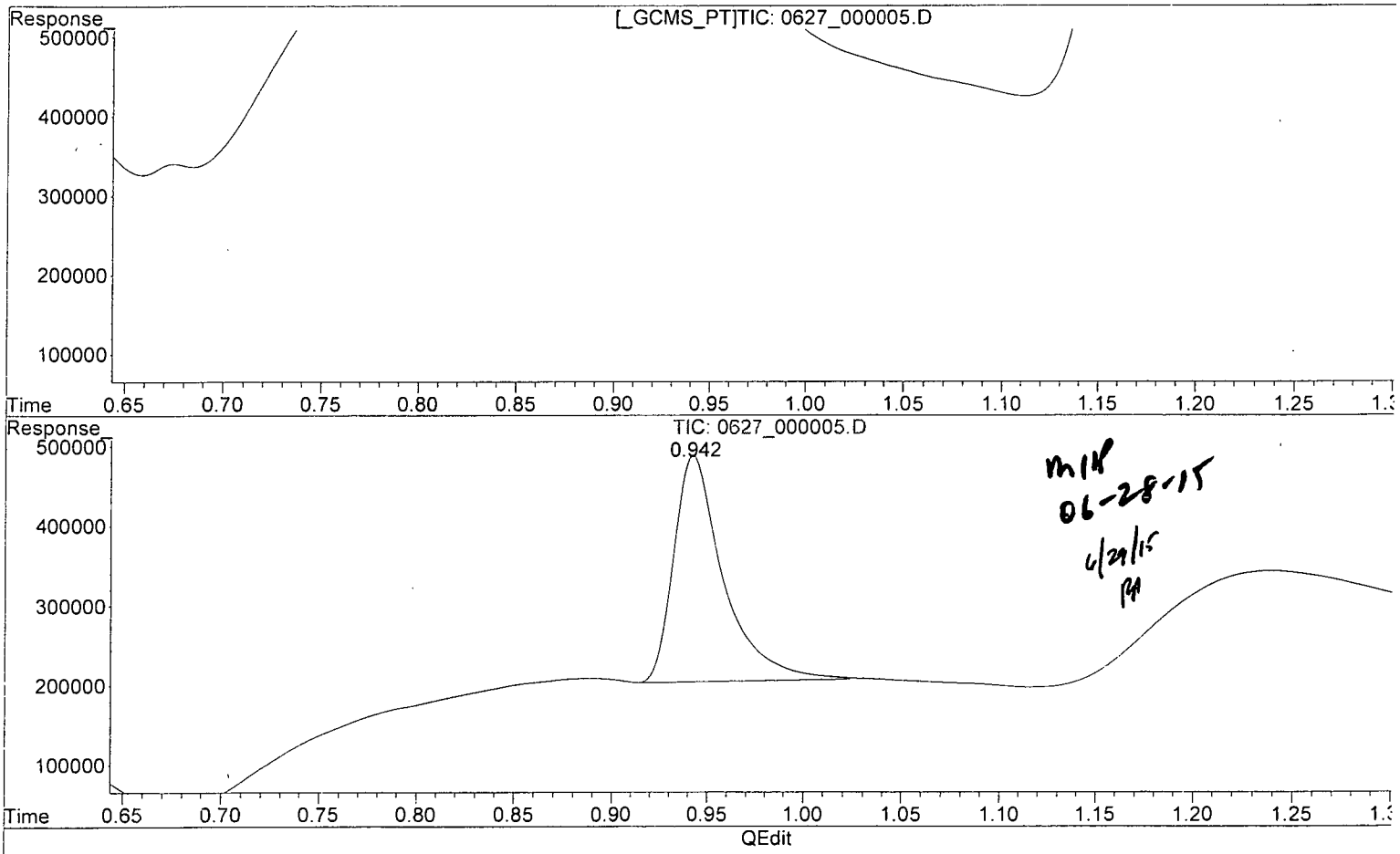
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 16:26:01
Operator : MP
Sample : 8330_CB 0.010 PPM 06/26/15
Misc :
ALS Vial : 8449 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:43 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0r



mlp 06-28-15 6/29/15 PA

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.942min 10.647 ppb m

response 284788

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 17:03:31
Operator : MP
Sample : 8330_CB 0.020 PPM 06/26/15
Misc :
ALS Vial : 8450 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.726	0	290713	N.D.	22.290	#
	Spiked Amount 62.500			Recovery	=	0.00%	35.66%	
	Target Compounds							
1)	TM HMX	0.000	0.945	0	581745	N.D.	21.750	#
2)	TM RDX	0.000	1.794	0	364158	N.D.	21.389	#
3)	TM 1,3,5-TRI...	0.000	2.919	0	675161	N.D.	22.411	#
5)	TM 1,3-DINIT...	0.000	3.881	0	618590	N.D.	22.384	#
6)	TM 3,5-DINIT...	0.000	4.142	0	538274	N.D.	22.648	#
7)	TM NITROBENZENE	0.000	5.291	0	282037	N.D.	22.496	#
8)	TM NITROGLYC...	6.206	0.000	128084	0	21.924	N.D.	#
9)	TM TETRYL	6.696	6.696	380828	234184	NoCal	21.465	#
10)	TM 2,4,6-TRI...	7.160	7.159	370224	289666	NoCal	22.942	#
11)	TM 2-AMINO-4...	7.524	7.524	423877	276675	NoCal	23.221	#
12)	TM 4-AMINO-2...	7.880	7.879	383203	205405	NoCal	23.104	#
13)	TM 2,4-DINIT...	9.002	8.999	203988	266410	NoCal	23.060	#
14)	TM 2,6-DINIT...	9.365	9.364	220585	150387	NoCal	22.569	#
15)	TM 2-NITROTO...	0.000	12.765	0	110627	N.D.	21.903	#
16)	TM 4-NITROTO...	0.000	13.355	0	107885	N.D.	21.051	#
17)	TM 3-NITROTO...	0.000	14.220	0	127467	N.D.	20.965	#
18)	TM PETN	16.140	0.000	102346	0	21.124	N.D.	#

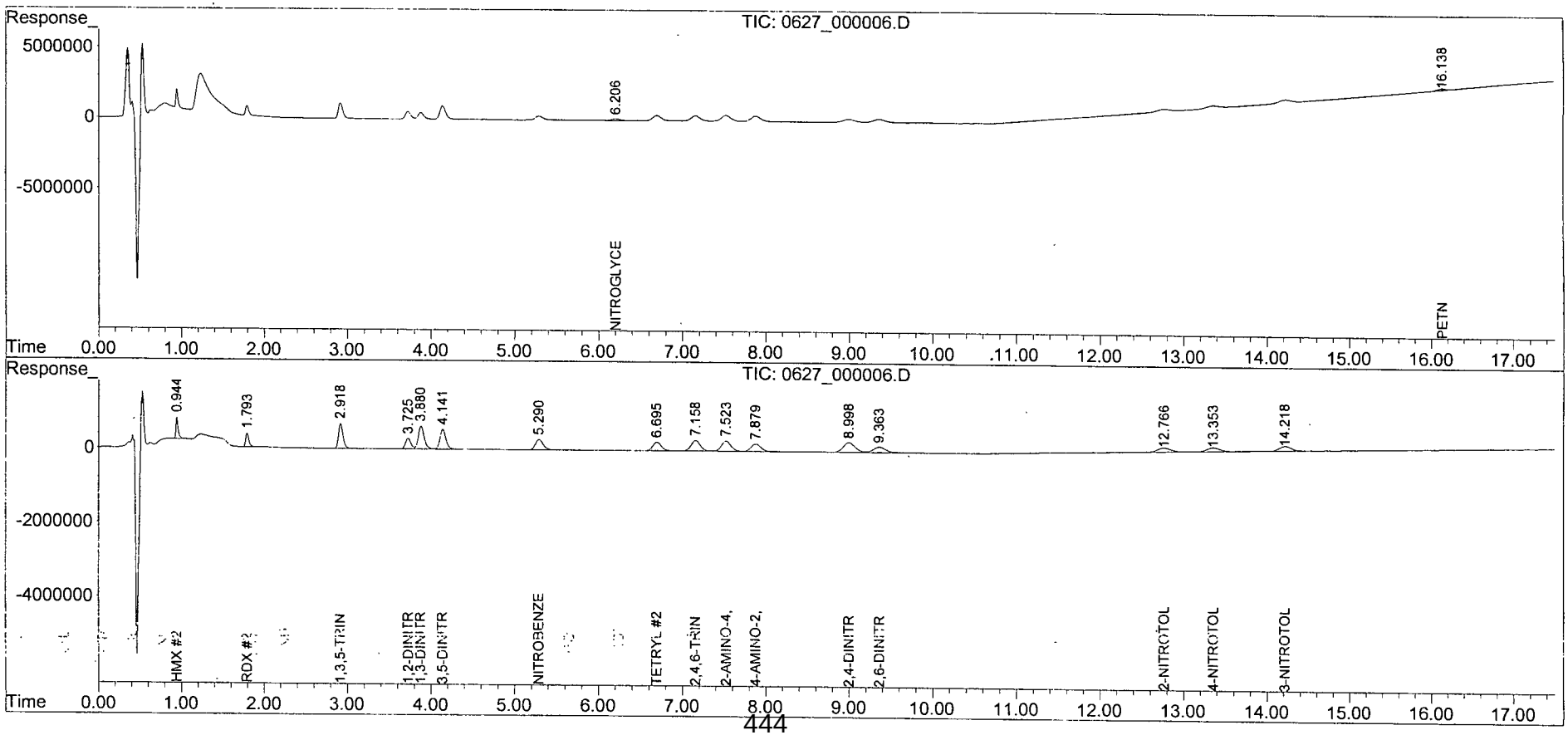
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 17:03:31
Operator : MP
Sample : 8330_CB 0.020 PPM 06/26/15
Misc :
ALS Vial : 8450 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Sun Jun 28 05:28:26 2015 WALDORF

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 17:41:02
Operator : MP
Sample : 8330_CB 0.050 PPM 06/26/15
Misc :
ALS Vial : 8451 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:49 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.723	0	721478	N.D.	55.319	#
	Spiked Amount 62.500			Recovery =		0.00%	88.51%	
	Target Compounds							
1)	TM HMX	0.000	0.944	0	1424906	N.D.	53.272	#
2)	TM RDX	0.000	1.793	0	920147	N.D.	54.046	#
3)	TM 1,3,5-TRI...	0.000	2.918	0	1668548	N.D.	55.386	#
5)	TM 1,3-DINIT...	0.000	3.878	0	1535624	N.D.	55.568	#
6)	TM 3,5-DINIT...	0.000	4.139	0	1333598	N.D.	56.111	#
7)	TM NITROBENZENE	0.000	5.284	0	701293	N.D.	55.936	#
8)	TM NITROGLYC...	6.199	0.000	302264	0	51.738	N.D.	#
9)	TM TETRYL	6.689	6.689	905812	560091	NoCal	51.338	#
10)	TM 2,4,6-TRI...	7.152	7.152	916594	709057	NoCal	56.158	#
11)	TM 2-AMINO-4...	7.518	7.518	1036448	683325	NoCal	57.350	#
12)	TM 4-AMINO-2...	7.873	7.873	940347	506786	NoCal	57.003	#
13)	TM 2,4-DINIT...	8.992	8.991	495598	659672	NoCal	57.101	#
14)	TM 2,6-DINIT...	9.356	9.355	534190	373054	NoCal	55.986	#
15)	TM 2-NITROTO...	0.000	12.761	0	266805	N.D.	52.825	#
16)	TM 4-NITROTO...	0.000	13.353	0	259954	N.D.	50.723	#
17)	TM 3-NITROTO...	0.000	14.219	0	313046	N.D.	51.488	#
18)	TM PETN	16.145	0.000	265740	0	54.847	N.D.	#

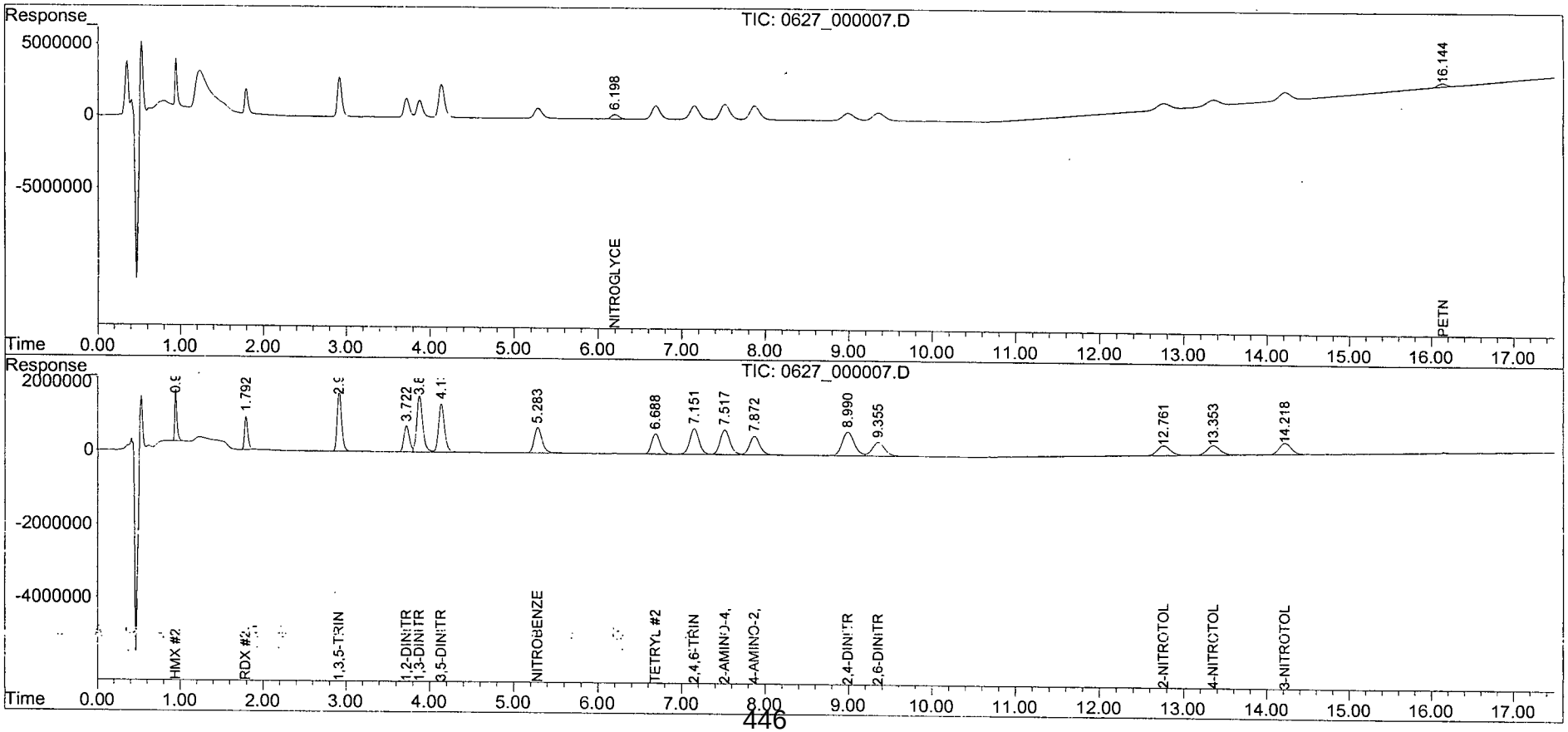
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 17:41:02
Operator : MP
Sample : 8330_CB 0.050 PPM 06/26/15
Misc :
ALS Vial : 8451 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:49 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 18:18:32
Operator : MP
Sample : 8330_CB 0.10 PPM 06/26/15
Misc :
ALS Vial : 8452 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:52 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.725	0	1446035	N.D.	110.875	#
	Spiked Amount 62.500			Recovery	=	0.00%	177.40%	
	Target Compounds							
1)	TM HMX	0.000	0.943	0	2854765	N.D.	106.730	#
2)	TM RDX	0.000	1.793	0	1858543	N.D.	109.163	#
3)	TM 1,3,5-TRI...	0.000	2.918	0	3329272	N.D.	110.512	#
5)	TM 1,3-DINIT...	0.000	3.880	0	3072148	N.D.	111.168	#
6)	TM 3,5-DINIT...	0.000	4.142	0	2671055	N.D.	112.385	#
7)	TM NITROBENZENE	0.000	5.289	0	1402485	N.D.	111.865	#
8)	TM NITROGLYC...	6.207	0.000	604575	0	103.483	N.D.	#
9)	TM TETRYL	6.698	6.698	1941999	1190299	NoCal	109.103	#
10)	TM 2,4,6-TRI...	7.161	7.161	1830603	1413014	NoCal	111.913	#
11)	TM 2-AMINO-4...	7.527	7.527	2076066	1368769	NoCal	114.879	#
12)	TM 4-AMINO-2...	7.883	7.883	1892953	1012033	NoCal	113.834	#
13)	TM 2,4-DINIT...	9.002	9.001	978615	1313056	NoCal	113.657	#
14)	TM 2,6-DINIT...	9.368	9.368	1043659	745620	NoCal	111.899	#
15)	TM 2-NITROTO...	0.000	12.765	0	536923	N.D.	106.306	#
16)	TM 4-NITROTO...	0.000	13.356	0	525099	N.D.	102.459	#
17)	TM 3-NITROTO...	0.000	14.222	0	628578	N.D.	103.386	#
18)	TM PETN	16.144	0.000	510206	0	105.304	N.D.	#

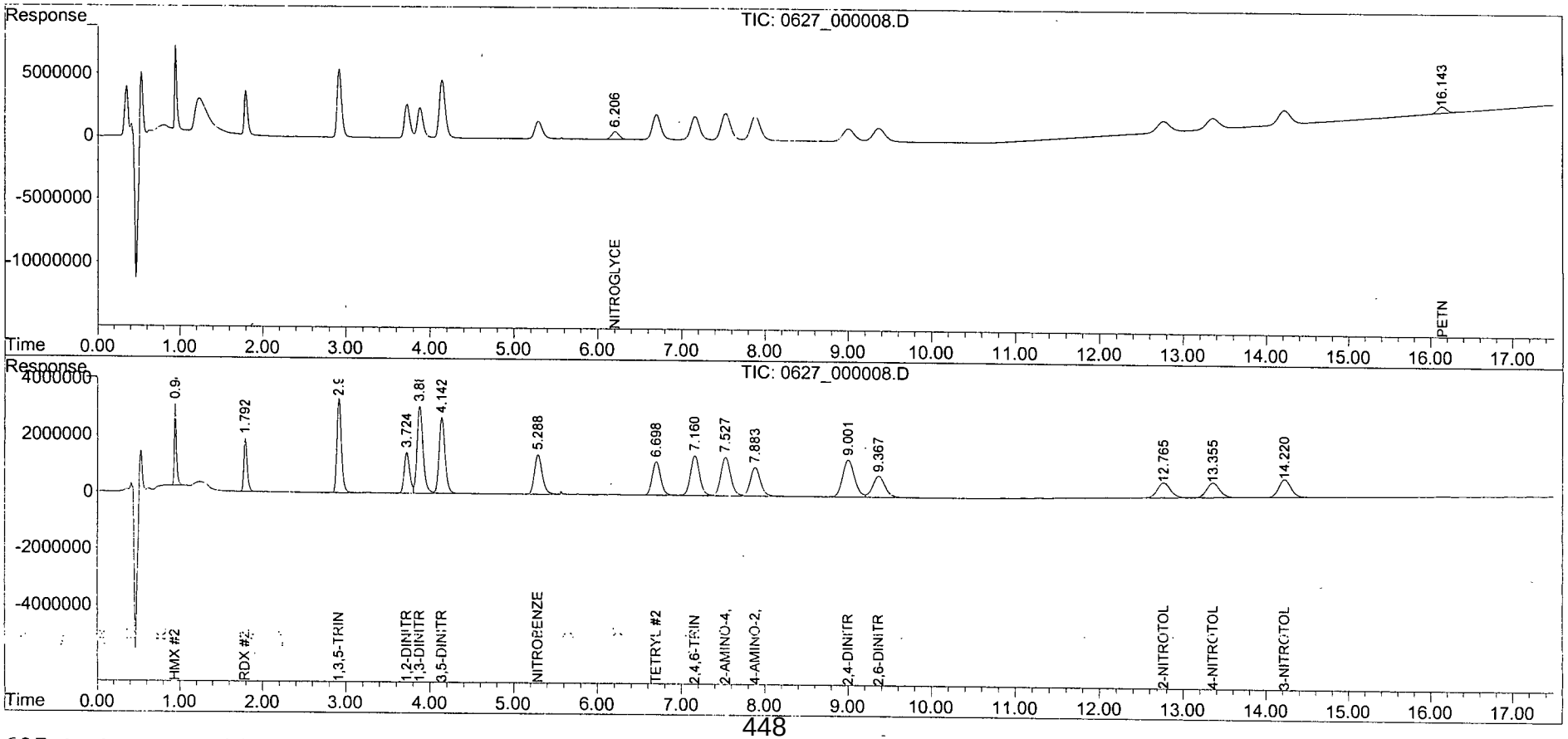
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 18:18:32
Operator : MP
Sample : 8330_CB 0.10 PPM 06/26/15
Misc :
ALS Vial : 8452 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:52 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 18:56:03
Operator : MP
Sample : 8330_CB 0.20 PPM 06/26/15
Misc :
ALS Vial : 8453 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:55 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.727	0	2915268	N.D.	223.528	#
	Spiked Amount 62.500			Recovery	=	0.00%	357.64%	
	Target Compounds							
1)	TM HMX	0.000	0.944	0	5753948	N.D.	215.121	#
2)	TM RDX	0.000	1.794	0	3730360	N.D.	219.106	#
3)	TM 1,3,5-TRI...	0.000	2.921	0	6736112	N.D.	223.599	#
5)	TM 1,3-DINIT...	0.000	3.882	0	6223842	N.D.	225.214	#
6)	TM 3,5-DINIT...	0.000	4.144	0	5394418	N.D.	226.970	#
7)	TM NITROBENZENE	0.000	5.289	0	2836918	N.D.	226.278	#
8)	TM NITROGLYC...	6.209	6.208	1200796	24962	205.537	NoCal	#
9)	TM TETRYL	6.701	6.701	3501474	2164738	NoCal	198.421	#
10)	TM 2,4,6-TRI...	7.164	7.164	3707835	2871520	NoCal	227.429	#
11)	TM 2-AMINO-4...	7.530	7.530	4177134	2761384	NoCal	231.759	#
12)	TM 4-AMINO-2...	7.886	7.887	3803943	2041737	NoCal	229.655	#
13)	TM 2,4-DINIT...	9.002	9.002	1979518	2666316	NoCal	230.794	#
14)	TM 2,6-DINIT...	9.368	9.368	2101428	1506457	NoCal	226.082	#
15)	TM 2-NITROTO...	0.000	12.767	0	1076072	N.D.	213.053	#
16)	TM 4-NITROTO...	0.000	13.359	0	1056362	N.D.	206.122	#
17)	TM 3-NITROTO...	0.000	14.227	0	1272204	N.D.	209.246	#
18)	TM PETN	16.152	0.000	1033598	0	213.329	N.D.	#

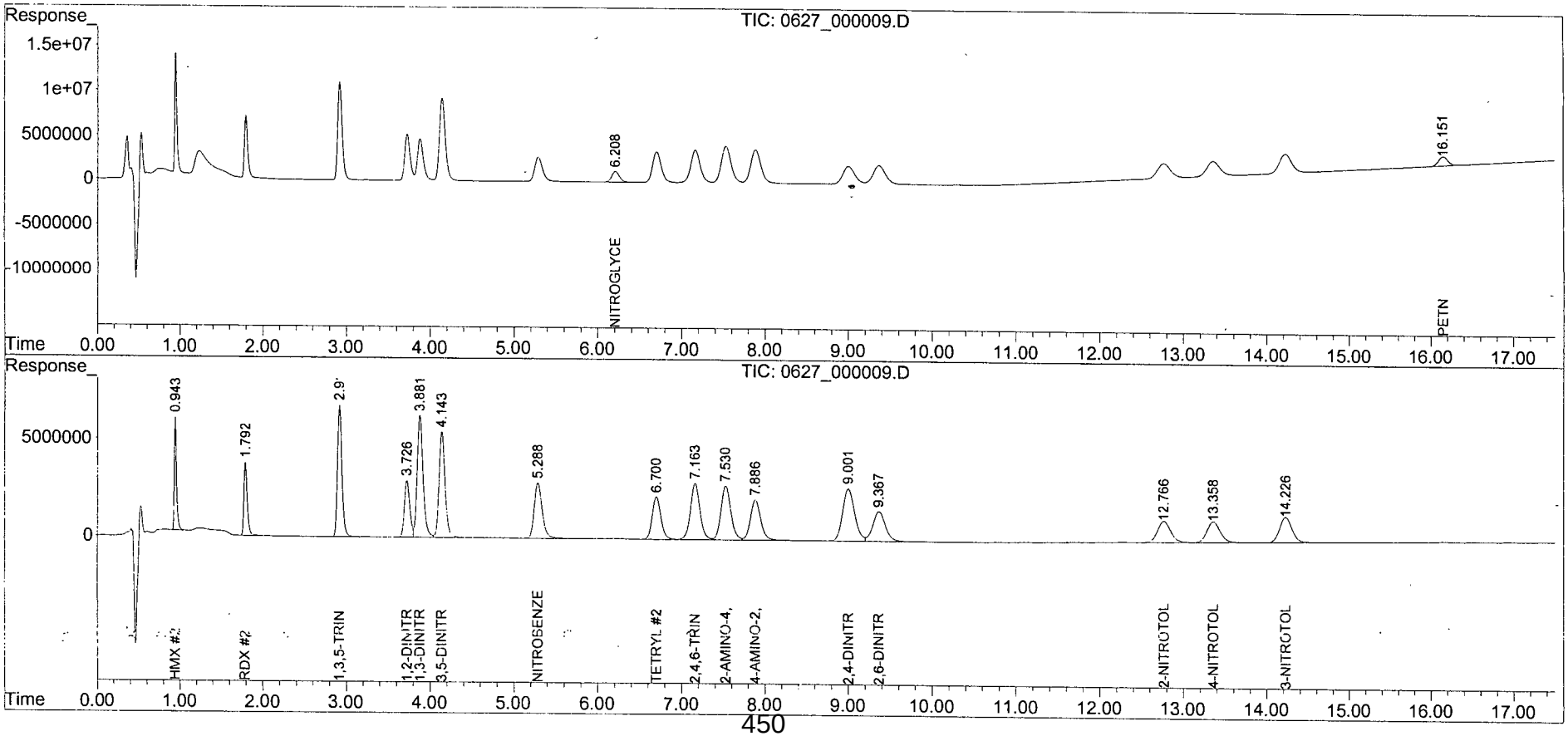
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 18:56:03
Operator : MP
Sample : 8330_CB 0.20 PPM 06/26/15
Misc :
ALS Vial : 8453 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:55 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 19:33:33
Operator : MP
Sample : 8330_CB 0.50 PPM 06/26/15
Misc :
ALS Vial : 8454 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:58 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.725	0	6369600	N.D.	488.390	#
	Spiked Amount 62.500			Recovery	=	0.00%	781.42%	
	Target Compounds							
1)	TM HMX	0.000	0.940	0	12357854	N.D.	462.019	#
2)	TM RDX	0.000	1.793	0	8227356	N.D.	483.241	#
3)	TM 1,3,5-TRI...	0.000	2.919	0	14612676	N.D.	485.054	#
5)	TM 1,3-DINIT...	0.000	3.880	0	13599729	N.D.	492.116	#
6)	TM 3,5-DINIT...	0.000	4.143	0	11833339	N.D.	497.887	#
7)	TM NITROBENZENE	0.000	5.288	0	6175775	N.D.	492.591	#
8)	TM NITROGLYC...	6.208	6.206	2599912	50166	445.019	NoCal	#
9)	TM TETRYL	6.700	6.700	7674328	4741052	NoCal	434.567	#
10)	TM 2,4,6-TRI...	7.162	7.162	7964428	6170180	NoCal	488.688	#
11)	TM 2-AMINO-4...	7.529	7.529	9016460	5965392	NoCal	500.667	#
12)	TM 4-AMINO-2...	7.886	7.886	8188175	4395456	NoCal	494.401	#
13)	TM 2,4-DINIT...	9.004	9.003	4250597	5752419	NoCal	497.925	#
14)	TM 2,6-DINIT...	9.371	9.371	4500729	3240882	NoCal	486.376	#
15)	TM 2-NITROTO...	0.000	12.769	0	2325082	N.D.	460.346	#
16)	TM 4-NITROTO...	0.000	13.359	0	2279977	N.D.	444.878	#
17)	TM 3-NITROTO...	0.000	14.226	0	2744442	N.D.	451.393	#
18)	TM PETN	16.152	0.000	2257431	0	465.921	N.D.	#

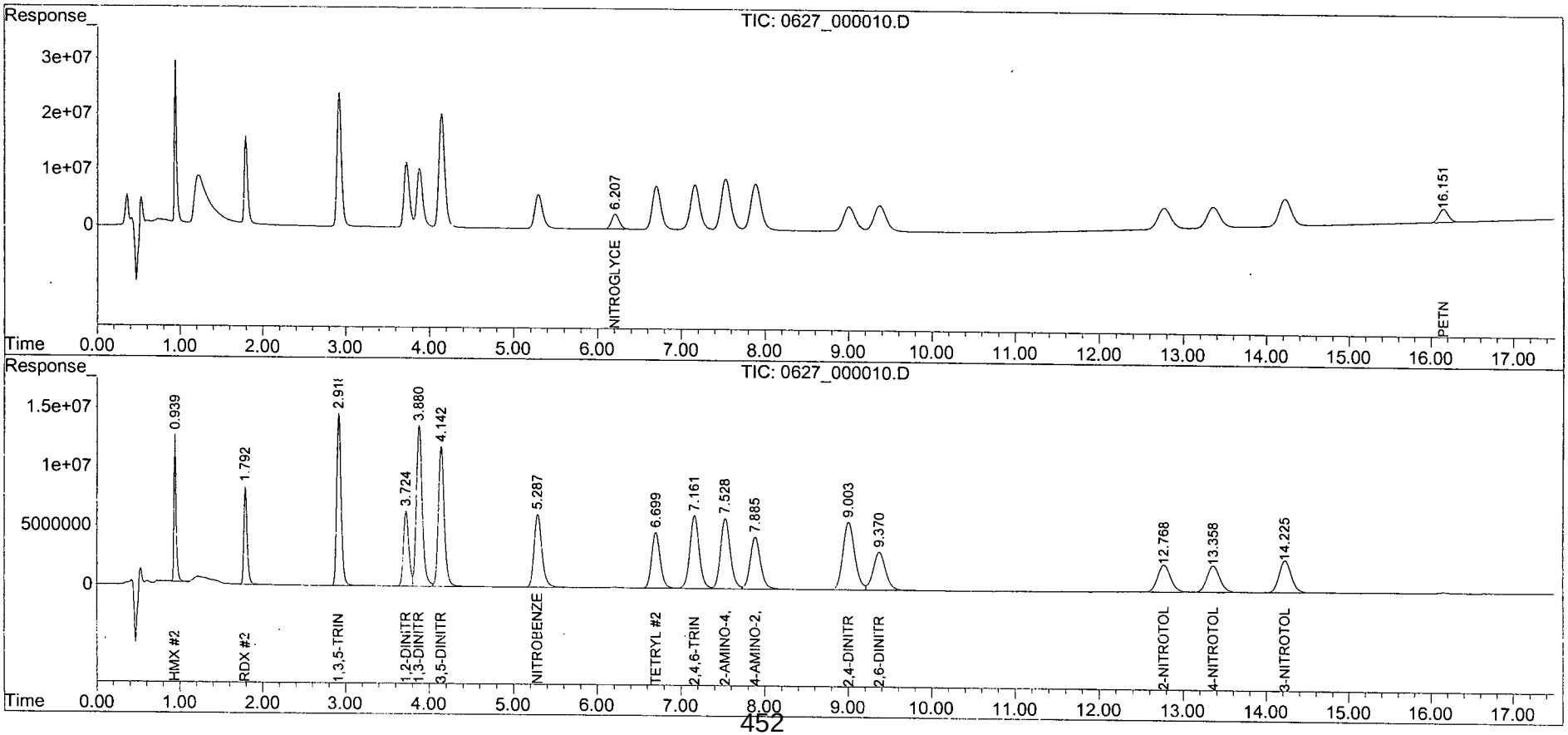
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 19:33:33
Operator : MP
Sample : 8330_CB 0.50 PPM 06/26/15
Misc :
ALS Vial : 8454 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:19:58 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 20:11:04
Operator : MP
Sample : 8330_CB 1.0 PPM 06/26/15
Misc :
ALS Vial : 8455 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:20:01 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.727	0	14408041	N.D.	1104.738	#
	Spiked Amount 62.500			Recovery	=	0.00%	1767.58%	
	Target Compounds							
1)	TM HMX	0.000	0.944	0	27672901	N.D.	1034.597	#
2)	TM RDX	0.000	1.794	0	18337745	N.D.	1077.084	#
3)	TM 1,3,5-TRI...	0.000	2.920	0	32583519	N.D.	1081.580	#
5)	TM 1,3-DINIT...	0.000	3.882	0	30760183	N.D.	1113.079	#
6)	TM 3,5-DINIT...	0.000	4.146	0	26601827	N.D.	1119.271	#
7)	TM NITROBENZENE	0.000	5.289	0	14004410	N.D.	1117.017	#
8)	TM NITROGLYC...	6.212	6.212	5857732	119686	1002.651	NoCal	#
9)	TM TETRYL	6.705	6.704	17101363	10556664	NoCal	967.630	#
10)	TM 2,4,6-TRI...	7.166	7.166	18056598	13993896	NoCal	1108.340	#
11)	TM 2-AMINO-4...	7.530	7.530	20442190	13541709	NoCal	1136.536	#
12)	TM 4-AMINO-2...	7.887	7.887	18507412	9930111	NoCal	1116.939	#
13)	TM 2,4-DINIT...	9.002	9.002	9705223	13160714	NoCal	1139.180	#
14)	TM 2,6-DINIT...	9.370	9.370	10266419	7407407	NoCal	1111.667	#
15)	TM 2-NITROTO...	0.000	12.765	0	5341772	N.D.	1057.625	#
16)	TM 4-NITROTO...	0.000	13.353	0	5226814	N.D.	1019.876	#
17)	TM 3-NITROTO...	0.000	14.223	0	6281650	N.D.	1033.177	#
18)	TM PETN	16.152	0.000	5132874	0	1059.396	N.D.	#

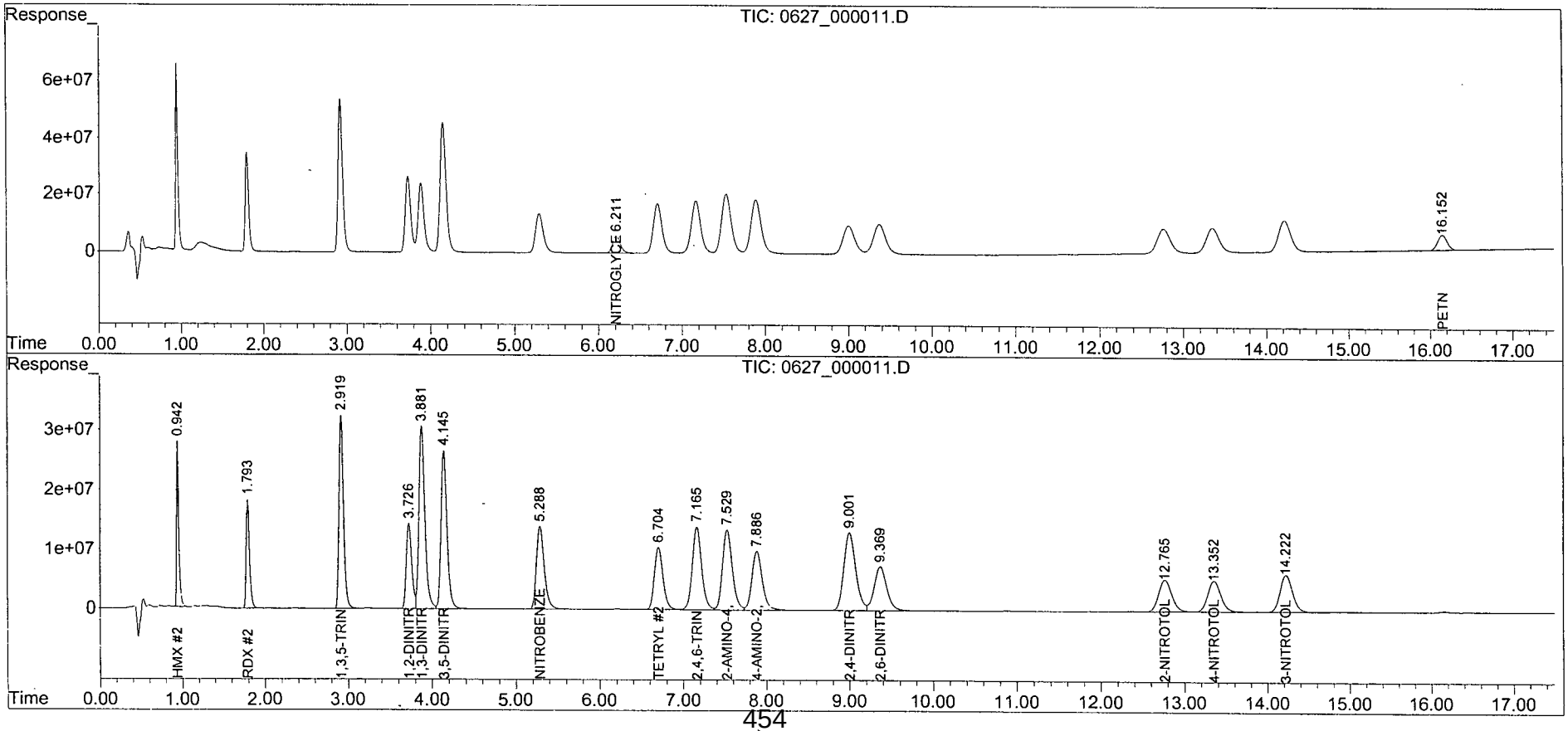
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 20:11:04
Operator : MP
Sample : 8330_CB 1.0 PPM 06/26/15
Misc :
ALS Vial : 8455 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:20:01 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Sun Jun 28 05:23:23 2015 WALDORF Page: 2

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 20:48:35
Operator : MP
Sample : 8330MXA_CB 2.0 PPM 06/26/15
Misc :
ALS Vial : 8456 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:12:43 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.727	0	29635199	N.D.	2272.282	#
	Spiked Amount 62.500			Recovery	=	0.00%	3635.65%	
	Target Compounds							
1)	TM HMX	0.000	0.944	0	55377291	N.D.	2070.371	#
2)	TM RDX	0.000	1.796	0	36821454	N.D.	2162.742	#
3)	TM 1,3,5-TRI...	0.000	2.922	0	65943947	N.D.	2188.949	#
5)	TM 1,3-DINIT...	0.000	3.882	0	62994173	N.D.	2279.489	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.286	0	28674612	N.D.	2287.139	#
8)	TM NITROGLYC...	0.000	0.000	0	0	N.D.	N.D.	
9)	TM TETRYL	6.709	6.709	36600167	22557025	NoCal	2067.590	#
10)	TM 2,4,6-TRI...	7.172	7.172	36716209	28519881	NoCal	2258.822	#
11)	TM 2-AMINO-4...	7.534	7.534	41658254	27658149	NoCal	2321.308	#
12)	TM 4-AMINO-2...	7.893	7.894	37632759	20164305	NoCal	2268.082	#
13)	TM 2,4-DINIT...	9.007	9.007	19900745	27065436	NoCal	2342.761	#
14)	TM 2,6-DINIT...	9.377	9.377	21041278	15208027	NoCal	2282.346	#
15)	TM 2-NITROTO...	0.000	12.768	0	10990622	N.D.	2176.050	#
16)	TM 4-NITROTO...	0.000	13.352	0	10773051	N.D.	2102.080	#
17)	TM 3-NITROTO...	0.000	14.221	0	12949844	N.D.	2129.930	#
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

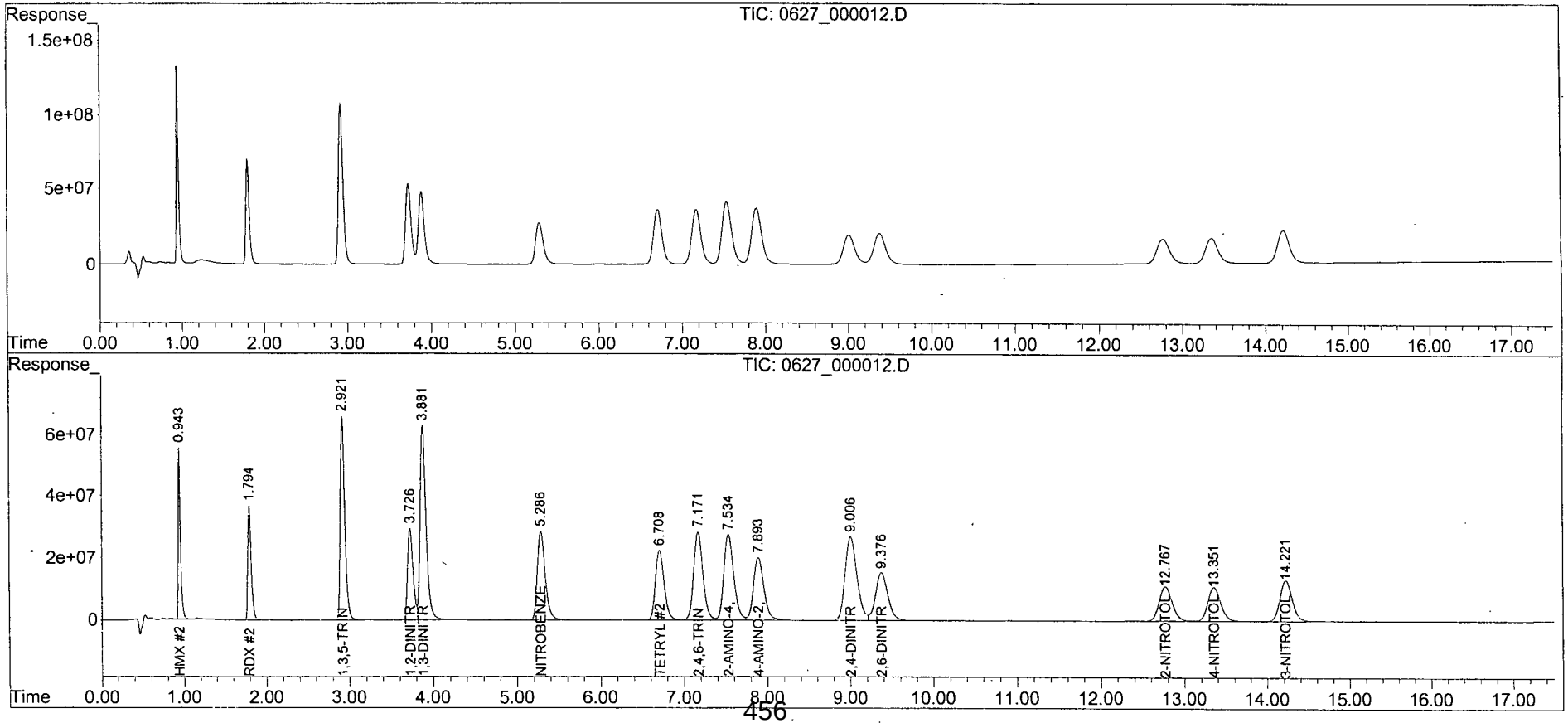
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 27-Jun-2015, 20:48:35
Operator : MP
Sample : 8330MXA_CB 2.0 PPM 06/26/15
Misc :
ALS Vial : 8456 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 05:12:43 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 23 08:54:37 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 05:22:26
Operator : MP
Sample : 8330MXB_CB 2.0 PPM 06/26/15
Misc :
ALS Vial : 8384 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:17:06 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 05:38:07 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	0.000	0	0	N.D.	N.D.
	Spiked Amount 62.500			Recovery	=	0.00%	0.00%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	4.164	0	52810036	N.D.	2012.031 #
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D. d	N.D. d
8)	TM NITROGLYC...	6.235	6.235	11586372	226948	1914.801	NoCal #
9)	TM TETRYL	6.711	0.000	7414	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	7.191	0.000	45521	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.587	0.000	7307	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.878	0.000	11689	0	NoCal	N.D.
13)	TM 2,4-DINIT...	9.004	0.000	12147	0	NoCal	N.D.
14)	TM 2,6-DINIT...	9.389	0.000	15660	0	NoCal	N.D.
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18)	TM PETN	16.195	0.000	10275320	0	2031.372	N.D. #

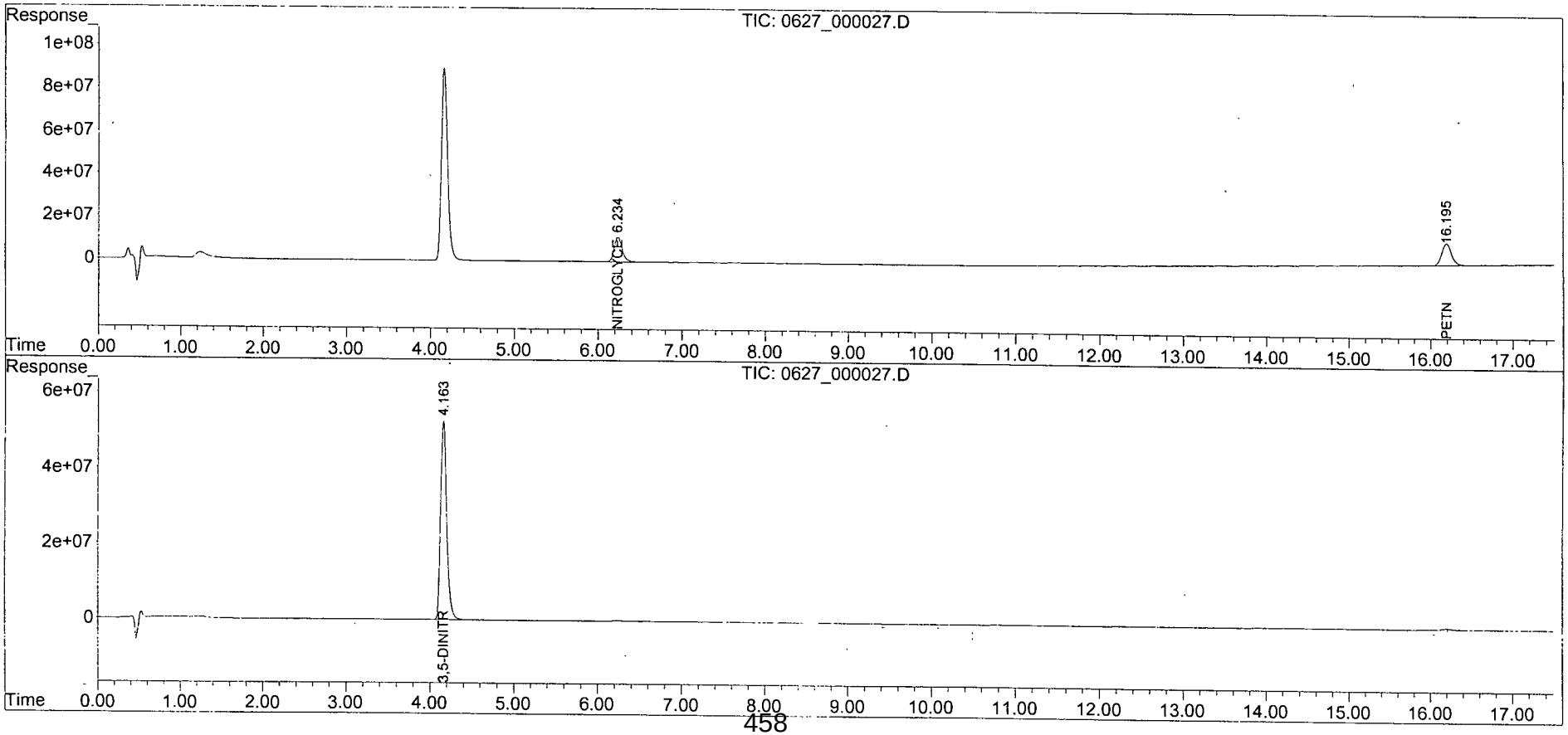
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 05:22:26
Operator : MP
Sample : 8330MXB_CB 2.0 PPM 06/26/15
Misc :
ALS Vial : 8384 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:17:06 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 05:38:07 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 28-Jun-2015, 05:49:56
Instrument: Waldorf
Initial Cal. Date: 06/27/15
Data File: 0627_000028-029.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	151	144	4.2	TM	
2	TM	PETN	127	122	4.0	TM	
3		Signal #2					
4	TM	HMX	697	691	0.92	TM	
5	TM	RDX	454	463	2.0	TM	
6	TM	1,3,5-TRINITROBENZENE	822	698	15	TM	
7	S	1,2-DINITROBENZENE	357	366	2.4	S	
8	TM	1,3-DINITROBENZENE	760	773	1.7	TM	
9	TM	3,5-DINITROANILINE	657	678	3.3	TM	
10	TM	NITROBENZENE	348	346	0.37	TM	
11	TM	2,4,6-TRINITROTOLUENE	351	342	2.7	TM	
12	TM	2-AMINO-4,6-DINITROTOLUEN	337	313	7.1	TM	
13	TM	4-AMINO-2,6-DINITROTOLUEN	249	267	7.2	TM	
14	TM	2,4-DINITROTOLUENE	326	343	5.3	TM	
15	TM	2,6-DINITROTOLUENE	184	189	2.8	TM	
16	TM	2-NITROTOLUENE	133	137	3.0	TM	
17	TM	4-NITROTOLUENE	131	132	1.0	TM	
18	TM	3-NITROTOLUENE	155	162	4.6	TM	
19	TM	TETRYL	278	270	2.9	TM	
20							
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000028.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 05:49:56
Operator : MP
Sample : 8330_SS 1.0 PPM 06/26/15
Misc :
ALS Vial : 8385 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:24:09 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.741	0	14646807	N.D.	1024.261	#
	Spiked Amount 62.500			Recovery	=	0.00%	1638.82%	
	Target Compounds							
1)	TM HMX	0.000	0.947	0	27636970	N.D.	990.824	#
2)	TM RDX	0.000	1.801	0	18516186	N.D.	1019.808	#
3)	TM 1,3,5-TRI...	0.000	2.932	0	27916907	N.D.	849.559	#
5)	TM 1,3-DINIT...	0.000	3.895	0	30931104	N.D.	1016.835	#
6)	TM 3,5-DINIT...	0.000	4.165	0	27128264	N.D.	1032.880	#
7)	TM NITROBENZENE	0.000	5.302	0	13854640	N.D.	996.260	#
8)	TM NITROGLYC...	6.235	6.235	5769672	121248	958.049	NoCal	#
9)	TM TETRYL	6.740	6.740	9838070	6107379	NoCal	549.853	#
10)	TM 2,4,6-TRI...	7.199	7.199	17586413	13662315	NoCal	973.460	#
11)	TM 2-AMINO-4...	7.575	7.575	18822233	12510213	NoCal	929.232	#
12)	TM 4-AMINO-2...	7.934	7.934	19876833	10696896	NoCal	1072.080	#
13)	TM 2,4-DINIT...	9.045	9.045	10052135	13736229	NoCal	1053.191	#
14)	TM 2,6-DINIT...	9.417	9.416	10466586	7579890	NoCal	1028.101	#
15)	TM 2-NITROTO...	0.000	12.810	0	5478510	N.D.	1030.203	#
16)	TM 4-NITROTO...	0.000	13.396	0	5277488	N.D.	1010.039	#
17)	TM 3-NITROTO...	0.000	14.264	0	6494475	N.D.	1045.600	#
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

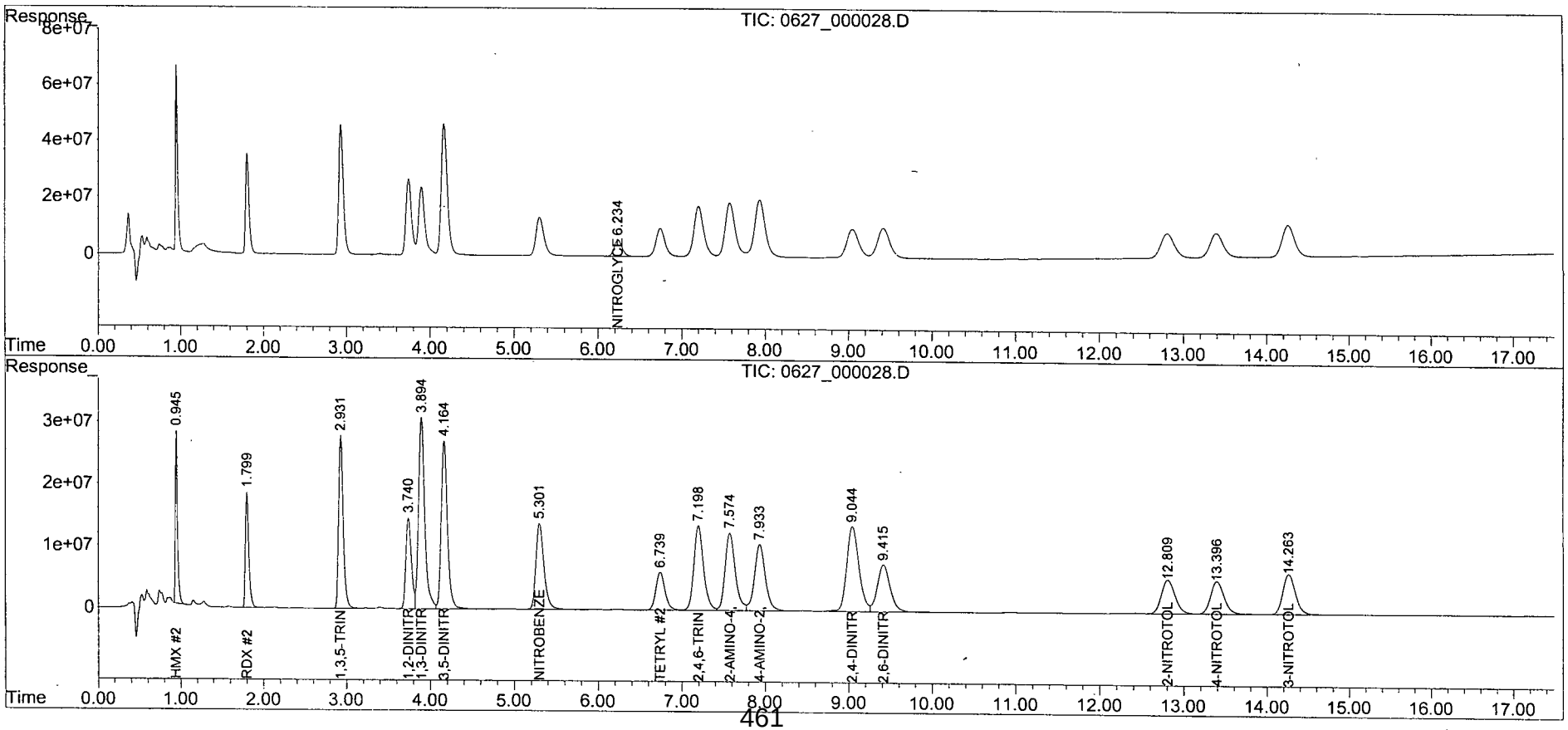
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000028.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 05:49:56
Operator : MP
Sample : 8330_SS 1.0 PPM 06/26/15
Misc :
ALS Vial : 8385 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:24:09 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Sun Jun 28 06:24:55 2015 WALDORF Page: 2

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 06:17:27
Operator : MP
Sample : PETN_TETRYL_SS 1.0 PPM 06/26/15
Misc :
ALS Vial : 8386 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:45:31 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	0.000	0	0	N.D.	N.D.
	Spiked Amount 62.500			Recovery	=	0.00%	0.00%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8)	TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. d
9)	TM TETRYL	6.730	6.730	17557664	10783808	NoCal	970.876 #
10)	TM 2,4,6-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
11)	TM 2-AMINO-4...	7.543	0.000	11208	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.842	0.000	10171	0	NoCal	N.D.
13)	TM 2,4-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
14)	TM 2,6-DINIT...	9.515	0.000	11066	0	NoCal	N.D.
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18)	TM PETN	16.191	0.000	4865297	0	959.691	N.D. #

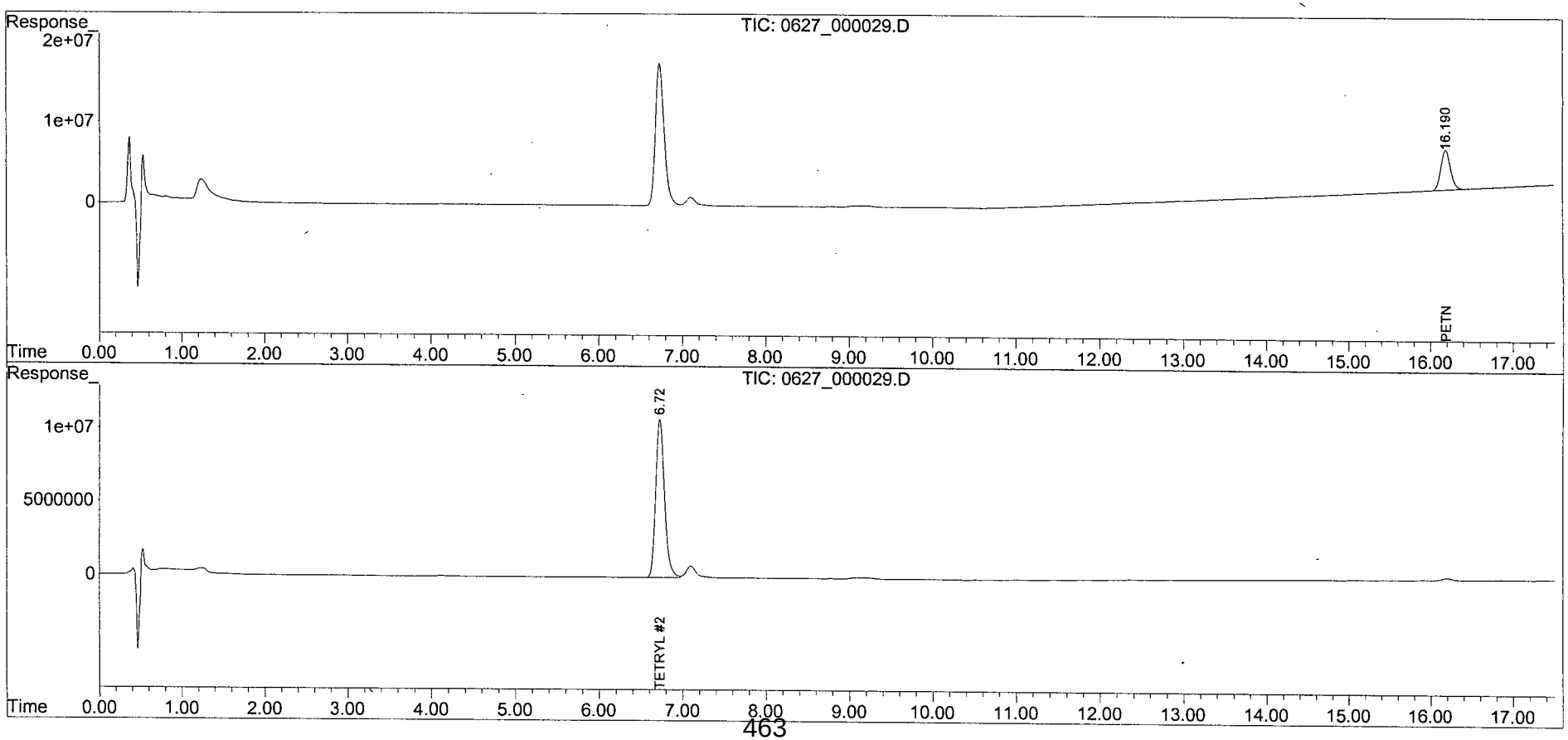
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150627\
Data File : 0627_000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 28-Jun-2015, 06:17:27
Operator : MP
Sample : PETN_TETRYL_SS 1.0 PPM 06/26/15
Misc :
ALS Vial : 8386 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 28 06:45:31 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150627\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 29-Jun-2015, 12:08:54
Instrument: Waldorf
Initial Cal. Date: 06/27/15
Data File: 0629_000004.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	151	141	6.4	TM	
2	TM	PETN	127	126	0.83	TM	
3		Signal #2					
4	TM	HMX	697	687	1.4	TM	
5	TM	RDX	454	447	1.5	TM	
6	TM	1,3,5-TRINITROBENZENE	822	800	2.6	TM	
7	S	1,2-DINITROBENZENE	357	350	2.2	S	
8	TM	1,3-DINITROBENZENE	760	747	1.8	TM	
9	TM	3,5-DINITROANILINE	657	645	1.8	TM	
10	TM	NITROBENZENE	348	339	2.4	TM	
11	TM	TETRYL	278	291	4.8	TM	
12	TM	2,4,6-TRINITROTOLUENE	351	336	4.1	TM	
13	TM	2-AMINO-4,6-DINITROTOLUEN	337	324	3.7	TM	
14	TM	4-AMINO-2,6-DINITROTOLUEN	249	238	4.6	TM	
15	TM	2,4-DINITROTOLUENE	326	314	3.7	TM	
16	TM	2,6-DINITROTOLUENE	184	177	3.9	TM	
17	TM	2-NITROTOLUENE	133	129	2.8	TM	
18	TM	4-NITROTOLUENE	131	128	1.7	TM	
19	TM	3-NITROTOLUENE	155	154	0.86	TM	
20							
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 12:08:54
Operator : MP
Sample : 8330_CCV 1.0 PPM 06/29/15
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 29 12:58:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon Jun 29 12:58:42 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.766	0	13990997	N.D.	978.400	#
	Spiked Amount 62.500			Recovery	=	0.00%	1565.44%	
	Target Compounds							
1)	TM HMX	0.000	0.951	0	27494016	N.D.	985.698	#
2)	TM RDX	0.000	1.813	0	17889081	N.D.	985.270	#
3)	TM 1,3,5-TRI...	0.000	2.957	0	32017998	N.D.	974.362	#
5)	TM 1,3-DINIT...	0.000	3.923	0	29868576	N.D.	981.906	#
6)	TM 3,5-DINIT...	0.000	4.190	0	25790583	N.D.	981.949	#
7)	TM NITROBENZENE	0.000	5.334	0	13567743	N.D.	975.630	#
8)	TM NITROGLYC...	6.322	6.322	5635010	117382	935.689	NoCal	#
9)	TM TETRYL	6.820	6.820	19038721	11637325	NoCal	1047.719	#
10)	TM 2,4,6-TRI...	7.281	7.281	17286411	13452732	NoCal	958.527	#
11)	TM 2-AMINO-4...	7.633	7.633	19543891	12971546	NoCal	963.498	#
12)	TM 4-AMINO-2...	7.996	7.996	17703150	9515698	NoCal	953.696	#
13)	TM 2,4-DINIT...	9.130	9.130	9234975	12565020	NoCal	963.391	#
14)	TM 2,6-DINIT...	9.508	9.508	9820578	7082544	NoCal	960.643	#
15)	TM 2-NITROTO...	0.000	12.889	0	5169900	N.D.	972.170	#
16)	TM 4-NITROTO...	0.000	13.478	0	5133650	N.D.	982.510	#
17)	TM 3-NITROTO...	0.000	14.345	0	6157960	N.D.	991.422	#
18)	TM PETN	16.392	0.000	5027440	0	991.674	N.D.	#

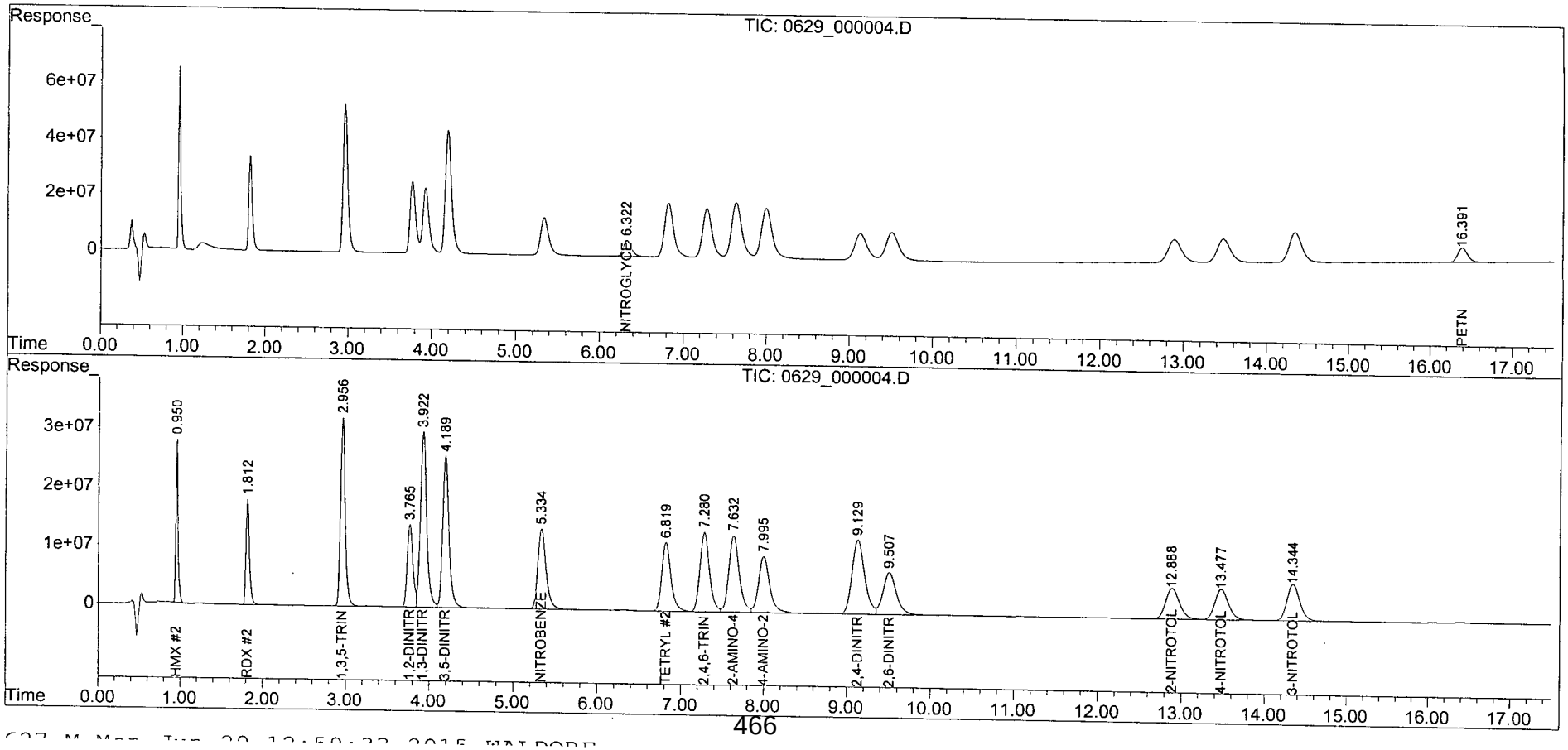
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 12:08:54
Operator : MP
Sample : 8330_CCV 1.0 PPM 06/29/15
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 29 12:58:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon Jun 29 12:58:42 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Mon Jun 29 12:59:33 2015 WALDORF

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 29-Jun-2015, 21:23:44
Instrument: Waldorf
Initial Cal. Date: 06/27/15
Data File: 0629_000022.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	NITROGLYCERIN	151	140	7.2	TM	
2	TM	PETN	127	125	1.4	TM	
3		Signal #2					
4	TM	HMX	697	687	1.4	TM	
5	TM	RDX	454	445	2.0	TM	
6	TM	1,3,5-TRINITROBENZENE	822	797	3.0	TM	
7	S	1,2-DINITROBENZENE	357	348	2.5	S	
8	TM	1,3-DINITROBENZENE	760	744	2.2	TM	
9	TM	3,5-DINITROANILINE	657	641	2.4	TM	
10	TM	NITROBENZENE	348	332	4.4	TM	
11	TM	TETRYL	278	283	1.9	TM	
12	TM	2,4,6-TRINITROTOLUENE	351	335	4.7	TM	
13	TM	2-AMINO-4,6-DINITROTOLUEN	337	323	4.1	TM	
14	TM	4-AMINO-2,6-DINITROTOLUEN	249	237	5.1	TM	
15	TM	2,4-DINITROTOLUENE	326	312	4.2	TM	
16	TM	2,6-DINITROTOLUENE	184	176	4.4	TM	
17	TM	2-NITROTOLUENE	133	126	5.4	TM	
18	TM	4-NITROTOLUENE	131	126	3.6	TM	
19	TM	3-NITROTOLUENE	155	150	3.4	TM	
20							
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 21:23:44
Operator : MP
Sample : 8330_CCV 1.0 PPM 06/29/15
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:36:05 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.766	0	13939933	N.D.	974.829	#
	Spiked Amount 62.500			Recovery	=	0.00%	1559.73%	
	Target Compounds							
1)	TM HMX	0.000	0.951	0	27491772	N.D.	985.618	#
2)	TM RDX	0.000	1.812	0	17786022	N.D.	979.593	#
3)	TM 1,3,5-TRI...	0.000	2.957	0	31875437	N.D.	970.024	#
5)	TM 1,3-DINIT...	0.000	3.923	0	29760805	N.D.	978.363	#
6)	TM 3,5-DINIT...	0.000	4.190	0	25632871	N.D.	975.945	#
7)	TM NITROBENZENE	0.000	5.334	0	13294406	N.D.	955.975	#
8)	TM NITROGLYC...	6.323	6.323	5588035	113670	927.889	NoCal	#
9)	TM TETRYL	6.821	6.821	18508311	11315989	NoCal	1018.789	#
10)	TM 2,4,6-TRI...	7.282	7.282	17186925	13381903	NoCal	953.481	#
11)	TM 2-AMINO-4...	7.633	7.633	19408521	12914784	NoCal	959.282	#
12)	TM 4-AMINO-2...	7.996	7.996	17573703	9471104	NoCal	949.227	#
13)	TM 2,4-DINIT...	9.132	9.132	9129460	12494249	NoCal	957.965	#
14)	TM 2,6-DINIT...	9.510	9.509	9711054	7044800	NoCal	955.524	#
15)	TM 2-NITROTO...	0.000	12.884	0	5028460	N.D.	945.573	#
16)	TM 4-NITROTO...	0.000	13.472	0	5034801	N.D.	963.592	#
17)	TM 3-NITROTO...	0.000	14.336	0	6002437	N.D.	966.383	#
18)	TM PETN	16.381	0.000	4998907	0	986.046	N.D.	#

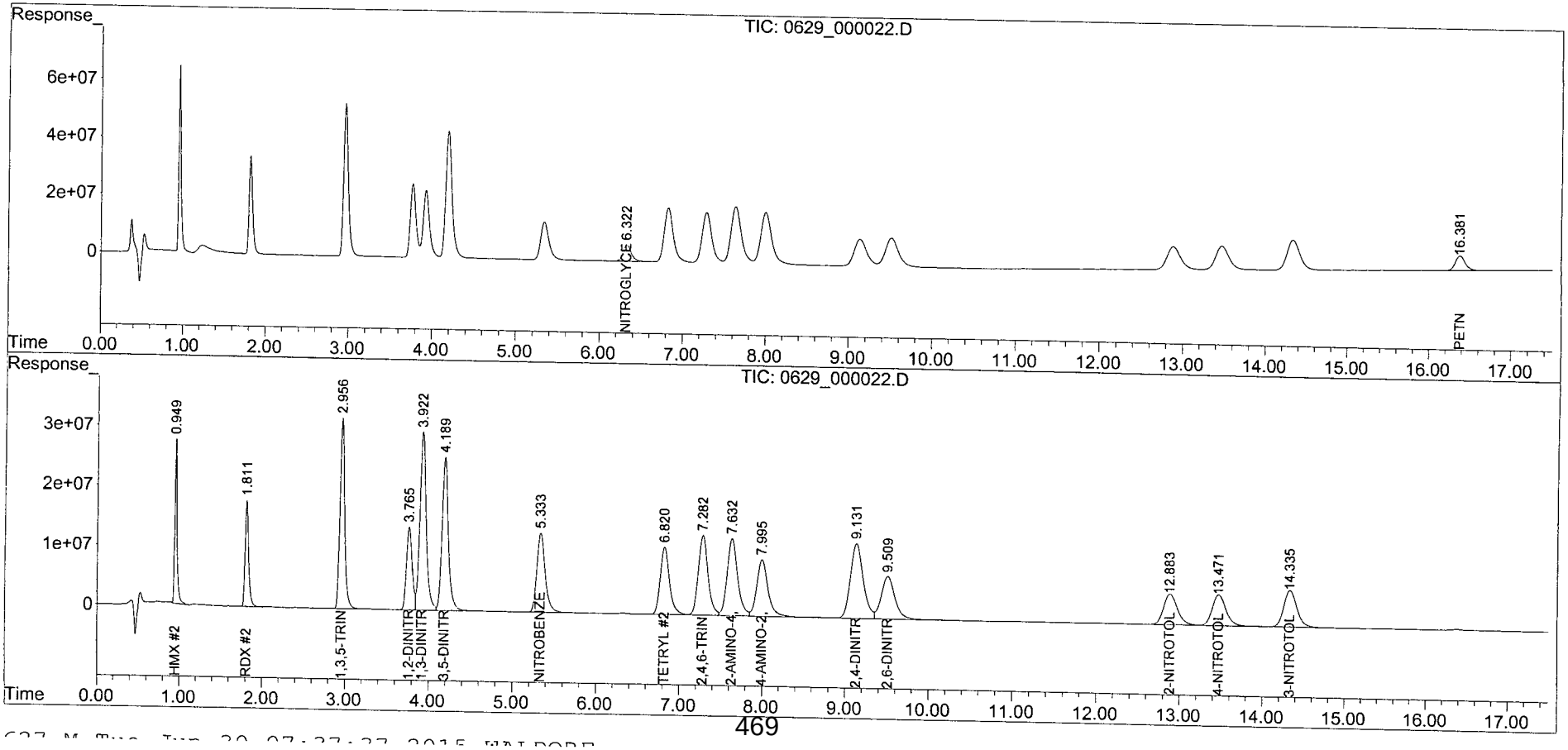
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 21:23:44
Operator : MP
Sample : 8330_CCV 1.0 PPM 06/29/15
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:36:05 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



EPA 8330
EXPLOSIVES

Raw Data

APPL, INC.

Method Blank
EPA 8330B WATER

Blank Name/QCG: **150618W-17694 - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2,4-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
BLANK	2,6-DINITROTOLUENE	0.300 U	0.50	0.300	0.125	ug/L	06/18/15	06/29/15
BLANK	HMX	0.300 U	0.50	0.300	0.115	ug/L	06/18/15	06/29/15
BLANK	NITROGLYCERIN	0.300 U	0.50	0.300	0.130	ug/L	06/18/15	06/29/15
BLANK	RDX	0.300 U	0.50	0.300	0.123	ug/L	06/18/15	06/29/15
BLANK	TETRYL	0.300 U	0.50	0.300	0.133	ug/L	06/18/15	06/29/15
BLANK	SURROGATE: 1,2-DINITROBENZ	92.0	70-130			%	06/18/15	06/29/15

Quant Method: W150627.M
Run #: 0629_000014
Instrument: Waldorf
Sequence: 150629
Initials: MP

GC SC-Blank-REG MDLs
Printed: 07/01/15 10:01:25 AM

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 16:23:39
Operator : MP
Sample : 150618ABLK 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4099 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:51:34 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	3.779	0	822446	N.D.	0.920 #
	Spiked Amount 1.000			Recovery =		0.00%	92.00%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D.	N.D.
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8)	TM NITROGLYC...	0.000	6.325	0	27244	N.D. d	NoCal
9)	TM TETRYL	6.740	0.000	16547	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	7.263	0.000	15553	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.657	0.000	14005	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.979	0.000	2374	0	NoCal	N.D.
13)	TM 2,4-DINIT...	9.121	0.000	4772	0	NoCal	N.D.
14)	TM 2,6-DINIT...	9.486	0.000	21075	0	NoCal	N.D.
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D. d
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

LDL

NP

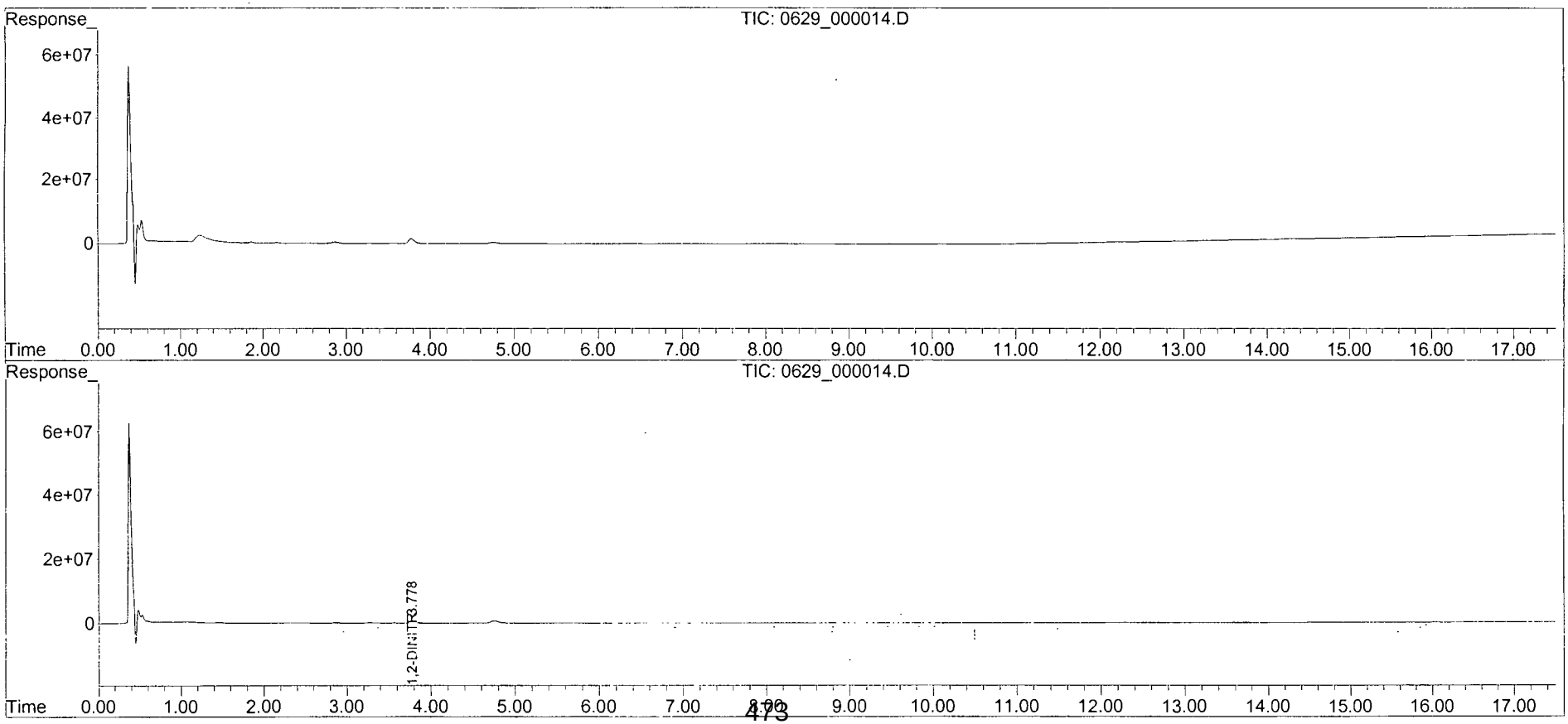
NP
06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 16:23:39
Operator : MP
Sample : 150618ABLK 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4099 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 07:51:34 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



W150627.M Tue Jun 30 07:51:44 2015 WALDORF Page: 2

Laboratory Control Spike Recovery
EPA 8330B WATER

APPL ID: **150618W-17694 LCS - 198490**
Batch ID: #83BJU11W-150618

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	8.00	6.98	87.3	60-135
2,6-DINITROTOLUENE	8.00	6.95	86.9	60-135
HMX	8.00	7.74	96.8	80-115
NITROGLYCERIN	8.00	6.70	83.8	70-130
RDX	8.00	7.44	93.0	50-160
TETRYL	8.00	7.29	91.1	20-175
SURROGATE: 1,2-DINITROBENZENE (S	8.00	7.04	88.0	70-130

Comments: _____

Primary	SPK
Quant Method :	W150627.M
Extraction Date :	06/18/15
Analysis Date :	06/29/15
Instrument :	Waldorf
Run :	0629_000008
Initials :	MP

Printed: 07/01/15 10:01:26 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 12:38:38
Operator : MP
Sample : 150618ALCS-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4096 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 29 13:30:49 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.769	0	6291391	N.D.	7.039	#
	Spiked Amount 1.000			Recovery =		0.00%	703.90%	
	Target Compounds							
1)	TM HMX	0.000	0.956	0	13490957	N.D.	7.739	#
2)	TM RDX	0.000	1.816	0	8441980	N.D.	7.439	#
3)	TM 1,3,5-TRI...	0.000	2.959	0	14563688	N.D.	7.091	#
5)	TM 1,3-DINIT...	0.000	3.925	0	13383484	N.D.	7.040	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.334	0	4602784	N.D.	5.296	#
8)	TM NITROGLYC...	6.320	6.322	2521388	78650	6.699	NoCal	#
9)	TM TETRYL	6.813	6.813	8275766	5060409	NoCal	7.289	#
10)	TM 2,4,6-TRI...	7.273	7.273	7784861	6052274	NoCal	6.900	#
11)	TM 2-AMINO-4...	7.622	7.622	8810709	5837453	NoCal	6.937	#
12)	TM 4-AMINO-2...	7.984	7.984	7498961	4031703	NoCal	6.465	#
13)	TM 2,4-DINIT...	9.117	9.118	4191761	5692059	NoCal	6.983	#
14)	TM 2,6-DINIT...	9.494	9.493	4444902	3203651	NoCal	6.952	#
15)	TM 2-NITROTO...	0.000	12.876	0	1630566	N.D.	4.906	#
16)	TM 4-NITROTO...	0.000	13.467	0	1827809	N.D.	5.597	#
17)	TM 3-NITROTO...	0.000	14.331	0	2042278	N.D.	5.261	#
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

MP 06-30-15

Algorithm check

2,6-DNT

$\frac{3203651}{184.3\ (40)} \times 0.016 = 6.953$ ✓

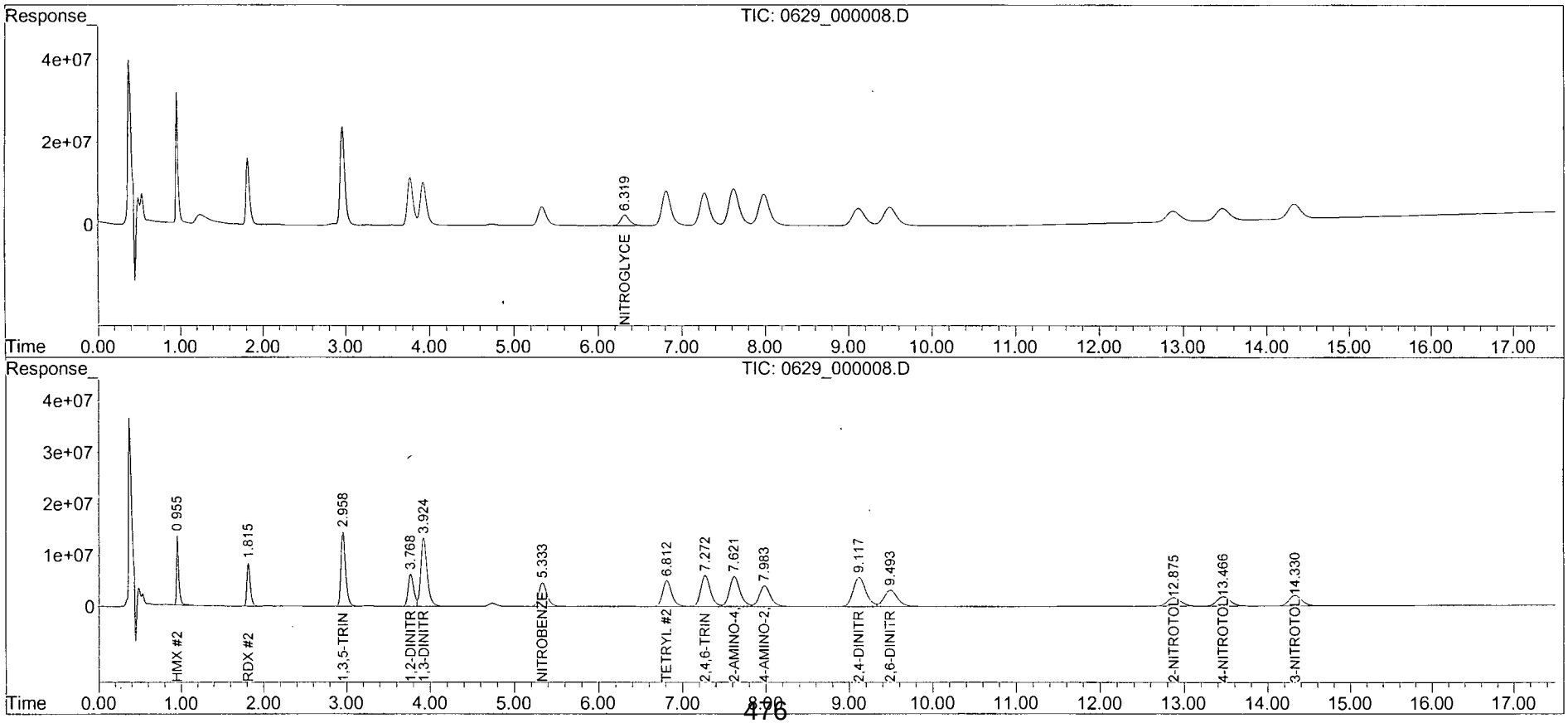
MP 06-30-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 12:38:38
Operator : MP
Sample : 150618ALCS-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4096 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 29 13:30:49 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Matrix Spike Recoveries

EPA 8330B WATER

APPL ID: **150618W-17694 MS - 198490**
Batch ID: #83BJU11W-150618
Sample ID: AZ17694
Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4-DINITROTOLUENE	8.00	ND	7.07	7.00	88.4	87.5	60-135	1.00	20
2,6-DINITROTOLUENE	8.00	ND	7.08	7.01	88.5	87.6	60-135	0.99	20
HMX	8.00	ND	7.89	7.73	98.6	96.6	80-115	2.0	20
NITROGLYCERIN	8.00	ND	6.73	6.74	84.1	84.3	70-130	0.15	20
RDX	8.00	ND	7.56	7.44	94.5	93.0	50-160	1.6	20
TETRYL	8.00	ND	7.63	7.42	95.4	92.8	20-175	2.8	20
SURROGATE: 1,2-DINITROBENZENE (S)	8.00	NA	7.13	7.04	89.1	88.0	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	W150627.M	W150627.M
Extraction Date :	06/18/15	06/18/15
Analysis Date :	06/29/15	06/29/15
Instrument :	Waldorf	Waldorf
Run :	0629_000009	0629_000010
Initials :	MP	

Printed: 07/01/15 10:01:28 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 13:16:08
Operator : MP
Sample : AZ17694W08_MS-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4097 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 08:14:04 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0m
m 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.769	0	6368987	N.D.	7.126	#
	Spiked Amount 1.000			Recovery	=	0.00%	712.60%	
	Target Compounds							
1)	TM HMX	0.000	0.955	0	13756560	N.D.	7.891	#
2)	TM RDX	0.000	1.815	0	8579293	N.D.	7.560	#
3)	TM 1,3,5-TRI...	0.000	2.960	0	14683488	N.D.	7.149	#
5)	TM 1,3-DINIT...	0.000	3.926	0	13531341	N.D.	7.117	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.335	0	4736200	N.D.	5.449	#
8)	TM NITROGLYC...	6.323	6.334	2532700	61444	6.729	NoCal	#
9)	TM TETRYL	6.819	6.819	8670799	5296301	NoCal	7.629	#
10)	TM 2,4,6-TRI...	7.279	7.279	7973251	6204307	NoCal	7.073	#
11)	TM 2-AMINO-4...	7.629	7.629	8810058	5835539	NoCal	6.935	#
12)	TM 4-AMINO-2...	7.991	7.991	7444715	4008550	NoCal	6.428	#
13)	TM 2,4-DINIT...	9.125	9.125	4246475	5765293	NoCal	7.073	#
14)	TM 2,6-DINIT...	9.501	9.501	4516697	3261328	NoCal	7.078	#
15)	TM 2-NITROTO...	0.000	12.881	0	1704689	N.D.	5.129	#
16)	TM 4-NITROTO...	0.000	13.472	0	1895623	N.D.	5.805	#
17)	TM 3-NITROTO...	0.000	14.336	0	2125205	N.D.	5.474	#
18)	TM PETN	0.000	0.000	0	0	N.D. d	N.D.	

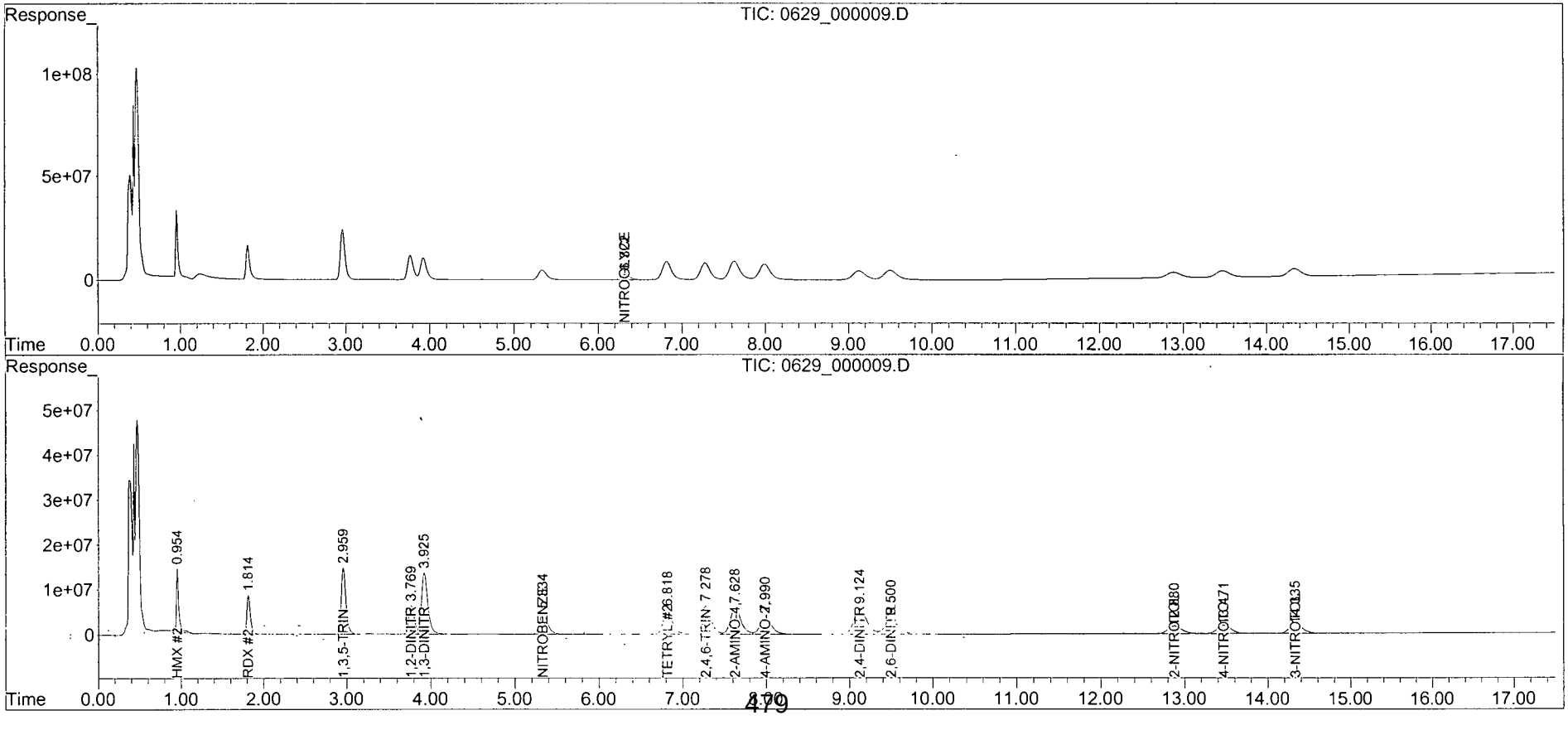
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 13:16:08
Operator : MP
Sample : AZ17694W08_MS-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4097 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 08:14:04 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 13:53:39
Operator : MP
Sample : AZ17694W09_MSD-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4098 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 08:14:55 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.774	0	6288149	N.D.	7.036	#
	Spiked Amount 1.000			Recovery =		0.00%	703.60%	
	Target Compounds							
1)	TM HMX	0.000	0.955	0	13473474	N.D.	7.729	#
2)	TM RDX	0.000	1.817	0	8443080	N.D.	7.440	#
3)	TM 1,3,5-TRI...	0.000	2.963	0	14538085	N.D.	7.079	#
5)	TM 1,3-DINIT...	0.000	3.930	0	13361534	N.D.	7.028	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.339	0	4625240	N.D.	5.321	#
8)	TM NITROGLYC...	6.326	6.339	2536080	61627	6.738	NoCal	#
9)	TM TETRYL	6.821	6.821	8409218	5148777	NoCal	7.417	#
10)	TM 2,4,6-TRI...	7.280	7.280	7841640	6102702	NoCal	6.957	#
11)	TM 2-AMINO-4...	7.627	7.628	8815064	5839330	NoCal	6.940	#
12)	TM 4-AMINO-2...	7.988	7.988	7449580	4018588	NoCal	6.444	#
13)	TM 2,4-DINIT...	9.120	9.120	4192801	5703477	NoCal	6.997	#
14)	TM 2,6-DINIT...	9.495	9.495	4465477	3231062	NoCal	7.012	#
15)	TM 2-NITROTO...	0.000	12.869	0	1654552	N.D.	4.978	#
16)	TM 4-NITROTO...	0.000	13.460	0	1850670	N.D.	5.667	#
17)	TM 3-NITROTO...	0.000	14.322	0	2074811	N.D.	5.345	#
18)	TM PETN	0.000	0.000	0	0	N.D. d	N.D.	

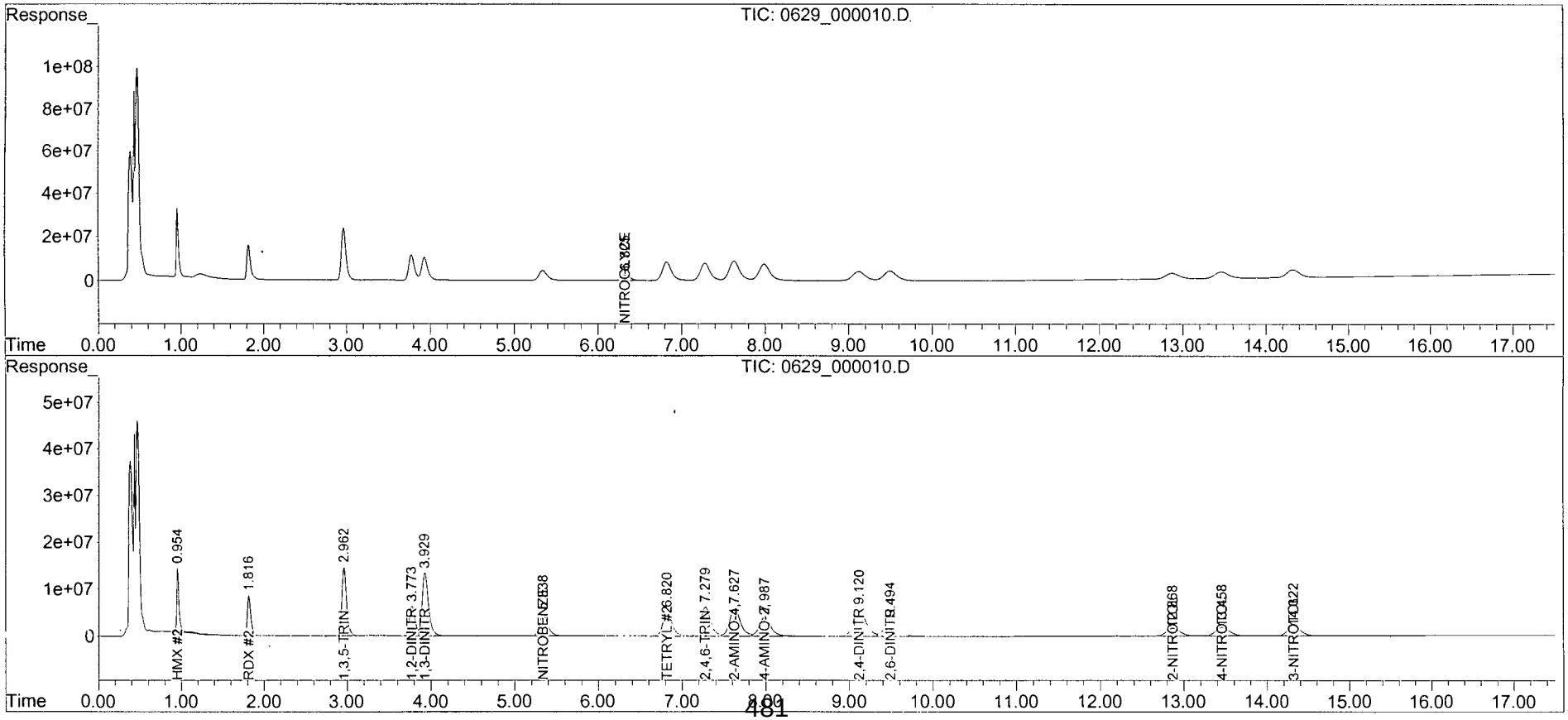
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150627\150629\
Data File : 0629_000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 29-Jun-2015, 13:53:39
Operator : MP
Sample : AZ17694W09_MSD-1 0.016 DF 06/18/15
Misc : Water
ALS Vial : 4098 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 30 08:14:55 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150627\150629\W150627.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sun Jun 28 06:23:43 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



LCMS Standard Prep Log #103 Page 13

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT#	DATE / INITIALS
Tetryl_SS 1000 ug/mL							8-29-13 MP
Tetryl 1000 ug/mL Absolute Lot# 112310-32716							
I broke open the vial and transferred to							
an amber 1.8mL Injection vial →							
Tetryl_SS 1000 ug/mL							08-29-13
Tetryl_SS 10 ug/mL							
Tetryl_SS 1000	08-29-13	0.10	10.0	10.0	1:1 ACN/MeOH	DG445/52292	08-29-13 MP

WALDORF 08/31/13

8330_CB 1:1 1.0 PPM

8330_MX-A	10.0 ppm	07/01/13	0.10 ml	1.0 mL	1.0 ppm	1:1ACN_DG445/MEOH_52292	08/31/13	MP	MP 8/31/13
8330_MX-B	10.0 ppm	07/01/13						MP	

8330_CB 1:1 0.1 PPM

8330_CB 1:1 1.0 PPM	1.0 ppm	08/31/13	0.10 ml	1.0 mL	0.10 ppm	1:1ACN_DG445/MEOH_52292	08/31/13	MP

8330CB 0.005 PPM

8330_CB 1:1	0.1 PPM	08/31/13	0.05 ML	1.0 mL	0.005 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.010 PPM

8330_CB 1:1	0.1 PPM	08/31/13	0.10 ML	1.0 mL	0.010 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.020 PPM

8330_CB 1:1	0.1 PPM	08/31/13	0.20 ML	1.0 mL	0.020 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.05 PPM

8330_CB 1:1	1.0 PPM	08/31/13	0.05 ML	1.0 mL	0.05 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.10 PPM

8330_CB 1:1	1.0 PPM	08/31/13	0.10 ML	1.0 mL	0.10 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.20 PPM

8330_CB 1:1	1.0 PPM	08/31/13	0.20 ML	1.0 mL	0.20 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP

8330CB 0.50 PPM

8330MXA	10.0 PPM	07/01/13	0.05 ML	1.0 mL	0.50 PPM	1 : 1 : 6 ACN : MeOH : MILLIPORE DG445/52292	08/31/13	MP
8330MXB	10.0 PPM	07/01/13						

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JL 12-19-13

1668_SS_GC 500 ng/ml 10/30/13:

PCB_CONG_2ND_SOURCE_STOCK 10 ug/ml 05/30/13 took 0.005 ml and added to ~~0.950~~ ml 1668_ICL 100 ng/ml 10/27/13:
0.095 JL

1668_SS_GC 50 ng/ml 10/30/13:

1668_SS_GC 500 ng/ml 10/30/13 took 0.010 ml and added to 0.090 ml 1668_ICL 100 ng/ml 10/27/13

	1,2-DNB surr 5.0 ug/ml					09-03-13	JL
1,2-DNB	1000	10-30-13	0.10	20.0	5.0	1:1 ACN Meoh	12-23-13
	PA_Int Std 0.10 ug/ml						
4-Nitrophenol	10.0	8-15-13	0.20	20	0.10	ACN/DI509	12-26-13 JL
	Ash Std 20 ug/ml						
8321MX29-8	400	11-20-13	0.250	5.0	20	Methanol/	12-26-13 JL
8321MX10-4	1000	8-29-13	0.100				
8321MX6-7	1000	9-27-13	0.100				
Isoxaben	1058	10-8-13	0.0945				
8141 surr	1000	9-5-13	0.100				

8330MXA-SS 100 ug/ml 12-27-13 JL

8330MX-A 100 ug/ml Absolute Part #95093 Lot # 121311-30132 I broke open the vial and transferred to an amber 1.8 ml injection vial → 8330MXA_SS 100 ug/ml 12-27-13

066

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE/ INITIALS
8330MX-B-SS 100 ug/ml						4 N 12-27-13	12-27-13 HP
8330MX-B 100 ug/ml Absolute Part #9509B, Lot # ~~12131~~ 051412-30759, I broke open the vial and transferred to an amber 1.8ml injection vial → 8330MXB-SS 100 ug/ml 12-27-13							
Ash std 0.40 DF							
Ash std	20	12-26-13	0.80	2.0	0.40 DF	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1
Ash std 0.20 DF							
Ash std	20	12-26-13	0.40	2.0	0.20 DF	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1
Ash std 0.10 DF							
Ash std	20	12-26-13	0.20	2.0	0.10	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1
Ash std 0.08 DF							
Ash std	20	12-26-13	0.160	2.0	0.08	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1
(Prepared 2 portions)							
Ash std 0.06 DF							
Ash std	20	12-26-13	0.120	2.0	0.06	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1
Ash std 0.04 DF							
Ash std	20	12-26-13	0.080	2.0	0.04	Methanol/53206	12-30-13 HP
HPLCIS	100	7-12-13	0.020	1	1.0	1	1

008 STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL. PR. LOT #	DATE / INITIALS

1,2-DNB 1000 ug/ml 04-23-14 KP

1,2-Dinitrobenzene
Solution, 1,000 mg/L, 1 mL
010086-01
Lot # 216681 Storage <10 Degrees C Expiry 10/25/16
Solv: Acetonitrile
RAD only, not human consump. Made in the USA

1,2-Dinitrobenzene
Lot #: 216681 - 33241
Rec: 1/8/14 MFR exp. 10/25/16

I broke open the vial labeled to the left and transferred to an amber 1.8 ml injection vial → 1,2-DNB 1000 ug/ml 04-23-14

1,2-DNB 100 ug/ml KP
1,2-DNB 1000 04-23-14 1.0 10.0 100 1:1 ACN/MeOH 04-23-14
02-19-14

MX-8330R 1000 ug/ml KP 04-23-14

AccuStandard
M-8330-R
Method 8330 - Explosives by HPLC
1000 µg/mL in MeOH:AcCN (1:1)
Lot: 211111132-01
Exp: Jun 6,2015
14 comps.
HIGHLY FLAMMABLE

Method 8330 - Explosives
Lot #: 211111132-01 - 33138
Rec: 11/18/13 MFR exp. 6/6/15

R LABORATORY USE ONLY
NING: This product contains nicals known to the State of Califor use cancer and birth defects or oth oductive harm.
STORAGE Freeze (<-10° C)
2 Danger

I broke open the vial labeled above and transferred to an amber 1.8 ml injection vial → MX-8330R 1000 ug/ml 04-23-14

MX-8330 100 ug/ml KP
MX-8330R 1000 04-23-14 1.0 10.0 100 1:1 ACN/MeOH 04-23-14
02-19-14

1,2-DNB 5.0 ug/ml KP
1,2-DNB 100 04-23-14 0.50 10.0 5.0 1:1 ACN/MeOH 04-23-14
02-19-14

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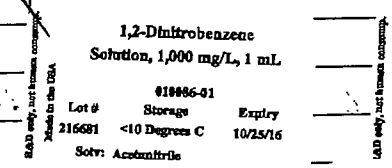
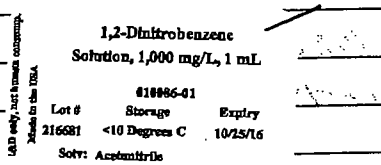
023

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT#	DATE INITIALS
	8321 TS 0.005 DF						
8321 TS	0.10DF	06-12-14	0.10	2.0	0.005	MeOH/53235	06-12-14 P
HPLCFS	100	03-17-14	0.020	1	1.0	1	1
	8321 TS 0.0025 DF						
8321 TS	0.10DF	06-12-14	0.050	2.0	0.0025	MeOH/53235	06-12-14 P
HPLCFS	100	03-17-14	0.020	1	1.0	1	1
	1,2-DNB 100 ug/mL						06-12-14 P



1,2-Dinitrobenzene
Lot #: 216681 - 33233
Rec: 1/8/14 MFR exp. 10/25/16



1,2-Dinitrobenzene
Lot #: 216681 - 33234
Rec: 1/8/14 MFR exp. 10/25/16

I broke open the 2 vials labeled above. I took 1.00ml from each vial and diluted to 20.0ml 1:1 ACN MeOH 02-19-14. I labeled this solution 1,2-DNB 100ug/mL 06-12-14

I combined the remaining balance of MP 06-12-14 the 2 vials above and transferred to our amber 1.8ml injection vial. I labeled this solution 1,2-DNB 1000ug/mL 06-12-14

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025

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS
PETN	1000 ug/ml						06-12-14

S-12837A4-5ML Exp 2/28/2015

CHEM SERVICE
PO BOX 599, WEST CHESTER PA 19381 800-452-9994

Pentaerythritol tetranitrate Solution

Lot: 2416400

Pentaerythritol tetranitrate
Lot #: 2416400 - 33320
Rec: 2/20/14 MFR exp. 2/28/15

1000ug/ml In Acetonitrile
FLAMMABLE-POISON-LACHRYMATOR

I broke open the vial labeled to the left and transferred to an 8ml Amber Vial → PETN 1000ug/ml 06-12-14

PETN 100 ug/ml

PETN 1000	06-12-14	1.0	10.0	100	1:1 ACN/MeOH		06-12-14	

8321MX6-7 500 ug/ml 06-12-14

o2si smart solutions
Custom Pesticide Solution, 6-7, 500 mg/L, 5 x 2 ml
130287-01-05
Storage: </= -10 Degrees C
Made in USA Lot No: 160093
Exp: 6/1/2013
Custom Pesticide Solution 6-7
Lot #: 160093 - 26674
Date Opened: _____
Rec: 6/7/10 MFR exp. 06/01/13

I broke open the vial labeled above and transferred to an amber 1.8ml injection vial → 8321MX6-7 500 ug/ml (to be QC'd)

8321MX6-7 20 ug/ml 06-12-14

8321MX6-7	500	06-12-14	0.080	2.0	20	Methanol	53235	

8321MX6-7 0.02DF (OLD)

8321MX6-7	20	06-12-14	0.040	2.0	0.02	MeOH	53235	06-12-14
MRCS	100	03-17-14	0.020	1	1.0	1		1

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037

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT#	DATE INITIAL
	Spinosad 100 ug/mL						
Spinosad	1733	04-14-14	0.075	1.0	100	Methanol/53235	hp 07-14-14
	Spinosad 50 ug/mL						
Spinosad	500	07-14-14	0.10	1.0	50	Methanol/53235	hp 07-14-14
	Spinosad 20 ug/mL						hp
Spinosad	200	07-14-14	0.10	1.0	20	Methanol/53235	07-14-14
	Spinosad 10 ug/mL						
Spinosad	100	07-14-14	0.10	1.0	10	Methanol/53235	07-14-14 hp
	Picric Acid spk 2.0 ug/mL						
Picric Acid	100	04-16-14	0.160	8.0	2.0	ACN/DI509	07-15-14 hp
	Picric Acid spk 0.2 ug/mL						
Picric Acid spk	2.0	07-15-14	0.80	8.0	0.2	ACN/DI509	07-15-14 hp
	HPLC IS 1.0 ug/mL						
HPLC IS	1000	04-22-14	0.20	200	1.0	MeOH/53235	07-15-14 hp
	HPLC IS 1000 ug/mL						07-15-14 hp

Custom 8321 Internal Standard Pesticide Mix, 4-8, 1,000 mg/L, 5 x 1 ml
130285-01-05
Lot# 209160 Storage ≤-10 Degrees C Expiry 5/20/15
Solv: M-t-BE
R&D only, not human consump
Made in the USA

I broke open the vial labled Custom 8321 Internal Std Mix 4-8 Lot #: 209160 - 32460 Rec: 5/29/13 MFR exp. 5/20/15 to the left and transferred to an amber 1.8 ml injection Vial → HPLC IS 1000 ug/mL 07-15-14

	HPLC IS 100 ug/mL						
HPLC IS	1000	07-15-14	1.0	10.0	100	MeOH/53235	07-15-14 hp
	Tetryl ISS 100 ug/mL						hp
tetryl ISS	1000	08-22-13	0.10	1.0	100	1:1 ACN/MeOH	07-01-14 02-15-14

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045

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
8321V	0.2 ug/mL						
8321V	2.0	08-05-14	0.20	2.0	0.2	MeOH/53235	8-05-14 M
8321VES	100	7-31-14	0.020	〃	1.0	〃	〃
8321V	0.1 ug/mL						
8321V	2.0	8-5-14	0.10	2.0	0.10	MeOH/53235	8-05-14 M
8321VES	100	7-31-14	0.020	〃	1.0	〃	〃
MX-8330A	1000 ug/mL						08-06-14 M

AccuStandard®
M-8330-R
Method 8330 - Explosives by HPLC
1000 µg/mL in MeOH:AcCN (1:1)
Lot: 211111132-01
Exp: Jun 6,2015
14 comps.
HIGHLY FLAMMABLE

Method 8330 - Explosives
Lot #: 211111132-01 - 33139
Rec: 11/18/13 MFR exp. 6/6/15

ABORATORY USE ONLY
IG: This product contains
is known to the State of Califon
cancer and birth defects or oth
ductive harm.
STORAGE Freeze (<-10° C)
2 Danger

I broke open the vial labeled above and transferred to an amber 1.8ml injection vial → MX-8330A 1000 ug/mL - 08-06-14

1,2-DNB 1000 ug/mL 08-06-14 M

1,2-Dinitrobenzene
Solution, 1,000 mg/L, 1 mL
010986-01
Lot # 216681 | Storage <10 Degrees C | Expiry 10/25/16
Solv: Acetonitrile
LED only, not human consump. Made in the USA

1,2-Dinitrobenzene
Lot #: 216681 - 33235
Rec: 1/8/14 MFR exp. 10/25/16

I broke open the vial labeled to the left and transferred to an amber 1.8ml injection vial → 1,2-DNB 1000ug/mL 08-06-14

3,5-DNA 1000 ug/mL 08-06-14

3,5-Dinitroaniline (3,5-DNA) Solution, 1000 mg/L, 1 ml
010612-04
Lot # 199709 | Storage ≤ -10 Degrees C | Expiry 11/21/15
Solv: Acetonitrile
LED only, not human consump. Made in the USA

3,5-Dinitroaniline
Lot #: 199709 - 33122
Rec: 11/15/13 MFR exp. 11/21/15

I broke open the vial labeled to the left and transferred to an amber 1.8ml injection vial → 3,5-DNA 1000ug/mL 08-06-14

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046

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL. EN. LOT #	DATE INITIALS

Nitroglycerin 1000 ug/ml 08-06-14 HP

AccuStan
M-8330-ADD-1-10X
Nitroglycerin
1000 µg/mL in EtOH:MeOH (97:3)
Lot: 213031341
Exp. May 9, 2015
Nitroglycerin
Lot #: 213031341 - 33129
Rec: 11/18/13 MFR exp. 5/9/15
HIGHLY FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
2 Danger

I broke open the vial labeled above and transferred to an amber 1.8ml injection vial → Nitroglycerin 1000 ug/ml 08-06-14

PETN 1000 ug/ml 08-06-14 HP

AccuStandard® - 125 Market St. · New Haven, CT 06513 · USA
M-8330-ADD-2-10X
PETN
1000 µg/mL in Methanol
Lot: 213081209
Exp. Aug 14, 2015
PETN
Lot #: 213081209 - 33135
Rec: 11/18/13 MFR exp. 8/14/15
HIGHLY FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
2 Danger

I broke open the vial labeled above and transferred to an amber 1.8ml injection vial → PETN 1000 ug/ml 08-06-14

8330MXA 10 ug/ml N

MX-8330R	1000	08-06-14	0.20	20	10.0	1:1 ACN/MeOH	08-06-14
1,2-DNB	1000	08-06-14	0.20	⊥	⊥	07-02-14	⊥

8330MX-B 10 ug/ml N

Nitroglycerin	1000	8-6-14	0.20	20	10.0	1:1 ACN/MeOH	08-06-14
3,5-DNA	1000	08-06-14	⊥	⊥	⊥	07-02-14	⊥
PETN	1000	08-06-14	⊥	⊥	⊥		⊥

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL ENT LOT #	DATE INITIALS
PETN_SS 100 ug/ml							
PETN 1000	06-12-14	0.10	1.0	100	1:1 ACN/MeOH 07-02-14		08-06-14
8321 surr 20 ug/ml							
Isoxaben 1024	03-10-14	0.195	10.0	20	MeOH/53235		08-07-14
8141 surr 1000	07-31-14	0.20	⊥	⊥	⊥		⊥
8321TS_spk 1 DF							
8321MX6-7 1000	06-12-14	0.10	5.0	20	MeOH/53235		08-07-14

08-06-14

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	08/06/14
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	08/06/14
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	08/06/14
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	08/06/14
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	08/06/14
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	08/06/14
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	08/06/14
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	08/06/14
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	08/06/14
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	08/06/14

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049

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE/ INITIALS
8330_CB(1:1) 1.0 PPM							
8330MXA	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH 02/19/14	08/06/14
8330MXB	10.0	08/06/14					
8330_CB(1:1) 0.1 PPM							
8330_CB(1:1)	1.0	08/06/14	0.100	1	0.1	1:1 ACN/MEOH 02/19/14	08/06/14
8330_CB 0.005 PPM							
8330_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.010 PPM							
8330_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.020 PPM							
8330_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.050 PPM							
8330_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.10 PPM							
8330_CB(1:1)	1.0	08/06/14	0.100	1.00	0.10	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.20 PPM							
8330_CB(1:1)	1.0	08/06/14	0.20	1.00	0.20	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_CB 0.50 PPM							
8330MXA	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330MXB	10.0	08/06/14	0.050				
8330_CB 1.0 PPM							
8330MXA	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330MXB	10.0	08/06/14	0.100				
8330MXA_CB 2.0 PPM							
8330MXA_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330MXB_CB 2.0 PPM							
8330MXB_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330_SS 1.0 PPM							
8330MXA_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	08/06/14
8330MXB_SS	100	12/27/13	0.010				
PETN_TET_SS 1.0 PPM							
PETN_SS	100	08/06/14	0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	08/06/14
TETRYL_SS	100	07/01/14	0.01				

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048
STANDARD

	INITIAL CONC	SOURCE	DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
								08/06/14
8330MXA_CB 0.50 PPM 8330MXA	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXA_CB 1.0 PPM 8330MXA	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXA_SS 1.0 PPM 8330MXA_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
8330MXB_SS 1.0 PPM 8330MXB_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	08/06/14	
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 07/01/14	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	08/06/14	

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'EN. LOT #	DATE / INITIALS
STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	09/05/14
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	09/05/14
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	09/05/14
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	09/05/14
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	08/06/14	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 0.50 PPM 8330MXA	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 1.0 PPM 8330MXA	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	09/05/14

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SOL'N. 059

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	LOT #	DATE INITIALS
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	08/06/14	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXA_SS 1.0 PPM 8330MXA_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	09/05/14
8330MXB_SS 1.0 PPM 8330MXB_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	09/05/14
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 07/01/14	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	09/05/14

09-05-14

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	INITIAL
	CC_Carb sph 2.0 ug/mL						
832L_SS	100	11-03-14	0.200	10.0	2.0	MeOH/54115	12-12-14 MP
	HPLC_IS 1.0 ug/mL						
HPLCIS	100	10-02-14	2.0	200	1.0	MeOH/54115	12-15-14 MP
	HPLCISAQ 1.0 ug/mL				12-16-14		
HPLCIS	100	10-02-14	1.0	100	1.0	Milliporewater	12-16-14 MP
	Carb sph 10 ug/mL						
832LMX2+8	400	09-22-14	0.050	2.0	10	MeOH/54115	12-17-14 MP
	852L surr 10 ug/mL						
Isoxaben	1024	03-10-14	0.025	3.0	10.0	MeOH/54115	12-17-14 MP
8141 Surr	1000	10-30-14	0.030	⊥	⊥	⊥	⊥
	832L surr 20 ug/mL						
Isoxaben	1024	03-10-14	0.195	10.0	20	MeOH/54115	12-17-14 MP
8141 Surr	1000	~~10-30-14~~ 12-03-14 MP	0.200	⊥	⊥	⊥	⊥
	PETN 100 ug/mL				07-02-14		
PETN	1000	08-06-14	0.50	5.0	100	1:1 ACN/MeOH	12-19-14 MP
	Nitroglycerin 100 ug/mL						
Nitroglycerin	1000	02-25-14	0.50	5.0	100	1:1 ACN/MeOH	12-19-14 MP
	83TS_Stock						
832LMX6+7	1000	09-25-14	0.050	10.0	5.0	MeOH/54115	12-22-14 MP
Isoxaben	1024	03-10-14	0.098	⊥	10	⊥	⊥
8141 Surr	1000	12-03-14	0.100	⊥	⊥	⊥	⊥

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL. EN. LOT #	DATE INITIALS
83TS/sph/surr 100 DF					HPLCFS 1 ug/ml		
8321TS SP	20	09-25-14	0.10	1.0	10 DF	~~[illegible]~~ 12-22-14	12-22-14
8321 Surr	20	12-18-14	0.10	1	1		
83TS sph/surr 100F	12-22-14	0.10	1.0	100DF	HPLCIS 1 ug/ml		12-22-14

Tehryl SS 1000 ug/ml 12-23-14
Tehryl 1000 ug/ml Absolute Lot 112310-33879, I broke open the vial and transferred to an amber 1.8 ml injection vial → Tehryl SS 1000 ug/ml 12-23-14

1:1 ACN/Meoh 12-23-14
I took 0.250 ml Methanol Lot 54165 and added 0.250 ml Acetonitrile Lot DK902.

1,2-DNB 1000 ug/ml 12-23-14
I broke open the vial labeled to the left and transferred to an amber 1.8 ml injection vial → 1,2,DNB 1000 ug/ml 12-23-14

R&D only, not human consump. Made in the USA
1,2-Dinitrobenzene Solution, 1,000 mg/L, 1 mL
010086-01
Lot # 227342 Storage <10 Degrees C Expiry 3/May/2017
Solv: Acetonitrile
1,2-Dinitrobenzene
Lot #: 227342 - 34120
Rec: 10/6/14 MFR exp. 5/3/17

3,5-DNA 1000 ug/ml 12-23-14
I broke open the vial labeled to the left and transferred to an amber 1.8 ml injection vial → 3,5-DNA 1000 ug/ml 12-23-14

R&D only, not human consump. Made in the USA
3,5-Dinitroaniline (3,5-DNA) Solution, 1000 mg/L, 1 ml
010612-04
Lot # 199709 Storage ≤ -10 Degrees C Expiry 11/21/15
Solv: Acetonitrile
3,5-Dinitroaniline
Lot #: 199709 - 33124
Rec: 11/15/13 MFR exp. 11/21/15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE/INITIAL
	8330 MX-A 10.0 ug/mL						N
MX-8330A	1000 08-06-14	0.10	10.0	10.0	1:1 ACN/MeOH		12-23-14
1,2-DNB	1000 12-23-14	"	"	"	12-23-14		
	8330 MX-B 10.0 ug/mL						N
Nitroglycerin	1000 08-06-14	0.10	10.0	10.0	1:1 ACN/MeOH		12-23-14
3,5-DNA	1000 12-23-14	"	"	"	12-23-14		"
PETN	1000 06-12-14	"	"	"			"
	tetryl-ss 100 ug/mL						N
tetryl-ss	1000 12-23-14	0.10	1.0	100	1:1 ACN/MeOH		12-23-14
					12-27-14		

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	12/23/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	12/23/14
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	12/23/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	12/23/14
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	12/23/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	12/23/14
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	12/23/14	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	12/23/14
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	12/23/14	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	12/23/14	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	12/23/14	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	12/23/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	12/23/14	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	12/23/14	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	12/23/14
8330MXA_CB 0.50 PPM 8330MXA	10.0	12/23/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	12/23/14

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL ENT LOT#	DATE INITIALS
PETN 1000 ug/ml						NP	12-29-14

S-12837A4-5ML Exp 4/30/2015

CHEMSERVICE
PO BOX 599
Pentaerythritol tetranitrate
Lot #: 2377700 - 34516
Pentaeryth Rec: 12/16/14 MFR exp. 4/30/15

Lot: 2677700

1000ug/ml In Acetonitrile
FLAMMABLE-POISON-LACHRYMATOR

I broke open the vial labeled to the left and transferred to an amber 8ml vial → PETN 1000 ug/ml 12-29-14

	PETN 100 ug/ml							NP
PETN	1000	12-29-14	0.5	5.0	100	1:1 ACN/MeOH	07-2-14	12-29-14
NP 1-6-14	PGDN spike 10 ug/ml							NP
PGDNA	100	10-27-14	0.10	1.0	10.0	1:1 ACN/MeOH	7-2-14	01-06-15
	PGDN spike 1.0 ug/ml							NP
PGDN spk	10	01-06-15	0.10	1.0	1.0	1:1 ACN/MeOH	7-2-14	01-06-15
	Nitroglycerin 100 ug/ml							NP
Nitroglycerin	1000	08-06-14	0.50	5.0	100	1:1 ACN/MeOH	12-23-14	01-06-15
	8330 MXA spk 10 ug/ml							NP
MX-8330 spk	100	09-17-14	0.150	1.5	10.0	1:1 ACN/MeOH	12-23-14	01-06-15
	8330 MXA spk 1.0 ug/ml							NP
8330 MXA spk	10.0	01-06-15	0.150	1.5	1.0	1:1 ACN/MeOH	12-23-14	01-06-15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'VENT/ LOT #	DATE/ INITIALS
8321PA_SS 0.10 DF							
Pic:cAcid_SS	1.0	11-17-14	0.20	2.0	0.10	ACN/DK902	01-15-15 lp
4-Nitrophenol	10	01-13-15	0.020	1	0.10	1	1
mx8330 Sph 1000ng/mL							
mx-8330R	1000	08-06-14	0.80	8.0	10.0	1:1 ACN/MeOH	01-15-15 lp
1,2-DND	1000	12-23-14	0.80	1	1	12-23-14	
Tetryl_SS 1000ng/mL							
Tetryl_SS	1000	12-23-14	0.10	1.0	100	1:1 ACN/MeOH	01-15-15 lp
						12-23-14	

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	12/23/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	01/15/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	01/15/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	01/15/15
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	12/23/14	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	01/15/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	01/15/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	01/15/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	01/15/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	01/15/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	01/15/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	01/15/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	01/15/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	01/15/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	01/15/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	12/23/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	01/15/15

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT	LOT #	DATE / INITIALS
8330MXA_CB 1.0 PPM 8330MXA	10.0	12/23/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	12/23/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	01/15/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	01/15/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	01/15/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	01/15/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	01/15/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	01/15/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	12/23/14	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	12/23/14	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	12/23/14	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXA_SS 1.0 PPM 8330MXA_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
8330MXB_SS 1.0 PPM 8330MXB_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	01/15/15	
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 01/15/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	01/15/15	

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOVENT/LOT	DATE/IN
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	03/12/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	03/12/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	03/12/15
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	03/12/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	03/12/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	03/12/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	03/12/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	03/12/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	03/12/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	03/12/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	03/12/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	03/12/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	03/12/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	03/12/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	03/12/15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	03/12/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	03/12/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	03/12/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	03/12/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	03/12/15 03/12/15
8330MXA_SS 1.0 PPM 8330MXA_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	03/12/15
8330MXB_SS 1.0 PPM 8330MXB_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	03/12/15
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 01/15/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	03/12/15

HP HP

PETN_SS 100 08-06-14 the Solution was QC'd on 03-13-15 on Stat6r, Data File 0312_D00047.D HP 03-16-15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N # / LOT #	DATE / INITIALS
Scav_spk 30 mg/mL (5mL)							
Hexahydro-1,3,5-tris(hydroxyethyl) triazine							
1180	03-18-15	0.127	5.0	3.0	MeOH	54115	03-19-15
2,2'-thiodiethanol							
1030	03-19-15	0.146					
2-(1,3-Dithiolan-2-yl) ethanol							
525	03-11-15	0.286					
Scav spk 3.0 mg/mL 5mL							
Scav spk 30	03-19-15	0.50	5.0	3.0	MeOH	54115	03-19-15

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	03/17/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	03/17/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	03/17/15
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 07/02/14	03/17/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	03/17/15	0.100	1.0	0.1	1:1 ACN/MEOH 07/02/14	03/17/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	03/17/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	03/17/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	03/17/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	03/17/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	03/17/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	03/17/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/17/15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE / INITIALS
8330MXA_CB 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	03/17/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	03/17/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	03/17/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	03/17/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	03/17/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	03/17/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXA_SS 1.0 PPM 8330MXA_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	03/17/15
8330MXB_SS 1.0 PPM 8330MXB_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	03/17/15
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 01/15/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	03/17/15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	NOL ENV # LOT #	DATE / INITIALS
PER IS 0.005µg/mL 04-20-15:							JBL
02SI $^{18}O_4$ Perchlorate	100µg/L		0.050mL				04-21-
Lot 1059192-33479 took 0.050mL and added to 0.950 mL Laboratory Source DI.H2O.							
NOTE: Repeated the above process four times in order to prepare 2 - 2mL vials that were full. The above was performed as dated. JBL							
8330 MX-A SS 100ng/mL							04-21-15 MP
8330 MIX A, 100 ng/mL, Absolute Lot # 103014-34464, I broke the vial open and transferred to an amber 1.8mL injection vial → 8330 MX-A SS 100ng/mL							04-21-15
8330 MXB SS 100 ng/mL							04-21-15 MP
8330 MIX B, 100 ng/mL, Absolute Lot # 103014-34467, I broke the vial open and transferred to an amber 1.8mL injection vial → 8330 MX-B SS 100ng/mL							04-21-15
Tebuthylazine SS 100ng/mL							03-05-15 MP
Tebuthylazine (SS)	1000	12-22-14	0.10	1.0	100	1:1 ACN/MeOH	04-22-15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT/ LOT#	DATE/ INITIALS

1,2-DNB 1000 ug/mL 04-22-15 MP

I broke open the vial labeled to the left and transferred to an amber 1.8ml injection vial → 1,2-DNB 1000 ug/mL 04-22-15

1,2-Dinitrobenzene Solution, 1,000 mg/L, 1 mL
010086-01
Lot # 227342 Storage <10 Degrees C Expiry 3/May/2017
Solv: Acetonitrile
1,2-Dinitrobenzene
Lot #: 227342 - 34115
Rec: 10/6/14 MFR exp. 5/3/17

1,2-DNB 100 ug/mL 03-05-15

1,2-DNB	1000	04-22-15	1.0	10	100	1:1 ACN/MeOH	04-22-15 MP

Standard prep performed as dated, documented here 04-22-15 MP

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 03/05/15	04/21/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	04/21/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	04/21/15
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	03/05/15	0.100	1.0	1.0	1:1 ACN/MEOH 03/05/15	04/21/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	03/17/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	04/21/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	04/21/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	04/21/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	04/21/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	04/21/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	04/21/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	04/21/15

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INTIALS
Standard prep performed as dated, Documented here 04-22-15 MP							
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	04/21/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_CB 2.0 PPM 8330MXA_CB 2.0 PPM	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	04/21/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	04/21/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	04/21/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	04/21/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	04/21/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	04/21/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXA_SS 1.0 PPM 8330MXA_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	04/21/15
8330MXB_SS 1.0 PPM 8330MXB_SS	100	10/01/14	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	04/21/15
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	08/06/14 04/22/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	04/22/15

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STANDARD	INITIAL CONC	SOURCE	DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE / INITIALS
Scav-spk 30 ug/mL								
Hexahydro-1,3,5-trishydroxyethyltriazine								HP
	1010	04-10-15	0.594	20	30	ACN/DMSO	04-23-15	
2,2'-Thiodiethanol		"						
	1090	04-10-15	0.550	20				
2-(1,3,5-Dithiazinan-5-yl) ethanol								
	1020	04-10-15	0.588	"				
Scav Surr 30 ug/mL								
1,3,5-Trimethylhexahydro-1,3,5-triazine								HP
	1077	04-17-15	0.557	20	30	ACN/DMSO	04-23-15	
PETN SS 100 ug/mL							3-5-15	
PETN	1000	06-09-14	0.10	1.0	100	1:1 ACN/water	04-28-15	HP
Tetryl SS 100 ug/mL							3-5-15	
Tetryl SS	1000	12-22-14	0.10	1.0	100	1:1 ACN/MeOH	04-28-15	HP
8330mX-A SS 100 ug/mL							04-28-15	HP
8330mX-A 100 ug/mL Absolute lot 103014-34465, I broke open the vial and transferred to an amber 1.8 mL injection vial → 8330mX-A SS 100 ug/mL 04-28-15								
8330mXB-SS 100 ug/mL							04-28-15	HP
8330mixB 100 ug/mL Absolute lot 103014-34468, I broke open the vial and transferred to an amber 1.8 mL injection vial → 8330mXB-SS 100 ug/mL 04-28-15								

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS
PETN_SS	1000 ug/ml						

AccuStandard® 125 Market Street • New Haven, CT 06513 • USA

M-8330-ADD-2-10X
PETN
1000 µg/mL in Methanol
Lot: 214091329
Exp: Sep 18, 2016

PETN
Lot #: 214091329 - 34515
Rec: 12/16/14 MFR exp. 9/18/16

1 comp(s)
HIGHLY FLAMMABLE

FOR LABORATORY USE ONLY
H225 H320 H315 H311
H332 H301 P338 P360
P331 P404 P262 P202
P264 P284 P280

Storage: Refrig (0-5° C)
2 Danger

04-28-15 hp

I broke open the vial labeled above and transferred to an amber 1.8 ml injection vial → PETN_SS 1000 ug/ml 4-28-15

PETN_SS 100 ug/ml 3-5-15 hp

PETN_SS	1000	04-28-15	0.10	1.0	100	1:1 ACN/MeOH	4-28-15

Scales weight Comparison 04-28-15 hp
Balance ID: Mettler AT-200 #J-28448

Time-

S-weight	Balance reading
20 g	20.0000
1 g	1.0002
100 mg	0.1000
20 mg	~~0.1020~~ 0.0020 hp 4-28-15

1,2-DNB 1000 PPM 06/15/15
MP

1,2-DNB 1000 PPM,O2SI LOT 227342-34118, I BROKE OPEN THE VIAL AND TRANSFERRED THE CONTENTS TO AN AMBER 1.8 ML INJECTION VIAL ---1,2-DNB 1000 PPM 06/15/15

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
1,2-DNB 100 PPM							
1,2-DNB	1000	06/15/15	1.000	10.0	100.0	1:1 ACN/MEOH 05/22/15	06/15/15 MP

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOLVENT/LOT	DATE/IN.
8330MXA_CB(1:1) 1.0 PPM 8330MXA	10.0	05/15/15	0.100	1.0	1.0	1:1 ACN/MEOH 03/05/15	05/22/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	05/22/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	05/22/15
8330MXB_CB(1:1) 1.0 PPM 8330MXB	10.0	05/15/15	0.100	1.0	1.0	1:1 ACN/MEOH 03/05/15	05/22/15 05/22/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	05/22/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	05/22/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	05/22/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	05/22/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	05/22/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	05/22/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	05/22/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	05/22/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	05/15/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 1.0 PPM 8330MXA	10.0	05/15/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_CB 2.0 PPM 8330MXA_CB	10.0	05/15/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	05/22/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	05/22/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	05/22/15

8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	05/22/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	05/22/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	05/22/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	05/22/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	05/15/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	05/15/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	05/15/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXA_SS 1.0 PPM 8330MXA_SS	100	05/15/15	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	05/22/15
8330MXB_SS 1.0 PPM 8330MXB_SS	100	05/15/15	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	05/22/15
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	05/15/15 05/15/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	05/22/15

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MX-A 10.0 PPM							
MX-8330R	500	05/15/15	0.400	20.0	10.0	1:1 ACN/MEOH	06/21/15
1,2-DNB	1000	05/15/15	0.200			05/22/15	MP
8330MX-B 10.0 PPM							
NITROGLYCERIN	1000	05/15/15	0.200	20.0	10.0	1:1 ACN/MEOH	06/21/15
3,5-DNA	1000	05/15/15	0.200			05/22/15	MP
PETN	1000	05/15/15	0.200				

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOLVENT/LOT	DATE/IN.
8330_CB(1:1) 1.0 PPM							
8330MXA	10.0	06/21/15	0.100	1.0	1.0	1:1 ACN/MEOH	06/26/15
8330MXB	10.0	06/21/15				05/22/15	MP
8330_CB(1:1) 0.1 PPM							
8330_CB(1:1)	1.0	06/26/15	0.100	1	0.1	1:1 ACN/MEOH	06/26/15
						05/22/15	MP
8330_CB 0.005 PPM							
8330_CB(1:1)	0.1	06/26/15	0.050	1	0.005	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.010 PPM							
8330_CB(1:1)	0.1	06/26/15	0.100	1.00	0.010	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.020 PPM							
8330_CB(1:1)	0.1	06/26/15	0.200	1.00	0.020	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.050 PPM							
8330_CB(1:1)	1.0	06/26/15	0.050	1.00	0.050	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.10 PPM							
8330_CB(1:1)	1.0	06/26/15	0.100	1.00	0.10	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.20 PPM							
8330_CB(1:1)	1.0	06/26/15	0.20	1.00	0.20	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_CB 0.50 PPM							
8330MXA	10.0	06/21/15	0.050	1.00	0.050	1:1:6_ACN	06/26/15
8330MXB	10.0	06/21/15	0.050			MEOH: MILLIPOR	MP
8330_CB 1.0 PPM							
8330MXA	10.0	06/21/15	0.100	1.00	1.000	1:1:6_ACN	06/26/15
8330MXB	10.0	06/21/15	0.100			MEOH: MILLIPOR	MP
8330MXA_CB 2.0 PPM							
8330MXA_CB	10.0	06/21/15	0.200	1.00	2.000	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330MXB_CB 2.0 PPM							
8330MXB_CB	10.0	06/21/15	0.200	1.00	2.000	1:1:6_ACN	06/26/15
						MEOH: MILLIPOR	MP
8330_SS 1.0 PPM							
8330MXA_SS	100	05/15/15	0.010	1.00	1.0	1:1:6_ACN	06/26/15
8330MXB_SS	100	05/15/15	0.010			MEOH: MILLIPOR	MP
PETN_TET_SS 1.0 PPM							
PETN_SS	100	05/15/15	0.01	1.00	1.0	1:1:6_ACN	06/26/15
TETRYL_SS	100	05/15/15	0.01			MEOH: MILLIPOR	MP

Organic Extraction Worksheet

Method	EPA Method 3535A	Extraction Set	150618A	Extraction Method	MWE3535	Units	mL

Spiked ID 1	8330 100ppm STK 5-5-15 exp 11-5-15		Surrogate ID 1	1,2 DNB SURROGATE 5PPM 4-2-15 exp 8-2-15	
Spiked ID 2	Nitroglyerin 100ppm 3-31-15 exp 9-30-15		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	06/18/15 10:40	
Spiked ID 8			Ext. End Time:	06/18/15 15:39	
			GC Requires Extract By:		

pH1	2	06/18/15 9:30:00 AM	Water Bath Temp Criteria
pH2			
pH3			

Spiked By: CFM **Date** 06/18/15 10:30:00 AM **Witnessed By:** RP **Date** 06/18/15 10:30:00 AM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150618A Blk				0.100	1 equip	500	2ML	2	06/18/15 10:40	
2	150618A LCS-1		0.040	1-2	NA	NA equip	500	2ML	2	06/18/15 10:40	
3	AZ17692	AZ17692W02			0.100	1 equip	500	2ML	2	06/18/15 10:40	76657
4	AZ17693	AZ17693W02			0.100	1 equip	500	2ML	2	06/18/15 10:40	76657
5	AZ17694 MS-1	AZ17694W08	0.040	1-2	NA	NA equip	500	2ML	2	06/18/15 10:40	76657
6	AZ17694 MSD-1	AZ17694W09	0.040	1-2	NA	NA equip	500	2ML	2	06/18/15 10:40	76657
7	AZ17694	AZ17694W07			0.100	1 equip	500	2ML	2	06/18/15 10:40	76657
8	AZ17695	AZ17695W03			0.100	1 equip	500	2ML	2	06/18/15 10:40	76657
9	AZ17696	AZ17696W05			0.100	1 equip	500	2ML	2	06/18/15 10:40	76657
10	AZ17817	AZ17817W03			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
11	AZ17818	AZ17818W03			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
12	AZ17821	AZ17821W03			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
13	AZ17826	AZ17826W05			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
14	AZ17827	AZ17827W02			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
15	AZ17828	AZ17828W06			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674
16	AZ17829	AZ17829W05			0.100	1 equip	500	2ML	2	06/18/15 10:40	76674

Solvent and Lot#	
Acetonitrile	DM 394
Cartridge Sorbent Lot	S311-032
Serial No	512616
Sodium Bisulfate	234615
PH Strip	HC 431579

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	06/18/15 3:41:31 PM

Reviewed By: **Date**

Injection Log

Directory: Z:\WALDORF\CHEM32\2\DATA\150627\150627

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0627_000004.D		8330_CB 0.005 PPM 06/26/15		6/27/15 15:48
2	0	0627_000005.D		8330_CB 0.010 PPM 06/26/15		6/27/15 16:26
3	0	0627_000006.D		8330_CB 0.020 PPM 06/26/15		6/27/15 17:03
4	0	0627_000007.D		8330_CB 0.050 PPM 06/26/15		6/27/15 17:41
5	0	0627_000008.D		8330_CB 0.10 PPM 06/26/15		6/27/15 18:18
6	0	0627_000009.D		8330_CB 0.20 PPM 06/26/15		6/27/15 18:56
7	0	0627_000010.D		8330_CB 0.50 PPM 06/26/15		6/27/15 19:33
8	0	0627_000011.D		8330_CB 1.0 PPM 06/26/15		6/27/15 20:11
9	0	0627_000012.D		8330MXA_CB 2.0 PPM 06/26/15		6/27/15 20:48
10	0	0627_000027.D		8330MXB_CB 2.0 PPM 06/26/15		6/28/15 5:22
11	0	0627_000028.D		8330_SS 1.0 PPM 06/26/15		6/28/15 5:49
12	0	0627_000029.D		PETN_TETRYL_SS 1.0 PPM 06/26/15		6/28/15 6:17

Injection Log

Directory: Z:\WALDORF\CHEM32\2\DATA\150627\150629

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0629_000004.D		8330_CCV 1.0 PPM 06/29/15		6/29/15 12:08
2	0	0629_000008.D	0.016	150618ALCS-1 0.016 DF 06/18/15	Water	6/29/15 12:38
3	0	0629_000009.D	0.016	AZ17694W08_MS-1 0.016 DF 06/18/15	Water	6/29/15 13:16
4	0	0629_000010.D	0.016	AZ17694W09_MSD-1 0.016 DF 06/18/15	Water	6/29/15 13:53
5	0	0629_000014.D	0.016	150618ABLK 0.016 DF 06/18/15	Water	6/29/15 16:23
6	0	0629_000015.D	0.016	AZ17692W02 0.016 DF 06/18/15	Water	6/29/15 17:01
7	0	0629_000016.D	0.016	AZ17693W02 0.016 DF 06/18/15	Water	6/29/15 17:38
8	0	0629_000017.D	0.016	AZ17694W07 0.016 DF 06/18/15	Water	6/29/15 18:16
9	0	0629_000018.D	0.016	AZ17695W03 0.016 DF 06/18/15	Water	6/29/15 18:53
10	0	0629_000019.D	0.016	AZ17696W05 0.016 DF 06/18/15	Water	6/29/15 19:31
11	0	0629_000022.D		8330_CCV 1.0 PPM 06/29/15		6/29/15 21:23

METALS

APPL, INC.

METALS

QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	ALUMINUM (AL)	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	LITHIUM (LI)	0.67 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ZINC (ZN)	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ALUMINUM (AL) (DI	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	BORON (B) (DISSO	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	LITHIUM (LI) (DISSO	0.83 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	ZINC (ZN) (DISSOL	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694

J = Estimated value.

Metals SC-Blank-REG MDLs
Printed: 07/08/15 2:05:19 PM

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL) (DISSOLVED)	2000	1940	97.0	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	BORON (B) (DISSOLVED)	250	238	95.2	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLVED)	100.0	92.9	92.9	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVED)	500	472	94.4	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ALUMINUM (AL)	2000	2150	108	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	BORON (B)	250	235	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	LITHIUM (LI)	100.0	93.3	93.3	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	ZINC (ZN)	500	470	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694

Comments: _____

Matrix Spike Recoveries

METALS

APPL ID: **150701W-17694 MS - 198616**

Sample ID: AZ17694

Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	ALUMINUM (AL) (DISS	2000	29.3	2640	1910	131 #	94.0	32.1 #	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	BORON (B) (DISSOLV	250	51.2	290	291	95.5	95.9	0.3	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLV	100.0	0.87	105	103	104	102	1.9	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVE	500	4.0	487	482	96.6	95.6	1.0	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ALUMINUM (AL)	2000	16.2	1930	1920	95.7	95.2	0.5	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	BORON (B)	250	50.9	284	289	93.2	95.2	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	LITHIUM (LI)	100.0	0.58	93.3	92.6	92.7	92.0	0.8	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	ZINC (ZN)	500	3.9	474	482	94.0	95.6	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694

= Recovery is outside QC limits.

Comments: _____

6010C/3010A^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/06/15

Matrix: WATER Instrument: Jules

Blank ID: 150701A-BLK Time Analyzed: 1211

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A-MSD	Matrix SpikeD	150706A	07/06/15 1300
AZ17693	S67-MW026P-061515	150706A	07/06/15 1241
AZ17694	S67-MW016-061515	150706A	07/06/15 1247
AZ17695	S67-MW024-061515	150706A	07/06/15 1307
AZ17696	S67-MW017-061515	150706A	07/06/15 1314
150701A-BLK	Blank	150706A	07/06/15 1211
150701A-LCS	Lab Control Spike	150706A	07/06/15 1216
AZ17692	S67-MW026-061515	150706A	07/06/15 1234
150701A-MS	Matrix Spike	150706A	07/06/15 1254

Comments: Batch: #61CJU-150701A

6010C/3010A^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/06/15

Matrix: WATER Instrument: Jules

Blank ID: 150701A1-BLK Time Analyzed: 1222

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A1-MSD	Matrix SpikeD	150706A	07/06/15 1645
AZ17693	S67-MW026P-061515	150706A	07/06/15 1626
AZ17694	S67-MW016-061515	150706A	07/06/15 1632
AZ17695	S67-MW024-061515	150706A	07/06/15 1652
AZ17696	S67-MW017-061515	150706A	07/06/15 1659
150701A1-BLK	Blank	150706A	07/06/15 1222
150701A1-LCS	Lab Control Spike	150706A	07/06/15 1227
150701A1-MS	Matrix Spike	150706A	07/06/15 1639
AZ17692	S67-MW026-061515	150706A	07/06/15 1619

Comments: Batch: #61CJU-150701A1

METALS

Sample Data

APPL, INC.

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17692

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	118 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	9.7	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	86.4 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	98.6 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	10.5	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	91.8 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

Printed: 07/08/15 2:16:04 PM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 15
Sample ID: AZ17692W06 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 42
Date Collected: 07/06/15 12:34:12 PM
Data Type: Reprocessed on 07/07/15 8:53:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17692W06 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	234843.5	98.49	%	2.019				2.05%
Y Radial	17136.0	105.5	%	1.29				1.22%
Ag 338.289†	42.0	0.218	ug/L	0.2268	0.218	ug/L	0.2268	104.11%
Al 308.215†	140.3	98.63	ug/L	6.776	98.63	ug/L	6.776	6.87%
As 188.979†	0.1	-0.037	ug/L	0.2679	-0.037	ug/L	0.2679	726.45%
B 249.677†	715.3	20.05	ug/L	0.710	20.05	ug/L	0.710	3.54%
Ba 233.527†	139780.2	321.2	ug/L	6.97	321.2	ug/L	6.97	2.17%
Be 313.107†	3098.2	0.874	ug/L	0.0280	0.874	ug/L	0.0280	3.21%
Ca 315.887†	82197.2	5097	ug/L	87.97	5097	ug/L	87.97	1.73%
Cd 214.440†	127.8	0.725	ug/L	0.0135	0.725	ug/L	0.0135	1.87%
Co 228.616†	8621.8	87.18	ug/L	2.200	87.18	ug/L	2.200	2.52%
Cr 267.716†	90.5	0.770	ug/L	0.1019	0.770	ug/L	0.1019	13.24%
Cu 327.393†	1878.7	8.631	ug/L	0.1448	8.631	ug/L	0.1448	1.68%
Fe 273.955†	946.9	11.62	ug/L	0.419	11.62	ug/L	0.419	3.61%
K 766.490†	12706.5	1383	ug/L	29.33	1383	ug/L	29.33	2.12%
Mg 285.213†	125428.9	7061	ug/L	118.78	7061	ug/L	118.78	1.68%
Mn 257.610†	37580.9	404.6	ug/L	7.02	404.6	ug/L	7.02	1.74%
Mo 202.031†	26.4	0.864	ug/L	0.2469	0.864	ug/L	0.2469	28.58%
Na 589.592†	1057464.8	94400	ug/L	1647.45	94400	ug/L	1647.45	1.75%
Ni 231.604†	1528.3	30.40	ug/L	0.977	30.40	ug/L	0.977	3.21%
P 213.617†	10.6	3.240	ug/L	0.6290	3.240	ug/L	0.6290	19.41%
Pb 220.353†	-0.5	0.448	ug/L	1.1237	0.448	ug/L	1.1237	250.80%
Sb 206.836†	-8.4	-1.106	ug/L	1.0310	-1.106	ug/L	1.0310	93.23%
Se 196.026†	2.5	0.487	ug/L	2.0951	0.487	ug/L	2.0951	430.22%
Sn 189.927†	7.9	1.398	ug/L	0.2569	1.398	ug/L	0.2569	18.38%
Sr 421.552†	38080.7	52.42	ug/L	0.909	52.42	ug/L	0.909	1.73%
Ti 337.279†	3.6	-0.003	ug/L	0.0684	-0.003	ug/L	0.0684	>999.9%
Tl 190.801†	-9.1	-2.389	ug/L	1.8302	-2.389	ug/L	1.8302	76.61%
V 292.402†	3.3	0.033	ug/L	0.0417	0.033	ug/L	0.0417	127.83%
Zn 206.200†	8628.5	91.84	ug/L	2.260	91.84	ug/L	2.260	2.46%
Li 670.784	254457.7	10.50	ug/L	0.115	10.50	ug/L	0.115	1.09%

Sequence No.: 43
Sample ID: AZ17692W07
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 66
Date Collected: 07/06/15 4:19:15 PM
Data Type: Reprocessed on 07/07/15 8:54:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17692W07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	226487.7	94.98	%	0.650				0.68%
Y Radial	14819.1	91.22	%	11.641				12.76%
Ag 338.289†	-35.9	-0.186	ug/L	0.3154	-0.186	ug/L	0.3154	169.37%
Al 308.215†	167.0	117.9	ug/L	26.43	117.9	ug/L	26.43	22.42%
As 188.979†	-2.9	-0.655	ug/L	0.6984	-0.655	ug/L	0.6984	106.59%
B 249.677†	755.7	21.18	ug/L	0.393	21.18	ug/L	0.393	1.86%
Ba 233.527†	141398.0	324.9	ug/L	3.55	324.9	ug/L	3.55	1.09%
Be 313.107†	3058.6	0.863	ug/L	0.0177	0.863	ug/L	0.0177	2.05%
Ca 315.887†	92344.1	5726	ug/L	850.58	5726	ug/L	850.58	14.85%
Cd 214.440†	120.6	0.723	ug/L	0.0559	0.723	ug/L	0.0559	7.73%
Co 228.616†	8911.2	90.10	ug/L	0.560	90.10	ug/L	0.560	0.62%
Cr 267.716†	92.9	0.759	ug/L	0.0686	0.759	ug/L	0.0686	9.04%
Cu 327.393†	967.0	4.242	ug/L	0.5717	4.242	ug/L	0.5717	13.48%
Fe 273.955†	1017.8	12.44	ug/L	0.293	12.44	ug/L	0.293	2.35%
K 766.490†	13995.2	1526	ug/L	216.75	1526	ug/L	216.75	14.20%
Mg 285.213†	141423.7	7961	ug/L	1183.24	7961	ug/L	1183.24	14.86%
Mn 257.610†	42719.1	459.9	ug/L	67.01	459.9	ug/L	67.01	14.57%
Mo 202.031†	15.3	0.564	ug/L	0.0980	0.564	ug/L	0.0980	17.37%
Na 589.592†	1126284.9	100500	ug/L	15007.39	100500	ug/L	15007.39	14.93%
Ni 231.604†	1541.7	30.65	ug/L	0.100	30.65	ug/L	0.100	0.33%
P 213.617†	7.0	2.147	ug/L	0.3633	2.147	ug/L	0.3633	16.92%
Pb 220.353†	-0.3	0.528	ug/L	0.5058	0.528	ug/L	0.5058	95.72%
Sb 206.836†	-2.0	-0.258	ug/L	0.4731	-0.258	ug/L	0.4731	183.27%
Se 196.026†	-2.7	-1.107	ug/L	3.0082	-1.107	ug/L	3.0082	271.80%
Sn 189.927†	2.8	0.492	ug/L	0.4345	0.492	ug/L	0.4345	88.25%
Sr 421.552†	39819.6	54.79	ug/L	8.140	54.79	ug/L	8.140	14.85%
Ti 337.279†	11.3	0.176	ug/L	0.4034	0.176	ug/L	0.4034	229.81%
Tl 190.801†	-13.2	-3.458	ug/L	0.8740	-3.458	ug/L	0.8740	25.27%
V 292.402†	29.7	0.297	ug/L	0.1169	0.297	ug/L	0.1169	39.35%
Zn 206.200†	8098.4	86.44	ug/L	0.762	86.44	ug/L	0.762	0.88%
Li 670.784	234932.7	9.690	ug/L	0.0439	9.690	ug/L	0.0439	0.45%

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW026P-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17693

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	102 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	9.3	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	80.9 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	93.7 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	40.00 U	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	11.0	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	85.6 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 16
Sample ID: AZ17693W06 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 43
Date Collected: 07/06/15 12:41:01 PM
Data Type: Reprocessed on 07/07/15 8:53:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17693W06 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	239933.6	100.6	%	0.20				0.20%
Y Radial	17389.0	107.0	%	1.24				1.16%
Ag 338.289†	2.4	0.012	ug/L	0.0794	0.012	ug/L	0.0794	637.05%
Al 308.215†	133.7	93.73	ug/L	3.490	93.73	ug/L	3.490	3.72%
As 188.979†	4.2	0.776	ug/L	0.7354	0.776	ug/L	0.7354	94.82%
B 249.677†	717.3	20.09	ug/L	0.092	20.09	ug/L	0.092	0.46%
Ba 233.527†	141608.4	325.4	ug/L	1.64	325.4	ug/L	1.64	0.50%
Be 313.107†	3109.0	0.877	ug/L	0.0042	0.877	ug/L	0.0042	0.48%
Ca 315.887†	83545.5	5180	ug/L	66.63	5180	ug/L	66.63	1.29%
Cd 214.440†	135.3	0.760	ug/L	0.0278	0.760	ug/L	0.0278	3.66%
Co 228.616†	8749.4	88.47	ug/L	0.102	88.47	ug/L	0.102	0.12%
Cr 267.716†	94.8	0.808	ug/L	0.0902	0.808	ug/L	0.0902	11.16%
Cu 327.393†	1567.4	7.131	ug/L	0.3208	7.131	ug/L	0.3208	4.50%
Fe 273.955†	525.9	6.334	ug/L	0.0802	6.334	ug/L	0.0802	1.27%
K 766.490†	13060.3	1421	ug/L	21.03	1421	ug/L	21.03	1.48%
Mg 285.213†	129752.2	7304	ug/L	94.15	7304	ug/L	94.15	1.29%
Mn 257.610†	38849.0	418.3	ug/L	5.80	418.3	ug/L	5.80	1.39%
Mo 202.031†	16.7	0.597	ug/L	0.1148	0.597	ug/L	0.1148	19.21%
Na 589.592†	1096963.7	97930	ug/L	1268.52	97930	ug/L	1268.52	1.30%
Ni 231.604†	1536.3	30.55	ug/L	0.210	30.55	ug/L	0.210	0.69%
P 213.617†	11.7	3.589	ug/L	1.2745	3.589	ug/L	1.2745	35.51%
Pb 220.353†	-5.6	-0.515	ug/L	0.7804	-0.515	ug/L	0.7804	151.57%
Sb 206.836†	-10.5	-1.394	ug/L	0.5580	-1.394	ug/L	0.5580	40.02%
Se 196.026†	0.1	-0.232	ug/L	0.7456	-0.232	ug/L	0.7456	321.51%
Sn 189.927†	2.9	0.519	ug/L	0.2113	0.519	ug/L	0.2113	40.74%
Sr 421.552†	39286.7	54.08	ug/L	0.673	54.08	ug/L	0.673	1.24%
Ti 337.279†	3.7	-0.005	ug/L	0.4600	-0.005	ug/L	0.4600	>999.9%
Tl 190.801†	-10.5	-2.742	ug/L	0.8632	-2.742	ug/L	0.8632	31.49%
V 292.402†	5.2	0.052	ug/L	0.0200	0.052	ug/L	0.0200	38.38%
Zn 206.200†	8020.8	85.58	ug/L	0.324	85.58	ug/L	0.324	0.38%
Li 670.784	266993.3	11.01	ug/L	0.031	11.01	ug/L	0.031	0.29%

Sequence No.: 44
Sample ID: AZ17693W07
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 67
Date Collected: 07/06/15 4:26:02 PM
Data Type: Reprocessed on 07/07/15 8:54:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17693W07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	231952.8	97.28	%	0.339				0.35%
Y Radial	16148.1	99.40	%	1.071				1.08%
Ag 338.289†	-67.6	-0.350	ug/L	0.3495	-0.350	ug/L	0.3495	99.72%
Al 308.215†	144.9	102.3	ug/L	1.86	102.3	ug/L	1.86	1.82%
As 188.979†	-0.8	-0.220	ug/L	0.4618	-0.220	ug/L	0.4618	209.91%
B 249.677†	711.3	19.94	ug/L	0.180	19.94	ug/L	0.180	0.90%
Ba 233.527†	134311.7	308.6	ug/L	0.52	308.6	ug/L	0.52	0.17%
Be 313.107†	2847.9	0.803	ug/L	0.0060	0.803	ug/L	0.0060	0.75%
Ca 315.887†	81450.8	5051	ug/L	79.52	5051	ug/L	79.52	1.57%
Cd 214.440†	110.0	0.651	ug/L	0.0239	0.651	ug/L	0.0239	3.67%
Co 228.616†	8361.2	84.54	ug/L	0.213	84.54	ug/L	0.213	0.25%
Cr 267.716†	80.4	0.655	ug/L	0.1740	0.655	ug/L	0.1740	26.57%
Cu 327.393†	681.5	2.918	ug/L	0.1393	2.918	ug/L	0.1393	4.77%
Fe 273.955†	972.5	11.92	ug/L	0.375	11.92	ug/L	0.375	3.14%
K 766.490†	12326.5	1343	ug/L	11.46	1343	ug/L	11.46	0.85%
Mg 285.213†	124326.4	6999	ug/L	117.61	6999	ug/L	117.61	1.68%
Mn 257.610†	37245.6	401.0	ug/L	5.43	401.0	ug/L	5.43	1.35%
Mo 202.031†	2.2	0.184	ug/L	0.2663	0.184	ug/L	0.2663	144.88%
Na 589.592†	1001901.0	89440	ug/L	1572.82	89440	ug/L	1572.82	1.76%
Ni 231.604†	1459.0	29.02	ug/L	0.077	29.02	ug/L	0.077	0.26%
P 213.617†	5.9	1.822	ug/L	0.5392	1.822	ug/L	0.5392	29.59%
Pb 220.353†	-7.2	-0.852	ug/L	0.4299	-0.852	ug/L	0.4299	50.46%
Sb 206.836†	-2.2	-0.287	ug/L	0.8290	-0.287	ug/L	0.8290	289.12%
Se 196.026†	-5.7	-1.996	ug/L	1.7456	-1.996	ug/L	1.7456	87.44%
Sn 189.927†	2.1	0.368	ug/L	0.5277	0.368	ug/L	0.5277	143.49%
Sr 421.552†	35512.6	48.87	ug/L	0.887	48.87	ug/L	0.887	1.81%
Ti 337.279†	6.5	0.070	ug/L	0.5480	0.070	ug/L	0.5480	781.77%
Tl 190.801†	-7.4	-1.927	ug/L	2.2173	-1.927	ug/L	2.2173	115.06%
V 292.402†	23.0	0.230	ug/L	0.0915	0.230	ug/L	0.0915	39.79%
Zn 206.200†	7589.8	80.91	ug/L	0.149	80.91	ug/L	0.149	0.18%
Li 670.784	224906.8	9.276	ug/L	0.0107	9.276	ug/L	0.0107	0.12%

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW016-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17694

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	80.00 U	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	50.9	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	0.58 BJ	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	20.00 U	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	29.3 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	51.2	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	0.87 BJ	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	20.00 U	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

Printed: 07/08/15 2:16:05 PM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 17
Sample ID: AZ17694W19 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 44
Date Collected: 07/06/15 12:47:49 PM
Data Type: Reprocessed on 07/07/15 8:53:48 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W19 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	238459.5	100.0	%	0.78				0.78%
Y Radial	17103.6	105.3	%	1.74				1.66%
Ag 338.289†	-14.6	-0.076	ug/L	0.0861	-0.076	ug/L	0.0861	113.39%
Al 308.215†	42.7	29.32	ug/L	4.016	29.32	ug/L	4.016	13.70%
As 188.979†	0.3	-0.270	ug/L	0.6912	-0.270	ug/L	0.6912	255.83%
B 249.677†	1798.7	51.17	ug/L	0.338	51.17	ug/L	0.338	0.66%
Ba 233.527†	12813.1	29.45	ug/L	0.162	29.45	ug/L	0.162	0.55%
Be 313.107†	267.3	0.075	ug/L	0.0128	0.075	ug/L	0.0128	16.99%
Ca 315.887†	82187.8	5100	ug/L	129.09	5100	ug/L	129.09	2.53%
Cd 214.440†	11.6	0.184	ug/L	0.0457	0.184	ug/L	0.0457	24.77%
Co 228.616†	477.3	4.778	ug/L	0.0372	4.778	ug/L	0.0372	0.78%
Cr 267.716†	36.7	0.398	ug/L	0.1082	0.398	ug/L	0.1082	27.18%
Cu 327.393†	1202.9	5.638	ug/L	0.3193	5.638	ug/L	0.3193	5.66%
Fe 273.955†	506.0	6.086	ug/L	0.0969	6.086	ug/L	0.0969	1.59%
K 766.490†	19524.7	2216	ug/L	53.73	2216	ug/L	53.73	2.42%
Mg 285.213†	59065.3	3325	ug/L	86.60	3325	ug/L	86.60	2.60%
Mn 257.610†	5963.1	64.16	ug/L	1.125	64.16	ug/L	1.125	1.75%
Mo 202.031†	16.3	0.488	ug/L	0.0281	0.488	ug/L	0.0281	5.77%
Na 589.592†	482379.7	43060	ug/L	1110.76	43060	ug/L	1110.76	2.58%
Ni 231.604†	55.6	1.098	ug/L	0.0506	1.098	ug/L	0.0506	4.61%
P 213.617†	8.0	2.457	ug/L	0.3251	2.457	ug/L	0.3251	13.23%
Pb 220.353†	-9.4	-1.419	ug/L	0.5213	-1.419	ug/L	0.5213	36.73%
Sb 206.836†	-1.2	-0.156	ug/L	0.8230	-0.156	ug/L	0.8230	527.84%
Se 196.026†	-2.8	-0.946	ug/L	0.7603	-0.946	ug/L	0.7603	80.35%
Sn 189.927†	1.3	0.231	ug/L	0.6003	0.231	ug/L	0.6003	260.11%
Sr 421.552†	22507.4	30.91	ug/L	0.756	30.91	ug/L	0.756	2.45%
Ti 337.279†	1.6	-0.019	ug/L	0.0305	-0.019	ug/L	0.0305	158.59%
Tl 190.801†	1.4	0.370	ug/L	0.8434	0.370	ug/L	0.8434	227.70%
V 292.402†	2.0	0.020	ug/L	0.0779	0.020	ug/L	0.0779	395.20%
Zn 206.200†	284.4	4.010	ug/L	0.0439	4.010	ug/L	0.0439	1.09%
Li 670.784	21197.6	0.874	ug/L	0.0149	0.874	ug/L	0.0149	1.71%

Sequence No.: 45
Sample ID: AZ17694W22
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 68
Date Collected: 07/06/15 4:32:50 PM
Data Type: Reprocessed on 07/07/15 8:54:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W22

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	229695.8	96.33	%	1.107				1.15%
Y Radial	15704.2	96.67	%	0.891				0.92%
Ag 338.289†	-25.5	-0.132	ug/L	0.0473	-0.132	ug/L	0.0473	35.78%
Al 308.215†	24.6	16.22	ug/L	5.218	16.22	ug/L	5.218	32.18%
As 188.979†	-4.2	-1.176	ug/L	1.3528	-1.176	ug/L	1.3528	115.00%
B 249.677†	1790.0	50.94	ug/L	0.695	50.94	ug/L	0.695	1.36%
Ba 233.527†	13050.1	29.99	ug/L	0.265	29.99	ug/L	0.265	0.88%
Be 313.107†	211.0	0.060	ug/L	0.0102	0.060	ug/L	0.0102	17.08%
Ca 315.887†	87084.8	5404	ug/L	58.34	5404	ug/L	58.34	1.08%
Cd 214.440†	-6.2	0.119	ug/L	0.0211	0.119	ug/L	0.0211	17.70%
Co 228.616†	451.3	4.515	ug/L	0.0129	4.515	ug/L	0.0129	0.29%
Cr 267.716†	44.7	0.493	ug/L	0.0702	0.493	ug/L	0.0702	14.24%
Cu 327.393†	879.5	4.096	ug/L	0.1155	4.096	ug/L	0.1155	2.82%
Fe 273.955†	1379.8	17.01	ug/L	0.465	17.01	ug/L	0.465	2.73%
K 766.490†	19440.6	2208	ug/L	22.76	2208	ug/L	22.76	1.03%
Mg 285.213†	61154.5	3442	ug/L	36.08	3442	ug/L	36.08	1.05%
Mn 257.610†	5896.2	63.43	ug/L	0.840	63.43	ug/L	0.840	1.32%
Mo 202.031†	7.5	0.240	ug/L	0.1843	0.240	ug/L	0.1843	76.91%
Na 589.592†	457883.2	40870	ug/L	439.72	40870	ug/L	439.72	1.08%
Ni 231.604†	48.9	0.969	ug/L	0.1305	0.969	ug/L	0.1305	13.47%
P 213.617†	6.1	1.867	ug/L	1.2374	1.867	ug/L	1.2374	66.28%
Pb 220.353†	-2.4	-0.091	ug/L	0.8392	-0.091	ug/L	0.8392	921.58%
Sb 206.836†	-1.6	-0.213	ug/L	0.4709	-0.213	ug/L	0.4709	221.27%
Se 196.026†	-2.0	-0.696	ug/L	3.3112	-0.696	ug/L	3.3112	475.41%
Sn 189.927†	-0.2	-0.030	ug/L	0.3068	-0.030	ug/L	0.3068	>999.9%
Sr 421.552†	21492.5	29.49	ug/L	0.346	29.49	ug/L	0.346	1.17%
Ti 337.279†	2.3	-0.003	ug/L	0.3511	-0.003	ug/L	0.3511	>999.9%
Tl 190.801†	-5.2	-1.372	ug/L	1.1077	-1.372	ug/L	1.1077	80.73%
V 292.402†	22.2	0.222	ug/L	0.0433	0.222	ug/L	0.0433	19.46%
Zn 206.200†	273.4	3.863	ug/L	0.1086	3.863	ug/L	0.1086	2.81%
Li 670.784	14036.6	0.579	ug/L	0.0110	0.579	ug/L	0.0110	1.89%

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW024-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17695

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	281 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	39.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	37.0	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	326	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	261 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	38.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	39.1	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	321	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 20
Sample ID: AZ17695W06 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 47
Date Collected: 07/06/15 1:07:09 PM
Data Type: Reprocessed on 07/07/15 8:53:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17695W06 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	241606.5	101.3	%	0.41				0.41%
Y Radial	17278.0	106.4	%	1.66				1.56%
Ag 338.289†	-12.7	-0.066	ug/L	0.1788	-0.066	ug/L	0.1788	271.56%
Al 308.215†	365.2	261.1	ug/L	0.92	261.1	ug/L	0.92	0.35%
As 188.979†	19.2	2.353	ug/L	0.4540	2.353	ug/L	0.4540	19.29%
B 249.677†	1326.5	38.60	ug/L	0.171	38.60	ug/L	0.171	0.44%
Ba 233.527†	6347.1	14.56	ug/L	0.117	14.56	ug/L	0.117	0.81%
Be 313.107†	11065.5	3.121	ug/L	0.0104	3.121	ug/L	0.0104	0.33%
Ca 315.887†	296710.8	18420	ug/L	267.18	18420	ug/L	267.18	1.45%
Cd 214.440†	179.9	0.933	ug/L	0.0190	0.933	ug/L	0.0190	2.03%
Co 228.616†	18208.3	184.1	ug/L	0.34	184.1	ug/L	0.34	0.19%
Cr 267.716†	82.9	0.392	ug/L	0.1426	0.392	ug/L	0.1426	36.37%
Cu 327.393†	1150.7	4.997	ug/L	0.3042	4.997	ug/L	0.3042	6.09%
Fe 273.955†	61590.9	770.9	ug/L	2.27	770.9	ug/L	2.27	0.29%
K 766.490†	85979.3	9855	ug/L	138.81	9855	ug/L	138.81	1.41%
Mg 285.213†	217677.4	12250	ug/L	177.22	12250	ug/L	177.22	1.45%
Mn 257.610†	101363.0	1091	ug/L	16.69	1091	ug/L	16.69	1.53%
Mo 202.031†	28.0	1.008	ug/L	0.1963	1.008	ug/L	0.1963	19.48%
Na 589.592†	916530.5	81810	ug/L	1237.17	81810	ug/L	1237.17	1.51%
Ni 231.604†	3168.1	63.20	ug/L	0.402	63.20	ug/L	0.402	0.64%
P 213.617†	26.0	7.990	ug/L	1.5567	7.990	ug/L	1.5567	19.48%
Pb 220.353†	-21.7	-3.392	ug/L	1.0883	-3.392	ug/L	1.0883	32.09%
Sb 206.836†	-13.9	-1.845	ug/L	0.2463	-1.845	ug/L	0.2463	13.35%
Se 196.026†	-8.3	-3.099	ug/L	1.1861	-3.099	ug/L	1.1861	38.27%
Sn 189.927†	-14.9	-2.643	ug/L	0.2610	-2.643	ug/L	0.2610	9.87%
Sr 421.552†	113422.9	156.1	ug/L	2.34	156.1	ug/L	2.34	1.50%
Ti 337.279†	26.8	0.454	ug/L	0.1860	0.454	ug/L	0.1860	40.94%
Tl 190.801†	-18.4	-4.818	ug/L	0.4095	-4.818	ug/L	0.4095	8.50%
V 292.402†	29.8	0.298	ug/L	0.0278	0.298	ug/L	0.0278	9.31%
Zn 206.200†	30648.2	321.2	ug/L	1.12	321.2	ug/L	1.12	0.35%
Li 670.784	947541.3	39.08	ug/L	0.315	39.08	ug/L	0.315	0.81%

Sequence No.: 48
Sample ID: AZ17695W07
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 71
Date Collected: 07/06/15 4:52:08 PM
Data Type: Reprocessed on 07/07/15 8:54:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17695W07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	239859.8	100.6	%	0.91				0.91%
Y Radial	16934.2	104.2	%	1.71				1.64%
Ag 338.289†	1.9	0.010	ug/L	0.3296	0.010	ug/L	0.3296	>999.9%
Al 308.215†	392.8	281.4	ug/L	1.04	281.4	ug/L	1.04	0.37%
As 188.979†	10.3	0.563	ug/L	1.4067	0.563	ug/L	1.4067	250.02%
B 249.677†	1362.7	39.64	ug/L	0.487	39.64	ug/L	0.487	1.23%
Ba 233.527†	7481.8	17.16	ug/L	0.204	17.16	ug/L	0.204	1.19%
Be 313.107†	11319.7	3.193	ug/L	0.0099	3.193	ug/L	0.0099	0.31%
Ca 315.887†	302439.6	18770	ug/L	498.93	18770	ug/L	498.93	2.66%
Cd 214.440†	199.5	0.991	ug/L	0.0228	0.991	ug/L	0.0228	2.30%
Co 228.616†	18754.5	189.7	ug/L	0.62	189.7	ug/L	0.62	0.32%
Cr 267.716†	145.0	1.110	ug/L	0.1857	1.110	ug/L	0.1857	16.74%
Cu 327.393†	537.4	2.067	ug/L	0.1960	2.067	ug/L	0.1960	9.48%
Fe 273.955†	63172.7	790.7	ug/L	1.97	790.7	ug/L	1.97	0.25%
K 766.490†	84460.8	9684	ug/L	244.93	9684	ug/L	244.93	2.53%
Mg 285.213†	218966.7	12330	ug/L	323.60	12330	ug/L	323.60	2.63%
Mn 257.610†	102902.1	1108	ug/L	29.36	1108	ug/L	29.36	2.65%
Mo 202.031†	22.4	0.850	ug/L	0.2307	0.850	ug/L	0.2307	27.14%
Na 589.592†	866196.4	77320	ug/L	2047.47	77320	ug/L	2047.47	2.65%
Ni 231.604†	3210.5	64.05	ug/L	0.525	64.05	ug/L	0.525	0.82%
P 213.617†	25.3	7.768	ug/L	0.2435	7.768	ug/L	0.2435	3.13%
Pb 220.353†	-0.3	0.639	ug/L	1.7309	0.639	ug/L	1.7309	271.04%
Sb 206.836†	-13.7	-1.816	ug/L	0.6718	-1.816	ug/L	0.6718	36.98%
Se 196.026†	-4.1	-1.822	ug/L	2.1997	-1.822	ug/L	2.1997	120.76%
Sn 189.927†	-19.0	-3.367	ug/L	0.4944	-3.367	ug/L	0.4944	14.68%
Sr 421.552†	106761.9	146.8	ug/L	3.97	146.8	ug/L	3.97	2.70%
Ti 337.279†	23.7	0.376	ug/L	0.0788	0.376	ug/L	0.0788	20.92%
Tl 190.801†	-21.6	-5.636	ug/L	0.0680	-5.636	ug/L	0.0680	1.21%
V 292.402†	73.3	0.734	ug/L	0.0347	0.734	ug/L	0.0347	4.73%
Zn 206.200†	31128.1	326.1	ug/L	1.77	326.1	ug/L	1.77	0.54%
Li 670.784	898329.7	37.05	ug/L	0.146	37.05	ug/L	0.146	0.39%

Metals Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-MW017-061515
Sample Collection Date: 06/15/15

ARF: 76657
APPL ID: AZ17696

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	ALUMINUM (AL)	153 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B)	33.8 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI)	2.9 B	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN)	60.3 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15
6010C/3010A	ALUMINUM (AL) (DISSOLVE	113 J	300.0	80.00	27.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	BORON (B) (DISSOLVED)	34.6 J	50.0	40.00	29.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	LITHIUM (LI) (DISSOLVED)	3.4 B	1.0	0.80	0.40	ug/L	1	07/01/15	07/06/15
6010C/3010A	ZINC (ZN) (DISSOLVED)	64.4 J	150.0	20.00	13.70	ug/L	1	07/01/15	07/06/15

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 21
Sample ID: AZ17696W09 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 48
Date Collected: 07/06/15 1:14:03 PM
Data Type: Reprocessed on 07/07/15 8:53:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17696W09 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	240060.6	100.7	%	0.67				0.66%
Y Radial	16559.0	101.9	%	1.62				1.59%
Ag 338.289†	-57.5	-0.298	ug/L	0.2021	-0.298	ug/L	0.2021	67.84%
Al 308.215†	155.9	112.8	ug/L	2.37	112.8	ug/L	2.37	2.10%
As 188.979†	-9.9	-2.328	ug/L	0.3673	-2.328	ug/L	0.3673	15.78%
B 249.677†	1219.5	34.60	ug/L	0.553	34.60	ug/L	0.553	1.60%
Ba 233.527†	64411.7	148.0	ug/L	1.29	148.0	ug/L	1.29	0.87%
Be 313.107†	2735.4	0.772	ug/L	0.0139	0.772	ug/L	0.0139	1.80%
Ca 315.887†	70902.5	4402	ug/L	64.23	4402	ug/L	64.23	1.46%
Cd 214.440†	49.5	0.235	ug/L	0.0234	0.235	ug/L	0.0234	9.96%
Co 228.616†	2995.0	30.29	ug/L	0.293	30.29	ug/L	0.293	0.97%
Cr 267.716†	39.1	0.365	ug/L	0.1218	0.365	ug/L	0.1218	33.38%
Cu 327.393†	1748.5	8.278	ug/L	0.1023	8.278	ug/L	0.1023	1.24%
Fe 273.955†	2276.9	28.18	ug/L	0.372	28.18	ug/L	0.372	1.32%
K 766.490†	23488.8	2702	ug/L	32.25	2702	ug/L	32.25	1.19%
Mg 285.213†	40098.5	2257	ug/L	30.45	2257	ug/L	30.45	1.35%
Mn 257.610†	18402.0	198.1	ug/L	2.28	198.1	ug/L	2.28	1.15%
Mo 202.031†	30.1	0.875	ug/L	0.1958	0.875	ug/L	0.1958	22.37%
Na 589.592†	129137.5	11530	ug/L	149.64	11530	ug/L	149.64	1.30%
Ni 231.604†	350.5	6.980	ug/L	0.2092	6.980	ug/L	0.2092	3.00%
P 213.617†	-0.5	-0.148	ug/L	0.3849	-0.148	ug/L	0.3849	259.67%
Pb 220.353†	-10.6	-1.829	ug/L	0.4735	-1.829	ug/L	0.4735	25.90%
Sb 206.836†	-1.9	-0.246	ug/L	0.3965	-0.246	ug/L	0.3965	161.04%
Se 196.026†	-4.8	-1.640	ug/L	0.4489	-1.640	ug/L	0.4489	27.36%
Sn 189.927†	1.2	0.211	ug/L	0.0101	0.211	ug/L	0.0101	4.77%
Sr 421.552†	27595.8	37.98	ug/L	0.506	37.98	ug/L	0.506	1.33%
Ti 337.279†	-0.9	-0.069	ug/L	0.2327	-0.069	ug/L	0.2327	337.83%
Tl 190.801†	-4.3	-1.122	ug/L	0.6024	-1.122	ug/L	0.6024	53.67%
V 292.402†	-7.6	-0.076	ug/L	0.0530	-0.076	ug/L	0.0530	69.77%
Zn 206.200†	6148.1	64.38	ug/L	0.433	64.38	ug/L	0.433	0.67%
Li 670.784	81451.9	3.359	ug/L	0.0267	3.359	ug/L	0.0267	0.79%

Sequence No.: 49
Sample ID: AZ17696W10
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 72
Date Collected: 07/06/15 4:59:02 PM
Data Type: Reprocessed on 07/07/15 8:54:24 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17696W10

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	245487.5	103.0	%	2.82				2.74%
Y Radial	16378.2	100.8	%	0.69				0.69%
Ag 338.289†	-8.0	-0.041	ug/L	0.3194	-0.041	ug/L	0.3194	773.23%
Al 308.215†	210.5	152.7	ug/L	9.34	152.7	ug/L	9.34	6.12%
As 188.979†	0.7	-0.259	ug/L	0.2632	-0.259	ug/L	0.2632	101.76%
B 249.677†	1185.5	33.78	ug/L	1.093	33.78	ug/L	1.093	3.23%
Ba 233.527†	60934.7	140.0	ug/L	3.72	140.0	ug/L	3.72	2.66%
Be 313.107†	2442.1	0.689	ug/L	0.0308	0.689	ug/L	0.0308	4.48%
Ca 315.887†	70977.9	4406	ug/L	44.99	4406	ug/L	44.99	1.02%
Cd 214.440†	83.6	0.346	ug/L	0.0613	0.346	ug/L	0.0613	17.71%
Co 228.616†	2891.4	29.24	ug/L	0.817	29.24	ug/L	0.817	2.79%
Cr 267.716†	49.6	0.490	ug/L	0.0208	0.490	ug/L	0.0208	4.24%
Cu 327.393†	1261.8	5.957	ug/L	0.1421	5.957	ug/L	0.1421	2.39%
Fe 273.955†	7233.9	90.32	ug/L	2.286	90.32	ug/L	2.286	2.53%
K 766.490†	22767.6	2619	ug/L	17.78	2619	ug/L	17.78	0.68%
Mg 285.213†	39549.3	2226	ug/L	18.61	2226	ug/L	18.61	0.84%
Mn 257.610†	18028.0	194.1	ug/L	2.40	194.1	ug/L	2.40	1.24%
Mo 202.031†	11.1	0.345	ug/L	0.1391	0.345	ug/L	0.1391	40.27%
Na 589.592†	122142.0	10900	ug/L	90.37	10900	ug/L	90.37	0.83%
Ni 231.604†	335.3	6.679	ug/L	0.1366	6.679	ug/L	0.1366	2.04%
P 213.617†	9.1	2.799	ug/L	0.5093	2.799	ug/L	0.5093	18.20%
Pb 220.353†	-5.4	-0.850	ug/L	0.2961	-0.850	ug/L	0.2961	34.85%
Sb 206.836†	-2.7	-0.357	ug/L	0.4938	-0.357	ug/L	0.4938	138.51%
Se 196.026†	0.6	0.027	ug/L	1.1747	0.027	ug/L	1.1747	>999.9%
Sn 189.927†	0.1	0.011	ug/L	0.5452	0.011	ug/L	0.5452	>999.9%
Sr 421.552†	25202.8	34.67	ug/L	0.247	34.67	ug/L	0.247	0.71%
Ti 337.279†	30.0	0.706	ug/L	0.2109	0.706	ug/L	0.2109	29.89%
Tl 190.801†	-1.5	-0.398	ug/L	1.0802	-0.398	ug/L	1.0802	271.44%
V 292.402†	36.4	0.365	ug/L	0.0051	0.365	ug/L	0.0051	1.39%
Zn 206.200†	5756.4	60.29	ug/L	1.800	60.29	ug/L	1.800	2.99%
Li 670.784	71484.1	2.948	ug/L	0.0366	2.948	ug/L	0.0366	1.24%

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No: 76657 SDG: 76657
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:29	%R(1)	True CCV1	Found 11:53	%R(1)	True CCV2	Found 14:53	%R(1)	
Aluminum (Al)	12500	12270	98.2	10000	10600	106	7500	7245	96.6	P
Boron (B)	500	515.4	103	500	547.9	110	375	384.5	103	P
Lithium (Li)	250	247	98.8	250	259.8	104	187.5	180	96.0	P
Zinc (Zn)	500	518.4	104	500	540.8	108	375	381.6	102	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No: 76657 SDG: 76657

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:29	%R(1)	True CCV1	Found 16:08	%R(1)	True CCV2	Found 17:50	%R(1)	
Aluminum (Al)	12500	12270	98.2	10000	9787	97.9	7500	7297	97.3	P
Boron (B)	500	515.4	103	500	504.4	101	375	386.9	103	P
Lithium (Li)	250	247	98.8	250	224.7	89.9	187.5	171.2	91.3	P
Zinc (Zn)	500	518.4	104	500	500.5	100	375	389.3	104	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No: 76657 SDG: 76657
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:29	%R(1)	True CCV1	Found 19:04	%R(1)	True	Found	%R(1)	
Aluminum (Al)	12500	12270	98.2	10000	9623	96.2				P
Boron (B)	500	515.4	103	500	490	98.0				P
Lithium (Li)	250	247	98.8	250	249.6	99.8				P
Zinc (Zn)	500	518.4	104	500	483.9	96.8				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 07/06/15

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	11:35		12:03		14:58		16:13		12:11				
Aluminum (Al)	300.00	U	300.00	U	300.00	U	300.00	U	300.00	U	P		
Boron (B)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P		
Lithium (Li)	1.00	U	1.00	U	1.00	U	1.00	U	.83	J	P		
Zinc (Zn)	150.00	U	150.00	U	150.00	U	150.00	U	150.00	U	P		

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 07/06/15

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	11:35		17:55		19:09				12:11		
Aluminum (Al)	300.00	U	300.00	U	300.00	U			300.00	U	P
Boron (B)	50.00	U	50.00	U	50.00	U			50.00	U	P
Lithium (Li)	1.00	U	1.00	U	1.00	U			.83	J	P
Zinc (Zn)	150.00	U	150.00	U	150.00	U			150.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 07/06/15

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	11:35		12:03		14:58		16:13		12:22				
Aluminum (Al)	300.00	U	300.00	U	300.00	U	300.00	U	300.00	U	P		
Boron (B)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P		
Lithium (Li)	1.00	U	1.00	U	1.00	U	1.00	U	.67	J	P		
Zinc (Zn)	150.00	U	150.00	U	150.00	U	150.00	U	150.00	U	P		

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 07/06/15

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	11:35		17:55		19:09				12:22		
Aluminum (Al)	300.00	U	300.00	U	300.00	U			300.00	U	P
Boron (B)	50.00	U	50.00	U	50.00	U			50.00	U	P
Lithium (Li)	1.00	U	1.00	U	1.00	U			.67	J	P
Zinc (Zn)	150.00	U	150.00	U	150.00	U			150.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No.: 76657 SDG: 76657
ICP ID Number: Jules ICS Source: Environmental Express

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 11:41	Sol AB 11:47	%R(1)
Aluminum (Al)	100000	100000	98920	98980	99.0
Boron (B)			3.21	4.4	
Calcium (Ca)	100000	100000	101700	101500	102
Iron (Fe)	100000	100000	92570	94710	94.7
Lithium (Li)		0	0.396	0.389	
Magnesium (Mg)	100000	100000	97180	97200	97.2
Zinc (Zn)		500	3.862	476.1	95.2

(1) Control Limits: Metals 80-120

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

S67-MW016-061515

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum (Al)	75-125	1955		29.32		2000.000	96.3		
Boron (B)	75-125	274		51.17		250.000	89.1		
Lithium (Li)	75-125	90.94		0.874		100.000	90.1		
Zinc (Zn)	75-125	452.8		4.01		500.000	89.8		

Comments:

07/06/15 12:47 AZ17694W19 F

07/06/15 15:49 AZ17694W19-A F

Sequence No.: 6
Sample ID: AZ17694W19-A F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 63
Date Collected: 07/06/15 3:49:55 PM
Data Type: Reprocessed on 07/07/15 9:48:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W19-A F

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	234228.5	98.23	%	7.468				7.60%
Y Radial	15466.3	95.21	%	11.077				11.63%
Ag 338.289†	17384.6	90.10	ug/L	6.735	90.10	ug/L	6.735	7.47%
Al 308.215†	2663.6	1955	ug/L	237.99	1955	ug/L	237.99	12.17%
As 188.979†	1160.9	221.2	ug/L	14.59	221.2	ug/L	14.59	6.59%
B 249.677†	9590.8	274.0	ug/L	21.11	274.0	ug/L	21.11	7.70%
Ba 233.527†	110075.1	253.0	ug/L	18.09	253.0	ug/L	18.09	7.15%
Be 313.107†	158469.1	44.69	ug/L	3.268	44.69	ug/L	3.268	7.31%
Ca 315.887†	481545.3	29900	ug/L	3600.19	29900	ug/L	3600.19	12.04%
Cd 214.440†	13276.1	46.17	ug/L	3.284	46.17	ug/L	3.284	7.11%
Co 228.616†	23403.7	236.8	ug/L	17.56	236.8	ug/L	17.56	7.42%
Cr 267.716†	20450.5	237.6	ug/L	18.00	237.6	ug/L	18.00	7.58%
Cu 327.393†	47883.2	229.3	ug/L	15.70	229.3	ug/L	15.70	6.85%
Fe 273.955†	72716.6	891.7	ug/L	63.71	891.7	ug/L	63.71	7.15%
K 766.490†	59846.6	6849	ug/L	802.40	6849	ug/L	802.40	11.71%
Mg 285.213†	485789.1	27350	ug/L	3285.89	27350	ug/L	3285.89	12.02%
Mn 257.610†	28785.3	309.0	ug/L	38.18	309.0	ug/L	38.18	12.36%
Mo 202.031†	7905.4	220.6	ug/L	16.69	220.6	ug/L	16.69	7.57%
Na 589.592†	729140.6	65080	ug/L	7855.30	65080	ug/L	7855.30	12.07%
Ni 231.604†	11033.3	221.2	ug/L	16.20	221.2	ug/L	16.20	7.33%
P 213.617†	5943.4	1823	ug/L	131.93	1823	ug/L	131.93	7.24%
Pb 220.353†	1138.0	218.0	ug/L	16.45	218.0	ug/L	16.45	7.55%
Sb 206.836†	1531.8	202.7	ug/L	15.51	202.7	ug/L	15.51	7.65%
Se 196.026†	710.3	214.9	ug/L	16.59	214.9	ug/L	16.59	7.72%
Sn 189.927†	1215.0	215.4	ug/L	15.60	215.4	ug/L	15.60	7.24%
Sr 421.552†	192247.7	264.6	ug/L	32.02	264.6	ug/L	32.02	12.10%
Ti 337.279†	9538.3	238.3	ug/L	28.69	238.3	ug/L	28.69	12.04%
Tl 190.801†	814.2	212.8	ug/L	19.51	212.8	ug/L	19.51	9.17%
V 292.402†	24430.4	244.6	ug/L	17.95	244.6	ug/L	17.95	7.34%
Zn 206.200†	42956.5	452.8	ug/L	33.52	452.8	ug/L	33.52	7.40%
Li 670.784	2204841.8	90.94	ug/L	0.127	90.94	ug/L	0.127	0.14%

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
S67-MW016-061515

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Matrix: water

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Aluminum (Al)	29.32		22.27		NA		
Boron (B)	51.17		75.29		NA		
Lithium (Li)	0.874		1.916		NA		
Zinc (Zn)	4.01		-1.206		NA		

Comments:

07/06/15 12:47 AZ17694W19 F

07/06/15 15:44 AZ17694W19-1/5 F

Sequence No.: 5
Sample ID: AZ17694W19-1/5 F
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 5X
Wash Time:

Autosampler Location: 62
Date Collected: 07/06/15 3:44:08 PM
Data Type: Reprocessed on 07/07/15 9:48:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W19-1/5 F

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	232347.2	97.44	%	0.106				0.11%
Y Radial	15591.7	95.98	%	0.628				0.65%
Ag 338.289†	-69.4	-0.360	ug/L	0.2428	-1.799	ug/L	1.2140	67.47%
Al 308.215†	6.6	4.455	ug/L	1.7357	22.27	ug/L	8.679	38.96%
As 188.979†	-4.5	-0.948	ug/L	0.6924	-4.741	ug/L	3.4622	73.02%
B 249.677†	529.0	15.06	ug/L	0.095	75.29	ug/L	0.476	0.63%
Ba 233.527†	2542.4	5.843	ug/L	0.0232	29.22	ug/L	0.116	0.40%
Be 313.107†	35.9	0.010	ug/L	0.0060	0.051	ug/L	0.0299	59.03%
Ca 315.887†	18310.7	1136	ug/L	6.77	5682	ug/L	33.87	0.60%
Cd 214.440†	-29.6	-0.072	ug/L	0.0066	-0.359	ug/L	0.0331	9.21%
Co 228.616†	100.3	1.004	ug/L	0.0757	5.019	ug/L	0.3784	7.54%
Cr 267.716†	-6.9	-0.086	ug/L	0.1318	-0.428	ug/L	0.6589	153.95%
Cu 327.393†	49.2	0.211	ug/L	0.2293	1.056	ug/L	1.1466	108.56%
Fe 273.955†	322.3	3.982	ug/L	0.1653	19.91	ug/L	0.827	4.15%
K 766.490†	4102.0	466.0	ug/L	4.53	2330	ug/L	22.65	0.97%
Mg 285.213†	12732.5	716.7	ug/L	5.10	3584	ug/L	25.49	0.71%
Mn 257.610†	1260.7	13.56	ug/L	0.238	67.82	ug/L	1.191	1.76%
Mo 202.031†	-0.8	-0.015	ug/L	0.2078	-0.073	ug/L	1.0388	>999.9%
Na 589.592†	96996.2	8659	ug/L	39.69	43290	ug/L	198.47	0.46%
Ni 231.604†	8.3	0.165	ug/L	0.2875	0.826	ug/L	1.4375	174.00%
P 213.617†	12.3	3.786	ug/L	0.3084	18.93	ug/L	1.542	8.15%
Pb 220.353†	-1.9	-0.275	ug/L	0.9663	-1.373	ug/L	4.8317	351.96%
Sb 206.836†	-1.6	-0.208	ug/L	0.7127	-1.042	ug/L	3.5636	341.98%
Se 196.026†	-5.5	-1.694	ug/L	0.1724	-8.469	ug/L	0.8620	10.18%
Sn 189.927†	-4.3	-0.767	ug/L	0.5523	-3.836	ug/L	2.7616	71.99%
Sr 421.552†	4471.4	6.135	ug/L	0.0425	30.68	ug/L	0.212	0.69%
Ti 337.279†	-9.8	-0.259	ug/L	0.2859	-1.295	ug/L	1.4296	110.37%
Tl 190.801†	-3.3	-0.872	ug/L	1.2891	-4.358	ug/L	6.4453	147.88%
V 292.402†	3.5	0.035	ug/L	0.0735	0.176	ug/L	0.3675	208.73%
Zn 206.200†	-43.5	-0.241	ug/L	0.0014	-1.206	ug/L	0.0070	0.58%
Li 670.784	9288.6	0.383	ug/L	0.0110	1.916	ug/L	0.0548	2.86%

A.P.P.L. INC.

9

ICP SERIAL DILUTION

CLIENT SAMPLE NO.

S67-MW016-061515

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Matrix: water

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Aluminum (Al)	16.22		55.08		NA		
Boron (B)	50.94		61.8		NA		
Lithium (Li)	0.579		1.41		NA		
Zinc (Zn)	3.863		-2.953		NA		

Comments:

07/06/15 16:32 AZ17694W22

07/06/15 18:46 AZ17694W22-1/5

Sequence No.: 66
Sample ID: AZ17694W22-1/5
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 5X
Wash Time:

Autosampler Location: 87
Date Collected: 07/06/15 6:46:22 PM
Data Type: Reprocessed on 07/07/15 8:54:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W22-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	252637.4	106.0	%	1.58				1.49%
Y Radial	17515.1	107.8	%	0.44				0.41%
Ag 338.289†	-22.8	-0.118	ug/L	0.4022	-0.592	ug/L	2.0110	339.86%
Al 308.215†	15.6	11.02	ug/L	3.433	55.08	ug/L	17.167	31.17%
As 188.979†	5.9	1.070	ug/L	0.6334	5.350	ug/L	3.1672	59.20%
B 249.677†	434.4	12.36	ug/L	0.340	61.80	ug/L	1.698	2.75%
Ba 233.527†	2585.6	5.943	ug/L	0.1048	29.71	ug/L	0.524	1.76%
Be 313.107†	-81.8	-0.023	ug/L	0.0115	-0.115	ug/L	0.0575	49.83%
Ca 315.887†	18409.3	1142	ug/L	2.33	5712	ug/L	11.67	0.20%
Cd 214.440†	36.2	0.153	ug/L	0.0312	0.766	ug/L	0.1562	20.39%
Co 228.616†	100.6	1.007	ug/L	0.0663	5.035	ug/L	0.3317	6.59%
Cr 267.716†	0.2	-0.003	ug/L	0.0732	-0.014	ug/L	0.3662	>999.9%
Cu 327.393†	79.7	0.358	ug/L	0.0664	1.790	ug/L	0.3321	18.55%
Fe 273.955†	246.7	3.028	ug/L	0.0869	15.14	ug/L	0.434	2.87%
K 766.490†	4129.0	469.3	ug/L	12.62	2346	ug/L	63.11	2.69%
Mg 285.213†	12762.5	718.4	ug/L	1.25	3592	ug/L	6.26	0.17%
Mn 257.610†	1195.2	12.86	ug/L	0.041	64.28	ug/L	0.204	0.32%
Mo 202.031†	3.4	0.101	ug/L	0.0909	0.503	ug/L	0.4547	90.37%
Na 589.592†	94544.2	8440	ug/L	17.03	42200	ug/L	85.15	0.20%
Ni 231.604†	23.0	0.458	ug/L	0.0370	2.292	ug/L	0.1852	8.08%
P 213.617†	26.3	8.063	ug/L	1.1167	40.31	ug/L	5.584	13.85%
Pb 220.353†	2.9	0.632	ug/L	0.3828	3.158	ug/L	1.9140	60.60%
Sb 206.836†	2.7	0.351	ug/L	0.7907	1.754	ug/L	3.9536	225.38%
Se 196.026†	-0.5	-0.159	ug/L	0.9731	-0.797	ug/L	4.8656	610.14%
Sn 189.927†	-2.8	-0.498	ug/L	0.2856	-2.490	ug/L	1.4280	57.34%
Sr 421.552†	4488.2	6.158	ug/L	0.0476	30.79	ug/L	0.238	0.77%
Ti 337.279†	-0.9	-0.035	ug/L	0.2356	-0.176	ug/L	1.1779	670.98%
Tl 190.801†	1.3	0.340	ug/L	1.5270	1.698	ug/L	7.6350	449.53%
V 292.402†	11.4	0.114	ug/L	0.0027	0.571	ug/L	0.0134	2.34%
Zn 206.200†	-76.8	-0.591	ug/L	0.1586	-2.953	ug/L	0.7930	26.85%
Li 670.784	6834.9	0.282	ug/L	0.0078	1.410	ug/L	0.0388	2.75%

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

S67-MW016-061515

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Analysis Date: 07/06/15 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum (Al)	75-125	1848		16.22		2000.000	91.6		
Boron (B)	75-125	276.4		50.94		250.000	90.2		
Lithium (Li)	75-125	98.06		0.579		100.000	97.5		
Zinc (Zn)	75-125	456.1		3.863		500.000	90.5		

Comments:

07/06/15 16:32 AZ17694W22

07/06/15 18:40 AZ17694W22-A

Sequence No.: 65
Sample ID: AZ17694W22-A
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 86
Date Collected: 07/06/15 6:40:06 PM
Data Type: Reprocessed on 07/07/15 8:54:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W22-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	248864.3	104.4	%	0.28				0.27%
Y Radial	17872.5	110.0	%	1.56				1.42%
Ag 338.289†	17226.6	89.29	ug/L	0.266	89.29	ug/L	0.266	0.30%
Al 308.215†	2516.8	1848	ug/L	34.88	1848	ug/L	34.88	1.89%
As 188.979†	1211.5	231.2	ug/L	1.04	231.2	ug/L	1.04	0.45%
B 249.677†	9670.3	276.4	ug/L	0.94	276.4	ug/L	0.94	0.34%
Ba 233.527†	112588.5	258.8	ug/L	1.06	258.8	ug/L	1.06	0.41%
Be 313.107†	163877.5	46.22	ug/L	0.139	46.22	ug/L	0.139	0.30%
Ca 315.887†	450238.4	27950	ug/L	571.77	27950	ug/L	571.77	2.05%
Cd 214.440†	13400.4	46.56	ug/L	0.119	46.56	ug/L	0.119	0.26%
Co 228.616†	23766.0	240.5	ug/L	0.71	240.5	ug/L	0.71	0.30%
Cr 267.716†	20679.2	240.3	ug/L	0.67	240.3	ug/L	0.67	0.28%
Cu 327.393†	48732.8	233.3	ug/L	0.65	233.3	ug/L	0.65	0.28%
Fe 273.955†	74596.6	915.4	ug/L	3.53	915.4	ug/L	3.53	0.39%
K 766.490†	56041.2	6415	ug/L	118.70	6415	ug/L	118.70	1.85%
Mg 285.213†	453910.3	25550	ug/L	503.14	25550	ug/L	503.14	1.97%
Mn 257.610†	26662.2	286.2	ug/L	5.50	286.2	ug/L	5.50	1.92%
Mo 202.031†	7990.8	223.0	ug/L	1.01	223.0	ug/L	1.01	0.45%
Na 589.592†	671663.9	59950	ug/L	1261.76	59950	ug/L	1261.76	2.10%
Ni 231.604†	11094.7	222.4	ug/L	0.72	222.4	ug/L	0.72	0.33%
P 213.617†	6126.7	1879	ug/L	4.65	1879	ug/L	4.65	0.25%
Pb 220.353†	1214.2	232.3	ug/L	1.78	232.3	ug/L	1.78	0.77%
Sb 206.836†	1651.2	218.5	ug/L	3.25	218.5	ug/L	3.25	1.49%
Se 196.026†	719.0	217.6	ug/L	2.40	217.6	ug/L	2.40	1.10%
Sn 189.927†	1245.4	220.8	ug/L	0.37	220.8	ug/L	0.37	0.17%
Sr 421.552†	176612.6	243.1	ug/L	5.31	243.1	ug/L	5.31	2.19%
Ti 337.279†	9041.1	225.9	ug/L	4.88	225.9	ug/L	4.88	2.16%
Tl 190.801†	923.0	241.3	ug/L	0.94	241.3	ug/L	0.94	0.39%
V 292.402†	24336.2	243.7	ug/L	1.36	243.7	ug/L	1.36	0.56%
Zn 206.200†	43285.6	456.1	ug/L	1.63	456.1	ug/L	1.63	0.36%
Li 670.784	2377510.1	98.06	ug/L	0.398	98.06	ug/L	0.398	0.41%

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 150706A6010
Results Library (original): C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
Results Data Set (reprocessed): 150706A6010X
Results Library (reprocessed): C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1
Sample ID: CalBlk 150706RJS I:JL O:R
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 07/06/15 11:08:23 AM
Data Type: Reprocessed on 07/07/15 8:53:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CalBlk 150706RJS I:JL O:R

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	238446.1	465.53	0.20%	100.0	%
Y Radial	16244.9	70.38	0.43%	100.0	%
Ag 338.289†	-150.3	21.32	14.19%	[0.00]	ug/L
Al 308.215†	34.5	3.58	10.35%	[0.00]	ug/L
As 188.979†	-73.3	2.12	2.89%	[0.00]	ug/L
B 249.677†	94.9	6.20	6.53%	[0.00]	ug/L
Ba 233.527†	79.1	10.08	12.75%	[0.00]	ug/L
Be 313.107†	1888.2	35.44	1.88%	[0.00]	ug/L
Ca 315.887†	-67.8	12.62	18.63%	[0.00]	ug/L
Cd 214.440†	-490.8	11.12	2.27%	[0.00]	ug/L
Co 228.616†	-167.8	13.48	8.03%	[0.00]	ug/L
Cr 267.716†	21.5	4.72	21.98%	[0.00]	ug/L
Cu 327.393†	-1206.2	33.07	2.74%	[0.00]	ug/L
Fe 273.955†	386.3	7.32	1.89%	[0.00]	ug/L
K 766.490†	-654.2	54.98	8.40%	[0.00]	ug/L
Mg 285.213†	71.1	6.19	8.71%	[0.00]	ug/L
Mn 257.610†	-31.9	10.50	32.93%	[0.00]	ug/L
Mo 202.031†	-24.3	1.55	6.40%	[0.00]	ug/L
Na 589.592†	1094.2	95.51	8.73%	[0.00]	ug/L
Ni 231.604†	-133.3	9.80	7.36%	[0.00]	ug/L
P 213.617†	-60.5	3.91	6.46%	[0.00]	ug/L
Pb 220.353†	9.2	5.54	60.32%	[0.00]	ug/L
Sb 206.836†	-15.2	4.26	27.97%	[0.00]	ug/L
Se 196.026†	16.7	4.81	28.78%	[0.00]	ug/L
Sn 189.927†	5.8	2.16	37.26%	[0.00]	ug/L
Sr 421.552†	-10.1	3.13	31.18%	[0.00]	ug/L
Ti 337.279†	-32.8	4.72	14.39%	[0.00]	ug/L
Tl 190.801†	-12.5	5.75	45.91%	[0.00]	ug/L
V 292.402†	-128.1	14.01	10.93%	[0.00]	ug/L
Zn 206.200†	355.9	13.03	3.66%	[0.00]	ug/L
Li 670.784	7114.1	120.40	1.69%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 150706RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 2
Date Collected: 07/06/15 11:14:08 AM
Data Type: Reprocessed on 07/07/15 8:53:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 150706RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	240628.2	878.39	0.37%	100.9	%
Y Radial	16417.4	102.50	0.62%	101.1	%
Ag 338.289†	980.5	77.68	7.92%	[0.5]	ug/L
Al 308.215†	312.1	9.67	3.10%	[50]	ug/L
As 188.979†	55.3	2.29	4.14%	[2]	ug/L
B 249.677†	1155.4	6.48	0.56%	[25]	ug/L
Ba 233.527†	5035.2	39.66	0.79%	[1.5]	ug/L
Be 313.107†	35741.0	120.37	0.34%	[1]	ug/L
Ca 315.887†	8806.2	21.23	0.24%	[50]	ug/L
Cd 214.440†	2989.2	9.68	0.32%	[0.25]	ug/L
Co 228.616†	1263.8	2.81	0.22%	[2.5]	ug/L
Cr 267.716†	895.6	5.08	0.57%	[0.5]	ug/L
Cu 327.393†	2433.5	17.40	0.72%	[2.5]	ug/L
Fe 273.955†	17251.1	15.52	0.09%	[25]	ug/L
K 766.490†	5700.0	37.05	0.65%	[500]	ug/L
Mg 285.213†	9088.7	31.67	0.35%	[25]	ug/L
Mn 257.610†	977.1	5.12	0.52%	[1]	ug/L
Mo 202.031†	360.0	7.67	2.13%	[1]	ug/L
Na 589.592†	7785.7	90.12	1.16%	[500]	ug/L
Ni 231.604†	538.4	1.91	0.35%	[1]	ug/L
P 213.617†	186.8	1.69	0.91%	[12.5]	ug/L
Pb 220.353†	62.4	2.99	4.79%	[1.5]	ug/L
Sb 206.836†	80.9	1.53	1.89%	[2]	ug/L
Se 196.026†	34.8	5.91	17.01%	[2]	ug/L
Sn 189.927†	68.4	3.10	4.53%	[3]	ug/L
Sr 421.552†	7493.7	66.05	0.88%	[1]	ug/L
Ti 337.279†	461.4	4.59	0.99%	[2.5]	ug/L
Tl 190.801†	41.7	5.09	12.19%	[2]	ug/L
V 292.402†	1037.1	14.70	1.42%	[0.5]	ug/L
Zn 206.200†	3221.8	18.73	0.58%	[25]	ug/L
Li 670.784	80843.1	134.53	0.17%	[5]	ug/L

Sequence No.: 3
Sample ID: STD 2 150706RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 07/06/15 11:19:52 AM
Data Type: Reprocessed on 07/07/15 8:53:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 150706RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	227024.7	998.35	0.44%	95.21	%
Y Radial	15671.2	100.74	0.64%	96.47	%
Ag 338.289†	50708.1	159.51	0.31%	[250]	ug/L
Al 308.215†	14484.1	22.51	0.16%	[10000]	ug/L
As 188.979†	2704.8	18.39	0.68%	[500]	ug/L
B 249.677†	18368.7	86.33	0.47%	[500]	ug/L
Ba 233.527†	231424.6	646.98	0.28%	[500]	ug/L
Be 313.107†	1886837.5	4539.53	0.24%	[500]	ug/L
Ca 315.887†	430118.8	4629.90	1.08%	[25000]	ug/L
Cd 214.440†	155998.0	536.27	0.34%	[500]	ug/L
Co 228.616†	52844.5	130.28	0.25%	[500]	ug/L
Cr 267.716†	45729.1	116.74	0.26%	[500]	ug/L
Cu 327.393†	110182.1	229.75	0.21%	[500]	ug/L
Fe 273.955†	851630.8	2901.45	0.34%	[10000]	ug/L
K 766.490†	90661.0	260.97	0.29%	[10000]	ug/L
Mg 285.213†	473518.4	4611.50	0.97%	[25000]	ug/L
Mn 257.610†	49591.5	253.26	0.51%	[500]	ug/L
Mo 202.031†	19024.0	89.97	0.47%	[500]	ug/L
Na 589.592†	148205.6	1362.86	0.92%	[12500]	ug/L
Ni 231.604†	26757.8	160.63	0.60%	[500]	ug/L
P 213.617†	8551.5	41.12	0.48%	[2500]	ug/L
Pb 220.353†	2829.6	12.69	0.45%	[500]	ug/L
Sb 206.836†	3961.8	18.22	0.46%	[500]	ug/L
Se 196.026†	1725.8	15.71	0.91%	[500]	ug/L
Sn 189.927†	2986.2	18.06	0.60%	[500]	ug/L
Sr 421.552†	384998.4	3429.16	0.89%	[500]	ug/L
Ti 337.279†	21210.0	93.23	0.44%	[500]	ug/L
Tl 190.801†	2051.2	11.46	0.56%	[500]	ug/L
V 292.402†	52883.3	154.12	0.29%	[500]	ug/L
Zn 206.200†	51329.6	169.12	0.33%	[500]	ug/L
Li 670.784	6105583.8	26779.39	0.44%	[250]	ug/L

Sequence No.: 4
Sample ID: STD 3 150706RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 4
Date Collected: 07/06/15 11:25:12 AM
Data Type: Reprocessed on 07/07/15 8:53:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 150706RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	222417.8	1239.82	0.56%	93.28	%
Y Radial	15761.6	49.59	0.31%	97.02	%
Ag 338.289†	95231.1	217.10	0.23%	[500]	ug/L
Al 308.215†	26988.9	86.74	0.32%	[20000]	ug/L
As 188.979†	5087.2	38.69	0.76%	[1000]	ug/L
B 249.677†	34705.9	62.70	0.18%	[1000]	ug/L
Ba 233.527†	428276.3	1181.51	0.28%	[1000]	ug/L
Be 313.107†	3488520.3	8600.55	0.25%	[1000]	ug/L
Ca 315.887†	791417.7	7162.10	0.90%	[50000]	ug/L
Cd 214.440†	286888.0	917.78	0.32%	[1000]	ug/L
Co 228.616†	97059.1	269.04	0.28%	[1000]	ug/L
Cr 267.716†	84663.3	261.70	0.31%	[1000]	ug/L
Cu 327.393†	206158.7	286.57	0.14%	[1000]	ug/L
Fe 273.955†	1567374.1	4191.20	0.27%	[20000]	ug/L
K 766.490†	171077.7	484.93	0.28%	[20000]	ug/L
Mg 285.213†	873512.3	8790.78	1.01%	[50000]	ug/L
Mn 257.610†	91268.1	178.00	0.20%	[1000]	ug/L
Mo 202.031†	35320.9	264.35	0.75%	[1000]	ug/L
Na 589.592†	275898.2	3250.64	1.18%	[25000]	ug/L
Ni 231.604†	48852.1	348.31	0.71%	[1000]	ug/L
P 213.617†	16098.0	111.60	0.69%	[5000]	ug/L
Pb 220.353†	5180.9	51.50	0.99%	[1000]	ug/L
Sb 206.836†	7467.0	46.32	0.62%	[1000]	ug/L
Se 196.026†	3254.3	15.07	0.46%	[1000]	ug/L
Sn 189.927†	5556.2	37.96	0.68%	[1000]	ug/L
Sr 421.552†	711739.2	7863.06	1.10%	[1000]	ug/L
Ti 337.279†	39348.9	27.01	0.07%	[1000]	ug/L
Tl 190.801†	3755.9	32.79	0.87%	[1000]	ug/L
V 292.402†	98392.9	237.89	0.24%	[1000]	ug/L
Zn 206.200†	94302.4	304.68	0.32%	[1000]	ug/L
Li 670.784	12100910.9	840.99	0.01%	[500]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	192.9	0.00000	0.999638	
Al 308.215	3	Lin Thru 0	0.0	1.369	0.00000	0.999551	
As 188.979	3	Lin Thru 0	0.0	5.152	0.00000	0.999656	
B 249.677	3	Lin Thru 0	0.0	35.12	0.00000	0.999708	
Ba 233.527	3	Lin Thru 0	0.0	435.2	0.00000	0.999455	
Be 313.107	3	Lin Thru 0	0.0	3546	0.00000	0.999450	
Ca 315.887	3	Lin Thru 0	0.0	16.10	0.00000	0.999377	
Cd 214.440	3	Lin Thru 0	0.0	291.9	0.00000	0.999369	
Co 228.616	3	Lin Thru 0	0.0	98.79	0.00000	0.999348	
Cr 267.716	3	Lin Thru 0	0.0	86.02	0.00000	0.999462	
Cu 327.393	3	Lin Thru 0	0.0	209.0	0.00000	0.999597	
Fe 273.955	3	Lin Thru 0	0.0	79.73	0.00000	0.999383	
K 766.490	3	Lin Thru 0	0.0	8.658	0.00000	0.999695	
Mg 285.213	3	Lin Thru 0	0.0	17.76	0.00000	0.999414	
Mn 257.610	3	Lin Thru 0	0.0	92.85	0.00000	0.999383	
Mo 202.031	3	Lin Thru 0	0.0	35.87	0.00000	0.999505	
Na 589.592	3	Lin Thru 0	0.0	11.20	0.00000	0.999547	
Ni 231.604	3	Lin Thru 0	0.0	49.79	0.00000	0.999260	
P 213.617	3	Lin Thru 0	0.0	3.260	0.00000	0.999664	
Pb 220.353	3	Lin Thru 0	0.0	5.277	0.00000	0.999301	
Sb 206.836	3	Lin Thru 0	0.0	7.558	0.00000	0.999678	
Se 196.026	3	Lin Thru 0	0.0	3.294	0.00000	0.999684	

Sn 189.927	3	Lin Thru 0	0.0	5.640	0.00000	0.999531
Sr 421.552	3	Lin Thru 0	0.0	723.4	0.00000	0.999447
Ti 337.279	3	Lin Thru 0	0.0	39.96	0.00000	0.999495
Tl 190.801	3	Lin Thru 0	0.0	3.825	0.00000	0.999313
V 292.402	3	Lin Thru 0	0.0	99.87	0.00000	0.999525
Zn 206.200	3	Lin Thru 0	0.0	95.99	0.00000	0.999365
Li 670.784	3	Lin Thru 0	0.0	24250	0.00000	0.999989

Sequence No.: 5
Sample ID: ICV 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 07/06/15 11:29:55 AM
Data Type: Reprocessed on 07/07/15 8:53:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	229534.5	96.26	%	0.606				0.63%
Y Radial	15907.8	97.92	%	0.264				0.27%
Ag 338.289†	47918.3	248.4	ug/L	0.64	248.4	ug/L	0.64	0.26%
QC value within limits for Ag 338.289 Recovery = 99.34%								
Al 308.215†	16774.4	12270	ug/L	74.15	12270	ug/L	74.15	0.60%
QC value within limits for Al 308.215 Recovery = 98.20%								
As 188.979†	2508.4	483.7	ug/L	1.59	483.7	ug/L	1.59	0.33%
QC value within limits for As 188.979 Recovery = 96.74%								
B 249.677†	17119.2	515.4	ug/L	0.77	515.4	ug/L	0.77	0.15%
QC value within limits for B 249.677 Recovery = 103.08%								
Ba 233.527†	216050.6	496.0	ug/L	0.90	496.0	ug/L	0.90	0.18%
QC value within limits for Ba 233.527 Recovery = 99.21%								
Be 313.107†	1753106.3	494.4	ug/L	0.56	494.4	ug/L	0.56	0.11%
QC value within limits for Be 313.107 Recovery = 98.89%								
Ca 315.887†	212791.5	13210	ug/L	25.09	13210	ug/L	25.09	0.19%
QC value within limits for Ca 315.887 Recovery = 105.67%								
Cd 214.440†	146237.6	501.0	ug/L	1.27	501.0	ug/L	1.27	0.25%
QC value within limits for Cd 214.440 Recovery = 100.21%								
Co 228.616†	49481.1	500.8	ug/L	1.15	500.8	ug/L	1.15	0.23%
QC value within limits for Co 228.616 Recovery = 100.16%								
Cr 267.716†	42971.5	499.5	ug/L	0.93	499.5	ug/L	0.93	0.19%
QC value within limits for Cr 267.716 Recovery = 99.90%								
Cu 327.393†	106153.7	509.0	ug/L	0.60	509.0	ug/L	0.60	0.12%
QC value within limits for Cu 327.393 Recovery = 101.80%								
Fe 273.955†	992032.8	12400	ug/L	25.19	12400	ug/L	25.19	0.20%
QC value within limits for Fe 273.955 Recovery = 99.23%								
K 766.490†	104987.9	12100	ug/L	28.30	12100	ug/L	28.30	0.23%
QC value within limits for K 766.490 Recovery = 96.80%								
Mg 285.213†	226888.3	12780	ug/L	29.43	12780	ug/L	29.43	0.23%
QC value within limits for Mg 285.213 Recovery = 102.26%								
Mn 257.610†	46065.5	495.8	ug/L	1.06	495.8	ug/L	1.06	0.21%
QC value within limits for Mn 257.610 Recovery = 99.16%								
Mo 202.031†	17604.1	491.4	ug/L	1.99	491.4	ug/L	1.99	0.41%
QC value within limits for Mo 202.031 Recovery = 98.27%								
Na 589.592†	138709.7	12370	ug/L	80.45	12370	ug/L	80.45	0.65%
QC value within limits for Na 589.592 Recovery = 98.94%								
Ni 231.604†	25541.3	512.1	ug/L	3.48	512.1	ug/L	3.48	0.68%
QC value within limits for Ni 231.604 Recovery = 102.41%								
P 213.617†	8118.7	2490	ug/L	14.01	2490	ug/L	14.01	0.56%
QC value within limits for P 213.617 Recovery = 99.62%								
Pb 220.353†	2734.8	521.6	ug/L	1.68	521.6	ug/L	1.68	0.32%
QC value within limits for Pb 220.353 Recovery = 104.32%								
Sb 206.836†	3721.5	492.4	ug/L	1.82	492.4	ug/L	1.82	0.37%
QC value within limits for Sb 206.836 Recovery = 98.47%								
Se 196.026†	1658.3	508.3	ug/L	3.73	508.3	ug/L	3.73	0.73%
QC value within limits for Se 196.026 Recovery = 101.65%								
Sn 189.927†	1448.7	256.9	ug/L	1.49	256.9	ug/L	1.49	0.58%
QC value within limits for Sn 189.927 Recovery = 102.75%								
Sr 421.552†	367446.4	507.4	ug/L	3.54	507.4	ug/L	3.54	0.70%
QC value within limits for Sr 421.552 Recovery = 101.49%								
Ti 337.279†	19820.7	495.8	ug/L	1.32	495.8	ug/L	1.32	0.27%
QC value within limits for Ti 337.279 Recovery = 99.16%								
Tl 190.801†	2015.7	526.9	ug/L	2.92	526.9	ug/L	2.92	0.55%
QC value within limits for Tl 190.801 Recovery = 105.39%								
V 292.402†	49466.4	495.3	ug/L	0.51	495.3	ug/L	0.51	0.10%
QC value within limits for V 292.402 Recovery = 99.06%								
Zn 206.200†	49172.2	518.4	ug/L	1.14	518.4	ug/L	1.14	0.22%
QC value within limits for Zn 206.200 Recovery = 103.68%								

Li 670.784	5989083.1	247.0 ug/L	1.46	247.0 ug/L	1.46	0.59%

QC value within limits for Li 670.784 Recovery = 98.81%
All analyte(s) passed QC.

Sequence No.: 6
Sample ID: ICB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 07/06/15 11:35:17 AM
Data Type: Reprocessed on 07/07/15 8:53:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	241576.7	101.3	%	0.46				0.46%
Y Radial	16540.9	101.8	%	1.16				1.14%
Ag 338.289†	-8.5	-0.044	ug/L	0.2017	-0.044	ug/L	0.2017	458.96%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.0	0.709	ug/L	7.7923	0.709	ug/L	7.7923	>999.9%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.9	0.179	ug/L	1.4663	0.179	ug/L	1.4663	818.30%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	105.2	3.004	ug/L	0.5073	3.004	ug/L	0.5073	16.88%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-15.2	-0.035	ug/L	0.0189	-0.035	ug/L	0.0189	53.39%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	72.4	0.020	ug/L	0.0079	0.020	ug/L	0.0079	38.45%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	21.2	1.314	ug/L	0.3496	1.314	ug/L	0.3496	26.61%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	40.1	0.138	ug/L	0.0471	0.138	ug/L	0.0471	34.20%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-2.0	-0.018	ug/L	0.1174	-0.018	ug/L	0.1174	652.22%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.9	0.022	ug/L	0.0834	0.022	ug/L	0.0834	373.83%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	596.4	2.853	ug/L	0.0148	2.853	ug/L	0.0148	0.52%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	211.7	2.654	ug/L	0.4211	2.654	ug/L	0.4211	15.87%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	133.2	15.38	ug/L	2.369	15.38	ug/L	2.369	15.41%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	14.6	0.822	ug/L	0.3984	0.822	ug/L	0.3984	48.47%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-4.9	-0.053	ug/L	0.0742	-0.053	ug/L	0.0742	140.33%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	26.1	0.728	ug/L	0.3292	0.728	ug/L	0.3292	45.21%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	83.8	7.463	ug/L	4.7410	7.463	ug/L	4.7410	63.52%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-2.3	-0.048	ug/L	0.1946	-0.048	ug/L	0.1946	402.52%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-8.0	-2.458	ug/L	0.5801	-2.458	ug/L	0.5801	23.60%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	8.8	1.663	ug/L	0.8269	1.663	ug/L	0.8269	49.73%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.7	-0.224	ug/L	0.2768	-0.224	ug/L	0.2768	123.81%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.7	0.831	ug/L	0.5743	0.831	ug/L	0.5743	69.12%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	6.5	1.156	ug/L	0.1598	1.156	ug/L	0.1598	13.82%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	8.2	0.011	ug/L	0.0218	0.011	ug/L	0.0218	192.93%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-4.8	-0.121	ug/L	0.0827	-0.121	ug/L	0.0827	68.14%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	12.8	3.351	ug/L	1.7841	3.351	ug/L	1.7841	53.24%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	0.5	0.005	ug/L	0.0285	0.005	ug/L	0.0285	558.26%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	67.4	0.703	ug/L	0.1906	0.703	ug/L	0.1906	27.11%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	6687.8	0.276 ug/L	0.0075	0.276 ug/L	0.0075	2.71%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 7
Sample ID: ICSA 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 6
Date Collected: 07/06/15 11:41:00 AM
Data Type: Reprocessed on 07/07/15 8:53:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	226020.9	94.79	%	0.122				0.13%
Y Radial	15871.3	97.70	%	0.725				0.74%
Ag 338.289†	111.5	0.578	ug/L	0.0366	0.578	ug/L	0.0366	6.33%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	135450.6	98920	ug/L	1192.52	98920	ug/L	1192.52	1.21%
QC value within limits for Al 308.215 Recovery = 98.92%								
As 188.979†	-3.3	-0.964	ug/L	2.7779	-0.964	ug/L	2.7779	288.29%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-7466.6	3.210	ug/L	1.3859	3.210	ug/L	1.3859	43.17%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	1575.0	-1.609	ug/L	0.0816	-1.609	ug/L	0.0816	5.07%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	229.2	0.065	ug/L	0.0041	0.065	ug/L	0.0041	6.36%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	1638435.9	101700	ug/L	1304.14	101700	ug/L	1304.14	1.28%
QC value within limits for Ca 315.887 Recovery = 101.74%								
Cd 214.440†	1105.0	0.257	ug/L	0.0486	0.257	ug/L	0.0486	18.89%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	127.3	-1.449	ug/L	0.0399	-1.449	ug/L	0.0399	2.75%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	86.7	0.153	ug/L	0.1294	0.153	ug/L	0.1294	84.67%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-144.7	0.553	ug/L	0.0804	0.553	ug/L	0.0804	14.54%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	7380713.2	92570	ug/L	767.44	92570	ug/L	767.44	0.83%
QC value within limits for Fe 273.955 Recovery = 92.57%								
K 766.490†	199.4	-69.66	ug/L	7.278	-69.66	ug/L	7.278	10.45%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	1724950.7	97180	ug/L	1198.22	97180	ug/L	1198.22	1.23%
QC value within limits for Mg 285.213 Recovery = 97.18%								
Mn 257.610†	277.8	-0.250	ug/L	0.2110	-0.250	ug/L	0.2110	84.49%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-96.2	-1.356	ug/L	0.3316	-1.356	ug/L	0.3316	24.45%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	314.2	15.99	ug/L	7.195	15.99	ug/L	7.195	44.99%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-104.9	0.201	ug/L	0.3549	0.201	ug/L	0.3549	176.55%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-119.0	-36.49	ug/L	0.250	-36.49	ug/L	0.250	0.68%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-81.1	-0.202	ug/L	0.7803	-0.202	ug/L	0.7803	386.36%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-21.1	-2.792	ug/L	1.8085	-2.792	ug/L	1.8085	64.77%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-125.4	6.088	ug/L	1.0019	6.088	ug/L	1.0019	16.46%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	8.5	1.507	ug/L	0.4959	1.507	ug/L	0.4959	32.90%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	423.6	-3.391	ug/L	0.0453	-3.391	ug/L	0.0453	1.34%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	49.5	-0.435	ug/L	0.8280	-0.435	ug/L	0.8280	190.50%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-15.9	-4.155	ug/L	2.4236	-4.155	ug/L	2.4236	58.34%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-2.9	-0.029	ug/L	0.0399	-0.029	ug/L	0.0399	138.30%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	416.5	3.862	ug/L	0.0861	3.862	ug/L	0.0861	2.23%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	9610.2	0.396 ug/L	0.0107	0.396 ug/L	0.0107	2.71%

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICSAB 150706RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 7
Date Collected: 07/06/15 11:47:18 AM
Data Type: Reprocessed on 07/07/15 8:53:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 150706RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	225836.7	94.71	%	0.434				0.46%
Y Radial	16026.0	98.65	%	0.089				0.09%
Ag 338.289†	97744.4	506.6	ug/L	0.84	506.6	ug/L	0.84	0.17%
QC value within limits for Ag 338.289 Recovery = 101.32%								
Al 308.215†	135510.7	98980	ug/L	809.50	98980	ug/L	809.50	0.82%
QC value within limits for Al 308.215 Recovery = 98.98%								
As 188.979†	1239.3	238.9	ug/L	1.96	238.9	ug/L	1.96	0.82%
QC value within limits for As 188.979 Recovery = 95.56%								
B 249.677†	-7587.5	4.400	ug/L	1.0157	4.400	ug/L	1.0157	23.09%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	108597.9	244.3	ug/L	0.44	244.3	ug/L	0.44	0.18%
QC value within limits for Ba 233.527 Recovery = 97.74%								
Be 313.107†	853322.1	240.7	ug/L	0.82	240.7	ug/L	0.82	0.34%
QC value within limits for Be 313.107 Recovery = 96.27%								
Ca 315.887†	1634272.9	101500	ug/L	668.04	101500	ug/L	668.04	0.66%
QC value within limits for Ca 315.887 Recovery = 101.48%								
Cd 214.440†	141131.1	480.0	ug/L	1.79	480.0	ug/L	1.79	0.37%
QC value within limits for Cd 214.440 Recovery = 96.01%								
Co 228.616†	24681.6	247.7	ug/L	1.38	247.7	ug/L	1.38	0.56%
QC value within limits for Co 228.616 Recovery = 99.08%								
Cr 267.716†	21875.7	253.5	ug/L	1.08	253.5	ug/L	1.08	0.43%
QC value within limits for Cr 267.716 Recovery = 101.40%								
Cu 327.393†	52860.8	254.0	ug/L	0.41	254.0	ug/L	0.41	0.16%
QC value within limits for Cu 327.393 Recovery = 101.61%								
Fe 273.955†	7552942.3	94710	ug/L	370.53	94710	ug/L	370.53	0.39%
QC value within limits for Fe 273.955 Recovery = 94.71%								
K 766.490†	225.5	-69.36	ug/L	6.193	-69.36	ug/L	6.193	8.93%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	1725324.9	97200	ug/L	813.79	97200	ug/L	813.79	0.84%
QC value within limits for Mg 285.213 Recovery = 97.20%								
Mn 257.610†	23104.3	245.6	ug/L	0.32	245.6	ug/L	0.32	0.13%
QC value within limits for Mn 257.610 Recovery = 98.25%								
Mo 202.031†	8412.8	236.1	ug/L	0.65	236.1	ug/L	0.65	0.27%
QC value within limits for Mo 202.031 Recovery = 94.45%								
Na 589.592†	211.8	5.886	ug/L	2.3585	5.886	ug/L	2.3585	40.07%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	23718.6	478.2	ug/L	2.50	478.2	ug/L	2.50	0.52%
QC value within limits for Ni 231.604 Recovery = 95.63%								
P 213.617†	-276.2	-84.73	ug/L	2.452	-84.73	ug/L	2.452	2.89%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	2537.1	496.5	ug/L	2.13	496.5	ug/L	2.13	0.43%
QC value within limits for Pb 220.353 Recovery = 99.31%								
Sb 206.836†	1816.4	240.3	ug/L	1.37	240.3	ug/L	1.37	0.57%
QC value within limits for Sb 206.836 Recovery = 96.13%								
Se 196.026†	677.3	250.2	ug/L	2.78	250.2	ug/L	2.78	1.11%
QC value within limits for Se 196.026 Recovery = 100.08%								
Sn 189.927†	10.4	1.850	ug/L	0.8661	1.850	ug/L	0.8661	46.82%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	465.0	-3.326	ug/L	0.0580	-3.326	ug/L	0.0580	1.74%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	54.3	-0.272	ug/L	0.3532	-0.272	ug/L	0.3532	129.74%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	928.4	242.7	ug/L	2.89	242.7	ug/L	2.89	1.19%
QC value within limits for Tl 190.801 Recovery = 97.08%								
V 292.402†	24884.3	249.2	ug/L	0.04	249.2	ug/L	0.04	0.02%
QC value within limits for V 292.402 Recovery = 99.67%								
Zn 206.200†	45485.7	476.1	ug/L	1.98	476.1	ug/L	1.98	0.42%
QC value within limits for Zn 206.200 Recovery = 95.23%								

Li 670.784	9432.8	0.389 ug/L	0.0106	0.389 ug/L	0.0106	2.73%

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: CCV1 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 07/06/15 11:53:37 AM
Data Type: Reprocessed on 07/07/15 8:53:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	229088.0	96.08	%	0.218				0.23%
Y Radial	16113.8	99.19	%	0.323				0.33%
Ag 338.289†	51006.4	264.4	ug/L	0.39	264.4	ug/L	0.39	0.15%
QC value within limits for Ag 338.289 Recovery = 105.75%								
Al 308.215†	14473.7	10600	ug/L	51.56	10600	ug/L	51.56	0.49%
QC value within limits for Al 308.215 Recovery = 105.96%								
As 188.979†	2742.5	527.3	ug/L	3.13	527.3	ug/L	3.13	0.59%
QC value within limits for As 188.979 Recovery = 105.46%								
B 249.677†	18417.2	547.9	ug/L	2.82	547.9	ug/L	2.82	0.51%
QC value within limits for B 249.677 Recovery = 109.58%								
Ba 233.527†	232425.1	533.8	ug/L	0.51	533.8	ug/L	0.51	0.09%
QC value within limits for Ba 233.527 Recovery = 106.75%								
Be 313.107†	1900909.0	536.1	ug/L	0.47	536.1	ug/L	0.47	0.09%
QC value within limits for Be 313.107 Recovery = 107.23%								
Ca 315.887†	425466.7	26420	ug/L	180.80	26420	ug/L	180.80	0.68%
QC value within limits for Ca 315.887 Recovery = 105.66%								
Cd 214.440†	155450.2	532.9	ug/L	1.21	532.9	ug/L	1.21	0.23%
QC value within limits for Cd 214.440 Recovery = 106.58%								
Co 228.616†	53015.4	536.6	ug/L	0.93	536.6	ug/L	0.93	0.17%
QC value within limits for Co 228.616 Recovery = 107.33%								
Cr 267.716†	45738.9	531.6	ug/L	0.59	531.6	ug/L	0.59	0.11%
QC value within limits for Cr 267.716 Recovery = 106.32%								
Cu 327.393†	111306.9	533.6	ug/L	0.96	533.6	ug/L	0.96	0.18%
QC value within limits for Cu 327.393 Recovery = 106.72%								
Fe 273.955†	854302.8	10670	ug/L	13.47	10670	ug/L	13.47	0.13%
QC value within limits for Fe 273.955 Recovery = 106.72%								
K 766.490†	91747.2	10570	ug/L	34.08	10570	ug/L	34.08	0.32%
QC value within limits for K 766.490 Recovery = 105.71%								
Mg 285.213†	475832.9	26790	ug/L	228.70	26790	ug/L	228.70	0.85%
QC value within limits for Mg 285.213 Recovery = 107.18%								
Mn 257.610†	49230.2	529.3	ug/L	1.67	529.3	ug/L	1.67	0.32%
QC value within limits for Mn 257.610 Recovery = 105.85%								
Mo 202.031†	19154.3	534.6	ug/L	3.44	534.6	ug/L	3.44	0.64%
QC value within limits for Mo 202.031 Recovery = 106.91%								
Na 589.592†	149146.1	13300	ug/L	123.30	13300	ug/L	123.30	0.93%
QC value within limits for Na 589.592 Recovery = 106.40%								
Ni 231.604†	26915.5	539.6	ug/L	3.00	539.6	ug/L	3.00	0.56%
QC value within limits for Ni 231.604 Recovery = 107.93%								
P 213.617†	8663.4	2658	ug/L	18.74	2658	ug/L	18.74	0.71%
QC value within limits for P 213.617 Recovery = 106.30%								
Pb 220.353†	2891.7	551.8	ug/L	4.24	551.8	ug/L	4.24	0.77%
QC value within limits for Pb 220.353 Recovery = 110.35%								
Sb 206.836†	4026.1	532.7	ug/L	1.99	532.7	ug/L	1.99	0.37%
QC value within limits for Sb 206.836 Recovery = 106.53%								
Se 196.026†	1747.8	534.1	ug/L	4.72	534.1	ug/L	4.72	0.88%
QC value within limits for Se 196.026 Recovery = 106.83%								
Sn 189.927†	3005.1	532.9	ug/L	3.30	532.9	ug/L	3.30	0.62%
QC value within limits for Sn 189.927 Recovery = 106.57%								
Sr 421.552†	387486.7	534.6	ug/L	4.84	534.6	ug/L	4.84	0.91%
QC value within limits for Sr 421.552 Recovery = 106.93%								
Ti 337.279†	21203.1	530.2	ug/L	0.90	530.2	ug/L	0.90	0.17%
QC value within limits for Ti 337.279 Recovery = 106.04%								
Tl 190.801†	2127.5	556.2	ug/L	2.87	556.2	ug/L	2.87	0.52%
QC value greater than the upper limit for Tl 190.801 Recovery = 111.23%								
V 292.402†	53438.6	535.1	ug/L	1.01	535.1	ug/L	1.01	0.19%
QC value within limits for V 292.402 Recovery = 107.02%								
Zn 206.200†	51220.0	540.8	ug/L	1.19	540.8	ug/L	1.19	0.22%
QC value within limits for Zn 206.200 Recovery = 108.15%								

Li 670.784	6298526.5	259.8 ug/L	0.48	259.8 ug/L	0.48	0.19%

QC value within limits for Li 670.784 Recovery = 103.91%
QC Failed. Continue with analysis.

Sequence No.: 10
Sample ID: CCB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 07/06/15 12:03:05 PM
Data Type: Reprocessed on 07/07/15 8:53:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	241232.3	101.2	%	0.79				0.78%
Y Radial	16660.1	102.6	%	0.73				0.71%
Ag 338.289†	-37.2	-0.193	ug/L	0.3388	-0.193	ug/L	0.3388	175.78%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.6	1.109	ug/L	3.7525	1.109	ug/L	3.7525	338.30%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-1.2	-0.231	ug/L	0.7746	-0.231	ug/L	0.7746	335.37%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	143.5	4.098	ug/L	0.5886	4.098	ug/L	0.5886	14.36%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-3.9	-0.010	ug/L	0.0021	-0.010	ug/L	0.0021	20.86%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	115.7	0.033	ug/L	0.0006	0.033	ug/L	0.0006	1.98%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	64.2	3.984	ug/L	0.0438	3.984	ug/L	0.0438	1.10%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	39.7	0.137	ug/L	0.0419	0.137	ug/L	0.0419	30.73%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	2.2	0.026	ug/L	0.0675	0.026	ug/L	0.0675	260.84%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-0.6	-0.007	ug/L	0.0339	-0.007	ug/L	0.0339	475.03%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	734.0	3.511	ug/L	0.0289	3.511	ug/L	0.0289	0.82%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	333.9	4.195	ug/L	0.1736	4.195	ug/L	0.1736	4.14%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	99.3	11.48	ug/L	9.930	11.48	ug/L	9.930	86.53%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	26.8	1.511	ug/L	0.2519	1.511	ug/L	0.2519	16.67%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-6.8	-0.073	ug/L	0.0373	-0.073	ug/L	0.0373	50.84%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	39.4	1.099	ug/L	0.1308	1.099	ug/L	0.1308	11.90%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-132.9	-11.88	ug/L	2.050	-11.88	ug/L	2.050	17.26%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-2.9	-0.059	ug/L	0.1431	-0.059	ug/L	0.1431	242.47%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-14.0	-4.295	ug/L	1.1172	-4.295	ug/L	1.1172	26.01%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	6.4	1.209	ug/L	0.2351	1.209	ug/L	0.2351	19.44%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-2.2	-0.293	ug/L	0.5511	-0.293	ug/L	0.5511	187.84%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.4	0.117	ug/L	0.3770	0.117	ug/L	0.3770	322.15%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	6.7	1.193	ug/L	0.3391	1.193	ug/L	0.3391	28.41%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	11.3	0.015	ug/L	0.0175	0.015	ug/L	0.0175	112.91%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-1.6	-0.039	ug/L	0.1449	-0.039	ug/L	0.1449	370.63%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	11.3	2.967	ug/L	1.2938	2.967	ug/L	1.2938	43.61%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-8.4	-0.084	ug/L	0.0527	-0.084	ug/L	0.0527	62.47%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	99.7	1.039	ug/L	0.3286	1.039	ug/L	0.3286	31.62%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	7286.0	0.301 ug/L	0.0065	0.301 ug/L	0.0065	2.15%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 29
Sample ID: CCV2 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 07/06/15 2:53:31 PM
Data Type: Reprocessed on 07/07/15 8:54:01 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	232613.4	97.55	%	1.269				1.30%
Y Radial	16144.6	99.38	%	0.935				0.94%
Ag 338.289†	35071.9	181.8	ug/L	3.17	181.8	ug/L	3.17	1.74%
QC value within limits for Ag 338.289 Recovery = 96.95%								
Al 308.215†	9898.3	7245	ug/L	27.16	7245	ug/L	27.16	0.37%
QC value within limits for Al 308.215 Recovery = 96.60%								
As 188.979†	1854.4	356.5	ug/L	7.18	356.5	ug/L	7.18	2.01%
QC value within limits for As 188.979 Recovery = 95.06%								
B 249.677†	12946.7	384.5	ug/L	6.30	384.5	ug/L	6.30	1.64%
QC value within limits for B 249.677 Recovery = 102.54%								
Ba 233.527†	156544.9	359.5	ug/L	5.84	359.5	ug/L	5.84	1.62%
QC value within limits for Ba 233.527 Recovery = 95.87%								
Be 313.107†	1246062.4	351.4	ug/L	5.26	351.4	ug/L	5.26	1.50%
QC value within limits for Be 313.107 Recovery = 93.72%								
Ca 315.887†	299158.9	18570	ug/L	100.80	18570	ug/L	100.80	0.54%
QC value within limits for Ca 315.887 Recovery = 99.06%								
Cd 214.440†	105296.4	361.0	ug/L	6.34	361.0	ug/L	6.34	1.76%
QC value within limits for Cd 214.440 Recovery = 96.26%								
Co 228.616†	35813.5	362.5	ug/L	5.88	362.5	ug/L	5.88	1.62%
QC value within limits for Co 228.616 Recovery = 96.66%								
Cr 267.716†	32794.0	381.1	ug/L	6.75	381.1	ug/L	6.75	1.77%
QC value within limits for Cr 267.716 Recovery = 101.63%								
Cu 327.393†	76873.2	368.5	ug/L	5.75	368.5	ug/L	5.75	1.56%
QC value within limits for Cu 327.393 Recovery = 98.27%								
Fe 273.955†	578444.9	7227	ug/L	122.65	7227	ug/L	122.65	1.70%
QC value within limits for Fe 273.955 Recovery = 96.36%								
K 766.490†	62769.4	7232	ug/L	44.97	7232	ug/L	44.97	0.62%
QC value within limits for K 766.490 Recovery = 96.42%								
Mg 285.213†	336593.7	18950	ug/L	94.68	18950	ug/L	94.68	0.50%
QC value within limits for Mg 285.213 Recovery = 101.09%								
Mn 257.610†	34080.1	366.4	ug/L	2.08	366.4	ug/L	2.08	0.57%
QC value within limits for Mn 257.610 Recovery = 97.70%								
Mo 202.031†	12963.5	361.8	ug/L	5.97	361.8	ug/L	5.97	1.65%
QC value within limits for Mo 202.031 Recovery = 96.48%								
Na 589.592†	106165.1	9468	ug/L	44.42	9468	ug/L	44.42	0.47%
QC value within limits for Na 589.592 Recovery = 100.99%								
Ni 231.604†	18241.6	365.8	ug/L	6.24	365.8	ug/L	6.24	1.70%
QC value within limits for Ni 231.604 Recovery = 97.53%								
P 213.617†	5787.5	1775	ug/L	32.77	1775	ug/L	32.77	1.85%
QC value within limits for P 213.617 Recovery = 94.69%								
Pb 220.353†	1858.3	354.8	ug/L	7.92	354.8	ug/L	7.92	2.23%
QC value within limits for Pb 220.353 Recovery = 94.60%								
Sb 206.836†	2685.9	355.4	ug/L	6.43	355.4	ug/L	6.43	1.81%
QC value within limits for Sb 206.836 Recovery = 94.76%								
Se 196.026†	1198.9	366.4	ug/L	8.22	366.4	ug/L	8.22	2.24%
QC value within limits for Se 196.026 Recovery = 97.70%								
Sn 189.927†	2039.8	361.7	ug/L	4.64	361.7	ug/L	4.64	1.28%
QC value within limits for Sn 189.927 Recovery = 96.45%								
Sr 421.552†	267552.6	369.1	ug/L	5.14	369.1	ug/L	5.14	1.39%
QC value within limits for Sr 421.552 Recovery = 98.44%								
Ti 337.279†	14700.0	367.6	ug/L	1.20	367.6	ug/L	1.20	0.33%
QC value within limits for Ti 337.279 Recovery = 98.02%								
Tl 190.801†	1308.6	342.1	ug/L	4.91	342.1	ug/L	4.91	1.44%
QC value within limits for Tl 190.801 Recovery = 91.22%								
V 292.402†	35091.8	351.4	ug/L	5.05	351.4	ug/L	5.05	1.44%
QC value within limits for V 292.402 Recovery = 93.70%								
Zn 206.200†	36139.3	381.6	ug/L	6.15	381.6	ug/L	6.15	1.61%
QC value within limits for Zn 206.200 Recovery = 101.77%								

Li 670.784	4363482.0	180.0 ug/L	0.34	180.0 ug/L	0.34	0.19%

QC value within limits for Li 670.784 Recovery = 95.99%
All analyte(s) passed QC.

Sequence No.: 30
Sample ID: CCB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 07/06/15 2:58:49 PM
Data Type: Reprocessed on 07/07/15 8:54:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	247396.5	103.8	%	3.28				3.16%
Y Radial	16030.3	98.68	%	0.613				0.62%
Ag 338.289†	-28.1	-0.146	ug/L	0.1582	-0.146	ug/L	0.1582	108.49%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-2.6	-1.931	ug/L	3.6653	-1.931	ug/L	3.6653	189.83%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-4.2	-0.818	ug/L	1.2073	-0.818	ug/L	1.2073	147.51%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	53.2	1.520	ug/L	0.0921	1.520	ug/L	0.0921	6.06%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-1.8	-0.005	ug/L	0.0057	-0.005	ug/L	0.0057	120.72%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	164.6	0.046	ug/L	0.0206	0.046	ug/L	0.0206	44.44%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	77.5	4.815	ug/L	0.5344	4.815	ug/L	0.5344	11.10%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	2.5	0.009	ug/L	0.0312	0.009	ug/L	0.0312	353.26%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	11.0	0.115	ug/L	0.0999	0.115	ug/L	0.0999	87.02%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-2.6	-0.030	ug/L	0.0559	-0.030	ug/L	0.0559	186.61%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	191.9	0.918	ug/L	0.1509	0.918	ug/L	0.1509	16.44%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	141.7	1.789	ug/L	0.8214	1.789	ug/L	0.8214	45.91%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	71.5	8.275	ug/L	0.9334	8.275	ug/L	0.9334	11.28%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	25.9	1.458	ug/L	0.2306	1.458	ug/L	0.2306	15.81%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-3.8	-0.041	ug/L	0.0744	-0.041	ug/L	0.0744	181.46%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	29.0	0.807	ug/L	0.1124	0.807	ug/L	0.1124	13.93%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-300.7	-26.86	ug/L	2.447	-26.86	ug/L	2.447	9.11%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	1.9	0.037	ug/L	0.1989	0.037	ug/L	0.1989	533.05%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-15.7	-4.811	ug/L	1.5757	-4.811	ug/L	1.5757	32.75%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-0.3	-0.056	ug/L	1.9457	-0.056	ug/L	1.9457	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-3.7	-0.485	ug/L	0.0618	-0.485	ug/L	0.0618	12.74%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.8	0.837	ug/L	1.8302	0.837	ug/L	1.8302	218.66%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	2.5	0.443	ug/L	0.3848	0.443	ug/L	0.3848	86.90%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	9.7	0.013	ug/L	0.0346	0.013	ug/L	0.0346	261.67%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-4.3	-0.106	ug/L	0.3766	-0.106	ug/L	0.3766	353.61%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	3.7	0.961	ug/L	1.0996	0.961	ug/L	1.0996	114.47%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-16.6	-0.166	ug/L	0.1031	-0.166	ug/L	0.1031	62.01%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-173.8	-1.811	ug/L	0.1977	-1.811	ug/L	0.1977	10.92%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	1655.4	0.068 ug/L	0.0033	0.068 ug/L	0.0033	4.80%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 41
Sample ID: CCV1 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 07/06/15 4:08:12 PM
Data Type: Reprocessed on 07/07/15 8:54:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	220056.6	92.29	%	0.714				0.77%
Y Radial	15115.9	93.05	%	0.496				0.53%
Ag 338.289†	47178.4	244.5	ug/L	1.83	244.5	ug/L	1.83	0.75%
QC value within limits for Ag 338.289 Recovery = 97.81%								
Al 308.215†	13370.2	9787	ug/L	62.93	9787	ug/L	62.93	0.64%
QC value within limits for Al 308.215 Recovery = 97.87%								
As 188.979†	2513.8	483.2	ug/L	4.35	483.2	ug/L	4.35	0.90%
QC value within limits for As 188.979 Recovery = 96.63%								
B 249.677†	16952.4	504.4	ug/L	0.17	504.4	ug/L	0.17	0.03%
QC value within limits for B 249.677 Recovery = 100.88%								
Ba 233.527†	214112.0	491.7	ug/L	2.15	491.7	ug/L	2.15	0.44%
QC value within limits for Ba 233.527 Recovery = 98.34%								
Be 313.107†	1734986.2	489.3	ug/L	3.55	489.3	ug/L	3.55	0.73%
QC value within limits for Be 313.107 Recovery = 97.87%								
Ca 315.887†	411323.4	25540	ug/L	130.03	25540	ug/L	130.03	0.51%
QC value within limits for Ca 315.887 Recovery = 102.15%								
Cd 214.440†	144110.3	494.0	ug/L	2.31	494.0	ug/L	2.31	0.47%
QC value within limits for Cd 214.440 Recovery = 98.80%								
Co 228.616†	48829.2	494.3	ug/L	1.97	494.3	ug/L	1.97	0.40%
QC value within limits for Co 228.616 Recovery = 98.85%								
Cr 267.716†	42367.7	492.4	ug/L	3.17	492.4	ug/L	3.17	0.64%
QC value within limits for Cr 267.716 Recovery = 98.48%								
Cu 327.393†	102605.9	491.9	ug/L	2.41	491.9	ug/L	2.41	0.49%
QC value within limits for Cu 327.393 Recovery = 98.38%								
Fe 273.955†	790132.8	9872	ug/L	48.85	9872	ug/L	48.85	0.49%
QC value within limits for Fe 273.955 Recovery = 98.72%								
K 766.490†	84118.2	9691	ug/L	43.61	9691	ug/L	43.61	0.45%
QC value within limits for K 766.490 Recovery = 96.91%								
Mg 285.213†	455801.6	25670	ug/L	137.85	25670	ug/L	137.85	0.54%
QC value within limits for Mg 285.213 Recovery = 102.67%								
Mn 257.610†	46122.1	495.8	ug/L	2.51	495.8	ug/L	2.51	0.51%
QC value within limits for Mn 257.610 Recovery = 99.16%								
Mo 202.031†	17735.4	495.0	ug/L	3.42	495.0	ug/L	3.42	0.69%
QC value within limits for Mo 202.031 Recovery = 98.99%								
Na 589.592†	135692.1	12100	ug/L	69.68	12100	ug/L	69.68	0.58%
QC value within limits for Na 589.592 Recovery = 96.80%								
Ni 231.604†	24901.1	499.3	ug/L	5.24	499.3	ug/L	5.24	1.05%
QC value within limits for Ni 231.604 Recovery = 99.86%								
P 213.617†	7903.9	2425	ug/L	21.58	2425	ug/L	21.58	0.89%
QC value within limits for P 213.617 Recovery = 96.98%								
Pb 220.353†	2587.9	493.9	ug/L	5.51	493.9	ug/L	5.51	1.12%
QC value within limits for Pb 220.353 Recovery = 98.79%								
Sb 206.836†	3669.7	485.5	ug/L	2.57	485.5	ug/L	2.57	0.53%
QC value within limits for Sb 206.836 Recovery = 97.10%								
Se 196.026†	1590.3	486.0	ug/L	3.07	486.0	ug/L	3.07	0.63%
QC value within limits for Se 196.026 Recovery = 97.21%								
Sn 189.927†	2785.4	493.9	ug/L	4.48	493.9	ug/L	4.48	0.91%
QC value within limits for Sn 189.927 Recovery = 98.78%								
Sr 421.552†	351386.6	484.8	ug/L	2.80	484.8	ug/L	2.80	0.58%
QC value within limits for Sr 421.552 Recovery = 96.95%								
Ti 337.279†	19783.3	494.7	ug/L	3.74	494.7	ug/L	3.74	0.76%
QC value within limits for Ti 337.279 Recovery = 98.93%								
Tl 190.801†	1841.2	481.3	ug/L	5.43	481.3	ug/L	5.43	1.13%
QC value within limits for Tl 190.801 Recovery = 96.27%								
V 292.402†	48420.1	484.8	ug/L	4.37	484.8	ug/L	4.37	0.90%
QC value within limits for V 292.402 Recovery = 96.97%								
Zn 206.200†	47405.4	500.5	ug/L	2.05	500.5	ug/L	2.05	0.41%
QC value within limits for Zn 206.200 Recovery = 100.10%								

Li 670.784	5447558.7	224.7 ug/L	1.39	224.7 ug/L	1.39	0.62%

QC value within limits for Li 670.784 Recovery = 89.87%
All analyte(s) passed QC.

Sequence No.: 42
Sample ID: CCB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 07/06/15 4:13:32 PM
Data Type: Reprocessed on 07/07/15 8:54:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	234004.7	98.14	%	1.108				1.13%
Y Radial	15933.5	98.08	%	2.801				2.86%
Ag 338.289†	-36.7	-0.190	ug/L	0.1762	-0.190	ug/L	0.1762	92.62%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-2.6	-1.944	ug/L	7.8371	-1.944	ug/L	7.8371	403.24%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-8.3	-1.625	ug/L	1.0784	-1.625	ug/L	1.0784	66.38%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	150.9	4.304	ug/L	0.4366	4.304	ug/L	0.4366	10.14%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	8.8	0.020	ug/L	0.0369	0.020	ug/L	0.0369	187.83%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	52.4	0.015	ug/L	0.0027	0.015	ug/L	0.0027	18.28%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	80.7	5.012	ug/L	0.5348	5.012	ug/L	0.5348	10.67%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-16.2	-0.055	ug/L	0.0589	-0.055	ug/L	0.0589	106.99%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-7.0	-0.068	ug/L	0.0402	-0.068	ug/L	0.0402	59.03%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-3.9	-0.045	ug/L	0.0742	-0.045	ug/L	0.0742	164.93%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	268.4	1.284	ug/L	0.0728	1.284	ug/L	0.0728	5.67%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	149.1	1.871	ug/L	0.1343	1.871	ug/L	0.1343	7.18%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	21.5	2.487	ug/L	2.3846	2.487	ug/L	2.3846	95.87%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	22.8	1.283	ug/L	0.1857	1.283	ug/L	0.1857	14.47%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-9.3	-0.100	ug/L	0.0806	-0.100	ug/L	0.0806	80.72%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	27.9	0.777	ug/L	0.2042	0.777	ug/L	0.2042	26.27%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-42.4	-3.791	ug/L	1.4656	-3.791	ug/L	1.4656	38.66%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-1.4	-0.030	ug/L	0.1787	-0.030	ug/L	0.1787	597.40%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-11.4	-3.505	ug/L	0.8235	-3.505	ug/L	0.8235	23.50%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-1.2	-0.228	ug/L	1.1534	-0.228	ug/L	1.1534	506.95%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.1	0.406	ug/L	0.5113	0.406	ug/L	0.5113	126.06%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.6	0.181	ug/L	1.3275	0.181	ug/L	1.3275	732.25%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	3.7	0.655	ug/L	0.1380	0.655	ug/L	0.1380	21.07%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	-0.6	-0.001	ug/L	0.0191	-0.001	ug/L	0.0191	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-12.5	-0.314	ug/L	0.0308	-0.314	ug/L	0.0308	9.83%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	8.9	2.328	ug/L	0.6091	2.328	ug/L	0.6091	26.17%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-0.6	-0.006	ug/L	0.0638	-0.006	ug/L	0.0638	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-176.1	-1.835	ug/L	0.1475	-1.835	ug/L	0.1475	8.04%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	1376.0	0.057 ug/L	0.0062	0.057 ug/L	0.0062	10.90%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 57
Sample ID: CCV2 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 07/06/15 5:50:27 PM
Data Type: Reprocessed on 07/07/15 8:54:32 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	237300.4	99.52	%	0.309				0.31%
Y Radial	16605.8	102.2	%	0.85				0.84%
Ag 338.289†	34947.4	181.1	ug/L	0.52	181.1	ug/L	0.52	0.29%
QC value within limits for Ag 338.289 Recovery = 96.60%								
Al 308.215†	9967.1	7297	ug/L	41.07	7297	ug/L	41.07	0.56%
QC value within limits for Al 308.215 Recovery = 97.29%								
As 188.979†	1894.9	364.3	ug/L	1.83	364.3	ug/L	1.83	0.50%
QC value within limits for As 188.979 Recovery = 97.15%								
B 249.677†	13022.3	386.9	ug/L	2.19	386.9	ug/L	2.19	0.57%
QC value within limits for B 249.677 Recovery = 103.18%								
Ba 233.527†	159972.2	367.4	ug/L	0.27	367.4	ug/L	0.27	0.07%
QC value within limits for Ba 233.527 Recovery = 97.97%								
Be 313.107†	1298552.0	366.2	ug/L	0.83	366.2	ug/L	0.83	0.23%
QC value within limits for Be 313.107 Recovery = 97.67%								
Ca 315.887†	300947.7	18680	ug/L	125.91	18680	ug/L	125.91	0.67%
QC value within limits for Ca 315.887 Recovery = 99.65%								
Cd 214.440†	107615.5	368.9	ug/L	0.58	368.9	ug/L	0.58	0.16%
QC value within limits for Cd 214.440 Recovery = 98.38%								
Co 228.616†	36724.5	371.7	ug/L	0.43	371.7	ug/L	0.43	0.12%
QC value within limits for Co 228.616 Recovery = 99.13%								
Cr 267.716†	33295.8	387.0	ug/L	2.25	387.0	ug/L	2.25	0.58%
QC value within limits for Cr 267.716 Recovery = 103.19%								
Cu 327.393†	75969.4	364.2	ug/L	0.84	364.2	ug/L	0.84	0.23%
QC value within limits for Cu 327.393 Recovery = 97.12%								
Fe 273.955†	587829.3	7343	ug/L	8.49	7343	ug/L	8.49	0.12%
QC value within limits for Fe 273.955 Recovery = 97.91%								
K 766.490†	61669.4	7105	ug/L	44.31	7105	ug/L	44.31	0.62%
QC value within limits for K 766.490 Recovery = 94.73%								
Mg 285.213†	334850.2	18860	ug/L	113.88	18860	ug/L	113.88	0.60%
QC value within limits for Mg 285.213 Recovery = 100.56%								
Mn 257.610†	33934.1	364.8	ug/L	2.43	364.8	ug/L	2.43	0.67%
QC value within limits for Mn 257.610 Recovery = 97.28%								
Mo 202.031†	13090.4	365.3	ug/L	1.86	365.3	ug/L	1.86	0.51%
QC value within limits for Mo 202.031 Recovery = 97.42%								
Na 589.592†	101070.2	9013	ug/L	62.15	9013	ug/L	62.15	0.69%
QC value within limits for Na 589.592 Recovery = 96.14%								
Ni 231.604†	18475.7	370.4	ug/L	2.08	370.4	ug/L	2.08	0.56%
QC value within limits for Ni 231.604 Recovery = 98.78%								
P 213.617†	5921.7	1817	ug/L	8.97	1817	ug/L	8.97	0.49%
QC value within limits for P 213.617 Recovery = 96.88%								
Pb 220.353†	2023.2	386.0	ug/L	4.07	386.0	ug/L	4.07	1.05%
QC value within limits for Pb 220.353 Recovery = 102.94%								
Sb 206.836†	2775.3	367.2	ug/L	2.11	367.2	ug/L	2.11	0.57%
QC value within limits for Sb 206.836 Recovery = 97.91%								
Se 196.026†	1203.6	367.8	ug/L	4.29	367.8	ug/L	4.29	1.17%
QC value within limits for Se 196.026 Recovery = 98.08%								
Sn 189.927†	2088.8	370.4	ug/L	2.29	370.4	ug/L	2.29	0.62%
QC value within limits for Sn 189.927 Recovery = 98.77%								
Sr 421.552†	252165.2	347.9	ug/L	2.92	347.9	ug/L	2.92	0.84%
QC value within limits for Sr 421.552 Recovery = 92.76%								
Ti 337.279†	14604.8	365.2	ug/L	2.29	365.2	ug/L	2.29	0.63%
QC value within limits for Ti 337.279 Recovery = 97.38%								
Tl 190.801†	1538.9	402.3	ug/L	5.86	402.3	ug/L	5.86	1.46%
QC value within limits for Tl 190.801 Recovery = 107.28%								
V 292.402†	36880.1	369.3	ug/L	1.06	369.3	ug/L	1.06	0.29%
QC value within limits for V 292.402 Recovery = 98.48%								
Zn 206.200†	36869.6	389.3	ug/L	2.15	389.3	ug/L	2.15	0.55%
QC value within limits for Zn 206.200 Recovery = 103.81%								

Li 670.784	4150762.5	171.2 ug/L	0.63	171.2 ug/L	0.63	0.37%

QC value within limits for Li 670.784 Recovery = 91.31%
All analyte(s) passed QC.

Sequence No.: 58
Sample ID: CCB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 07/06/15 5:55:45 PM
Data Type: Reprocessed on 07/07/15 8:54:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	246066.6	103.2	%	0.39				0.37%
Y Radial	16719.4	102.9	%	0.32				0.31%
Ag 338.289†	-55.3	-0.287	ug/L	0.6769	-0.287	ug/L	0.6769	236.02%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	8.7	6.366	ug/L	7.8934	6.366	ug/L	7.8934	124.00%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-3.7	-0.728	ug/L	0.5377	-0.728	ug/L	0.5377	73.83%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	114.2	3.252	ug/L	0.6263	3.252	ug/L	0.6263	19.26%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-25.4	-0.058	ug/L	0.0563	-0.058	ug/L	0.0563	96.21%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-12.3	-0.003	ug/L	0.0079	-0.003	ug/L	0.0079	228.51%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	21.1	1.309	ug/L	1.4308	1.309	ug/L	1.4308	109.28%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	20.7	0.071	ug/L	0.0429	0.071	ug/L	0.0429	60.26%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-10.6	-0.105	ug/L	0.0969	-0.105	ug/L	0.0969	91.86%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-2.6	-0.030	ug/L	0.0314	-0.030	ug/L	0.0314	103.07%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	62.1	0.297	ug/L	0.1733	0.297	ug/L	0.1733	58.29%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	-48.0	-0.607	ug/L	0.2449	-0.607	ug/L	0.2449	40.33%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	61.3	7.080	ug/L	5.1357	7.080	ug/L	5.1357	72.54%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	23.5	1.321	ug/L	0.1951	1.321	ug/L	0.1951	14.77%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-4.9	-0.052	ug/L	0.0584	-0.052	ug/L	0.0584	111.68%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	15.7	0.438	ug/L	0.1247	0.438	ug/L	0.1247	28.50%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-38.6	-3.452	ug/L	2.6925	-3.452	ug/L	2.6925	77.99%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-0.2	-0.004	ug/L	0.0784	-0.004	ug/L	0.0784	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-12.6	-3.878	ug/L	0.5403	-3.878	ug/L	0.5403	13.93%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	1.7	0.334	ug/L	1.0825	0.334	ug/L	1.0825	323.61%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.2	-0.023	ug/L	0.6079	-0.023	ug/L	0.6079	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-4.0	-1.202	ug/L	0.7013	-1.202	ug/L	0.7013	58.33%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-2.6	-0.454	ug/L	0.2599	-0.454	ug/L	0.2599	57.19%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	10.9	0.015	ug/L	0.0170	0.015	ug/L	0.0170	113.51%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-0.5	-0.013	ug/L	0.1168	-0.013	ug/L	0.1168	873.45%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	9.2	2.393	ug/L	0.9399	2.393	ug/L	0.9399	39.27%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	6.7	0.067	ug/L	0.0623	0.067	ug/L	0.0623	93.41%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-242.4	-2.525	ug/L	0.0296	-2.525	ug/L	0.0296	1.17%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	-116.6	-0.005 ug/L	0.0030	-0.005 ug/L	0.0030	62.72%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 69
Sample ID: CCV1 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 07/06/15 7:04:11 PM
Data Type: Reprocessed on 07/07/15 8:54:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	244895.2	102.7	%	0.08				0.08%
Y Radial	17370.5	106.9	%	0.98				0.92%
Ag 338.289†	45977.8	238.3	ug/L	1.45	238.3	ug/L	1.45	0.61%
QC value within limits for Ag 338.289 Recovery = 95.32%								
Al 308.215†	13145.6	9623	ug/L	24.63	9623	ug/L	24.63	0.26%
QC value within limits for Al 308.215 Recovery = 96.23%								
As 188.979†	2488.4	478.5	ug/L	2.41	478.5	ug/L	2.41	0.50%
QC value within limits for As 188.979 Recovery = 95.69%								
B 249.677†	16466.3	490.0	ug/L	3.14	490.0	ug/L	3.14	0.64%
QC value within limits for B 249.677 Recovery = 98.00%								
Ba 233.527†	209436.0	481.0	ug/L	1.75	481.0	ug/L	1.75	0.36%
QC value within limits for Ba 233.527 Recovery = 96.19%								
Be 313.107†	1699834.4	479.4	ug/L	2.30	479.4	ug/L	2.30	0.48%
QC value within limits for Be 313.107 Recovery = 95.88%								
Ca 315.887†	384952.3	23900	ug/L	157.54	23900	ug/L	157.54	0.66%
QC value within limits for Ca 315.887 Recovery = 95.60%								
Cd 214.440†	140115.6	480.3	ug/L	1.56	480.3	ug/L	1.56	0.32%
QC value within limits for Cd 214.440 Recovery = 96.06%								
Co 228.616†	47857.9	484.4	ug/L	1.41	484.4	ug/L	1.41	0.29%
QC value within limits for Co 228.616 Recovery = 96.89%								
Cr 267.716†	41294.0	479.9	ug/L	2.07	479.9	ug/L	2.07	0.43%
QC value within limits for Cr 267.716 Recovery = 95.99%								
Cu 327.393†	100489.4	481.8	ug/L	2.35	481.8	ug/L	2.35	0.49%
QC value within limits for Cu 327.393 Recovery = 96.35%								
Fe 273.955†	769864.8	9618	ug/L	36.52	9618	ug/L	36.52	0.38%
QC value within limits for Fe 273.955 Recovery = 96.18%								
K 766.490†	82839.1	9544	ug/L	32.64	9544	ug/L	32.64	0.34%
QC value within limits for K 766.490 Recovery = 95.44%								
Mg 285.213†	429547.9	24190	ug/L	133.18	24190	ug/L	133.18	0.55%
QC value within limits for Mg 285.213 Recovery = 96.75%								
Mn 257.610†	44568.9	479.1	ug/L	1.86	479.1	ug/L	1.86	0.39%
QC value within limits for Mn 257.610 Recovery = 95.83%								
Mo 202.031†	17281.3	482.3	ug/L	1.65	482.3	ug/L	1.65	0.34%
QC value within limits for Mo 202.031 Recovery = 96.46%								
Na 589.592†	138719.7	12370	ug/L	54.76	12370	ug/L	54.76	0.44%
QC value within limits for Na 589.592 Recovery = 98.97%								
Ni 231.604†	24274.9	486.7	ug/L	1.41	486.7	ug/L	1.41	0.29%
QC value within limits for Ni 231.604 Recovery = 97.34%								
P 213.617†	7843.6	2406	ug/L	8.88	2406	ug/L	8.88	0.37%
QC value within limits for P 213.617 Recovery = 96.24%								
Pb 220.353†	2584.6	493.2	ug/L	1.96	493.2	ug/L	1.96	0.40%
QC value within limits for Pb 220.353 Recovery = 98.64%								
Sb 206.836†	3656.2	483.7	ug/L	2.36	483.7	ug/L	2.36	0.49%
QC value within limits for Sb 206.836 Recovery = 96.74%								
Se 196.026†	1592.7	486.7	ug/L	3.13	486.7	ug/L	3.13	0.64%
QC value within limits for Se 196.026 Recovery = 97.34%								
Sn 189.927†	2732.8	484.6	ug/L	1.31	484.6	ug/L	1.31	0.27%
QC value within limits for Sn 189.927 Recovery = 96.92%								
Sr 421.552†	350478.5	483.6	ug/L	3.14	483.6	ug/L	3.14	0.65%
QC value within limits for Sr 421.552 Recovery = 96.71%								
Ti 337.279†	19357.2	484.0	ug/L	1.84	484.0	ug/L	1.84	0.38%
QC value within limits for Ti 337.279 Recovery = 96.81%								
Tl 190.801†	1911.1	499.6	ug/L	3.46	499.6	ug/L	3.46	0.69%
QC value within limits for Tl 190.801 Recovery = 99.92%								
V 292.402†	47986.3	480.5	ug/L	2.44	480.5	ug/L	2.44	0.51%
QC value within limits for V 292.402 Recovery = 96.10%								
Zn 206.200†	45825.2	483.9	ug/L	1.76	483.9	ug/L	1.76	0.36%
QC value within limits for Zn 206.200 Recovery = 96.77%								

Li 670.784	6051774.0	249.6 ug/L	1.46	249.6 ug/L	1.46	0.58%

QC value within limits for Li 670.784 Recovery = 99.84%
All analyte(s) passed QC.

Sequence No.: 70
Sample ID: CCB 150706RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 07/06/15 7:09:31 PM
Data Type: Reprocessed on 07/07/15 8:54:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150706RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	260163.1	109.1	%	0.77				0.70%
Y Radial	17326.4	106.7	%	2.43				2.28%
Ag 338.289†	-30.7	-0.159	ug/L	0.3695	-0.159	ug/L	0.3695	232.22%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-7.7	-5.669	ug/L	3.9502	-5.669	ug/L	3.9502	69.69%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	1.2	0.226	ug/L	1.2291	0.226	ug/L	1.2291	542.84%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	88.6	2.520	ug/L	0.4361	2.520	ug/L	0.4361	17.31%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-19.1	-0.044	ug/L	0.0142	-0.044	ug/L	0.0142	32.16%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-136.7	-0.039	ug/L	0.0076	-0.039	ug/L	0.0076	19.69%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	35.2	2.182	ug/L	0.4645	2.182	ug/L	0.4645	21.29%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	50.0	0.172	ug/L	0.0393	0.172	ug/L	0.0393	22.86%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	21.1	0.216	ug/L	0.0420	0.216	ug/L	0.0420	19.40%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-12.2	-0.142	ug/L	0.0449	-0.142	ug/L	0.0449	31.63%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	232.7	1.114	ug/L	0.1393	1.114	ug/L	0.1393	12.51%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	-142.5	-1.794	ug/L	0.1565	-1.794	ug/L	0.1565	8.73%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	208.9	24.14	ug/L	3.166	24.14	ug/L	3.166	13.12%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	26.2	1.473	ug/L	0.3644	1.473	ug/L	0.3644	24.74%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	2.5	0.026	ug/L	0.1070	0.026	ug/L	0.1070	405.63%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	29.3	0.817	ug/L	0.2904	0.817	ug/L	0.2904	35.56%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-92.3	-8.268	ug/L	1.9234	-8.268	ug/L	1.9234	23.26%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	9.0	0.181	ug/L	0.0919	0.181	ug/L	0.0919	50.76%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-4.4	-1.341	ug/L	1.2959	-1.341	ug/L	1.2959	96.61%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	0.9	0.178	ug/L	0.5983	0.178	ug/L	0.5983	337.00%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-2.3	-0.298	ug/L	0.4823	-0.298	ug/L	0.4823	161.89%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.6	-1.099	ug/L	0.5583	-1.099	ug/L	0.5583	50.80%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	0.4	0.066	ug/L	0.4714	0.066	ug/L	0.4714	714.81%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	-1.5	-0.002	ug/L	0.0153	-0.002	ug/L	0.0153	710.93%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	2.7	0.066	ug/L	0.2514	0.066	ug/L	0.2514	378.48%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	2.6	0.693	ug/L	0.8821	0.693	ug/L	0.8821	127.36%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	7.1	0.071	ug/L	0.0170	0.071	ug/L	0.0170	23.75%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-244.0	-2.543	ug/L	0.0389	-2.543	ug/L	0.0389	1.53%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	59.1	0.002 ug/L	0.0035	0.002 ug/L	0.0035	144.80%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

METALS

Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	ALUMINUM (AL)	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	BORON (B)	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	LITHIUM (LI)	0.67 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ZINC (ZN)	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
6010C	ALUMINUM (AL) (DI	80.00 U	300.0	80.00	27.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	BORON (B) (DISSO	40.00 U	50.0	40.00	29.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	LITHIUM (LI) (DISSO	0.83 J	1.0	0.80	0.40	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694
6010C	ZINC (ZN) (DISSOL	20.00 U	150.0	20.00	13.70	ug/L	07/01/15	07/06/15	#61CJU-150701A-AZ17694

J = Estimated value.

Metals SC-Blank-REG MDLs
Printed: 07/08/15 2:05:19 PM

Sequence No.: 11
Sample ID: 150701A-3010F BLK
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 38
Date Collected: 07/06/15 12:11:14 PM
Data Type: Reprocessed on 07/07/15 8:53:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 150701A-3010F BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	240720.1	101.0	%	1.95				1.93%
Y Radial	16685.4	102.7	%	0.57				0.55%
Ag 338.289†	8.8	0.046	ug/L	0.2085	0.046	ug/L	0.2085	456.71%
Al 308.215†	0.2	0.125	ug/L	4.4324	0.125	ug/L	4.4324	>999.9%
As 188.979†	-7.5	-1.463	ug/L	1.1264	-1.463	ug/L	1.1264	76.98%
B 249.677†	49.0	1.414	ug/L	0.1201	1.414	ug/L	0.1201	8.50%
Ba 233.527†	-16.9	-0.039	ug/L	0.0458	-0.039	ug/L	0.0458	116.36%
Be 313.107†	122.9	0.035	ug/L	0.0155	0.035	ug/L	0.0155	44.59%
Ca 315.887†	361.1	22.42	ug/L	0.803	22.42	ug/L	0.803	3.58%
Cd 214.440†	-14.6	-0.050	ug/L	0.0249	-0.050	ug/L	0.0249	50.07%
Co 228.616†	7.3	0.074	ug/L	0.1665	0.074	ug/L	0.1665	225.14%
Cr 267.716†	31.8	0.370	ug/L	0.1071	0.370	ug/L	0.1071	28.94%
Cu 327.393†	1948.7	9.323	ug/L	0.3876	9.323	ug/L	0.3876	4.16%
Fe 273.955†	628.7	7.886	ug/L	0.3751	7.886	ug/L	0.3751	4.76%
K 766.490†	156.9	18.11	ug/L	4.944	18.11	ug/L	4.944	27.30%
Mg 285.213†	144.1	8.118	ug/L	0.4733	8.118	ug/L	0.4733	5.83%
Mn 257.610†	1.0	0.011	ug/L	0.0221	0.011	ug/L	0.0221	203.55%
Mo 202.031†	8.1	0.227	ug/L	0.2368	0.227	ug/L	0.2368	104.36%
Na 589.592†	-23.1	-2.080	ug/L	2.4593	-2.080	ug/L	2.4593	118.23%
Ni 231.604†	12.6	0.252	ug/L	0.1620	0.252	ug/L	0.1620	64.26%
P 213.617†	-4.4	-1.335	ug/L	1.3882	-1.335	ug/L	1.3882	103.97%
Pb 220.353†	18.8	3.558	ug/L	0.4944	3.558	ug/L	0.4944	13.89%
Sb 206.836†	-6.2	-0.825	ug/L	0.3635	-0.825	ug/L	0.3635	44.05%
Se 196.026†	0.4	0.110	ug/L	1.8669	0.110	ug/L	1.8669	>999.9%
Sn 189.927†	14.9	2.648	ug/L	0.2179	2.648	ug/L	0.2179	8.23%
Sr 421.552†	33.3	0.045	ug/L	0.0042	0.045	ug/L	0.0042	9.20%
Ti 337.279†	-6.0	-0.151	ug/L	0.2613	-0.151	ug/L	0.2613	172.93%
Tl 190.801†	3.0	0.792	ug/L	2.6719	0.792	ug/L	2.6719	337.55%
V 292.402†	-5.0	-0.050	ug/L	0.0389	-0.050	ug/L	0.0389	77.43%
Zn 206.200†	191.2	1.998	ug/L	0.4463	1.998	ug/L	0.4463	22.34%
Li 670.784	20167.5	0.832	ug/L	0.0194	0.832	ug/L	0.0194	2.34%

Sequence No.: 13
Sample ID: 150701A-3010 BLK
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 40
Date Collected: 07/06/15 12:22:13 PM
Data Type: Reprocessed on 07/07/15 8:53:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 150701A-3010 BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	240977.7	101.1	%	1.61				1.59%
Y Radial	16528.3	101.7	%	2.28				2.24%
Ag 338.289†	42.9	0.222	ug/L	0.3245	0.222	ug/L	0.3245	145.95%
Al 308.215†	-7.2	-5.240	ug/L	5.5018	-5.240	ug/L	5.5018	104.99%
As 188.979†	-4.6	-0.894	ug/L	0.5599	-0.894	ug/L	0.5599	62.63%
B 249.677†	71.1	2.043	ug/L	0.3613	2.043	ug/L	0.3613	17.68%
Ba 233.527†	-7.7	-0.018	ug/L	0.0328	-0.018	ug/L	0.0328	180.05%
Be 313.107†	68.6	0.019	ug/L	0.0136	0.019	ug/L	0.0136	70.09%
Ca 315.887†	425.3	26.41	ug/L	0.501	26.41	ug/L	0.501	1.90%
Cd 214.440†	-30.5	-0.104	ug/L	0.0213	-0.104	ug/L	0.0213	20.43%
Co 228.616†	6.5	0.066	ug/L	0.0547	0.066	ug/L	0.0547	82.31%
Cr 267.716†	11.1	0.129	ug/L	0.0746	0.129	ug/L	0.0746	57.99%
Cu 327.393†	1667.2	7.977	ug/L	0.3227	7.977	ug/L	0.3227	4.04%
Fe 273.955†	625.0	7.838	ug/L	0.3637	7.838	ug/L	0.3637	4.64%
K 766.490†	121.7	14.03	ug/L	5.052	14.03	ug/L	5.052	36.01%
Mg 285.213†	111.3	6.271	ug/L	0.4373	6.271	ug/L	0.4373	6.97%
Mn 257.610†	3.9	0.042	ug/L	0.0810	0.042	ug/L	0.0810	192.40%
Mo 202.031†	12.8	0.356	ug/L	0.1104	0.356	ug/L	0.1104	31.01%
Na 589.592†	180.5	16.10	ug/L	2.461	16.10	ug/L	2.461	15.29%
Ni 231.604†	7.2	0.145	ug/L	0.1443	0.145	ug/L	0.1443	99.53%
P 213.617†	-1.1	-0.334	ug/L	1.3740	-0.334	ug/L	1.3740	411.26%
Pb 220.353†	5.4	1.017	ug/L	0.3981	1.017	ug/L	0.3981	39.14%
Sb 206.836†	-4.4	-0.585	ug/L	0.3675	-0.585	ug/L	0.3675	62.78%
Se 196.026†	0.8	0.259	ug/L	1.4783	0.259	ug/L	1.4783	569.72%
Sn 189.927†	9.9	1.757	ug/L	0.2903	1.757	ug/L	0.2903	16.52%
Sr 421.552†	7.2	0.009	ug/L	0.0179	0.009	ug/L	0.0179	199.76%
Ti 337.279†	-3.5	-0.088	ug/L	0.1985	-0.088	ug/L	0.1985	226.19%
Tl 190.801†	4.8	1.256	ug/L	1.1973	1.256	ug/L	1.1973	95.30%
V 292.402†	-1.6	-0.016	ug/L	0.0274	-0.016	ug/L	0.0274	169.79%
Zn 206.200†	93.7	0.979	ug/L	0.2609	0.979	ug/L	0.2609	26.65%
Li 670.784	16350.8	0.674	ug/L	0.0173	0.674	ug/L	0.0173	2.56%

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL) (DISSOLVED)	2000	1940	97.0	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	BORON (B) (DISSOLVED)	250	238	95.2	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLVED)	100.0	92.9	92.9	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVED)	500	472	94.4	80-120	07/01/15	07/06/15	#61CJU-150701A-AZ17694
EPA 6010C	ALUMINUM (AL)	2000	2150	108	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	BORON (B)	250	235	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	LITHIUM (LI)	100.0	93.3	93.3	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694
EPA 6010C	ZINC (ZN)	500	470	94.0	80-120	07/01/15	07/06/15	#61CJU-150701A1-AZ17694

Comments: _____

Sequence No.: 12
Sample ID: 150701A-3010F LCS
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 39
Date Collected: 07/06/15 12:16:59 PM
Data Type: Reprocessed on 07/07/15 8:53:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 150701A-3010F LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	237061.5	99.42	%	1.146				1.15%
Y Radial	16561.7	101.9	%	1.63				1.60%
Ag 338.289†	18716.4	97.01	ug/L	0.931	97.01	ug/L	0.931	0.96%
Al 308.215†	2642.9	1941	ug/L	24.15	1941	ug/L	24.15	1.24%
As 188.979†	1218.3	232.6	ug/L	0.43	232.6	ug/L	0.43	0.18%
B 249.677†	8323.7	238.2	ug/L	1.26	238.2	ug/L	1.26	0.53%
Ba 233.527†	105713.0	243.0	ug/L	2.33	243.0	ug/L	2.33	0.96%
Be 313.107†	169404.7	47.78	ug/L	0.510	47.78	ug/L	0.510	1.07%
Ca 315.887†	394389.0	24490	ug/L	349.73	24490	ug/L	349.73	1.43%
Cd 214.440†	14034.0	48.64	ug/L	0.346	48.64	ug/L	0.346	0.71%
Co 228.616†	24670.1	249.7	ug/L	2.16	249.7	ug/L	2.16	0.87%
Cr 267.716†	21918.4	254.7	ug/L	2.00	254.7	ug/L	2.00	0.79%
Cu 327.393†	50827.8	243.5	ug/L	2.44	243.5	ug/L	2.44	1.00%
Fe 273.955†	77648.9	953.5	ug/L	10.41	953.5	ug/L	10.41	1.09%
K 766.490†	40732.7	4678	ug/L	56.62	4678	ug/L	56.62	1.21%
Mg 285.213†	428584.4	24130	ug/L	300.88	24130	ug/L	300.88	1.25%
Mn 257.610†	22577.3	242.2	ug/L	4.59	242.2	ug/L	4.59	1.89%
Mo 202.031†	8667.6	241.8	ug/L	1.77	241.8	ug/L	1.77	0.73%
Na 589.592†	275021.6	24550	ug/L	314.54	24550	ug/L	314.54	1.28%
Ni 231.604†	11811.7	236.8	ug/L	2.32	236.8	ug/L	2.32	0.98%
P 213.617†	6364.5	1952	ug/L	15.06	1952	ug/L	15.06	0.77%
Pb 220.353†	1240.3	237.1	ug/L	3.25	237.1	ug/L	3.25	1.37%
Sb 206.836†	1761.3	233.0	ug/L	1.93	233.0	ug/L	1.93	0.83%
Se 196.026†	760.8	230.3	ug/L	1.96	230.3	ug/L	1.96	0.85%
Sn 189.927†	1311.7	232.6	ug/L	1.40	232.6	ug/L	1.40	0.60%
Sr 421.552†	175827.0	242.1	ug/L	2.67	242.1	ug/L	2.67	1.10%
Ti 337.279†	9873.5	246.7	ug/L	4.53	246.7	ug/L	4.53	1.84%
Tl 190.801†	885.4	231.5	ug/L	2.08	231.5	ug/L	2.08	0.90%
V 292.402†	24849.6	248.8	ug/L	2.81	248.8	ug/L	2.81	1.13%
Zn 206.200†	44870.1	471.9	ug/L	4.65	471.9	ug/L	4.65	0.98%
Li 670.784	2252819.2	92.92	ug/L	0.427	92.92	ug/L	0.427	0.46%

Sequence No.: 14
Sample ID: 150701A-3010 LCS
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 41
Date Collected: 07/06/15 12:27:58 PM
Data Type: Reprocessed on 07/07/15 8:53:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 150701A-3010 LCS

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	234096.6	98.18	%	0.792				0.81%
Y Radial	14855.0	91.44	%	10.986				12.01%
Ag 338.289†	17738.2	91.94	ug/L	1.291	91.94	ug/L	1.291	1.40%
Al 308.215†	2932.6	2152	ug/L	278.19	2152	ug/L	278.19	12.93%
As 188.979†	1193.2	227.4	ug/L	1.62	227.4	ug/L	1.62	0.71%
B 249.677†	8212.9	234.9	ug/L	1.10	234.9	ug/L	1.10	0.47%
Ba 233.527†	105290.9	242.0	ug/L	0.87	242.0	ug/L	0.87	0.36%
Be 313.107†	168651.9	47.57	ug/L	0.346	47.57	ug/L	0.346	0.73%
Ca 315.887†	441254.9	27400	ug/L	3462.81	27400	ug/L	3462.81	12.64%
Cd 214.440†	13884.8	48.17	ug/L	0.279	48.17	ug/L	0.279	0.58%
Co 228.616†	24401.4	246.9	ug/L	1.43	246.9	ug/L	1.43	0.58%
Cr 267.716†	21743.8	252.7	ug/L	1.69	252.7	ug/L	1.69	0.67%
Cu 327.393†	50592.5	242.4	ug/L	0.88	242.4	ug/L	0.88	0.36%
Fe 273.955†	77658.5	953.6	ug/L	4.75	953.6	ug/L	4.75	0.50%
K 766.490†	45246.0	5196	ug/L	662.77	5196	ug/L	662.77	12.75%
Mg 285.213†	477427.3	26880	ug/L	3410.98	26880	ug/L	3410.98	12.69%
Mn 257.610†	25105.3	269.3	ug/L	35.68	269.3	ug/L	35.68	13.25%
Mo 202.031†	8597.4	239.9	ug/L	1.62	239.9	ug/L	1.62	0.68%
Na 589.592†	310749.5	27730	ug/L	3544.47	27730	ug/L	3544.47	12.78%
Ni 231.604†	11696.5	234.5	ug/L	1.82	234.5	ug/L	1.82	0.78%
P 213.617†	6225.8	1910	ug/L	13.25	1910	ug/L	13.25	0.69%
Pb 220.353†	1202.8	230.1	ug/L	2.03	230.1	ug/L	2.03	0.88%
Sb 206.836†	1722.1	227.8	ug/L	1.39	227.8	ug/L	1.39	0.61%
Se 196.026†	741.1	224.3	ug/L	1.76	224.3	ug/L	1.76	0.79%
Sn 189.927†	1285.1	227.9	ug/L	0.73	227.9	ug/L	0.73	0.32%
Sr 421.552†	199492.1	274.7	ug/L	34.98	274.7	ug/L	34.98	12.73%
Ti 337.279†	10873.9	271.7	ug/L	34.94	271.7	ug/L	34.94	12.86%
Tl 190.801†	841.6	220.0	ug/L	1.02	220.0	ug/L	1.02	0.46%
V 292.402†	24701.9	247.3	ug/L	1.70	247.3	ug/L	1.70	0.69%
Zn 206.200†	44679.0	470.1	ug/L	1.84	470.1	ug/L	1.84	0.39%
Li 670.784	2262226.9	93.31	ug/L	0.945	93.31	ug/L	0.945	1.01%

Matrix Spike Recoveries

METALS

APPL ID: **150701W-17694 MS - 198616**

Sample ID: AZ17694

Client ID: S67-MW016-061515

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	ALUMINUM (AL) (DISS	2000	29.3	2640	1910	131 #	94.0	32.1 #	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	BORON (B) (DISSOLV	250	51.2	290	291	95.5	95.9	0.3	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	LITHIUM (LI) (DISSOLV	100.0	0.87	105	103	104	102	1.9	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ZINC (ZN) (DISSOLVE	500	4.0	487	482	96.6	95.6	1.0	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198616	AZ17694
EPA 6010C	ALUMINUM (AL)	2000	16.2	1930	1920	95.7	95.2	0.5	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	BORON (B)	250	50.9	284	289	93.2	95.2	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	LITHIUM (LI)	100.0	0.58	93.3	92.6	92.7	92.0	0.8	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694
EPA 6010C	ZINC (ZN)	500	3.9	474	482	94.0	95.6	1.7	20	80-120	07/01/15	07/06/15	07/01/15	07/06/15	198617	AZ17694

= Recovery is outside QC limits.

Comments: _____

Sequence No.: 18
Sample ID: AZ17694W19 F MS
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 45
Date Collected: 07/06/15 12:54:36 PM
Data Type: Reprocessed on 07/07/15 8:53:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W19 F MS

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	238241.8	99.91	%	1.491				1.49%
Y Radial	13496.4	83.08	%	26.172				31.50%
Ag 338.289†	17995.8	93.27	ug/L	0.706	93.27	ug/L	0.706	0.76%
Al 308.215†	3597.9	2635	ug/L	1010.06	2635	ug/L	1010.06	38.34%
As 188.979†	1243.5	236.1	ug/L	3.70	236.1	ug/L	3.70	1.57%
B 249.677†	10146.4	289.8	ug/L	3.38	289.8	ug/L	3.38	1.17%
Ba 233.527†	119318.3	274.3	ug/L	2.42	274.3	ug/L	2.42	0.88%
Be 313.107†	169907.5	47.92	ug/L	0.473	47.92	ug/L	0.473	0.99%
Ca 315.887†	652523.7	40510	ug/L	15471.59	40510	ug/L	15471.59	38.19%
Cd 214.440†	14065.9	49.09	ug/L	0.245	49.09	ug/L	0.245	0.50%
Co 228.616†	24844.1	251.2	ug/L	3.21	251.2	ug/L	3.21	1.28%
Cr 267.716†	21812.1	253.3	ug/L	2.91	253.3	ug/L	2.91	1.15%
Cu 327.393†	53101.8	254.3	ug/L	1.32	254.3	ug/L	1.32	0.52%
Fe 273.955†	78824.3	967.5	ug/L	8.34	967.5	ug/L	8.34	0.86%
K 766.490†	83957.0	9608	ug/L	3630.25	9608	ug/L	3630.25	37.79%
Mg 285.213†	668856.9	37650	ug/L	14361.34	37650	ug/L	14361.34	38.14%
Mn 257.610†	39611.4	425.2	ug/L	165.39	425.2	ug/L	165.39	38.89%
Mo 202.031†	8741.1	243.9	ug/L	2.73	243.9	ug/L	2.73	1.12%
Na 589.592†	1048450.9	93590	ug/L	35750.13	93590	ug/L	35750.13	38.20%
Ni 231.604†	11702.6	234.6	ug/L	2.30	234.6	ug/L	2.30	0.98%
P 213.617†	6339.6	1945	ug/L	22.17	1945	ug/L	22.17	1.14%
Pb 220.353†	1163.4	223.4	ug/L	1.75	223.4	ug/L	1.75	0.78%
Sb 206.836†	1774.8	234.8	ug/L	2.12	234.8	ug/L	2.12	0.90%
Se 196.026†	759.7	229.6	ug/L	3.20	229.6	ug/L	3.20	1.39%
Sn 189.927†	1320.9	234.2	ug/L	2.24	234.2	ug/L	2.24	0.96%
Sr 421.552†	275740.3	379.6	ug/L	144.71	379.6	ug/L	144.71	38.12%
Ti 337.279†	13668.8	341.5	ug/L	132.61	341.5	ug/L	132.61	38.84%
Tl 190.801†	780.2	204.0	ug/L	3.91	204.0	ug/L	3.91	1.92%
V 292.402†	24695.4	247.3	ug/L	2.60	247.3	ug/L	2.60	1.05%
Zn 206.200†	46079.9	486.5	ug/L	3.79	486.5	ug/L	3.79	0.78%
Li 670.784	2546333.9	105.0	ug/L	0.41	105.0	ug/L	0.41	0.39%

Sequence No.: 19
Sample ID: AZ17694W19 F MSD
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 46
Date Collected: 07/06/15 1:00:52 PM
Data Type: Reprocessed on 07/07/15 8:53:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W19 F MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	235989.2	98.97	%	0.551				0.56%
Y Radial	16712.8	102.9	%	2.47				2.40%
Ag 338.289†	17854.9	92.54	ug/L	0.640	92.54	ug/L	0.640	0.69%
Al 308.215†	2598.4	1906	ug/L	40.59	1906	ug/L	40.59	2.13%
As 188.979†	1251.9	238.8	ug/L	0.31	238.8	ug/L	0.31	0.13%
B 249.677†	10177.8	290.9	ug/L	2.47	290.9	ug/L	2.47	0.85%
Ba 233.527†	117725.5	270.6	ug/L	1.03	270.6	ug/L	1.03	0.38%
Be 313.107†	167362.4	47.20	ug/L	0.136	47.20	ug/L	0.136	0.29%
Ca 315.887†	471743.9	29290	ug/L	748.35	29290	ug/L	748.35	2.56%
Cd 214.440†	14082.6	48.95	ug/L	0.326	48.95	ug/L	0.326	0.67%
Co 228.616†	24856.4	251.6	ug/L	1.61	251.6	ug/L	1.61	0.64%
Cr 267.716†	21797.4	253.3	ug/L	1.43	253.3	ug/L	1.43	0.56%
Cu 327.393†	52433.6	251.0	ug/L	0.53	251.0	ug/L	0.53	0.21%
Fe 273.955†	77856.6	956.3	ug/L	4.75	956.3	ug/L	4.75	0.50%
K 766.490†	60627.9	6938	ug/L	186.42	6938	ug/L	186.42	2.69%
Mg 285.213†	483808.5	27240	ug/L	709.69	27240	ug/L	709.69	2.61%
Mn 257.610†	28509.1	306.1	ug/L	6.56	306.1	ug/L	6.56	2.14%
Mo 202.031†	8755.0	244.3	ug/L	1.41	244.3	ug/L	1.41	0.58%
Na 589.592†	751259.4	67060	ug/L	1773.15	67060	ug/L	1773.15	2.64%
Ni 231.604†	11728.5	235.1	ug/L	1.33	235.1	ug/L	1.33	0.57%
P 213.617†	6359.4	1951	ug/L	15.06	1951	ug/L	15.06	0.77%
Pb 220.353†	1163.2	222.8	ug/L	2.37	222.8	ug/L	2.37	1.06%
Sb 206.836†	1769.3	234.1	ug/L	0.32	234.1	ug/L	0.32	0.14%
Se 196.026†	769.6	232.9	ug/L	2.20	232.9	ug/L	2.20	0.94%
Sn 189.927†	1317.7	233.6	ug/L	1.57	233.6	ug/L	1.57	0.67%
Sr 421.552†	199410.7	274.5	ug/L	7.25	274.5	ug/L	7.25	2.64%
Ti 337.279†	9871.2	246.6	ug/L	4.19	246.6	ug/L	4.19	1.70%
Tl 190.801†	766.8	200.5	ug/L	1.56	200.5	ug/L	1.56	0.78%
V 292.402†	24251.5	242.8	ug/L	0.65	242.8	ug/L	0.65	0.27%
Zn 206.200†	45706.9	481.7	ug/L	1.95	481.7	ug/L	1.95	0.40%
Li 670.784	2502131.7	103.2	ug/L	0.36	103.2	ug/L	0.36	0.35%

Sequence No.: 46
Sample ID: AZ17694W22 MS
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 69
Date Collected: 07/06/15 4:39:36 PM
Data Type: Reprocessed on 07/07/15 8:54:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W22 MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	229829.6	96.39	%	0.148				0.15%
Y Radial	15933.1	98.08	%	0.570				0.58%
Ag 338.289†	18528.1	96.03	ug/L	0.109	96.03	ug/L	0.109	0.11%
Al 308.215†	2628.6	1930	ug/L	8.02	1930	ug/L	8.02	0.42%
As 188.979†	1229.9	234.5	ug/L	1.53	234.5	ug/L	1.53	0.65%
B 249.677†	9931.4	283.9	ug/L	1.26	283.9	ug/L	1.26	0.45%
Ba 233.527†	115982.8	266.6	ug/L	1.39	266.6	ug/L	1.39	0.52%
Be 313.107†	167722.3	47.30	ug/L	0.235	47.30	ug/L	0.235	0.50%
Ca 315.887†	474448.6	29460	ug/L	376.41	29460	ug/L	376.41	1.28%
Cd 214.440†	13875.2	48.22	ug/L	0.189	48.22	ug/L	0.189	0.39%
Co 228.616†	24481.4	247.8	ug/L	0.83	247.8	ug/L	0.83	0.33%
Cr 267.716†	21443.5	249.2	ug/L	0.72	249.2	ug/L	0.72	0.29%
Cu 327.393†	50383.6	241.2	ug/L	1.87	241.2	ug/L	1.87	0.77%
Fe 273.955†	77615.7	952.1	ug/L	3.75	952.1	ug/L	3.75	0.39%
K 766.490†	58463.6	6692	ug/L	92.12	6692	ug/L	92.12	1.38%
Mg 285.213†	477164.8	26860	ug/L	344.98	26860	ug/L	344.98	1.28%
Mn 257.610†	28266.5	303.5	ug/L	1.33	303.5	ug/L	1.33	0.44%
Mo 202.031†	8510.6	237.5	ug/L	0.78	237.5	ug/L	0.78	0.33%
Na 589.592†	704251.9	62860	ug/L	778.59	62860	ug/L	778.59	1.24%
Ni 231.604†	11514.5	230.8	ug/L	0.62	230.8	ug/L	0.62	0.27%
P 213.617†	6246.1	1916	ug/L	6.37	1916	ug/L	6.37	0.33%
Pb 220.353†	1211.6	231.9	ug/L	1.92	231.9	ug/L	1.92	0.83%
Sb 206.836†	1740.0	230.2	ug/L	0.65	230.2	ug/L	0.65	0.28%
Se 196.026†	750.4	227.1	ug/L	1.95	227.1	ug/L	1.95	0.86%
Sn 189.927†	1311.4	232.5	ug/L	1.42	232.5	ug/L	1.42	0.61%
Sr 421.552†	185178.3	254.8	ug/L	3.28	254.8	ug/L	3.28	1.29%
Ti 337.279†	9701.5	242.4	ug/L	1.22	242.4	ug/L	1.22	0.51%
Tl 190.801†	866.4	226.5	ug/L	2.29	226.5	ug/L	2.29	1.01%
V 292.402†	25761.6	258.0	ug/L	0.37	258.0	ug/L	0.37	0.14%
Zn 206.200†	44992.6	474.1	ug/L	2.22	474.1	ug/L	2.22	0.47%
Li 670.784	2261858.9	93.29	ug/L	0.459	93.29	ug/L	0.459	0.49%

Sequence No.: 47
Sample ID: AZ17694W22 MSD
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 70
Date Collected: 07/06/15 4:45:52 PM
Data Type: Reprocessed on 07/07/15 8:54:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ17694W22 MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	227794.1	95.53	%	0.633				0.66%
Y Radial	16128.9	99.29	%	2.209				2.22%
Ag 338.289†	18625.0	96.53	ug/L	0.666	96.53	ug/L	0.666	0.69%
Al 308.215†	2610.4	1916	ug/L	38.19	1916	ug/L	38.19	1.99%
As 188.979†	1240.0	236.5	ug/L	0.89	236.5	ug/L	0.89	0.38%
B 249.677†	10107.1	288.9	ug/L	1.91	288.9	ug/L	1.91	0.66%
Ba 233.527†	118119.8	271.5	ug/L	3.00	271.5	ug/L	3.00	1.10%
Be 313.107†	170247.7	48.02	ug/L	0.414	48.02	ug/L	0.414	0.86%
Ca 315.887†	472596.8	29340	ug/L	833.64	29340	ug/L	833.64	2.84%
Cd 214.440†	14041.7	48.79	ug/L	0.374	48.79	ug/L	0.374	0.77%
Co 228.616†	24808.1	251.1	ug/L	1.45	251.1	ug/L	1.45	0.58%
Cr 267.716†	21654.8	251.6	ug/L	1.17	251.6	ug/L	1.17	0.46%
Cu 327.393†	51028.1	244.3	ug/L	2.38	244.3	ug/L	2.38	0.97%
Fe 273.955†	78652.5	965.8	ug/L	9.71	965.8	ug/L	9.71	1.01%
K 766.490†	58303.7	6673	ug/L	174.04	6673	ug/L	174.04	2.61%
Mg 285.213†	474960.8	26740	ug/L	725.90	26740	ug/L	725.90	2.71%
Mn 257.610†	28230.2	303.1	ug/L	5.46	303.1	ug/L	5.46	1.80%
Mo 202.031†	8588.2	239.7	ug/L	1.47	239.7	ug/L	1.47	0.61%
Na 589.592†	704162.0	62850	ug/L	1729.60	62850	ug/L	1729.60	2.75%
Ni 231.604†	11639.2	233.3	ug/L	1.15	233.3	ug/L	1.15	0.49%
P 213.617†	6320.9	1939	ug/L	8.69	1939	ug/L	8.69	0.45%
Pb 220.353†	1227.3	234.9	ug/L	0.23	234.9	ug/L	0.23	0.10%
Sb 206.836†	1763.5	233.3	ug/L	0.90	233.3	ug/L	0.90	0.39%
Se 196.026†	749.7	226.9	ug/L	1.75	226.9	ug/L	1.75	0.77%
Sn 189.927†	1326.5	235.2	ug/L	1.02	235.2	ug/L	1.02	0.43%
Sr 421.552†	183736.8	252.8	ug/L	6.80	252.8	ug/L	6.80	2.69%
Ti 337.279†	9699.5	242.3	ug/L	4.98	242.3	ug/L	4.98	2.06%
Tl 190.801†	879.5	229.9	ug/L	2.29	229.9	ug/L	2.29	1.00%
V 292.402†	24869.0	249.0	ug/L	2.14	249.0	ug/L	2.14	0.86%
Zn 206.200†	45768.9	482.2	ug/L	5.34	482.2	ug/L	5.34	1.11%
Li 670.784	2244867.2	92.59	ug/L	0.268	92.59	ug/L	0.268	0.29%

1%HNO3 / 5%HCl BLK					6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCL	BDH	4114020	07/08/15	1mL	Al	CPI	14D237-33868	01/15/16
20 mL	HNO3	JT BAKER	0000067379	07/08/15	1mL	Ca	CPI	14D176-33867	01/15/16
Prepared in 2000 ml DI Water					1mL	Mg	CPI	14F190-33865	01/15/16
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1062942-33880	01/12/16
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	O2SI	1062903-33879	08/01/15	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	14D237-33868	01/15/16
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	14D176-33867	01/15/16
1ML	CCV-A	Environmental Express	1428118-34178	10/14/15	1mL	Mg	CPI	14F190-33865	01/15/16
1ML	CCV-B	Environmental Express	1428119-34179	10/14/15	1mL	Fe	O2SI	1062942-33880	01/12/16
1ML	CCV-C	Environmental Express	1428120-34180	10/14/15	0.5mL	INT SPECIAL MIX	O2SI	1070553-34624	03/01/16
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	15C180-34943	09/19/16
25mL	STD 3	Today	1 week		0.5ML	QCS ICV B	CPI	15C181-34944	09/19/16
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C					6010B/6010C Internal Standard				
AMOUNT	STD	PREP DATE	EXP DATE		AMOUNT	STD	MANUFACTURER		
15mL	STD 3	Today	1 week		2mL	Yttrium	O2SI	1073310-35027	10/01/16
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 2L 1%HNO3 / 5%HCl				

_M3010

Metals Digestion Worksheet

Method Name 3010A Digestion **Prep Method** M3010 **Set** 150701A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# 1075288-35199
Spiked ID 2	LCSW LOT# 1075395-35200
Spiked ID 3	10mg/L Prep: 7-1-15
Spiked ID 4	
Spiked By	NM Date: 07/01/15 8:45:00 AM
Witnessed By	KRG Date: 07/01/15 8:45:00 AM

Starting Temp:	95 c
Ending Temp:	97 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	07/01/15 13:45

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	150701A Blk				50mL	50mL	07/01/15 8:45	equip: Modblock2 TOTAL
2	150701A LCS		500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
3	AZ17692	AZ17692W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
4	AZ17693	AZ17693W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
5	AZ17694	AZ17694W22			50mL	50mL	07/01/15 8:45	equip: Modblock2
6	AZ17694 MS	AZ17694W22	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
7	AZ17694 MSD	AZ17694W22	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
8	AZ17695	AZ17695W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
9	AZ17696	AZ17696W10			50mL	50mL	07/01/15 8:45	equip: Modblock2
10	AZ17817	AZ17817W08			50mL	50mL	07/01/15 8:45	equip: Modblock2
11	AZ17818	AZ17818W08			50mL	50mL	07/01/15 8:45	equip: Modblock2
12	AZ17821	AZ17821W08			50mL	50mL	07/01/15 8:45	equip: Modblock2
13	AZ17823	AZ17823W22			50mL	50mL	07/01/15 8:45	equip: Modblock2
14	AZ17823 MS	AZ17823W22	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
15	AZ17823 MSD	AZ17823W22	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
16	AZ17826	AZ17826W10			50mL	50mL	07/01/15 8:45	equip: Modblock2
17	AZ17827	AZ17827W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
18	AZ17828	AZ17828W10			50mL	50mL	07/01/15 8:45	equip: Modblock2
19	AZ17829	AZ17829W10			50mL	50mL	07/01/15 8:45	equip: Modblock2
20	AZ17907	AZ17907W10			50mL	50mL	07/01/15 8:45	equip: Modblock2
21	AZ17908	AZ17908W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
22	AZ17909	AZ17909W10			50mL	50mL	07/01/15 8:45	equip: Modblock2

Solvent and Lot#
HNO3 J.T.B. 106819 4358
1:1 HCL 1-12-15

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	ROS
Date	7/1/15
Time	1700
Moved to	METALS

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/01/15 8:23:16 AM

Reviewed By: ROS **Date:** 7/1/15

Metals Digestion Worksheet

Method Name 3010A Digestion (Field Filter) **Prep Method** M3010F **Set** 150701A **Units** mL

Spikes			
Spiked ID 1	LCSW LOT# 1073180-35017		
Spiked ID 2	LCSW LOT# 1073080-35018		
Spiked ID 3	Li 10mg/L Prep: 7-1-15		
Spiked ID 4			
Spiked By	NM	Date:	07/01/15 8:45:00 AM
Witnessed By	KRG	Date:	07/01/15 8:45:00 AM

Starting Temp:	95 c
Ending Temp:	97 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	07/01/15 14:00

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	150701A Blk				50mL	50mL	07/01/15 8:45	equip: Modblock2 FIELD FILTER
2	150701A LCS		500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
3	AZ17692	AZ17692W06			50mL	50mL	07/01/15 8:45	equip: Modblock2
4	AZ17693	AZ17693W06			50mL	50mL	07/01/15 8:45	equip: Modblock2
5	AZ17694	AZ17694W19			50mL	50mL	07/01/15 8:45	equip: Modblock2
6	AZ17694 MS	AZ17694W19	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
7	AZ17694 MSD	AZ17694W19	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
8	AZ17695	AZ17695W06			50mL	50mL	07/01/15 8:45	equip: Modblock2
9	AZ17696	AZ17696W09			50mL	50mL	07/01/15 8:45	equip: Modblock2
10	AZ17817	AZ17817W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
11	AZ17818	AZ17818W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
12	AZ17821	AZ17821W07			50mL	50mL	07/01/15 8:45	equip: Modblock2
13	AZ17823	AZ17823W19			50mL	50mL	07/01/15 8:45	equip: Modblock2
14	AZ17823 MS	AZ17823W19	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
15	AZ17823 MSD	AZ17823W19	500uL	1+2+3	50mL	50mL	07/01/15 8:45	equip: Modblock2
16	AZ17826	AZ17826W09			50mL	50mL	07/01/15 8:45	equip: Modblock2
17	AZ17827	AZ17827W06			50mL	50mL	07/01/15 8:45	equip: Modblock2
18	AZ17828	AZ17828W09			50mL	50mL	07/01/15 8:45	equip: Modblock2
19	AZ17829	AZ17829W09			50mL	50mL	07/01/15 8:45	equip: Modblock2
20	AZ17907	AZ17907W09			50mL	50mL	07/01/15 8:45	equip: Modblock2
21	AZ17908	AZ17908W06			50mL	50mL	07/01/15 8:45	equip: Modblock2
22	AZ17909	AZ17909W09			50mL	50mL	07/01/15 8:45	equip: Modblock2

Solvent and Lot#
HNO3 J.T.B. 106819 4358
1:1 HCL 1-12-15

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	RBS
Date	7/1/15
Time	1700
Moved to	METALS

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/01/15 8:19:29 AM

Reviewed By: RBS **Date:** 7/1/15

6010 Injection Log

Directory: K:\ICAP JULES\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	06 Jul 2015	11:08	CalBlk 150706RJS I:JL O:R		150706A6010	1.
2	06 Jul 2015	11:14	STD 1 150706RJS I:JL O:RJ		150706A6010	1.
3	06 Jul 2015	11:19	STD 2 150706RJS I:JL O:RJ		150706A6010	1.
4	06 Jul 2015	11:25	STD 3 150706RJS I:JL O:RJ		150706A6010	1.
5	06 Jul 2015	11:29	ICV 150706RJS I:JL O:RJS		150706A6010	1.
6	06 Jul 2015	11:35	ICB 150706RJS I:JL O:RJS		150706A6010	1.
7	06 Jul 2015	11:41	ICSA 150706RJS I:JL O:RJS		150706A6010	1.
8	06 Jul 2015	11:47	ICSAB 150706RJS I:JL O:RJ		150706A6010	1.
9	06 Jul 2015	11:53	CCV1 150706RJS I:JL O:RJS		150706A6010	1.
10	06 Jul 2015	12:03	CCB 150706RJS I:JL O:RJS		150706A6010	1.
11	06 Jul 2015	12:11	150701A-3010F BLK		150706A6010	1.
12	06 Jul 2015	12:16	150701A-3010F LCS		150706A6010	1.
13	06 Jul 2015	12:22	150701A-3010 BLK		150706A6010	1.
14	06 Jul 2015	12:27	150701A-3010 LCS		150706A6010	1.
15	06 Jul 2015	12:34	AZ17692W06 F		150706A6010	1.
16	06 Jul 2015	12:41	AZ17693W06 F		150706A6010	1.
17	06 Jul 2015	12:47	AZ17694W19 F		150706A6010	1.
18	06 Jul 2015	12:54	AZ17694W19 F MS		150706A6010	1.
19	06 Jul 2015	13:00	AZ17694W19 F MSD		150706A6010	1.
20	06 Jul 2015	13:07	AZ17695W06 F		150706A6010	1.
21	06 Jul 2015	13:14	AZ17696W09 F		150706A6010	1.
29	06 Jul 2015	14:53	CCV2 150706RJS I:JL O:RJS		150706A6010	1.
30	06 Jul 2015	14:58	CCB 150706RJS I:JL O:RJS		150706A6010	1.
37	06 Jul 2015	15:44	AZ17694W19-1/5 F		150706A6010	5.
38	06 Jul 2015	15:49	AZ17694W19-A F		150706A6010	1.
41	06 Jul 2015	16:08	CCV1 150706RJS I:JL O:RJS		150706A6010	1.
42	06 Jul 2015	16:13	CCB 150706RJS I:JL O:RJS		150706A6010	1.
43	06 Jul 2015	16:19	AZ17692W07		150706A6010	1.
44	06 Jul 2015	16:26	AZ17693W07		150706A6010	1.
45	06 Jul 2015	16:32	AZ17694W22		150706A6010	1.
46	06 Jul 2015	16:39	AZ17694W22 MS		150706A6010	1.
47	06 Jul 2015	16:45	AZ17694W22 MSD		150706A6010	1.
48	06 Jul 2015	16:52	AZ17695W07		150706A6010	1.
49	06 Jul 2015	16:59	AZ17696W10		150706A6010	1.
57	06 Jul 2015	17:50	CCV2 150706RJS I:JL O:RJS		150706A6010	1.
58	06 Jul 2015	17:55	CCB 150706RJS I:JL O:RJS		150706A6010	1.
65	06 Jul 2015	18:40	AZ17694W22-A		150706A6010	1.
66	06 Jul 2015	18:46	AZ17694W22-1/5		150706A6010	5.
69	06 Jul 2015	19:04	CCV1 150706RJS I:JL O:RJS		150706A6010	1.
70	06 Jul 2015	19:09	CCB 150706RJS I:JL O:RJS		150706A6010	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 90	TOTAL ORGANIC C	0.35 U	0.5	0.35	0.13	mg/L	07/01/15	07/01/15	#906-150701A-AZ17694

Wetlab SC-Blank-REG MDLs
Printed: 07/06/15 12:52:48 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	22.1	20.9	94.6	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	9.98	9.13	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	20.0	18.6	93.0	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 906	TOTAL ORGANIC CARBON	10.00	10.2	102	90-110	07/01/15	07/01/15	#906-150701A-AZ17694

Comments: _____

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 06/16/15

Matrix: WATER Instrument: Dionex

Blank ID: 150616A1-BLK Time Analyzed: 0838

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150616A1-LCS	Lab Control Spike	31	06/16/15 0848
AZ17694	S67-MW016-061515	38	06/16/15 1434
AZ17696	S67-MW017-061515	39	06/16/15 1445
150616A1-BLK	Blank	8	06/16/15 0838

Comments: Batch: #300W-150616A1

SW846 9060

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76657

Case No: 76657 Date Analyzed: 07/01/15

Matrix: WATER Instrument: Tekmar

Blank ID: 150701A-BLK Time Analyzed: 1323

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150701A-MS	Matrix Spike	13	07/01/15 1829
150701A-BLK	Blank	2	07/01/15 1323
150701A-LCS	Lab Control Spike	3	07/01/15 1352
150701A-DUP	Duplicate	5	07/01/15 1516
AZ17694	S67-MW016-061515	5	07/01/15 1449
AZ17696	S67-MW017-061515	7	07/01/15 1541

Comments: Batch: #906-150701A

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW016-061515

Sample Collection Date: 06/15/15

APPL ID: AZ17694

ARF: 76657

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	48.3	1.0	0.20	0.08	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRATE	1.5	0.5	0.18	0.04	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	1	06/16/15	06/16/15
EPA 300.0	SULFATE	38.4	1.0	0.20	0.09	mg/L	1	06/16/15	06/16/15
SW846 9060	TOTAL ORGANIC CARBON	0.35 U	0.5	0.35	0.13	mg/L	1	07/01/15	07/01/15

Printed: 07/06/15 12:52:42 PM

APPL-F1-SC-NoMC-REG MDLs

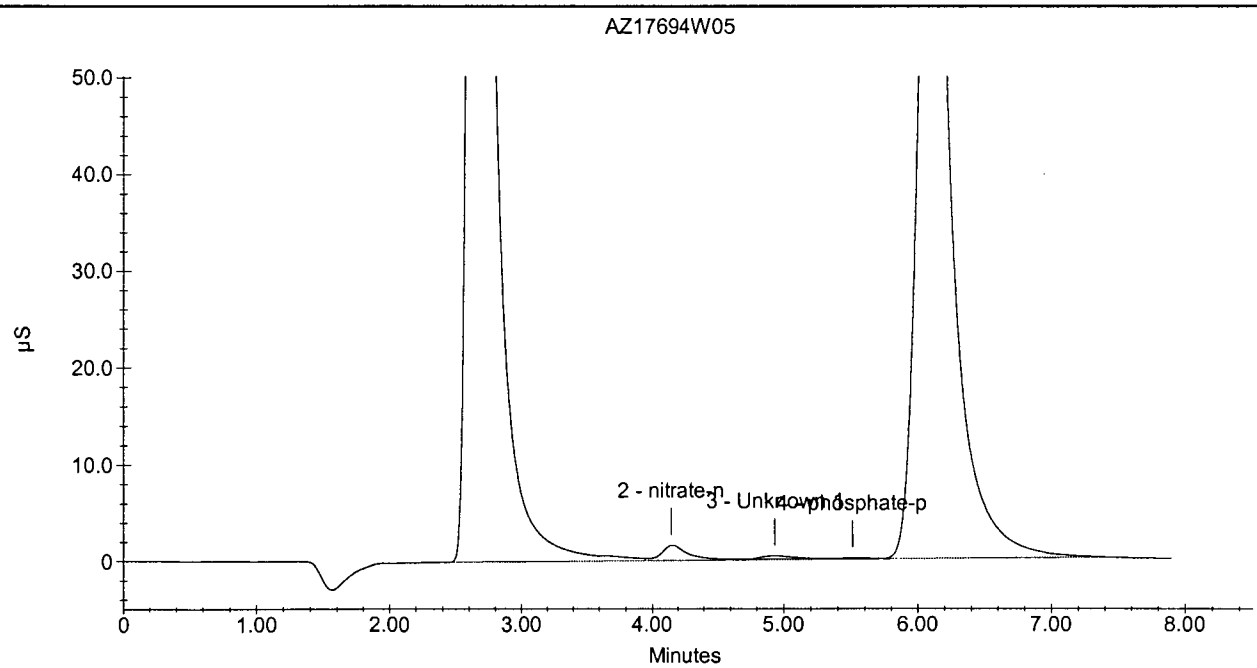
Sample Analysis Report

Sample Name : AZ17694W05
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_038.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 150604A.met
Date Time Collected : 6/16/15 14:34:34
System Operator : EM
Injection Number : 38
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.65	chloride	48.3313	26817112	2886143
2	4.15	nitrate-n	0.3444	263308	15793
3	4.93	Unknown 1	0.0000	52118	3129
4	5.51	phosphate-p	-0.2626	16323	1038
5	6.11	sulfate	38.3907	14842544	910013



Wet Lab Analysis

Tetra Tech
5700 Lake Wright Dr, Ste 309
Norfolk, VA 23502

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-MW017-061515

Sample Collection Date: 06/15/15

APPL ID: AZ17696

ARF: 76657

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	27.5	1.0	0.20	0.08	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRATE	1.6	0.5	0.18	0.04	mg/L	1	06/16/15	06/16/15
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	1	06/16/15	06/16/15
EPA 300.0	SULFATE	11.6	1.0	0.20	0.09	mg/L	1	06/16/15	06/16/15
SW846 9060	TOTAL ORGANIC CARBON	0.35 U	0.5	0.35	0.13	mg/L	1	07/01/15	07/01/15

Printed: 07/06/15 12:52:42 PM

APPL-F1-SC-NoMC-REG MDLs

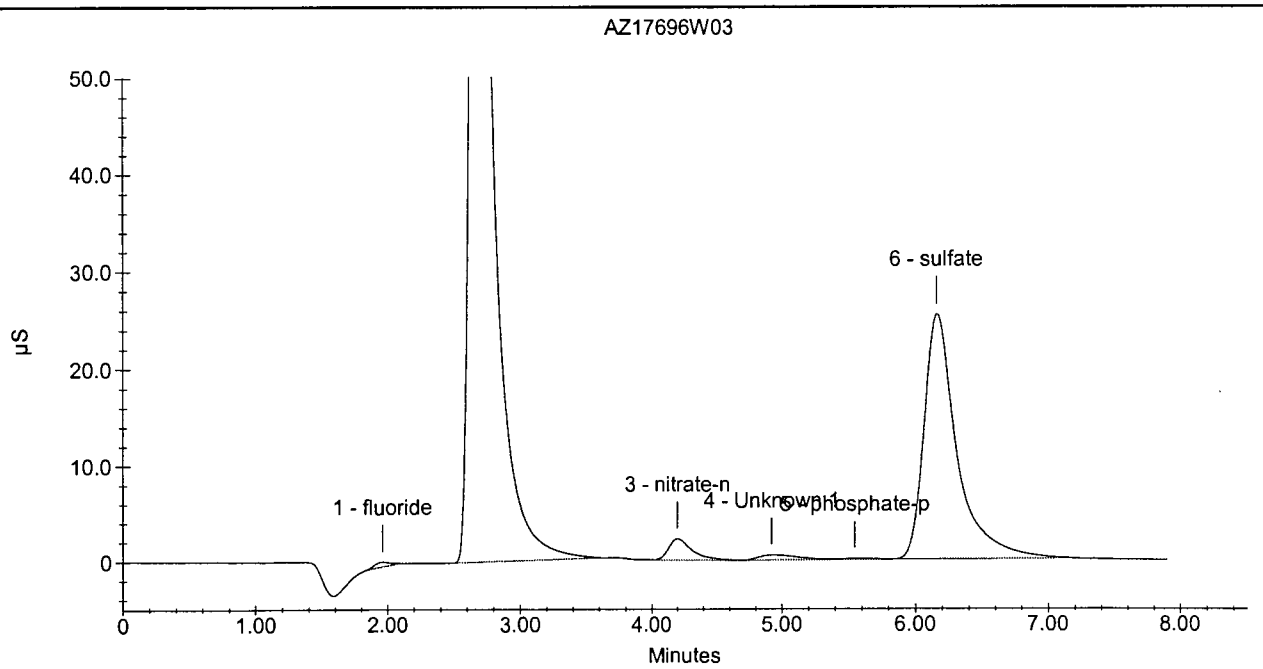
Sample Analysis Report

Sample Name : AZ17696W03
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_039.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 150604A.met
Date Time Collected : 6/16/15 14:45:11
System Operator : EM
Injection Number : 39
Multiplier : 1.00

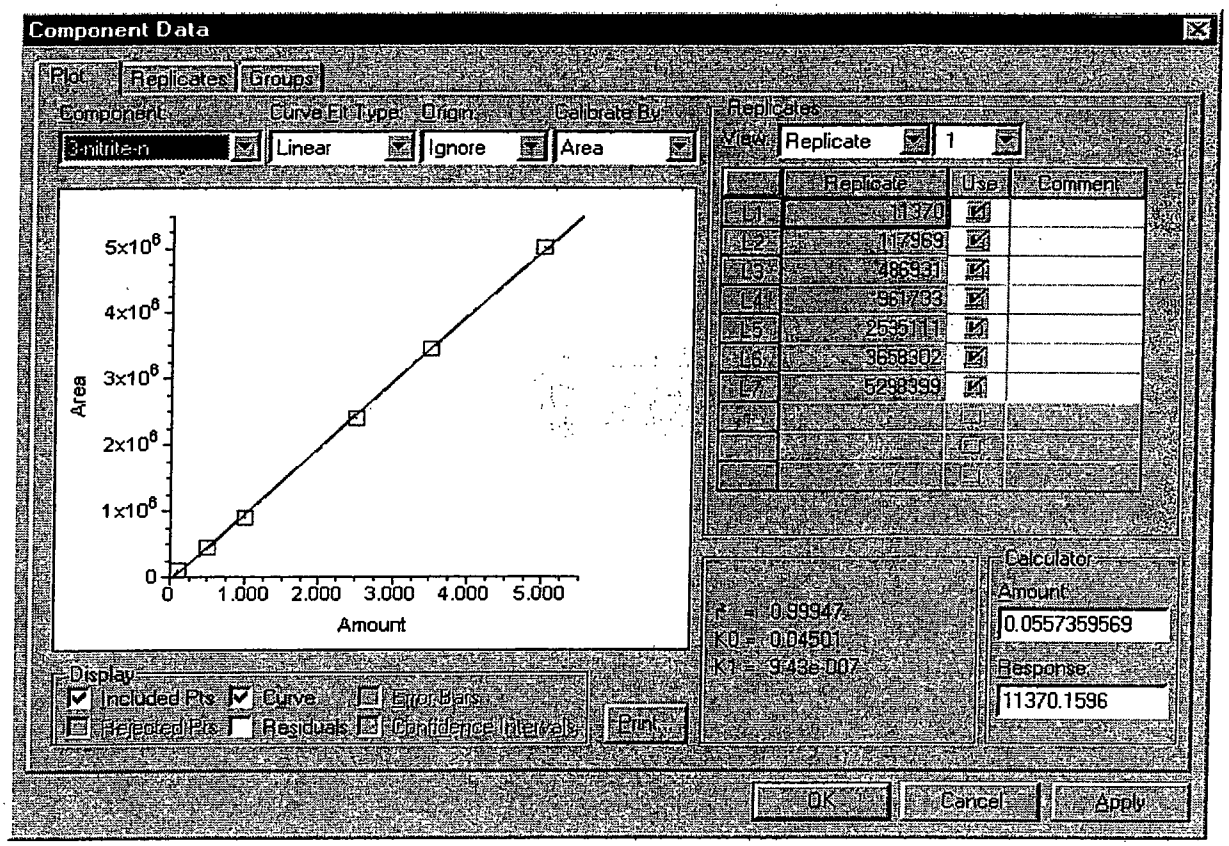
Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	fluoride	0.0584	40464	4992
2	2.68	chloride	27.5456	15016495	1589534
3	4.20	nitrate-n	0.3558	278354	22098
4	4.92	Unknown 1	0.0000	106495	5303
5	5.55	phosphate-p	-0.2612	16920	1092
6	6.16	sulfate	11.5823	4344233	252883



INORGANIC ANALYSIS
Calibration Data

APPL, INC.


Component Data
Plot
Replicates
Groups
Component
Curve Fit Type
Origin
Calibrate By
3-nitrite-n
Linear
Ignore
Area
Area
Amount
Replicates
View
Replicate
1
Replicate
Use
Comment
L1 11370
L2 117969
L3 486931
L4 961793
L5 2535111
L6 3658302
L7 5298999
r² = 0.99947
K0 = 0.04501
K1 = 9.43e-007
Calculator
Amount
0.0557359569
Response
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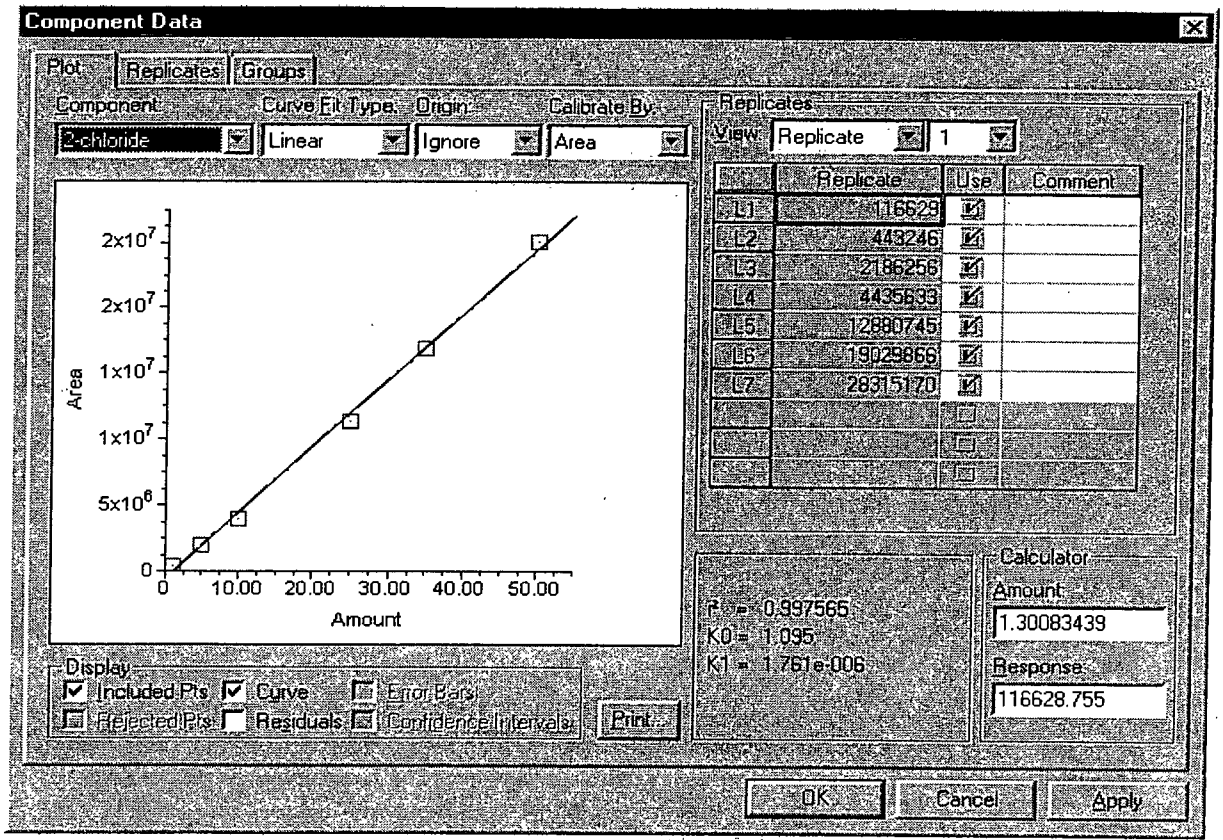
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print
OK
Cancel
Apply


Component Data
Plot
Replicates
Groups
Component
2-chloride
Curve Fit Type
Linear
Origin
Ignore
Calibrate By
Area
Area
Amount
2x10^7
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1x10^7
1x10^7
5x10^6
0
0
10.00
20.00
30.00
40.00
50.00
Replicates
View
Replicate
1
Replicate
Use
Comment
L1 116629
L2 443246
L3 2186256
L4 4435693
L5 12880745
L6 19029866
L7 28315170
r² = 0.997565
K0 = 1.095
K1 = 1.761e-006
Calculator
Amount
1.30083439
Response
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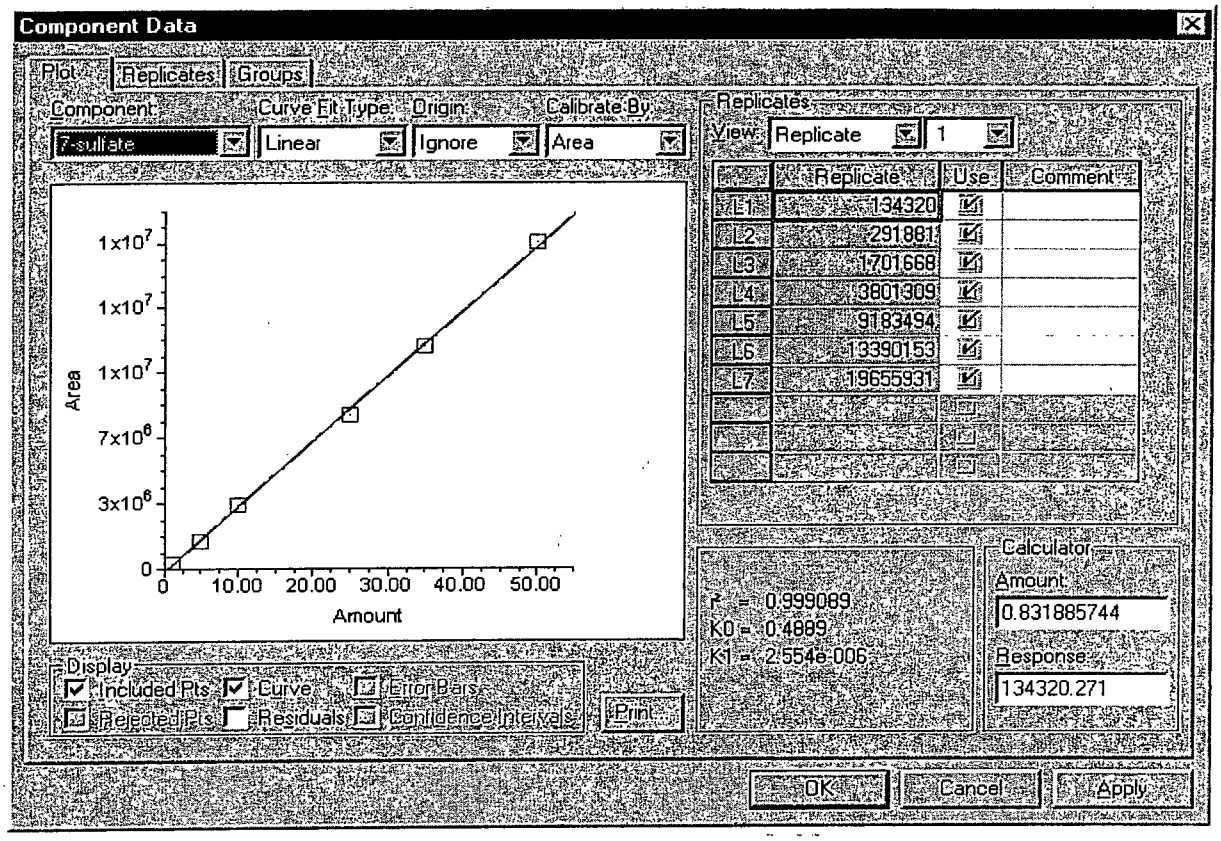
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print
OK
Cancel
Apply


Component Data
Plot
Replicates
Groups
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Curve Fit Type:
Origin:
Calibrate By:
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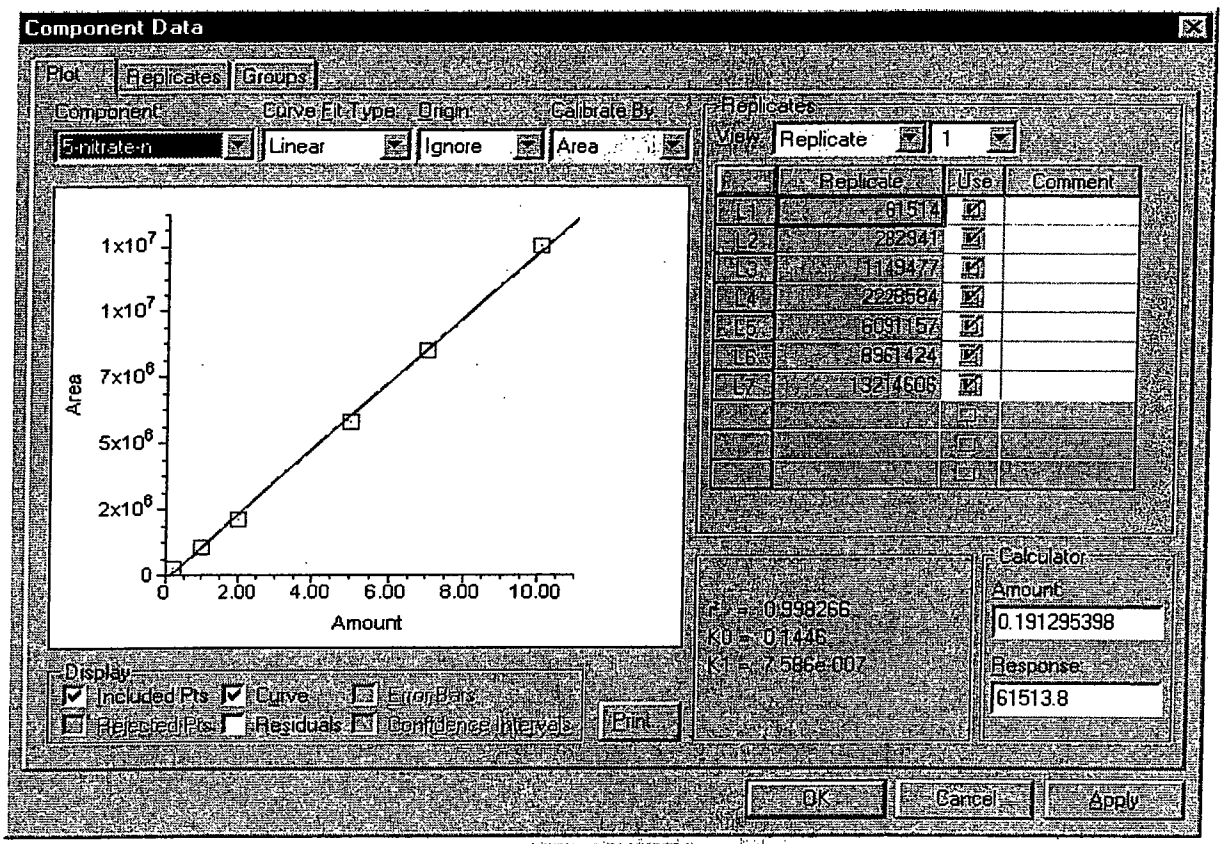
Linear
Ignore
Area
1x10^7
1x10^7
1x10^7
7x10^6
3x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Replicates
View:
Replicate
1
Replicate
Use
Comment
L1
134320
L2
291881
L3
1701668
L4
3801309
L5
9183494
L6
13390153
L7
19655931
r = 0.999089
K0 = 0.4889
K1 = 2.554e-006
Calculator
Amount:
0.831885744
Response:
134320.271
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print
OK
Cancel
Apply


Component Data
Plot
Replicates
Groups
Component
Curve Fit Type
Origin
Calibrate By
5-nitrate-n
Linear
Ignore
Area
Area
Amount
1x10^7
1x10^7
7x10^6
5x10^6
2x10^6
0
0
2.00
4.00
6.00
8.00
10.00
Replicates
View
Replicate
1
Replicate
Use
Comment
L1
61514
L2
282941
L3
1149477
L4
2228584
L5
6091157
L6
8961424
L7
13214606
r^2 = 0.998266
K0 = 0.1445
K1 = 7.586e-007
Calculator
Amount
0.191295398
Response
61513.8
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print
OK
Cancel
Apply

INORGANIC ANALYSES
AUTO CALIBRATION

Analytical Method: 300/9056A

Lab Name: APPL, Inc.

Instrument ID: Dionex

Autocal ID: 150604a

Concentration Units (mg/L or mg/kg): mg/L

Analyte	1	2	3	4	5	6	7
	Autocal 12:53	Autocal 13:03	Autocal 13:14	Autocal 13:25	Autocal 13:35	Autocal 13:35	Autocal 13:46
Bromide	13196	128787	494940	947418	2521515	2521515	3609161
Chloride	116628	443245	2186255	4435632	12880745	12880745	19029865
Fluoride	73804	56647	306356	600958	1629248	1629248	2227813
Nitrate-N	61513	282940	1149477	2228583	6091157	6091157	8961424
Nitrite-N	11370	117968	486930	961733	2535111	2535111	3658301
Phosphate-P	100931	205911	611253	1039285	2311592	2311592	3167637
Sulfate	134320	291880	1701667	3801308	9183493	9183493	13390153

Comments:

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 06/04/15

Analyte	Calibration Verification									M
	True ICV	Found 14:52	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.9465	95.6							
chloride	20	18.5471	92.7							
fluoride	2.5	2.50301	100							
Nitrate(NO3)-N	5	4.82436	96.5							
Nitrite(NO2)-N	3.04	2.84916	93.7							
phosphate-p	5	4.86564	97.3							
sulfate	20	18.5541	92.8							

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks											M
	ICB 06/04/15 15:03	C		C		C		C		C		
bromide	.500	U										
chloride	1.000	U										
fluoride	.100	U										
Nitrate(NO3)-N	.200	U										
Nitrite(NO2)-N	.100	U										
phosphate-p	.200	U										
sulfate	1.000	U										

Calibration Update Report

Sample Name : CAL STD #1 05/05/15
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_023.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 12:53:15

Calibration Date : 6/4/15 13:03:33
System Operator : DT
Injection Number : 23

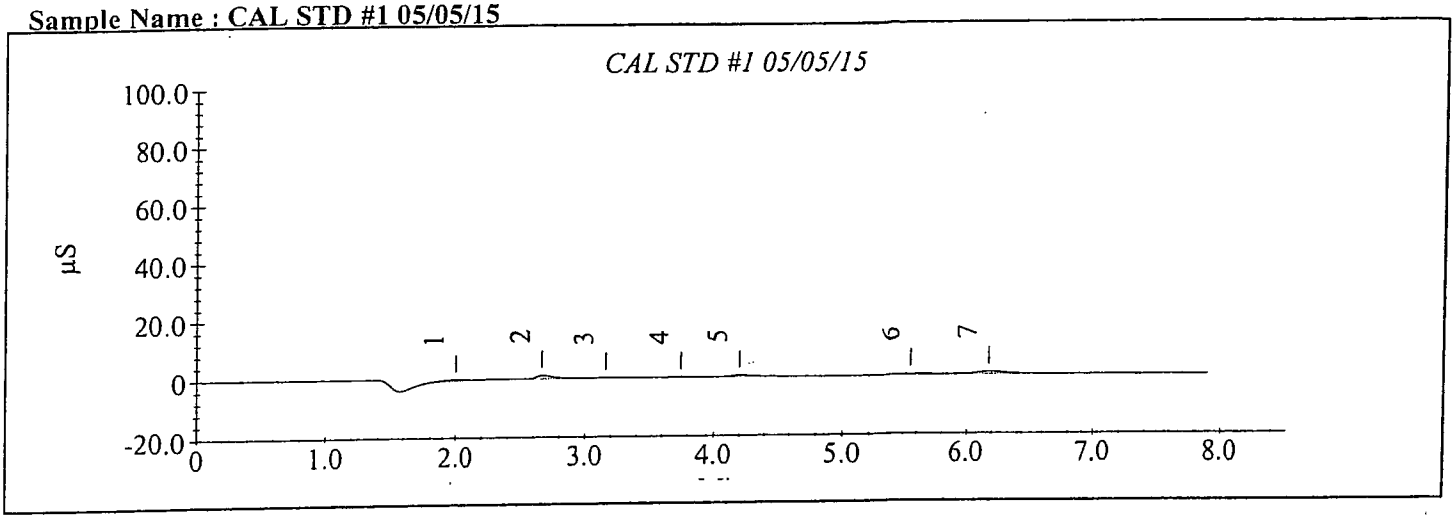
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	2.00	fluoride	32228	73804	73804
2	2.67	chloride	93020	116629	116629
3	3.16	nitrite-n	12996	11370	11370
4	3.75	bromide	13290	13196	13196
5	4.20	nitrate-n	40653	61514	61514
6	5.56	phosphate-p	90339	100931	100931
7	6.17	sulfate	67957	134320	134320

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	2.00	fluoride	0.04	73804	4628	-
2	2.67	chloride	0.40	116629	11041	-
3	3.16	nitrite-n	0.04	11370	1252	-
4	3.75	bromide	0.20	13196	1445	-
5	4.20	nitrate-n	0.08	61514	4993	-
6	5.56	phosphate-p	0.08	100931	3845	-
7	6.17	sulfate	0.40	134320	8119	-

Sample Name : CAL STD #1 05/05/15



Calibration Update Report

Sample Name : CAL STD #2
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_024.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:03:54

Calibration Date : 6/4/15 13:14:12
System Operator : DT
Injection Number : 24

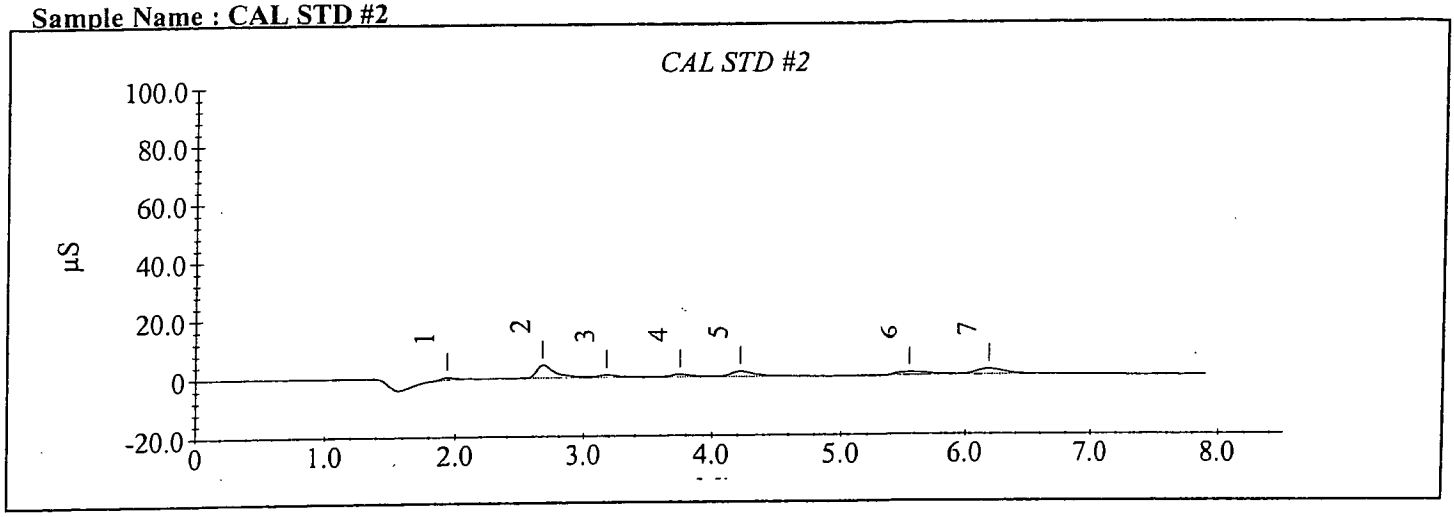
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.93	fluoride	57622	56647	56647
2	2.67	chloride	430478	443246	443246
3	3.17	nitrite-n	133908	117969	117969
4	3.75	bromide	120492	128787	128787
5	4.21	nitrate-n	254028	282941	282941
6	5.55	phosphate-p	171940	205911	205911
7	6.17	sulfate	291321	291881	291881

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.93	fluoride	0.10	56647	7929	
2	2.67	chloride	1.00	443246	43892	
3	3.17	nitrite-n	0.10	117969	8901	
4	3.75	bromide	0.50	128787	9430	
5	4.21	nitrate-n	0.20	282941	18584	
6	5.55	phosphate-p	0.20	205911	10220	
7	6.17	sulfate	1.00	291881	18607	

Sample Name : CAL STD #2



Calibration Update Report

Sample Name : CAL STD #3
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_025.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:14:34

Calibration Date : 6/4/15 13:24:52
System Operator : DT
Injection Number : 25

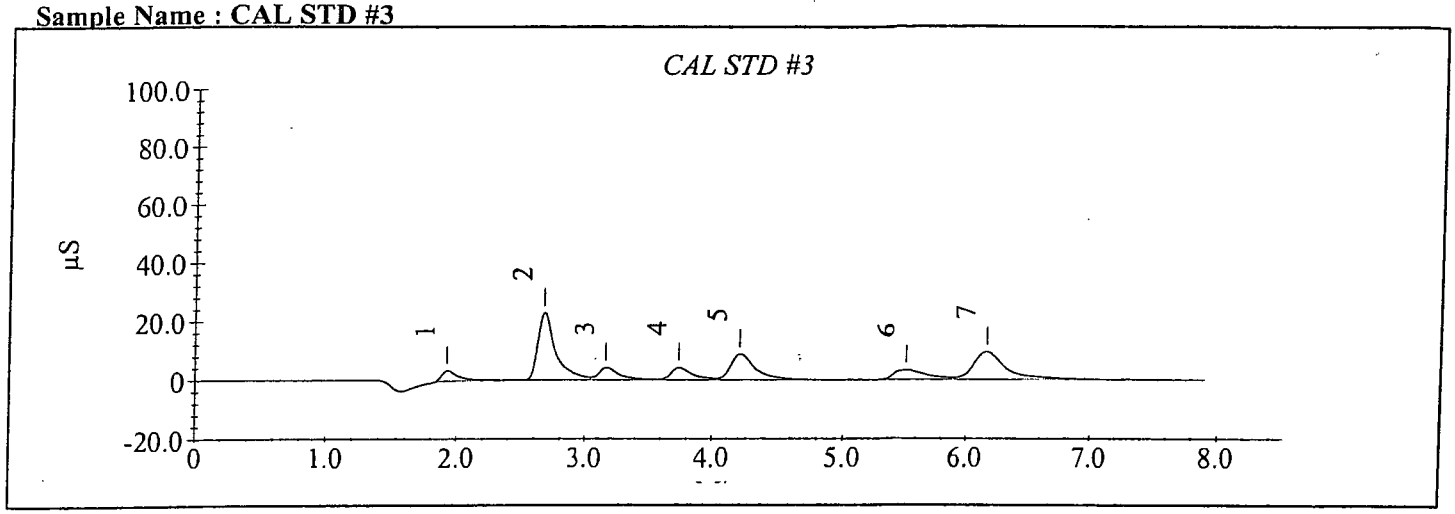
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	321944	306357	306357
2	2.67	chloride	2136860	2186256	2186256
3	3.16	nitrite-n	545677	486931	486931
4	3.73	bromide	484621	494941	494941
5	4.20	nitrate-n	1101997	1149477	1149477
6	5.51	phosphate-p	572833	611254	611254
7	6.16	sulfate	1510375	1701668	1701668

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	0.50	306357	35643	
2	2.67	chloride	5.00	2186256	228631	
3	3.16	nitrite-n	0.50	486931	41752	
4	3.73	bromide	2.50	494941	42142	
5	4.20	nitrate-n	1.00	1149477	87569	
6	5.51	phosphate-p	1.00	611254	33175	
7	6.16	sulfate	5.00	1701668	94475	

Sample Name : CAL STD #3



Calibration Update Report

Sample Name : CAL STD #4
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_026.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:25:14

Calibration Date : 6/4/15 13:35:32
System Operator : DT
Injection Number : 26

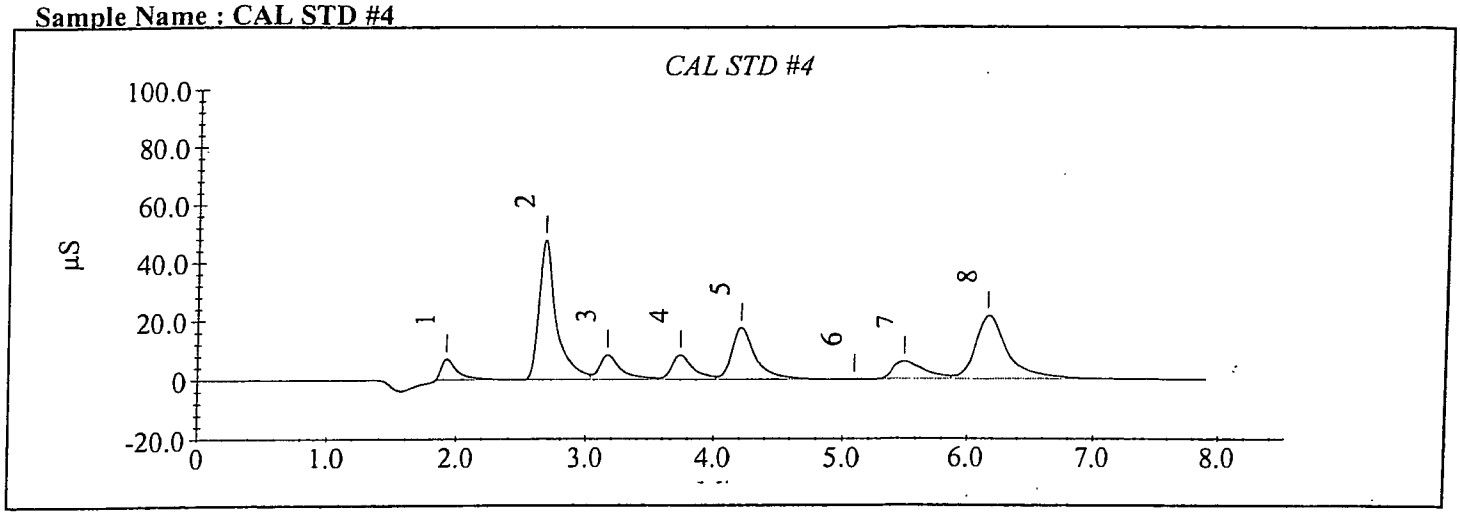
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	747950	600959	600959
2	2.67	chloride	4658364	4435633	4435633
3	3.16	nitrite-n	1140946	961733	961733
4	3.73	bromide	1009395	947419	947419
5	4.20	nitrate-n	2269536	2228584	2228584
7	5.49	phosphate-p	1002780	1039285	1039285
8	6.15	sulfate	3203590	3801309	3801309

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	1.00	600959	70213	
2	2.67	chloride	10.00	4435633	478180	
3	3.16	nitrite-n	1.00	961733	83768	
4	3.73	bromide	5.00	947419	82703	
5	4.20	nitrate-n	2.00	2228584	174883	
7	5.49	phosphate-p	2.00	1039285	59740	
8	6.15	sulfate	10.00	3801309	213680	

Sample Name : CAL STD #4



Calibration Update Report

Sample Name : CAL STD #5
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_027.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:35:59

Calibration Date : 6/4/15 13:46:17
System Operator : DT
Injection Number : 27

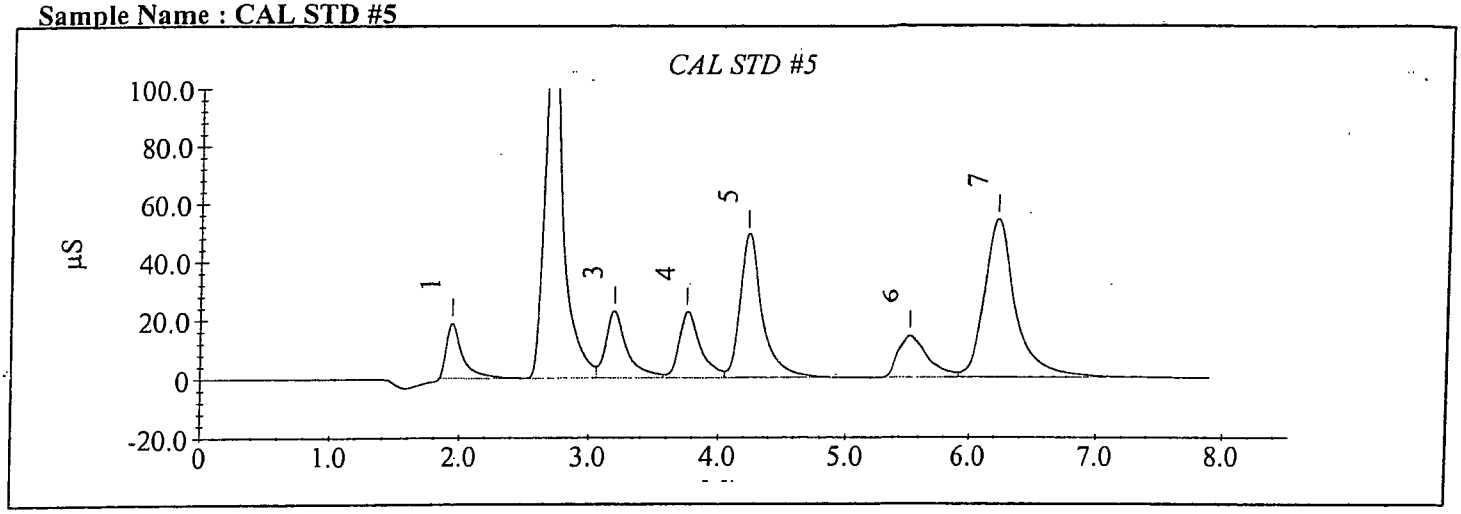
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.93	fluoride	1627638	1629248	1629248
2	2.68	chloride	12647726	12880745	12880745
3	3.19	nitrite-n	2651302	2535111	2535111
4	3.75	bromide	2485415	2521516	2521516
5	4.21	nitrate-n	6110954	6091157	6091157
6	5.52	phosphate-p	2255377	2311592	2311592
7	6.20	sulfate	8790093	9183494	9183494

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.93	fluoride	2.50	1629248	186759	
2	2.68	chloride	25.00	12880745	1414042	
3	3.19	nitrite-n	2.50	2535111	227759	
4	3.75	bromide	12.50	2521516	222264	
5	4.21	nitrate-n	5.00	6091157	489104	
6	5.52	phosphate-p	5.00	2311592	141653	
7	6.20	sulfate	25.00	9183494	540987	

Sample Name : CAL STD #5



Calibration Update Report

EM 6/4/15

Sample Name : CAL STD #6
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604A_M028.DXD

M11 DD 6.4.15

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:46:39

Calibration Date : 6/4/15 13:56:57
System Operator : DT
Injection Number : 28

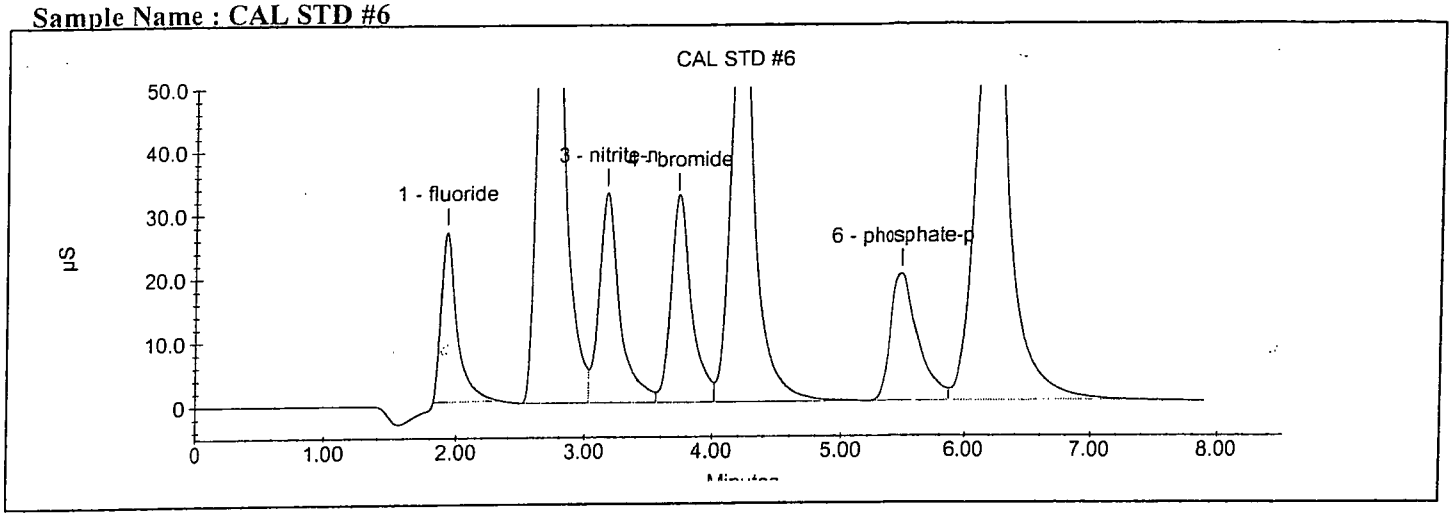
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	2536233	2227813	1851094
2	2.67	chloride	18712590	19029866	19029866
3	3.16	nitrite-n	3843358	3658302	3658302
4	3.72	bromide	3656064	3609161	3609161
5	4.19	nitrate-n	9060782	8961424	8961424
6	5.48	phosphate-p	3183590	3167637	3167637
7	6.16	sulfate	12873666	13390153	13390153

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	3.50	2227813	265757	
2	2.67	chloride	35.00	19029866	2147059	
3	3.16	nitrite-n	3.50	3658302	328328	
4	3.72	bromide	17.50	3609161	320796	
5	4.19	nitrate-n	7.00	8961424	725966	
6	5.48	phosphate-p	7.00	3167637	198451	
7	6.16	sulfate	35.00	13390153	803383	

Sample Name : CAL STD #6



Calibration Update Report

Sample Name : CAL STD #6
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_028.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:46:39

Calibration Date : 6/4/15 13:56:57
System Operator : DT
Injection Number : 28

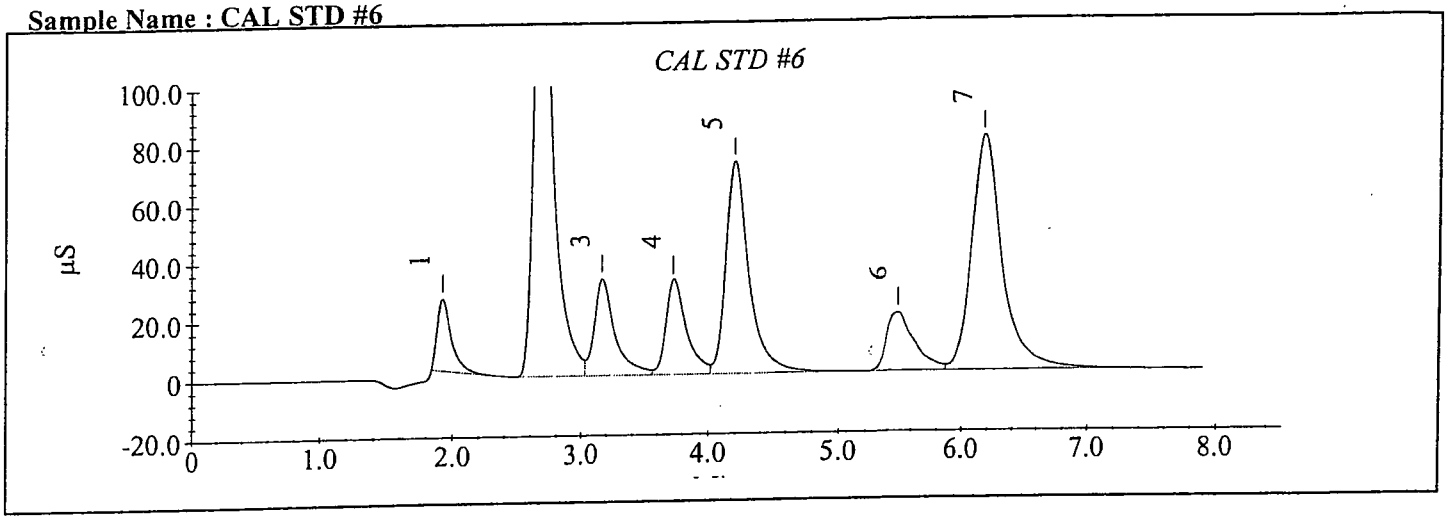
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	2536233	1851094	1851094
2	2.67	chloride	18712590	19029866	19029866
3	3.16	nitrite-n	3843358	3658302	3658302
4	3.72	bromide	3656064	3609161	3609161
5	4.19	nitrate-n	9060782	8961424	8961424
6	5.48	phosphate-p	3183590	3167637	3167637
7	6.16	sulfate	12873666	13390153	13390153

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	3.50	1851094	245148	
2	2.67	chloride	35.00	19029866	2147059	
3	3.16	nitrite-n	3.50	3658302	328328	
4	3.72	bromide	17.50	3609161	320796	
5	4.19	nitrate-n	7.00	8961424	725966	
6	5.48	phosphate-p	7.00	3167637	198451	
7	6.16	sulfate	35.00	13390153	803383	

Sample Name : CAL STD #6



EM 6/4/15 M\1 06.4.15

Calibration Update Report

Sample Name : CAL STD #7
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604A_M029.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:57:19

Calibration Date : 6/4/15 14:07:37
System Operator : DT
Injection Number : 29

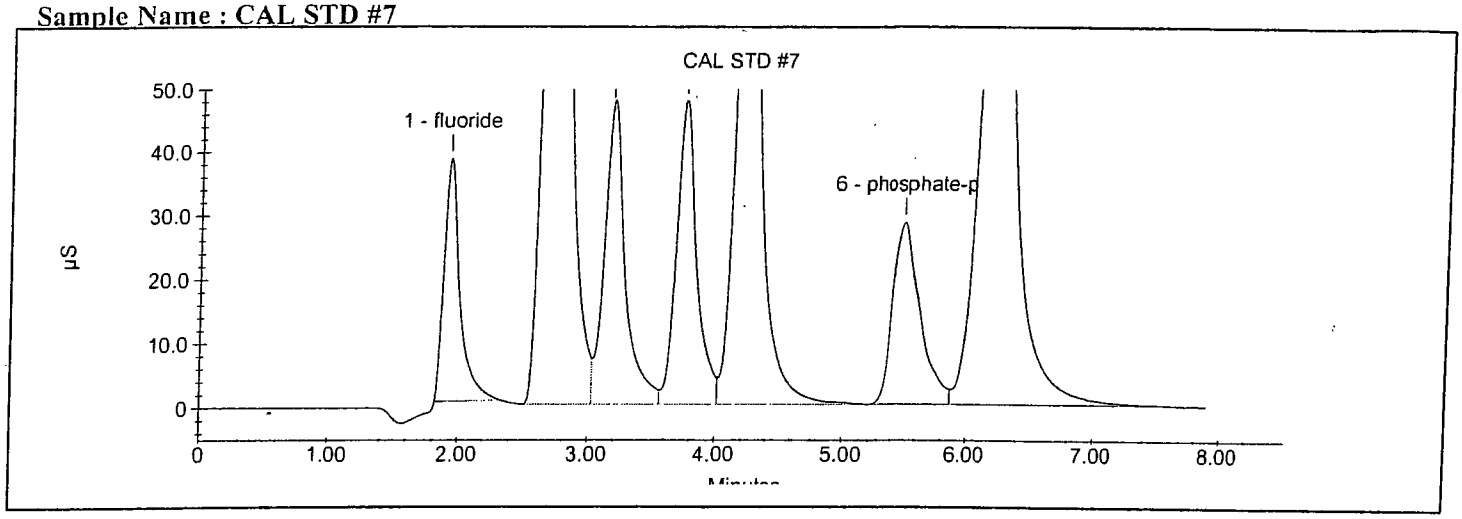
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	3565505	3190365	2696582
2	2.68	chloride	28275016	28315170	28315170
3	3.16	nitrite-n	5501151	5298399	5298399
4	3.73	bromide	5312485	5234318	5234318
5	4.19	nitrate-n	13407822	13214606	13214606
6	5.48	phosphate-p	4524114	4459977	4459977
7	6.17	sulfate	19278034	19655931	19655931

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	5.00	3190365	379126	
2	2.68	chloride	50.00	28315170	3247050	
3	3.16	nitrite-n	5.00	5298399	469665	
4	3.73	bromide	25.00	5234318	476237	
5	4.19	nitrate-n	10.00	13214606	1073141	
6	5.48	phosphate-p	10.00	4459977	283597	
7	6.17	sulfate	50.00	19655931	1192433	

Sample Name : CAL STD #7



Calibration Update Report

Sample Name : CAL STD #7
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_029.DXD

Method File Name : ...\anions 150604a.met
Schedule File Name : ...\150604a.sch
Date Time Collected : 6/4/15 13:57:19

Calibration Date : 6/4/15 14:07:37
System Operator : DT
Injection Number : 29

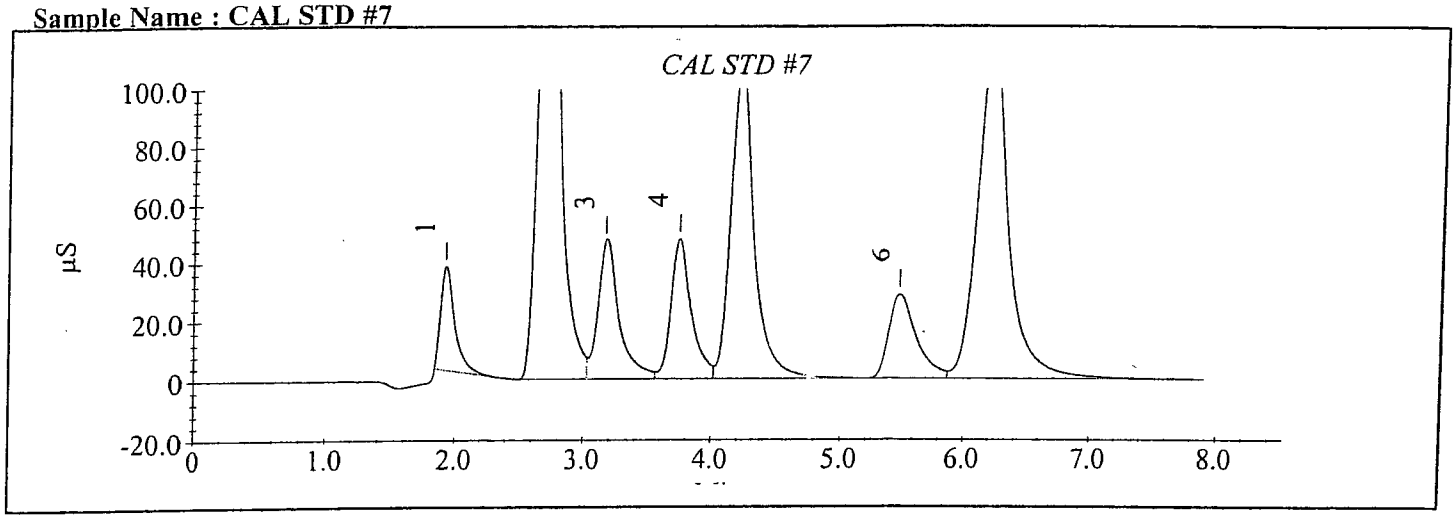
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.92	fluoride	3565505	2696582	2696582
2	2.68	chloride	28275016	28315170	28315170
3	3.16	nitrite-n	5501151	5298399	5298399
4	3.73	bromide	5312485	5234318	5234318
5	4.19	nitrate-n	13407822	13214606	13214606
6	5.48	phosphate-p	4524114	4459977	4459977
7	6.17	sulfate	19278034	19655931	19655931

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.92	fluoride	5.00	2696582	352393	
2	2.68	chloride	50.00	28315170	3247050	
3	3.16	nitrite-n	5.00	5298399	469665	
4	3.73	bromide	25.00	5234318	476237	
5	4.19	nitrate-n	10.00	13214606	1073141	
6	5.48	phosphate-p	10.00	4459977	283597	
7	6.17	sulfate	50.00	19655931	1192433	

Sample Name : CAL STD #7



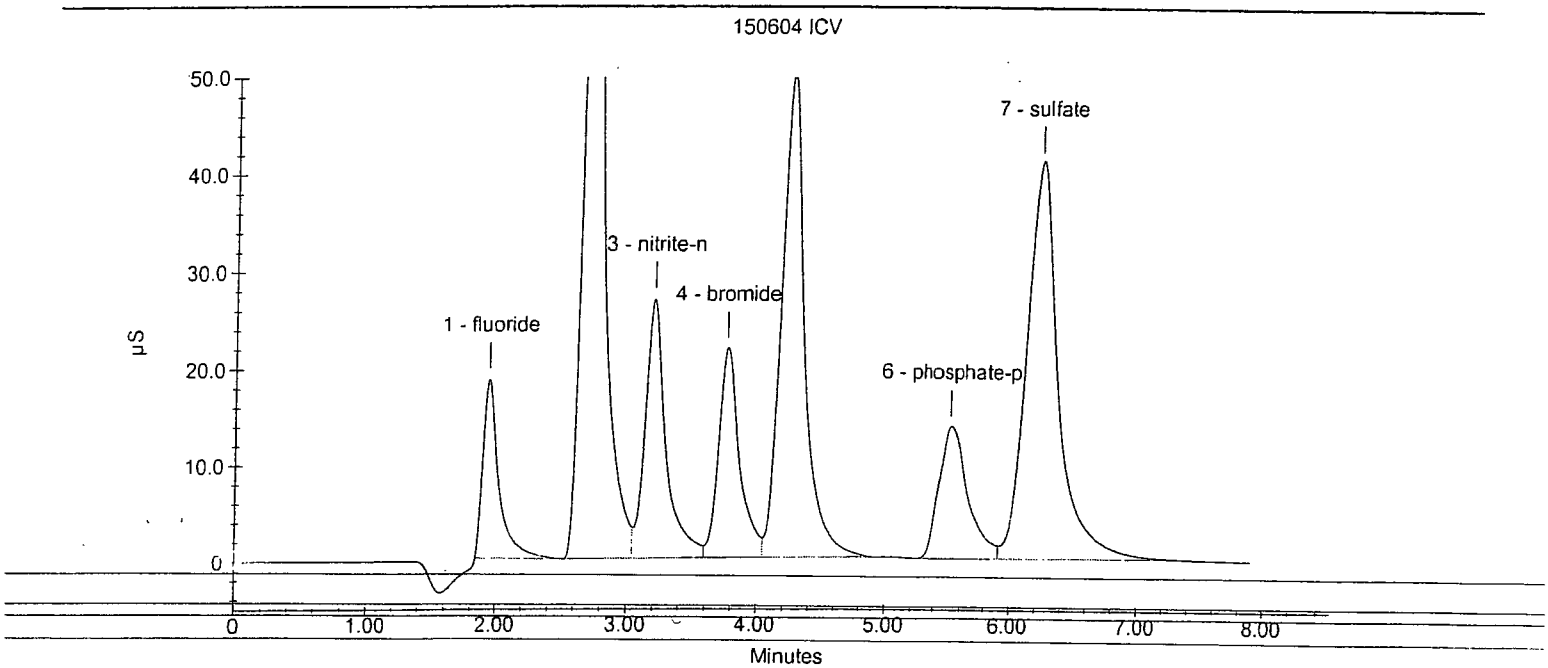
Sample Analysis Report

Sample Name : 150604 ICV
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_033.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 150604A.met
Date Time Collected : 6/4/15 14:52:30
System Operator : DT
Injection Number : 33
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.93	fluoride	2.5030	1599821	185817
2	2.68	chloride	18.5472	9907866	1085827
3	3.19	nitrite-n	2.8492	2973632	268429
4	3.75	bromide	11.9465	2460301	216840
5	4.21	nitrate-n	4.8244	6168865	496531
6	5.51	phosphate-p	4.8656	2244450	137228
7	6.19	sulfate	18.5542	7074471	408451



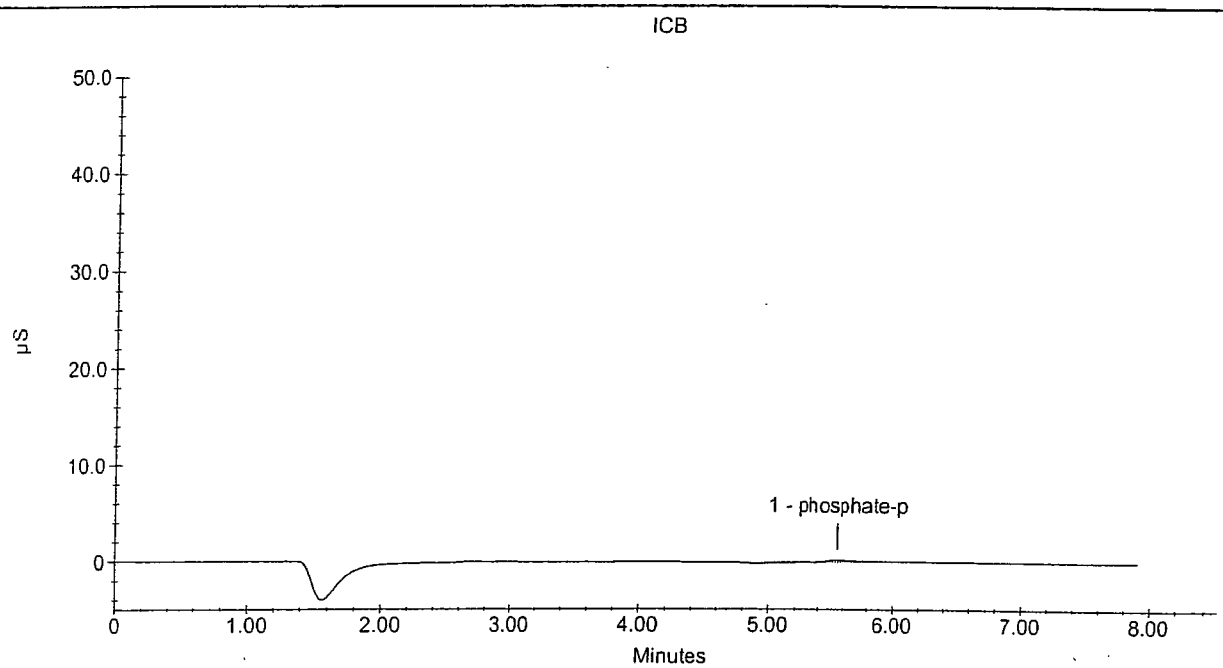
Sample Analysis Report

Sample Name : ICB
Data File Name : I:\DIONEX\D1ANIONS\DATA\150604A\150604a_034.DXD

Method File Name : i:\dionex\d1anions\methods\anions 150604a.met
Date Time Collected : 6/4/15 15:03:25
System Operator : DT
Injection Number : 34
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.55	phosphate-p	-0.1768	53577	1920



A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No: 76657 SDG: 76657

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 06/16/15

Analyte	Calibration Verification									M
	True CCV1	Found 11:33	%R(1)	True CCV1	Found 16:23	%R(1)	True	Found	%R(1)	
chloride	25	23.8541	95.4	25	23.6086	94.4				
Nitrate(NO3)	22.1	21.1587	95.7	22.1	20.9581	94.8				
Nitrite(NO2)	8.211	8.39998	102	8.211	8.21690	100				
sulfate	25	23.7567	95.0	25	23.6218	94.5				

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 06/16/15 11:43	C	CCB 06/16/15 16:34	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
Nitrite(NO2)	.300	U	.300	U							
sulfate	1.000	U	1.000	U							

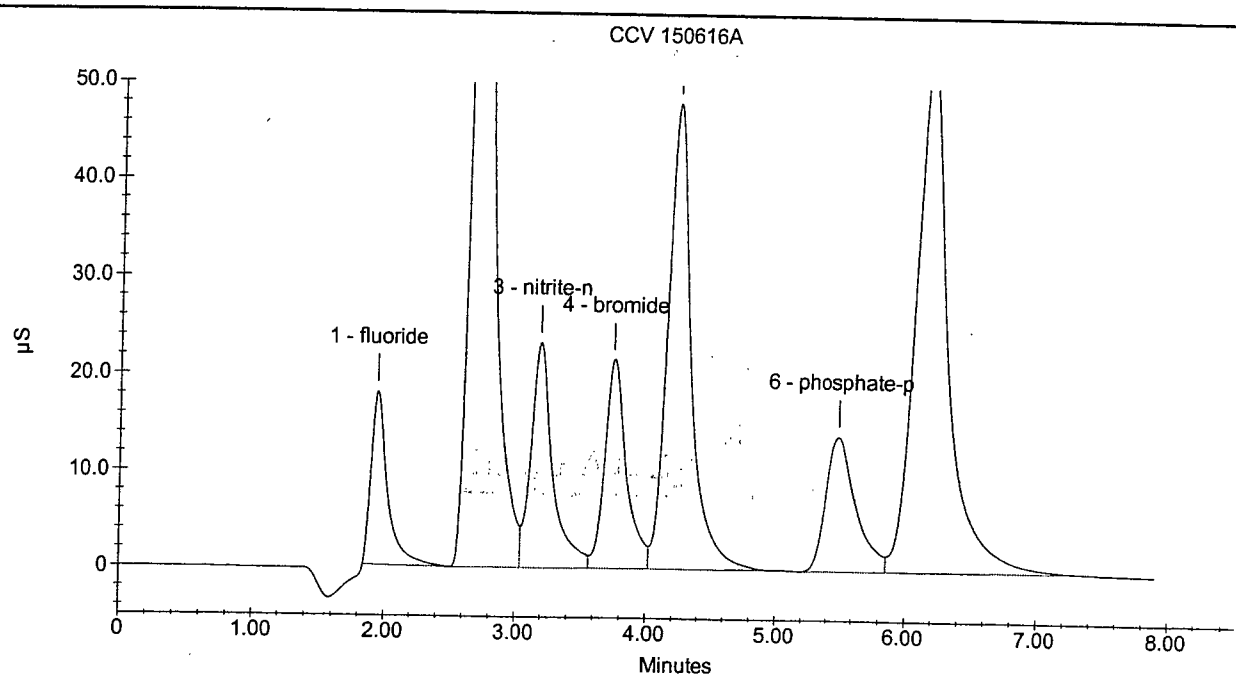
Sample Analysis Report

Sample Name : CCV 150616A
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_021.DXD

Method File Name : i:\dionex\d1anions\methods\anions 150604a.met
Date Time Collected : 6/16/15 11:33:09
System Operator : EM
Injection Number : 21
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.93	fluoride	2.4472	1564233	178759
2	2.68	chloride	23.8542	12920771	1394036
3	3.17	nitrite-n	2.5574	2664218	232234
4	3.73	bromide	12.0835	2488951	215475
5	4.20	nitrate-n	4.7778	6107422	479304
6	5.48	phosphate-p	4.9595	2285244	139707
7	6.15	sulfate	23.7568	9111822	530657



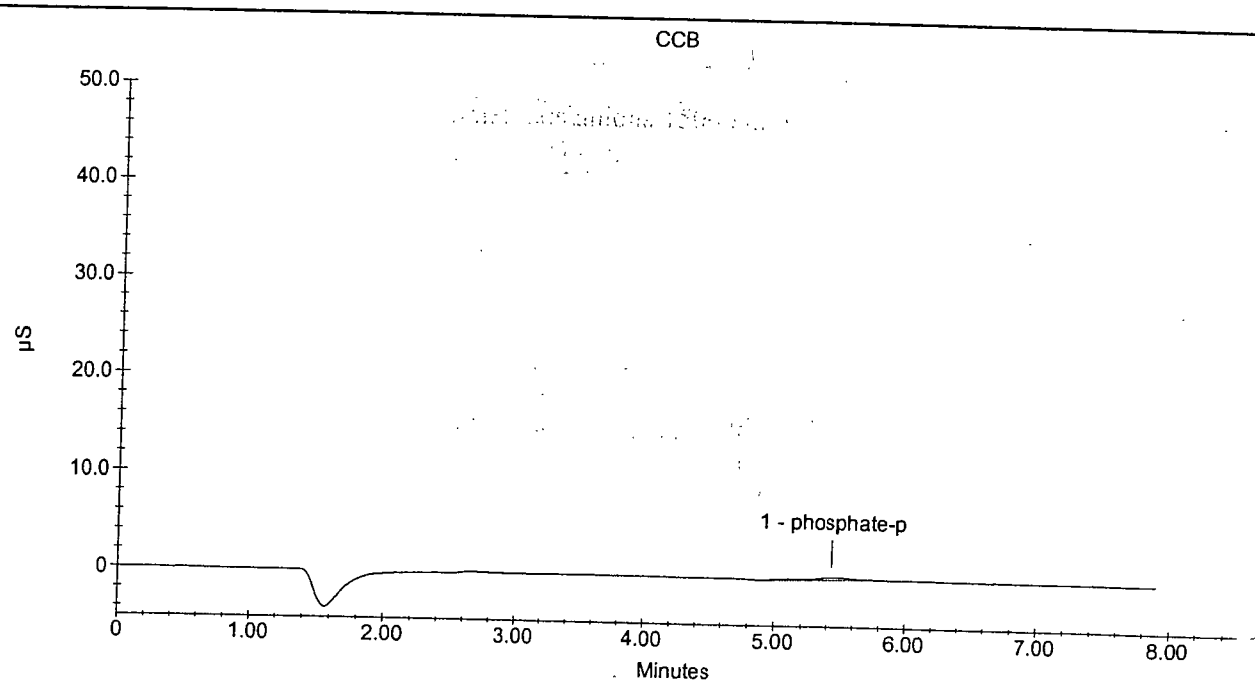
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\DATA_022.DXD

Method File Name : i:\dionex\d1anions\methods\anions 150604a.met
Date Time Collected : 6/16/15 11:43:51
System Operator : EM
Injection Number : 22
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.44	phosphate-p	-0.1598	60966	2623



APPL, Inc.

Current Date : 6/16/15
Current Time : 11:54:30

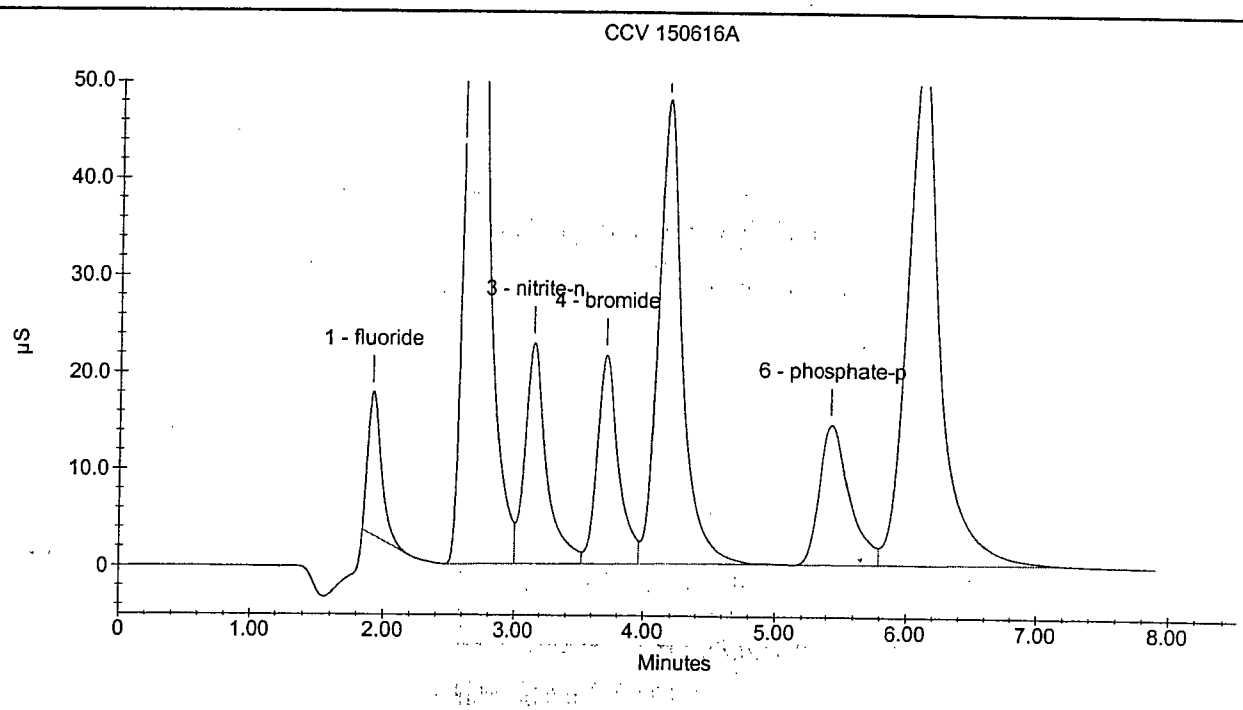
Sample Analysis Report

Sample Name : CCV 150616A
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_042.DXD

Method File Name : i:\dionex\d1anions\methods\anions 150604a.met
Date Time Collected : 6/16/15 16:23:42
System Operator : EM
Injection Number : 42
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.91	fluoride	1.6175	1034994	145997
2	2.65	chloride	23.6086	12781379	1393144
3	3.13	nitrite-n	2.5016	2605109	227586
4	3.69	bromide	11.9424	2459441	215333
5	4.15	nitrate-n	4.7325	6047713	475676
6	5.41	phosphate-p	5.1632	2373733	144433
7	6.07	sulfate	23.6219	9059010	527972



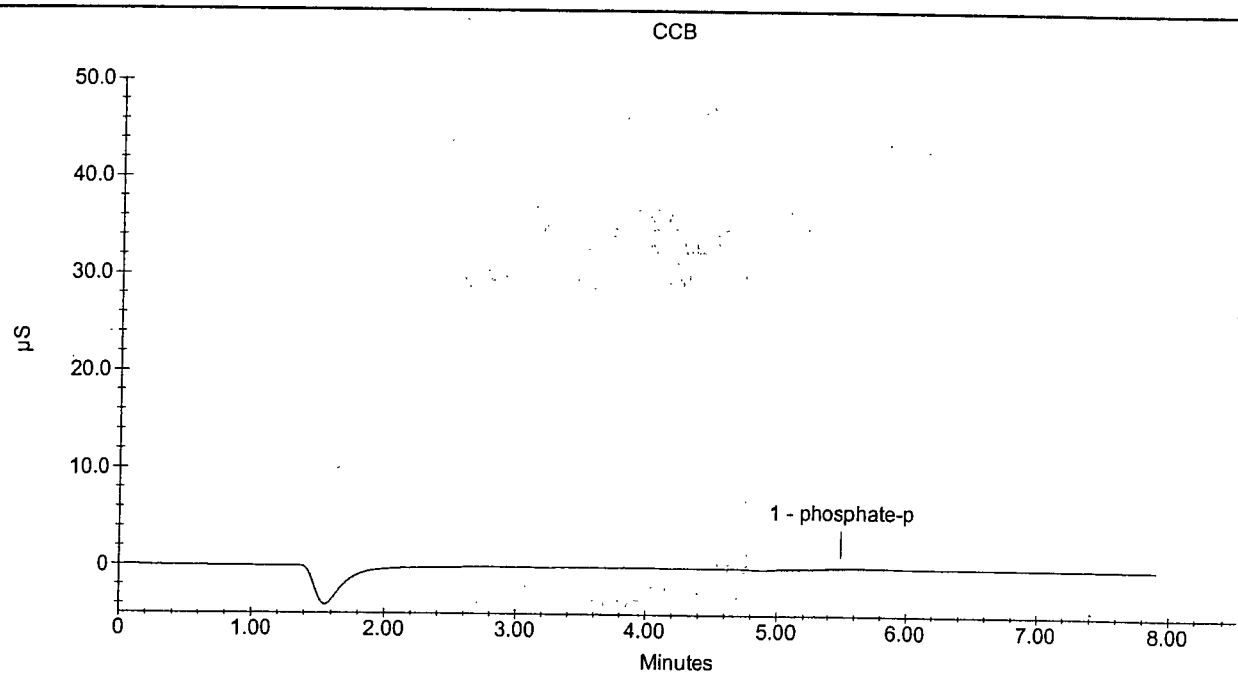
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_043.DXD

Method File Name : i:\dionex\d1anions\methods\anions 150604a.met
Date Time Collected : 6/16/15 16:34:21
System Operator : EM
Injection Number : 43
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.49	phosphate-p	-0.2228	33586	1218



Calibration Report Print Date/Time: 2015/07/08 15:52:43

Cal. Curve ID: 150623I9
Created: 2015/06/24 07:34
Calibration Factor (m): 1.011e+05
Y Intercept (b): 7103
r-squared: 0.99977

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
DI WATER	14316	0.000	0.071		2015/06/23 13:49
autocal1	28925	0.250	0.216		2015/06/23 14:15
autocal2	37616	0.500	0.302		2015/06/23 14:41
autocal3	259139	2.500	2.493		2015/06/23 15:09
autocal4	518954	5.000	5.062		2015/06/23 15:39
autocal5	1294106	12.500	12.728		2015/06/23 16:38
autocal6	2522764	25.000	24.879		2015/06/23 17:09

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 06/24/15

Analyte	Calibration Verification									M
	True ICV	Found 9:50	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
Total Organic Carbon	10	9.82345	98.2							

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: _____

ARF No.: _____ SDG: _____

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 06/24/15 10:15	C		C		C		C		C	
Total Organic Carbon	.500	U									

Detailed Analysis Report Print Date/Time: 2015/07/08 15:54:17

Sample ID: DI WATER
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 13:49
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15536	58.980	59.178	96
2			13927	59.050	59.249	96
3			14812	59.107	59.304	96
4			12990	59.178	59.378	97

<<<Statistics>>> Mean: 14316 Std Dev: 1102 RSD: 7.70

Sample ID: autocal1
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 14:15
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			26095	59.187	59.387	109
2			29517	59.199	59.399	110
3			26421	59.278	59.477	109
4			33667	59.285	59.485	114

<<<Statistics>>> Mean: 28925 Std Dev: 3517 RSD: 12.16

Sample ID: autocal2
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 14:41
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			39288	59.276	59.475	115
2			36049	59.373	59.572	112
3			37420	59.491	59.687	118
4			37705	59.636	59.833	117

<<<Statistics>>> Mean: 37616 Std Dev: 1329 RSD: 3.53

Sample ID: autocal3
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 15:09
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			273241	60.083	60.278	178
2			251339	60.296	60.496	159
3			254133	60.505	60.703	145
4			257844	60.594	60.788	154

<<<Statistics>>> Mean: 259139 Std Dev: 9771 RSD: 3.77

Sample ID: autocal4
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 15:39
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			539285	60.695	60.893	203
2			523132	60.967	61.167	182
3			512417	61.212	61.410	158
4			500981	61.338	61.537	166

<<<Statistics>>> Mean: 518954 Std Dev: 16295 RSD: 3.14

Sample ID: autocal5
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT

Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 16:38
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1322848	61.197	61.395	189
2			1307295	61.503	61.701	177
3			1274729	61.817	62.014	163
4			1271551	61.915	62.114	167

<<<Statistics>>> Mean: 1294106 Std Dev: 25062 RSD: 1.94

Sample ID: autocal6
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT

Mode: TOC
Filename: 06231241
Timestamp: 2015/06/23 17:09
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2571981	61.789	61.987	192
2			2547419	61.942	62.140	190
3			2460559	62.555	62.754	194
4			2511094	62.421	62.620	191

<<<Statistics>>> Mean: 2522763 Std Dev: 48428 RSD: 1.92

Detailed Analysis Report Print Date/Time: 2015/07/08 15:55:01

Sample ID: ICV
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06240735
Timestamp: 2015/06/24 09:50
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10.6592	5.3296	577452	60.430	60.629	213
2	9.8191	4.9095	534976	60.811	61.008	174
3	9.5586	4.7793	521807	60.959	61.159	175
4	9.2569	4.6285	506554	61.129	61.326	168

<<<Statistics>>> Mean: 9.8235 Std Dev: 0.6027 RSD: 6.13

Sample ID: ICB
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT
Mode: TOC
Filename: 06240735
Timestamp: 2015/06/24 10:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.2247	-0.1124	27175	60.277	60.476	96
2	-0.2864	-0.1432	24059	60.221	60.420	97
3	-0.2753	-0.1376	24620	60.254	60.453	97
4	-0.3205	-0.1602	22334	60.339	60.534	97

<<<Statistics>>> Mean: -0.2767 Std Dev: 0.0397 RSD: -14.33

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No: 76657 SDG: 76657

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 07/01/15

Analyte	Calibration Verification									M
	True CCV1	Found 12:58	%R(1)	True CCV2	Found 19:30	%R(1)	True	Found	%R(1)	
Total Organic Carbon	10	9.8027	98.0	5	5.16625	103				

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76657 SDG: 76657

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 07/01/15 13:23	C	CCB 07/01/15 19:54	C		C		C		C	
Total Organic Carbon	.500	U	.500	U							

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	0.13 U	0.3	0.13	0.03	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 90	TOTAL ORGANIC C	0.35 U	0.5	0.35	0.13	mg/L	07/01/15	07/01/15	#906-150701A-AZ17694

Wetlab SC-Blank-REG MDLs
Printed: 07/06/15 12:52:47 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRATE	22.1	20.9	94.6	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	NITRITE	9.98	9.13	91.5	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
EPA 300.0	SULFATE	20.0	18.6	93.0	90-110	06/16/15	06/16/15	#300W-150616A1-AZ17694
SW846 906	TOTAL ORGANIC CARBON	10.00	10.2	102	90-110	07/01/15	07/01/15	#906-150701A-AZ17694

Comments: _____

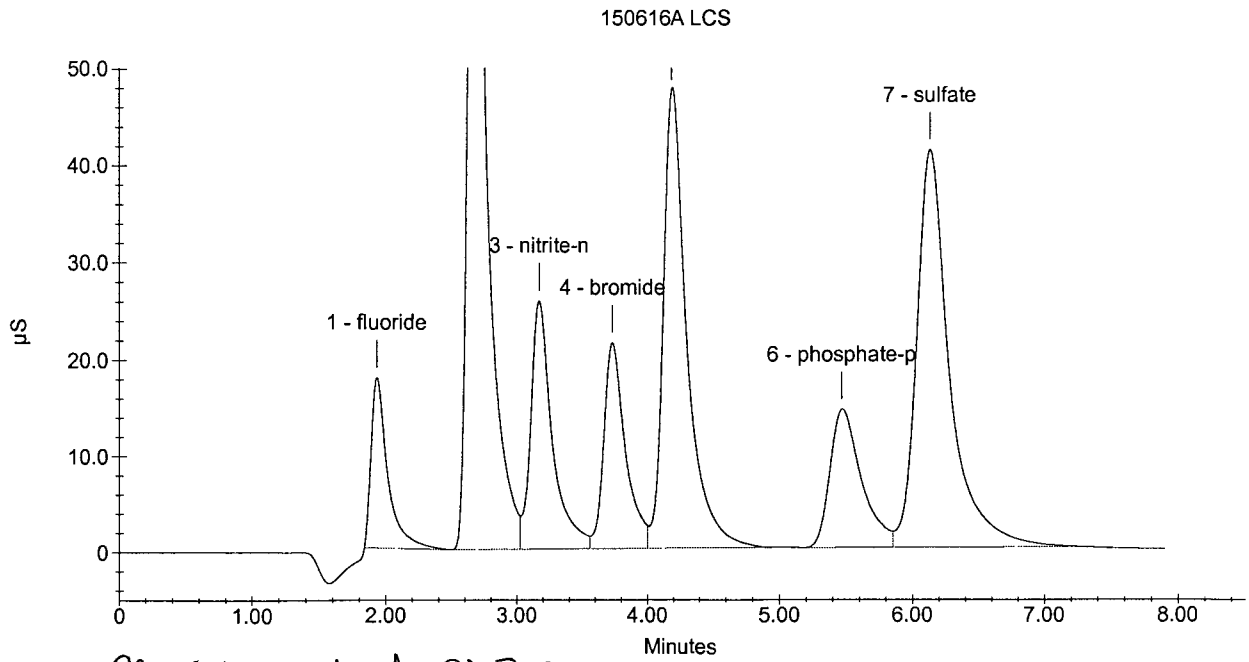
Sample Analysis Report

Sample Name : 150616A LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\150616A\150616a_031.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 150604A.met
Date Time Collected : 6/16/15 13:19:37
System Operator : EM
Injection Number : 31
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.93	fluoride	2.4123	1541968	176812
2	2.68	chloride	18.3495	9795611	1055511
3	3.17	nitrite-n	2.7812 ✓	2901593	256862
4	3.73	bromide	11.8570	2441582	213190
5	4.19	nitrate-n	4.7301	6044548	472492
6	5.47	phosphate-p	5.1546	2369976	143827
7	6.13	sulfate	18.6110	7096724	410551



Algorithm check 7.9.15

$(9.43 \times 10^{-7} \times 2901593) + .04501 = 2.78$ ✓

APPL, Inc.

Current Date : 7/6/15
Current Time : 13:01:46

Detailed Analysis Report Print Date/Time: 2015/07/08 15:56:20

Sample ID: CCV1 10PPM Mode: TOC
Method: TOC 0 - 20 ppmC Filename: 07011213
Cal. Curve: 150623I9 Timestamp: 2015/07/01 12:58
Operator ID: DT Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10.0408	5.0204	546185	60.334	60.532	187
2	9.7800	4.8900	532998	60.486	60.685	181
3	9.9101	4.9551	539579	60.469	60.666	187
4	9.4799	4.7399	517827	60.642	60.842	174

<<<Statistics>>> Mean: 9.8027 Std Dev: 0.2401 RSD: 2.45

Sample ID: CCB Mode: TOC
Method: TOC 0 - 20 ppmC Filename: 07011213
Cal. Curve: 150623I9 Timestamp: 2015/07/01 13:23
Operator ID: DT Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.4238	-0.2119	17111	59.952	60.148	93
2	-0.4441	-0.2220	16086	59.952	60.152	94
3	-0.5186	-0.2593	12318	60.099	60.298	94
4	-0.4522	-0.2261	15676	60.127	60.326	93

<<<Statistics>>> Mean: -0.4597 Std Dev: 0.0411 RSD: -8.93

Sample ID: 150701A LCS Mode: TOC
Method: TOC 0 - 20 ppmC Filename: 07011213
Cal. Curve: 150623I9 Timestamp: 2015/07/01 13:52
Operator ID: DT Sample Type: Sample

algorithm check KD 7.8.15

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10.3880 ✓	5.1940	563741	60.255	60.454	162
2	10.1634	5.0817	552384	60.543	60.743	145
3	10.2210	5.1105	555298	60.643	60.843	171
4	10.1831	5.0915	553378	60.728	60.926	164

<<<Statistics>>> Mean: 10.2389 Std Dev: 0.1022 RSD: 1.00

$\left(\frac{(563741 - 38538)}{101100}\right) x2 = 10.4$

Sample ID: AZ17694W06 Mode: TOC
Method: TOC 0 - 20 ppmC Filename: 07011213
Cal. Curve: 150623I9 Timestamp: 2015/07/01 14:49
Operator ID: DT Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.1208	0.0604	44646	60.666	60.865	123
2	-0.0297	-0.0148	37037	60.718	60.917	125
3	0.0596	0.0298	41553	60.793	60.991	135
4	0.0601	0.0300	41575	60.924	61.122	133

<<<Statistics>>> Mean: 0.0527 Std Dev: 0.0620 RSD: 117.64

Sample ID: AZ17696W04 Mode: TOC
Method: TOC 0 - 20 ppmC Filename: 07011213
Cal. Curve: 150623I9 Timestamp: 2015/07/01 15:41
Operator ID: DT Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.2113	-0.1057	27853	61.088	61.287	103
2	-0.2691	-0.1345	24935	61.072	61.272	107
3	-0.2634	-0.1317	25222	61.086	61.283	110
4	-0.2739	-0.1369	24691	61.139	61.336	105

<<<Statistics>>> Mean: -0.2544 Std Dev: 0.0291 RSD: -11.43

5 @ 79.15

Sample ID: CCV1 ~~10~~PPM
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT

Mode: TOC
Filename: 07011213
Timestamp: 2015/07/01 19:30
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.2703	2.6352	304996	61.145	61.340	172
2	4.9365	2.4683	288122	61.320	61.520	165
3	5.3499	2.6750	309022	61.430	61.628	186
4	5.1083	2.5542	296806	61.789	61.989	172

<<<Statistics>>> Mean: 5.1663 Std Dev: 0.1832 RSD: 3.55

Sample ID: CCB
Method: TOC 0 - 20 ppmC
Cal. Curve: 150623I9
Operator ID: DT

Mode: TOC
Filename: 07011213
Timestamp: 2015/07/01 19:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.6107	-0.3054	7661	61.919	62.115	90
2	-0.4906	-0.2453	13734	61.853	62.053	93
3	-0.5661	-0.2830	9917	61.907	62.106	91
4	-0.6532	-0.3266	5512	61.920	62.120	89

<<<Statistics>>> Mean: -0.5802 Std Dev: 0.0695 RSD: -11.98

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1053804	05/27/15	0.25	5
O2SI	Cl-	5,000	1069557	07/08/16	0.5	50
O2SI	NO2-N	1,000	1062905	01/10/16	0.25	5
Ultra Scientific	Br-	1,000	p00939	10/31/16	1.25	25
O2SI	NO3-N	1,000	1057207	08/30/15	0.5	10
O2SI	PO4-P	1,000	1072004	09/03/16	0.5	10
Ultra Scientific	SO4	5,000	t00419	05/31/16	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	13G095	05/27/15	0.125	2.50
CPI	Cl-	1,000	15D270	10/30/16	1.00	20.00
CPI	NO2-N	304	15C058	12/08/16	0.50	3.04
CPI	Br-	1,000	14H100	03/19/16	0.625	12.50
CPI	NO3-N	1,000	13L102	11/22/15	0.25	5.00
CPI	PO4-P	1,000	14L003	07/25/15	0.25	5.00
CPI	SO4	1,000	15D051	10/17/16	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056		ANION CAL CURVE								
				ICAL #1	ICAL#2	ICAL#3	ICAL #4	ICAL #5	ICAL #6	ICAL #7
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	5	7	10
Brought up w/ Milipore Water to final volume of (mL):				100	100	100	10	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	25	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	12.5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	25	35	50

METHOD 5310/9060 TOC CALIBRATION CURVE

ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL	mL
TOC INTERMEDIATE 1 STD	100	06/23/15	07/24/15	0	0.5	1	5	10	25	50
Brought up with milipore water to Final Volume of:				50	100	100	100	100	100	100
		Final Conc (mg/L):		0	0.5	1.0	5	10	25	50

METHOD 5310B/9060		TOC INTERMEDIATE 1° STD				
SUPPLIER		**mg/L**	**LOT #**	**open**	**EXP.**	**mL**
O2SI	Potassium Hydrogen Phthalate	1,000	1072005	04/10/15	09/03/16	10mL
	Brought up with milipore water to Final Volume of:					100mL
			Final Conc (mg/L)			100

METHOD 5310B/9060	TOC CCVS				
	mg/L	**Prep Date**	**EXP.**	**CCV1**	**CCV2**
TOC INTERMEDIATE 1° STD	100	06/23/15	07/24/15	10	5
Brought up with milipore water to Final Volume of:				100	100
	Final Conc (mg/L)			10	5

METHOD 5310B/9060		TOC INTERMEDIATE 2° STD				
SUPPLIER		**mg/L**	**LOT #**	**open**	**EXP.**	**mL**
ULTRA SCI	Potassium Hydrogen Phthalate	1,000	CM-0176	04/10/15	02/28/17	10mL
	Brought up with milipore water to Final Volume of:					100mL
			Final Conc (mg/L)			100

METHOD 5310B/9060	TOC ICV/LCS			
	mg/L	**Prep Date**	**EXP.**	**ICV/LCS**
TOC INTERMEDIATE 2° STD	100	06/23/15	07/24/15	10
Brought up with milipore water to Final Volume of:				100
	Final Conc (mg/L)			10

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
23	04 Jun 2015	12:53	CAL STD #1 05/05/15		150604a	1.
24	04 Jun 2015	13:03	CAL STD #2		150604a	1.
25	04 Jun 2015	13:14	CAL STD #3		150604a	1.
26	04 Jun 2015	13:25	CAL STD #4		150604a	1.
27	04 Jun 2015	13:35	CAL STD #5		150604a	1.
28	04 Jun 2015	13:46	CAL STD #6		150604a	1.
29	04 Jun 2015	13:57	CAL STD #7		150604a	1.
~~32~~ 33	04 Jun 2015	14:52	150604 ICV		150604a	1.
~~33~~ 34	04 Jun 2015	15:03	ICB		150604a	1.

JD 6.15.15

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
21	16 Jun 2015	11:33	CCV 150616A		150616a	1.
22	16 Jun 2015	11:43	CCB		150616a	1.
31	16 Jun 2015	13:19	150616A LCS		150616a	1.
38	16 Jun 2015	14:34	AZ17694W05		150616a	1.
39	16 Jun 2015	14:45	AZ17696W03		150616a	1.
42	16 Jun 2015	16:23	CCV 150616A		150616a	1.
43	16 Jun 2015	16:34	CCB		150616a	1.

415/9060 Injection Log

Directory: I:\Tekmar\uploadrun\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	23 Jun 2015	13:49	DI WATER		150624A9-T	1.
2	23 Jun 2015	14:15	autocal1		150624A9-T	1.
3	23 Jun 2015	14:41	autocal2		150624A9-T	1.
4	23 Jun 2015	15:09	autocal3		150624A9-T	1.
5	23 Jun 2015	15:39	autocal4		150624A9-T	1.
6	23 Jun 2015	16:38	autocal5		150624A9-T	1.
7	23 Jun 2015	17:09	autocal6		150624A9-T	1.

415/9060 Injection Log

Directory: I:\Tekmar\uploadrun\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
8	24 Jun 2015	09:50	ICV		150624A9-T	1.
9	24 Jun 2015	10:15	ICB		150624A9-T	1.

415/9060 Injection Log

Directory: I:\Tekmar\uploadrun\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	01 Jul 2015	12:58	CCV1 10PPM		150701A9-T	1.
2	01 Jul 2015	13:23	CCB		150701A9-T	1.
3	01 Jul 2015	13:52	150701A LCS		150701A9-T	1.
5	01 Jul 2015	14:49	AZ17694W06		150701A9-T	1.
7	01 Jul 2015	15:41	AZ17696W04		150701A9-T	1.
15	01 Jul 2015	19:30	CCV2 5PPM		150701A9-T	1.
16	01 Jul 2015	19:54	CCB		150701A9-T	1.